

A Liberal Theory of Natural Resource Property Rights

A dissertation presented

by

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Abstract

A variety of contemporary political disagreements, including debates over fossil fuel ownership in the Arctic, carbon emission standards, indigenous land rights, and the use of eminent domain, raise pressing questions of justice. Yet existing theories of natural resource property rights are underdeveloped and thus ill-equipped to answer these questions. I develop a liberal theory of natural resource property rights which is founded on the equality of natural resource claims, which advocates for equal division of natural resources, and which considers how the principle of equal division can be justly implemented.

I begin by defending the equality of natural resource claims. I argue that people should be seen as having equal claims to the pristine natural resources that remain after all those who contributed to the value of these resources have been appropriately compensated. And since the value of these remaining natural resources is not generated by anyone's labor, I contend that libertarians ought to endorse equal claims to these resources. I argue that liberal egalitarians have good reasons to endorse equality of natural resource claims as well.

I then consider how equal claims to natural resources should be respected. I develop criteria for evaluating conceptions of equal claims and use these criteria to dismiss Collective Ownership, First Possession Appropriation, Common Access, and

Harmless Appropriation conceptions. Instead, I defend an Equal Division conception which grants each person an equal amount of natural resources.

Finally, I consider how the principle of equal division should work in practice. I engage with the problems of heterogeneity, unexpected change, future people and multiple nation-states. I propose a system of leases of varying lengths with the rents to be distributed equally. Furthermore, I draw the following conclusions: 1) Certain decisions regarding non-separable resources such as the air should be made collectively. 2) We have obligations to each other to conserve for future people. 3) Natural resources are uniquely subject to international redistribution because they are both individually and nationally undeserved. 4) Preventing the appropriation of the Arctic seabed by particular nations is feasible step towards achieving a more just global distribution of natural resource property rights.

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For my parents

Introduction

Liberalism and the Problem of Natural Resource

90% of [Bolivia's] productive land is still owned by just 50,000 families, while four-fifths of the rural population remains poor. [The Bolivian President] hopes to redress this with his "agrarian revolution" in favor of indigenous groups...

The government says that many of the farmers, who tend to be among the whiter Bolivians, owe their lands to handouts from past military governments, some of it seized from Indian communities...

The farmers retort that they are efficient entrepreneurs who are being targeted for political reasons and accuse the government of adopting a "fundamentalist" approach based on the principle that "if you're not Aymara or Quechua, you don't deserve land."¹

* * *

Kuwait takes in more than \$100 million a day [from oil], and other Gulf countries like the U.A.E., Qatar and Bahrain will also bank billions....²

British Chancellor: "I would like to see the oil producing states, the countries that have done well out of the rise in oil prices, being willing to make a contribution ... to debt relief and international aid."³

Kuwaiti Citizen: "Eighty percent of my salary goes to pay my [mortgage] ... Is it fair that the [Kuwaiti] government gives the [oil] money to other countries and forgets me?"⁴

* * *

¹ "Evo Morales Collides with the Commercial Farmers," in *The Economist* (September 23, 2006).

² Nelson Schwartz, "Forget Oil. Now the Gulf Is Exporting Money," *CNN Money.com*, March 3, 2006. http://money.cnn.com/2006/03/02/news/international/pluggedin_fortune/index.htm

³ The quote is from Gordon Brown who at the time was the British Chancellor. "Help Africa, Brown Tells Oil-Rich," *BBC News Online* June 5, 2005. http://news.bbc.co.uk/1/hi/uk_politics/4611631.stm

⁴ Diana Elias, "Kuwaitis Struggle with Economic Reform," *Washington Post Online*, November 27, 2006. http://www.washingtonpost.com/wp-dyn/content/article/2006/11/27/AR2006112700138_2.html

The "cap-and-trade" system, where industry is given (or buys) a set number of pollution credits, seems to be the most popular option on the table. With this method, cleaner plants can sell their excess credits to dirtier plants...

Another option, a carbon tax, would be more transparent, drive responsibility toward the end user, and be more easily adjustable...

Meanwhile, the Bush administration has pushed a program centered around voluntary efforts by industry to cut carbon output. President Bush took no action at the beginning of his presidency on signing the Kyoto treaty, which would have imposed mandatory restrictions on emitting carbon dioxide.

* * *

The [United States] Supreme Court ruled that local governments may force [land] owners to sell out and make way for private economic development when officials decide it would benefit the public, even if the property is not blighted and the new project's success is not guaranteed.

Opponents, including property-rights activists and advocates for elderly and low-income urban residents, argued that forcibly shifting land from one private owner to another, even with fair compensation, violates the Fifth Amendment to the Constitution, which prohibits the taking of property by government except for "public use."⁵

* * *

The Russians are leading a new "gold rush" in the high north, with a bold attempt to assert a claim to oil, gas and mineral rights over large parts of the Arctic Ocean up to the North Pole.

Russia's most famous explorer, Artur Chilingarov, complete with nautical beard, led the expedition to plant the Russian flag in a capsule on the ocean seabed under the pole itself.

"The Arctic is Russian," Chilingarov said...⁶

Canadian Foreign Affairs Minister: There is no question over Canadian sovereignty in the Arctic. We've made that very clear. We've established - a long time ago - that these are Canadian waters and this is Canadian property. You can't go around the world these days dropping a flag somewhere. This isn't the 14th or 15th century.

⁵ Charles Lane, "Justices Affirm Property Seizures," *Washington Post*, June 24, 2005.

⁶ The flag planting was meant to be symbolic. The main purpose of the Russian expedition was to demonstrate that the Arctic seabed was an extension of the Russian coastal shelf, which is the legal requirement for establishing a Russian territorial claim to the seabed according to the United Nations Law of the Sea Convention. Paul Reynolds, "Russia Ahead in Arctic 'Gold Rush'," *BBC News Online*, August 1, 2007. http://news.bbc.co.uk/2/hi/in_depth/6925853.stm

Should farmland be redistributed to indigenous peoples even if they are less efficient farmers? How should wealth from oil be divided within a country and internationally? What are the appropriate global regulations to lower carbon dioxide emissions? Should landowners be forced to sell their land if it can be put to more economically productive uses? How should the rights to the Arctic seabed be allocated? Questions regarding indigenous land rights, oil wealth distribution, air pollution, eminent domain, and conflicting territorial claims touch on a wide variety of philosophical issues. The common thread, however, is the disagreement at the heart of each of these issues about property rights in natural resources.

Both economists and legal scholars have written a great deal on this topic. Natural resource economists have developed complex analytical frameworks for studying the conditions required for the efficient use of different types of natural resources. Environmental and natural resource legal scholars have explored the principles behind environmental protection and land property rights legislation. There has also been a rich interdisciplinary law and economics literature, which has focused on the efficiency consequences of different property rights regimes and environmental regulations.

While research on natural resources has flourished in these fields, political theorists have generally not written in sufficient length, breadth, or depth about natural resources. In addition, what little has been written is fraught with disagreements regarding basic principles, frameworks, or even the definition of natural resources. Having rarely moved beyond foundational concepts, political theorists have not been able to contribute to policy debates involving natural resources in the same way that they have

been able to contribute to the debates about issues such as abortion, campaign finance reform, or school prayer.

But the debates surrounding natural resources property rights raise questions of justice that are no less pressing. Given the crushing poverty of those who lack access to natural resource wealth and the long-term damage to the environment caused by inadequate international regulations, the questions of justice surrounding natural resources property rights seem at least as pressing as others being considered by political theorists. Efficiency considerations and legal precedents, no matter how deftly analyzed by economists and legal scholars, are unlikely to provide complete answers to these questions of justice. There is a need for a more comprehensive philosophical treatment of property rights in natural resources; one which can resolve the controversies and fill in the lacunae that abound in the current political theory literature on the topic.

This dissertation aims to fulfill this need by developing a liberal theory of property rights in natural resources. I begin this project by discussing the central liberal theoretical commitments that I take as my starting points as well as the reasons for developing the theory of natural resources from within a liberal framework. I then provide a brief survey of liberal writings on natural resources, including those of several prominent social contract theorists, classical liberals, and contemporary liberals. The subsequent discussion of the gaps and unsettled controversies in the liberal theoretical literature serves to summarize the main problems that are addressed in this dissertation.

1.1 A Liberal Theoretical Approach

The controversies surrounding natural resource property rights can be explored from a wide variety of philosophical perspectives. In this work, I develop a distinctly *liberal* theory of property rights in natural resources. The first way in which this theory is liberal is that it takes three central liberal theoretical commitments as given (i.e. I make no attempt to defend these commitments here.) These are the commitments to equal concern, liberal neutrality, and the protection of negative liberty. In addition, I also demonstrate that this theory is consistent with the liberal egalitarian commitment to mitigating the distributional effects of morally arbitrary factors.

The first liberal theoretical commitment is to the fundamentally equal moral standing of all individuals. As Ronald Dworkin argues, all liberals agree that the government must act with concern for the life of each person it governs, and it must show equal concern for the life of each.⁷ I call this the ideal of *equal concern*. This basic commitment to *equal concern* is shared not only by all liberals, but also by the vast majority of contemporary political theorists.⁸

The second central liberal theoretical commitment is to the idea the government should not privilege one particular conception of the good over another. I refer to this ideal as *liberal neutrality*.⁹ The commitment to liberal neutrality is not shared by a variety of so-called Perfectionist political theories that endorse a particular view of the

⁷ Ronald Dworkin, *Sovereign Virtue : The Theory and Practice of Equality* (Cambridge, Mass.: Harvard University Press, 2000), 128.

⁸ However, a variety of prominent political thinkers from Aristotle to Nietzsche who fall outside the liberal tradition reject this ideal.

⁹ For a discussion of liberal neutrality, see Will Kymlicka, "Liberal Individualism and Liberal Neutrality," *Ethics* (1989): 883-86.

good life as well as a variety of communitarian theories that endorse the idea that government policies should be based on the community's shared conception of the good. Different liberals endorse a variety of reasons for liberal neutrality including deep moral skepticism, a concern for individual autonomy, and a commitment to finding political consensus in a pluralistic society. For the purposes of this work, there is no need to explore or endorse any particular foundational reason for liberal neutrality.

The third liberal theoretical commitment is to individual freedom from undue interference. Following Isaiah Berlin, I refer to this as the commitment to *negative liberty*.¹⁰ Examples of undue interference generally include causing bodily harm to someone else and taking of the fruits of someone else's labor. There are a variety of alternative ultimate political goals endorsed by non-liberal political theorists. These include fostering positive liberty,¹¹ maximizing some measure of aggregated preference satisfaction,¹² and equalizing individual welfare.¹³

In addition to the deep disagreements between liberals and non-liberal thinkers over these theoretical commitments, there are also deep disagreements even among liberals who endorse all three of these commitments. For example, liberal egalitarians, while committed to protecting negative liberty, are also committed to the idea that wealth

¹⁰ For a classic discussion of negative liberty see Isaiah Berlin, *Four Essays on Liberty* (New York: Oxford University Press, 1969), 122-31. Liberals again have a variety of reasons for endorsing the protection of negative liberty; reasons which I do not discuss further here.

¹¹ Berlin describes positive liberty as people's *freedom to* take certain actions rather than *freedom from* undue interference. See *Ibid.*, 131-34.

¹² See Chapter Two of Will Kymlicka, *Contemporary Political Philosophy : An Introduction*, 2nd ed. (New York: Oxford University Press, 2001). Some classical liberal theorists hold that respecting negative liberty is the best way of maximizing utility. I consider these theorists to be part of the classical liberal tradition though I take no position of the plausibility of the foundation of their liberalism.

¹³ For a brief discussion of this position, see the section on Total Utility Equality in Amartya Sen, "Equality of What? The Tanner Lecture on Human Values," *Stanford University* (1979).

disparities should not be determined by factors that are arbitrary from a moral point of view (such as differences in natural talents.) Libertarians reject this view in favor of a commitment to the idea that people own themselves and, by extension, the product of their talents. The theory of natural resource property rights developed in this work is meant to be compatible with a wide variety of liberal theories including those falling both in the libertarian and the liberal egalitarian categories.

1.2 Why Liberalism?

Given the central role that liberalism plays in this dissertation, it is useful to briefly explain why this work is situated within the liberal tradition. Of course, this dissertation has to be situated within *some* philosophical tradition. The project of developing of a theory of natural resource property rights would simply not be tractable in a work of this length without taking some controversial philosophical commitments on questions of justice as given. And unless these commitments are part of some accepted philosophical tradition, what follows from them will likely not be of particular interest.

But the question remains why the *liberal* tradition. One reason is that the liberal tradition enjoys wide acceptance. It is fair to say that liberalism currently provides the dominant framework used in thinking about problems of justice. In addition, liberalism is the dominant tradition more specifically in the literature on natural resources. The most well-known writings on natural resources in contemporary political philosophy, including Nozick's theory of justice in acquisition¹⁴ and Dworkin's natural resource auction,¹⁵ are situated within a liberal framework of one form or another.

¹⁴ Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), 174-82.

Liberalism is also one of the few philosophical traditions in which writing a separate work on natural resource property rights is a sensible enterprise. The primary (philosophically interesting) distinguishing feature of natural resources is that they have not been created by human agents. The liberal commitment to the protection of the rights of individuals to the fruits of their labor or at least the fruits of certain types of effort grants this distinguishing feature a great deal of normative salience. Philosophical traditions that do not see the “naturalness” of natural resources as normatively relevant, such those that see human needs or moral desert as the ultimate determinants of distributive justice, would generally not support a project of this length focused solely on natural resource property rights.

The final reason for developing a liberal theory of natural resource property rights is that I believe that the truth about justice can be found somewhere in the liberal tradition. Although I clearly cannot defend that belief here, it is important to emphasize that the choice of liberalism as a theoretical foundation is not merely a matter of convenience. That is, the theory of natural resource property rights presented here has not been independently developed and then superficially connected to some popular and compatible philosophical tradition. Rather, the central liberal theoretical commitments play a crucial role in the theory developed in this work, and I take these theoretical commitments seriously.

¹⁵ Ronald Dworkin, "What Is Equality? Part 2: Equality of Resources," *Philosophy and Public Affairs* 10, no. 4 (1981).

1.3 Natural Resources in Liberal Thought

In addition to relying on the three central liberal theoretical commitments described above, the theory presented here falls within the liberal tradition in the sense that it builds in important ways on the work of several prominent liberal authors. While I contend that liberal political theory lacks a satisfactory account of natural resource property rights, this is not because liberals have completely ignored natural resources or because what they have written has been wholly misguided. On the contrary, there is a long tradition of liberal thought on the topic of natural resources, stretching back as far as liberalism itself, and many of the ideas developed by liberal authors have a great deal of merit. Before embarking on the task of developing an original liberal theory of property rights in natural resources, it is therefore useful to briefly survey the historical and contemporary liberal thinking on natural resources, including the writings of Locke, Mill, Nozick, and Rawls.

My purpose in conducting this survey is *not* to perform a careful exegesis aimed at definitively arguing for a particular interpretation of an author's work nor is it to make claims about the historical development of liberal political thought on the topic of natural resources. Instead, I have two other goals in mind. First, I hope to introduce several important liberal ideas on the topic natural resources. Many of these ideas are incorporated into the theory developed here, while others serve as useful points of contrast. Second, by conducting this brief survey I hope to highlight important trends, controversies, and lacunae in liberal thought on natural resources.

One very important trend that emerges from this survey of liberal thought is the wide-spread liberal support for the general proposition that people have equal claims to

natural resources. I refer to this proposition as the **equal claims view**. The equal claims view serves as a crucial foundation for the rest of the theory developed in this work. I hope to explore the extent of the liberal consensus on this proposition, the reasons given for this proposition among its supporters, and the arguments of those liberals who fall outside of this consensus.

The survey also reveals several important gaps and controversies in the existing liberal literature on natural resource property rights. For example, it shows that there is no agreement among the supporters of the equal claims view regarding *how* people's equal claims to natural resources ought to be respected. Settling such controversies is a central objective of this dissertation.

I.3.1 SOCIAL CONTRACTARIANS

I begin the survey of liberal thought with the works of the prominent social contract theorists, Thomas Hobbes, John Locke, and Jean-Jaques Rousseau. Although Hobbes and Rousseau cannot be uncontroversially classified as liberals, they do share many of the central theoretical commitments that characterize contemporary liberalism. In particular, their views on natural resources are very similar to those of other liberals and it is not implausible that they derive from similar theoretical commitments.¹⁶ Interestingly, while all three of these social contract thinkers are supporters the equal claims view, they each have a drastically different idea of how people's equal claims to natural resources ought to be respected.

¹⁶ Although I cannot defend this here, I believe these similarities are more than superficial and reflect certain fundamental liberal theoretical commitments.

The idea of equal claims to natural resources is present in Thomas Hobbes's *Leviathan*, but receives scant attention both from Hobbes and from Hobbes scholars. For Hobbes, people initially have rights to everything. However, they lay down these rights when they enter into a covenant with each other to set up a Sovereign who is entrusted with their protection. Hobbes writes:

The only way to erect ... a Common Power, as may be able to defend them from the invasion of Forraigners, and the injuries of one another, and thereby to secure them in such sort, as that by their owne industrie, *and by the fruites of the Earth*, they may nourish themselves and live contentedly; is, to conferre all their power and strengthth upon one [Sovereign] that may reduce all their Wills, by plurality of voices, unto one Will:¹⁷

Although it is true that people can no longer be said to have *rights* either to the fruits of their labor or to the fruits of the earth after entering this covenant, they still have claims of a different kind. Hobbes writes that the Sovereign has a moral duty to uphold “the end, for which he was entrusted with Sovereign power” which includes not only the citizens’ “bare Preservation, but also all other Contentments of life.” The italicized part of Hobbes’s quote above suggests that these “Contentments” include not only people’s claim to the fruits of their labor, but also to the fruits of the earth.

Hobbes also has, I claim, a prescription for how the claims to these fruits of the earth ought to be distributed. In developing the requirements of equity, which the Sovereign is also duty-bound to uphold,¹⁸ Hobbes suggests in the 12th through 14th laws of nature that natural resources ought to be distributed equally in various ways. Hobbes writes:

The observance of this law, from the equall distribution to each man, of that which in reason belongeth to him, is called Equity, and (as I have said before) distributive Justice: the violation, *Acception of persons* ...

¹⁷ Thomas Hobbes, "Leviathan," ed. Richard Tuck (New York, NY: Cambridge University Press, 1996). Emphasis added.

¹⁸ *Ibid.*, 237.

And from this followeth another law, *That such things as cannot be divided, be enjoyed in common, if it can be; and if the quantity of the thing permit, without Stint; otherwise Proportionably to the number of them that have Right.* For otherwise the distribution is Unequall, and contrary to Equitie.

But some things there be, that can neither be divided, nor enjoyed in common. Then, The Law of Nature, which prescribeth Equity, requireth, *That the Entire Right; or else, (making the use alternate,) the First Possession, be determined by Lot.* For equall distribution, is the Law of Nature; and other means of equall distribution cannot be imagined.¹⁹

Hobbes goes on to describe first seizure and primogeniture as types of lots.

It is worth highlighting several sophisticated aspects of Hobbes's thinking on natural resources. First, Hobbes has a broad goal for how claims to natural resources ought to be distributed (namely, equally). Second, Hobbes recognizes that various types of natural resources are amenable to different methods of achieving this equal distribution. Lastly, he has a hierarchy of what are better and worse ways to achieve equal distribution with equal division being the best and distribution by lottery being the worst, acceptable only because other means of equal distribution "cannot be imagined."

Two caveats about Hobbes's thought on natural resources are also important to mention. First, Hobbes does not explicitly refer to natural resources in the 12th through 14th laws of nature.²⁰ But since elsewhere Hobbes generally insists that the Sovereign ought to respect people's claims to the products of their industry, it is highly unlikely that he would think that equity requires that fruits of labor be subject to equal division, sharing in common, or being subject to first seizure. Instead, given the rest of Hobbes's writings, natural resources seem to be the obvious subject of the 12th to 14th laws of nature.

¹⁹ Ibid., 108.

²⁰ Although it is unclear why Hobbes would be vague here, it is likely that the Royalist readers of Hobbes's work would not have been sympathetic to idea of an equal distribution of natural resources such as land, even if it were seen simply as a moral duty of the Sovereign.

Second, it is worth emphasizing that the Sovereign's obligation to ensure equity in the distribution of natural resources not a requirement of justice (the Sovereign's will determines what is just). It is rather a duty that the Sovereign owes to God and God alone.²¹ Still, the scant protection that Hobbes provides against violations of citizens' equal claims to natural resources does not negate the point that he does in fact support, at least in some sense, the equal claims view.

In contrast to Hobbes, Locke could hardly be clearer about people's equal initial claims to natural resources.²² He opens the famous fifth chapter of the *Second Treatise of Government* by stating that both natural reason (which suggests people have equal claims to the fruits of the earth needed for preservation) and revelation (a quote from Psalms) support the idea that the earth was given to mankind in common. Locke also conceptually separates the fruits of the earth, which are "produced by the spontaneous hand of nature," from the products of human labor. A person's labor is his property by virtue of a kind of self-ownership, whereas the fruits of the earth, initially at least, belong to mankind in common.²³

Locke then presents a theory for how people's equal claims to natural resources can be respected while still allowing for private appropriation of natural resources. He famously argues that labor, when mixed with natural resources, can produce differential ownership claims to the newly developed natural resources. But this is only true if this "mixing" is done in a way that respects people's initial equal claims to natural resources.

²¹ Hobbes, "Leviathan," 231.

²² Locke's boldness in admitting equal claims to natural resources is far less impressive since his method for respecting people's equal claims to natural resources is far less radical and egalitarian in its consequences when compared with Hobbes's theory.

²³ John Locke, "Second Treatise of Government," ed. C. B. Macpherson. (Indianapolis, IN: Hackett Publishing, 1980).

To respect these initial claims, appropriation must leave “enough, and as good” of the natural resources for others.²⁴ Although Locke’s interpretation of how to respect people’s initial claims to natural resources is highly controversial, he clearly endorses the equal claims view.

Rousseau also explicitly endorses the idea of equal claims to natural resources. In order to find Rousseau’s views on the subject, one has to go back far enough in time to the point at which Rousseau first saw people’s equal claims to natural resources being violated.²⁵ Rousseau describes this initial violation in his famous *Discourse on the Origin and Foundation of Inequality Among Men*. He opens the second part of the Discourse with the following dramatic statement:

The first man who, having enclosed a piece of ground, to whom it occurred to say *this is mine*, and found people sufficiently simple to believe him, was the true founder of civil society. How many crimes, wars, murders, how many miseries and horrors Mankind would have been spared by him, pulling out the sakes or filling in the ditch, had cried out to his kind: Beware of listening to this imposter; You are lost if you forget that the fruits are everyone’s and the Earth no one’s:²⁶

Understanding Rousseau’s idea of equal claim to natural resources requires exploring Rousseau’s view of the relationship between land, the fruits of the earth, and labor. Labor applied to the fruits of the earth does seem to generate at least some kind rights of property for Rousseau. The huts that humans initially build out of branches and

²⁴ Ibid., 19. Locke also discusses the spoilage condition. I join a variety of theorists in doubting whether Locke’s spoilage condition is particularly important. See for example Nozick, *Anarchy, State, and Utopia*, 175-76. Locke’s theory of natural resource appropriation has generated a very large body of literature. I will discuss Locke’s theory in more detail in Chapter Four.

²⁵ Rousseau’s treatment of property rights in the modern state does not place the same emphasis on labor and individual liberty as do the rest of the thinkers in this section. This is unsurprising because Rousseau’s view of the corruption of modern man (in part caused by the violation of equal claims to natural resources), implies that simply securing negative liberty cannot solve the most fundamental social and political problems in modern times.

²⁶ Jean-Jacques Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men " in *The Discourses and Other Early Political Writings*, ed. Victor Gourevitch, *Cambridge Texts in the History of Political Thought* (Cambridge: Cambridge University Press, 1997), 161.

mud are for Rousseau “a sort of property.”²⁷ For Rousseau, the “fruits [of the earth] are everyone’s” in the sense that everyone is permitted to make use of them through their labor.

But the nature of people’s claims to land (i.e. the Earth itself) is more complicated. Labor, according to Rousseau, “gives the Cultivator the right to the produce of the land he has tilled [and] consequently also gives him a right to the land, at least until the harvest...” So *possession* of the land by the person actively farming it does not seem to be problematic. The problem occurs when this process continues “... from one year to the next, which, as it makes for continuous possession, is easily transformed into property.” Rousseau’s next paragraph suggest that this transformation of mere possession of the land until the harvest into a right to property is what Rousseau sees as “different from that which follows from natural Law.”²⁸ The reason, according to Rousseau, is that people’s claims to the earth are such that “the express and unanimous consent of Humankind [is required] to appropriate for [oneself] anything [above one’s own subsistence needs].”²⁹ So, the earth itself belongs to no one precisely because every person has an equal claim to it that is so strong as to represent an effective veto over anyone else’s appropriation of it. While Rousseau’s interpretation of equal claims to natural resources is thus very different from that of Locke and Hobbes, Rousseau does endorse the equal claims view (at least at this initial stage of human development.)

²⁷ Ibid., 164.

²⁸ Ibid., 172.

²⁹ Ibid.

I.3.2 CLASSICAL LIBERALS

Support for the equal claims view continues to thrive among the classical liberals in the 18th and 19th centuries. Among the most well known of these thinkers are Adam Smith, Thomas Paine, and John Stuart Mill. While these thinkers are well known for their ideas on liberty, their support for people's equal claims to natural resources is often overlooked.

Adam Smith recognizes that the value of natural resources is often not created by anyone's labor. He writes, "The rent of land ... is not at all proportioned to what the landlord may have laid out upon the improvement of the land..."³⁰ Rather, much of the value of the land is due to nature and also, especially in the case of urban land, "to the good government of the sovereign."³¹ Therefore, Smith argues, the rents from rural and urban land constitute perhaps "the species of revenue which can best bear to have a peculiar tax imposed upon them."³² The tax revenue from natural resources, on Smith's account, are to be used (like other taxes) for common purposes such as defense, upholding justice, and funding public goods.³³

Smith is admittedly vague about the normative importance of the fact that much of the value of land is not due to the landlord's effort. Smith could be doing nothing more here than giving a reason here why a land tax would be efficient. Efficiency is

³⁰ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. Edwin Cannan (Dunwoody: Norman S. Berg, 1976), 162.

³¹ *Ibid.*, 371.

³² *Ibid.*, 370.

³³ *Ibid.* Book V Chapter I

clearly an important reason for Smith, who states that in implementing a land tax, “No discouragement will thereby be given to any sort of industry.”³⁴

But it is also plausible that Smith sees the fact that some of the land’s value is independent of labor as normatively important for other reasons. First, this serves as a reason for Smith for why land rent is “naturally a monopoly price,”³⁵ and Smith generally saw monopoly prices as arising from some *improper* form of government protection and as inimical to the public good.³⁶ Second, and more importantly, since the landlord did not labor to create much of the land’s value, a land tax would not deprive any person of the product of his labor, which Smith saw as “sacred and inviolable.”³⁷

So while Smith never states explicitly that people have equal claims to land, it is clear that he does not support the existing landlords’ exclusive claim to it. His advocacy of a “peculiar tax” on land rents to be used for public purposes might plausibly be interpreted as an endorsement of the equal claims view.

Thomas Paine is far more explicit than Smith is about his support for equal claims to natural resources. He writes in *Agrarian Justice*, “It is a position not to be controverted that the earth, in its natural, uncultivated state was, and ever would have continued to be, *the common property of the human race*.”³⁸ He adds, “There could be no such thing as landed property originally. Man did not make the earth, and, though he

³⁴ Ibid., 162.

³⁵ Ibid.

³⁶ Smith does not pursue the implications for the public good of the idea that land rents are monopoly prices.

³⁷ Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 136. Smith repeats this idea that people have rights to the fruits of their labor several times throughout the *Wealth of Nations*.

³⁸ Thomas Paine, “Agrarian Justice,” in *The Origins of Left-Libertarianism : An Anthology of Historical Writings*, ed. Peter Vallentyne and Hillel Steiner (New York: St. Martin's Press, 2000).

had a natural right to *occupy* it, he had no right to *locate as his property* in perpetuity any part of it.”³⁹

While Paine recognizes the rights of the cultivators of land to the value they add, he is insistent that “it is the value of the improvement, only, and not the earth, that is individual property. Every proprietor, therefore, of cultivated lands, owes the community a *ground-rent* for the land which he holds.” This ground-rent is intended to compensate individuals for their lost claims to the earth.⁴⁰ Thus, Paine in *Agrarian Justice* clearly endorses the equal claims view.

John Stuart Mill, probably the most well-known of the classical liberals, also endorses the importance people’s equal claims to natural resources. In his *Principles of Political Economy*, Mill writes:

The essential principle of property being to assure to all persons what they have produced by their labour and accumulated by their abstinence, this principle cannot apply to what is not the produce of labour, the raw material of the earth.⁴¹

Mill adds that if it were possible to clearly separate the value added by labor from the value of the earth itself, “it would be the height of injustice to let the gift of nature be engrossed by individuals.”⁴²

However, Mill recognizes that it is difficult in practice to separate the value of the earth from the value added by industry. This, and the fact that industry adds a great deal of value to land, makes it necessary according to Mill to give the improver of the land

³⁹ Ibid., 85.

⁴⁰ Ibid., 84.

⁴¹ John Stuart Mill, "On Property and the General Principles of Taxation," in *The Origins of Left-Libertarianism : An Anthology of Historical Writings*, ed. Peter Vallentyne and Hillel Steiner (New York: St. Martin's Press, 2000), 161.

⁴² Ibid.

property in it. But, Mill emphasizes, this “privilege, or monopoly, is only defensible as a necessary evil; it becomes an injustice when carried to any point to which the compensating good [to those who are deprived of their common inheritance] does not follow it.”⁴³ Thus, Mill too is a clear supporter the equal claims view with regard to natural resources.

I.3.3 CONTEMPORARY LIBERAL SUPPORTERS OF EQUAL CLAIMS

Although the proposition that people have equal claims to natural resources has been to a large extent marginalized in the contemporary political philosophy literature, it continues to enjoy significant support from a variety of liberal thinkers. Left-libertarians, some liberal egalitarians, and many members of a group I refer to as basic-income liberals support the equal claims view.

The equality of claims to natural resources is most prominently and explicitly supported by a group who call themselves left-libertarians. As Peter Vallentyne writes in the introduction to *Left-Libertarianism and Its Critics*, “Left-libertarian theories of justice hold that agents are full self-owners and that natural resources are owned in some egalitarian manner.”⁴⁴ The idea of equal *ownership* of natural resources that many left-libertarians support is stronger than (but still falls under) the more general proposition that people have equal *claims* to natural resources.⁴⁵ It is also interesting that equal

⁴³ Ibid., 165.

⁴⁴ Peter Vallentyne, "Introduction: Left-Libertarianism - a Primer," in *Left-Libertarianism and Its Critics : The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 1.

⁴⁵ Admittedly, some of the proposals that Vallentyne classifies as equal ownership schemes seem to be stretch the meaning of “ownership.”

ownership of natural resources is, for many left-libertarians, “a matter of definition.” That is, it is a basic axiom for which they do not provide any further justification.⁴⁶

Left-libertarians are far from united on what it means for people to be equal owners of natural resources. Some view equal ownership as requiring some kind of collective decision-making over the use of natural resources. Others view equal ownership as a kind of commons rights where people can make equal use of natural resource but no one may exclusively appropriate them.⁴⁷ Still others, known as Georgist libertarians (named after the late 19th century thinker Henry George), such as Hillel Steiner, believe that equal ownership creates an obligation for appropriators of natural resources to pay the competitive value of the resource to others. Despite these disagreements, all left-libertarians clearly support the general proposition that people have equal claims to natural resources.

Robert Nozick also supports the idea of equal claims to natural resources. He writes, “A [natural] object’s coming under one person’s ownership changes the situation of all others. Whereas previously they were at liberty (in Hohfeld’s sense) to use the object, they now no longer are.”⁴⁸ Nozick then goes on to describe a “Lockean proviso” that, if satisfied, allows people to appropriate natural resources while respecting other people’s initial natural resource claims. For Nozick, this proviso is satisfied as long as people are better off in a world with natural resource appropriation than they are in one where no one can appropriate natural resources but may use them freely.⁴⁹ Although this

⁴⁶ Vallentyne, "Introduction: Left-Libertarianism - a Primer," 5.

⁴⁷ It might be better to refer to this idea as an interpretation of equal claims of natural resources rather than equal ownership.

⁴⁸ Nozick, *Anarchy, State, and Utopia*, 175.

makes Nozick's theory less egalitarian than those of many left-libertarians, he is nonetheless, like them, a supporter of the idea of equal claims to natural resources.⁵⁰

Liberal egalitarians of various sorts also endorse the idea of equal claims to natural resources. Ronald Dworkin, in his famous essay on "Equality of Resources", assumes that shipwreck survivors washing up on an island would agree to equally divide the natural resources of the island among themselves as part of a larger commitment to giving each person an equal share of resources with which to lead her life. For Dworkin, this equal division is achieved by auctioning off the resources while giving each person equal bidding income. This equal bidding income auction equalizes people's share of natural resources in the sense that no one envies anyone else's post-auction share. Dworkin then goes on to describe how this auction or something like it can be used to equalize other wealth inequalities such as those resulting from handicaps or from differences in natural talent.⁵¹

A variety of other contemporary liberals that cannot be neatly categorized as libertarians or liberal egalitarians support the idea of equal claims to natural resources. For example, Bruce Ackerman provides an argument for equal division of natural

⁴⁹ Nozick's states, "A process normally giving rise to a permanent bequeathable property right in a previously unowned thing will not do so if the position of others no longer at liberty to use the thing is thereby worsened." *Ibid.*, 178. Nozick's standard for a worse position is involves comparing the person's position to that he would have been in if he could freely use (without appropriation) the natural resource. See *Ibid.* 176.

⁵⁰ Nozick might be called a center-libertarian if right versus left-wing classification is based on the treatment of natural resources. He endorses equal initial claims like the left-libertarians. But the distributional consequences of his proposal are much more in line with the right-libertarians.

⁵¹ Dworkin, "What Is Equality? Part 2: Equality of Resources."

resources by using a Neutrality principle to eliminate certain alternatives, such as giving more resources to certain people simply because they are intrinsically better than others.⁵² Ackerman is part of a larger group of liberal theorists who combine general liberal, libertarian, and liberal egalitarian commitments in various ways to support the proposition that people should receive a basic income, one component of which is natural resource wealth.⁵³ Some cosmopolitan liberals, such as Thomas Pogge, have been particularly interested in showing how people's equal claims to natural resources can justify a kind of global basic income.⁵⁴ These *basic income liberals* as I call them join liberal egalitarians such as Dworkin in endorsing the idea of equal claims to natural resources.

I.3.4 CONTEMPORARY LIBERAL OPPONENTS OF EQUAL CLAIMS

Given the broad liberal support for the equal claims view, it is important to note that there are also prominent liberals who do not endorse this view. Interestingly, these thinkers lie at the two extremes of the liberal spectrum. On the one extreme are right-wing libertarians (or *right-libertarians*) such as Jan Narveson, Murray Rothbard, and Israel Kirzner. These thinkers reject the idea that people have equal claims to natural resources for two reasons. First, they argue that natural resources as commonly defined have no value. All the value is created by particular human actors and so these actors are

⁵² Bruce Ackerman, *Social Justice in the Liberal State* (New Haven: Yale University Press, 1980), 43-59.

⁵³ Some left-libertarians also support a kind of basic income, but for them this basic income consists solely of natural resource wealth.

⁵⁴ See Chapter Eight of Thomas Pogge, *World Poverty and Human Rights* (Cambridge, UK: Polity Press, 2002).

entitled to the natural resources whose value they have created. Second, right-libertarians argue that people in fact have no initial claims to natural resources.

On the other side of the liberal spectrum, John Rawls also does not support the equal claims view. Rawls does not so much explicitly reject the idea of equal claims to natural resources as he ignores it.⁵⁵ Insofar as Rawls mentions natural resources at all, he generally follows the Marxist tradition of grouping them along with capital as means of production.⁵⁶

Of course, natural resources are means of production. But they are also an important form of wealth to which (one might think) an egalitarian like Rawls would grant equal claims. Unfortunately, Rawls simply says nothing about natural resources qua wealth. We cannot, however, take his silence as an endorsement of the equal claims view, especially since, as I argue below, there are two arguments that can be made within the Rawlsian framework for rejecting the proposition that people have equal claims to natural resources (though Rawls does not make these arguments himself).⁵⁷

1.4 Lessons, Lacunae, and Unresolved Controversies

There are several important lessons to draw from this brief survey of liberal thought on natural resources provided above. First, this survey shows a general (but not universal) liberal consensus on the equal claims view.⁵⁸ Second, this survey highlights a

⁵⁵ Natural resources are barely mentioned and do not even merit an index entry in *A Theory of Justice*.

⁵⁶ John Rawls, *A Theory of Justice*, Revised ed. (Cambridge, MA: Belknap Press of Harvard University Press, 1999), 242-43.

⁵⁷ Interestingly, Rawls does, however, explicitly reject Beitz's argument that natural resources ought to be equalized globally. John Rawls, *The Law of Peoples* (Cambridge, Mass.: Harvard University Press, 1999), 116-17. I will return to this issue in Chapter Nine.

variety of controversies and gaps in liberal thinking on natural resources. The rest of the dissertation is aimed filling in the gaps and settling the controversies that are described in this section.

I.4.1 NATURAL RESOURCES AND THEIR VALUE

The first gap in the literature is the absence of a clear, careful definition of “natural resource.” Yet such a careful definition is sorely needed. Right-libertarians reject the equal claims view in part by arguing that natural objects are only valuable as a result of human actions. Therefore, they often argue that only the individuals who created the value of natural resources ought to have claims to them.

In Chapter One I argue that natural objects do have a value that is not created by particular human actions. I contend that the marginal product theory of value that right-libertarians rely on in order to deny this claim is both intuitively implausible and leads to logical inconsistency. Although I recognize that human agents such as discoverers, inventors, and developers can add value to natural objects, I argue that it is possible, in theory at least, to isolate the “purely natural” portion of natural resource value. It is therefore possible to think of people as having equal claims to this portion of natural resources (which I call purely natural resources.)

⁵⁸ While I have attempted to canvass the views of the most prominent liberal thinkers, there are many other supporters of equal claims to natural resources whose views I have not discussed. These supporters include Hugo Grotius, Samuel Pufendorf, Thomas Jefferson, Patrick Dove, Henry George, Herbert Spencer, and Leon Walras. For the views of these thinkers on natural resources, see Peter Vallentyne and Hillel Steiner, eds., *The Origins of Left-Libertarianism : An Anthology of Historical Writings* (New York: St. Martin's Press, 2000).

I.4.2 THE LIBERTARIAN ARGUMENT

Even if there is portion of natural resources whose value is not due to efforts of any particular individual, it is unclear why people should have equal claims to these purely natural resources. Although there is broad support for the equal claims view among libertarians, there is a marked absence of convincing arguments for this view. For Thomas Paine and some left-libertarians, the idea of equal claims to natural resources is simply presented as a self-evident assertion. For other libertarians, it is given a theological basis or taken as an implication of the right to self-preservation. Other libertarians see people's equal claims as deriving from some kind of initial natural liberty to use resources.

In Chapter Two I argue that none of these arguments provide a convincing foundation for the equal claims view. I argue, however, that the equal claims view can be shown to follow from the central liberal theoretical commitments that are shared by all libertarians. I argue that a broader commitment to equal concern generates a presumption of equal claims to resources. And since negative liberty says nothing about how initial claims to purely natural resources ought to be distributed, individuals should be viewed as having equal claims to them.

I.4.3 THE LIBERAL EGALITARIAN ARGUMENT

The liberal egalitarian supporters of the equal claims view, such as Ronald Dworkin, also fail to provide sufficient arguments justifying their position. It might seem obvious that liberal egalitarians would support people's equal claims to natural resources, but there are two possible liberal egalitarian objections to the equal claims view. First, some egalitarian liberals, like Rawls, are concerned with how the benefits of social

cooperation are distributed. And purely natural resources are not the result of social cooperation in any obvious sense. Second, some liberal egalitarians might argue that natural resources claims ought to be distributed in order to compensate for inequalities in other resources (e.g. inequalities generated by differences in natural talents).

I argue in Chapter Three that neither of these liberal egalitarian objections to the equal claims view is convincing. Although natural resources are not the product of any particular scheme of social cooperation, they are valuable and their distribution is contested. It is implausible that their distribution does not raise questions of justice. I also argue that there are good reasons for liberal egalitarians to forbear from trying to distribute natural resource claims unequally in order to compensate for other inequalities. These reasons include the theoretical and practical difficulties of carrying out such a compensatory claim distribution, the relatively small benefits of doing so, the morally pressing nature of the current natural resource claims inequality, and the high likelihood of being able to address these inequalities by equalizing natural resource claims.

I.4.4 REJECTING ALTERNATIVES TO EQUAL DIVISION

While there is a dearth of foundational arguments for the equal claims view among liberals, there is no shortage of suggestions regarding how people's equal claims to natural resources ought to be respected. Different liberal theorists, all of whom endorse the equal claims view, have widely divergent accounts of how people's equal claim to natural resources ought to be respected. Rousseau's proposal of permitting minimal equal use of natural resources is very different from Nozick's proposal of allowing (minimally) constrained appropriation of natural resources and both of these are very different from Paine's proposal of equally distributing ground-rents. In general,

liberal authors provide few arguments for why their favored conception of how equal claims to natural resources is the right one. In addition, there is no consensus on what criteria can be used to evaluate these different conceptions of the equal claims.

In Chapter Four I develop three criteria I argue can be used to evaluate different conceptions of the equal claims view: distributional equality, dynamic equality, and efficiency. I then use these three criteria to evaluate and dismiss several conceptions of the equal claims view. These include First Possession Appropriation, Collective Ownership, Common Access, and Harmless Appropriation conceptions of the equal claims view. I argue that each of these conceptions is problematic both because they lead to wasted resources and because they can lead to the exclusion of certain individuals from obtaining any valuable rights to the natural resources to which they ostensibly have an equal claim.

I.4.5 DEFENDING EQUAL DIVISION IN A SIMPLE WORLD

Rejecting all these other types of conceptions leaves Equal Division conceptions, which grant each individual person private ownership over an equal share of natural resources. Equal Division is one of the dominant conceptions supported by those who endorse the equal claims view. Yet the liberal proponents of equal division generally provide insufficient justification for why the standard of equality for shares that they endorse is correct. In addition, they simply seem to assume that what ought to be equally divided is share *ownership* where ownership is viewed in a strong sense that includes various rights, including the right to freely sell one's natural resource share.

In Chapter Five I develop and defend the equal division approach to respecting equal natural resource claims. I begin by rejecting the Lockean foundation for equal

division. After considering several alternative criteria for the equality of shares, I argue that shares should be considered equal ideally only if there are no unjustified discrepancies in the benefits individuals receive from their natural resource shares. However, given a variety of philosophical difficulties with putting this concept into practice, I hold that there are good reasons to pursue a type of equal division which gives every person an identical amount of natural resources. I then argue that people should be allowed to sell their natural resource share from this condition of initial equality and defend the resulting inequality in natural resource shares.

I.4.6 HETEROGENEITY

The next problem that most liberals have failed to sufficiently consider is natural resource heterogeneity. Jan Narveson argues that in a world of heterogeneous resources, it is impossible to unobjectionably give every person an equal amount of natural resources. Narveson argues that there is simply no method that can be used to compare oil to gold to sand to marshland in a way that is not open to decisive criticisms. And even if a theoretical standard can be found to answer Narveson's critique, liberals like Dworkin have not paid sufficient attention to ensuring the standards they propose are practicable. In addition, as Hobbes points out, though equal division may be appropriate for some natural resources, it may not be an appropriate way of allocating property rights to *all* natural resources. Yet Hobbes and other liberals have generally not given an account of which resources are problematic to equally divide and how exactly property rights in problematically-divisible resources should work.

In the first part of Chapter Six I consider different criteria that could be used to give individuals an equal amount of heterogeneous, unproblematically-divisible natural

resources. I argue, in line with Dworkin, for dividing natural resources so that no person would prefer the bundle someone else receives (an envy-free distribution). I then argue that an auction whose proceeds are divided equally can be used to implement an initially envy-free distribution combined with a commitment to subsequent voluntary sales. In the last part of Chapter Six I consider a variety of resources which seem difficult to divide equally and argue that with a few exceptions (e.g. non-separable resources like the air) the framework of equal division is appropriate for thinking about property rights in these resources.

I.4.7 UNEXPECTED CHANGE

Many proponents of Equal Division conceptions (and the equal claims view more generally) also do not give sufficient consideration to the problem of how to respect people's equal claims to natural resources over time. For example, Dworkin considers how resources ought to be divided in a one-time, equal-income auction. But as social, technological, and natural conditions change unexpectedly, the values of particular natural resources will change unexpectedly. If we are interested in ensuring that people have equal shares over their lives taken as a whole (as opposed to only in a particular point in time), this unexpected change is a problem that needs to be addressed.

I argue in Chapter Seven that in a world where such change exists, a one time auction of ownership whose proceeds are distributed equally may no longer provide the best solution. I suggest that implementing a natural resource lease system instead (with rents distributed equally) can solve this problem. I raise a variety of problems with this system and then argue that they can be solved using modern technology and through offering different length leases for different natural resources.

I.4.8 FUTURE PEOPLE

Another problem that few liberal theorists writing on natural resources address in a satisfactory way is the natural resource claims of future people. Liberals have struggled to show why current individuals have justice-based obligations to conserve natural resources for those who do not yet exist. They have especially had difficulty showing why there are any justice-based obligations to provide anything at all for members of distant generations whose lives do not in any way overlap with the lives of those currently living. These difficulties have led even mainstream liberals to give up on answering intergenerational questions using liberal theories of justice. Instead, many of them have turned to communitarian theories, democratic stewardship theories, theories of humanitarian obligations, theories of human flourishing, or theories that focus on the inherent value of natural resources.

In Chapter Eight I argue that liberal theories of justice have the theoretical resources to address the problem of intergenerational natural resource rights. I contend that while we may not have justice obligations to future people before they exist, we can have justice-based obligations to each other to conserve natural resource for future people before they exist. In addition, although we will never be confronted with the claims of people living in the distant future, I argue that given the fact of overlapping generations, we will be confronted with these claims indirectly by the forward-looking members of the next generation. I conclude Chapter Eight by arguing that parents ought to be held responsible for providing for the natural resource claims of their children and considering the implication of this for the distribution of natural resources across generations.

I.4.9 MULTIPLE NATION-STATES

The one arena in which the issue of natural resources has been debated heavily among liberals in recent years is the area of global justice. Several liberals have converged on the idea that, if nothing else, natural resources should be distributed equally globally. Beitz, Barry, Steiner, and Pogge each have put forward proposals (at varying levels of concreteness) for an egalitarian distribution on natural resource wealth. But liberals have not agreed on why natural resources (as opposed to other forms of wealth) should be distributed equally on a global scale. In addition, there has been resistance to such redistribution from liberal theorists such as John Rawls.⁵⁹

In Chapter Nine I give an argument for why both cosmopolitan liberals and liberals who take national boundaries very seriously should agree on the equal distribution of natural resources. I begin by making the case that the international distribution of property rights in natural resources falls within the scope of justice. I then argue that natural resources ought to be distributed equally globally because they cannot be said to be deserved either by any individual or by any nation. I argue that individuals rather than nations ought to be seen as having equal claims to natural resources and that non-liberal nations should not be accommodated when denying the equal natural resource claims both of foreigners and their own people. I also provide a proposal for how equal individual claims to natural resources could be respected in a world with multiple nation-states and suggest that such a system might warrant redrawing of national borders.

⁵⁹ Rawls, *The Law of Peoples* 116-17.

I.4.10 FROM THEORY TO PRACTICE

The final gap in the liberal political philosophy literature on natural resources lies in the lack of consideration given to questions of implementation. First, with the exception of Pogge, liberal thinkers (even those with relatively well-developed theories of natural resource property rights) have failed to make the case for why implementation of the right regime of natural resource property rights is important. In the absence of such arguments, reforming the natural resource property rights regime is likely to continue to remain near the bottom of the political agenda. In addition, several contemporary liberal thinkers (e.g. Pogge) who have relatively concrete natural resource wealth redistribution proposals have failed to give sufficient consideration to the rights of current natural resource owners. Finally, with few exceptions, liberal thinkers have not considered the practical and theoretical problems with developing the new global institutions necessary to implement the international redistribution of natural resource property rights that they advocate. In addition, with the exception of Pogge, they have failed to provide realistic and actionable proposals for immediate reforms that can mitigate the enormous injustice in the current global natural resource property rights regime.

I argue in Chapter Ten that correcting the injustices in the current distribution of natural resource property rights is crucial for mitigating the pressing problems of poverty, war, and environmental degradation. I consider the rights of current owners and suggest that they are indeed entitled to a significant amount of compensation. I raise a variety of remaining difficult issues and obstacles but argue that there are policy proposals that are feasible in the immediate future which can move us in the direction of a more just natural resource property rights regime.

1.5 Non-Liberal Thinkers and Natural Resources

Before attempting to fill in some gaps on the topic of natural resource property rights in liberal theory, it is important to say a few words about non-liberal thinkers and their relation to the idea of equal claims to natural resources. These non-liberal thinkers generally do not support the equal claims view itself; that is, the idea that individuals have equal claims (grounded in justice) to natural resources. So they will generally not be convinced by many of the philosophical arguments provided in this work (since these arguments take the equal claims view as their foundation.) But they may well endorse (at least to some extent) the natural resource property rights regime that is developed in this work. This is because these non-liberal thinkers do see some kind of equal distribution of natural resources or natural resource wealth as *instrumentally* important for achieving other morally desirable political goals.

The thought that equality in the distribution of land is desirable is as old as political theory itself. Plato, for example, saw a relatively equal division of land in *The Laws* as important for maintaining political stability.⁶⁰ James Harrington in *The Commonwealth of Oceana* argues that egalitarian land distribution is needed for a good republican government.⁶¹ Machiavelli in *The Discourses* argues that a more egalitarian division of land could encourage citizens to defend the polity.⁶² While land's diminished importance as a source of wealth might undermine some of these arguments, it remains

⁶⁰ Plato, *The Laws*, ed. Trevor J. Saunders, *Penguin Classics* (New York: Penguin, 2004).

⁶¹ James Harrington, *The Commonwealth of Oceana* (New York: George Routledge and Sons, 1987).

⁶² Niccolò Machiavelli, *Discourses on Livy*, ed. Harvey Mansfield and Nathan Tarcov (Chicago: University of Chicago Press, 1996).

true that an egalitarian distribution of natural resources can be instrumentally important in advancing these political goals.

Marxists, especially those interested in the conditions that lead to the exploitation of labor, might well be interested in the idea of equal claims to natural resources. As Cohen points out, in *Capital* and in *The Critique of the Gotha Program*, Marx sees the monopoly of land as the cause for the creation of the proletariat and as a basis for the continual monopoly of capital.⁶³ This is because the monopoly of land puts the worker at the mercy of the capitalist thus creating the conditions for exploitation. Natural resources are generally recognized as a means of production, and this leads Marxists and socialists to have an interest in ensuring that people have equal access (in some sense) to these resources.⁶⁴ However, the neo-Marxist and socialist agendas often extends far beyond equalizing claims to natural resources to equalizing access to the means of production more generally, as well as to other goals such as ensuring the provision for the needy.⁶⁵ Nonetheless, insofar as some kind of equal distribution of natural resources part of the Marxist and socialist agendas, some of the implications of the idea of equal claims to natural resources might be of interest.

Next, a variety of political thinkers who grant efficiency and efficient redistribution of wealth some normative importance might be interested in the ideas of

⁶³G. A. Cohen, *Self-Ownership, Freedom, and Equality* (New York: Cambridge University Press, 1995), 168. Although Marx shares with classical liberals a focus on labor, on one reading of Marx, this focus derives from a perfectionistic vision of human beings as free, productive agents. See Karl Marx and Friedrich Engels, *Economic and Philosophic Manuscripts of 1844*, trans. Martin Milligan (Buffalo, NY: Prometheus Books, 1988), 176-77. Having access to the means of production such as natural resources allows all human beings to realize this potential.

⁶⁴ See for Cohen, *Self-Ownership, Freedom, and Equality*, 120.

⁶⁵ So they might endorse the proposition that natural resources should be distributed to avoid exploitation or to help the needy rather than the idea that people have equal claims to these resources as a matter of justice to natural resources.

equal claims to natural resources developed here. ‘Classical liberal’ economists have generally advocated taxing natural resource wealth on efficiency grounds.⁶⁶ Also, thinkers in the law and economics tradition have often argued that property rights in natural resources ought to be determined by considerations of efficiency. Insofar as respecting people’s equal claims to natural resources in a way that achieves redistribution in an efficient way, these thinkers might well be interested in the implications of the idea of equal natural resource claims.

At the other end of the political spectrum, so-called classical liberal economists (I prefer the term liberal utilitarian economists)⁶⁷ have also been interested in the distribution of natural resources and in particular natural resource wealth. These economists advocate the use of natural resource taxation to fund a variety of public goods and redistribution.⁶⁸ They support this policy on the grounds that natural resources provide an opportunity for efficiently raising revenue in order to achieve legitimate political goals. Natural resources taxes are efficient because natural resources are inelastically supplied (which is implied by the fact that they are not created by anyone.)

⁶⁶ I put the term ‘classical liberal’ in quotes here because these economists, unlike liberals more generally lack a principled commitment to negative liberty. On their account, liberty is generally seen as instrumentally beneficial for efficiency, which is seen as instrumentally beneficial for achieving some kind of optimal (from a utilitarian point of view) distribution of wealth. Although classical liberals like Mill also had a commitment to utilitarianism, it is not at all clear that Mill’s commitment to negative liberty was purely derived from and secondary to his utilitarian commitment.

⁶⁷ I do classify these thinkers as classical liberals because they lack a *principled* commitment to negative liberty. On their account, liberty is generally viewed only as instrumentally beneficial for ensuring efficiency, which is seen as instrumentally beneficial for achieving some kind of optimal (from a *welfarist* point of view) distribution of wealth. In a society where the empirical relationship between liberty and efficiency is a negative one for some reason, liberty would be abandoned. Although classical liberals like Mill also had a commitment to utilitarianism, it is not at all clear that Mill’s commitment to negative liberty was purely derived from and secondary to his utilitarian commitment. Since I agree with those scholars who argue that Mill’s commitment to liberty was fundamental, I ascribe to him the label of classical liberal.

⁶⁸ Milton Friedman, for example, states, “The least bad tax is the property tax on the unimproved value of land.” “An Interview with Milton Friedman,” *The Times Herald*, December 1, 1978.

But, as some of these liberal utilitarian economists emphasize, natural resources are no different philosophically from other forms of wealth that are inelastically supplied such as natural talents.⁶⁹ Thus, while these liberal utilitarians share an interest in natural resource taxation with thinkers like Thomas Paine and Henry George, their support for natural resource taxation is grounded in efficiency rather than justice.

The review of these non-liberal thinkers' ideas on natural resources demonstrates several important points. First, support for some sort of equal distribution of natural resources and natural resource wealth is not unique to liberal thinkers. Second, insofar as respecting people's equal claims to natural resources leads to an equal distribution of natural resources or natural resource wealth (as I will argue it does), this may serve a variety of important political purposes, including securing political stability, mitigating of exploitation, and efficiently redistributing wealth. Therefore, many thinkers from Marxists to liberal utilitarians might find aspects of the conclusions developed in this work that they can endorse.

Although I welcome the support and interest of these non-liberal thinkers, ultimately the arguments in this dissertation are based on the commitment to the idea that *justice requires* that people's *equal claims to natural resources* be respected; a theoretical commitment that thinkers outside of the liberal tradition generally do not share. A work on natural resources in these other traditions might focus on the empirical connections between natural resource distribution and political stability, worker exploitation, or efficiency. Although I am interested in these connections, my primary interest lies in exploring the justice-based implications of the equal claims view.

⁶⁹ Milton Friedman, *A Letter to an Admirer of Henry George* ([cited May 14, 2009]); available from http://www.cooperativeindividualism.org/friedman_henrygeorge.html.

Conclusion

I began this Introduction with several contemporary controversies regarding natural resources. I have argued that political philosophers lack the theoretical frameworks needed to address many of the important questions of justice raised by these controversies. This work aims to address this gap in the field by developing a specifically liberal theory of property rights in natural resources. It takes the liberal theoretical commitments to equal concern, liberal neutrality, negative liberty, and, in the case of liberal egalitarians, the idea that ultimate benefits should not be determined by factors which are arbitrary from the moral point of view as starting points. In addition, it builds on many of the ideas regarding natural resources in the liberal tradition.

In order to begin examining these ideas, I conducted a brief survey of liberal writings on natural resource property rights. This survey included the writings of prominent social contract thinkers, classical liberals, and contemporary liberals (including libertarians, liberal egalitarians, and basic income liberals). The survey focused in particular on exploring liberal thought in relation to the proposition that people have equal claims to natural resources. I examined the reasons given in support of the equal claims view, the ways in which liberals argue that equal claims ought to be respected, and the views of those liberals who do not endorse the equal claims view.

I then discussed the gaps and unsettled controversies in the liberal literature on natural resource and briefly outlined this dissertation's solutions for filling in these gaps and settling these controversies. I argue that first of all, liberals lack both a clear definition of natural resources and a discussion of the sources of natural resource value. Second, both libertarian and liberal egalitarian supporters of the equal claims view fail to

provide sufficient arguments for this proposition. Third, there is a great deal of unsettled controversy over how exactly people's equal claims to natural resources ought to be respected. In addition, even among those liberals that support a particular solution such as equal division, there is no agreement on the right standard of equality for natural resource shares or the best way to implement this standard.

There are also gaps and controversies in a variety of other areas. There is no consensus on how to respect natural resource claims over time and nor is there consensus on how to treat the claims of future generations. There is also little discussion of how to respect people's equal claims to different types of resources such as non-separable resources (e.g. the air.) In addition, there is a great deal of controversy about how claims to natural resources among nation-states ought to be respected. There is also precious little said about the various problems involved in implementing the proper natural resource property rights regime, including questions regarding measurement of natural resource value, implementation of a fair transition, and institutional design. My responses to all of these problems, which were summarized briefly above, will be developed in far greater detail in the coming chapters, beginning with the challenges of defining the term "natural resources" and determining the sources of natural resource value.

Natural Resources and their Value

Most liberal thinkers do not define what they mean by “natural resources” nor do they provide a discussion of the sources of natural resource value. Yet these issues are fundamental for any theory of property rights in natural resources. In fact, several right-libertarian thinkers have challenged the liberal conventional wisdom by questioning whether natural objects have any value that is separate from the value added by labor. By suggesting that the value of natural resources comes from the labor of particular individuals, they have called into question whether liberals ought to see all individuals as having equal claims to natural resources.

I concede in this chapter that the right-libertarian critique has some validity. Even pristine natural resources have a value that is rightly seen as due to the actions of agents such as discoverers, inventors, and the government. If so, then it is implausible to argue that agents have equal claims to pristine natural resources. However, I contend that agents are not properly due the *entire* value of pristine natural resources. The natural object itself has some value as well. And so we can salvage the equal claims view if we hold that what people have equal claims to are those natural resources which remain when all the agents who made contributions are appropriately compensated.

The argument of this chapter is divided into four parts. In the first part I define the term ‘natural resources’. I then consider the arguments of the right-libertarians for

the proposition that natural resources have no value in the second part. In the third part I discuss the problem of determining the value of natural objects themselves and argue that any plausible solution to this problem would assign natural objects some value. Finally, in the fourth part I introduce the concept of purely natural resources and argue that it is plausible to view individuals as having equal claims to these ‘post-compensation’ natural resources.

1.1 Natural Resources Defined

I begin with a definition of the terms “natural” and “resource.” I call a resource “natural” if it has not been created or significantly altered by human beings. Land, water, and oil in pristine condition are all examples of natural resources. Wild animals (e.g. fish in the sea) are also natural resources, but human bodies and any parts thereof are not.⁷⁰

Human beings routinely cultivate, harvest, mine, and otherwise transform natural resources in ways that increase their value. The resulting goods, such as irrigated land and captured fish, I see not as natural resources, but rather as composite goods that require natural resources as inputs along with labor. I refer to composite goods for which natural resources constitute a significant input as *developed natural resources*. Of course, not all human activity increases the value of natural resources. For example, pollution can cause a reduction in the value of otherwise pristine land, water, and air. I call resources whose value has been reduced by human activity *degraded natural resources*.

⁷⁰ There are grey areas such whether primates or even certain highly intelligent marine mammals like whales and dolphins ought to be considered natural resources. Such questions are beyond the scope of this dissertation.

The second term that requires definition is “resource.” A resource is anything that is useful for the attainment of human goals.⁷¹ Examples of resources include physical objects as well as ideas (i.e. intellectual resources.) Notice that this definition of resources focuses squarely on instrumental value. Many philosophers believe that natural resources (or at least some natural resources like the Grand Canyon and animals) also have an inherent value;⁷² that is, they are valuable in and of themselves. I will assume throughout this dissertation that natural resources do not possess such an inherent value.

There are several reasons for excluding considerations of inherent value from the liberal theory of property rights in natural resources developed here. First, the inherent value of natural resources does not generally figure prominently in liberal discussions of natural resources. Second, even when it does arise, there is no consensus about the source of this inherent value or how it ought to be respected or weighed against other considerations. Third, there are plenty of problems and controversies to be resolved in this work based solely on considerations of the instrumental value of natural resources. Fourth, a good deal of support for the idea of inherent value of natural resources arises intuitively, I believe, from the failure of traditional liberal theories of natural resource property rights to sufficiently promote conservation of the environment. I hope to show in this work that considerations of instrumental values alone can in fact lead to requirements for surprising levels of environmental conservation. For all these reasons, I

⁷¹ In my discussion of natural resources, I use the phrases “useful”, “useful for the attainment of human goals”, and “valuable” interchangeably. Some distinctions could certainly be drawn between the useful and the valuable. However, since only I consider instrumental value in this work, I will not make a distinction here.

⁷² For a discussion of inherent value, see Chapter Eight of Wilfred Beckerman and Joanna Pasek, *Justice, Posterity, and the Environment* (New York: Oxford University Press, 2001). Beckerman and Pasek use the term intrinsic value. I prefer the term inherent value because, as several thinkers have pointed out, non-instrumental value can be imbued in an object by external sources.

generally set aside considerations of the inherent value of natural resources (and so generally use the terms ‘useful’ and ‘valuable’ interchangeably.) I recognize, however, that if natural resources can be shown to have an inherent value, the theory developed in this dissertation will be fundamentally incomplete.

Given the large-scale cultivation and exploitation of natural resources and the wide-ranging effects of human activity, relatively few objects remain which are natural resources in the sense defined here (i.e. useful objects that have not been affected by human activity.) One could argue that the rarity of such objects undermines the importance of developing a theory of property rights in natural resources.

There are three main reasons for discounting this objection. First, while relatively rare, there still are a variety of pristine natural resources (e.g. oil in the Arctic seabed) whose ownership is deeply contested. Second, it may be possible to isolate in some way the natural component of developed and degraded natural resources.⁷³ If so, we might be able to think of property rights in this natural component in a way that is analogous to property rights to pristine natural resources. Finally, a central question in thinking about property rights in developed and degraded natural resources is who (if anyone) was justly entitled to develop and degrade them in the first place. The answer to this question may have important consequences for how we view current property rights in developed natural resources. So, although resources that have not been significantly altered by human beings are not common, this does little to diminish the importance of thinking about how property these resources should be determined.

⁷³ In Chapter Seven I argue that achieving this kind of separation between the value of the natural resource and the value of developments is epistemically feasible in a variety of cases.

1.2 Do Natural Objects Lack Value?

There is, however, an objection to the use of the concept of natural resources that is more fundamental. Right-libertarians like Jan Narveson argues that the term “natural resource” actually does not apply to anything at all. It is, according to Narveson, a neologism in the pathological sense used by psychiatrists; a combination of words that only makes sense in the mind of the speaker. He writes, “[There is] a fundamental, widely unappreciated but obvious point: the view of natural resources according to which they are, *just like that*, ‘goods,’ is fundamentally wrong-headed.”⁷⁴

Narveson is correctly pointing out here that the seemingly uncontroversial definition of natural resources that I have given smuggles in an important and contestable claim about value-creation. He points out that without knowledge of how to use natural resources (technology), natural objects are *completely useless* and so they cannot be seen as *resources*.⁷⁵ This is one version of a more general right-libertarian argument which is that natural resources are useless without some form of human labor. I contend that all of the versions of this libertarian argument rely on implausible theories of value determination.

While the libertarian claim that natural objects are valueless cannot be right, I argue that it is true that *some* of the value of natural resources is generated by the labor of particular agents such as discoverers. I contend, however, that it is also true that some portion of natural resource value can be attributed to the presence of the natural object itself. I call this portion of value *purely natural*. However, before defining the concept

⁷⁴ Jan Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," *The Journal of Ethics* 2, no. 1 (1998): 14-15. I am grateful to John Huebert for point this article out to me.

⁷⁵ *Ibid.*: 15.

of purely natural value more rigorously, it is first necessary to consider and dismiss the right-libertarian arguments that imply that no such value exists.

1.2.1 THE MARGINAL PRODUCT THEORY OF VALUE

The general right-libertarian argument for why natural objects are useless can be stated as follows:

- (1) But for action X applied to some natural object, the object would be of no use to anyone
- (2) Hence, Agent A, who performs X, should be seen as generating the entire value of what was previously a valueless natural object.

Right-libertarians then often proceed to argue that Agent A should own the natural resource using the following argument:

- (3) People are entitled to have property in the value that they create.
- (4) Therefore, since Agent A single-handedly created the object's entire value, A is justly entitled to have exclusive property in the object.

Different right-libertarian authors focus on different types of labor in the role of action X, including development labor,⁷⁶ discovery,⁷⁷ invention of uses for resources,⁷⁸ and efficient allocation.⁷⁹

⁷⁶ Murray Rothbard, "Entrepreneurship, Entitlement, and Economic Justice," in *Left-Libertarianism and Its Critics: The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 214-27.

⁷⁷ Nozick effectively takes this view when he assigns the discoverer full rights to a natural resource that no one else would have discovered. See Nozick, *Anarchy, State, and Utopia*, 181.

⁷⁸ Narveson argues that "Technology in the broad sense is, in short, a necessary condition of any natural items' having any value at all." See Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 15. Narveson's position is interesting because he includes labor (or the cognitive output of the owners of labor) as a part of "technology" and yet he does not discuss the rights of those who are responsible for the existence of other kinds of technology such as inventors.

I am not interested here in the second half of the right-libertarian argument. I am willing to grant proposition (3) (though I recognize that many thinkers will find this controversial). I am also willing to grant that (4) follows if (1), (2), and (3) are correct. I am interested instead in the claim that natural resources are valueless. Therefore, I focus on the validity of (2). I argue that the right-libertarian argument fails in the move from (1) to (2).

There are two main problems with the move from (1) to (2). The first problem is that (1) is true *only* if we are discussing a *class* of actions, but (2) is talking about a *particular instance* of that class of actions. For example, it is clearly true that without development labor the vast majority of natural objects would be useless. However, it is *not* true that without a *particular agent's* development labor, the natural object would be useless. This is because *someone else's* development labor might bring the natural object into use. This mismatch presents one important difficulty in the move from (1) to (2).

Note, however, that in a world where there is only one person (Agent A) who can feasibly carry out X, this mismatch problem does not arise. In such a world, it *is* true that without *Agent A's performance of X*, the resource would be useless. Yet even in such a world, there remains another, more fundamental problem with the move from (1) to (2) that I argue precludes Agent A from claiming to have created the entire value of the natural resource. The problem is that the "but for" intuition used to attribute to Agent A's actions the entire value of the natural resource in this case is deeply flawed.

This "but for" intuition is better known to economists as the marginal product theory of value. This theory states that the value that a particular input can be seen as

⁷⁹ For a discussion of thinkers who hold this view, such as Spencer Heath, see Fred Foldvary, "Heath: Estranged Georgist," in *Critics of Henry George : An Appraisal of Their Strictures on Progress and Poverty*, ed. Robert Andelson (Malden, MA: Blackwell Pub., 2003), 574-75.

creating is the value that it adds if it is not already present or what the would be lost if it is taken away (assuming it is already present). Economists have long realized that such a theory is, in most real-world cases, untenable.⁸⁰ G. A. Cohen criticizes the “but for” intuition specifically as it applies to natural resources in some detail, and I build on his arguments below to show that the marginal product theory of value is intuitively implausible, overly simplistic, and leads to logical inconsistency. I begin by refuting the right-libertarian argument with development labor in the role of action X, and, in the following section, I move to the more difficult case of discovery in the role of action X.

1.2.2 THE ROLE OF DEVELOPMENT LABOR

Murray Rothbard clearly thinks that natural resources have no value. He writes, “The pioneer, the homesteader, the first user and transformer of [land], is the man who first brings this simple *valueless* thing into production and social use.”⁸¹ Although Rothbard does not present an explicit argument for why the undeveloped land is valueless, it seems as though he relies on the idea that but for the labor of the homesteader, the land would be useless.⁸² That is, the marginal product of the homesteader is the entire value of the developed land.

There are several reasons why Rothbard’s contention that the homesteader creates the entire value of the arable land is counterintuitive. First, it seems that people are not indifferent over the allocation of undeveloped natural resources. These natural resources

⁸⁰ H.P. Young, "Individual Contribution and Just Compensation," in *The Shapley Value : Essays in Honor of Lloyd S. Shapley*, ed. Alvin E. Roth (New York: Cambridge University Press, 1988), 268.

⁸¹ Rothbard, "Entrepreneurship, Entitlement, and Economic Justice," 225. Emphasis added

⁸² I cannot think of any other plausible basis for saying the land is valueless that is consistent with Rothbard’s argument.

often have a positive market price and people have even gone to war over possession of them. If undeveloped natural resources are valueless as Rothbard claims, it is difficult to understand these phenomena on any straightforward account of the concept of value. Second, the marginal product theory of value that Rothbard relies on seems to take no account of the scarcity of natural resources. Imagine that there is only one piece of arable land in a world with many farmers. It is still true that this plot of land is useless unless some labor is applied to it. Yet contrary to Rothbard's conclusion, far from being valueless, intuitively this piece of land would seem to be invaluable. Third, Rothbard's account of value can lead to the counterintuitive conclusion that simple activities can create a great deal of value practically *ex nihilo*. Imagine that after several hours of drilling, a pioneer hits a pocket of oil worth several million dollars. It seems implausible that the entire value of the oil is *wholly created* by these few hours of drilling.⁸³

Rothbard's implicit argument here is not only intuitively implausible. As G. A. Cohen argues, it leads to logical inconsistency. Cohen argues that while it is true that but for the development labor, the natural resource would be useless, *it is also true that but for the natural resource, the development labor would be useless*. So, we can apply the marginal product theory of value to get the result that the presence of the natural resource is what is responsible for the entire value of the developed natural resource and *the development labor is responsible for none of it*. But of course, this conclusion is logically incompatible with Rothbard's conclusion.⁸⁴

⁸³ This example is a variation on a water well example used by Cohen. See Cohen, *Self-Ownership, Freedom, and Equality*, 183.

⁸⁴ *Ibid.*, 184.

It is interesting to note that Locke also seems to appeal to a marginal product intuition to argue that natural resources have very little value. Locke writes:

*It is labour ... which puts the greatest part of value upon the land, without which it would scarcely be worth any thing: it is to that we owe the greatest part of its useful products; for all that the straw, bran, bread, of that acre of wheat, is more worth than the product of an acre of as good land, which lies waste, is all the effect of labour...*⁸⁵

Locke is pointing out that without cultivation, land would only produce a tiny fraction of the amount it produces with cultivation. He seems to draw the implication that generally human labor is therefore responsible for the vast majority of the land's value. He thus seems to be relying on the flawed marginal product theory of value. Even though Locke admits land has some (very small) value, his argument is susceptible to the same problems plaguing Rothbard's account of value.⁸⁶

There seems to be some natural intuitive appeal in thinking of the land being there first and then thinking of what is created when labor is added to it. The intuitive appeal might be based on the immovability of the land or it might be based on the land existing before the laborer. Either way, there seems to be no defensible philosophical basis for this intuition. There is no reason for why we should consider the additional product that is created if we add the labor to the land while not considering the additional product that is created when we add the land to the laborer. At least, Locke and Rothbard provide no such argument. Once we consider the marginal product of both factors, it becomes clear that the marginal product theory of value is untenable. The implausibility of Rothbard and Locke's theory of value determination suggests that natural resources may well have

⁸⁵ Locke, "Second Treatise of Government," 27.

⁸⁶ Locke's position is actually less consistent than Rothbard's. After all, even in the case of undeveloped land, some labor (e.g. picking berries from wild patches) is required to make any use of the land. So if we take Locke's logic to its natural conclusion, we realize that land by itself is actually worthless rather than being worth very little. Cohen makes this point in his discussion of Locke. See Cohen, *Self-Ownership, Freedom, and Equality*, 178-84.

a value, and it is not at all clear that this value is as insignificant as Locke would have us believe.

1.2.3 THE ROLE OF DISCOVERERS AND INVENTORS

Some libertarians, unlike Rothbard, acknowledge that pristine natural resources are indeed valuable, but still claim that this value is wholly the result of the actions of particular agents, namely to those who discover the natural resources or discover uses for them. This idea, which is put forward by Israel Kirzner, is significantly more plausible than Rothbard's because it can at least provide an explanation for the apparent value of pristine natural resources.

Kirzner argues that it is reasonable to "adopt the view that, until a resource has been discovered, *it has not*, in the sense relevant to the rights of access and common use, *existed at all*. On this view, it seems plausible to consider the discoverer (of the hitherto 'non-existent' resource) as, in the relevant sense, the *creator* of what he has found."⁸⁷

Kirzner then extends his argument to invention of uses for resources. He contends that the realization or invention of a previously unknown *use* for a resource "constitutes discovery of a hitherto unknown, 'non-existent', and hence un-owned dimension of the thing."⁸⁸ These discoverers and inventors, according to Kirzner, have created the value they find and, Kirzner argues, they own this value.

Before refuting Kirzner's argument, it is worth pointing out two things. First, his argument clearly has *some* plausibility. Those who discover natural resources and

⁸⁷ Israel Kirzner, "Entrepreneurship, Entitlement, and Economic Justice," in *Left-Libertarianism and Its Critics: The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 201.

⁸⁸ *Ibid.*, 202.

discover uses for them seem to have clearly contributed to the value of those natural resources. These contributions are often ignored in discussions of property rights in natural resources, and Kirzner's argument is useful in bringing attention on this issue. Second, Kirzner's argument represents an important challenge for the traditional liberal view that people have equal claims to pristine natural resources. If discoverers are entitled to even some of the value of that they contribute to natural resources (a proposition that most liberals would find difficult to refute), then *the view that people have equal claims to natural resources cannot be right*. After all, giving people equal claims to natural resources would deprive discoverers of the value that they are due.

I argue in a later section that the equal claims view can be salvaged, albeit in a modified form. The key is the question of whether discoverers and inventors are due the *entire value* of natural resources or just *some portion* of it. Kirzner himself seems to equivocate on this point. He admits that in cases "in which discovery was *wholly* accidental, or ... came on the heels of exhausting search by another" perhaps the discoverer is not justly entitled to be the sole owner of what she "created."⁸⁹ The examples and phrasing that Kirzner uses in his writings, though, seem to suggest that he does believe that in the vast majority of cases, discoverers and inventors are justly entitled to the entire value of natural resources.

At first glance, Kirzner's view, like Rothbard's, appears to rely on the implausible marginal product theory of value; that is, on the fact that without discoverers and inventors, the resource would be of no use to anyone. Cohen, responding to Kirzner's argument, correctly points out that although it is true that without discoverers and inventors, natural resources would be of no use, these activities would yield nothing if the

⁸⁹ Ibid., 201.

natural resource did not exist.⁹⁰ Cohen concludes that therefore it cannot be the case that discoverers and inventors are due the entire value of natural resources.

But Cohen's response to Kirzner is off the mark because Kirzner does not appeal to the marginal product theory of value to justify giving discoverers and inventors exclusive claim to natural resources. Indeed, this is not surprising because even the flawed marginal product theory of value would, in the vast majority of the cases, fail to assign *particular* inventors or discoverers the entire value of natural resources. The reason is the problem discussed above that over time *someone else* would likely eventually have discovered the particular resource or invented a particular use for it even in the absence of a particular discoverer or inventor. Recognizing this problem, Kirzner, instead of appealing to a marginal product theory of value, introduces a "finders-creators, finders-keepers" ethic that he contends justifies giving exclusive ownership of resources to discoverers and inventors.

Although Kirzner does little more than suggest this ethic as a possibility, his "finders-creators, finders-keepers" idea seems highly implausible. Imagine several people washed ashore on a desert island where all the eye can see is sand. Just as everyone recovers from the harrowing experience of being washed ashore, one of the castaways runs ahead and after clearing a small dune discovers an oasis. The other castaways, in time, survey the rest of the island and find no other fresh water source. Triumphant, the intrepid castaway appeals to Kirzner's "finders-creators, finders-keepers" ethic and describes the goods and services she is willing to accept in exchange for "her" water. To avoid the complication of this situation being one of life and death,

⁹⁰ Cohen, *Self-Ownership, Freedom, and Equality*, 185 fn. 37.

assume that the other castaways have found a machine that with a great deal of labor can turn seawater into unpalatable but potable water.

It seems highly intuitively implausible to me at least that as a matter of justice the running castaway should have exclusive rights to the oasis in this situation. Yet this is exactly the outcome that Kirzner defends in a very similar situation.⁹¹ He points out that the other individuals “did not bother” to race to find the water. “May it not be,” he asks “that they were less alert [than the energetic explorer], entrepreneurially, to the possibility that someone else might indeed appropriate all the water?”⁹²

But this criticism of the other castaways is question-begging. Unless the castaways already agree with Kirzner that the first person to reach the oasis should be its just appropriator, there is nothing blameworthy about their failure to be alert to the possibility of the energetic explorer’s exclusive appropriation of all the water. Particularly in this case, where the cost of exploration is very low and the likelihood of others making the same discovery over time is quite high, it seems as though Kirzner’s conferring of exclusive ownership to the discoverer- and therefore his criticism of the other castaways- is least plausible. This example could easily be adjusted, with an obvious invention substituting for the easy discovery, to suggest that it is intuitively implausible to think that inventors are due the entire value of the resource whose uses they have uncovered.⁹³

⁹¹ In fact, Kirzner defends the oasis discoverer’s exclusive rights to it even when the castaways (or travelers in Kirzner’s example) know for sure about its existence. Kirzner, “Entrepreneurship, Entitlement, and Economic Justice,” 208.

⁹² Ibid.

⁹³ Admittedly, I am appealing to what is in effect a marginal product intuition in rejecting the claim that particular inventors and discoverers are due the entire value of natural resources. The examples of a straightforward discovery or an obvious invention have the characteristic that someone else would have

1.3 The Contribution Determination Problem

I have tried to show that Kirzner's argument, which states that discoverers are due the entire value of natural resources, is implausible. However, the undeniable role of discoverers in the creation of natural resource value suggests that the traditional focus on the distinction between pristine and developed natural resources has been misplaced. The philosophically interesting distinction is instead the one between the labor-based portion of the value of the natural resources and the portion of value that I call purely natural. *Purely natural value* is the fairly assessed value of the natural object itself; what the natural object should be seen as contributing to the ultimate instrumental value of the utilized, developed natural resource. Although I have argued that the right-libertarian account of value creation is implausible, it remains to be shown that a plausible account exists that assesses the natural object itself as having some value.

Determining the magnitude of this purely natural value (and whether it exists at all) requires solving what I call the *contribution determination problem*; the problem of fairly assessing the contribution each factor makes to the creation of some joint product. Unfortunately, this problem is drastically understudied by political theorists in general, and liberal political theorists are no exception. Providing a definitive solution to this problem is beyond the scope of this work. Rather, I hope to introduce the problem, briefly discuss two general approaches to solving it, and argue that any plausible solution to this problem will indeed assess natural objects to be valuable in a variety of cases.

soon made the discovery of the object or its use. Although I reject the marginal product theory of value, I do not hold that the marginal product of the agent plays *no role* in determining her fair contribution.

When multiple factors are needed to produce some good, it is often difficult to fairly determine what value each of the factors contributes individually. A factor's contribution to the final value of the good can be seen as a measure of that factor's *derivative instrumental value*;⁹⁴ that is, how valuable the factor is in producing some final good that is directly useful in the attainment of human goals. The problem in measuring different factors' derivative instrumental value is that when they are combined together, they often produce more than the sum of what each factor can produce alone.⁹⁵ In such a case, there is no obvious way to fairly separate the contribution that each factor makes individually to the instrumental value of the final, jointly-produced good. Yet determining the separate contribution of each factor is exactly what is required in order to assess the value of a particular natural object, which is often one of many inputs used in the creation of some jointly-produced final good.

In order to think more clearly about the contribution determination problem, it might be useful to consider an example. Following Locke, I consider the problem of determining the contribution of land to the production of bread.⁹⁶ In constructing this example, it is helpful to start at the source of the instrumental value, the consumer. Imagine that the consumer gets exactly \$5 worth of enjoyment from consuming a loaf of whole wheat bread. This \$5 figure constitutes one (admittedly controversial) measure of

⁹⁴ I call this instrumental value "derivative" because it is derived from the instrumental value of the final utilized good.

⁹⁵ Imagine that factor A on its own could produce 4 widgets, factor B on its own could produce some 12 widgets, and together A and B can produce 20 widgets. The problem is assessing what portion of the 20 widgets should be seen as the contribution of each of the factors.

⁹⁶ Locke, "Second Treatise of Government," 26-27.

the instrumental value of the bread. I am not interested in defending this metric here.⁹⁷

Instead, I would like to ask what portion of this value can be fairly assessed as being contributed by each of the factors involved in the production and the sale of the bread.⁹⁸

In particular, I am interested here in determining the fairly assessed contribution of the unimproved arable land used in the production of the bread. Assume that an acre of land, when farmed, can produce enough wheat for 1000 loaves of whole wheat bread per year. If we can determine the contribution the unimproved land makes to one loaf of bread, we can obtain a rough estimate of the annual derivative instrumental value of that acre of unimproved land (assuming wheat production constitutes the most valuable use of the land and that the land is not used for anything else).

In order to determine the contribution of the land, we might begin by dividing the potential contributing factors into categories corresponding to the demand-side and supply-side of the market for loaves of bread. On the demand side, we have agents such as the advertiser and, most importantly, the consumer. Although the consumer is often ignored in such problems, it is certainly not implausible to think that her actions contribute to the final instrumental value of the consumed bread.⁹⁹

⁹⁷ I am intentionally glossing over the deep and controversial issue of measuring instrumental value in dollars instead of in utilities. As I suggest below, the purely natural value of a natural resource can be thought of as its fair market value and so the dollar value of the bread is the relevant measure. However, the point here is about the contribution determination problem and so any measure of instrumental value will do.

⁹⁸ Note that in this problem there is only a fixed amount of value (the \$5) to be allocated. The more the farmer (for example) is assessed as contributing, the less all the other factors (including the land) can be assessed as contributing. It should also be noted, however, that if the contribution assessments are used to determine rewards, then they might also affect incentives. Different contribution assessments might therefore have different efficiency effects and thus affect the total value to be distributed. I will not address this issue here.

⁹⁹ Interestingly, consumers are not generally considered as part of the economists' value allocation problem. But note that without a particular consumer the bread might have had a lower instrumental value. In the extreme, without any consumers, the bread would clearly have no instrumental value. Patrick

Since the land falls on the supply-side of the market, however, the supply-side contribution determinations are my main focus here. We can divide the supply-side factors into two subcategories: labor and natural objects.¹⁰⁰ A variety of agents contribute their labor to the production of the final, commercially available loaf of bread. These agents include the retailer, the wholesaler, the baker, the inventors of technological processes used in the production of the bread, the provider of transportation, the provider of security,¹⁰¹ the farmer, and as Locke reminds us, many others.¹⁰²

We also have to consider the natural objects used in the production of the bread, which include, most importantly for our purposes, the land.¹⁰³ It is important to be careful here, however, to realize that the *available* land is a composite input which is generated by several other more basic factors. One of the factors contributing to the available land is, of course, the land itself. However, another factor is the labor of the discoverers of the land who helped make the land known as thus available for use. We are interested in determining the value *only* of the land itself. That is, we want to know

Edward Dove goes so far as to claim that consumers are mostly responsible for (and therefore entitled to) the value of natural resources. See Patrick Edward Dove, "On Property," in *The Origins of Left-Libertarianism: An Anthology of Historical Writings*, ed. Peter Vallentyne and Hillel Steiner (New York: St. Martin's Press, 2000). The way to allocate value to the consumer for her contribution might be to ensure that she does not pay exactly \$5 for the bread, but instead receives some consumer surplus by paying less than her reservation price.

¹⁰⁰ Capital is often also seen as a separate subcategory, but machines are themselves combinations of labor and natural objects, so I will not include them here.

¹⁰¹ It is interesting to note that the government, through providing roads and police protection (and other public goods such as national defense) is involved in these processes.

¹⁰² Locke writes in detail about the effort of all of the agents that contribute labor to the production of a loaf of bread. This includes not only "the plough-man's pains, the reaper's and thresher's toil, and the baker's sweat" but also all those agents whose labor contributed to the production indirectly through their work on the ship that brought the bread to market for example. Locke, "Second Treatise of Government," 27.

¹⁰³ This category also includes the fossil fuels used to power the various production and transportation processes as well as the natural objects used to create the machines used in these processes. Although it is important to emphasize the contribution of the other natural resources, I focus here on the value of the land.

the available land's *purely natural value*. The problem is to find a way to fairly measure just the contribution of the land itself.

There are basically two approaches to this problem taken by contemporary thinkers. The first, which is generally taken by political philosophers (when they consider this problem at all)¹⁰⁴ entails describing a procedurally fair bargain that, if carried out, would generate prices that can be used to fairly assess of the contribution of each of the factors.¹⁰⁵ Appealing to the use of a procedurally fair bargain to solve the contribution determination problem is not an unreasonable thought. We might well think that a series of procedurally fair bargains- between the consumer and bread retailer, between the retailer and wholesaler, and so on down the line- will generate a series of prices that can be used to fairly determine the contribution of each agent. So for example, assume the retailer sells the bread to the consumer for \$4 in a fair bargain¹⁰⁶ and that she buys the bread from the wholesaler for \$2.50 in a fair bargain. So the retailer's contribution to the value of the bread would be fairly assessed as \$1.50. Examples of the conditions for a procedurally fair bargaining situation might include having a very large number of agents on both the supply and the demand side of a transaction or having agents all of whom enjoy perfect information. It is worth noting that the while the prices resulting from such fair bargains could be used to tell us the fair contribution of each of

¹⁰⁴ Nozick very briefly considers this problem in his discussion of Rawls. See Nozick, *Anarchy, State, and Utopia*, 183-89. Nozick ultimately rejects the attempt to devise any sort of centralized solution to this problem and in effect endorses the distribution that arises through the workings of the free market.

¹⁰⁵ On one reading of Rawls, he can be seen as endorsing the idea that conditions of perfect competition produce prices that are fair. Rawls writes, "The idea that competitive prices under normal conditions are just or fair goes back at least to medieval times." Rawls, *A Theory of Justice*, 239-40.

¹⁰⁶ Assuming away the contribution of any other agent on the demand side besides the consumer, this would mean the contribution the consumer can be fairly assessed as making to the instrumental value of the bread is \$1.

the factors, we are not logically committed to actually distributing rewards to the factors according to these prices.¹⁰⁷

Unfortunately, without developing and defending a particular account of a procedurally fair bargain, I cannot prove that such a procedure would assign the natural objects significant value. However, I think it is intuitively clear that a large family of procedurally fair bargaining mechanisms will do so. Working backwards from the consumer in the bread example, through the retailer, wholesaler, etc. it seems intuitively plausible that a procedurally fair bargain would entail the farmer paying something in order to use the available land (assuming that land is at least somewhat scarce.)¹⁰⁸ This price would provide a measure of the derivative instrumental value of the available land.

We then need to isolate the value of the land itself. In order to do so, we can think of another procedurally fair bargain between the discoverer (and any other agent who contributed to producing the available land) and the agents who have claims to the land itself to determine the contribution of each of these factors.¹⁰⁹ Again, for a large family of procedurally fair bargains, this would likely generate some kind of splitting of the value of the available land, assigning some portion to the discoverer and another

¹⁰⁷ For Rawls's distinction between allocation and distributive function of prices, see Rawls, *A Theory of Justice*, 241. This distinction exactly tracks the difference between contribution determination problem and value allocation problem described below. Of course, there are all sorts of practical difficulties in trying to separate the allocative and distributive function of prices having to do with people's incentives and private information; difficulties which I do not discuss here.

¹⁰⁸ Imagine that the government auctioned off (in auction that meets your definition of fairness) an unimproved acre of arable land. It is hard to imagine a conception of a procedurally fair auction that would result in the buyer paying nothing for the land (assuming the land is scarce).

¹⁰⁹ Note also that other factors besides the labor of the discoverer and land could be seen as contributing to the creating the available land. For example, the government might be providing protection against some natural disaster that ensures the availability of the land. In this case, the government would also be assessed to be contributing some share of the value of available land.

portion to those with claims to the land itself.¹¹⁰ The portion of the value assigned to the land itself constitutes its purely natural value.

To give a hypothetical numerical example, we might find that carrying out such a series of fair bargains, the annualized fair market price for the unimproved land is \$170 a year. The discoverer, we might find, is fairly due a \$20 finder's fee. The government is fairly due \$50 a year for value of public goods (defense, roads, etc.) that contribute to the value of the land and whose value is not explicitly captured in some later fair bargain.¹¹¹ So the land itself has a purely natural value of \$100 a year. Since it contributes to the production of 1000 loaves of bread valued at approximately \$5 a piece,¹¹² the fairly assessed contribution of the land to one loaf of bread is about 10 cents, which is 1/50th of the total value of that loaf.

The second general approach to the contribution determination problem (often taken by economists) focuses on developing a substantive standard for fairly assessing the contribution of each of the factors. I have already considered and rejected one possible solution that takes this approach: the marginal product theory of contribution determination. As mentioned above, Locke mistakenly uses the marginal product approach to assign almost the entire value of the bread to labor.¹¹³ When the marginal product approach is used correctly (i.e. when the marginal product of the land is

¹¹⁰ Interestingly, this will likely be true even if the discoverer was the *only one* who would ever have discovered the land (although in such a case the discoverer's share would likely be larger.) In this case, it is true that but for that particular discoverer, the land would have been useless. But it is also true that but for the land, the discoverer's efforts would not have borne fruit.

¹¹¹ Note that if the government charged individual fees for these goods (e.g. fees for its role as a 'protection agency' and tolls on every road) then these fees would lead to a lower price of the land and we would not need to subtract the fair value of these government services here.

¹¹² This is assuming the consumers' valuation of the bread is relatively homogeneous.

¹¹³ Locke argues that when the calculation is carried out, we could find that the unimproved land contributes no more than 1/100 of the total value. Locke, "Second Treatise of Government," 25.

considered as well), it becomes clear that it is untenable as a solution to the contribution determination problem.¹¹⁴ The difficulty, as we have seen, is that when two factors such as labor and land are mutually necessary to produce a particular good, the marginal product of *each* of the factors individually will amount to the entire value of the good. In the bread example, the marginal product of the land, the marginal product of the discoverer of the land, the marginal product of the farmer of the land might *each* be the entire \$5.¹¹⁵

Economists have long understood the flaws with the marginal product theory of contribution determination. It is a well-known result that except under very special conditions, the values that the marginal product approach assigns to each of the factors in a joint production situation will either more than exhaust or less than exhaust the total value of the good.¹¹⁶ Given this problem with the marginal product approach, economists have done significant work in an attempt to produce a workable, normatively attractive alternative method for determining the contribution of different factors in joint-production situations.¹¹⁷

¹¹⁴ It is important to emphasize some of the (non-obvious) implications of rejecting the marginal product approach. For example, if the value of the final good changes due to actions of one of the contributors, rejecting the marginal product approach means that the assessment of the contribution of the other factors would change also. So, for example, if someone invents a way of costlessly (in terms of money and taste) baking the bread in a healthier way and this causes the instrumental value of the bread to rise to \$7, this may well increase the contribution assessment (and thus the derivative instrumental value) of the land used to produce the wheat which makes the bread. Again while the inventor of the healthier bread baking process might certainly be seen as contributing a large part of this \$2 of additional value, if we reject the marginal product theory of value contribution she will not be seen as contributing the entire amount.

¹¹⁵ There are some complications here about how we want to define the problem. If the farmer would have eventually discovered the land, or if the discoverer would eventually have been forced to farm the land, their marginal products might not be the entire value of the bread. I am implicitly assuming that both the farmer and the discoverer are the only agents involved in the production situation who could have carried out the appropriate actions.

¹¹⁶ There have to be exactly constant returns to cooperation for the marginal products to sum to exactly the total product. As H. P. Young points out, this will only be true in very special cases. Young, "Individual Contribution and Just Compensation," 268.

The approach economists use to solve the contribution determination problem is as follows: They begin with facts about the joint production situation (e.g. the value of what each of the combination of factors can produce on its own.) They then provide a list of normatively appealing axioms that a contribution determination solution should satisfy.¹¹⁸ For example, they generally require that the assessed contributions of all the factors should always sum to exactly the assessed value of the final product (this is an axiom that the marginal product approach violates). They also generally require that two identically productive factors should not be assessed to have made different contributions. After listing the normatively appealing axioms, they then provide an algorithm that leads to a solution that always satisfies all of the axioms.¹¹⁹

Unfortunately, I cannot review here the economics literature on this approach here.¹²⁰ However, it is worth briefly examining what many economists view as the most

¹¹⁷ For an accessible overview of this literature, see Hervé Moulin, *Fair Division and Collective Welfare* (Cambridge, MA: MIT Press, 2003). It is worth noting that economists call this problem the *value allocation problem* instead of the contribution determination problem. The difference is that economists are concerned with what *rewards* should be given to the different factors of production. The contribution determination problem focuses instead on fairly assessing the *contributions* of each of the factors of production to the value of the final good. I recognize (as many economists do not) that whether a factor should be rewarded based on its fairly assessed contribution to the final product is a separate normative question. (We might, for example, recognize that some agents contributed more than others to a particular joint venture but still advocate that the rewards be shared equally.) However, since I generally do assume that factors ought to indeed be rewarded based on their fairly assessed contributions, the distinction between the contribution determination problem and value allocation problem (though worth making) is not particularly important in this context. Although economists refer to the problem as the value allocation problem, I will continue to call it the contribution determination problem for the sake of generality.

¹¹⁸ It should be noted that some economists view the value allocation problem as simply answering the *positive* question of how much each of the factors in a joint production situation will *de facto* be rewarded in any particular bargaining situation. I am instead asking a normative question about how much each factor *should* be seen as contributing. The *fair* assessment of the contributions of each of the factors might well be used to criticize the actual distribution of ultimate rewards that occurs in any particular bargaining situation.

¹¹⁹ For an example relating to the Shapley value see, Andreu Mas-Colell, Michael Whinston, and Jerry R. Green, *Microeconomic Theory* (New York: Oxford University Press, 1995), 679-84.

¹²⁰ For some references, see Moulin, *Fair Division and Collective Welfare*.

promising solution to the contribution determination problem: the Shapley value.¹²¹ The Shapley value assesses the contribution of different factors based on their *average* marginal products where the average is taken across all possible orders in which factors of production might be combined with one another. To see how the Shapley value works, imagine a world with only one worker and a piece of land that can potentially yield some water.¹²² Assume that without any labor, the land yields one gallon of water but with the worker's labor the land yields 10 gallons. The contribution assessment made by the Shapley value (corresponding to the average marginal products of each of the factors) is that the labor contributes 4.5 gallons of water and the land contributes 5.5 gallons of water.¹²³ It turns out that the Shapley solution generally satisfies a variety of appealing normative axioms.¹²⁴

The simple example that Cohen gives could be adjusted to show that the Shapley value solution would assign the arable land some value in the bread example above.¹²⁵ Generally, the Shapley solution will assign significant value to natural objects. This is because natural objects are a necessary component in the production of final goods. This implies that in all orderings of the factors of production, the marginal contributions of those factors that come before the natural object are always zero (i.e. you cannot produce

¹²¹ See for example Young, "Individual Contribution and Just Compensation."

¹²² This example is taken from Cohen. See Cohen, *Self-Ownership, Freedom, and Equality*, 185 fn. 35. Cohen contends that the Shapley value is predictive rather than normative. As I argued above, this is not how many economists view the Shapley value.

¹²³ There are two orderings: Land, then labor, and labor, then land. When land comes first, its marginal product is 1. When land comes second, its marginal product is 10 (because labor alone can produce no water.) So the average marginal product of land is 5.5. When labor comes first its marginal product is nothing. When labor comes second its marginal product is 9. So labor's average marginal product is 4.5.

¹²⁴ For one list of the axioms, see Young, "Individual Contribution and Just Compensation," 268.

¹²⁵ The problem with actually doing so is that the list of all the agents that contributed to the production of a loaf of bread is, as Locke notes, "too long, to reckon up."

anything unless you already have the natural resource.) In addition, in many orderings (e.g. those where the natural object comes last or those where only non-essential factors come after it) the marginal product of the natural object will be positive. So, what many economists see as the most promising solution to the contribution determination problem also assigns natural objects themselves significant value.

Note that the economics approach can also be thought of as providing a conception of a fair bargain. However, rather than using a procedural standard for the fairness of the bargain, economists are using a substantive standard: A bargain is fair if the division of the value it generates complies with the certain normative axioms.¹²⁶ So both of the main approaches to the contribution determination problems can be thought of as assigning to each agent the *fair* market value of their contribution where the fairness of the market is determined either procedurally (the political theory approach) or substantively (the economics approach.)

Of course, in order to determine the *exact* magnitude of the value of natural objects, it is necessary to develop and defend a *particular* conception of a fair bargain. This is beyond the scope of this chapter. Here I simply assume that some fair bargain conception can satisfactorily solve the contribution determination problem. That is, the fair market value (somehow defined) of the natural object itself constitutes a measure of its purely natural value. Although I cannot provide an exact valuation method, I do hope to have shown that on any number of plausible solutions to the contribution determination problem, natural objects themselves are valuable.

¹²⁶ Economists have also been working to try to find bargaining procedures that implement fair bargain solutions such as the Shapley value. But these procedures *derive* their fairness from the substantively fair outcome they generate.

Ultimately, this is not very surprising. Natural objects are scarce, necessary inputs into a process that produces valuable final outputs. It would be strange indeed to have a theory of value that failed to recognize that these inputs make a contribution to the final value of goods and thus have a significant derivative instrumental value themselves. It is true, of course, that various forms of labor are also scarce, necessary inputs into the process that produces valuable final goods. The implication of this, though, is that laborers should *also* be fairly assessed to have made *some* contribution to the value of the final product. I have argued that the implication is not, as the right-libertarians contend, that some particular type of labor should be seen as contributing the entire value of the final product (with the natural object contributing none.)

Accepting that natural resources do possess some purely natural value, two important objections arise. The first has to do with the practical difficulties with measuring this value. Even if we can find a convincing theoretical solution to the contribution determination problem, we might realize that it is impossible in practice to accurately measure the portion of natural resource value contributed by each agent. The relevant facts required to do so may be impossible (or simply too costly) to gather. For now, I will set this objection aside by assuming that we do have the technology to costlessly gather the information required to solve the contribution determination problem.¹²⁷

The second objection is that purely natural value is, all things considered, relatively insignificant. After all, it is certainly true that purely natural value is less than the value of available natural resources. It is also true that the value of available natural resources itself likely accounts for a small percentage of the total value of all final goods.

¹²⁷ I address this practical problem in Chapter Seven.

This is the point Locke tries to make by pointing out all the labor intensive steps needed to make the commercially available bread. This objection might lead to the thought that the way in which claims to purely natural value are worked out might simply not be very important.

There are three responses to this objection. The first is that purely natural value might not be such a tiny a percentage of the total value of all final goods. If we think only of goods like bread which are relatively labor intensive, then we might underestimate the magnitude of total purely natural value. We should also include in the tally goods like gasoline, jewelry, clean air, and breath-taking natural beauty; goods in whose production natural objects play a more prominent role. The second response is that even if purely natural value were tiny as a percentage of the total value of all final products, the magnitude of this value might still be quite significant. Even a 1/100 of the total value of all human goods is an enormous amount of wealth in absolute terms. The third response is that claims to purely natural value might determine who in practice ought to be given possession of the world's natural objects. This is not an implausible thought since the value of the natural objects themselves is exactly what purely natural value is. And we might well be interested in how possession of the natural objects ought to be distributed for reasons that go beyond their economic value.

1.4 Equal Claims to Purely Natural Resources

I turn now to the implications of the idea of purely natural value for the equal claims view. While the right-libertarians have not successfully shown that natural objects are valueless, they have successfully shown that a revision of the equal claims view is

required. If agents such as discoverers are responsible for part of the value of pristine natural resources then it cannot be the case that people have equal claims to these resources (at least not under any liberal theory that assigns agents claims to the value that they are fairly assessed as contributing.) The traditional liberal theories held by Locke, Paine, Mill and others have simply ignored the role of discoverers and other contributors to the value of pristine natural resources such as the government. In doing so, they generated a normative view that is imprecise and indefensible. I will henceforth refer to the (flawed) proposition that people have equal claims to pristine natural resources as the *traditional* equal claims view.

While the traditional equal claims view cannot be right, I believe that the equal claims view can be rescued. After all, there is, I have argued, a portion of the value of pristine natural resources which is the contribution of the natural objects themselves (i.e. the purely natural value.) So, the equal claims view can be salvaged if what people are seen as having equal claims to is only the purely natural value of natural resources.

There is, however, a problem with revising the equal claims view in this way. Doing so requires us to think of people having equal claims to some portion of *value* instead of to *physical* natural resources. While it is certainly possible to think of the equal claims view in this way, doing so would require a dramatic break with the liberal tradition. This break is problematic because it creates difficulties in evaluating the ideas of liberal thinkers who have particular conceptions of how people's equal claims to *physical* natural resources ought to be respected. For example, it is difficult to think of Rousseau's idea of ensuring people's equal rights to use natural resources as applying to some portion of value instead of to physical natural resources. Trying to apply

Rousseau's theory of equal use to a portion of natural resource *value* would require complicated adjustments.

In order to evaluate theories like Rousseau's without first making such complex adjustments, it is useful to try to somehow continue thinking of the equal claims view as applying to physical natural resources. One possibility is to simply ignore the role of agents such as discoverers who contribute to the value of pristine natural resources. Such a solution, however, would leave the resulting discussion open to the criticism that it simply cannot accommodate the role that discoverers play in contributing to the value of natural resources.

A different solution, and the one I appeal to here, is to introduce the new concept of *purely natural resources*. Imagine that we can compensate agents such as discoverers by giving them each some *physical* portion of the available pristine natural resource that corresponds to the value they are due by virtue of their contribution. I assume here that agents are entitled to the value that they are fairly assessed as contributing. I have argued above that discoverers and other agents contributing to the value of the available natural resource should not be seen as generating the *entire* value of available natural resources. If so, then after compensating all of these agents for the value they create with some physical portion of pristine natural resources we would still have some *physical* natural resources remaining. I call these remaining (notional) objects *purely natural resources*.

Note that if the compensation procedure is carried out correctly and if agents are entitled to exactly the value that they contribute, then the purely natural resources will have a value that corresponds exactly to the purely natural value of the pre-compensation, available natural resources. So in a sense intuitively it is as though people have equal

claims to the purely natural value, but we can nonetheless think of them as having claims to physical natural resources.

There is an important objection, though, to the process of compensation used to generate purely natural resources. It is possible that agents' claims to natural resources cannot *even theoretically* be satisfied by simply giving them a physical portion of the natural resource. The claims may simply not be neatly separable in this way. It is possible, for example, that respecting the claims of the discoverer might require giving her some kind of joint control of the entire natural resource. Although I recognize the force of this objection, I put it aside for now. I will address it in a Chapter Five after I have discussed how claims to natural resources ought to be respected more generally.

Part of the force of this objection might lie in how counter-intuitive the idea of compensating agents with a physical portion of the natural resource seems. Once we have a more developed theory of how claims to natural resources ought to be respected, we might well find a normatively equivalent but more sensible way of compensating various agents. For example, discoverers might be granted a finders' fee related to the fair market value of the resource they discover. With an account of the relationship between natural resource claims and fair market value that I develop in a Chapter Six, I will argue that this is a perfectly sensible way of compensating discoverers for their fairly assessed contributions. At this initial stage of the argument though, I continue to assume that agents such as discoverers can theoretically be compensated by simply being given a physical portion of the natural resource.

If this concept of purely natural resources is sound, then it can indeed be part of an updated equal claims view. The updated equal claims view states that people have

equal claims to *purely* natural resources. For ease, I will henceforth refer to *this* as the equal claims view (as opposed to the *traditional* equal claims view.) Note that the (updated) equal claims view, like the traditional equal claims view, refers to physical natural resources. At the same time, since purely natural resources have only purely natural value, the proposition that individuals have equal claims to these resources does not grant individuals claims to anyone else's contributions. Thus, we can carry out a straightforward evaluation the existing liberal conceptions of the equal claims view (e.g. Rousseau's) while not ignoring the role that discoverers (and other agents) play in generating a portion of the value of pristine natural resources.

Conclusion

I began this chapter by defining natural resources as objects that have not been created or significantly altered by human beings which are useful for the attainment of human goals. I then considered the right-libertarian argument that the value of natural objects is entirely created by human agents and so natural objects themselves should be seen as useless. I first examined Rothbard's argument that pristine natural resources were completely valueless. I argued, in line with Cohen, that his argument was intuitively implausible are relied on a logically incoherent marginal product theory of value creation.

I then turned to Kirzner's more plausible argument. Kirzner recognizes that pristine natural resources are valuable, but argues that that entire value is created by discoverers and inventors. I have argued that the finders-creators, finders-keepers ethic that Kirzner introduces to assign the entire value of natural resources to these agents is implausible.

Both Kirzner and Rothbard's argument, though flawed, focus attention on the need for a solution to the contribution determination problem. Natural objects are clearly useless without the action of countless of other agents. Yet they equally clearly play a necessary role in the production of practically every physical good in the economy. The question is how can we fairly assess the contribution that natural objects themselves make to the value of these final goods? I have argued that the two approaches to this problem- the appeal to some procedurally fair bargain between the different contributors and the substantive solutions developed by economists- both generally yield the conclusion that the natural objects themselves contribute significantly to the value of the final goods. I conclude that available natural resources do have some purely natural value.

I then examine the implications of this argument for the traditional equal claims view. It seems clear that discoverers and other human agents contribute in various ways to the value of natural resources understood as pristine natural objects. If these agents are in fact due some of the value they generate, then it is impossible to defend the proposition that people have equal claims to natural resources. But there is, I have argued, a portion of the natural resource value that is contributed by the natural object itself. If so, we can think of people having equal claims to this purely natural value.

However, in order to straightforwardly evaluate existing liberal theories of natural resource property rights, it is useful to think of people having equal claims to physical resources rather than to some portion of value. I therefore introduced the concept of purely natural resources. These are the natural resources that would remain if all agents who contributed to the value of available natural resources were compensated by being

given some physical portion of the pristine natural resource. We can think of people as having equal claim to the remaining purely natural resources. This updated equal claims view replaces the untenable traditional equal claims view.

While the exploration of the concept of natural resources undertaken in this chapter shows that the traditional equal claims view cannot be defended, I have by no means shown why liberals ought to endorse the updated equal claims view. The task of the next two chapters is to argue that in fact the equal claims view is necessarily implied by the central theoretical commitments held by both libertarians and egalitarian liberals.

The Libertarian Argument

In the Introduction to this work, I surveyed the broad support among historical and contemporary liberal thinkers for the proposition that individuals have equal claims to natural resources. However, among libertarian thinkers specifically, this equal claims view is more controversial. On one side of the debate are left-libertarians such as Hillel Steiner, Peter Vallentyne, and Michael Otsuka who support the equality of natural resource claims.¹²⁸ On the other side of the debate are right-libertarians such as Jan Narveson, Israel Kirzner, and Murray Rothbard who reject the equal claims view. In this chapter I aim to resolve this debate by providing a new libertarian argument for the equal claims view which specifically considers and refutes the right-libertarian arguments.

It is important to emphasize, though, that I am not defending quite the same proposition as most left-libertarians and other liberals. As I argued in Chapter One, the position that all individuals have equal claims to *pristine* natural resources (i.e. the *traditional* equal claims view) is not quite right. There are, I argued, some agents (e.g. discoverers) who can be fairly assessed as generating some (but not all) of the value of pristine natural resources. So, by virtue of their labor, these agents have greater claims to

¹²⁸ See the Introduction (I.3.3) for these thinkers' views. Note that Robert Nozick also falls on the equal claims side of the debate. So while Vallentyne classifies Nozick as a right-libertarian, he seems more to fall more in the left-libertarian camp. However, Nozick is a controversial figure because his theory for *how* equal claims ought to be respected generates a distributional outcome that is quite similar to those generated by many of the right-libertarian theories.

pristine natural resources than others do. However, I also argued that if we compensate these agents by giving them a portion of the pristine natural resources, the remainder (what I call *purely* natural resources) could not be rightly claimed by anyone in virtue of her labor. The argument in this chapter is for proposition that individuals have equal initial claims to *purely* natural resources. I refer to this proposition as the *revised* equal claims view (henceforth simply the equal claims view).

Besides generally ignoring the value-generating role of agents such as discoverers, left-libertarians have also failed to convince right-libertarians because their foundational arguments for *why* individuals should be seen as having equal claims to natural resource are unconvincing. Some thinkers simply take the equality of initial claims to natural resources to be axiomatic.¹²⁹ Others rely on the arguments of historical thinkers (e.g. John Locke) who appeal to theological claims and to the right to self-preservation as foundations. Still others see equality of claims as arising from individuals' initial liberty to use natural resources. In the first part of this chapter I argue that none of these three approaches can serve as a convincing normative foundation for the equal claims view.

In the second part of the chapter I present an alternative, novel libertarian argument for the equal claims view. This argument begins by examining labor's role in generating differential claims to resources. I appeal to the central libertarian commitments to equal concern, liberal neutrality, and negative liberty to support the proposition that labor and *only labor* can serve as the ultimate justification of differential

¹²⁹ Peter Vallentyne claims that all left-libertarians agree *as a matter of definition* that natural resources are owned in some egalitarian manner. Vallentyne, "Introduction: Left-Libertarianism - a Primer," 5. While some left-libertarians do indeed take equal ownership to be axiomatic, others try to provide some justification of this view (I explore the inadequacy of these justifications in this chapter.)

initial claims to resources.¹³⁰ I then briefly review the concept of a purely natural resource and argue that no person has claims to purely natural resources by virtue of her labor. Next, I argue that in the absence of reasons to the contrary, equal concern mandates that no one should have greater claims to resources than anyone else and that people should be seen as having some initial claim to resources. I conclude that individuals do indeed have equal initial claims to purely natural resources.

2.1 Problematic Libertarian Equal Claims Foundations

Unfortunately for proponents of the equal claims view, the arguments that left-libertarians (and classical liberals) have made for the equal claims view are underdeveloped and fraught with difficulties. I focus on three prominent arguments in this section. The first is based on a theological claims about God's will regarding natural resources. The second relies on people's substantive right to self-preservation and the need for natural resources in order to exercise that right. The third rests equality of natural resource claims on people's equal initial liberty to use natural resources. I argue in this part that all three of these arguments fail to adequately support the equal claims view.

2.1.1 THE THEOLOGICAL CLAIM

One of the earliest foundation for the equal claims view among the liberal thinkers is God's will; specifically the claim that God has given the earth to humankind. Arguably the most well-known appeal to God's will in regards to natural resources in political theory comes from John Locke. Locke writes, "[I]t is very clear [from

¹³⁰ For a description of these three theoretical commitments, see Section I.1

revelation], that God, as king *David* says, *Psal.* cxv. 16. has given the earth to the children of men; given it to mankind in common.”¹³¹ God’s will provides a normative basis in Locke’s work for the idea that people have some kind of equal claim to natural resources.

Locke was neither the first nor the last liberal thinker to appeal to God gift of natural resources to mankind as a basis for people’s equal claims to natural resources. Grotius, writing several decades earlier, states, “God gave to mankind in general, dominion over all the creatures of the earth, from the first creation of the world... All things... formed a common stock for all mankind as the inheritors of one general patrimony.”¹³² Henry George, writing more than two centuries later, states, “The Almighty... created earth for man and man for the earth.”¹³³ Thus, for all three of these authors, claims about God’s will serve as the foundation (or at least one of the foundations) for their endorsement of the equal claims view.¹³⁴

This theological foundation does admittedly support the view that people have equal claims to natural resources. The problem, however, is that it cannot serve as a *contemporary* liberal foundation for the equal claims view. Theological claims are simply not taken seriously by most contemporary liberal political philosophers. It is nonetheless worth exploring this theological basis for the equal claims view for two

¹³¹ Locke, "Second Treatise of Government," 18.

¹³² Hugo Grotius, "The General Rights of Things," in *The Origins of Left-Libertarianism : An Anthology of Historical Writings*, ed. Peter Vallentyne and Hillel Steiner (New York: St. Martin's Press, 2000).

¹³³ Henry George, *Progress and Poverty* (New York: Robert Schalkenbach Foundation, 1979), 262.

¹³⁴ It is interesting to note that while each of these authors appeal to the idea that God gave the earth to human beings, they each endorse very different conceptions of how people’s equal claims to natural resources ought to be respected. This underscores the point that I make later on that the foundation for the equal claims view does not necessarily determine the specific conception of how equal claims ought to be respected.

reasons. First, acknowledging the theological foundations of the equal claims view in the work of liberal thinkers such as John Locke serves to underscore the fact that these thinkers do in fact endorse the equal claims view (something which certain right-libertarians want to deny).¹³⁵ Second, the work of John Locke, Hugo Grotius, and Henry George are cited by secular contemporary liberals in order to support their own case for the equal claims view. It is therefore important to emphasize the theological nature of these early liberal thinkers' justifications for this view. This underscores the point that the equal claims view may need additional secular philosophical justification.

2.1.2 RIGHT TO SUBSTANTIVE SELF-PRESERVATION

Admittedly, in addition to the theological claim, both Locke and George attempt to provide such a secular justification for the equal claims view. They both appeal to the substantive right to existence and survival as a basis for the equal claims view. The argument goes something like this:

- 1) All individuals have a right to their existence and preservation.
- 2) Natural resources are needed for every person's basic existence and preservation.
- 3) Therefore, all individual have some kind of equal claims to natural resources.

This argument is clearly stated in both Locke and George's writings. Locke writes, "Natural reason... tells us that men, being once born, have a right to their preservation, and consequently to meat and drink, and such other things as nature affords for their subsistence."¹³⁶ In a similar vein, George writes, "The equal right of all men to

¹³⁵ As I show below, both Narveson and Rothbard cite Locke in ways that minimize his commitment to the equal claims view.

¹³⁶ For Locke, this argument from natural reason leads to the same conclusion as his argument from revelation. Locke, "Second Treatise of Government," 18.

the use of land is as clear as their equal right to breathe the air- it is a right proclaimed by the fact of their existence. For we cannot suppose that some men have a right to be in this world and others no right.”¹³⁷ For both Locke and George, this secular argument leads to the exact same conclusion as the theological one; namely that people have equal claims to natural resources.

There are two main problems with Locke and George’s attempt to base the equal claims view on a substantive right to self-preservation. The first problem is that in contrast to the theological foundation, this argument seems to cover only a small class of resources. Any natural resource used for a purpose beyond bare subsistence would seem to fall outside of the purview of this right. A second, more important problem is that even if we accept everyone’s substantive right to self-preservation, this does not seem to imply equality of claims. This is because people may need different quantities of natural resources to survive. An ascetic who has trained herself to survive on very little food and water might need far fewer natural resources to survive than someone with kidney problems who needs fossil fuels to power her dialysis machine. If the foundation for natural resource claims is a substantive right of self-preservation, the person with the kidney problem seems to have greater claims to natural resources than the ascetic. It thus seems that the substantive right to self-preservation is inconsistent with the equal claims view.

In addition, contemporary libertarians face another problem if they wish to utilize this self- preservation argument. Namely, that the substantive right to self-preservation is deeply in conflict with the *negative liberty* conception of self-ownership that contemporary libertarians endorse. If the substantive right to self-preservation of the

¹³⁷ George, *Progress and Poverty*, 261.

dialysis patient justifies her greater claim to fossil fuels why does it fail to justify a right to medical care from a doctor? The libertarian answer seems to be that enforcing this right would violate the self-ownership of the doctor. But it seems odd that the doctor's self-ownership rights would *always* trump the dialysis patient's substantive right to self-preservation (what if the kidney patient only needs a minute of the doctor's time?) In any case, once libertarians admit that people have such a substantive right to self-preservation, this places a great deal of strain on their other views.¹³⁸ So, while left-libertarians often cite both Locke and George, the secular argument these thinkers rely upon does not seem to support the equal claims view and is also in tension with other libertarian theoretical commitments.

2.1.3 THE INITIAL LIBERTY ARGUMENT

Given the difficulty with the theological and self-preservation basis for the equal claims view, it is not surprising that some contemporary libertarians who cite Locke, such as Robert Nozick and Hillel Steiner, rely on a different basis for the equal claims view. Both Steiner and Nozick seem to rely on what I call the *initial liberty argument*. The initial liberty argument can be summarized as follows: Initially, natural resources are unowned. This implies that every person is equally at liberty to use them. However, when any person appropriates a resource, others are no longer at liberty to use that

¹³⁸ G.A. Cohen picks up on exactly this point when he imagines a world where there is joint ownership of natural resources so that every person has a veto over their use. Cohen could have made his point even more obvious by simply giving ownership of all natural objects (including the air) to one person. Cohen correctly points out that even if the owner of the natural resources insists on a great deal of services from others (so great that others have no time to pursue other goals) in exchange for the use of natural resources, the formal self-ownership of the people who do not own the natural resources is still being fully respected. His goal is to get the libertarian to appeal to some kind of substantive self-ownership that includes positive freedom. But once libertarians go down this route (as some in fact do), they are open to a whole host of other criticisms.

particular resource. The person who appropriates a particular natural resource ought therefore to compensate others' for their lost liberty to use the resource if they have been made worse off by her appropriation. People's initial liberty to use resources thus represents a kind of claim to the resources; a claim that must be respected by other people's appropriation of particular resources.

This argument is briefly set out by Nozick (though is often overlooked by his critics). Nozick writes, "[A]n object's coming under one person's ownership changes the situation of all others. Whereas previously they were at liberty ... to use the object, they now no longer are."¹³⁹ Nozick then goes on to argue that this loss of liberty presents a challenge for the legitimacy of the appropriation if and only if the person who has lost the liberty has been made worse off.¹⁴⁰

Steiner also seems to see individuals' initial liberties as justifying some kind of equal claim. While discussing the generation of natural resource ownership rights, Steiner asks, "What if the thing I'm about to ... mix my (uncontracted) labour with is a piece of land which belongs to neither you nor me nor anyone else? What if, that is, everyone is at liberty to use it?"¹⁴¹ His eventual answer is that a person is only allowed to mix her labor with *an equal share* of natural resources. If someone appropriates a share of natural resources that is greater than other people's share, then she owes compensation to others on Steiner's view.¹⁴² This is because, according to Steiner, "Our equal original

¹³⁹ Nozick, *Anarchy, State, and Utopia*, 175.

¹⁴⁰ *Ibid.*, 175-82.

¹⁴¹ Hillel Steiner, "Original Rights and Just Redistribution," in *Left-Libertarianism and Its Critics : The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 77.

¹⁴² *Ibid.*, 101.

property rights entitle us to equal [natural resource] bundles.”¹⁴³ But it is unclear in Steiner’s argument where these “equal original property rights” come from.¹⁴⁴ The most likely candidate seems to be the equal initial liberties to use the previously unowned natural resources.

A careless reader of Nozick and Steiner might mistakenly assume that when they discuss the initial liberty, they are referring to liberty in a descriptive, positive sense; that is, to the actual ability to make use of natural resources. This is, I think, the intuitive idea that many readers may have in mind when they think of people of having liberty in some state of nature to use natural resources. Such a mistake in interpretation is also understandable because this conception of liberty is closely connected with Locke’s account of being injured. Taking away someone’s liberty to use a natural resource in the sense of removing his physical ability to use it is a necessary condition for being harmed on Locke’s account (it becomes sufficient if there are no other sufficiently comparable resources left for the person to use). Since Steiner and Nozick are concerned with reinterpreting the Lockean proviso, it is tempting to presume that the liberty they refer to is the liberty that is violated as part of the process of being made worse-off in Locke’s sense.

While this is not, in fact, the conception of liberty that Steiner and Nozick refer to when they say people are initially at liberty to use natural resources, it is worth asking why this type of initial liberty cannot serve as a basis for the equal claims view. The first problem is that not all people possess this initial kind of freedom to the same degree.

¹⁴³ Ibid., 78.

¹⁴⁴ It is also unclear why these equal original property rights imply equal division. However, this is a problem that will be addressed in the discussion of the different conceptions of the equal claims view.

Imagine the situation of a disabled man (call him Infirm). Clearly there are a variety of natural resources that Infirm simply cannot use. If the foundation for people's equal natural resource claims is their initial descriptive freedom to use natural resources, then it does not appear that Infirm would have any initial claims to most natural resources. After all, since Infirm is unable to use natural resource in the first place, other people's uses of natural resources do not in any way restrict his freedom. So Infirm seems, on this account, to lack any initial claims to natural resources.

Now someone might respond that before someone else's appropriation, Infirm was descriptively free to hire someone to use the resources as his agent, something he is no longer able to do after the other person's appropriation. But this seems to be a tenuous basis for Infirm's claim to the natural resources. Imagine a variation on G. A. Cohen's example of an island whose only two inhabitants are Infirm (the disabled man) and Able, an able-bodied woman. Assume that Able makes a (somehow binding) declaration that she is not willing to be employed by Infirm. In this case, Infirm has no descriptive freedom at all to use the vast majority of the resources of the island and thus would have no claims to island's resources.

This example of a man who is completely disabled and unable to hire anyone else as his agent is admittedly an extreme one. But it highlights the important point that on any plausible measure of descriptive freedom to use natural resources, this freedom will not generally be equally distributed. An initial liberty argument based on this type of freedom would thus grant greater natural resource claims to people like Able than to those like Infirm.

But even if everyone were equally free to use natural resources initially in this descriptive sense, there is another, more important problem with trying to rely on this type of initial freedom to generate equal claims. Namely, individuals' initial possession of this descriptive freedom to use natural resources is simply a fact. Further normative argument would be required to show why someone's appropriation of resources which restricts this descriptive freedom is normatively important. After all, when I eat my piece of cake, you lose your descriptive freedom to do the same. But by itself, the reduction in your descriptive freedom does not generate any normative consequences without further arguments about some pre-existing claim you had to the cake. On one reading of Locke, the fact that someone is injured is normatively important because individuals *already have* equal claims to natural resources (based, Locke thinks, on God's will and self-preservation). But Steiner and Nozick do not endorse Locke's theological or self-preservation-based contentions. And so they need a separate reason for why the reduction in the ability to use resources would be normatively important.

This reason seems to be that all individuals have an initial liberty in a *moralized, Hohfeldian sense* to use natural resources.¹⁴⁵ That is, people are initially at liberty to use natural resources in the sense that *they have no duty to refrain from using them*.¹⁴⁶ This is a normative rather than a descriptive account of liberty (i.e. it is concerned with what a person *may* do as opposed to what she *can* in fact do). One person's appropriation (i.e. assumption of exclusive ownership) of a natural resource does two things. First, it generates a duty on the part of other individuals to refrain from using that resource; a

¹⁴⁵ Although Steiner initially uses liberty in a different sense in his book, when he is discussing it in the context of natural resources he is using it in the Hohfeldian sense. See Hillel Steiner, "The Natural Right to the Means of Production," *The Philosophical Quarterly* 27, no. 106 (1977): 59-60.

¹⁴⁶ *Ibid.*

duty they did not have before (i.e. they lose their Hohfeldian liberty to use the resource). Second, it can make others worse off in the sense that they are no longer able (i.e. they are prevented by the state's coercive mechanisms) to make use of a valuable resource and have no other equivalent resources to use. On the Nozickian account, the fact that some person is made worse off in this sense is normatively relevant only because she had a pre-existing Hohfeldian liberty to use the resource which has been taken away.

There are, however, several problems with this position. First, neither Nozick nor Steiner explains *why* individuals should be seen as initially standing in this *particular* moral relationship to natural resources. We might imagine, as G. A. Cohen does, that natural resources should be initially seen as jointly-owned rather than unowned. If so, then individuals might have a right to natural resources that is stronger than a Hohfeldian liberty. Alternatively, we might imagine, in line with what I argue is the right-libertarian position, that no one has any initial claims to natural resources. If so, then one person's appropriation creates no claims on behalf of others regardless if they are made worse off. While Steiner and Nozick seem to take the initial Hohfeldian liberty to use natural resources as axiomatic, it is a highly controversial position.

But there is also a less obvious, but nonetheless important problem with this position. Namely, the Hohfeldian liberty position only generates claims to natural resources on behalf of others when someone *permanently appropriates* natural resources. The mere use of a natural resource (as opposed to an appropriation) does not interfere with anyone else's Hohfeldian liberty to use the resource. But for many natural resources, one person's use of the resource does prevent others from being able to use the same resource. So one person's use of a resource can harm others (if there are no

comparable resources left). And this harm seems intuitively problematic even when no Hohfeldian liberties have been restricted.

Consider a variation on Nozick's example of a sole water hole in the desert. Imagine that a person, call him Sick, comes to the water first and knowing he is going to die for some independent reason, decides to use all the water to take a bath and in the process makes the water no longer potable for others. This action has clearly made others worse off than they were before in the sense that they are no longer able to utilize the water for drinking. But it has not introduced any new duty they must abide by with respect to the water (i.e. it has not removed their *Hohfeldian* liberty to use the water). And ex hypothesi, Sick had no duty to refrain from using the water himself (i.e. he also has a Hohfeldian liberty with respect to it.) Yet intuitively, even when Sick merely uses the water without appropriating it, it seems as though Sick should have to respect in some ways the claims of others to the water. And this does not seem to be because others' use of the water is a matter of life and death (we could change the example so that this is no longer the case.) Instead, this intuition seems to derive its force from the fact that Sick did not actually create the water himself and so should not be able to simply use all of it for his purposes.

So the Hohfeldian initial liberty view actually does not generate equal claims to all natural resources. It only generates claims to natural resources on the part of others in a clear way when someone permanently appropriates natural resources.¹⁴⁷ But there are

¹⁴⁷ Perhaps this statement is too strong. It is true that most uses of natural resources (e.g. eating an apple) would at some point generate duties based on the user's self-ownership on the part of others not to also use the natural resource at the same time. These restrictions of Hohfeldian liberties might be used to generate equal claims. However, I specifically chose an example where others could use the water without violating Sick's self-ownership to show that this route would not work for all natural resources and does not seem to get at the heart of why intuitively people should be seen as having equal claims on the libertarian account.

plenty of natural resources which individuals need not permanently appropriate in order to effectively use. Given the fact that no one created these resources, intuitively it seems as though there ought to be some restriction on the amount of them that any particular person may take for himself. Locke certainly thought there were such restrictions. The spoilage condition and the enough and as good condition apply to both use as well as to permanent appropriation. But without appealing to God or to a right to self-preservation, it is unclear how a commitment to initial Hohfeldian liberty can, by itself, generate any claims on behalf of others against a person who merely exercises her own Hohfeldian liberty to use natural resources.

2.2 A New Libertarian Argument

While theological claims, a right to self-preservation, and initial liberty cannot serve as contemporary foundations for the equal claims view, I argue in this section that there is a viable libertarian argument for equal claims to purely natural resources. This argument takes as given the commitments to equal concern, liberal neutrality, and negative liberty; commitments generally shared by libertarians (as well as many classical liberals).¹⁴⁸ The basic idea behind the argument is as follows: Libertarians are committed to equal concern. This commitment creates a kind of presumption in favor of equal claims to resources. In addition, the other major libertarian theoretical commitment (i.e. to self-ownership) provides no guidance regarding how claims to purely natural resources ought to be distributed. Since self-ownership provides no reason to the contrary, the commitment to equal concern dictates that people should be seen as having equal claims

¹⁴⁸ Although I call what follows “the libertarian argument”, it is also compatible with the theories of certain classical liberal thinkers and any contemporary thinker who shares a commitment to equal concern, liberal neutrality, and to negative liberty as the primary considerations in matters of distributive justice.

to natural resources. In making this argument, I focus significant attention on the contentions of the right-libertarians, who while endorsing the ideals of equal concern, liberal neutrality, and negative liberty nonetheless reject the conclusion that people have equal claims to purely natural resources.

The libertarian argument for the equal claims view can be stated more carefully as follows:

- (1) Labor, and only labor, carried out under legitimate background condition, can justify some individuals having greater initial claims than others to particular external resources.
- (2) No individual is entitled to greater initial claims than anyone else to purely natural resources by virtue of her labor.
- (3) In the absence of reasons to the contrary, no individual's claims to resources should be presumed to be greater than anyone else's.
- (4) Individuals have some initial claim to purely natural resources.
- (5) Therefore, all individuals have substantive, equal initial claims to purely natural resources.

Several terms used in this argument require clarification beginning with "initial." By initial claims, I mean the original claims to resources. There are at least two ways for a person to lose her original claim to a resource on the libertarian account.¹⁴⁹ The first is through some sort of transaction where the person gives up her claim voluntarily. Second, all but the staunchest anarcho-libertarian recognizes that for certain purposes (such as national defense)¹⁵⁰ the government is legitimately entitled to tax the wealth of

¹⁴⁹ Other ways are possible. For example, some libertarians might argue that people can legitimately lose claims to certain resources as punishment for committing a crime.

¹⁵⁰ Some liberal theorists also support the idea of some redistribution to the poor. This complicates their support for the first proposition. Whether or not there is a fundamental conflict depends, I believe, on the exact grounds for supporting aid to the poor. Since the claims of the poor are to resources generally and not to natural resources specifically, I put aside this complication for now.

its citizens. Thus, compelling political arguments of various types can be sufficiently strong to outweigh people's original claims to resources, including both the products of their labor and natural resources.¹⁵¹ By initial claims, then, I mean the claims to resources that *precede* voluntary transactions and taxes. Rather than writing "initial" every time I mention equal claims to purely natural resources, I will generally implicitly assume this modifier.

Three other points require clarification. First, following other thinkers, I take external resources to exclude personal endowments such as talents.¹⁵² Second, purely natural resources are those resources that are left over after all agents with labor-based claims to the natural resources (e.g. discoverers) have been compensated (see the previous chapter for further discussion.) Finally, I assume for now that the "individuals" in this argument form a single political society. I will address the interesting questions of global justice that arise when this assumption is relaxed in a future chapter.

I do not provide here an account of "voluntary transaction", "labor", and "legitimate background conditions." Since initial claims by definition precede voluntary transactions, the details of what constitutes *voluntariness* are not of direct interest here (and are quite controversial.) Similarly, there is a great deal of controversy regarding what exactly counts as labor. However, as long as it is true that purely natural resources have a value that is not due to anyone's 'labor', the final conclusion that people have equal initial claims to purely natural resources will go through. Similarly, I do not

¹⁵¹ Although initial claims can be outweighed by such political considerations, they must be considered carefully in any argument regarding the use of the resources in question, and so they have significant importance. The details about the strength of these initial claims and how exactly they are to be balanced with other political considerations will vary considerably among different theorists and resolving this debate is beyond the scope of this work.

¹⁵² Cohen, *Self-Ownership, Freedom, and Equality*, 106-07.

provide a more specific account of what constitutes “legitimate background conditions” because it is not crucial for the argument.¹⁵³ Having clarified the terms of the argument as necessary, I turn to a discussion of each of the propositions.

2.2.1 LABOR’S ROLE

The proposition that labor, and only labor, can generate differential initial claims to external resources does the majority of the work in the libertarian argument and so will require significant discussion. It is far beyond the scope of this work to present a complete, convincing argument of this proposition from first principles. Rather, my goal is to show how existing liberal commitments to equal concern, liberal neutrality, and negative liberty imply this proposition.

Before doing so, it is interesting to note the support for this powerful proposition among several of the prominent liberal thinkers who endorse the traditional equal claims view. Rousseau writes, “It is impossible to conceive of the idea of nascent property in any way other than in terms of manual labor.”¹⁵⁴ Adam Smith writes, “The property which every man has in his own labor, as it is the foundation of all other property, so it is the most sacred and inviolable.”¹⁵⁵ John Stuart Mill writes:

Nothing is implied in property but the right of each to his (or her) own faculties, to what he can produce by them, and to whatever he can get for them in a fair market: together with his right to give this to any other person if he chooses, and the right to that other to receive and enjoy it.¹⁵⁶

¹⁵³ I do assume, though, that legitimate background conditions do not in themselves entail unequal claims to natural resources. I know of no theory that has unequal ownership of natural resources as part of the definition of legitimate background conditions, and so I do not explore this possibility further.

¹⁵⁴ Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men ". Earlier Rousseau holds that labor had allowed for the creation of “a sort of property” in the huts built by different people. Ibid. 164.

¹⁵⁵ Smith, *Wealth of Nations*, 51.

Henry George writes, “As a man belongs to himself, so his labor when put into a concrete form belongs to him.” This self-ownership and the consequent ownership of labor are “alone what justif[y] individual ownership [of property].”¹⁵⁷ Thus, for all four of these thinkers, labor is the ultimate source of justification for differential initial claims to resources, and is both necessary and sufficient for generating these differential initial claims.¹⁵⁸

But the claim that labor is *sufficient* to generate differential claims to resources is significantly weaker than the claim that it is *necessary*. (1) includes both the necessity and sufficiency conditions and it is useful to justify each separately and distinguish the work each does in the argument.

Labor’s sufficiency for generating differential claims to resources follows straightforwardly from a commitment to negative liberty in the economic sphere. The taking of wealth created by a certain person’s labor (assuming that labor was expended under legitimate background conditions) is a quintessential example of illegitimate interference with that person’s freedom. The support for people’s initial claims to wealth they labored to create is universal among libertarians, and I do not discuss it further here.¹⁵⁹

¹⁵⁶ It is also interesting to note that, at least for Mill, this proposition is intimately connected to the discussion of natural resources. Mill, "On Property and the General Principles of Taxation," 159.

¹⁵⁷ George, *Progress and Poverty*, 258-59.

¹⁵⁸ Although I call this argument the libertarian argument for the equal claims view, I believe it can be endorsed by any thinker who sees labor as sufficient and necessary for the creation of differential initial claims to resources.

¹⁵⁹ For a brief example, see Steiner, "Original Rights and Just Redistribution," 77.

But labor's sufficiency in generating differential claims to resources does little work in this libertarian argument for the equal claims view.¹⁶⁰ Even if it is conceded that labor is *sufficient* to generate differential claims to resources and that purely natural resources have a value not created by labor, nothing much of interest necessarily follows from this. This is because there could still well be a variety of other reasons *besides labor* why people would have unequal initial claims to purely natural resources.

What is needed for the libertarian argument to go through is the much stronger proposition that *only* labor can generate differential initial claims to resources. Defending this proposition requires ruling out all plausible non-labor-based reasons for individuals having unequal initial claims to resources. While Rousseau, Smith, Mill, and George all support the proposition that *only* labor can generate differential initial claims to resources, none of them goes through the (somewhat tedious but necessary) process of ruling out non-labor-based arguments for differential initial claims to resources.

I appeal to the theoretical commitments to equal concern, liberal neutrality, and negative liberty to rule out such alternative, non-labor-based arguments for unequal initial claims to resources. The first set of these arguments arise from theories that reject equal concern. As Dworkin suggests, political theories can reject equal concern in two ways. The first is by holding that "the lives of some- those of one race or caste, perhaps, or those who belong to one religion, or who are more virtuous- are more important than the lives of others."¹⁶¹ A theory that is committed to this view might well have good reason to assign greater initial claims to resources to inherently superior individuals.

¹⁶⁰ I have nonetheless included the sufficiency condition in (1) since it helps distinguish the classical liberal and libertarian argument for the equal claims view from the egalitarian liberal argument.

¹⁶¹ Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 128.

The second way of rejecting equal concern, according to Dworkin, is by adhering to principles of government not based on concern for citizens. For example, a government might aim to improve the nation's influence and power for the sake of glory or work to protect art for the sake of beauty (i.e. for these goals themselves rather than the role glory and beauty play in citizens' lives.)¹⁶² A theory that accepted such goals, even if only in addition to the commitment to equal concern, might well assign initial claims to resources in unequal ways in order to meet these goals. The libertarian insistence on equal concern rules out both of these possible reasons for inequality of claims.

The second set of potential non-labor-based reasons for unequal claims to resources comes from arguments that reject liberal neutrality. There are two kinds of theories that violate liberal neutrality. The first are perfectionist theories which present one particular kind of life, such philosophical contemplation, political service, or free, creative production, as the true good life for human beings. The second are communitarian theories which do not present a particular conception of the good life as best, but instead believe that a particular society can come to a shared understanding of the good life which can be used to decide political questions.

These theories generate three potential non-labor-based reasons for differential initial claims to resources. First, once there is agreement on a particular idea of the good, this creates the possibility for claims to resources (including natural resources) to be distributed according to some notion of moral virtue. Since virtue is generally unequally distributed, this will generally result in unequal claims to resources. Second, proponents of these theories can advocate that resources be distributed according to the precepts of

¹⁶² Ibid., 129.

the shared understanding of the good. For example, initial claims to resources might be distributed unequally according to the commandments of some religion endorsed by the community. Finally, resources might be distributed in a way that enables the citizen's realization of the particular vision of the good life. For example, wealth might be distributed to allow certain people to have the opportunity for philosophical contemplation. The libertarian endorsement of liberal neutrality by rules out these kinds of reasons for inequalities of resource claims.

However, the commitments to equal concern and liberal neutrality do not by themselves rule out all non-labor-based reasons for rejecting equal claims to resources.¹⁶³ For some theorists, the distribution of resources in society can simply be subordinate to other political goals. This is not because such political goals are ends in themselves (like beauty or glory), but rather because meeting these goals is the best way to care for the well-being of citizens. These theories effectively define distributive justice in terms of these other political goals. So for example, in order to achieve security for all citizens, claims to land might be distributed to those who have the ability to defend the state militarily.

Libertarians need not deny the importance of these other political goals (such as security). But they are committed to justice as an independent political ideal that generates claims to resources. These claims must be weighed against other political goals rather than being defined by them.

¹⁶³ Bruce Ackerman concludes that individuals have equal claims to natural resources largely on the basis of his Neutrality principle, which includes only the ideas of equal concern and liberal neutrality. See Chapter Two of Ackerman, *Social Justice in the Liberal State*. As I argue here, there are reasons perfectly consistent with equal concern and liberal neutrality to endorse unequal initial natural resource claims.

Other theories see justice as an independent political ideal, but place emphasis on values besides negative liberty, such positive freedom or aggregate preference satisfaction. Positive liberty requires that people be *free to* do certain things as opposed to being *free from* interference.¹⁶⁴ Since being *free to* take certain actions generally requires resources, and since people generally have different abilities and different tasks they want to accomplish, theories that insist that people be equally free in some positive sense can generate non-labor-based reasons why certain people (i.e. those with less positive freedom for whatever reason) should have greater claims to resources.

Theories that focus on maximizing aggregate preference satisfaction or achieving equal preference satisfaction can also generate unequal claims to natural resources. Utilitarian theories which insist that goods be distributed to maximize overall preference satisfaction (in a process that counts each person equally) can easily generate outcomes where claims to natural resources are not distributed equally. For example, if enough people have strong enough preferences that a certain group should receive all natural resources, such a group could be given sole initial claims to resources under a simple utilitarian framework.

Welfarist theories, which attempt to equalize people's preference satisfaction (weighted in certain ways), can also distribute claims to resources unequally. For example, such theories might grant greater claims to natural resources to those who, for whatever reason, have a lower level of welfare.¹⁶⁵ Libertarians endorse negative liberty

¹⁶⁴ See Chapter Three in Berlin, *Four Essays on Liberty*.

¹⁶⁵ It is worth noting here that it is possible to hold some kind of hybrid position that people have equal claims to natural resources, but that the *best interpretation of what it means* to have equal claims to natural resources entails distributing them in a way that equalizes welfare or that maximizes people's positive liberty. Michael Otsuka endorses such a hybrid theory. Michael Otsuka, "Self-Ownership and Equality," in *Left-Libertarianism and Its Critics : The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner

as the central principle of distributive justice, and so reject the reasons for inequality of resource claims supplied by theories that are concerned with positive liberty or those concerned with aggregate or egalitarian preference satisfaction.

It is worth noting that I have not yet mentioned the objections that arise from the egalitarian liberal position. Egalitarian liberals, in addition to negative liberty, are committed to the idea that wealth disparities should not be determined by factors that are morally arbitrary. The relationship between the egalitarian liberal position and the libertarian argument being presented here is complex, and I address it fully in the next chapter when discussing the egalitarian liberal argument for the equal claims view.

So far, I have shown that commitments to equal concern, liberal neutrality, and negative liberty rule out a variety of non-labor-based reasons for endorsing unequal claims to natural resources. The main remaining task is to show that a concern for negative liberty itself provides no reasons (besides labor) for endorsing inequality of resource claims.

Since I am interested in convincing libertarians, I will consider specifically a negative liberty conception of self-ownership, which is the central principle that most libertarians endorse. A negative liberty conception of self-ownership ensures that a person can exercise all of the rights one might exercise over a chattel slave over one's own body without interference from others.¹⁶⁶ Note that ownership of a slave does not include any rights to send that slave over someone else's land. Although self-ownership (on the standard accounts) grants a person physical security, freedom of contract, and

(New York: Palgrave, 2000). Since Otsuka accepts the equal claims view, I discuss his theory in a future chapter.

¹⁶⁶ Cohen, *Self-Ownership, Freedom, and Equality*, 68.

rights to the fruits of one's labor, it does not seem to provide any guidance about how external resources whose value was not created by labor (such as purely natural resources) ought to be distributed.

Now, one might argue that without natural resources a person's right to self-ownership would be useless. A variety of libertarian theorists, including Narveson, appeal to this idea to reject certain conceptions of equal claims such as joint ownership.¹⁶⁷ Once we admit this type of argument, we might be led to the conclusion that self-ownership does indeed have something to say about the distribution of natural resources.

But note that this relies on a *positive liberty* conception of self-ownership. The reason why Cohen brings up the example of joint-ownership in the first place is exactly to place pressure on libertarians to move towards this positive liberty conception. Yet as I argued in response to the self-preservation argument above, admitting that people have self-ownership in the substantive sense (i.e. admitting that they have a right to what they need in order to effectively exercise their self-ownership) puts enormous pressure on the rest of the libertarian theoretical commitments.¹⁶⁸ In any case, I am interested here in making the case for those libertarians who support the negative liberty conception of self-ownership, and for these libertarians, self-ownership does not say anything about the distribution of claims to external resources that are not created by labor.

This completes the defense of the first proposition. To sum up this defense: I began by recognizing that a commitment to negative liberty implies that labor is

¹⁶⁷ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 12.

¹⁶⁸ I discussed above the example of the patient who only needs a minute of the doctor's time (and presumably cannot afford the doctor's fee).

sufficient to generate differential claims to resources. I then appealed to the central liberal premises of equal concern, liberal neutrality, and negative liberty to eliminate all reasons for differential initial claims to resources besides labor. These include, among others, the inherent superiority of some people, desert-based claims founded on a particular conception of the good, and claims based on equalizing positive freedom or preference satisfaction. Then, I argued that a commitment to a negative liberty conception of self-ownership does not provide reasons besides labor for endorsing unequal initial claims to external resources. Thus, given the libertarian theoretical commitments, labor, and only labor, carried out under legitimate background condition, can justify some individuals having greater initial claims than others to particular external resources.

2.2.2 PURELY NATURAL RESOURCES AS LABOR-FREE

The proposition that no person is entitled to greater initial claims than anyone else to purely natural resources by virtue of her labor was defended in Chapter One. Here I will briefly review the concept of purely natural resources and why it is true that no person can have differential claims to them by virtue of her labor.

In Chapter One I argued that agents such as discoverers can indeed be fairly seen as contributing to the value of natural resources and therefore having some labor-based claims to them. However, I suggested that we can compensate all the agents who added value to a particular pristine natural resource by giving them a physical portion of that resource corresponding to the value that they created. The remaining resources are what I called purely natural resources. By definition, no agent can be entitled to differential claims to these purely natural resources in virtue of her labor. This is because all agents

ex hypothesi have already been appropriately compensated with physical resources for their labor-based contributions.

The main objection to the idea of purely natural resources comes from right-libertarians who claim is that labor generates the entire value of pristine natural resources. If so, there will be no natural resources left after compensation to agents is carried out. I argued in the Chapter One that it is implausible to believe that labor can be fairly assessed to have generated the *entire* value of natural objects. If so, then there will be purely natural resources left after the appropriate compensation is carried out; resources to which no person has differential initial claims in virtue of her labor.

2.2.3 THE PRESUMPTION OF EQUALITY OF CLAIMS

Combining the proposition that only labor can justify differential claims to external resources and the proposition that no one has labor-based claims to purely natural resources yields the conclusion that there is no positive justification for differential claims to purely natural resources. However, this does not *necessarily* lead to the conclusion that people have equal claims to purely natural resources. In the absence for some positive argument in favor of equality of claims, it is possible to hold some unequal distribution should be seen as the default. It is also possible to hold that the distribution of claims to natural resources is simply irrelevant from the perspective of justice. So perhaps those in power can simply choose the distribution of natural resource claims based on convenience, by flipping a coin, or by assigning claims to whomever they like.

I want to argue, however, that there is *presumption of equality* or resource claims based on the commitment to equal concern for individuals. According to this

presumption of equality, *in the absence of valid reasons to the contrary*, as a matter of justice, no one should be seen as having greater claims to resources than anyone else. It thus places the burden of proof on those who want to argue for an inegalitarian distribution of resource claims.

The argument for the presumption of equality follows straightforwardly from the commitment to equal concern. Resources are generally important for the life of each individual. A government concerned with the life of each individual must therefore be concerned with each individual's claims to resources. To insist that Person A have lesser claims to resources than Person B *for no good reason* seems to clearly entail treating A with less concern than B. If we are committed to treating individuals with equal concern, and can give no good reason for inequality of claims to resources, then it seems perfectly plausible to presume that no one's claims to resources should be greater than anyone else's. Note that this presumption of equality applies to all resources not just to natural resources.

Of course, this presumption of equality is *not* a strong guarantee of equal claims to resources. This is clear from the highly unequal distributions of non-natural resource wealth permitted by libertarians who nonetheless endorse equal concern. A variety of reasons, including differential labor or a pattern of voluntary transactions, may outweigh the presumption of equality and justify unequal claims to resources. What the presumption of equality does do, however, is place the burden of proof on those who wish to argue for inequality. Having shown that there are no positive reasons for why claims to purely natural resources should be unequal, the presumption of equality permits

us to conclude that no one's initial claims to purely natural resources ought to be greater than anyone else's.

2.2.4 REFUTING THE NO-INITIAL-CLAIMS POSITION

It might seem as though we have completed the libertarian argument for the equal claims view. There is, however, one remaining obstacle: the view that no individual should be seen as having initial claims to natural resources. It is possible to endorse propositions (1) through (3) and still reject the equal claims view. After all, if individuals have *no initial claims* to purely natural resources, then it is true that no one's claim is greater than anyone else's claim. Jan Narveson and Murray Rothbard both hold that people in fact have no initial claim to natural resources.

The argument against this right-libertarian position proceeds in two steps. First, I argue that a commitment to equal concern leads to a *presumption of substantive claims to resources*. Second, I consider and refute the arguments offered by the right-libertarians for the no-initial-claims view.

Like the presumption of equality of resource claims, I argue that the ideal of equal concern generates a *presumption of substantive claims* to resources. That is, in the absence of valid reasons to the contrary, people should be presumed to have some initial claims to resources rather than none. The ideal of equal concern as I have defined it entails treating people with some concern as well as requiring that no one be treated with greater concern than anyone else.¹⁶⁹ This is important to emphasize because it is true that

¹⁶⁹ Dworkin includes the commitment to treat individuals with some concern as a separate part of his abstract egalitarian ideal than the commitment to treat them with equal concern. Dworkin, *Sovereign Virtue: The Theory and Practice of Equality*, 128. I am using "equal concern" to include both parts of Dworkin's abstract egalitarian ideal.

treating people with *no concern at all* technically exhibits a level of concern that is equal for each person. But intuitively, treating people with no concern could hardly be seen as meeting the requirements of the ideal of equal concern. When political theorists talk about equal concern, they implicitly mean *substantive and* equal concern.

Once we recognize this point, the argument for the presumption of substantive claims follows straightforwardly. Resources are objects that are useful for meeting human goals. Faced with the option of denying a particular individual a claim to a resource or granting her a claim to that resource, *in the absence of good reasons to the contrary* choosing to deny her any claim to the resource seems to entail a failure to treat her with concern. The commitment to treating individuals with substantive and equal concern yields a presumption in favor of endorsing substantive claims to resources.

Of course, as in the case of the presumption of equality, the presumption of substantive resource claims merely places the burden of proof on those who would argue that individuals should be seen as initially having no claims to natural resources.¹⁷⁰ In order to show that people do in fact have initial claims to natural resources, it is necessary to consider and refute the arguments put forward by the right-libertarians for the no-initial-claims position.

I argue that Narveson and Rothbard's arguments for this position fail for two reasons. First, they confuse the idea of initial *ownership* of natural resources and the idea of initial *claims* to natural resources. Both Narveson and Rothbard begin their argument by contending that initially, no one *owns* natural resources. Narveson writes, "Since nobody, by hypothesis, is [initially] doing anything with *any* [natural resource material],

¹⁷⁰ We might for example have a presumption that people have claims to other people's bodies since these are resources. But on a libertarian account, a commitment to other people's self-ownership outweighs any such claims.

none of it belongs to anyone, individually or collectively."¹⁷¹ Rothbard writes, "If no one has yet used [natural resources, they are] in the real sense owned and controlled by no one."¹⁷²

They then proceed to bolster their argument for the no-ownership-view by discussing the problems with a property rights regime where everyone collectively owns natural resources.¹⁷³ Narveson imagines that this universal ownership means that a person has to obtain everyone's permission to use natural resources. He then points out that this would violate people's substantive liberty because they could do nothing without anyone else's permission.¹⁷⁴ He also appeals to Locke's argument that requiring universal consent for natural resource use would lead to mass starvation.¹⁷⁵ Rothbard imagines that universal ownership of resources would mean a world where everyone has some "quotal share" that entitled them to participate in some collective decision-making process about how to use the world's natural resources. He then points out that, "In practice, it is obviously impossible for every person in the world to exercise effective

¹⁷¹ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 10.

¹⁷² Rothbard, "Entrepreneurship, Entitlement, and Economic Justice," 225.

¹⁷³ Narveson also considers the possibility of equal division of natural resources. He raises the important problem that any sort of equal division of these resources will require a metric for determining equality and such a metric will be controversial; a point which I address in detail in Chapter Six. He then (bizarrely) concludes that any attempt at equal division will thus "inevitably become a proposal instead, to divide income equally" and goes on to dismiss this possibility. This is bizarre because he ignores the obvious possibility of dividing resources according to their market value. He instead considers the proposal to equally divide money (a proposal which has little to do with the division of natural resources). He then argues that dividing money will be a useless exercise since it would upset the meaning which money derives from market exchange. Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 16.

¹⁷⁴ Ibid.: 12. Cohen is well aware that joint ownership of natural resources violates substantive self-ownership. His point is to force libertarians like Narveson to abandon the idea of formal self-ownership. Unfortunately, this is unlikely to succeed because Narveson can simply reject joint ownership.

¹⁷⁵ Ibid.: footnote 22.

ownership of his four-billionth portion (if the world population is, say, four billion) of every piece of the world's land surface."¹⁷⁶

Rothbard and Narveson may well be right about the implausibility of certain forms of collective ownership of natural resources.¹⁷⁷ But without further argument, this is not a decisive argument against the equal claims view. Rothbard and Narveson seem to confuse of the specific idea of *ownership of natural resources* with the more general idea of *claims to natural resources*. At times this confusion is quite obvious. Narveson writes, "To hold that [everyone] has a claim [to natural resources] is, as Locke saw, to say that everyone must ask *everyone's* permission before he can do anything."¹⁷⁸ But saying that everyone has an initial claim to natural resources *is not the same thing* as saying that everyone has a veto power over any use of natural resources. That is simply one particular conception of what it means to have equal claims. What 'Locke saw' is that *this particular interpretation* of equal claims to natural resources is very implausible.¹⁷⁹ In contrast to Narveson, Locke holds that people have (a different type) of equal initial claims to natural resources.

If people do not initially own natural resources but do nonetheless have some initial claims to them, then unilateral appropriation will have to be done in a way that respects or somehow takes these claims into account. This is the point of the Lockean proviso in Locke and Nozick's theory. But Rothbard and Narveson do not have any such

¹⁷⁶ Rothbard, "Entrepreneurship, Entitlement, and Economic Justice," 224.

¹⁷⁷ This is a topic I take up in Chapter Four.

¹⁷⁸ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 12.

¹⁷⁹ As Narveson cites, it leads to the conclusion that Man had starved, notwithstanding the Plenty God had given him." Ibid.: 12 fn. 22.

proviso.¹⁸⁰ Without such a proviso, unilateral appropriation is unproblematic *only if* it is true that no one has any initial *claims* to natural resources. This is a much stronger proposition than the proposition that no one initially *owns* natural resources. Since Narveson and Rothbard do not even convincingly dismiss all the plausible proposals for initial ownership, let alone all the plausible proposals for respecting initial claims to natural resources, they fail to provide a sufficient argument against the idea that people have initial claims to natural resources.

This difficulty does not prevent Narveson and Rothbard from developing a theory of how individuals can nevertheless obtain an exclusive claim to the supposedly initially unclaimed natural resources. They both give an account that is meant to justify a first-come, first-served policy. Rothbard presents the familiar Lockean argument (minus the Lockean proviso) that a person can gain an exclusive claim to a natural resource by being the first to mix his labor (which he owns by virtue of his self-ownership) with it.¹⁸¹ But this idea, as many theorists including Nozick have pointed out, is fraught with difficulties. First, it is highly unclear what ought to count as sufficient mixing of labor. Second, it is unclear that mixing one's labor with something to which one has no claim is not a way of simply losing the claim to the value of the expended labor. Third, even if one still retains the claim to the labor after the mixing, it is unclear why one should also gain a claim to the natural object.¹⁸²

¹⁸⁰ Both Narveson and Rothbard cite Locke while omitting any mention of the "enough and as good" proviso. See Ibid. Also see Rothbard, "Entrepreneurship, Entitlement, and Economic Justice."

¹⁸¹ See Rothbard, "Entrepreneurship, Entitlement, and Economic Justice."

¹⁸² Nozick, *Anarchy, State, and Utopia*, 174-75.

Rothbard does not seem to have solutions to these problems. But there is also a deeper difficulty with Rothbard's account. All these issues arise *after* a person has already mixed her labor with the natural resource. It is not implausible that at this point the person would have some claims, and Rothbard indeed focuses on the injustice of depriving the person of the fruits of his labor after this mixing has taken place.¹⁸³ But the main philosophical problem arises at an earlier stage, when we decide whether the person is entitled to mix his labor with a particular natural resource *in the first place*. It seems unclear why the person should be allowed to do so given that on Rothbard's account he has no claim whatsoever to the natural resource.

Rothbard seems to respond that unless we allow people to mix their labor with natural resources, no one would be able to produce *anything*. The conclusion that Rothbard appears to draw is that we *must* allow people to mix their labor with objects to which they have no claim.¹⁸⁴ But a more straightforward conclusion is that the idea that no one has any initial claims to natural resources is, like the idea that everyone jointly owns natural resources, implausible because it leads to an untenable situation where no one may use natural resources.

Narveson has a different idea of how first-comers can gain exclusive claims to natural resources. For Narveson, this can be done by making the resource part of one's conscious plan and then beginning the process of executing the plan. According to Narveson, once a first-comer is in the process of executing his plan, second-comers

¹⁸³ Rothbard, "Entrepreneurship, Entitlement, and Economic Justice," 225.

¹⁸⁴ Ibid.

would be “[improperly] interfering with the courses of action initiated and being continued by first comers.”¹⁸⁵

Given Narveson’s account, it is quite true that a second-comer, by taking resources, would be improperly interfering with the plans and thus the liberty of the first-comer. But it does not follow that the first-comer is not *also* improperly interfering with the conscious plans of the second-comer by using the resources. Such a potential mutual violation of liberties, as I argued above, has been used (unsuccessfully I argued) as a foundation for the equal claims view.

Narveson, however, refuses to acknowledge that the second-comer’s liberty to use the resource has been violated. He argues, in a way meant to appeal to libertarians, that holding that the second-comer’s liberty is violated by the first comer would impermissibly rely on giving the second-comer positive rights.¹⁸⁶

But this contention is unconvincing. Assume, for example, that the conflict between the first-comer and the second-comer leads them to agree¹⁸⁷ that they have equal claims to natural resources and that these equal initial claims can best be respected by granting each person exclusive rights over some portion of the natural resource in question. Such a regime of natural resource property rights would not generate any positive duties for the first-comer (since the natural resources already exist), but would only require him to refrain from interfering in the second-comer’s rightful shares of

¹⁸⁵ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 11.

¹⁸⁶ Ibid.: 12.

¹⁸⁷ Narveson claims that his solution of giving the exclusive rights of appropriation to the first-comer would be a mutually acceptable principle agree upon in order to avoid a conflict. See Ibid.: 11. However, some division of the initial resources seems intuitively much more likely to garner the consent of those who know they have a decent chance of being second-comers.

natural resources. So we *can* endorse the idea that the second-comer's liberty is violated by the first-comer and resolve the conflict without appealing to any notion of positive rights.

Narveson's account of the legitimacy of unilateral appropriation is also intuitively implausible. Imagine castaways washing up unconscious on the shore of a small deserted island. Upon regaining consciousness, the first castaway (call her Planner) formulates a plan to collect all the resources of the island for her personal use (or to trade them to other castaways for services). She immediately sets off to carry out her plan by beginning to pick some fruit.¹⁸⁸ As the other castaways regain consciousness, they too begin looking for food. As they reach for the fruit, Planner, citing Narveson's argument, objects that they are interfering with her plan for the island's resources which she formulated and is in the process of carrying out. She is willing to let them have some fruit, but they will have to provide significant services for her in exchange. It seems to me at least to be highly implausible that in this scenario Planner should gain exclusive claim to the entire natural resources of the island.

Narveson tries to convince his readers that second-comers should have no right by asking what the second-comers "have *done* to get rights to [the natural resources?]" Narveson responds (correctly) that they have done nothing to earn these rights.¹⁸⁹ But Narveson's response here seems to be question-begging. To see this, we might inquire

¹⁸⁸ I assume here that the island is small enough so that Planner can meet whatever qualifications Narveson has for "possession" before the other castaways wake up. What possession means exactly and why it is important is also unclear on Narveson's account, but I believe there are deeper flaws with his argument which make these problems less important to consider.

¹⁸⁹ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 12. Narveson in this argument focuses special attention on the fact that many of the potential second-comers are "mostly unborn, many on the other side of the globe or down the way many miles" I discuss the problems of future generations and global justice in Chapter Eight and Chapter Nine respectively.

what Planner has *done* to get exclusive rights to the natural resources of the island.

Narveson's answer is that she has included resources in a conscious plan and has begun executing that plan. But of course the other castaways also have a plan for the natural resources. The difference then seems that Planner has already begun executing *her* plan. But the other castaways would also like to execute their plans for the natural resources if only Planner's ownership claims of the natural resources were not preventing them from doing so. So Narveson's response that the other castaways have not done anything can hardly serve as a justification for a policy which is *the very thing* that prevents them from doing what is necessary to gain rights to the natural resources.

Narveson concludes his argument by criticizing the "socialist" idea that there is such a thing as a free lunch. But that is exactly what purely natural resources are: a free lunch. Free in the sense that they were produced with no one incurring any cost and a lunch in the sense that they are valuable.

The right-libertarian argument that no one has claims to this free lunch fails in two ways. First, it improperly confuses the idea of collective ownership of natural resources with the much more general idea of equal claims to natural resources. Though the right-libertarian arguments against certain types of collective ownership are certainly plausible, this is wholly insufficient for dismissing the idea of equal initial claims to natural resources. Second, their appeal to liberty considerations to justify unilateral appropriation in a world with no prior claims fails. Even if we were to agree with Rothbard that the laborer gains rights to the natural resource through her labor, it is unclear why a person can legitimately mix her labor with a natural resource to which she has no claim in the first place. Narveson's account cannot avoid the problem that any

person's use of resources will interfere with others' conscious plans and thus violates their liberties. The moral weight of someone being a first-comer seems wholly insufficient to overcome the claims to liberty violations by the second-comers in a way that would give the first-comer exclusive, permanent ownership of natural resources. Given the presumption of substantive claims to resources that follows from a commitment to equal concern, and given the failure of the right-libertarian arguments, I conclude that individuals do indeed have some initial claims to purely natural resources.

2.2.5 COMBINING THE PREMISES

The final remaining task is to review the argument and show how the premises, taken together, lead to the equal claims view. The argument began by defending the normative centrality of labor as the source of differential claims to external resources. The libertarian commitments to equal concern, liberal neutrality, and negative liberty as the central principle of distributive justice helped rule out a variety of non-labor based reasons for inequality of claims to external resources

The argument next turned to the task of demonstrating that no agent's labor provides that agent with differential claims to purely natural resources. While I conceded that even pristine natural resource might well have a value that is due to the actions of certain agents such as discoverers, in Chapter One I argued that the claims these agents have by virtue of their labor do not exhaust the entire value of natural resources. If so, compensation can be carried out with the remaining physical resources being seen as purely natural resources to which no individual has labor-based claims.

The argument then introduced a presumption of equality that applies to resource claims. This presumption is grounded in the liberal commitment to equal concern and the

idea that resources are important for individuals' lives. It precludes the possibility that the distribution of natural resources might be a matter of indifference and places the burden of proof on those who would argue for the inequality of natural resource claims.

The argument then turned to defending the proposition that people do have some initial claims to natural resources. I argued that the ideal of equal concern generates a presumption of substantive claims to resources. I then refuted the right-libertarian arguments to the contrary. I showed that the right-libertarian arguments confuse collective ownership with the idea of equal claim and have implausible accounts of unilateral appropriation.

Thus, if labor provides the only justification for differential claims to external resources (1), and no one has differential claims to purely natural resources by virtue of their labor (2), then there is no positive justification for why any person has any greater claim to purely natural resources than anyone else. If people's claims to external resources are equal by default (3), and if it is also true that people should be seen as having some initial claims to external resources (4), then we can conclude that all individuals have substantive, equal initial claims to purely natural resources (5). This completes the libertarian argument for the equal claims view.

Conclusion

My goal in this chapter has been to call into question existing libertarian foundational arguments for the equal claims view while providing an alternative foundational argument for this view. I began by considering arguments for the equal

claims view based on theological claims, self-preservation, and initial liberty. I argue that none of these can serve as a contemporary foundation for the equal claims view.

Instead I provided a different libertarian argument for the equal claims view. The argument had four major premises. First, labor and only labor justifies differential claims to resources. Second, no one has differential claims to purely natural resources by virtue of her labor. Third, in the absence of arguments to the contrary, people's claims to natural resources should be presumed to be equal. Fourth, people's have substantive claims to natural resources. The four premises of this libertarian argument, when taken together, lead to the equal claims view.

However, even if this argument convinces libertarians, other liberals may well remain unconvinced. In particular, egalitarian liberals have additional theoretical concerns that require separate consideration. I therefore turn now to showing how the liberal egalitarian theoretical commitments also lead to the equal claims view.

The Liberal Egalitarian Argument

In the previous chapter I developed a libertarian argument for the equal claims view based on the idea that purely natural resources are not fundamentally created by anyone's labor. In this chapter I take up the question of whether liberal egalitarians too can endorse the equal claims view.

Liberal egalitarians may well agree that no one has a special claim to natural resources. But they also believe that there are a variety of other resources, such as the products of natural talents, to which no one has a special claim. Since labor does not play the same legitimating role in liberal egalitarian theory as it does for in libertarian theory, purely natural resources are not unique for liberal egalitarians in the way that they are for libertarians. If so, then it is unclear why natural resources should be treated separately from other resources to which no one has special claims. And even if there are reasons to treat natural resources separately, there seems to be little reason to insist that on a strict equality of natural resource claims. Instead, it seems reasonable on the liberal egalitarian account to distribute natural resource claims in a way that ensures that the *overall* distribution of resources meets the goals of liberal egalitarian distributive justice. Nevertheless, some liberal egalitarian theorists, such as Ronald Dworkin, do seem to endorse the equality of natural resource claims. I argue in this chapter that there are good

reasons why such a liberal egalitarian endorsement of the equal claims view is justified.

The argument of the chapter is divided into four main parts. In the first part I make the case that, while natural resources are not properly seen as the product of any scheme of social cooperation, their allocation nevertheless raises questions of distributive justice. In the second part I make the case that, on the liberal egalitarian account, natural resources are a subset of a larger group of resources to which no one has special prima facie claims to by virtue of certain choices. The third part sets out the arguments for treating natural resources separately from other resources in this group. Finally, in the fourth part I set out the liberal egalitarian arguments for endorsing the equality of natural resource claims.

3.1 Purely Natural Resource and Social Cooperation

For some liberal egalitarians such as John Rawls, justice is concerned with the division of the benefits and burdens of social cooperation. The traditional liberal egalitarian concern for mitigating as far as possible the distributional consequences of morally arbitrary differences among people (e.g. in talents) comes into play as a consideration only when deciding how these socially created benefits are to be divided. But since purely natural resources are not benefits of social cooperation in any straightforward way, they seem to fall outside the scope of Rawlsian distributive justice. I argue in this section that while it is true that purely natural resources cannot be properly seen as the product of social cooperation, it is implausible that justice has nothing to say about their allocation.

Rawls states in the opening pages of his *A Theory of Justice*:

A set of principles is required for choosing among various social arrangements which determine [the] division of [social] advantages and for underwriting an agreement on the proper distributive shares. These principles are the principles of social justice: they provide a way of assigning rights and duties in the basic institutions of society and they define the appropriate distribution of the benefits and burdens of social cooperation.¹⁹⁰

For Rawls, then, the scope of distributive justice seems to be the division of the benefits and burdens of social cooperation.

However, purely natural resources, as I have defined them in Chapter One, do not have value that is properly attributable to any particular scheme of social cooperation. After all, social cooperation is comprised of the actions of particular agents: discoverers, inventors, consumers, community members, and others. And, as I argued in Chapter One, the value of *purely* natural resources *cannot* be fairly attributed to the actions of any of these agents, and so it seems improper to view purely natural resources as benefits of social cooperation. Charles Beitz, writing about Rawls's treatment of natural resources, also suggests that natural resources should be distinguished from wealth that is the result of cooperative activity. He writes:

We can appreciate the moral importance of conflicting resource claims by distinguishing two elements that contribute to the material advancement of societies. One is human cooperative activity itself, which can be thought of as the human component of material advancement. The other is what Sidgwick called "the utilities derived from any portion of the earth's surface," the natural component.¹⁹¹

If justice is concerned with dividing the benefits and burdens of social cooperation, and purely natural resources are not generated by social cooperation, then it seems that the distribution of purely natural resources falls outside the scope of justice.

Brian Barry recognizes this point when he writes:

If Crusoe [controls access to] banana trees and Friday [controls access to] coconut trees, justice as rational cooperation can talk about a fair exchange between Crusoe's bananas and

¹⁹⁰ Rawls, *A Theory of Justice*, 4.

¹⁹¹ Charles Beitz, *Political Theory and International Relations* (Princeton, NJ: Princeton University Press, 1979), 137.

Friday's coconuts... But justice as rational cooperation is silent when we ask whether it is just that the initial possessions should be what they are.¹⁹²

The point could even be made clearer if we imagine that Crusoe draws a line in the sand around "his" banana trees and tells Friday he wants nothing to do with him. Assuming Friday stays on his side of the line, there is clearly no social cooperation in any meaningful sense happening in this case. Yet intuitively it still seems that we can ask whether it is just for Crusoe to have sole access to the banana trees.

A Rawlsian liberal egalitarian might reply by correctly pointing out that Rawls does briefly discuss the limitations that justice places on natural resource distributions when he talks about the distribution of the means of production and just savings for future generations more generally.¹⁹³ In these discussions, Rawls seems to be implicitly assuming that the distribution of natural resources, like the distribution of capital and other wealth, ought to be determined by the difference principle and the principle of just savings (as well as constrained by the requirements of maintaining equal political liberties). But while capital is straightforwardly a product of a particular scheme of social cooperation, the same is not true of purely natural resources. So while Rawls seems to simply assume that the distribution of natural resources will be subject to the principles of justice he develops, it is not at all clear why this should be the case.

Nozick makes a similar point when he argues that Rawls seems to be lacking an account of the distribution of resources whose value cannot be attributed to social cooperation. Nozick then suggests a possible reason why a Rawlsian might justifiably ignore this issue. Nozick writes, "One might claim... that due to the enormous benefits

¹⁹² Richard Sikora and Brain Barry, *Obligations to Future Generations* (Philadelphia: Temple University Press, 1978), 242.

¹⁹³ Rawls, *A Theory of Justice*, 242-43.

of social cooperation, the noncooperative [shares of resources] might be so small in comparison to any cooperative [shares of resources,] that they may be ignored in setting up the problem of social justice.”¹⁹⁴ So a Rawlsian could concede that the distribution of banana trees is important in the simple Crusoe and Friday example. But in any complex society, the Rawlsian might argue, the value of the banana trees as separate from the value added to them by social cooperation would be miniscule, and so can be safely ignored (i.e. we can include the distribution of banana trees in the same distributive scheme designed for resources created through social cooperation).

This argument, however, seems to implicitly appeal to the same kind of “but for” theory of value that was rejected in Chapter One.¹⁹⁵ No doubt it is true that but for social cooperation (which includes the actions of discoverers, inventors, consumers, community members, local government, development laborers, etc.) natural resources would be practically useless, but it is also true that without the natural resources, social cooperation would produce no value. If the objections I raised against this “but for” theory of value in Chapter One are valid, we *cannot* conclude that the various agents who compose particular schemes of social cooperation are due the entire value (or even almost the entire value) of particular natural resources. So we cannot simply ignore the question of how purely natural resources are to be distributed on the grounds the insignificance of their value.

Intuitively, it seems clear that people do care about the distribution of property rights in natural resources. Additionally, there are natural resource distributions (e.g.

¹⁹⁴ See Nozick, *Anarchy, State, and Utopia*, 184-85. Nozick responds to this objection that “this is certainly not how people entering into cooperation with one another would agree to conceive of the problem of dividing up cooperation’s benefits.”

¹⁹⁵ See Chapter One, Part 1.2

granting Crusoe ownership almost all of the island's trees) that seem intuitively unfair. Finally, practically every liberal thinker with the exception of Rawls explicitly supports the proposition that the distribution of natural resources falls under the auspices of distributive justice. A Rawlsian liberal egalitarian who denies this proposition would thus have to say much more about why distributive justice must *only* be concerned with resources that are generated by social cooperation.

3.2 Natural Resources as a Subset of Undeserved Resources

Granting that the distribution of natural resource property rights falls under the auspices of distributive justice, the next question is what distributive justice, on the liberal egalitarian account, has to say about natural resources. Liberal egalitarians, like all liberals, are committed to the principles of equal concern and liberal neutrality that I defined in the Introduction. They also share a circumscribed commitment to certain negative liberties. However, on questions of distributive justice, liberal egalitarians are committed to the principle that individuals ought to have equal claims to all resources except for those that are generated as a result of choices for which particular individuals can be held morally responsible. I call resources that are not generated as a result of these types of choices **undeserved resources**.¹⁹⁶ Liberal egalitarians are generally united in their view that individuals have equal claims to undeserved resources.¹⁹⁷ In this

¹⁹⁶ Note that this is a very specific notion of desert; one which should not be confused with other notions. It is a different type of 'desert' that the one we refer to when we say that a particular team deserved to win or when we say that the pious woman deserves to be divinely rewarded.

¹⁹⁷ They disagree, however, about how the equal claims to undeserved resources ought to be respected and about which resources count as undeserved. Rawls, for example, effectively treats all resources as undeserved and argues they should be distributed equally unless an unequal distribution is to the advantage of the least well off. Rawls, *A Theory of Justice*. Dworkin, who views a more limited set of resources as

section, I argue that, on the liberal egalitarian view, natural resources *are a subset* of undeserved resources.

While liberal egalitarians often disagree over which differences among individuals should be seen as arbitrary from a moral point of view, they generally only hold individuals responsible only for certain choices they make (e.g. decisions on how hard to work or whether to take calculated gambles). Every resource not generated as a result of these types of choices is, on the liberal egalitarian account, undeserved. In Chapter One I argued that purely natural resources cannot be fairly assessed as having been generated by anyone's *labor*. *A fortiori* then, they should not be assessed to be generated as a result of anyone's *effort*. Nor are they generated by some other choice that individuals make. Since they are not created as a result a choice for which someone could be held morally responsible, purely natural resources are a type of undeserved resources.¹⁹⁸

But they are not the only type of undeserved resource. All liberal egalitarians agree that individuals are not morally responsible for at least some portion of their talent. So the resources that can be fairly assessed as having been generated by this portion of talent can be seen as undeserved resources as well. Although the size of the set of undeserved resources varies depending on the particular account of moral responsibility, all liberal egalitarians can agree that the set of undeserved resources includes more than simply natural resources.

undeserved, argues that they should be distributed in an envy-free way. See Chapter Two of Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*.

¹⁹⁸ Beitz clearly views natural resources as undeserved resources in the sense that I have defined here. In fact, he argues that the distribution of natural resources is a "purer case of something being 'arbitrary from the moral point of view' than the distribution of talents." Beitz, *Political Theory and International Relations*, 140.

If we were to assume away any morally arbitrary differences among individuals, then natural resources would be the only undeserved resource. Under this assumption, liberal egalitarians would certainly endorse the equality of natural resource claims. But since we live in a world where differences in factors such as natural talents exist, the question of how liberal egalitarians should treat natural resources is not so easily answered.

There are three approaches liberal egalitarians could take in considering the question of natural resources. First, they could insist that distinctions should *not* be drawn between natural resources and other undeserved resources. I refer to this as the **holistic view**. Second, they could consider claims to natural resource *separately* from claims to other undeserved resources, but insist that the *distribution* of natural resources claims should be *unequal*; to be determined by the goal of achieving equality of claims to undeserved resources more broadly. I refer to this as the **separate unequal claims view**. Finally, they could consider how claims to natural resource ought to be respected *separately* from claims to other resources, and insist that the distribution of natural resources claims should be *equal*. This would entail equalizing claims to natural resources and then separately equalizing claims to other undeserved resources. In keeping with previous chapters' terminology, I refer to this approach as the **equal claims view**.¹⁹⁹

The choice of approaches has enormous implication for the relevance of this work to liberal egalitarians. If the holistic view is the right one, then it may well be that the rest of this work, which deals with claims to natural resources in particular, is simply not

¹⁹⁹ Although technically it should be called the separate equal claims view, I omit the 'separate' for reasons of consistency across chapters.

relevant for liberal egalitarians. Although some liberal egalitarians such as Dworkin seem to endorse the equality of natural resource claims, it is possible that they are making an important mistake. If the holistic view is right, the right way to treat natural resources might well be the one employed by John Rawls in *A Theory of Justice*, in which he largely ignores the distinction between natural resources and other forms of capital and wealth.

3.3 The Case for Treating Natural Resources Separately

Although my aim in this chapter is to make the case for the equal claims view, I begin by arguing that at the very least, liberal egalitarians should treat natural resources separately from other undeserved resources. In this section I develop two main arguments for this position. First, the fact that purely natural resources are not generated by any particular scheme of social cooperation may make a difference in terms of who has claims to natural resources and how those claims ought to be respected. Second, liberal egalitarians face far fewer moral and practical constraints when distributing claims to natural resources as opposed to other types of undeserved resources. So they might be able to respect claims to natural resources in a way that is more accurate, efficient, and comprehensive compared with claims to other resources. Admittedly, there are strong considerations against providing a separate treatment for natural resources including added theoretical complexity, potential moral confusion, and the difficulty of isolating natural resources from other undeserved resources. Nevertheless, I argue these considerations against separation are outweighed.

3.3.1 NOT GENERATED BY SOCIAL COOPERATION

One important reason for treating natural resources separately has to do with the idea that unlike other undeserved resources, purely natural resources are not created by any particular scheme of social cooperation. One might think along Rawlsian lines that only individuals *constituting a particular scheme of social cooperation* have equal claims to the undeserved resources generated *by that scheme* of cooperation. But, as I argued above, since purely natural resources have a value cannot be fairly assessed as having been generated by any particular scheme of social cooperation, we might conclude that *all individuals* have claims to purely natural resources. If so, then we will need to treat natural resources separately to keep track of different individuals' claims to different resources. This point is recognized by Beitz when he makes the argument that there needs to be a natural resource redistribution principle that is separate from the difference principle in the international case where there are multiple societies.²⁰⁰

But Beitz seems to think that the problem of multiple societies is the *only* reason for making a distinction between natural resources and other undeserved resources. He writes:

[Problems regarding natural resources] do not arise in the domestic case because their distribution and conservation are implicitly covered by the difference principle and the just-savings principle. When the scope of social cooperation is coextensive with the territorial boundaries of a society, it is unnecessary to distinguish natural and social contributions to the society's level of well-being.²⁰¹

Yet Beitz's does not explain why it is unnecessary to make the distinction between natural resources and other resources in the domestic case. Although it is true that Rawls implicitly includes natural resources under the scope of the difference

²⁰⁰ See Beitz, *Political Theory and International Relations*, 143.

²⁰¹ Ibid.

principle and the just-savings principle, he may be *mistakenly* ignoring the distinction between natural and socially-created resources. The difference principle is concerned, on Rawls's account, *only* with how the benefits of social cooperation are to be divided. And it is not at all obvious without further argument that the difference principle (as opposed to some other distributive principle) should apply to resources that are not created by social cooperation.

The problem seems even clearer in the case of the just-savings principle. Just as societies existing at the same time in different places might constitute separate schemes of social cooperation, the same might be true of societies existing in the same place at different times. It is certainly plausible to think that the current generation might have a greater obligation to conserve purely natural resources (i.e. resources which not been created by their particular scheme of social cooperation) for future generations when compared with socially created resources.

3.3.2 FEWER CONSTRAINTS IN CLAIM DISTRIBUTION

Yet even liberal egalitarians who do not see social cooperation as normatively important have good reasons to treat natural resources separately. Namely, distributing property rights to natural resources is an enterprise that faces far fewer moral and practical constraints when compared with distributing property rights to other undeserved resources. These constraints include epistemic difficulties, efficiency problems, concerns about identity, and potential violations of basic liberty. So, for example, while an income tax may be the best liberal egalitarians can do (given the practical and normative constraints) in distributing resources are generated as a result of natural talents, we might be able to find a scheme that distributes claims to natural resources in a much more

accurate, efficient, and comprehensive way. If so, then this provides a powerful reason for considering natural resources separately. In making the case that there are fewer difficulties in distributing natural resources, I will use resources that are generated as a result of natural talents for purposes of comparison. However, many of these arguments apply to other undeserved resources as well.

The first set of reasons for treating natural resources separately involves epistemic challenges. Isolating purely natural resource value is no easy task.²⁰² But it is orders of magnitude easier than isolating the part of someone's wealth that is due to natural talent. A person's natural talents and personal background are private information. Yet the state would need to somehow find out this information to accurately and comprehensively distribute claims to the products of natural talents. In some cases, it might simply be impossible to measure these factors given current technology. In other cases, it may require an unacceptable invasion of privacy.²⁰³ These factors are part of why Dworkin advocates that redistribution be based on individuals' actual earnings (i.e. what individuals actually earn given their choice of occupation) rather than potential earnings (i.e. what individuals could earn if they put their talents to their most economically productive use) even though it is the potential earnings which are directly related to differences in natural talent.²⁰⁴

These epistemic difficulties also have consequences for efficiency. With less than perfect information, various redistribution schemes could well lead people to hide (at

²⁰² I consider this problem more fully in Chapter Seven

²⁰³ See for example Kymlicka's discussion of the problem of shameful revelation. Kymlicka, *Contemporary Political Philosophy : An Introduction*, 94.

²⁰⁴ Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 102.

least at the margin) their differential capabilities. For example, a person might choose to hide her mathematical ability (by not developing it) in order to avoid having to pay some sort of compensation to those lacking it. In general, this could lead to losses in social welfare and to a significant impoverishment of society.

Distributing purely natural resource, on the other hand, is likely to generate very little to no inefficiency. In the Introduction, I discussed Adam Smith's views on the lack of incentive distortion created by redistributing land rents. Contemporary economists generally join Smith in recognizing that taxes on the unimproved value of natural resources are the least distortionary, at least in theory, of all possible taxes.²⁰⁵ It is true that taxes even on pure natural resource value might, under some circumstances, generate inefficiency. But since no one generated the value of purely natural resources by virtue of her labor, equalizing claims to purely natural resource value is very unlikely to generate anywhere near the same inefficiency as some attempts to equalize resources created by natural talents; resources whose production is very sensitive to people's incentives.

Admittedly, this is only important insofar as liberal egalitarians care about efficiency. Rawls's concern for efficiency is explicit and obvious. Other liberal egalitarians, such as Dworkin, have been less explicit about the role efficiency plays in their theory. However, Dworkin does seem to care about efficiency. His concern for people hiding their talents leads him to introduce co-insurance into his scheme of

²⁰⁵ Milton Friedman, for example, states that, "In my opinion the least bad tax is the property tax on the unimproved value of land, the Henry George argument of many, many years ago." See "An Interview with Milton Friedman."

hypothetical insurance.²⁰⁶ This reduces the compensation due to the untalented in order to discourage more talented people from pretending to be untalented. Dworkin points out that such an addition to the insurance scheme would save the hypothetical insurance company money and would result in lower premiums generally. Dworkin's concern with these issues is difficult to understand without attributing to him some concern for efficiency.²⁰⁷

However, even if efficiency is not a consideration for a particular liberal egalitarian theory, there is another, more important reason why natural resources should be treated differently than natural talents. Namely, there a complex web of interactions between natural talents and aspects of the individual that liberal egalitarians do not consider to be morally arbitrary; factors such as identity, personality, some kinds of effort, and conceptions of the good life.

Regarding the suggestion of taxing away only the component of a person's wealth due to natural talent, Dworkin writes:

[W]e cannot hope to identify such a component, even given perfect information about people's personalities. For we will be thwarted by the reciprocal influence that talents and ambitions exercise on each other... [P]eople choose which talents to develop in response to their beliefs about what sort of person it is best to be.

Dworkin goes on to point out that people's idea of a good life might also in turn be shaped by what talents they have.²⁰⁸ The problem here is not merely epistemic. Rather, it is that talents affect morally relevant aspects of the individual, such as her ambition and

²⁰⁶ See Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 101.

²⁰⁷ If efficiency were unimportant, we might well accept such cheating by some of the talented (and the resulting higher insurance premiums for everyone) as a necessary part of giving the untalented their proper share under equality of resources. It is hard to understand the strength of the arguments about moral hazard, savings of the insurance company, and the lower premiums unless efficiency considerations are given some implicit weight in Dworkin's scheme.

²⁰⁸ Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 91.

conceptions of the good life in ways that are complex. So any proposal to equalize claims to people's talents must tread carefully in order to avoid interfering with these morally relevant attributes.

As Charles Beitz points out, though, these problems are not present in the case of natural resources, at least not to the same extent. Beitz writes:

[Natural] resources do not stand in the same relation to personal identity as do talents. It would be inappropriate to take the sort of pride in the diamond deposits in one's back yard that one takes in the ability to play the Appassionata... The resources under one's feet, because they lack [talents'] natural connection with the self, seem more like contingent than necessary elements in the development of personality.²⁰⁹

Now, it is true that people can form very deep attachments to certain natural resources, especially land. These attachments might become so deep as to constitute part of a person's identity. But these attachments are generally formed only *after* the person (or the person's ancestor) has had possession of the land. So, in distributing initial possession of natural resources, liberal egalitarians generally have far less to fear in terms of respecting morally relevant factors such as identity when compared with distributing claims to other resources, such as natural talents.

The final central reason for treating natural resources separately from other resources has to do with considerations of economic liberty. It is of course true that distributing claims to natural talents and the products of some forms of effort violates negative liberty (in the classical liberal understanding of the concept) since it involves taking away some of the product of a person's labor. Liberal egalitarians are well aware of this conflict, but generally give their principle regarding equalizing morally arbitrary differences precedence in the economic sphere over considerations of negative liberty in the classical liberal and libertarian senses. Nonetheless, most liberal egalitarians remain

²⁰⁹ Beitz, *Political Theory and International Relations*, 139.

committed to *certain basic* negative liberties in the economic sphere such as freedom of occupation.²¹⁰ Yet equalizing morally arbitrary inequalities in natural talents can conflict even with these most basic economic liberties.

In his discussion of the “slavery of the talented,” Dworkin demonstrates an awareness of this potential conflict. If the talented are forced to pay high compensation to the untalented, they might be economically compelled to take jobs they would not have otherwise taken in order to make this compensation payment. Calling this problem “enslavement” is a quite dramatic,²¹¹ but it is nonetheless clear that the schemes for distributing the products of talents can undermine the freedom of occupation that the talented would otherwise enjoy.

Although Dworkin is determined to exclude this outcome,²¹² after developing his insurance scheme, he recognizes that there is still an “anomalous” possibility that some of the talented will lack this freedom of occupation. Although Dworkin does not spend much time exploring this problem, he does suggest that it provides a second justification (in addition to the epistemic problems) for using actual earnings instead of potential earnings as the basis of the insurance premium redistribution scheme.²¹³ In considering a similar problem, Rawls rejects a head tax which he admits would equalize in a

²¹⁰ See for example the idea of freedom of occupation embodied in Rawls’s rejection of a certain type of talent tax. John Rawls, *Justice as Fairness : A Restatement* (Cambridge, MA: Harvard University Press, 2001), 157-58.

²¹¹ Only in the most extreme cases, where a person needs to work more than full-time with a incredibly limited choice of jobs that she dislikes, would this problem approach the idea of enslavement. Also, surely we would want to know the consequences of failing to make payments before resorting to such extreme terms.

²¹² Dworkin rules it out immediately, stating “We cannot permit this [slavery of the talented]” even before “pausing to ask what grounds we have for barring it.” Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 90.

²¹³ *Ibid.*, 99. There are deep and interesting problems the liberal egalitarian commitment to freedom of occupation which unfortunately are beyond the scope of this work.

comprehensive way differences in natural talents, on the grounds that it violates freedom of occupation.²¹⁴

Distributing claims to natural resources does not violate negative economic liberties in the same way as distributing the products of natural talents might. In Chapter Two I argued that the distribution of claims to purely natural resources did not require violating any person's negative economic liberties. If that argument is right, then a liberal egalitarian concern for certain basic negative economic liberties is another reason why natural resources should be easier to distribute for liberal egalitarians compared with other types of undeserved resources such as the products of natural talents.

The absence of these constraints suggests that the appropriate distribution of natural resources may well be accomplished in a way that is more precise, efficient, and comprehensive than the distribution of resources generated by natural talents. This is exactly the outcome in Dworkin's theory. The equal income auction scheme used to distribute natural resources achieves a more fundamental equality (i.e. a distribution where no one envies anyone else's share) than the hypothetical insurance scheme used to equalize differences in talents. Although epistemic problems, efficiency concerns, connection of talents to morally relevant personal attributes, and constraints of basic economic liberties are the reasons for this difference in Dworkin's argument, Dworkin surprisingly seems to minimize the role of these reasons in ultimately defending the shortcomings in the equality generated by the insurance scheme relative to the equality generated by the auction.²¹⁵ Nevertheless, Dworkin does consider natural resources

²¹⁴ Rawls, *Justice as Fairness : A Restatement*, 157-58.

²¹⁵ In considering the complaint that his scheme does not produce enough equality, Dworkin responds (in a vague way) that any other system would "wreak wholesale and dramatic changes on the position of others"

separately from other undeserved resources, not because they are fundamentally different from a moral point of view, but rather because the distribution of natural resources faces far fewer moral and practical constraints.

3.3.3 RESPONDING TO OBJECTIONS TO SEPARATION

There are, admittedly, important objections to treating natural resources separately. The first is added theoretical complexity. Treating natural resources separately requires developing a separate account of how natural resource claims ought to be respected. The second is potential moral confusion. Treating natural resources separately might give individuals the impression that natural resources are somehow “more undeserved” than, say, the products of natural talents. Given the intuitive pull of the self-ownership idea, this is a dangerous impression for liberal egalitarians to cultivate.

However, I think the reasons described above for making the separation are strong enough to overcome these objections. It may well be that respecting natural resource claims requires adding complexity to current liberal egalitarian theories of distributive justice. But if the payoff is a more accurate accounting of who has claims to what resources and a more precise and efficient way of respecting these claims, then the added theoretical complexity seems to be a small price to pay. In addition, the reasons given above clarify why natural resources should be treated separately in a way that does not

and that these changes would in fact would violate the requirement that differences in wealth be ambition sensitive. Dworkin is unclear at this point on *why* this would be the case. The reasons presumably include epistemic difficulties and the connections between talents and ambitions, personality, identity, and conception of the good that he pointed out earlier. In addition, Dworkin does not mention the efficiency considerations and the constraints imposed by respecting the freedom of occupation of the talented that are implicitly appealed to in his argument. Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 104-05. A far clearer, more powerful Dworkinian response would be to argue that all these difficulties preclude a more egalitarian scheme in the case of talents compared to the case of natural resources.

have to do with them being more or less “undeserved” than other types of undeserved resources.

There is, however, a third, more powerful objection to treating purely natural resources separately: namely, it is difficult to isolate them from other resources. Liberal egalitarians who endorse the holistic view need only distinguish between resources that are created as a result of choices for which individuals can be held morally responsible on the one hand and all other resources on the other. To consider how claims to purely natural resources ought to be respected, one would need to further isolate purely natural resources from other undeserved resources. This would require first, developing an account of how this isolation should be carried out in theory. Second, it would require actually isolating purely natural resources in practice, which might be quite costly, difficult, and error-prone.

If we consider liberal egalitarians who are willing to generally distinguish between undeserved and deserved resources, this objection does not seem particularly powerful. Such liberal egalitarians clearly need to solve the theoretical problem of distinguishing the fair value of contributions of different factors in order to properly separate undeserved resources (e.g. those generated by natural talents) from deserved resources (e.g. those generated by certain types of effort). While liberal egalitarians have not sufficiently considered nor solved this problem, they can hardly object to treating purely natural resources separately on the grounds of not having a theoretical account that they themselves also need.²¹⁶

²¹⁶ Admittedly, some liberal egalitarians might follow Rawls’s approach in a *Theory of Justice* and view all resources (including those generated by all types of effort) as undeserved due to the theoretical and difficulties associated with the separation problem. However, this position has come under increasing

In terms of carrying out isolating purely natural resources in practice, as I argued above, the problem of isolating purely natural resources seems much simpler than the problem, say, of isolating the resource generated by natural talents from the resources generated by effort. Again, it is important to remember that at this point, we are considering *the initial* distribution of natural resources, before they have been physically transformed by labor. Although we still need a theory to determine the value added by agents such as discoverers and inventors, once a theoretical account of fair value determination has been provided, it does not seem that it would be particularly difficult to provide these other actors the compensation they are rightly due. A full discussion of the practical costs of isolating purely natural resources will have to wait until a future chapter. But given the benefits of treating natural resources separately discussed above, it seems implausible at this point to simply assume without further consideration that such a separation will be too costly to carry out.

But some liberal egalitarians, such as Rawls, refuse to distinguish even between undeserved and deserved resources on the ground that such a distinction is too difficult to make in practice. Rawls and those who take the difference principle seriously instead treat all resources, including those that are the product of morally relevant effort, as though they were undeserved. Such liberals may well insist that the distinction between purely natural resources and other resources should not be made.

Although it may be difficult to convince these liberal egalitarians to treat natural resources separately, they constitute only a small minority of liberal egalitarian and, more importantly, their approach of avoiding the separation problem seems implausible. Even

criticism from both the right and the left. See Nozick, *Anarchy, State, and Utopia*, 214. Also see G. A. Cohen, "On the Currency of Egalitarian Justice," *Ethics* (1989): 912-16.

if it *turns out* that we can safely ignore this distinction, it seems implausible to simply *assume* we can safely do so without first having some rough idea of what *proportion* of resources should rightly be seen as having been generated by morally relevant effort. Without such an account, we can have little idea of the moral costs of ignoring this distinction. So at the very least, it seems that even Rawlsian liberal egalitarians cannot avoid developing a theory for distinguishing the value contributions of different inputs, if only to be able to safely conclude that no distinction between deserved and undeserved resources needs to be made in practice. But once such a theory is developed, one of the main obstacles to treating natural resources separately disappears.

Note that there is no need for Rawlsians to take an all or nothing approach to distinguishing between different resources. No doubt, disentangling morally relevant effort from other types of effort and talents is a very challenging undertaking. But Rawlsian liberal egalitarians might well find that given the need to keep track of claims in a world with multiple schemes of social cooperation and given the potential for a more accurate, comprehensive, and efficient system of distributing natural resource claims when compared with other resources, the natural resource/other resource distinction is one worth making *even if* the talent/effort distinction is not.

3.4 The Arguments for the Equal Claims View

A commitment to treating natural resources separately, however, does not imply a commitment to distributing natural resource claims equally. One could think that natural resources are rightly claimed by a different set of people than socially created resources yet nonetheless distribute natural resource claims in order to compensate for inequalities

that occur *within* particular schemes of social cooperation. And simply because one is committed to developing a different system for respecting natural resource claims does not mean that this system cannot be used to distribute these claims to compensate for other inequalities.

In fact, there are good reasons to think that natural resource claims should be distributed unequally. Since natural resources can be distributed with fewer practical and moral constraints, it seems as though they should, as far as possible, be distributed to compensate for general undeserved inequalities *before* other resources are distributed. So for example, more equality at a lower cost might be achievable in Dworkin's distributive system by lowering the income tax a highly talented person must pay and instead provide her with fewer clamshells in the natural resource auction. By keeping the auction and hypothetical insurance scheme separate, Dworkin effectively endorses the equality of natural resource claims. But he does not provide a reason for *why* natural resource claims should not be distributed unequally to correct for other unjustified inequalities, such as those resulting from inequality in talents.

I argue that there are at least three reasons for liberal egalitarians to treat natural resource claims equally. One reason may be a kind of commensurability problem. It might be that equal claims to other undeserved resources ought to be respected in a way that is drastically different from the way that claims to natural resources ought to be respected. If so, it may not be straightforward to figure out what kind of natural resource property right distribution would appropriately compensate for an inequality in these other undeserved resources. This may be the implicit reason that Dworkin does not combine the auction and insurance scheme. It may simply not be so straightforward to

figure out how many clamshells ought to be taken away from someone whose income tax is reduced by a certain amount. The practical and theoretical problems that would need to be overcome to implement the right kind of cross-resource redistributions may justify settling for a simpler (though non-optimal) overall distributive system; one in which natural resource claims are equalized and, separately, claims to other undeserved resources are equalized.

A second reason why liberal egalitarians might endorse the equal claim view is that they might think that the natural resource distinction is the only one that can be made in practice, and in the absence of the ability to distinguish, all resources should be treated as deserved. They might agree with Rawls that *in principle* claims to other undeserved resources should be equalized but that it is too costly to do so in practice. Rawls argues that since it is too costly to separate undeserved from deserved resources, we should treat all resources as undeserved. It is not implausible to hold instead that due to the difficulty of making this distinction, all resources except for the natural resources should be viewed as deserved. A liberal egalitarian who agreed with this argument could endorse the equality of natural resource claims since natural resources would be the only resources she would effectively treat as undeserved.

Of course, liberal egalitarians are well aware of the difficulties of separating undeserved from deserved resources and few have opted to eliminate the distinction.²¹⁷ But in weighing these difficulties, some liberal egalitarians may be implicitly comparing the problems, costs, and potential errors of making the undeserved/deserved distinction to the dangers of a right-libertarian laissez faire distribution. If instead they consider a

²¹⁷ It could be argued that Friedrich Hayek takes something like this line. See Friedrich A. Hayek, *The Constitution of Liberty* (Chicago: University of Chicago Press, 1960), 85-102.

distribution where at least equal natural resources claims are respected, they might discover that, since the most drastic consequences of inequality have been eliminated, it is no longer attractive try to make the difficult talent/effort distinction. In other words, a world with equal claims to natural resources is good enough and is the best we can do given current epistemic and technological limitations.

But even if liberal egalitarians reject this idea that equalizing natural resource claims should be *the only* practical egalitarian step, they may well agree that equalizing claims to natural resources *is a good first step* for addressing some of the world's most pressing economic inequalities. Given the widespread agreement among a variety of theoretical traditions that equalizing these claims would be a good first step, this might also be the most feasible way to make much-needed progress towards implementing the liberal egalitarian ideal.²¹⁸ This pragmatic argument is, I believe, the most powerful argument for liberal egalitarians to take the equal claims view seriously.

Admittedly, achieving equality of natural resource claims need not be, on the liberal egalitarian view, a good first step *in all possible worlds*. To take an extreme example, we might live in a world where the one thing that the (unjustifiably) worst off group has is a disproportionate share of natural resources. In this case, equalizing natural resource claims would actually be a step backwards for liberal egalitarian distributive justice. But looking at the world we live in, natural resources are most often owned by individuals who are already unjustly advantaged in other ways. If so, then liberal egalitarians may well agree, as a pragmatic first step, to support the project of equalizing natural resource claims.

²¹⁸ This consensus includes both other liberals as well as non-liberal thinkers. See the Introduction of this work for further discussion.

Equalizing natural resource claims is not only a good first step. It is also a desperately needed step. Receiving an equal claim to natural resources is literally a matter of life and death for millions of poor individuals around the world. As I argue in Chapter Ten it can also help achieve the goals of environmental protection and global conflict reduction. So there is a special moral urgency for moving beyond the abstract debates and towards implementation of equality of natural resource claims.

Of course, there are many inequalities in the world and correcting any one of might address the most pressing problems of poverty. The reason for focusing on natural resources is that a wide variety of theoretical traditions besides liberal egalitarianism support the idea that achieving equality of resource claims is at least a good first step. As I argued in Chapter Two, the equality of purely natural resource claims is implied by the general libertarian theoretical commitments. Economists can rally behind this idea as a relatively efficient method of redistribution. Marxists can rally behind equality of natural resource claims as a way to reduce the opportunities for the exploitation of the poor.²¹⁹ It is not inconceivable to think that such a wide base of theoretical support might well translate into political support. With a theoretical consensus on the proposition that claims to natural resources ought to be equalized, political philosophers can, with the help of social scientists, move beyond the most abstract theoretical debates to considering questions of *how* equal natural resource claims ought to be respected, and from there to concrete public policy proposals.

Liberal egalitarians might raise three objections to this pragmatic argument. First, there is always the danger that once the most serious moral problems are addressed, the drive to address other inequalities that liberal egalitarians view as unjust will be lessened.

²¹⁹ See section I.5 of the Introduction.

But a reduction in egalitarian drive need not be the outcome. It is also possible that success in achieving one kind of equality will provide encouragement for other egalitarian efforts. And even if not, it would be morally irresponsible to hold those who could benefit from having equal natural resource claims now hostage to some promise of greater future equality given the magnitude of moral cost of the current unequal distribution of natural resource property rights.

A second objection is that once equality of natural resource claims is achieved, certain expectations will arise that make taking the next liberal egalitarian step much more difficult. But even if equal natural resource claims become completely entrenched through the formation of expectations, other redistributive mechanisms exist for correcting inequalities. It is again hard to believe that cost of losing the option of unequally distributing natural resource claims in the future comes near the cost of not equalizing natural resource claims now.

The third objection is that the strength of this kind of pragmatic argument cannot be evaluated at this point. It can only be evaluated once we know how exactly equal natural resource claims ought to be respected in theory and how to apply the theory in practice. This is fair enough. In the final chapter of this work, after considering many of these issues, I revisit the question of whether equalizing natural resource claims is in fact a good first step for liberal egalitarians and conclude that it is. At this point, however, at the very least the pragmatic argument points to a need for liberal egalitarians to explore the implications of the equal claims view further.²²⁰

²²⁰ A liberal egalitarian might also be interested in exploring the implications of the equality of natural resource claims because this can serve as a model for how equal claims to resources should be respected more generally. Since there are relatively few moral and practical constraints when distributing natural resources, they represent in some sense an “easy case” which can then be modified to think about the

Conclusion

In this chapter, I made the case that liberal egalitarians have reasons to both consider natural resources separately from other resources and to at least provisionally endorse the equality of natural resources claims. I began by arguing that although purely natural resources are not the product of social cooperation, their allocation does raise questions of distributive justice. While it is true that but for social cooperation, natural resources would be far less valuable than they are in modern societies, we cannot conclude from this that the distribution of purely natural resources can be rightly ignored without relying on an implausible theory of value. Intuitively, the distribution of resources is simply too important and contentious for this to be plausible.

Next, I argued that natural resources are properly seen as a subset of undeserved resources. Since purely natural resources are not generated as a result of anyone's choices, they are rightly seen as undeserved. But there are other resources (e.g. those generated as a result of individuals' natural talents) which are also undeserved in this sense.

I described three approaches that liberal egalitarians can take to dealing with natural resource claims. First, they could treat claims to undeserved resources (including natural resources) holistically. Second, they could treat natural resource claims separately but allow for an unequal distribution of these claims. Third, they could treat natural resource claims separately and insist on the equality of these claims (i.e. the equal claims view.)

proper way to achieve equality of claims of other resources. This may be to be the reason that Dworkin starts his chapter on equality of resources by thinking on how equality of natural resource claims should work.

I then gave several arguments against the holistic view. First, since natural resources are not generated by any particular scheme of social cooperation, the set of individuals who have claims to natural resources might be different than the set who have claims to socially created wealth (especially when consider the international and multigenerational cases). Second, it might also be the case that whether a resource is generated through social cooperation makes a normative difference in how claims to it should be respected. Finally, distributing claims to natural resources is an endeavor that faces far fewer constraints and difficulties (e.g. epistemic, efficiency-based, identity-based, liberty-based) relative to distributing claims to other resources. If so, a more accurate, efficient, and comprehensive method of respecting equal claims to natural resources may well be possible.

Finally, I argued that liberal egalitarians also have reasons to endorse the equality of natural resource claims. First, it may be that the costs of combining different schemes for respecting claims to different resources may be so high that it is better to simply equalize natural resource claims and then, separately, to equalize claims to other undeserved resources. Second, it may be that because distinctions such as the talent versus effort are simply too difficult to make, all resources except for natural resources ought to be viewed as deserved. If so, then a commitment to equality of undeserved resources claims would coincide with a commitment to equality of natural resource claims. Finally, liberal egalitarians can rightly view achieving equality of natural resource claims as a good first step; one that is desperately needed given the moral cost of current inequalities and one which is potentially more feasible given the broader consensus regarding the equality of natural resource claims.

If these arguments are right, then liberal egalitarians can, at least provisionally, join libertarians in endorsing the equal claims view. But equality of natural resource claims is a very general, abstract position. The question to which I turn next is determining *how* exactly natural resource claims ought to be respected.

Rejecting Alternatives to Equal Division

In previous two chapters I presented both a libertarian and an egalitarian liberal argument for proposition that people have equal claims to purely natural resources.²²¹ The equal claims view, however, is a very abstract and general theoretical position. As I argued in the Introduction, different thinkers have very different ideas about the proper way to respect people's equal claims to purely natural resources. That is, they have different *conceptions* of the equal claims view. These differing conceptions can lead to drastically different natural resource property rights regimes. In this chapter I take up the crucial issue of determining the right conception of the equal claims view.

In order to evaluate conceptions of the equal claims view I develop three criteria: First, the conception should not lead to an unjustifiably unequal or wholly exclusionary distribution of natural resources. Second, it should maintain equality of natural resource claims over time. Third, it should not generate an unnecessary loss of resources.

I divide the conceptions of the equal claims view that I evaluate using these criteria fall into five general categories. The first category is *Collective Ownership*. Collective Ownership conceptions respect people's equal claims by giving each person

²²¹ I defined purely natural resources as the hypothetical natural resources that would remain after all agents who have labor-based claims to these resources (e.g. discoverers) have been appropriately compensated with a portion of the resources. For a discussion of purely natural resources, see Section 1.4

an equal voice in some collective decision-making process regarding natural resource use. The second category is what I call *First Possession Appropriation*. These conceptions grant ownership of natural resources to the first person who takes hold of them in some relevant way. The third category is *Common Access*. Conceptions in this category grant every individual some right to freely use (but not permanently appropriate) natural resources. The fourth category is *Harmless Appropriation*. Conceptions in this category respect people's natural resource claims by ensuring that they remain unharmed (in some way) by the natural resource appropriations of others. The final category is *Equal Division*. Equal Division conceptions grant each individual ownership over some portion of natural resources or natural resource wealth; a portion which is equal in some appropriate way.

My goal in this chapter is to demonstrate the shortcomings of conceptions that lie in the Collective Ownership, First Possession Appropriation, Common Access, and Harmless Appropriation categories. I argue that each of these types of conceptions of the equal claims view fails to meet the three criteria. In future chapters, I take up the defense of Equal Division first in a simple world and then in an increasingly complex one.

4.1 Two Preliminary Clarifications

Before turning to the main arguments, two clarifications are necessary. First, in this chapter I am evaluating conceptions of *updated* equal claims view; that is, I am interested in how individuals' equal claims to *purely* natural resources ought to be respected. However, many of the thinkers whose conceptions I evaluate do not recognize the distinction I have drawn between natural resources and purely natural resources. In

order to avoid confusion when switching back and forth from the particular thinker's arguments to my own, I will generally not include the 'purely' modifier. However, all the arguments I make should be seen as applying to people's claims to *purely* natural resources.

Second, it is certainly possible that people's claims to *different types* of natural resources are best respected in different ways. Hobbes, for one, seems to think this is the case.²²² While I usually refer to natural resources generally in this chapter, the type of resource that I specifically have in mind is arable land. (This is the kind of natural resource that many of the thinkers whose equal conceptions I evaluate here have in mind as well). In future chapters, I will consider claims to other types of resources including non-renewable resources (such as oil), natural resources which have the characteristics of public goods (e.g. the air, the Grand Canyon), animals, and residential land. Respecting people's equal claims to each of these types of resources raises a unique set of problems; problems that I set aside in this chapter by beginning with the simpler question of how to best respect people's equal claims to arable land.

4.2 Criteria for Evaluating Equal Claims Conceptions

In order to evaluate different conceptions of the equal claims view, we first need some generally plausible criteria for doing so. Unfortunately, while many thinkers have presented conceptions of the equal claims view, precious little has been said about what criteria could be used to judge among these alternative conceptions. I introduce and defend three criteria in this section: *distributional equality*, *dynamic equality*, and

²²² See the 12th through 14th Laws of Nature. Hobbes, "Leviathan," 108.

efficiency. I argue in this section that these are criteria that any desirable conception of the equal claims view ought to meet.

4.2.1 DISTRIBUTIONAL EQUALITY

The first criterion has to do with the equality of the distribution of rights to natural resources under some stable initial set of natural and social circumstances.²²³ It includes two conditions: The first condition is that the distribution of natural resource rights should not generate unjustified inequality. The second condition is that the distribution of natural resource rights must not be exclusionary.

The first condition is that any inequalities in the rights that individuals have to natural resources ought to be justifiable. The reasons for insisting that the right conception of the equal claims view should meet this condition are obvious. If people have equal claims to natural resources, then the rights to natural resources they are granted ought to be equal as well. If conception permits some inequality in these rights, it ought to at least be able to provide a sufficient justification for it. While the reasons behind the inclusion of this condition are straightforward, it is necessary to say a few words about what counts as an inequality and what counts as sufficient justification.

It might seem tempting to specify what exactly *ought to* counts as an “inequality.” However, doing so would be begging the question. It would require *implicitly* defining what ought to count as “equality” of natural resource rights, which is exactly the goal of this inquiry. Rather than providing a normative definition of inequality here, I argue that the right conception of the equal claims view ought to be able to justify every difference

²²³ This criterion is not concerned with how equality in natural resources claims can continue to be respected over time as social and natural conditions change and as new members enter society. These issues fall under the second criterion.

in individuals' natural resource rights that it generates. Some of these differences may not be normatively problematic.²²⁴ However, even the right conception of the equal claims view it will unavoidably generate a variety of inequalities that raise legitimate normative concerns. After all, no conception can achieve equality of rights in *every* normatively desirable way. The inequalities that a conception generates must be justified rather than being defined as somehow not constituting genuine inequalities.²²⁵

The second question is what ought to count as a sufficient justification. Care must be taken so that the specification of justification does not beg the question by ruling out certain valid reasons that are friendly to a certain type of conception but not to others. But care must also be taken that "sufficient justification" is not specified in a way that is too weak. After all, most proponents of conceptions of the equal claims view, could, if pressed, provide *some* reasons for the inequalities that their conceptions generate. Ruling out the implausible reasons requires an account of what counts as *sufficient* justification.

A justification of inequality can fail to be sufficient in several ways. First, it could fail in the variety of ways that reasons fail to be convincing in general (irrelevancy, being based on factual error, begging the question, etc.). Second, for the purposes of this work, a justification fails to be sufficient if it conflicts with the three central liberal theoretical commitments (i.e. equal concern, liberal neutrality, and negative liberty).²²⁶

²²⁴ If so, the absence of a normative problem can serve as a justification for the existence of the difference in question.

²²⁵ For example, one way of justifying the existence of certain types of inequalities is to argue for the normative superiority of other types of equality that the conception does achieve while pointing out that the types of equality in question are mutually exclusive.

²²⁶ For a discussion, see I.1. Again, I take the validity of these central liberal commitments as given for the purposes of this work. In addition, since the conceptions I consider are put forward by liberals who generally endorse these three commitments, a justification that violated these three commitments would raise internal consistency problems for these thinkers.

Finally, one cannot sufficiently justify one type of inequality in natural resource rights *simply* by arguing that it is the result of a system that prevented a different type of inequality in natural resource rights. One would need to argue either that correcting the existing inequality is not normatively desirable or that correcting the existing inequality would somehow generate a different type of inequality or another undesirable consequence.

Some inequalities, however, are so severe that no reason seems sufficiently strong to justify them in the context of respecting people's equal claims to natural resources. The second condition of distributional equality is the *non-exclusionary condition*, which aims to capture this intuition. If some conception does not provide an individual with *any* rights whatsoever to natural resources (while other individuals receive such rights),²²⁷ then it seems implausible to hold that this conception has respected that individual's equal claim to natural resources. While proponents of such a conception might be able to provide reasons to this individual for why she is receiving no natural resource rights (reasons that for run-of-the-mill inequalities would meet the sufficiency requirement), this individual may justifiably see herself as the victim of some complicated sophistry. Her equal claim to natural resources is affirmed, yet the conception that supposedly best respects her claim to natural resources grants her no rights to natural resources whatsoever.

The situation where some person receives no rights to any natural resource (while others do) is a clear case of exclusion. But the non-exclusionary condition may still be violated even in cases where all individuals receive *some* rights to *some* natural resources.

²²⁷ If *no one* receives any rights to natural resources (e.g. perhaps because there are no natural resources to be distributed) then an individual's not receiving any rights to these resources is not exclusionary.

For example, if a person is given full rights only to some natural resource that is useless (e.g. barren wasteland) this outcome still seems exclusionary. In addition, a conception that gives every person some *partial* bundle of rights over useful natural resources also seems exclusionary if the bundle some person receives does not include the right to make some *actual use* of a resource.²²⁸ So the non-exclusionary condition seems to be violated whenever someone is denied the rights to use at least some valuable natural resource.

It is unclear, however, what is meant by valuable here. One possibility is to ask whether the resource has a market value. But a resource may lack a market value and still be useful to the person. For example, even though no one else values a particular acre of desert land and such desert land is plentiful (and thus has no market value), some person may still find owning this land to be desirable. A conception that granted this person ownership of the desert land that she values does not seem to be exclusionary. Conversely, it seems that someone can receive a resource with a market value and still be excluded (i.e. if she personally has no use for it). While it is true that the individual could sell the resource, if she has no use for wealth either, the resource might still fail to be useful for her. Intuitively, what seems to be important for the exclusionary condition is whether the individual receives rights to make use of a resource that *she considers* to be valuable.

But relying on individuals' own valuations opens up the possibility of people having "greedy" or otherwise "unreasonable" preferences that cannot be satisfied by *any* distribution of natural resources. Imagine an individual (call him Depressive) who places no value on *any* natural resources. In this case, it seems that plausible to say that it is

²²⁸ An individual might for example be given (along with one million other individuals) nothing more than the right to vote over how one particular natural resource is to be used. It is clearly possible that ultimately this right would not translate into a valuable ability to make use of the resource.

Depressive's preferences rather than the natural resource distribution which is responsible for him being unable to make use of whatever natural resource rights he is granted. For a more problematic example, consider someone (call him Greedy) who only values the bundle of natural resource rights that includes ownership of *every* natural resource in the world. Giving Greedy full ownership of all the world's resources would clearly be incompatible with respecting the equal natural resource claims of others, and like the case of Depressive, does not seem exclusionary.

So we need a way of allowing an individual's valuation of natural resources to count while not holding Depressive and Greedy to be excluded. It would be helpful to understand better why Depressive and Greedy's complaints of being victims or extreme inequality through exclusion are implausible. The reason seems to be that they would not be satisfied even if they received the rights that are granted to other individuals. So we could hold that a conception is exclusionary if and only if:

- 1) It fails to give some person rights to make use of some natural resource that she considers to be valuable *and*
- 2) It is the case that the bundle of rights that *someone else* is granted includes a right to make use of a resource that the person considers to be valuable.

This formulation counts the barren wasteland and the partial (but ultimately useless) rights example as exclusionary while not counting the Depressive and Greedy as being excluded, and thus seems plausible. Note that it is not necessary to show that a conception *must necessarily* lead to someone being excluded. The non-exclusionary condition is violated as long as a conception can lead to some person's exclusion in *some* cases.

4.2.2 DYNAMIC EQUALITY

The second criterion involves maintaining equality of claims among individuals *over time*. It too can be separated into two conditions. The first condition is that holding the membership in society fixed, the claims of individuals to purely natural resources should remain equal over time even as natural, social, and technological conditions change. It is unclear why people should only have an equal claim to purely natural resources at some particular date or under a particular set of circumstances. After all, given the definition of purely natural resources, no person is entitled to any increase in the purely natural value of natural resources that occurs over time. For example, if some natural disaster occurs (e.g. a volcanic eruption) that creates a new natural resource or diminishes the purely natural value of an existing resource, other things equal, it would seem desirable that people's claims to purely natural resources continue to remain equal.

The second condition of this criterion is that individuals entering society ought to enjoy claims to purely natural resources that are equal to those of their contemporaries. The fact that a person (call her Current) has a progenitor (call him Ancestor) that had claims to purely natural resources that were equal to Ancestor's contemporaries does not seem to be a sufficient reason for denying Current her equal claims. After all, the basis for Current's equal claim to purely natural resources is the equal concern owed to Current. Since the contemporaries of Ancestor are not responsible for change in the value of the purely natural resources, their actions do not seem to provide reason for why Current should have a claim to purely natural resources that is weaker than those of Current's contemporaries.²²⁹

²²⁹ For a discussion of the issue of equality over time, see Ackerman, *Social Justice in the Liberal State*, 109-11.

Note that equality among contemporaries is a relatively modest proposition. I am making no explicit claims here about the equality that should be maintained among members of distant generations. In Chapter Eight I defend both this modest proposition as well as the more controversial proposition that distant future people have claims to natural resources that are equal to those of currently alive individuals.

4.2.3 EFFICIENCY

The third criterion is *efficiency*. The efficiency criterion is concerned with the resources costs generated by various conceptions in their efforts to achieve equality of claims.²³⁰ I argue that avoiding the loss of resources is an important concern that should be used in evaluating conceptions of the equal claims view.

It might at first seem puzzling that efficiency should be a consideration for determining the right way of respecting people's *equal* claims to natural resources. Upon reflection however, it seems that when we affirm that people have an equal claim to a resource, we really affirm two separate propositions:

- 1) People have a claim to the maximum amount of purely natural resources possible, given that:
- 2) No person has a claim to purely natural resources that is any greater than that of anyone else.²³¹

To see why 2) is insufficient, consider a conception of the equal claims view that mandated the destruction of all natural resources. Giving no person any natural resource rights would not exclude any particular person nor would it generate any inequalities. In

²³⁰ Note that I am not using efficiency in the narrow Pareto sense. I am also *not* using efficiency to indicate the *ratio* of costs to produced equality. Efficiency here instead measures the absolute costliness in terms of resources of implementing a particular conception of the equal claims view.

²³¹ This idea is developed in Joseph Raz, *The Morality of Freedom* (New York: Clarendon Press 1986), 230.

addition, the equality of natural resource rights would be maintained over time. Such a conception thus (technically at least) respects both the distributional equality and dynamic equality criteria. Yet destroying all purely natural resources hardly seems like the best way to respect people's equal claims to purely natural resources. Clearly, the *amount* of resources which a particular conception of the equal claims view grants individuals is normatively relevant, not just how equally the rights to those resources are distributed.

The reason has to do with the ideal of equal concern that constitutes the foundation for the equal claims view. It is not only the case that resources are important for the life of the individual, but it is also the case that more resources (other things being equal) generally allow an individual to better fulfill her life plan.²³² The concern for the life of each individual thus generates a kind of presumption that resources should not be sacrificed without good reason. A conception of the equal claims view that leads to lost resources treats individuals with less concern, *other things equal*, than one in which no such loss is occurring.

While achieving equality of natural resource claims at a lower cost seems clearly desirable, a more controversial question is whether efficiency concerns should *be traded off* against equality concerns in determining the right conception of the equal claims view. It seems implausible to hold that equality should be given a fully lexicographic preference over cost considerations. After all, no matter how perfectly a government implements a particular conception of the equal claims view, it will not produce as much equality as simply destroying all natural resources will. The exact nature of this tradeoff

²³² Beyond a certain point, certain thinkers might argue that more resources may be bad for individuals. Liberals, however, generally do not endorse such quasi-paternalistic concerns which are based on the assumption that individuals cannot make intelligent choices with their resources.

need not concern us here. The important point is that the efficiency criterion seems to be more than simply a tiebreaker to be used once the other criteria are met.²³³

There are several ways for a conception to be costly in terms of resources besides blatantly requiring the destruction of natural resources.²³⁴ One of the more obvious ways is by limiting the property rights individuals can have in natural resources. These property right restrictions often lead individuals have less incentive to develop certain natural resources in particular ways, and this can significantly reduce the value of these natural resources.²³⁵

A conception of the equal claims view can also be costly in terms of non-natural resources. Certain property rights regimes can be quite expensive to implement, administer, and enforce. In addition, a conception can lead to lost resources by requiring individuals to engage in costly and unproductive actions in order to obtain natural resource rights.²³⁶

Certain conceptions also lead to lost resources by being Pareto inefficient; that is, by leaving mutually beneficial resource trades unrealized. For example, a conception might allocate to each of two individuals natural resource rights that the other prefers. Alternatively, it might allocate to an individual natural resource rights that someone else

²³³ An implication of this potential tradeoff is that it is important to evaluate the efficiency of even those conceptions that create problematic inequalities since if their efficiency might balance out the inequalities they create.

²³⁴ The list provided here is not meant to be exhaustive

²³⁵ So for example, if people are forbidden from owning land, many of the land improvements that individuals routinely make in a society with strong property rights would not be undertaken and so many of the useful activities that require these improvements would not be possible. The effects would be similar to those that would occur if the government had somehow destroyed the land's capacity to be used for these activities.

²³⁶ Imagine if we allocated resources according to who can dig the largest hole. Besides all the other problems, such a conception would also lead individuals to spend time digging a large number of costly and useless holes.

would be willing to buy from her after the allocation is complete. Of course, in most situations such Pareto inefficiencies would be corrected through trade. The problem is that the transaction costs associated with these trades can be significant. In addition, a variety of market imperfections might prevent many of these trades from taking place.

It is worth emphasizing that having high resource costs does not constitute a decisive criticism against a particular conception. After all, implementing any natural resource property rights regime that respects people's equal claims will entail *some* economic costs.²³⁷ In addition, the costs a particular conception generates might constitute the only way to achieve a certain kind of very desirable equality. However, the existence of high costs does raise the possibility that some other conception may be able to achieve a similarly desirable level of equality of claims without the loss of so many resources.²³⁸ Such a conception would clearly be preferable.

4.3 The Problems with Collective Ownership

With these three criteria in mind, it is possible now to begin considering the different conceptions of the equal claims view. I begin with Collective Ownership conceptions. These conceptions respect individuals' equal claims by giving each person

²³⁷ In fact, there is an interesting and subtle economic cost that all conceptions of the equal claims view generate. If we were interested in maximizing the value of natural resources, it is highly unlikely that we would give individuals besides those who directly affect natural resource value *any* rights to purely natural resources. The reason is that the actions of agents such as discoverers, inventors, developers etc. have a positive effect on purely natural resource value (I have argued that they cannot be fairly assessed as having generated the entire increase in value that their actions lead to). By giving these value-generating agents (as opposed to individuals generally) full ownership of the purely natural resource value as well as rights to the portion of value they can fairly assessed as generating, we would, under certain conditions, in effect be "internalizing" this positive externality and thus we may generate a net increase in the value of natural resources as a whole.

²³⁸ Alternatively, inefficiency raises the possibility that another conception might exist that has a better combination of efficiency and equality than the one in question.

an equal voice in some collective decision-making process regarding natural resources. I look at two different Collective Ownership conceptions. The first is *Joint Ownership*, which grants each person an equal veto over any use of natural resources. The second is *Democratic Ownership*, which grants each person an equal vote regarding how the natural resources ought to be used.

I argue that there are several problems with Collective Ownership conceptions in general. Such conceptions can easily result in outcomes where certain individuals receive no rights whatsoever to use natural resources. These conceptions can lead to enormous resource costs, both in terms of the cost of decision-making as well as in terms of the unproductive uses of natural resources.

4.3.1 JOINT OWNERSHIP

The first Collective Ownership conception I evaluate is Joint Ownership. Under this conception, each person has a veto power over any use of natural resources.²³⁹ This is the least plausible of all the conceptions of the equal claims view. However, since Steiner supports such a conception in an early work,²⁴⁰ Locke frames his discussion of natural resources as a response to this view, and Rousseau endorses it at least partially, it is worth exploring. At the very least it can help test the criteria developed in the previous section to see if they can eliminate this implausible conception of the equal claims view.

²³⁹ The way Joint Ownership is often interpreted is problematic because it unjustifiably privileges the status quo. An ardent conservationist could use her veto to keep all resources in their pristine condition. But this constitutes a use of the resources no less than anything else and so ought to require universal consent. A more consistent application of Joint Ownership would require that, without universal consent to a use, resources ought not to be useful to anyone.

²⁴⁰ See Hillel Steiner, "Liberty and Equality," *Political Studies* 29, no. 4 (1970). In later writings, Steiner repudiates this position and supports Equal Division instead.

At first glance, the greatest strength of granting every individual a veto over natural resource use is that it seems to ensure that each person will receive the rights to use some valuable natural resources (i.e. there will be no exclusion).²⁴¹ However, this certainly need not be the case. Imagine a person (call her Fearless) who is unafraid of death for some reason (e.g. perhaps because of some promise of an afterlife) and who can credibly convince others that she is unafraid of death. Also assume that everyone else in society would like to live. Fearless can threaten every other member of society with death by withholding her consent for the use of natural resources. If she so desired, she could ask for complete ownership of all natural resources as a condition of allowing any of them to be used.²⁴² Certainly, other people would be formally free to exercise their equal veto by withholding their consent to this regime of natural resources property rights. But only if they were willing to die in order to do so. In this example, no one except Fearless receives *any* rights to use natural resources. With proper modeling of the bargain situation, it would be easy to construct more plausible examples where at least one person receives no rights to use natural resources.

There are also very serious problems with Joint Ownership in terms of efficiency. There are enormous costs (and seemingly insurmountable logistical problems) with obtaining actual consent for each use of natural resources, and it is unclear how these can be overcome in unobjectionable ways. Problems obtaining consent and unsuccessful negotiations could also lead to a variety of resources remaining unused. Even if consent is obtained for a particular use of a resource, the costs involved with obtaining consent

²⁴¹ Kymlicka suggests that under a joint ownership scheme, the disadvantaged could argue for a distributive scheme similar to Rawls's difference principle. Kymlicka, *Contemporary Political Philosophy : An Introduction*, 121.

²⁴² In fact, she could go much further and demand that everyone be her slave.

again in order to change the use of any resource would likely lead to drastic natural resource underutilization.

Whether Joint Ownership maintains dynamic equality of claims depends on whether consent by all contemporaries justifies *permanent* ownership rights. Some versions of Joint Ownership grant such permanent property rights to anyone who obtains everyone's consent at a particular point in time.²⁴³ I call these *One-Time Consent Joint Ownership* conceptions. Others (which I call *Constant Approval Joint Ownership* conceptions) require that any person's use of a resource continue to garner approval from all relevant persons over time.

Both options are problematic. Endorsing a One-Time Consent Joint Ownership conception mitigates some of the logistical problems associated Joint Ownership (since no consent is needed from new members who enter society). But it is unclear then how the equal claims to resources of the new members are respected if their consent is no longer required for natural resource use. The Constant Approval conceptions, on the other hand, have the advantage of maintaining equality of claims over time. As circumstances change and as new people enter society, all contemporaries continue to possess their equal veto. But this requirement of constant approval only adds to the already overwhelming costs and logistical problems with Joint Ownership.

Of course, there are many other problems with Joint Ownership. As G.A. Cohen recognizes, unless a variety of other safeguards were to be introduced, giving each person an equal veto could easily lead to intuitively objectionable results such as Fearless insisting not only on full control of all natural resources but also that everyone be her

²⁴³ Locke thinks that the one-time consent between states is sufficient to legitimate each state's property rights in its lands. Locke, "Second Treatise of Government," 27-28.

slave. A misanthrope who hated herself and everyone else could, by withholding her consent, lead to the death of humanity.

So, Joint Ownership could easily lead to massive violations of substantive liberties. This is the reason that Cohen ultimately rejects Joint Ownership.²⁴⁴ However, it is important to note that these are not the only grounds for rejecting this conception of equal natural resource claims. We could introduce a variety of safeguards to protect substantive liberties. These safeguards, though, would not eliminate the problems of massive resource costs and the potential for some individuals with low bargaining power to be excluded.

DEMOCRATIC OWNERSHIP

While Joint Ownership is clearly untenable, perhaps a more reasonable method of collective decision-making can be found that is not as strong as giving each person an equal veto. One possibility is to respect equal claims by granting each person a vote in determining how natural resources are to be used. I call this type of conception *Democratic Ownership*. We might imagine that the votes are aggregated according to majority rule with every person having an equal vote. James Grunebaum endorses this way of respecting equal claims to natural resources.²⁴⁵

Although the democratic character of this idea might be appealing, insisting on Democratic Ownership as the fundamental conception of what it means to respect people's equal claim to purely natural resources may easily result in some individuals

²⁴⁴ Cohen, *Self-Ownership, Freedom, and Equality*, 98-100. Although Cohen rejects Joint Ownership, his point is that Joint Ownership leads to violations of substantive liberties, but *not* to violations of self-ownership.

²⁴⁵ James Grunebaum, "Autonomous Ownership," in *Left-Libertarianism and Its Critics : The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000).

(e.g. those in the minority) not receiving the right to use any natural resources.²⁴⁶

Interestingly, in all the examples Grunebaum gives on how people might exercise their Democratic Ownership, whether involving a collective decision to manage resources publicly or a decision to sell off the resources to private individuals and use the proceeds for collective goals, all the members of society benefit. However, this universal sharing of benefits is far from a certain outcome in a world where everyone has an equal vote.

Although society can easily maintain equality of votes over time by giving new members an equal vote, Democratic Ownership is likely to lead to be quite costly (though, admittedly not nearly as costly as Joint Ownership). The democratic process of deciding what is to be done with every resource may itself be very cumbersome. As in the case of Joint Ownership, the cumbersome nature of the collective decision-making process may lead to difficulties in altering natural resource uses in response to changing conditions, thus leading to a loss in resource productivity. Of course, people might recognize these problems and so *could* collectively choose to put the resources in private hands. But there is no guarantee that Democratic Ownership would ensure this happens. So while Democratic Ownership seems like an intuitively appealing way of respecting people's equal claims, like Joint Ownership it can generate high resource costs and exclusionary outcomes.

Now, a defender of democratic ownership could respond to these criticisms in several ways. First, she could point out that in most societies many of the natural

²⁴⁶ Of course, rejecting democratic ownership does not preclude a democratic government owning certain natural resources. The government could, for example, buy land for public purposes under a variety of alternative property rights regimes (including Equal Division.) What is precluded is the idea an individual having an equal vote in how the natural resources are collectively managed is a *sufficient* condition for her natural resource claims being respected (i.e. even if she receives no benefits whatsoever from any natural resources.) In the United States Constitution, the Fifth Amendment provides significant protection against the possibility of such an outcome.

resources are in fact controlled by the government and so subject to democratic control. And at least in some cases, this does not seem particularly intuitively objectionable. In addition, the government in most societies can seize natural resources from private individuals. If such seizures are justified, this might suggest that natural resources, in the most fundamental sense, are democratically owned.

There, however, are several problems with this response. First, it is important to emphasize that in this chapter, I am considering claims to natural resources which have the characteristics of private goods, taking arable land as the paradigmatic case. I recognize that claims to other natural resources, such as the air, might be respected differently. It may well be that claims to these other natural resources are best respected through democratically making certain decisions regarding their use. I take up this question up in Chapter Six.

It is of course true that the government also owns a good deal of arable land. But the issue at hand is not what entity owns the natural resources. Rather, the issue is what are *the principles* governing what the entity may do with the natural resources. The question is whether decisions regarding the allocation of natural resources property rights are *justified* by the mere fact that they arise out of a process in which everyone had an equal voice. The fact that the government may legitimately seize the natural resources of its citizens might suggest that the answer is yes. But in many countries, any government seizure of land must be accompanied by compensation. In the United States, this is a Constitutional requirement. While there may be many reasons for the existence of this Constitutional protection, assuming this protection seems intuitively justified, it does

seem to call into question the idea that a majority choice is sufficient to justify any natural resource allocative decision.

The second response the defender of democratic ownership could give is to question the force of the non-exclusionary condition. First, they might take issue with the idea that exclusion is decisive. They might argue that although some people may receive no rights to use natural resources, the type of equality they are given by having an equal voice over the decision regarding natural resources is sufficiently desirable to overcome this.

But it is unclear why merely having an equality of voice is so desirable. Some thinkers would argue that participating in collective decisions about one's fate an intrinsic part of the good life for human beings. But given the commitment to liberal neutrality, this type of argument is not open to liberals. Grunebaum argues that having an equal of voice gives individuals a desirable type of autonomy with regard to natural resource decisions. Since he raises this autonomy point specifically in criticizing to Equal Division conceptions, I will live a full consideration of this argument until the next chapter. But on the face of it, it is not at all clear how a person who wants some rights to valuable natural resources yet is not granted these rights because she is in the minority is exercising any kind of desirable autonomy.

A defender of democratic ownership might question the force of the non-exclusion condition in a second way. She might point out that in a democracy, individuals in the minority routinely fail to get what they want. If we see the natural resource allocation decision as one of many democratic decisions a certain group makes, then such exclusion may become significantly less objectionable. Those who are in the

minority in the decisions about natural resources might well be in the majority in other decisions. So we might be making a mistake by considering natural resources separately from other decisions which are subject to democratic control.

There are, however, two important differences between the decision to allocate natural resources and other democratic decisions. First, the decision regarding the allocation of natural resources is not one where there must necessarily be a minority which is excluded from obtaining any benefits. Since private natural resources are divisible, it is generally possible to implement a distribution where no one is excluded from valuable natural resource property rights.²⁴⁷ Second, and more importantly, the distribution of natural resource claims is a matter of justice. Although many democratic decisions are also matters of justice, not all are necessarily, or at least not to the same degree. The fact that this is a decision on a matter of distributive justice may make a difference when thinking about the justificatory power of the majority's decision.

The defender of democratic ownership might respond in a third and final way by arguing that I am unfairly equating the ideal of equal voice with simple majoritarianism. She might argue that an attractive Collective Ownership conception could well entail a more normatively attractive aggregative procedure or, alternatively, might have additional substantive requirements that protect against exclusion.

First, let us consider that a more procedurally sophisticated way of respecting every individual's equal voice. It might seem, for example, that if we gave minorities more power in the aggregative procedure, we might be able to avoid an exclusionary outcome. Although I cannot provide a formal proof, this seems unlikely. After all, at the

²⁴⁷ Of course, if some citizens are like Greedy and Depressed, this statement may not be true. But these individuals are extreme examples and as I argued above, they should not be viewed as excluded.

extreme, we could give every individual veto power over the natural resource allocation. But as I argued above, even this does not guarantee a non-exclusionary outcome. If granting each individual a veto cannot prevent exclusion, it seems unlikely that other procedures could do so.

But perhaps the problem is that the ideal of equal voice as I have presented it lacks substantive guidelines. One type of substantive requirement is the kind that ensures that people continue to have an equal voice. But this kind of requirement is unlikely to avoid exclusion. This kind of equality of voice requirement might plausibly lead to certain restrictions regarding the concentrations of natural resource wealth or to requirements of minimum levels of wealth for everyone more generally. But it is not at all clear why having an equality of voice is incompatible with being excluded from having property rights in undeveloped natural resources.

The second type of substantive requirement is one that has its basis in principles of justice. Indeed such a substantive requirement, if followed, can prevent an exclusionary outcome (depending, of course, on the principles of justice). But in recognizing the need for these justice-based substantive principles, we have moved away from Collective Ownership as a conception of the equal claims view. This is because ultimately it is the adherence to these substantive principles rather than the mere fact that everyone had an equal voice in the decision that makes the natural resource distribution just or unjust. And these substantive principles are based on something besides an equal voice.

Thus, a democrat can see this work as an attempt to generate the substantive principles that should guide the society's collective decision-making regarding natural

resources. To deny that Democratic Ownership is the right conception of the equal claims view is *not* to deny that decisions regarding natural resources should be made democratically. Instead, to deny Democratic Ownership is to open the possibility of criticizing as *unjust* even those decisions in which every person had an equal voice, such as those that deny particular individuals in the minority any rights to natural resources whatsoever.

4.4 The Problems with First Possession Appropriation

The next group of conceptions that I evaluate fall into the category of *First Possession Appropriation*. First Possession Appropriation conceptions differ on what counts as ‘possession’ and exactly what kind of ownership rights to the resource this possession gives. But all First Possession Appropriation conceptions assign strong, permanent property rights to the initial holder of a natural resource.

Like Joint Ownership conceptions, First Possession Appropriation conceptions have few supporters. It might seem then, that it is not worth taking the time to seriously consider these types of conceptions. There are, however, two important reasons to nevertheless consider such First Possession Appropriation. First, and most importantly, while no prominent liberal²⁴⁸ endorses a pure First Possession Appropriation conception, many of the other types of conceptions discussed below, including Common Access and Harmless Appropriation, grant a significant (albeit often implicit) role to first possession

²⁴⁸ However, Richard Epstein (who I would classify as a liberal utilitarian) does endorse First Possession Appropriation on efficiency and pragmatic grounds. He suggests that though imperfect, First Possession Appropriation is better than a wide variety of alternatives. Interestingly, he seems to focus solely on Common Access conceptions and largely neglects Equal Division as a possibility. Richard A. Epstein, *Skepticism and Freedom : A Modern Case for Classical Liberalism, Studies in Law and Economics* (Chicago: University of Chicago Press, 2003), 38-41.

in determining the ultimate distribution of property rights. Second, first possession has played and continues to play a central role in popular and legal discourses regarding the legitimacy of natural resource property rights. For example, Russia recently placed its flag in the Arctic Seabed as part of a mission aimed at strengthening its claim to the Arctic's vast oil and natural gas reserves.²⁴⁹ In Australia, the rights of the government to certain lands were overturned in a landmark 1992 court case in favor of the first-possession-based rights of the aboriginal population.²⁵⁰ Many other examples can be given illustrating the role that first possession arguments continue to have as sources of legitimacy for natural resource ownership around the world.

Before First Possession Appropriation conceptions can be evaluated, it is useful to point out several potential confounding issues. First, we need to separate first possession from discovery. Historically, the two have no doubt often gone hand in hand, but they do not necessarily go together and there are undoubtedly examples where they have been carried out by separate agents. I have already conceded in a previous chapter that discoverers have some claims to natural resources. However, since I am considering claims to *purely* natural resources here, I am assuming that discoverers have been fairly compensated for any claims that they might have. So, in evaluating First Possession

²⁴⁹ International law does not recognize the planting of the flag as constituting a legal claim to the resource. Instead, what is required for Russia to claim the resources is showing that the Arctic Sea floor is somehow a geological extension of Russia itself. Nonetheless, the planting of the flag is clearly a symbolic gesture meant to appeal to a first possession intuition and thereby augment any legal arguments Russia might be able to muster for ownership of the resources.

²⁵⁰ See *Mabo V. Queensland No. 2*, 175 CLR 1 (1992).. Interestingly, the government's rights to the land were also based on a kind of first possession argument in English common law that saw Australia as *terra nullius* (empty land) because of the perceived lack of cultivation or property laws among the aboriginal population.

Appropriation conceptions, I will evaluate the claims of the initial possessors qua possessors (i.e. separately from any claims they might also have as discoverers).²⁵¹

Second, the argument for first possession needs to be separated from arguments based on the normative weight of people's existing legitimate expectations. Even if first possession is an insufficient basis for justifying ownership of natural resources, the fact that it has been *perceived* to provide such a justification historically may in itself generate legitimate expectations on the part of current owners of natural resources; expectations that are due a certain kind of respect.²⁵² This is an important issue that I take up in a future chapter. Here, however, I am interested in the separate question of whether first possession is in fact a sufficient justification for natural resource property rights in the first place.

Finally, it is important to distinguish First Possession Appropriation as a conception of the equal claims view from first possession-based arguments of the right-libertarians. The right-libertarians view first possession as part of a theory justifying appropriation of previously *unclaimed* natural resources. These are not the terms in which I evaluate first possession in this section. I have already argued in a previous chapter against the idea that natural resources can be thought of as initially free of claims. I have also considered and dismissed Narveson and Rothbard's arguments for first possession as providing legitimacy for the appropriation of previously unclaimed

²⁵¹ This removes at least some of the intuitive force of first possession. So for example, some might try to justify first possession on the basis of the effort or risks required to be a first possessor. But if we separate first possession from discovery (which is often does require a great deal of effort and risk), this argument becomes far less plausible.

²⁵² Of course, few people could demonstrate that their current natural resource claims are at the end of some chain of legitimate transfers stretching through the violent history of the world to some first possessor. However, this kind of legitimate expectation intuition might apply to the rights of certain indigenous groups for example.

resources. Here instead I am considering the whether first possession has any normative appeal as a conception of the equal claims view.

Having isolated the issue at hand, I now turn to evaluating First Possession Appropriation using the three criteria. The first problem is that First Possession Appropriation conceptions seem to allow some individuals to amass a much larger share of natural resources than others. And it is not at all obvious why the mere fact of someone being the *first* to possess a natural resource justifies his exclusive and permanent ownership of it when others lack ownership of similar natural resources.

Proponents of First Possession Appropriation conceptions might justify this inequality by appealing to a kind of equality of opportunity.²⁵³ Here Cicero's analogy of seats in a theater is useful.²⁵⁴ Clearly not all seats for a particular show are equally good, yet we do seem to accept (at least in some situations) a first possession justification for the inequality in the quality of people's seats. Insofar as we accept the outcome as fair, the reason seems to be that those with bad seats could have spent more time and effort to get to the theater earlier to claim the better seats. So, although people do not end up with equally good seats, they had a kind of equal opportunity to obtain the best seats. In

²⁵³ It is interesting to note that Hobbes suggests that first possession (which he calls first seizure) might be justified not by equality of opportunity, but instead as a kind of natural lottery. See Hobbes, "Leviathan," 108. Hobbes does not sufficiently clarify what he means when he says that first-seizure is a natural lottery. However, if we use primogeniture (which Hobbes also classifies as a natural lottery) as a model, what Hobbes might mean is that the ability to be a first possessor depends a great deal on the social circumstances into which one is born. These circumstances are, from that person's perspective, a matter of chance (just like the order of birth.) This is a fascinating argument and one that I unfortunately cannot respond to here. I do address the use of lotteries in a future chapter. It is worth noting that for Hobbes first seizure (justified by this natural lottery argument) is only permissible as a last resort if equal division, sharing in common, and (arguably) other kinds of lotteries are for some reason impossible.

²⁵⁴ Marcus Tullius Cicero, "De Finibus Bonorum Et Malorum," ed. H. Rackham (Cambridge, MA: Harvard University Press, 1951), 3.67. As I discuss below, this analogy is only partially useful because the seats in the theater analogy is also meant to suggest that people should not be seen as owners but rather only as occupiers of natural resources.

addition, we might think that those who ended up in the best seats were those who valued them most.

There are, however, several problems with this defense of First Possession Appropriation. First, in order for this equal opportunity argument to be convincing, a strong case needs to be made for why equality of opportunity is a more attractive kind of equality than other feasible forms of equality. In the theater case, heterogeneous and indivisibility of seats, rules out several other plausible forms of equality and thus makes the case for endorsing equality of opportunity easier to make. But natural resources are at the very least not as indivisible as seats in a theater. This may make certain standards of equality feasible for natural resources which are not feasible for seats in a theater.²⁵⁵

In addition, the inequality generated by First Possession Appropriation is much greater than the inequality generated in the theater example. After all, First Possession Appropriation does not restrict every person to one “seat.” In addition, while rights to seats in a theater are temporary, the rights granted by First Possession Appropriation are permanent. And, of course, seats for a particular show are generally not as important for a person’s life plans as rights to natural resources. So while this kind of equality of opportunity argument might be sufficient to justify relatively minor inequalities, it seems insufficient to justify the large and important inequalities that First Possession Appropriation conceptions can generate.

There are also significant questions about whether people’s opportunity is genuinely equal in such cases. Even in the simple theater example, genuine equality of opportunity generally fails to hold. For example, some ticket holders might have an

²⁵⁵ Even for indivisible seats in a theater, certain standards of equality (e.g. equality in expectation of seat quality such as a lottery could achieve) may be preferable to equality of opportunity, at least in some cases.

occupation that does not permit them the luxury of getting to the theater sufficiently before the show for the best seat. Similarly, not everyone has the same opportunity acquire “empty” seats of land. There are those who are not sufficiently able-bodied, those who lack the material resources, etc. So even if equality of opportunity could justify the inequalities in natural resource holdings, the individuals’ opportunity to be a first possessor does not seem to be genuinely equal.

Even if we imagine that every person has exactly equal abilities and thus has an equal opportunity to become a first possessor of natural resources, there are still other problems with this argument. Namely, not everyone wants to spend their life physically possessing natural resources. Some vocal artist (call her Singer) might ask why land should not be allocated to those who are the first to sing arias (perhaps an acre per aria). Since ex hypothesi, each person has an equal ability to sing, this would also grant individuals an equal opportunity to own land.

Now someone might respond to Singer’s bizarre proposal by pointing out that the first possessors of acres of land are often gain possession through some improvement of the land whereas her arias do nothing to put the land to productive use.²⁵⁶ But Singer could easily concede that those who physically possess and develop this land should receive a fair return for their efforts. Her complaint is that there seems to be no reason to grant them ownership rights to the *purely* natural land. After all, if Singer were granted ownership rights to the land, she might, for example, be able to sell the rights to the land to someone who was willing to become its developer and use the proceeds to better accomplish her life plans. Granting ownership of natural resources to first possessors

²⁵⁶ As Locke writes, “[God] gave [the world] to the use of the industrious and rational, (and *labour* was to be *his title* to it;).” See Locke, “Second Treatise of Government,” 21.

seems to unjustifiably favor those with particular conceptions of the good life; namely, those that would like to spend their lives physically possessing natural resources rather than singing arias.

The fact that only *possession* of a resource can grant a person ownership of a resource also raises a different equality concern. Imagine a person (call her Conservationist) who wants to “use” resources by keeping them in their pristine, untrammled state. Many conceptions of what counts as possession include some sort of requirement of development or physical alternation. Conservationist might complain that such conceptions are unnecessarily biased against people who want to enjoy pristine natural resources. She might question why those with this natural resource preference have no way of excluding others from any natural resources. She may concede that she should not be able to keep all resources in their pristine state, but she might justifiably complain that she should gain ownership of at least some for her conservation purposes. Conservationist certainly cannot be said to have an equal opportunity to use the resources for the purposes she desires.

Rather than appealing to equality of opportunity, a proponent of First Possession Appropriation might instead try to justify an individual’s appropriation of an unequally large share of natural resources by arguing that the possessor appropriation does not harm anyone.²⁵⁷ After all, *ex hypothesi*, before the first possessor came along, the natural resource was not being used by anyone (at least in some senses of “used”). The fact that no one bothered to use the resource before might serve as an indication that others simply do not value the resource (and so by extension their claims to the resource). Thus,

²⁵⁷ This kind of argument will be appealed to (much more convincingly) by the proponents of the Harmless Appropriation conceptions.

proponents of first possession might claim that others are in some sense unharmed by the appropriator's actions.

However, this argument for first possession is also unconvincing. The fact that no one has yet possessed the resource does not always indicate a lack of value. It might simply be that it has been previously impossible to possess. For example, no one has yet possessed the Arctic Seabed, and yet people are clearly not indifferent about their claims to vast amounts of resources beneath the sea floor. In addition, a variety of people may have wanted to use the resource indirectly (e.g. by selling it) but have been unwilling or unable to actually physically possess it. Alternatively, Conservationist may have already been enjoying the resource in its pristine, untrammelled state. So the simple fact that it has not already been possessed by someone else does not imply that no one else values the resource and so it is implausible to think that others are not harmed by the first possessor's actions.

Even if the equal opportunity arguments and the harmlessness arguments were convincing, First Possession Appropriation would still violate the non-exclusionary condition. First, there is no guarantee that every person will in fact have the rights to use some valuable resource, even if everyone were willing and able to be a first possessor. There simply may not be enough valuable resources to go around. In addition, people who are unable to possess natural resources (e.g. Infirm) could complain of being excluded. They could argue first, that their right to appropriate natural resources through first possession does not allow them to make use of any valuable resource. Second, they could point out that if they were granted the right to *sell* purely natural resources, a right

which is unnecessarily given only to first possessors, they would be able to make use of some valuable natural resources.

The problems with First Possession Appropriation conceptions only get worse when we consider the Dynamic Equality criterion. As time goes on and the world becomes more populated, it becomes increasingly likely that certain people will not have available valuable natural resources to possess. In addition, over time even resources that were once not particularly valuable can appreciate in value. Thus, even resources whose appropriation might have been harmless at some point in the past can thus become highly contested.²⁵⁸

Also, it is highly unclear how First Possession Appropriation conceptions can respect the equality of claims of new members entering society to resources that are already possessed by relying on the equality of opportunity argument. Even if we accept the equality of opportunity idea as justifying the inequality in resource holdings, and even if we accept that there was equality of opportunity at some initial moment, clearly new members entering society do not in any remotely plausible sense have an equal opportunity to possess natural resources compared with those who were born earlier. The failure of the First Possession Appropriation conceptions to respect people's equal claims over time is an enormous problem and one to which there are no obvious solutions.²⁵⁹

The one criterion according to which First Possession Appropriation performs moderately well is efficiency. Resources that are economically viable to develop will

²⁵⁸ Proponents of First Possession Appropriation might respond that at this point dispossessing the first possessor would require depriving her of the fruits of her labor. But the conflict here is about the purely natural value of the natural resource not about the value that the first possessor is rightfully owed due to her labor. The question of whether the value due to labor can be separated from the purely natural value is a problem I take up elsewhere.

²⁵⁹ Locke's conception, as I discuss below, has some similarities to First Possession Appropriation. I consider the responses that Locke gives to many of these same problems below.

generally be possessed. In addition, generally, First Possession Appropriation conceptions do not place any development-incentive-dampening restrictions on property rights. Compared with other conceptions, a First Possession Appropriation system is also not very costly at all for the government to implement and administer.

However, there is an important source of inefficiency with First Possession Appropriation that is easy to overlook. First, note that it is costly both in terms of time and effort to possess a resource (the exact magnitude of the costs will depend on what exactly counts as possession). If there is only one person in the world, these costs are not a particular source of inefficiency. After all, possession of a natural resource is often a prerequisite for its use. But once there are multiple people in a society certain people will likely have an incentive to possess natural resources long before they actually want to use them *in order to prevent others from possessing the resources*. Since possession of a resource is costly, this problem can generate a significant amount of inefficiency.

This problem routinely occurs when seats in the theater are allocated on a first possession basis as opposed to assigned seating. One does not actually have use of the seat until a few minutes before the show (to get settled etc.) but in a highly desirable show where there is a significant difference between seats people will generally have to waste several hours claiming their seats early, not to make any particular use of the seats, but simply to prevent others from claiming them. Of course both the costs and the stakes are significantly higher in the case of First Possession Appropriation and so this inefficiency is likely to be a much bigger problem.

Despite this important problem, First Possession Appropriation conceptions are relatively efficient (especially compared to proposals like Joint Ownership.) However,

the low resource cost of implementing first possession does little to counter the large distributional inequality and the enormous dynamic inequality that First Possession Appropriation conceptions can create.

4.5 The Problems with Common Access

Many liberal theorists have recognized the problems with First Possession Appropriation conceptions. Some of these thinkers have responded by placing various restrictions on the kind of rights generated by possession and on the amount of resources that can be possessed. The resulting rights are generally so restricted that they can no longer be accurately described as ‘ownership.’ I classify these conceptions under the category of *Common Access*.²⁶⁰ Common Access conceptions vary according to what counts as possession, the extent of the rights that are granted by possession, and how many resources any particular person may possess.

Jean-Jacques Rousseau endorses a Common Access conception. Rousseau insists that, barring the express, universal consent of all of humankind, full private ownership of natural resources is illegitimate. Although this endorsement of an underlying Joint Ownership is of theoretical interest, Rousseau is well aware that this universal consent condition could never be met in practice. The alternative that he endorses to this universal consent is a kind of Common Access. Rousseau’s Common Access conception allows people to appropriate from the common stock provided by nature only what is

²⁶⁰ Before evaluating the Common Access conceptions, it is interesting to note that many of the contemporary advocates of these conceptions also appeal to Natural Liberty as the foundation for the equal claims view. This is unsurprising since there is a clear affinity between the two positions. Protecting common access to natural resources ensures that people can continue to exercise at least some of their natural, pre-institutional freedoms to use those natural resources. However, while there is an affinity, there is no necessary link. So even though I dismissed Natural Liberty as a plausible foundation for the equal claims view, it is nevertheless necessary to evaluate Common Access conceptions according to the three criteria.

required for their own subsistence.²⁶¹ Rousseau's Common Access conception, as I argued in a previous chapter, does grant individuals a kind of property in the fields they sow *while they possessed them*, but no permanent property rights.²⁶²

In *The General Right of Things*, Hugo Grotius also supports a kind of Common Access conception. He writes, "All things... formed a common stock for all mankind... From hence it happened, that every man seized to his own use or consumption whatever he met with; a general exercise of a right, which supplied the place of private property. So that to deprive any one of what he had thus seized, became an act of injustice." Grotius goes on to cite Cicero's analogy "of the world to a Theatre, in which the seats are common property, yet every spectator claims that which he occupies, for the time being, as his own."²⁶³

The conception that Rousseau and Grotius endorse is indeed much more analogous to the theater example than First Possession Appropriation conceptions are. First, on Grotius's account, possession is normatively important *only* while the resources are possessed by the person. First possession grants no *permanent* rights once the possession of the resource ceases, and any subsequent possessors generally gains the same rights to the resource as were held by the first possessor. Also, there seem to be limits on the purposes for which a person can legitimately seize a resource. For Rousseau these limits are set by what is required for subsistence while Grotius seems to allow a less strictly defined "consumption and use." Under First Possession Appropriation, the first arriver to a theater can effectively permanently claim the best twenty seats in the house.

²⁶¹ Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men ", 172.

²⁶² See Section I.3.1

²⁶³ Grotius, "The General Rights of Things."

Under Common Access, she can only claim one seat and only for as long as she is sitting in it.

The upshot of these differences is that the inequality generated by Common Access conceptions is likely to be far less severe than the inequality generated by First Possession Appropriation. Since the amount of resources a person can possess is generally more limited, and since a person can only exclude others from the resource she is *currently* possessing, the differences in the amount of natural resources used by different individuals is likely to be much smaller. In addition, it is far less likely that people will be denied access to any valuable resources both initially and over time. So Common Access conceptions face far fewer distributional and dynamic equality problems.

However, Common Access conceptions are by no means free of inequality. Though individuals may be restricted to one “seat” of land, the quality of these “seats” may be very different. The differences in the quality of the seats would likely have to be justified by some kind of equality of opportunity argument. But I have already argued that such an equality of opportunity argument is unlikely to succeed. Also, there is still no absolute guarantee that there will be sufficient natural resources for everyone to possess, especially when the limits of how much one can possess are less strict. In addition, both the problem of inequality of “seats” and exclusion from seats can become worse over time as more members enter society.

There can also be equality complaints from Conservationist, Infirm, and Singer. First, as long as possession requires some kind of physical alteration or labor, Conservationist’s complaint will still apply. Infirm and Singer, on the other hand,

cannot make the same complaint against Common Access as they did against First Possession Appropriation. Their complaint of being treated unequally relied on the fact that they were denied the right to sell resources, a right which first possessors enjoyed. But under many Common Access conceptions, no one has the right to sell resources. While this mitigates the inequality facing Infirm and Singer, they might still argue that this is a poor way of achieving equality. They could suggest that instead of achieving equality by eliminating the right to sell altogether, a better solution would be to distributing the right to sell resources equally among individuals. They might also question why a right that they deem valuable is not granted in the name of equality while other rights that they cannot or do not wish to take advantage of (i.e. the rights to use natural resources by physically possessing them) are maintained.

Admittedly though, the problems of inequality are far less severe under Common Access compared to Possession Ownership. However, the significantly reduced inequality comes at an enormous economic cost. First, since continuous possession is a necessary condition of having the right to use a natural resource, people may be reluctant to leave their particular area in search of better resources. Second, there would be far fewer scale economies and far less specialization in the management and cultivation of natural resources since every person can only possess a limited number of natural resources. Third, when there are resources that cannot be wholly possessed by particular individuals, such as a wide-ranging herd of animals, individuals will generally have incentives to over-consume the resource (i.e. to over-hunt the animals). That is, there will be many instances of what is known as “the tragedy of the commons.” Finally, without strong ownership rights, such as the right to sell resources, people will have far

fewer incentives to productively improve resources. For all these reasons, Common Access conceptions lead to enormous inefficiency.

Many of those advocating Common Access conceptions recognize these inefficiencies.²⁶⁴ But theorists like Rousseau would likely insist that these inefficiencies are a necessary part of maintaining the equality of people's claims to natural resources, especially over time. The earth being no one's helps ensure that its fruits remain everyone's. But as I have argued in this section, Common Access conception do not even guarantee that everyone will be able to use the fruits of the earth in a fully equal way. In addition, proponents of Common Access conceptions have failed to demonstrate that forbidding ownership (and the vast increases in productivity of natural resources that come with it), is the *only* way to respect the equality of people's claims. If a more efficient conception could be found that still respects the equality of people's claims to natural resources, much of the attractiveness of Common Access conceptions would be undermined.

²⁶⁴ Grotius seems to recognize the inefficiency with Common Access conceptions. He writes, "[A]s soon as it was found *inconvenient* to hold things in common, before any division of lands had been established, it is natural to suppose that it must have been generally agreed, that whatever any one had occupied should be accounted as his own." See *Ibid.* Grotius here is acknowledging that allowing Common Access would lead to "inconvenience." He thus seems to be endorsing a kind of underlying One-Time (tacit) Consent Joint Ownership conception that can trump the initial Common Access regime in order to overcome the problems of inefficiency.

Rousseau, however, disputes that such one-time tacit consent (even if it were actually given) would be sufficient. He claims that any permanent appropriation would require the "*express* and unanimous consent of Humankind." See Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men ", 172. Rousseau's insistence on the consent of "Humankind" here suggests that in addition to universal consent of all people at some particular time, consent would also have to be given by new members who enter society. In addition, in an earlier passage Rousseau suggests that even if people did in some way tacitly consent to appropriation (by, for example, not uprooting the stakes the man who claimed some enclosed piece of land as his,) they made a kind of gullible mistake that has little normative force. See Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men ", 161.

4.5 *The Problems with Harmless Appropriation*

One set of conceptions that might be seen as achieving more efficiency while still respecting people equal claims are what I call *Harmless Appropriation* conceptions. Proponents of these conceptions allow for private ownership of resources as long as it leaves people unharmed (i.e. as well off as they were under some baseline property rights regime). This baseline regime is one in which people's equal natural resource claims are ostensibly being respected. The idea is that as long as no one is brought below this baseline, no one has any grounds for complaint.

Harmless Appropriation conceptions are unique in that they necessarily rely on some other conception of the equal claims view. This is because a central question that any Harmless Appropriation conception must answer is "harmed relative to what?"²⁶⁵ It is impossible to know if person A was harmed by person B's appropriation of resources unless we already know what rights A had with respect to the natural resources before B's appropriation. For example, if person A and B jointly own all the resources, then no unilateral appropriation by B would leave A unharmed.²⁶⁶ So the idea of protection from harm requires some counterfactual or baseline. The baseline that a particular Harmless Appropriation conception endorses will have enormous consequences for the kinds of property rights regimes that it permits.

Different accounts of harm lead to different problems. Certain conceptions, such as that of John Locke, have, I argue, a very stringent account of what counts as harm.

²⁶⁵ Nozick, a supporter of a Harmless Appropriation conception recognizes this when he writes, "The difficulty in working [an] argument that the [Lockean] proviso is satisfied is fixing the appropriate base line for comparison. Lockean appropriation makes people no worse off than they would be *how*?" Nozick, *Anarchy, State, and Utopia*, 177.

²⁶⁶ For a powerful elaboration of this criticism see Cohen, *Self-Ownership, Freedom, and Equality*, 67-84.

These stringent conceptions, when applied appropriately, lead to extreme inefficiency. Other conceptions, such as that of Robert Nozick, have a more permissive view of what counts as harm. Such conceptions are efficient but generate vast unjustified inequalities in the distribution of natural resources. In addition, both of these liberal thinkers fail to sufficiently justify the baseline to which they appeal.

4.6.1 LOCKE'S STRONG PROVISIO

The first Harmless Appropriation conception I explore is that of John Locke. Towards the beginning of Locke's famous fifth chapter of the *Second Treatise of Government*, which sets out his theory of property rights in natural resources, Locke writes, "I shall endeavour to shew how men can come to have a *property* in several parts of that which God gave to men in common, and that without any express compact of all the commoners."²⁶⁷ The central argument that Locke gives for why no consent is needed is that appropriation can be done in such a way that is harmless to others. Whether an appropriation is deemed harmless depends on comparing it to the baseline condition in which anyone can appropriate any desired resource. I argue that harmless appropriation given this baseline is all but impossible and certainly cannot be sustained over time.

Writing to justify the appropriation of land, Locke argues:

Nor was [one man's] appropriation of any parcel of land, by improving it, any prejudice to any other man, since there was still enough, and as good left; and more than the yet unprovided could use. So that, in effect, there was never the less left for others because of his inclosure for himself: for he that leaves as much as another can make use of, does as good as take nothing at all.²⁶⁸

²⁶⁷ Locke, "Second Treatise of Government," 18.

²⁶⁸ *Ibid.*, 21.

Locke goes on to argue that only a “quarrelsome and contentious” person would complain about someone else’s appropriation under circumstances where he had sufficient, comparable resources for his own appropriation.²⁶⁹ So, on my reading of Locke, the reason the express compact of all the commoners is not needed then is because any person’s appropriation leaves others unharmed in the sense that they have, for all practical purposes, no less substantive freedom to use and appropriate desirable pristine natural resources themselves. Therefore, their equal claims to natural resources are not violated and they have no legitimate ground for complaint.

The main problem with Locke’s baseline is that it is too stringent. It is simply utopian to expect that other people’s appropriation will leave others unharmed relative to the condition where they could appropriate any resource they want. Locke asks the reader to go back in human history and imagine “the first ages of the world, when men were more in danger to be lost, by wandering from their company, in the vast wilderness of the earth, than to be straitened for want of room to plant in.”²⁷⁰ But I argue even in such a historical condition of natural plenty, the appropriation of natural resources by some could still have been a cause for others’ complaint. First, there still would have been heterogeneity of natural resources. While there may be plenty of land left after some person’s appropriation, the appropriator may have taken the best land (i.e. the one closest to the water, the most fertile, the closest to other people, etc.) In addition, even when the global population was small and the resources numerous, some natural resources, such as certain metals or minerals, were nonetheless quite likely scarce.²⁷¹

²⁶⁹ Ibid., 22.

²⁷⁰ Ibid.

These problems are compounded by the subjective nature of the valuations of resources. Though Person A may believe she has left enough and as good land for Person B, B might disagree. B might value A's land more highly than any plot of land remaining. Locke provides no objective standard for judging whether some person has indeed left enough and as good for others' appropriation.

Finally, it can be argued that natural resources have to be sufficiently plentiful so that appropriation is not only harmless for the current inhabitants, but also in perpetuity. If it can be foreseen that at some point there will not be enough and as good left of some resource for some person's appropriation, then *any* appropriation of that resource is highly problematic and may be impermissible. This is the implication of the famous "zipping back" argument presented by Robert Nozick. The first person whose appropriation of a particular natural resource is impermissible because it harms someone else is in fact harmed by the person who appropriated that type of resource immediately before her, and so on down the line. So, no appropriation is harmless once scarcity can be foreseen.²⁷² Nozick provides a theory that he claims avoids this problem, but it is unclear how Locke can avoid it.

So the promise of Locke's Harmless Appropriation conception is a false one even in the historical condition of natural plenty. Even when plentiful relative to the population size, most natural resources are heterogeneous, subjectively differently valued, and foreseeably scarce. It is not at all clear then how Locke's imagined harmless appropriation could have ever occurred.

²⁷¹ It is difficult (though not wholly impossible) to imagine money developing where there is no scarcity of non-extracted precious metals.

²⁷² Nozick, *Anarchy, State, and Utopia*, 176.

But this is not the most important problem with Locke's theory. Even if we imagine that natural resources were relatively homogenous, that the valuations were generally agreed upon, and that their scarcity could not have been foreseen, it is clear (and Locke would agree) that *it is no longer the case today* that there are sufficient natural resources available so that everyone is as free to appropriate their most desired resources as they wish. If so, even if all the conditions of Locke's harmless appropriation were met at some point in the distant past, it is highly unclear why such appropriation would have granted people a *permanent* right to particular natural resources. It would seem that once there are no longer sufficient resources for anyone to freely appropriate whatever resource he pleases, the continued exclusive ownership of natural resources by a particular person *does* harm others and thus violates their equal claims to natural resources. So the question a Locke must answer is how property rights in natural resources can continue to be justified under contemporary conditions of scarcity.

Locke first (and arguably most plausible) answer is that once someone has legitimately mixed his labor with a natural resource, redistributing it would violate the laborer's rights. This is true even if others *no longer* have sufficient, comparable resources for their own appropriation. The redistribution would deprive the laborer of his claim to the product of his labor (i.e. the developed natural resource) and thus do him injury.²⁷³

There are two objections to this line of Lockean argument. The first is that while the redistribution of the developed natural resource would do injustice to the laborer, not redistributing the developed resource does injustice to those with claims to the purely natural resource. These people's claims to the natural resource in question are not

²⁷³ See the second half of paragraph 32. Locke, "Second Treatise of Government," 21.

respected since they no longer have sufficient, comparable resources for their own appropriation.

Locke may respond to this first objection by arguing that the vast majority of the value of developed natural resources is created by the labor.²⁷⁴ Therefore, he might contend, the injustice done to the laborer through any redistribution of the developed natural resource would be much greater than any injustice done to those with claims to the undeveloped natural resource by forbearing from redistributing it.²⁷⁵ While I have called into question Locke's theory of value, I concede that depriving the laborer of the product of her labor might indeed constitute a greater injustice than depriving others of their natural resource claims.

But Locke here is creating a false dichotomy between depriving the laborer of the claim to the fruits of his labor and depriving others of their natural resource claims. If we can separate the purely natural resource value from the value added by labor, it would seem sensible to insist that those who no longer have sufficient, comparable resources to appropriate themselves should receive compensation (related in some way to the purely natural value of the developed natural resource) from those who own natural resources under conditions of scarcity.

Locke's use of the word "mixed" might suggest that he might respond that no separation between the value added by labor and the value of the natural resource is possible. But as some economists convincingly argue, it *is* possible in practice to

²⁷⁴ See paragraph 40. *Ibid.*, 25.

²⁷⁵ I have contested Locke's theory of value in a previous chapter. However, although Locke exaggerates the role of labor, I do not contest that generally labor contributes more value than the presence of the natural object itself.

separate the purely natural value of the resource from the value added by labor.²⁷⁶ That is, at least in terms of value, the labor and the natural resource are not so inextricably “mixed.” If so, it is unclear why the original appropriator should continue to have sole rights to the purely natural resource value when there are not sufficient, comparable natural resources left for others to appropriate.

Locke also argues that natural resource property should continue to be respected because there is still land available in the world for those who wish to appropriate it. Locke appeals to the examples of the inland areas in America and marginal agricultural land in Spain.²⁷⁷ But even during Locke’s time, land elsewhere (i.e. in America) was far less valuable than land in England. Locke attributes this difference in value to farming and development.²⁷⁸ But even an undeveloped piece of land in England would have had a far higher value than an undeveloped piece of land in America with identical physical characteristics due to, for example, proximity to markets.

In addition, even if one could argue that the two pieces of land in England and America had identical purely natural value, Locke here is in effect telling those who complain about not receiving any benefits from purely natural resources that they may also benefit, but only if they are willing to leave their country and their way of life behind and emigrate to a new area. These people may well ask why their contemporaries who currently own and benefit from the land in their homeland do not have to make similar sacrifices in order to be able to use the natural resources. It is unclear how Locke can

²⁷⁶ For a discussion of some possible methods of assessing purely land value, see Daniel M. Holland, "The Assessment of Land Value," in *Publications of the Committee on Taxation, Resources and Economic Development*, 5 (Madison,; University of Wisconsin Press, 1970). This crucial issue is addressed in greater depth in Chapter Seven.

²⁷⁷ Locke, "Second Treatise of Government," 23.

²⁷⁸ *Ibid.*, 24.

convincingly respond to such a complaint. Even if he could, it is also quite doubtful that valuable natural resources remain available for appropriation today to a sufficient extent to make this general line of Lockean argument plausible.

Locke also responds to the possibility that there may no longer be enough land available by pointing out people's supposed consent to the use of money. The use of money, on Locke's account, legitimized larger possessions which in turn led to scarcity in land. Since people have consented to the use of money, he seems to argue that they thus implicitly consented to the resulting scarcity.²⁷⁹

There are several problems with this argument. First, a wide variety of objections could be raised regarding the legitimacy of the "consent" to money. But even if the consent to money has normative force, Locke only shows how money can overcome the no-spoilage condition which is *one* of the conditions that legitimate appropriation has to meet.²⁸⁰ He does *not*, however, show how the consent to money can overcome the requirement that there be enough and as good left for others' appropriation. This harmlessness requirement serves as a *second* restriction on people's appropriation which is separate (and arguably far more important) than the no-spoilage restriction. Thus, even if the elimination of the no-spoilage restriction would allow for larger appropriation of land, it is highly unclear why those larger appropriations would be permitted once it could be foreseen that they would cause scarcity and thus violate the enough and as good requirement.

²⁷⁹ Locke states that even if there is not sufficient land available any longer, there would be "land enough in the world to suffice double the inhabitants, had not the *invention of money*, and the tacit agreement of men to put a value on it, introduced (by consent) larger possessions, and a right to them..." Ibid., 25.

²⁸⁰ For a description of the spoilage condition, see Ibid., 24.

Locke's fourth response is to appeal to historical consent. He concedes that at the point of scarcity of land, consent among the members of a particular political community is required to settle the pre-existing property rights. In addition, consent among members of different political communities was needed to renounce claims to each other's lands.²⁸¹

There are many objections to this Lockean line of argument. Namely, it is not clear what acts constitute legitimate consent and whether such consent was ever given. In addition, it is highly unclear how this one-time consent respects the rights of new individuals who enter society. Locke does have a (very controversial) theory about the tacit consent of people to laws made in the societies into which they are born. But it is not at all clear how such a theory (which sees a right of exit as central), even if conceded to have some normative force in certain cases, can apply to the consent given internationally to the natural resource property distribution.

Finally, Locke responds that even people who live in a world of scarcity and receive no direct benefits from purely natural resources still receive indirect benefits in the form of general social wealth that results from private ownership of natural resources.²⁸² While Locke is right that private ownership of purely natural resources does generally allow for the efficient generation of wealth, these economic benefits occur whenever there is private ownership of resources (since private ownership generally creates incentives for natural resources to be put to their most economically productive use).²⁸³ But the criticism I am making here is not of private ownership. Rather it is that

²⁸¹ Ibid.

²⁸² Locke writes, "He who appropriates land to himself by his labour, does not lessen, but increase the common stock of man kind... He that incloses land, and has a greater plenty of the conveniencies of life from ten acres, than he could have from an hundred left to nature, may truly be said to give ninety acres to mankind." Ibid., 23-24.

the distribution of private ownership of natural resources is unjustifiably unequal. There is no obvious reason why a more equal scheme of ownership would not be able to produce similar levels of aggregate economic benefits from purely natural resources with a much more egalitarian distribution of those benefits. So none of the (many) Lockean responses seem to explain how people's equal claims are respected in a world where there is scarcity.

If Locke's arguments cannot justify the current unequal distribution of natural resource property rights, perhaps Locke is actually misapplying his own theory. Applied faithfully, what the theory seems to require is that natural resource appropriation always be harmless to others in the sense that everyone must always have as unrestrained access to as many valuable natural resources as they can would like to use or appropriate. Enforcing such a condition, however, at least in any straightforward sense, would lead to enormous inefficiency.²⁸⁴ The only resources that could be privately appropriated under such a conception would be those that never exhibit scarcity (e.g. sand from the beach).²⁸⁵ Given the problems of heterogeneity, subjectivity, and foreseeable scarcity, it is unlikely that plots of land could be appropriated if Locke's theory were faithfully

²⁸³ Nozick interprets Locke here as making an argument that people are unharmed by others' appropriation in that they have received a net benefit from a system of private ownership. Nozick writes, "[The considerations regarding the benefits of private property] enter a Lockean theory to support the claim that appropriation of private property satisfies the intent behind the 'enough and as good left over' proviso..." Nozick, *Anarchy, State, and Utopia*, 177. But this interpretation of what Locke is doing only makes sense if the alternative to Person A appropriating the land is that *no one* uses it. It is highly unclear what work this argument would do to answer the complaint of Person B who wants the land so that she could also put it to productive use.

²⁸⁴ If the problems of heterogeneity, subjective valuation, and foreseeable scarcity are present, it is possible that even the appropriation of resources needed for basic subsistence would be forbidden.

²⁸⁵ Examples might include the air, water in a stream (assuming a small enough population), acorns on the ground (again assuming a small population), and sand from the beach. Given the problems of heterogeneity, subjectivity, and foreseeable scarcity, it is unlikely that plots of land could be appropriated if Locke's theory were faithfully applied.

applied. The vast majority of resources in the world would continue to lie fallow since any person's appropriation of these resources would not leave others unharmed in Locke's stringent sense. Such a property rights regime, like Rousseau's Common Access conception, would likely lead to only a small degree of inequality, but would lead to enormous inefficiency. In general, any Harmless Appropriation conception that employs a stringent baseline faces similar problems.

4.6.2 NOZICK'S WEAK PROVISIO

Nozick recognizes many of these problems with Locke's stringent baseline. He therefore endorses as a baseline a kind of Common Access system where people have the freedom *to use* natural resources (but not appropriate them). Nozick then argues that as long as people are not worse off materially than they would be under this Common Access property regime, their claims to natural resources have been respected. I argue in this section that although Nozick's conception generally is efficient and maintains equality of claims over time, it leads to a great deal of unjustified inequality.

Nozick's Harmless Appropriation conception is different from Locke's in two respects. First, Nozick's idea of what constitutes harm is significantly more permissive than the one I attribute to Locke.²⁸⁶ Nozick writes, "A process normally giving rise to a permanent bequeathable property right in a previously unowned thing will not do so if the position of others no longer at liberty to use the thing is thereby worsened."²⁸⁷ The

²⁸⁶ Nozick argues that the less stringent baseline he endorses is one that could be attributed to Locke. Fully refuting this claim would require a detailed exegesis of Locke that is beyond the scope of this chapter. However, it is worth pointing out that Locke states that when a person appropriates land under the right conditions, it is as though he took nothing at all. It is difficult to see how Nozick's proposal could be made consistent with this Lockean claim.

²⁸⁷ Nozick, *Anarchy, State, and Utopia*, 198. In fact, although Nozick's quote here suggests that each appropriator must ensure that people are no worse off because of the particular appropriation,

Lockean position (as I interpret it) is that people should continue to have the same liberty for all practical purposes *to appropriate* any natural resource they want after someone else's appropriation.

Interestingly, Nozick's statement here is misleading in that it suggests that *each object's* appropriation must not worsen the position of others. But Nozick's conception is even more permissive than that. His position is that the *appropriation of natural resources overall* must not cause harm relative to a regime where *no one* may appropriate *any* natural resources.²⁸⁸ That is, appropriation is permissible as long as people are at least as well off materially as they would have been under some kind of Common Access conception.

The second main difference is that Nozick does not judge harm by the standard of a loss of a particular *freedom or ability* to use or appropriate resources. Rather, he judges harm by the loss of *material welfare* of the non-appropriator. As long as a person is *better off in terms of some measure of (material) position* than she would be if everyone were able to only use natural resources, her claim to the natural resource has not been violated. This means that even those who are prevented by others' appropriations from using *any* natural resources can still be unharmed on Nozick's account as long as they are appropriately compensated.²⁸⁹

These differences give Nozick's Harmless Appropriation conception several advantages over Locke's theory. First, Nozick's conception is much more efficient than

²⁸⁸ To see the difference, imagine there is some unappropriated island where Amy (a middle-class woman) has been taking nature walks and picking wild berries during summer weekends. Ben, on Nozick's account, can appropriate the island without compensating Amy at all even though her position is worsened by Ben's appropriation of the island. The reason is that Amy (who is middle-class) is quite likely better off than she would be if no appropriation of natural resources at all were allowed to take place anywhere.

²⁸⁹ Although Locke might arguably be interpreted as making a similar argument based on the social wealth created by natural resource cultivation, in Nozick this point is explicit and unambiguous.

Locke's. I argued above that Locke's conception, when applied faithfully, forbids anyone's appropriation of a wide variety of resources. However, Nozick's less strict account of harm makes his theory much more permissive regarding natural resource appropriation (the vast majority of natural resources can be appropriated without any compensation provided at all). The appropriator will generally have an incentive to put the natural resource to its most economically productive use. In most cases, Nozick's theory will generally be as efficient as First Possession Appropriation.²⁹⁰

The second advantage is in terms of dynamic equality. I argued above that Locke's theory has difficulty maintaining equality of people's claims over time. However, since all Nozick demands is that people remain at least as well off materially as they would be under a Common Access regime, this requirement can easily be met even as conditions change or as more people enter society.²⁹¹ So people's natural resource claims, as Nozick sees them, can continue to be respected over time.

Despite these two advantages, there is a very long list of problems with Nozick's account of natural resource property rights which make it highly implausible.²⁹² Here, I will focus only on the problems with Nozick's proposal taken as a free-standing conception of the equal claims view.²⁹³ The first problem is that Common Access cannot

²⁹⁰ For a discussion of the efficiency of First Possession Appropriation, see above.

²⁹¹ An interesting problem for Nozick's theory is raised by the birth of new people. If society had remained under the Common Access system, undoubtedly many of the people who now exist would not have been born (it is highly doubtful that the earth's current population could be supported under a Common Access regime). It is unclear then what the proper baseline should be for judging the harm of new members. This is an interesting problem that I shall not explore further here.

²⁹² There have been dozens of papers written criticizing Nozick's account of justice in acquisition. Some of the criticisms are made here. For a general summary and references, see Will Kymlicka, "Property Rights and the Self-Ownership Argument," in *Left-Libertarianism and Its Critics: The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 306-14.

serve as a plausible baseline for Nozick's theory. Nozick must show that the Common Access baseline is one where people's equal claims to natural resources are being respected. Otherwise, the mere fact that people are as well off as they would have been under this baseline regime would not be normatively relevant. But as I have discussed earlier, even the Common Access baseline does not meet the conditions of distributional equality in a satisfactory way.

Nozick generally gives no reasons why Common Access should be seen as the right baseline for determining harm (aside from his point that Locke's more stringent baseline is untenable). Nozick therefore seems to be implicitly relying on either the intuitive appeal of Common Access or on the justifications for it provided by previous theorists such as Grotius and Rousseau. But one of the most normatively attractive aspects of Common Access conceptions is their propensity to ensure relative equality of natural resource benefits, *which they accomplish by forbidding ownership*. By taking Common Access as a *baseline for appropriation*, however, Nozick's specifically eliminates the central normatively attractive feature of Common Access. So, Nozick needs to provide a strong normative case for why Common Access conceptions respect people's Equal Claims; and this argument cannot rely on the fact that they forbid ownership.

Nozick's also does little to justify his conception of harm. Imagine that society includes a man named Jean-Jacques who would be happiest under Nozick's Common Access conception (i.e. where everyone is *only* at liberty to use natural resources). Jean-Jacques believes that wealth is corrupting and appropriation of any sort is unjust, and so

²⁹³ Several critics have argued that parts of Nozick's theory of justice in acquisition are deeply at odds with the rest of his theory. One example is that Nozick does not require the consent of non-appropriators. For this criticism, see *Ibid.*, 308-10.

no amount of compensation can make Jean-Jacques as happy as he would have been under Common Access. Nozick's requirement is that Jean-Jacques's "position not be worsened" by other people's appropriation. If we consider Jean-Jacques's position in terms of his well-being, then *no appropriation is permitted*. The presence of one Jean-Jacques can condemn the world to the inefficiency of Common Access. Nozick seems to refer to Jean-Jacques's *material* position. But it is highly unclear why this standard should be used rather than Jean-Jacques's well-being.²⁹⁴

By far the most important problem with Nozick's conception, however, is that it generates unjustified inequality in the distribution of natural resources. Since Common Access conceptions grant individuals such a low level of material benefits from natural resources (due to vast inefficiency for the reasons described above), there are *a very large* number of distributions that provide every individual with more material benefits than she would receive under a Common Access system. Under Nozick's system then, all of these diverse distributions legitimately respect people's equal claims to natural resources.

However, some of these distributions are obviously more unequal than others. Someone might ask why *of the distributions that are better than Common Access* the one that distributes rights to resources equally should not be chosen. Nozick seems content to allow the distribution of natural resource ownership to be decided by first possession.²⁹⁵ But as I have argued above, first possession lacks the normative force to justify the

²⁹⁴ Locke would likely dismiss Jean-Jacques's preferences as "contentious and quarrelsome" since Jean-Jacques would also object to appropriation even when the Locke's more stringent condition were met. However, it would seem highly inconsistent with Nozick's libertarian theory to rely on this kind of criticism of Jean-Jacques's preferences.

²⁹⁵ This is the way Kymlicka interprets Nozick's system. See Kymlicka, *Contemporary Political Philosophy: An Introduction*, 117.

inequalities in natural resource ownership that would result from it.²⁹⁶ So while Nozick's permissive baseline allows him to support a conception that is efficient and maintains equality of claims over time, he fails to provide sufficient justification for the drastic inequality in the distribution of natural resources that his conception permits.

Conclusion

This concludes the evaluation of the first four categories of conceptions of the equal claims view. Each of the conceptions in these categories fails in significant ways to meet the criteria that I developed and defended at the beginning of this chapter. Collective Ownership conceptions are generally inefficient and can also exclude certain people (e.g. those with low bargaining power in the collective decision process) from using natural resources. First Possession Appropriation conceptions are efficient, but they generate natural resource distributions that are exclusionary and unjustifiably unequal. In addition, they fail to respect the natural resource claims of new members who enter society. Common Access conceptions generate less inequality and less exclusion and are better able to respect the claims of new members of society. But they lead to enormous inefficiencies. The problems with Harmless Appropriation conceptions depend on the baseline that they use to evaluate harm. Those with stringent baselines generally generate enormous inefficiency since they forbid most appropriations. Those with permissive baselines are generally efficient (since they allow for many more natural resource appropriations.) But they provide no reason why further equality in natural

²⁹⁶ Note that dividing natural resources equally among all members of society would be a distribution that would satisfy Nozick's proviso. Nozick says nothing about why this equal division distribution would not constitute a better way of respecting people's equal claim to natural resources than one that simply occurs as a result of first possession.

resources rights (besides what is provided by the minimum baseline their conceptions respect) should not be pursued.

Of course, it is entirely possible that there simply is no conception that can satisfy all three criteria. There may simply be, for example, unavoidable tradeoffs between equality and efficiency. However, in the next chapter I argue that this is not the case. I contend that there is an Equal Division conception that can meet all three criteria. I turn next to defending this contention.

Equal Division in a Simple World

In the last chapter I discussed the problems with a variety of conceptions of the equal claims view in terms of the undesirable inequality and economic costs that they generate. In this chapter I begin developing an alternative conception of the equal claims view that falls within the broad category of Equal Division. Equal Division conceptions are endorsed by a variety of liberal thinkers including Thomas Hobbes,²⁹⁷ Thomas Paine,²⁹⁸ Hillel Steiner,²⁹⁹ Bruce Ackerman,³⁰⁰ and Ronald Dworkin.³⁰¹ The common element among these conceptions is a commitment to granting each person some type of ownership rights over an equal share of natural resources or natural resource wealth.

However, proponents of Equal Division conceptions disagree over a variety of issues including the reasons for the desirability of equal division, the sense in which shares should be equal, and the extent of the ownership rights individuals should have

²⁹⁷ Hobbes, "Leviathan," 108. It is again worth noting that for Hobbes, equal division was a requirement of Equity, not of justice (the citizens could not complain of injustice if the Sovereign did not divide resources equally).

²⁹⁸ Paine, "Agrarian Justice."

²⁹⁹ Steiner, "Original Rights and Just Redistribution."

³⁰⁰ See Chapter Two of Ackerman, *Social Justice in the Liberal State*.

³⁰¹ Dworkin, "What Is Equality? Part 2: Equality of Resources."

over their shares. In this chapter I defend a type of equal division which grants each individual strong ownership rights over an equal *amount* of natural resources.

The argument in this chapter is divided into eight parts. In the first part I criticize the attempts by certain left-libertarians to connect equal division to Locke's theory of natural resource appropriation. I argue that Equal Division conceptions are best seen as alternatives to the Lockean approach to natural resource property rights. In the second part I set the stage for developing my own Equal Division conception by asking the reader to imagine a highly simplified world; one which only has a single homogenous natural resource (called manna), which experiences no change in social and technological circumstances nor the birth of new individuals, and which consists of a single political society. These initially useful simplifying assumptions will be relaxed in future chapters. In the third part I argue against distributing resources in order to achieve some type of individual equality. I then make the case for giving each person ownership of an equal amount of natural resources in the fourth part. In the fifth part I consider the question of what rights individuals should have with respect to their natural resource shares. I argue that individuals' ownership should include not only the rights to possess and personally use, but also the right to sell natural resource shares (assuming certain just background conditions obtain). In the sixth part I consider and reply to several prominent criticisms leveled against resourcist equal division proposals and then examine how resourcist equal division performs in terms of distributional equality and efficiency. In the seventh part I show how a natural resource sale whose proceeds are distributed equally can, given certain conditions, efficiently implement a resourcist equal division. Finally, in the eighth part I return to the question of how the claims of agents who contribute to the

value of pristine natural resources can be respected in the context of a resourcist equal division.

5.1 Equal Division and Lockean Theories

I begin my discussion of equal division by criticizing the connection that has been drawn by some theorists between equal division and Locke's theory of natural resource property rights. I argue that equal division is not what Locke had in mind nor should it be incorporated into a neo-Lockean Harmless Appropriation theory.

Hillel Steiner, a prominent proponent of equal division, argues that equal division is in fact an accurate interpretation of Locke's theory of natural resource appropriation. Steiner writes, "Our equal original property rights entitle us to equal bundles of [natural objects]. That is, we each have a vested liberty to mix our self-owned labour with only as many of these things as would, in Locke's famous phrase, leave 'enough and as good' for others."³⁰² Elsewhere Steiner writes that the Lockean proviso "imposes an egalitarian structure on individuals' appropriative entitlements, prescribing to each a quantitatively and qualitatively similar bundle of natural objects."³⁰³ Steiner seems to be saying here that equal division is in fact the right interpretation of the Lockean proviso.

But, as G. A. Cohen convincingly argues, this Steinerian interpretation of Locke is textually untenable. Cohen points out that Locke states that a person who properly appropriates natural resources "does as good as take nothing at all." Cohen rightly draws the conclusion from this quote that on Locke's account "one must leave for others enough

³⁰² Steiner, "Original Rights and Just Redistribution," 78. I have argued in 2.1.3 that the "initial liberty" idea cannot support the equal claims view. Here I am interested in Steiner's interpretation of the Lockean proviso.

³⁰³ Steiner, "The Natural Right to the Means of Production," 45.

and as good to use and/or appropriate *as they had before one appropriated*, not (merely) enough and as good to use and/or appropriate, *per capita, as one appropriates oneself*.”³⁰⁴ Cohen’s conclusion here is consistent with Locke’s text, and Steiner would have to present much more compelling textual evidence than he does to show that his reading of Locke is faithful.

Although it seems implausible to think that Locke actually endorsed equal division, perhaps equal division can be *incorporated* into Locke’s theory in order to make it more normatively attractive. We might for example use equal division as a *baseline* for determining harm in some kind of neo-Lockean Harmless Appropriation theory. This is the approach taken by Michael Otsuka who argues that an Egalitarian proviso (i.e. one which specifies equal division as the baseline) would provide a remedy to the defects with Nozick’s Harmless Appropriation account.³⁰⁵

This idea certainly has some intuitive appeal. Locke’s standard for determining harm, I have argued in the previous chapter, is too stringent. Nozick’s standard for determining harm is too permissive. Perhaps then an equal division baseline would be just right.

But while equal division may well be a more plausible baseline than the Lockean or Nozickian standards, it is unclear what is gained by incorporating equal division into a Harmless Appropriation theory when compared with simply endorsing a standalone Equal Division conception. One possibility is that Locke’s theory provides a solid foundation for the broader proposition that people have equal claims to natural resources;

³⁰⁴ Cohen, *Self-Ownership, Freedom, and Equality*, 77 fn. 20.

³⁰⁵ This is the Egalitarian proviso Otsuka presents: “You may acquire previously unowned worldly resources if and only if you leave enough so that everyone else can acquire an equally good share of unowned worldly resources.” Otsuka, “Self-Ownership and Equality,” 157.

a proposition which Equal Division conceptions must take as their starting point.

However, in Chapter Two I pointed out the flaws with the Lockean and neo-Lockean foundations for the equal claims view (God, self-preservation, and initial liberty.)³⁰⁶ In addition, I have provided a separate libertarian argument for the equal claims view that does not rely on these foundations.³⁰⁷

A second reason why it might be attractive to incorporate equal division into Locke's theory might be that his theory provides an account of *unilateral* appropriation. Since obtaining universal consent is all but impossible logistically, it might seem as though some account of unilateral appropriation would be a necessary part of any plausible theory of natural resource property rights.

The problem with this argument is that it sets up a false dichotomy between Harmless Appropriation conceptions and Joint Ownership conceptions. It ignores other possibilities, including simply implementing equal division. Equal Division conceptions grant each person an equal share of natural resources and can use her share *without* the consent of others.³⁰⁸ In addition, anyone who wishes to obtain more than her equal share of natural resources need not obtain *everyone's* consent. She need only obtain the consent of those whose share she wishes to acquire.³⁰⁹ Once it is recognized that there are other alternatives to unilateral appropriation besides Joint Ownership, the attempt to

³⁰⁶ See Section 2.1

³⁰⁷ See Section 2.2

³⁰⁸ There is no need to obtain others' consent to use one's share because others' equal claims to natural resources have already been respected by *also* being given equal natural resource shares.

³⁰⁹ This assumes that people may permissibly alienate their shares, which I argue below they ought to be able to do.

rehabilitate Locke's theory of unilateral appropriation by substituting equal division as a baseline becomes a far less attractive project.

Trying to incorporate equal division as a baseline in some kind of Harmless Appropriation conception not only lacks advantages relative to simply endorsing equal division directly. It also faces two important problems. First, it requires that individuals be willing and able to *appropriate* natural resources in order to obtain ownership of their share. So for example, under a Harmless Appropriation conception with an equal division baseline, Able (the able-bodied person from the Cohen island example) may be prevented from appropriating more than an equal share of resources. But this does not guarantee that Infirm (the other person on the island who is disabled) will actually gain ownership of the left-over share. Infirm still has to somehow *appropriate* the remaining natural resources. And this is something that Infirm may simply not be able to do. If appropriation requires some physical action, Infirm will be excluded from owning any useful resources under a Harmless Appropriation conception with equal division as the baseline. Actually implementing equal division, on the other hand, guarantees Infirm ownership of a share of resources.³¹⁰

Otsuka might respond that we need not take the Lockean view that some kind of labor-mixing is required for appropriation. Perhaps appropriation could be some kind of perfectly costless activity. But if so, it seems that the result is exactly the one generated by simply insisting on equal division.³¹¹ All that is gained by placing equal division as a baseline in some kind of Harmless Appropriation conception is added theoretical

³¹⁰ In addition, individuals such as Conservationist (the woman who simply wishes to keep resources in their pristine condition) also does worse under a system that requires her to appropriate the resources.

³¹¹ This is true if we allow for perfectly costless divestment of ownership of unwanted natural resources.

complexity. So instead of trying to connect equal division to some kind of Lockean or neo-Lockean theory, I argue that equal division should be seen as an *alternative* to the Lockean approach to natural resource property rights.

5.2 A Simplified World

Rather than attempting to rehabilitate Locke, I am interested in developing and defending an independent Equal Division conception of the equal claims view. However, a variety of obstacles stand in the way of this task. The first is the sheer complexity of the real world. We live in a world which has a wide variety of natural resources and continually experiences social, technological, and demographic change. Additionally, our world is comprised of multiple political entities, and has a complex and morally problematic history.

Most theorists who write on natural resource property rights, including those whose theories were considered in Chapter Four, largely ignore most of these real-world complexities. Of course, some initial abstraction from complexity is unavoidable. It is hard to see how a theory of natural resource property rights can be developed without initially abstracting from at least some complexities. The problem is that often these other theorists do not make explicit their simplifying assumptions. More importantly, after developing their basic theory, these thinkers rarely consider how their theories could be adjusted to accommodate the real world complexities. If they do consider these complexities, it is often only in a very cursory and unsatisfactory way. While I also will begin developing my conception of the equal claims view in a highly simplified world, I

intend to make my simplifying assumptions explicit and to relax each of these assumptions in later chapters.

I begin by considering a modified version of Bruce Ackerman's manna planet example.³¹² Ackerman asks us to imagine a group of space explorers on their way to a previously uninhabited planet rich in a useful and scarce natural resource called manna.³¹³ Ackerman asks us to assume that no other beings have prior claims to this manna and to think about property rights in the planet's manna ought to be distributed among the explorers.

I make several simplifying assumptions about the explorers' situation. I will group these assumptions according to the chapter in which they will be relaxed.

Assumption relaxed in Chapter Six:

- Every grain of manna is identical in practically every way to every other grain.³¹⁴
- Manna is a private good. That is, one explorer's consumption of a grain of manna precludes others from consuming that particular grain of manna as well, and it is a straightforward matter to exclude certain individuals from enjoying particular portions of manna.
- There are no scale economies or externalities in the harvesting of manna.

Assumptions relaxed in Chapter Seven:

- The explorers only live for four time periods. In the first time period, the manna property rights are distributed. In the second time period, transfers of manna shares may take place. In the third period, the manna is harvested. In the fourth period, the manna is consumed.

³¹² Ackerman, *Social Justice in the Liberal State*, 31-34.

³¹³ That is, there is not enough manna to meet all the manna desires of the explorers.

³¹⁴ The only feature that will differ for the manna is their location since even identical manna cannot occupy the same space. I ignore this problem by assuming that the location of the manna is unimportant for some reason (e.g. there is a costless transportation technology).

- No significant changes occur in the explorer technology, explorer preferences, and natural circumstances between the time when the manna is initially distributed to the time when the explorers consume the manna.

Assumption relaxed in Chapter Eight:

- The explorers have no children and no new individuals arrive on the planet.

Assumption relaxed in Chapter Nine:

- The explorers form a single political society.³¹⁵

Assumptions relaxed in Chapter Ten:

- No explorer has an existing legal property right to the manna.
- No explorer has special claims to the manna based on historical injustice.
- The explorers have a computer that can implement and enforce whatever property rights regime is determined to be just (with economic costs similar to those facing a government in a developed economy).

Clearly, the manna planet is highly simplified compared to our own world. Yet, as will become apparent in future sections of this chapter, it is not so simplified as to avoid many of the most central philosophical controversies regarding natural resource property rights. Once these basic controversies are considered using this tractable example, the simplifying assumptions will be relaxed in future chapters.

5.3 What Kind of Equal Division?

The first basic controversy is over the standard of equality that equal division should aim for. It is useful to begin by setting out the different types of equal division that I will consider in the following section using a simple, familiar example. Instead of

³¹⁵ The reader is free to assume whatever conditions are necessary for a group to constitute a single political society (e.g. being a single people, constituting a single scheme of social cooperation, etc.).

natural resources, imagine that we have a homogenous cake that we are planning to equally divide among two individuals. I consider three possible ways to “equally divide” the cake:

1. The first solution entails dividing the cake in order to achieve, as far as possible, an *absolute* equality among the two individuals according to some metric.³¹⁶ Let us assume that welfare is the relevant metric and that one person is significantly worse-off than the other. This solution would entail giving the entire cake to the person who is worse-off.³¹⁷ I call this a **compensatory equal division**.
2. The second solution entails divide the cake so that each person receives an *equal amount* of cake. Since the cake is perfectly homogeneous, we can straightforwardly implement this solution by giving each person exactly one half of the cake. I call this a **resourcist equal division**.
3. The third solution entails dividing the cake so that the *incremental benefits* (according to some metric) each person receives from her share of cake are equal. Let us assume that we are measuring benefits in terms of welfare and that one person enjoys cake significantly more than the other. This solution would entail giving the person who really enjoys cake a *relatively small* portion of cake and giving a *much larger* portion of the cake to the person who only somewhat enjoys cake. This ensures that the welfare *increase* each person enjoys from her share of cake is equal. I call this an **incremental benefitist equal division**.³¹⁸

Two things are worth emphasizing about these three options. First, note that compensatory equal division can best be described as attempting to achieve equality *among individuals* whereas resourcist and incremental benefitist equal division seem more aptly described as aiming at achieving some kind of an equality *of shares* of cake.

Second, note that an incremental benefitist equal division can lead to very different

³¹⁶ A variety of metrics are possible here (welfare, autonomy, etc.). The only metrics that are excluded as possibilities are the amount of resources or incremental benefits from resources that the individuals receive since these metrics would collapse compensatory equal division into one of the other two types of equal division.

³¹⁷ I am assuming here that even if the worse-off person were to receive the entire cake, she would still be worse off than the other person.

³¹⁸ Often the contrast is drawn between welfarist and resourcist views. I use the term “benefitist” in order to leave open the possibility that something other than welfare is important. “Benefit” in my sense corresponds to what G. A. Cohen calls “advantage.” See Cohen, “On the Currency of Egalitarian Justice.”

results compared with a compensatory equal division even though both involve measuring of individual benefits. So for example, imagine that A really enjoys cake and is significantly worse-off in terms of overall welfare than B who does not enjoy the cake so much. An incremental benefitist equal division would require giving more of the cake to the B in this case because B needs more cake to get the same incremental benefit as A. Compensatory equal division on the other hand would give more of the cake to A (who is worse-off overall).

With these distinctions in mind, I would like to focus in this section on the plausibility of compensatory equal division (the view that gives the whole cake to the worse-off person) as a way of respecting natural resource claims. At first glance, it might seem as though we have already considered and dismissed the possibility of dividing natural resources in order to achieve absolute equality among individuals from both a libertarian and a liberal egalitarian perspective. In Chapter Two I argued that libertarians can reject such proposals because they are committed to a theory where respect for negative liberty is the only principle of distributive justice besides a broader commitment to equal concern. Dividing natural resources in order to equalize welfare would seem to entail giving people who have lower welfare greater claims to natural resources. And doing so seems to require a commitment to a welfarist principle that, at least at first glance, is at odds with the rest of the libertarian framework.³¹⁹

In Chapter Three I discussed the idea of distributing claims to natural resources unequally in order to compensate for other undeserved inequalities from a liberal egalitarian perspective. I conceded that this unequal distribution of natural resource claims might be justified on a liberal egalitarian account. But I argued that problems of

³¹⁹ See Section 2.2.1

commensurability between different types of resources, doubt about the identifiability of other undeserved resources, and a pragmatic desire to advance the egalitarian agenda provide reasons for liberal egalitarians to endorse the equality of natural resource claims.

Compensatory equal division proposals, though similar *in outcome* to the proposals that have been dismissed in Chapter Two and Three, are framed in a different way. Namely, proponents of compensatory equal division are *not* arguing that those with lower welfare or should receive *greater claims* to natural resources. They seem to concede that all individuals have equal initial claims to natural resources. But they argue that the *best way to respect these equal claims* is to divide natural resources in a way that compensates for certain types of inequalities among people. Some proponents of these proposals go even further to argue that compensatory equal division actually can be seen as giving each person an *equally good share*.

In order to evaluate the plausibility of these ideas, it is useful to consider a specific proposal for compensatory equal division. Michael Otsuka proposes to distribute natural resources in order to achieve equality in individuals' access to a certain type of welfare.³²⁰ Namely, he would like to see natural resources distributed in a way that compensates individuals for differences in their well-being that are generated by inequalities in (what I have been calling) undeserved resources.³²¹

While Otsuka argues that his proposal can plausibly be interpreted as granting each person an *equally good share* of natural resources, the *shares* people receive under Otsuka's proposal are neither objectively equal nor even equally good for each

³²⁰ Otsuka, "Self-Ownership and Equality." Otsuka's project is to show that self-ownership is compatible with a certain kind of egalitarianism.

³²¹ Undeserved resources are those that are not the result of choices for which individuals can be held morally responsible. See Section 3.2 for a further discussion.

individual.³²² To see this, let us go back to the example of dividing the manna and consider the share of manna that Otsuka would assign to Happy, an explorer who can achieve a relatively high level of welfare without owning any natural resources. The best way to equalize access to welfare may be to give all of the natural resources to those who are below Happy's level of welfare.³²³ So Happy may well receive *no* natural resources under Otsuka's proposal. Now, it seems absurd to insist that Happy has received a *share* of manna that is equally good to those that others received when he has received no share at all. It seems much more accurate to hold that Happy's share of manna is indeed unequal, but that this inequality in shares is necessary for achieving a certain kind of *equality among individuals* (in Otsuka's case, an equality of access to a certain type of welfare).³²⁴ Otsuka's attempt to argue that his conception gives each person an equally good share is misguided.

Not all theorists who endorse what I have called compensatory equal division of natural resources classify their conceptions as giving individuals equally good shares.

Peter Vallentyne, who takes individuals' "effective opportunities for a good life" as the

³²² Otsuka states that on his reading, "Someone else's share is as good as yours if and only if it is such that she would be able (by producing, consuming, and trading) to better herself to the same degree as you..." He then goes on to say that "The phrase 'to the same degree' can be interpreted either as (1) 'by the same incremental increase in welfare' or (2) 'to the same absolute level of welfare'." His theory takes interpretation (2) of 'to the same degree'. But while 'to the same degree' can *generally* be interpreted as (2), the way in which it is used to clarify the phrase 'equally good share' above only admits (1), the same incremental increase interpretation.

³²³ Of course, if Happy, like everyone else, needs some natural resources (e.g. air, water, food.) But under Otsuka's conception, he can just buy these from the less well-off (assuming that these transactions can meet the appropriate standard of voluntariness).

³²⁴ It is worth noting that in a world with significant income inequality, no distribution of natural resources could achieve equality to access to welfare while still respecting individuals' effective self-ownership. Imagine trying to give every person the same access to welfare that Bill Gates has. Even if we take away any of Bill Gates's wealth that is attributable to the current natural resource property rights regime, there would still be no where near enough natural resources in the world to accomplish this goal. We could of course give the poor monopoly power over some essential natural resources that would force Gates to hand over a large portion of his wealth to them. But Otsuka rules out this possibility. See Otsuka, "Self-Ownership and Equality."

equalizand instead of individuals' access to welfare, recognizes that he is endorsing an *unequal* division of natural resource wealth.³²⁵ However, Vallentyne's theory (like Otsuka) is premised on the idea that natural resources belong to everyone in some egalitarian manner.

But Vallentyne's compensatory equal division proposal cannot be plausibly derived from the premise that natural resources belong to everyone. Again, the fact that individuals such as Happy do not receive any natural resources under compensatory equal division makes the problem apparent. Vallentyne would acknowledge that natural resources belong to everyone *including Happy*. But if Happy receives no natural resources whatsoever, it is not at all clear how his claim to natural resources has been respected. Otsuka and Vallentyne's theories can lead to a straightforward violation of the non-exclusionary condition, which, as I argued in Chapter Four, is a condition that all plausible conceptions of the equal claims view ought to meet. Thus, compensatory equal division can, I think, most accurately be described as distributing natural resource claims *unequally* in order to compensate for other inequalities among individuals. It cannot be plausibly described as granting individuals equal shares or respecting some kind of initial egalitarian ownership of natural resources.

Though the main goal of this section is to show that compensatory equal division cannot be a plausible conception of the equal claims view, now that this point has been clarified, it is worth taking some time to consider Otsuka and Vallentyne's theories *as challenges* to the equal claims view.³²⁶ It is useful to begin by carefully situating their

³²⁵ See Nicolaus Tideman and Peter Vallentyne, "Left-Libertarianism and Global Justice," *Human Rights in Philosophy & Practice*.

views on the liberal spectrum. Classifying their view along with thinkers such as Steiner as *left-libertarian* seems to me to be a mistake. A view like Steiner's needs only two principles: an abstract commitment to equal concern and a commitment to formal self-ownership.³²⁷ Since self-ownership says nothing about the distribution of natural resources, a commitment to equal concern implies, as I argued in Chapter Two, that claims to resources ought to be seen as equal. This view is best classified as left-libertarian.

Otsuka and Vallentyne, on the other hand, seem to me to be best described as self-ownership-constrained egalitarians or **libertarian egalitarians**. That is, while they are committed to achieving some kind of equality among individuals, they are unwilling to condone any violations of formal self-ownership in order to do so. In effect, their view requires three principles: an abstract commitment to equal concern, a commitment to formal self-ownership, and a commitment to some egalitarian distributive principle (e.g. in Otsuka's case, that individuals' welfare should not be differentially determined by factors for which the individuals bear no moral responsibility). On this view, the self-ownership principle has a *lexical* priority over the egalitarian principle, and whatever resources are not defined as being self-owned are up for distribution in accordance with the egalitarian principle.

Ironically, with the exception of right-libertarians, these libertarian egalitarians are likely to be the least sympathetic to equal claims view I am defending here out of all

³²⁶ Since they themselves seem to classify their views as respecting equal claims, their theories were not discussed in chapter three.

³²⁷ For simplicity, I am ignoring Steiner's view about germ-line information.

the liberal theorists I have considered so far.³²⁸ After all, liberal egalitarians can largely achieve their egalitarian objectives even if natural resource claims are distributed equally through an equal distribution of *other* undeserved resources (e.g. the products of talents.) For libertarian egalitarians on the other hand, one of the only ways (or on some views even the only way) to achieve their egalitarian objective is through an unequal distribution of natural resource claims.³²⁹

Since libertarian egalitarianism is less likely to support the equal claims view than other liberal views, it is worth asking how plausible a liberal view it is. Its strength, I think, lies in its ability to appeal both to libertarians and to liberal egalitarians. It can both achieve to a significant extent the liberal egalitarian goal of ensuring that individuals do not suffer as a result of choices that they are not morally responsible for while at the same time avoiding violations of any person's formal self-ownership. Insofar as someone sees both formal self-ownership and the egalitarian distributive goals as normatively desirable, this view will have great intuitive appeal.

The problem, as many theorists have pointed out, is that it lacks a kind of theoretical coherence.³³⁰ Although I will not review all the criticisms made against it here, one problem that critics have not sufficiently highlighted is that the lexical priority of the self-ownership principle over the egalitarian principle is insufficiently justified. If achieving some type of egalitarianism is an important goal that has some normative

³²⁸ It is ironic because both Vallentyne and Otsuka bill themselves as supporting some kind of egalitarian ownership of natural resources.

³²⁹ Whether it is the only way or one of the only ways will depend on the exact conception of what falls under self-ownership.

³³⁰ See for example Barbara Fried, "Left-Libertarianism: A Review Essay," *Philosophy & Public Affairs* 32, no. 1 (2004). Also see Mathias Risse, "Does Left-Libertarianism Have Coherent Foundations?," *Politics, Philosophy & Economics* 3, no. 3 (2004).

weight; a weight strong enough to overcome what I have called the presumption of equality of natural resource claims, then why is this normative weight *never enough* to overcome the force of formal self-ownership? If someone could earn a million dollars with a minute of her time as a result of her natural talents, and these resources could go a long way to achieve the desirable egalitarian goal, wouldn't we be justified in taxing her even a little bit?

Although much more could be said about libertarian egalitarianism, a full critique of this view is beyond the scope of this work. Here, I will make three final points. First, although libertarian egalitarians are generally likely to be unsympathetic to the equal claims view as I have presented it, they might nevertheless be convinced to endorse it by the pragmatic argument I presented to liberal egalitarians in Chapter Three. Namely, the moral costs of the status quo are enormously large, equalizing natural resource claims would be a step in the right direction, and it is likely to be a step that can garner the support of a wide variety of theorists.³³¹

Second, it is difficult to know what Otsuka and Vallentyne would think of this argument because they seem to believe that their proposals for natural resource distribution *are* plausible ways of respecting individuals' equal claims to natural resources. But compensatory equal division cannot be seen as giving every person an equally good share of natural resources nor can it be seen as respecting some kind of egalitarian ownership. Since it is exclusionary, compensatory equal division is simply not a plausible way of respecting equal natural resource claims.³³²

³³¹ See Section 3.4

³³² One might wonder why we are focusing so much on respecting equal natural resource claims. After all, as Dworkin argues, liberal justice rightly understood must *ultimately* be aimed at achieving the right kind of equality among individuals. But there is no consensus among liberals on what is the *right* kind of broader

Finally, it is worth reviewing why I am focusing on the equality of natural resource claims so much here. After all, surely liberal distributive justice rightly understood must *ultimately* aim at achieving the right kind of overall equality among individuals. But there simply is no consensus among liberals on what is the *right* kind of broader equality among individuals that ought to be pursued. Many liberals do not share Otsuka and Vallentyne's intuitions about the need for an egalitarian principle. But liberals can agree on equalizing claims to natural resources. And this is best done, I have argued, by giving each individual an equal natural resource share, something which compensatory equal division does not accomplish.

5.4 The Right Standard for Equality of Shares

The next question that arises is what standard should be used to equalize natural resource shares? We can try to equalize *the amount* of manna each person receives (i.e. implement a resourcist equal division). Alternative, we can try to equalize the *incremental benefit* that each person's manna share gives her (i.e. implement an incremental benefitist equal division). I argue in this section that neither of these ideals in their pure forms is necessarily the right one. Instead, I contend that *ideally* we should distribute natural resources so that no person receives an *unjustifiably* higher level of benefit from their share of manna than anyone else does. However, given serious philosophical and practical uncertainties and the costs associated with implementing this

equality among individuals. Many liberals do not share Otsuka and Vallentyne's intuitions about the need for an egalitarian principle. But many liberals *can* agree that giving each individual an equal claim to natural resource is a step in the right direction towards achieving the right kind of equality among individuals.

ideal, I argue that we ought to nevertheless *provisionally* aim for a resourceist equal division.

5.4.1 THE PURE INCREMENTAL BENEFITIST APPROACH?

While I argue that there are many problems with the incremental benefitist approach, it is useful to begin by emphasizing that being exclusionary is not one of them. This is because a benefitist equal division, unlike a compensatory equal division, aims at equalizing the *incremental* benefits a person obtains from natural resources instead of aiming to achieve some *absolute equality of overall benefits* among individuals.³³³ Assuming that natural resources increase every person's benefit to some degree, each person will receive *some* resources under a scheme that aims at an equal incremental increase in everyone's benefits.³³⁴ In the cake example, even if one of the people *absolutely adores* cake while the other only mildly likes it, both will receive at least some cake (although the person who absolutely adores cake will only receive a miniscule portion).

³³³ Otsuka wants to argue that the absolute approach he takes is not really very different from the incremental approach. He points out that without natural resources, everyone would have the same (very low level) of wealth and that in this case, distributing resources to generate the same incremental increase in welfare for every person will achieve the same result as distributing them to achieve an absolute equality of individuals' welfare. See Otsuka, "Self-Ownership and Equality," 171 fn. 39. While this is correct, this argument is odd because it seems to contradict the whole point of Otsuka's piece (which is to show how the distribution of natural resources could achieve equality of access to welfare given self-ownership.) If natural resources are distributed *before* the inequalities created by self-ownership are generated (i.e. when people are very poor), then their distribution will certainly not achieve Otsuka's goal.

³³⁴ If everyone benefits from natural resources and Person A is receiving some natural resources, then everyone else must also be receiving some natural resources (enough to give them each the same increase in benefit as A received.) If natural resources do not generate more benefits for some person, then it is unclear how an incremental benefitist equal division would even proceed. The only possibilities seem to be to either simply ignore that person or, more faithfully, to not give anyone any natural resources (since then no one would receive any increase in welfare from their natural resource share.) The second option seems particularly unattractive.

While the charge of exclusion may not apply, there are a variety of problems with a pure benefitist equal division including philosophical and empirical difficulties in measuring benefits and making interpersonal concerns. I will return to these problems (which plague all proposals that aim to compare benefits) shortly.³³⁵ Instead, I would like to focus on the particular difficulties faced by a pure incremental benefitist approach to distributing natural resources.

One fundamental philosophical problem for the pure benefitist approach is that not all discrepancies in benefits that people could receive from their manna shares seem normatively objectionable. If one person has taken deliberate action to develop expensive tastes for manna (so that she needs a greater amount of manna to get the same benefits compared to before), we may not think that she should thereby receive sufficient manna to make her incremental manna benefit equal to that of everyone else. Another example where we may not be bothered by differences in benefits is if one person has offensive preferences (e.g. someone receives fewer benefits because he is not satisfied with his share unless he gets more than members of some minority group who he thinks are inferior.) These problems have been discussed at length by political theorists.³³⁶

But there is another problem with the pure incremental benefitist equal division of natural resources which only arises when, as is the case in this situation, we are trying to distribute a particular type of resource in an incremental benefitist way while other resources are distributed according to different criteria. I use a welfarist conception of benefit to illustrate this problem. Consider how we ought to distribute the manna among

³³⁵ Although I did not mention this above, these difficulties also plague compensatory equal division proposals like Otsuka's.

³³⁶ See for example Ronald Dworkin, "What Is Equality? Part 1: Equality of Welfare," *Philosophy and Public Affairs* 10, no. 3 (1981).

Rich (a millionaire) and Destitute (who is extremely poor). The first thing to point out is that a benefitist distribution would ensure that Rich and Destitute receive the same incremental benefits from their manna share despite the fact the Rich's wealth might already be providing him with higher welfare than Destitute. As Vallentyne points out when he briefly considers the possibility of a benefitist equal division, this might strike egalitarians as problematic.³³⁷

But there is a much bigger problem that Vallentyne overlooks. Namely, incremental benefitist equal division would require giving Rich *a very large quantity* of manna while Destitute receives *almost none*. To see the reason, note that welfare exhibits what economists call decreasing marginal returns to material resources.³³⁸ That is, it takes increasing amounts of material resources to generate the same increase in welfare the more of these material resources someone already has. An additional thousand dollars (or thousand dollars worth of resources) will *generally* not increase Rich's welfare by as much as it will increase the welfare of Destitute. So if we want the natural resource shares to generate an equal increase in welfare for both individuals, this implies that we will generally have to give Rich an *enormous amount of manna* relative to Destitute.³³⁹ Those with *more* non-natural resource wealth will generally receive a *larger* share of

³³⁷ Vallentyne, "Introduction: Left-Libertarianism - a Primer," 11.

³³⁸ By grouping natural resources and other resources together here under "material resources", I am assuming that there is substitutability between these different resources in the person's benefit function. This seems to be a reasonable assumption, especially given that natural resources can be exchanged in the market for other types of resources.

³³⁹ This problem arises because we are distributing one type of wealth and assuming people already vary in terms of their other types of wealth. If we distributed *all wealth* to equalize welfare, this problem would not arise. But such a theory would no longer fall in the liberal tradition and so I do not consider it here.

natural resources under a benefitist equal division.³⁴⁰ Those who are extremely poor (e.g. Destitute) will generally receive relatively tiny natural resource shares.³⁴¹ Given this highly unappealing result, as well as the other problems with the incremental benefitist approach, it is no wonder that no advocate of equal division supports a pure incremental benefitist approach.

5.4.2 A RESOURCIST EQUAL DIVISION AS THE IDEAL?

Most theorists who support equal division support a resourcist equal division (which in this case would entail giving every person an identical amount of manna). Some supporters of the resourcist approach have simply assumed it is correct without considering alternative approaches.³⁴² Others have traditionally relied on the numerous problems with the pure benefitist approach to make the negative case for the resourcist approach.³⁴³ I argue in this section that this negative argument for a resourcist equal division is unconvincing.

There are two main problems with this negative defense of the resourcist approach. First, the resourcist position itself seems to be vulnerable to a powerful objection. As Amartya Sen points out, those who focus on equalizing the *quantity* of

³⁴⁰ Note that this problem occurs whether we define benefits in terms of welfare or in some other way (opportunity, autonomy, etc.). As long as the benefit exhibits decreasing marginal returns to material resources, natural resources will be perversely distributed in inverse relation to the magnitude of individuals' non-natural resource wealth.

³⁴¹ Otsuka seems to recognize this problem when he writes that a division that aims at an equal incremental increase in welfare "lacks intuitive plausibility ... when [people] start off at very different absolute levels of welfare in the absence of [natural resources]." Otsuka, "Self-Ownership and Equality."

³⁴² See for example Steiner, "Original Rights and Just Redistribution."

³⁴³ Dworkin for example points out the problem with aiming at equality of welfare before making the case for his theory of equality of resources. See Chapters One and Two of Dworkin, *Sovereign Virtue: The Theory and Practice of Equality*.

resources that each person receives seem to be suffering from a “fetishist handicap.” Surely, what is ultimately important is not the *quantity* of natural resources that individuals receive. Instead, what matters is how natural resource shares benefit individuals (in Sen’s words, what resources “do to human beings.”³⁴⁴) If so, then it is not at all clear why we should aim to equalize the *quantity* of resources.

The second problem with the negative argument for the resourcist position is that it sets up a false dichotomy between the pure benefitist approach and the resourcist approach. As Cohen points out, such an “all or nothing” approach seems unwarranted. It seems perfectly possible to hold that *some* differences among people (e.g. expensive tastes, offensive preferences, or certain differences in non-natural resource wealth) justify discrepancies in incremental manna benefits while *others may not*.³⁴⁵

5.4.3 A JUSTIFIED INCREMENTAL BENEFITIST EQUAL DIVISION

Given the problems with both the resourcist and the pure benefitist approaches, it seems quite possible that they might both be wrong. Or at least, much more would need to be said to show that either one is right. I suggest here the alternative to both of these approaches is that equal division of the manna should ideally aim to ensure that individuals’ shares are distributed so that there are no *unjustified* discrepancies in the incremental benefits individuals receive from their manna shares. I call this a justified incremental benefitist equal division.

³⁴⁴ See Sen, "Equality of What? The Tanner Lecture on Human Values," 216-18.

³⁴⁵ Cohen, "On the Currency of Egalitarian Justice." Note that Cohen makes this distinction in arbitrating between a resourcist and welfarist theory of overall distributive justice. Here I am employing an analogous distinction between unjustified and justified differences in *incremental* benefits from natural resource shares.

To see the intuitive appeal of this position, imagine that we are again dividing cake among two individuals who we assume have equal claims to the cake. Imagine that due to being born with a low number of tastebuds, one of the individuals needs more cake than the other to get the same level of enjoyment. To avoid appealing here to a broader egalitarian intuition, let us imagine that the person with the low number of taste buds is somewhat better off than the other person overall (due to perhaps a stronger work-ethic). A resourcist equal division will give each person half the cake. The incremental benefitist equal division will give the person with the low number of tastebuds more than half the cake. Although I do not expect that everyone will agree on this outcome, I think an incremental benefitist equal division becomes at least significantly more plausible once we consider cases where the difference in incremental benefits is due to factors that are in some sense undeserved.

Unlike Cohen, I take generally take no position on *what differences exactly* (e.g. in talent, effort, preferences, etc.) actually justify discrepancies in the ultimate incremental benefits that individuals derive from their shares of natural resources. Admittedly, without such an account, neither a pure benefitist approach nor a resourcist approach is precluded.³⁴⁶ Thus, while we have made progress in rejecting the simplistic pure benefitist/resourcist dichotomy, it now appears impossible to proceed without taking sides on crucial liberal controversies; controversies which are far beyond the scope of this dissertation.

³⁴⁶ The pure benefitist can hold that *no difference* among individuals justifies a discrepancy in their manna share benefits while the resourcist can hold that *every difference* among individuals *except for a difference in their initial quantity of resources* justifies the resulting discrepancy in the benefits that individuals receive from their manna shares.

5.4.4 THE PRAGMATIC ARGUMENT FOR EQUALIZING AMOUNTS

Without taking sides on these controversies, I cannot make an argument for how *exactly* the manna should be divided *ideally*. Nevertheless, in this section, I aim to provide an argument for implementing a resourcist equal division *in practice as a good first step*. Implementing a justified incremental benefitist equal division requires solving a variety of theoretical and methodological problems; problems which are unlikely to be solved anytime soon and which to a large extent do not arise when trying to implement a resourcist equal division. I also argue that a resourcist equal division may not be so far from the justified incremental benefitist equal division. More importantly, it is a feasible, desperately needed improvement over the status quo. Just as liberal egalitarians have pragmatic reasons for supporting the proposal to equalize claims to natural resources separately from claims to other undeserved resources as a good first step, so too do supporters of a justified incremental benefitist equal division have good reasons to support a resourcist equal division as a practical first step.

Implementing a justified incremental benefitist equal division requires solving a wide variety of theoretical problems. First, it requires developing the right conception of “benefits” (i.e. whether benefits should be seen in terms of welfare, capabilities, freedom, etc.) Second, it requires finding a proper method to theoretically measure these benefits. Third, it requires having an account of how to make the necessary interpersonal comparisons of these benefits. Fourth, it requires an account of what factors do and do not justify discrepancies in incremental benefits.³⁴⁷ Finally, it requires a developing a

³⁴⁷ Egalitarians liberals disagree among themselves about which differences require compensation (e.g. effort). But even in those areas that they agree among themselves that compensation would be required (e.g. when it comes to differences in natural talents) the vehement disagreement of other liberals might well engender some uncertainty.

theoretical method for assessing the relative contribution of different factors to a particular level of benefit. These problems are enormously difficult to solve.

Yet even if there were no philosophical uncertainty about any of these issues, there would still be a variety of logistical and epistemic difficulties involved with achieving a justified incremental benefitist equal division. First, it is difficult obtain the information necessary to accurately isolate and measure the magnitude of the effect a particular factor has on a person's incremental manna share benefits. Second, even if there were agreement on how in principle to make interpersonal comparisons of benefits, making these interpersonal comparisons in practice might require some dubious estimates, questionable assumptions, and high costs.

We could wait until all these problems have been resolved to a satisfactory extent before reforming the current natural resource property rights regime. But these problems are some of the thorniest in political philosophy and are unlikely to be solved in a way that allows us to operationalize a justified incremental benefitist equal division anytime soon. In the meantime, however, people are dying in part due to not having access to natural resource wealth. In such a situation, it seems incumbent upon us to try to find a compromise that is relatively uncontroversial and possible to implement. I argue that a resourcist equal division is such a compromise.

The theoretical and practical challenges involved with implementing a justified incremental benefitist equal division do not arise in the case of a resourcist equal division. There is no need to agree on the proper concept of benefit, the proper way of measuring and making interpersonal comparisons of benefits, the proper account of what justifies discrepancies in benefit, and a theory of how different factors contribute to

benefits. In addition, at least in the homogeneous natural resource case considered in this chapter, implementing a resourcist equal division is very straightforward. In future chapters, I argue that it is possible to implement a resourcist equal division in more complex cases. It is this basic feasibility which makes a resourcist equal division special relative to other distributions of natural resources.

Second, it is worth emphasizing that in advocating a resourcist equal division, I by no means preclude future redistributions of natural resources to bring us closer to a justified incremental benefitist equal division. It may well be that there are some discrepancies in incremental benefits that are uncontroversially unjustified, easy to measure, etc. Alternatively, it may be that in the future there will be far more consensus on the theoretical controversies discussed above than there is today. An argument which satisfactorily demonstrates the existence of unjustified discrepancies in incremental natural resource benefits would certainly, on my account, warrant natural resource redistribution. And there is nothing stopping us, once we have implemented a resourcist equal division, from then carry out adjustments for unjustified discrepancies through the redistribution of natural resources if a clear case could be made for doing so.

However, while philosophers continue to debate the issues that would enable them to make such a case, I argue that we should move forward with implementing a resourcist equal division as a first step. Part of the case for doing so is that a resourcist equal division may be closer to a justified incremental benefitist equal division than we might think. The first reason has to do with the fact that natural resources are transferable. So someone who cannot herself make full use of natural resources due to, for example, a lack of talent or a disability can often sell the natural resource to someone

who is not so hampered and get at least some benefit out of her natural resource share. Thus, one of the most important potential sources of unjustified discrepancy in incremental benefits on the liberal egalitarian account (differences in talents) is unlikely to have enormous consequences in the case of natural resources.

Second, the sources of unjustified discrepancies in benefits might be compensated for more generally in the society. So let us imagine that through no fault of his own, a particular person is generally glum and so is unable to get as much benefit from his natural resource share as others do. Those who see glumness as a source of unjustified discrepancy in benefits might advocate compensating the person for his glumness more generally. If so, there will be no need to compensate him again for the effects of his glumness specifically when distributing natural resources by giving him a greater amount of manna than everyone else receives. As long as general compensation is occurring in society for the sources of unjustified discrepancies in benefits, a resourcist equal division may be perfectly appropriate.

In Chapter Three I argued that liberal egalitarians have pragmatic reasons for endorsing equalizing natural resource claims separately from claims to other undeserved resources as a good first step. A parallel argument can be made for focusing on equalizing the quantity of resources that each person receives as a good first step even if one does not agree that it should be the ultimate goal.³⁴⁸ When thinking about the current highly uneven distribution of natural resource wealth in the world, one in which many individuals do not have ownership of to any natural resources or natural resource wealth whatsoever, it would be very hard, I think, for a proponent of any justified incremental

³⁴⁸ The analogous empirical claim that would be required is that a resourcist equal division would get us significantly closer to a division that avoids unjustified discrepancies in incremental benefits compared with the status quo. I think this empirical claim is to a large extent correct.

benefitist equal division conception to argue that moving to a resourcist equal division would not be a drastic improvement. And unlike other proposals, implementing a resourcist equal division does not require overcoming nearly as many theoretical and practical difficulties. It thus may be possible for liberal proponents of equal division to agree on implementing a resourcist equal division (i.e. a division where each person receives an equal amount of natural resources) in practice as a good first step.

5.5 What Constitutes Ownership?

Granting that we are interested in implementing a resourcist equal division, the next question is what exactly this entails. A resourcist equal division grants each person ownership over an equal quantity of natural resources. In the homogeneous manna case, determining what constitutes an equal quantity of natural resources is straightforward since the manna is, *ex hypothesi*, identical in all relevant respects. So the difficult question in the homogenous case is what rights exactly should constitute *the ownership* that individuals have over their manna shares.³⁴⁹

In well-known essay, A. M. Honoré describes and analyzes the different rights and duties that potentially constitute the liberal concept of ownership. I use his analysis as a guiding framework in considering the kind of ownership that individuals should have in their manna shares.³⁵⁰

³⁴⁹ Of course, the question of what kind of ownership people should have in natural resources could have been considered earlier. However, since the criticisms I made of proposals such as first possession ownership applied across a wide variety of conceptions of ownership, I saw no need to examine the details of what constitutes ownership earlier.

³⁵⁰ A. M. Honoré, "Ownership," in *Oxford Essays in Jurisprudence* ed. A. G. Guest (London: Oxford University Press, 1961).

The first two rights that Honoré discusses are included in all liberal accounts of ownership. The first is the right to exclusive physical control over an object (what Honoré calls the incidence of possession). The second is the right to the personal use and enjoyment of the object (what Honoré calls the right to use). I take the inclusion of these rights in the concept of ownership of natural resources to be uncontroversial.

However, as Honoré rightly points out, even these basic rights of ownership are not absolute in the sense of being free from social restrictions. So for example, even a person who owns an object faces certain prohibitions against using it in a way that illegitimately harms another. She also may be subject to taxation and even expropriation of the object based on some sufficiently strong public good considerations. I do not specify what exactly counts as illegitimate harm and what public good considerations (if any) are sufficiently strong to warrant taxation or expropriation. I will simply leave open the possibility that people's ownership in their manna shares can be restricted in these ways,³⁵¹ with the specifics depending on the reader's broader political theory.

Instead of exploring these particular restrictions, I turn to considering whether various rights of transfer and alienation should be included as part of ownership. I begin by considering the most clear-cut case of alienation: selling one's manna share altogether. On one view of equal division, individuals should not be allowed to sell their manna shares. The reason is that such transfer of shares would create vast inequalities in the

³⁵¹ There are other potential restrictions on ownership rights which Honoré and others discuss, but which are not relevant in the simple manna case. For example, since the possibility of future people has been assumed away, there is no need to restrict ownership in order to preserve resources past the lifetime of the original explorers. There is also no need to restrict ownership for the purposes of maintaining equal division in the face of changing social or technological changes since the possibility of such changes occurring has also been assumed away. The need for these types of restrictions (if any) will be discussed in future chapters once the relevant simplifying assumptions have been relaxed.

natural resource distribution. Clearly after such sales, the natural resources quantities that each person has would *no longer be physically equal*.

But, as Dworkin rightly points out, to be concerned about maintaining equality of every person's natural resource shares *at every point in time* is to be concerned about the wrong thing. The way that a resourcist equal division respects people's equal claims to natural resources is, on Dworkin's account, by ensuring that an equal share of natural resources is devoted *to the life of each person*.³⁵²

Dworkin presents, I think, a convincing argument that we should endorse this type of synoptic view of equality of natural resource shares. On this view, when a person decides to sell her manna share to someone else, she cannot then complain that her equal claim to natural resources has been violated because the shares are no longer equal. Like everyone else, she received an equal share of manna with which to lead her life. What she chose to do with her manna is to sell it to someone else. Note that if we were really concerned about maintaining a constant physical equal division of manna over time, we would need not only to restrict sales, but also to restrict personal manna consumption.

Although I support granting individuals the right to sell their manna share, I do not want to insist, as many libertarians do, on an *unrestricted* right to sell one's manna. As G. A. Cohen argues, there are a variety of ways in which voluntary transactions could be normatively problematic. First, they could generate unacceptable inequalities in social and economic power (e.g. if one person bought up all the shares of manna through voluntary transactions.) Second, it possible to hold that voluntary transactions do not always result in fair prices for the parties in the transaction. Furthermore, a third party might be adversely affected by others' voluntary sales. As Cohen argues, "[A] person's

³⁵² Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 83-84.

effective share depends on what he can do with what he has, but that depends not only on how much he has but on what others have and on how what others have is distributed. If [resources are] distributed equally among them, he will often be better placed than if some have especially large shares. Third parties... may therefore have an interest against [voluntary transactions.]”³⁵³ Finally, allowing voluntary sales of manna shares could allow unjust inequalities in the distribution of other forms of wealth to somehow “infect” the justice of the manna distribution.

While I do not insist on an unrestricted right to sell manna shares, I do reject *fully forbidding* individuals from selling their share of natural resources. First, such a prohibition it would result in enormous inefficiencies. Those who are less able to harvest manna or less willing to do so would certainly lose a great deal of the potential value of their manna shares through a prohibition against sales. A person like Infirm, for example, would derive no benefit at all from his share of manna at all. Society would also lose out on the enormous potential benefits of specialization in manna harvesting. In addition, someone like Infirm could complain of an arbitrary inequality. There would have to be strong reasons given to Infirm for why the able-bodied are permitted to use the manna in a way that advances their life plans while he is forbidden from making use of his manna in a way that advances his life plan (e.g. by selling his share.) It seems implausible that concerns about the inegalitarian consequences of voluntary sales could be so strong as to recommend wholly prohibiting natural resource sales.

Settling the controversy regarding the proper level of restrictions on voluntary transactions is beyond the scope of this work. Here, I will largely sidestep this problem by assuming that it is possible to specify some *just background conditions*, which, when

³⁵³ Cohen, *Self-Ownership, Freedom, and Equality*, 26-27.

met, make voluntary sales of manna shares normatively unproblematic. I will assume that these just background conditions include a requirement that *non-natural resource wealth be distributed justly*. Second, I assume that they include the requirement that resources be sold at fair prices. Third, I assume that they include prohibitions against transactions that would create unacceptable concentrations of economic, social, or political power. Again, what counts as a “just” distribution of non-natural resource wealth, “fair” prices, and “unacceptable” concentrations of power will depend on the reader’s broader political theory. A libertarian, for example, might hold that the existence of a laissez-faire market is sufficient for just background conditions to obtain.

Assuming these just background conditions are in place, individuals should have the right to sell their shares of manna as one of the rights that constitutes their ownership of their manna shares. Similar arguments could be adduced in favor of allowing less drastic forms of alienation of manna shares (e.g. leasing one’s manna share to someone else for a year) as long as, again, just background conditions obtain.

5.6 Defending Equal Division

We now have a relatively concrete proposal at hand for the simple manna planet example. Each of the explorers should be granted ownership (which, assuming just background conditions, includes rights of possession, personal use, and alienation) over an equal quantity of manna. With this concrete proposal in mind, I now turn to considering several prominent criticisms that can (and have) been leveled at resourcist equal division. In the second part of this section I will evaluate Equal Division in terms of the three criteria that I developed in Chapter Four.

5.6.1 ANSWERING THEORETICAL CRITICISMS

Critics have raised several charges against equal division. These include charges that Equal Division leads to an intuitively unacceptable distribution of wealth, that it ignores the social dimension of the creation of natural resource value, and that it violates individual autonomy. I consider each of these criticisms in turn.

Both G. A. Cohen and Michael Otsuka argue that equal division leads to intuitively unacceptable distributional outcomes. Cohen argues that even when natural resources are divided equally some people (e.g. Infirm) can end up in a position where they will not have their most basic needs met.³⁵⁴ Cohen recognizes that Infirm might be able to sell his equal share of natural resources to Able, but correctly argues that there is no guarantee that the proceeds of the sale will be enough to satisfy Infirm's most basic needs. The death of Infirm (while Able enjoys a high standard of living) constitutes an intuitively problematic result. Otsuka makes a similar criticism of equal division using an example of a blanket to be shared among two individuals one of whom is so large that if the blanket were divided equally she would freeze even while the other would remain relatively comfortable.³⁵⁵

These criticisms are indeed powerful ones against the theories of left-libertarian proponents of equal division who contend that there are no other principles of distributive justice besides equal division of natural resources and self-ownership. But there is no claim in this work that equal division of natural resources is the *only* principle of distributive justice that would grant Infirm or Otsuka's giant access to the resources

³⁵⁴ G. A. Cohen, *Self-Ownership, Freedom, and Equality, Studies in Marxism and Social Theory* (New York: Cambridge University Press, 1995), 104. Cohen recognizes that the infirm person can sell his manna but correctly argues that this may well not be enough to live on.

³⁵⁵ See footnote 37 in Otsuka, "Self-Ownership and Equality," 171.

necessary for their survival. For example, there may be a requirement for the government to provide insurance to people against the possibility of becoming infirm or, in Otsuka's world, against the possibility of being born too large. The intuitively unacceptable outcome that Infirm may die and the giant may freeze might serve as a reason to include such an insurance principle (or some other principle) as part of a broader theory of distributive justice. It does not, however, decisively show that there is a problem with the principle of equal division of natural resources.

Mathias Risse has a different objection to equal division. He claims that natural resources (e.g. crude oil) become valuable in part through human activities such as invention of uses and discovery,³⁵⁶ activities that some people participate in and others do not.³⁵⁷ Risse concludes that therefore it would be inappropriate to divide natural resources equally.

However, Risse's objection does not only apply to equal division. It is an argument against the equal claims view more generally (a view which Risse endorses). If some people are specifically responsible for the creation of the value of particular natural resources in ways that others are not, it seems that those people should have *greater* claims to those natural resources. Although it is true that equal division would therefore be problematic, so would any other conception of the equal claims view (such as Risse's) that fails to consider the claims of these agents to the natural resource value that they can be fairly assessed as contributing.

³⁵⁶ Risse also includes basic extraction as one of these activities, but that is not a good example because the rights to the oil can be plausibly distributed using equal division before any extraction takes place.

³⁵⁷ Michael Blake and Mathias Risse, "Is There a Human Right to Free Movement? Immigration and Original Ownership of the Earth " in *Faculty Working Papers* (Cambridge, MA: Kennedy School of Government, 2006).

In fact, I have already considered exactly this possibility in a Chapter One when I examined Kirzner's challenge to the equal claims view based on the claims of discoverers and inventors. The concept of *purely* natural resources that I employ recognizes Risse's point and pre-empts his criticism of equal division (and the equal claims view more broadly.) Risse's objection applies to attempts to equally divide *undeveloped* natural resources. But undeveloped natural resources cannot be thought of as purely natural resources precisely because of the value contributed by discoverers, inventors, and other actors. If we assume that discoverers and inventors have been fairly compensated (perhaps setting aside some fraction X of the manna for such compensation where X can be determined by Risse's conception of fair compensation) then it is unclear what the problem would be with dividing the rest of the manna (i.e. the manna constituting a *purely* natural resource) equally.

James Grunebaum criticizes equal division by arguing that it does not respect people's autonomy as much as giving each person an equal voice in how every natural resource is used would.³⁵⁸ One potential response to this criticism (which I will not pursue further here) would be to question the use of autonomy as the primary criterion for determining the best way to respect people's equal claims to natural resources. However, even accepting Grunebaum's autonomy criterion, I argue that Equal Division conceptions are actually likely to give individuals more autonomy than the Democratic Ownership conception that Grunebaum endorses.

Certainly Grunebaum is right that if a particular individual can determine how every portion of manna is used, she has more autonomy than if she can only control her own little portion of manna. But with an equal vote, it is hardly the case that person can

³⁵⁸ Grunebaum, "Autonomous Ownership."

be said to have the power to determine how every natural resource is used. On the contrary, assuming that there are many people, it seems more accurate to describe each person as having *virtually no effective say* regarding how *any* of the natural resources are used.

Grunebaum may respond that although individually a person may have little effective say, it would still turn out that resources will be used as most people would like them to be. That is, *on average* the uses of resources will generally conform to people's wishes to a greater extent under Democratic Ownership than under Equal Division.

While this may be true, autonomy seems to require not only that people's preferences be realized, but also that people have *the ability* to affect outcomes that they care about. It is unclear whether this kind of agency is present under Democratic Ownership in a large society.³⁵⁹ More importantly, there may well be some particular person whose wishes regarding the use of natural resources are *never* respected (i.e. she is always in the minority). So if we are genuinely concerned with the autonomy of *each* person (as opposed to some kind of average preference satisfaction), we may well do better by ensuring that each person (even one with unpopular tastes regarding how natural resources ought to be used) is able to use *some* portion of natural resources as she wishes.

5.6.2 EQUAL DIVISION AND THE THREE CRITERIA

In addition to showing that it can withstand these criticisms, equal division must also be subjected to the same scrutiny that was applied to the other conceptions by

³⁵⁹ I recognize that this point is quite controversial. It touches on a whole host of issues in democratic theory that are far beyond the scope of this chapter.

evaluating it according to the three criteria. I argue that, at least in the simple manna case, a resourcist equal division generally satisfies the distributional equality and efficiency criteria. Although I take up the questions of dynamic equality in Chapters Seven and Eight, I also argue that *in principle* there is no obvious reason why Equal Division could not meet this criterion as well.

I contend that granting each person an equal amount of manna satisfies the distributional equality criterion. Admittedly, though the shares of manna individuals receive are equal, Equal Division conceptions do generate certain potentially undesirable inequalities. For example, people's equal shares of manna do not provide each of them with an equal voice in how every piece of manna is used. Such inequalities in the manna property rights regime require justification.

In order to provide such a justification, we would have to show first, that these types of equality cannot be achieved if we pursue equal division and second, that equal division achieves a more desirable kind of equality. The equality that resourcist equal division achieves and other the types of equality discussed earlier are generally mutually exclusive. So for example, it is clearly generally impossible to equalize *benefits* from the manna and equalize the manna amounts at the same time. Giving individuals equal voting rights over all the manna would require eliminating individuals' ownership rights of particular manna portions. So we must choose between the equality achieved by equal division and these other types of equality. And these other types of equality, I have argued, are normatively problematic (e.g. they have high costs, they are exclusionary). In order to justify the inequalities that equal division generates, it remains to be shown that the kind of equality that it achieves is less normatively problematic than these other types

of equality. I take up this task in the rest of this chapter and in the rest of this work more generally.

One way of showing that an equality of natural resource shares is more normatively attractive is by demonstrating that it does not violate the non-exclusionary condition. Such a demonstration is straightforward. Equal division grants every person ownership rights (i.e. the rights to use, sell, etc.) to some share of the manna. In the vast majority of cases, this would imply that everyone has received a right to use a resource that they consider valuable. In the exceptional case where someone (e.g. Greedy) does not value the share of manna he receives, that person would still be unable to complain of being excluded because it is true that he also would not value the (identical) bundle of natural resource rights that were given to any other person.

Note that equal division also avoids the specific exclusion and inequality objections raised by Conservationist, Infirm, and Singer. Equal Division conceptions do not make the ability to physically possess natural resources a prerequisite for gaining ownership rights to them. So Conservationist will have no difficulty maintaining her share of manna in pristine condition if she wishes to do so. Singer and Infirm need not physically interact with their manna share either. They can hire someone else to harvest their manna or sell their share of manna altogether. Thus, equal division gives even those individuals who are unable or unwilling to physically interact with natural resources the opportunity to make use of them in some way.

Someone might point out that if Infirm and Able are the only two people on the manna-filled planet, and Able is unwilling to interact with Infirm, then Infirm would nevertheless be unable to make any use of his share of manna. Though Infirm has *the*

right to use an equal share of manna, this right does not actually enable him to gain any benefit from his share. While the non-exclusionary condition is not technically violated, this example still seems intuitively problematic (and thus might suggest a flaw with the exclusionary condition).

But note that intuitively, it does not seem as though the distribution of natural resources is the *source* of Infirm's inability to benefit from his natural resource share. We could give Infirm *complete* ownership of *all* the manna on the planet (or any other distribution of natural resource property rights). If Able were still unwilling to interact with Infirm,³⁶⁰ then Infirm would still derive no benefit from natural resources. It thus seems reasonable to hold that it is *not* the natural resource property rights regime that *excludes* Infirm from receiving natural resource benefits, but rather that his inability to benefit from his equal share derives from his infirmity.³⁶¹ Though this example still seems problematic, the problem does not seem to lie with the distribution of natural resources, but, as was discussed above, points to a need for other principles of distributive justice.

How equal fares with respect to dynamic equality is difficult to evaluate at this point. This is because the complexities arise over time are left to future chapters where a more complex case is considered. However, it is possible to show using the manna

³⁶⁰ Possibly on pain of death since she would be unable to use any natural resources without Infirm's permission.

³⁶¹ Someone might nonetheless insist that it is certainly more likely that Infirm would be able to gain some benefit from natural resources if he owned all of them since he could then threaten Able with death if she did not interact with him. But the benefit that Infirm needs is more accurately described as access to Able's labor, not more natural resources. In addition, such a distribution would clearly violate Able's claims to natural resources. Finally, as I state below, unlike left-libertarians, I do not deny that there may be other principles of justice that might require Able share some of his labor with Infirm and so we may not need to make a choice between giving Infirm coercive power over Able through his natural resource ownership and Infirm dying because of Able's unwillingness to interact with Infirm.

example that at least in the simplest cases, there is no fundamental problem with equal division in terms of meeting the conditions of dynamic equality.

An equal division can be maintained even as new events occur that affect the amount of manna available. Imagine that after the initial division is carried out, a natural event occurs that creates new manna. It is clearly possible to continue having an equal division of manna by simply dividing this new manna equally among all individuals.

An equal division can also be maintained in principle as new members enter society. Imagine that *immediately*³⁶² after the initial division is carried out, new individuals who did not receive a share of manna simply appear out of thin air. It is possible to redistribute the existing manna (by taking an equal amount away from each of the preexisting individuals) in order to give the new individuals a share of manna that is equal to everyone else's share.

Clearly, these are extremely simple examples. But they show that there is nothing *in principle* that prevents equal division conceptions from continuing to respect people's equal claims to natural resources over time as conditions change and as new members enter society. I will return to these topics in Chapters Seven and Eight.

In addition to meeting the non-exclusionary condition, equal division also generally meets the efficiency criterion. It has all the efficiency advantages of First Possession Appropriation conceptions with few of the disadvantages. It grants to each individual ownership rights over a particular share of manna allowing society to reap the efficiency benefits of private ownership. At the same time, since individuals do not need

³⁶² The immediacy of the new individuals' appearance is meant to ensure that the pre-existing members have not had time to form plans or expectations regarding their shares.

to engage in costly actions to gain ownership of the resources, equal division is able to avoid several of the inefficiencies associated with first possession regimes.

There are, however, several costs associated specifically with equal division. First, the government will still have to actually carry out the division of shares. In addition, after the equal division of the manna is carried out, there will be incentives for certain individuals (such as Singer and Infirm) to sell their shares. In economically developed societies in which the vast majority of people own few natural resources, such sales will require significant transaction costs. However, as I argue in the next section, these inefficiencies do not present an insurmountable problem.

5.7 The Equal-Proceeds Sale

In this section, I argue that we can avoid much of the inefficiency described above while still effectively implementing an equal division of the manna through what I call an **equal-proceeds sale**. The idea is that, given certain conditions, we can *replicate* the result of dividing the manna into identical shares followed by individuals' sales of their manna shares through simply having the government sell the manna and *distribute the proceeds equally* (allowing individuals to buy shares of manna with their proceeds if they wish to do so). Under this proposal the government does not need to actually divide all the manna into equal shares and give one share to each individual. Nor do individuals who do not wish to actually own manna have to engage in the costly transaction of selling it themselves in order to obtain its economic value. The advantages of the equal proceeds sale are even greater in the case of heterogeneous natural resources. However, I

introduce the equal proceeds sale in the homogeneous good case to illustrate its properties in a simplified context.

Consider two proposals:

- 1) Divide the manna into identical shares, give each person one share, and then allow the buying and selling of manna shares.
- 2) Sell the manna, distribute the proceeds equally, and allow individuals to buy manna with their proceeds if they wish to do so.

I argue in this section that under certain conditions these two proposals will yield the exact same result (ignoring transaction costs). And since 2) will lead to lower overall transaction costs in most societies, it is preferable on efficiency grounds. In the rest of this section, I consider what conditions have to be met in order for this equivalence result to hold.

To see the basic intuition behind the equivalence, imagine for the moment that *the price of manna is the same under the two proposals* and that *the manna market is competitive* in the sense that any individual can basically buy and sell as much manna as she wants at the going market price.³⁶³ And again, assume there are no transaction costs. The ultimate equivalence between the two proposals under these conditions is straightforward to see. A person like Infirm who wants no manna can sell his share under 1) to get the same exact amount of money he would have under 2). A person who wants to own exactly 1/Nth of the planet's manna (where N is the number of explorers) simply keeps her share under 1) and can use her proceeds under 2) to buy the same share of manna that she would have had under 1). A person who wants more than 1/Nth of the planets manna can use her non-natural resource wealth to buy manna from other people

³⁶³ Although the supply of manna is perfectly inelastic, with many individuals and a great deal of manna it is plausible to assume that the individual actor will face a basically horizontal manna supply and demand and the going market price.

under 1) (assume that she buys an equal amount of manna from all those willing to sell.) Under 2) she can buy the additional manna directly from the government which will then distribute the proceeds equally, producing an identical result.

In order to show the equivalence, we need to explore the conditions under which the price of the manna would be the same in 1) and 2) and the conditions needed for an appropriately competitive market. Let us begin with the conditions needed to ensure that there is no discrepancy in manna prices in the two cases.

The first possible source of this discrepancy could be differences in the wealth of individuals. Market prices are in part determined by the distribution of endowments, and any difference in those endowments could generally generate differences in the prices of particular natural resources. Under equal division, a person would have (in addition to her non-natural-resource wealth) ownership of her manna shares while deciding how much manna to buy and sell. Under the equal proceeds sale, individuals have access to their non-natural-resource wealth and in addition they can *anticipate* receiving an equal share of the proceeds of the auction. But this *anticipated* wealth is not the same as having actual wealth. In order to obtain identical results, the bidders in 2) must *actually have access* to the ultimate proceeds of the manna sales *while making their bids*.³⁶⁴

There are actually two separate problems here. The first problem is a credit constraint. Individuals who cannot borrow against the manna sale proceeds when deciding how much manna to buy in 2) will effectively have less wealth under 2) than under 1) where they already have their share of manna. The government can solve this problem by making the proceeds of the manna sale available to individuals *before* the

³⁶⁴ In addition, it has to be the case that the ultimate market values are the same. If the inequalities in buyer wealth and the other discrepancies I discuss can be solved, this condition will hold as well.

mana sale actually takes. Doing so, however, requires solving the second, more complicated problem of information. In order to provide individuals with access to the proceeds, the government needs to correctly predict the total proceeds from the mana sales *even before the sale takes place*.

There are several possible solutions to this problem. In an artificial environment, it should be possible (theoretically at least) to iterate the mana sale, each time getting more accurate estimates of the ultimate market prices of resources.³⁶⁵ Alternatively, in the real world, existing natural resource market prices (admittedly determined by an improper distribution of income) can be used to generate a rough estimate before any natural resource sales takes place of the total proceeds of an equal proceeds sale. If each individual is provided with access to 1/Nth of this total market value during the auction, this should provide a *relatively* accurate solution to this problem.³⁶⁶

The second possible source of a potential discrepancy in market prices has to do with market structure. In the equal division scenario, there are a very large number of potential mana sellers. In the equal proceeds mana auction, there is only one seller of mana: the government. If the government were interested in maximizing the proceeds, if could, by restricting mana quantity generate a very different market price for mana.

³⁶⁵ That is, run the auction starting from a situation in which bidders have access only to their non-natural resource incomes. Next, divide the total market value that results from this auction among the individuals and run the auction again with the new bidder incomes. Continue rerunning the auction with individuals receiving the proceeds from the previous auction until there is no further change in the final market prices. Of course, this solution, besides being difficult logistically, is problematic because when the auction is not real, there is no guarantee that individuals will reveal their true valuations.

³⁶⁶ There seems to be no reason to expect that this total will necessarily be lower or higher than the total would be with a just distribution of income. The difference will depend on the income elasticity of natural resource demand of the different individuals involved. Finally, note that any discrepancy will likely represent only a small portion of the total wealth of most individuals. The government could guess conservatively, give an equal share of estimated total market value of the mana, and then top off any shortfall in the estimate at the end of the sale.

The critical question is what goal should the government have in selling the manna. I argue that the manna sale ought to be designed to generate, as far as possible, the *fair prices* that would have resulted in the equal division scenario assuming that the manna sales occur under just background conditions. This, for example, implies the government should not restrict manna quantity in order to raise manna prices even if this raises the total revenue from the sales.³⁶⁷

Since providing a conception of a fair market price is beyond the scope of this work, it is difficult to discuss in any detail how the government ought to go about ensuring that fair prices result from manna sales. And this problem only becomes more complex in the heterogeneous resource case considered in the next chapter. However, it is possible to draw a few tentative conclusions from this commitment to fair pricing.³⁶⁸ First, the government should actively work against buyer collusion when selling the manna. Second, the government should not abuse its monopoly power in selling the manna (e.g. by withholding some manna from sale). It should also work against monopolies of various sorts in the manna market after the original manna sales take place. If the government can accomplish these tasks, implementing a manna sale that generates prices that approximate those that would arise in a fair post-equal-division market is by no means an impossible task.

³⁶⁷ One might ask why the government should not attempt to set prices so as to maximize revenue (e.g. by withholding some of the manna from sale.) Although such an action would favor those like Infirm who would have sold their manna shares anyway, it can lead to unfairness to those who would have bought Infirm's share. Just as I argued that setting the price of purely natural resources at zero understates their fairly assessed economic value in chapter two, so too is it possible to set the price of manna too high. A price of manna that is too high would effectively deprive those who develop and harvest the manna of fair compensation for the value they can be fairly assessed as contributing.

³⁶⁸ These conclusions apply only to those who have a conception of fair pricing that is different than simply the price that results in a laissez-faire market.

The next problem to consider is ensuring that the market for manna is competitive in the appropriate way. The crucial point is that individuals should be actually able to use their manna sale proceeds to buy 1/Nth of the planet's manna. Although it seems as though this condition must always be met if individuals begin by receive 1/Nth of the total ultimate proceeds of the manna sales before sale begins, when there is a significant difference between the price that one buyer is willing to pay for manna and the next higher price someone is willing to pay for the manna, it is possible for this condition to fail to be true. This problem is unlikely to arise when there is only one homogeneous resource (with, let us presume, a healthy secondary market) and a very large number of buyers. However, it is far more likely to arise in the heterogeneous case and so I will consider it in the next chapter.³⁶⁹

If the prices for manna are indeed the same and the market for manna is competitive, then 1) and 2) will produce the same result. Yet 2) will generally be more efficient in a society where most people do not actually wish to ultimately own natural resources. There would be no need to divide manna into equal shares and actually grant ownership of a share to every person in the world. More importantly, individuals who do not wish to own manna would receive the economic value of their manna share directly without having to engage in costly transactions. Of course, there would still be some transactions involved in the government sale of manna and the distribution of proceeds to individuals. But in a world where most people do not want to own manna and in which the government is already involved in collecting taxes and making transfer payments, these transaction costs are likely to be small. Thus, even the moderate efficiency

³⁶⁹ In the manna example, we could solve this problem by simply giving individuals the option of receiving 1/Nth of the planet's manna in lieu of the proceeds from the sales of the manna.

problems of equal division can largely be avoided in the simple homogeneous good case through an equal-proceeds sale.

It is important to emphasize that the equal proceeds sale does *not* require individuals to have equal overall wealth. Individuals can use their non-natural-resource wealth to buy manna in the equal proceeds sale. This could admittedly lead to a highly unequal distribution of natural resources.

Note, however, that the assumption of just background conditions ensures that the non-natural-resource wealth is distributed justly. It also ensures that concentrations of natural resources do not threaten the broader political equality in society or lead to unfair prices. Although these constraints do not eliminate the possibility that the equal-proceeds sale could lead to large inequalities, they do mitigate the normative problems that these inequalities cause.

The response to the remaining inequality in the manna distribution is that the inequality that the equal-proceeds sale produces is *the same inequality that would have occurred with an equal division of the manna followed by private sales*. It is simply the result of the fact that people have different preference for owning manna and have unequal levels of wealth (though ex hypothesi these inequalities in wealth are not unjust). After all, any person can obtain 1/Nth of the planet's manna if she so wishes through the use of her proceeds. Since the equal proceeds sale of manna replicates the result of equally dividing the manna followed by private sales, one would have to challenge either the appropriateness of equal division or the appropriateness of allowing voluntary sales of manna shares under just background conditions in order to challenge the inequality produced by the equal-proceeds sale of manna.

5.8 *Respecting Agents' Claims*

Before concluding this chapter it is important to return to a question that was put aside in the Chapter One regarding how the claims of agents who contribute to the value of pristine natural resources (such as discoverers) can be respected. I argue that the equal proceeds sale combined with the fair price requirement ensures that each agent is appropriately compensated for the value that she is fairly assessed as having created.

Throughout this chapter and the last I have been asking how claims to *purely* natural resources can be respected. That is, I have been implicitly assuming that *physical* natural resources can simply be set aside to appropriately compensate discoverers (and other agents) who contribute to the value of pristine natural resources, and I postponed consideration of the questions regarding whether this assumption was in fact justified. Now that we have answered the question of how claims to purely natural resources ought to be respected at least in the simply manna case, we can consider the question of whether simply setting aside physical resources is an appropriate way of respecting the claims of the agents who contribute to the value of pristine natural resources. (I will use discoverers as an example for simplicity.)

The first question that I postponed is whether discoverers' claims ought to be seen as separable in this way. The alternative to this separateness of claims is to grant discoverers some kind of collective ownership claim to the natural resources they discover (i.e. either veto power or a vote over the use of the resource). But the arguments for having separable individual claims to purely natural resources (i.e. against Collective

Ownership conceptions) can be used to support the contention that discoverers' claims ought to be separable as well.³⁷⁰

The second question that I postponed is whether there is a better way to respect discoverers' claims than simply giving them a physical portion of the natural resource. One problem with this solution is that many discoverers may not necessarily want to own in the long-term a small portion of the physical resource they discover. If so, then giving them a physical portion of the natural resource would require costly transactions.

Given that the manna will be sold in any case in the equal proceeds sale, an obvious solution is to simply sell off the entire pristine (discovered) manna and give the discoverer some portion of *the proceeds* equal to the discoverer's fairly assessed contribution to the value of the resource (i.e. a finder's fee). The discoverer would always be free to use her proceeds to obtain a physical portion of the manna if she so chooses.³⁷¹ The same could be done for other agents who contribute to the value of pristine natural resource in ways that they are not compensated for as the resource is being developed.³⁷²

Note that I have assumed that the government sells natural resources for their fair price. This fair price requirement for the equal proceeds sale not only ensures that those who buy the natural resources do not obtain more than their equal share of purely natural resource value through a natural resource price that is too low. By ensuring that prices

³⁷⁰ See Section 4.3

³⁷¹ Many of the adjustments made to the equal-proceeds sale for individuals would be needed to be made here as well (e.g. ensuring that the discoverer is retains the option to take a portion of the resource in lieu of the finder's fee).

³⁷² For example, if the government has built roads that it does not charge tolls for, the presence of the roads contributes to the value of the resource and the government (i.e. the taxpayers) may therefore be justified in keeping a portion of the proceeds of natural resource sales in compensation for the value created by these public goods.

are not unfairly *high*, it also protects the claim of the various agents who are part of the natural resource development process.³⁷³ The fair price requirement ensures that the value that these agents can be fairly assessed as contributing does not get distributed to individuals as part of the proceeds of the natural resource sale.³⁷⁴

Conclusion

My goal in this chapter has been to make the case for equal division in a simple world. I began by rejecting attempts to incorporate equal division into a Lockean framework. I argued, against Steiner, that Locke's theory cannot be plausibly interpreted in terms of equal division. I also argued that there is no advantage to trying to incorporate equal division as a baseline in a kind of neo-Lockean Harmless Appropriation conception.

Next I considered and rejected what I call compensatory equal division conceptions. I argued that these kinds of conceptions should not be classified under equal division because they do not grant individuals equal shares of natural resources in any way. More importantly, since these conceptions exclude certain individuals from having rights to any natural resource, they cannot be plausibly seen as respecting these individuals' equal natural resource claims.

³⁷³ Again, since the government is the sole seller of natural resources, it would actually be fairly easy for the government to generate unfairly high prices for natural resources. It might for example keep a large amount of arable land away from auction thus forcing the farmers to bid against each other in a way that effectively causes them to pay prices where they are just indifferent between buying the resource or not (i.e. where they receive no consumer surplus).

³⁷⁴ Whether each *particular* agent involved in the natural resource product development and sale process receives appropriate compensation will depend on whether fair prices obtain in these other factor markets (this of secondary importance here).

I then evaluated the possibility of dividing natural resources in order to equalize the incremental benefits that individuals receive from their resource shares. Though the pure benefitist equal division is not exclusionary, it does lead to intuitively undesirable result. In particular, they require distributing natural resources in inverse relation to non-natural resource wealth, giving a great deal of resources to the rich while only giving a miniscule amount to the very poor. Although I recognized that ideally, we should aim to distribute manna so that there are no unjustified discrepancies in benefits, I argued that in practice there are good reason for simply giving each person an equal amount of manna.

I turned next to considering what kind of rights individuals should have in their manna shares. I argued that in addition to rights of use, individuals should also have rights to sell their shares. Although this generates inequality at particular points in time, it ensures equality of natural resource shares when we take the perspective of individuals' lives as a whole.

I then continued my defense of a resourcist equal division. I considered and dismissed several important theoretical critiques of equal division, including allegations of insufficient protection for those who are otherwise resource poor, inherent instability in the face of voluntary sales, failure to consider the value added by human agents, and failure to respect autonomy. I argued that equal division generally meets the distributional equality and efficiency criteria.

However, I recognized the equal division proposal I make does generate a large amounts of transaction costs. However, an equal-proceeds sale which meets certain conditions can replicate the distributional outcome of equally dividing the manna followed by voluntary sales. In a society where most people do not wish to own natural

resources, the equal-proceeds sale is more efficient than actually carrying out equal division followed by sales.

Of course, this analysis has been greatly simplified by considering a static world filled with a single homogeneous resource. Showing that equal division is still feasible and normatively attractive when there are different types of resources is the challenging task to which I turn next.

Heterogeneity

In the previous chapter I considered a very simple example of a planet filled with a single, perfectly divisible natural resource called manna. I argued that ideally this manna should be divided so that there are no unjustified discrepancies in the incremental benefits that individuals receive from their manna shares. However, I also argued that due to the theoretical and practical difficulties with implementing this incremental benefitist equal division, granting every individual an equally-sized share of manna is a desirable first step.

Although this resourcist equal division is feasible in the case of the manna, it is not at all clear that even this non-ideal equal division is feasible in a world with heterogeneous resources. One issue is that there are problems with actually dividing certain types of natural resources. These include natural resources that exhibit economies of scale,³⁷⁵ monopoly-proneness, essentialness,³⁷⁶ itinerancy,³⁷⁷ non-excludability,³⁷⁸

³⁷⁵ For natural resources that exhibit scale economies, it is the case that if we double all the inputs in a productive process in which the natural resource is an input, we more than double the output. One might think that farming a tiny piece of land would exhibit scale economies.

³⁷⁶ Natural resources which are essential are those needed for survival or some other similarly critical interest of the individual. An example is potable water.

³⁷⁷ Although most natural resources are stationary, some do move around. These include certain migratory animals.

non-rivalrousness,³⁷⁹ and inseparability.³⁸⁰ I call natural resources which have these characteristics **problematically-divisible**. Yet even if we restrict our attention to natural resources that are **unproblematically-divisible**, it is not at all clear that it is possible to uncontroversially provide each individual with an “equally-sized” natural resource share. Since individuals value different natural resources differently, they might not agree on how “many resources” a particular share of natural resources represents. Furthermore, even if we found a theoretical standard for judging individual shares as equally-sized, we would still face the challenge of finding a practical way of implementing this standard. Thus, even the modest first step of granting each individual an equally-sized share of unproblematically-divisible natural resources might not be possible once we are in a world with heterogeneous natural resources.

I argue in this chapter that despite these difficulties, heterogeneity does not present an insurmountable obstacle to carrying out a resourceist equal division. The chapter’s argument is divided into three main parts. In the first part I consider the problem of dividing a group of heterogeneous, unproblematically-divisible natural resources into shares that are equally-sized. I argue that achieving an envy-free distribution (one where no person would prefer another’s share to her own) is the right way of carrying out this resourceist equal division in the heterogeneous case. In the second part, I examine ways to implement the envy-free standard. I argue that we should aim at achieving the distribution that would result after voluntary natural resource sales

³⁷⁸ I define non-excludable resources as those which it is simply too expensive to prevent unauthorized people from using.

³⁷⁹ Non-rivalrous resources are defined (in the traditional economist’s way) as those resource for which one person’s use does not detract from another person’s use. Examples include the view of the sky.

³⁸⁰ These are resources which cannot be divided into contained portions. The quintessential example of an inseparable natural resource is the air.

occur from an initially envy-free natural resource distribution. I then argue that a natural resource auction whose proceeds are distributed equally can implement this standard. Finally, in the third part I examine how we ought to treat a variety of problematically-divisible resources. I argue that there is reason to abandon equal division only in the case of non-excludable and inseparable natural resources.

6.1 Achieving Equal Share Sizes

The first problem I consider in this chapter is how to divide a heterogeneous set of unproblematically-divisible natural resources into equally sized shares.³⁸¹ The problem is that individuals place different values on different natural resources. So unlike in the manna case, it is unclear what standard the government could use to ensure that each person receives the same amount of natural resources.

Jan Narveson picks up on this important problem. He writes:

It is *impossible*, in principle and not just as a matter of operational procedure to say what would constitute an “equal” division of the world’s resources ... There is no way to say how much of a “resource” any hunk of mere stuff constitutes... [T]he most important material in the world today is silicon – plain old sand, pretty much ... [How can one] compare this with oil, scrubland, gold, molybdenum, or whatever? Now add that the people to whom [one] would “give” such things are extremely and increasingly different in their interests, talents, skills, and so forth...³⁸²

The conclusion that Narveson ultimately draws from these difficulties is that equal division conceptions are untenable.

Note that Narveson is not arguing here that we cannot decide between different conceptions of equal division (e.g. between resourcist equal division and incremental benefitist equal division). Nor does he raise the problem that some natural resources like

³⁸¹ I consider problematically-divisible natural resources in below in Section 6.3.

³⁸² Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," 15.

the air cannot be separated (a problem that I will consider later in this chapter). Nor is his point that we lack the logistical capabilities to implement equal division. Rather, his criticism is that, even assuming that we wanted to simply implement a resourcist equal division, we will not be able to find an uncontroversial metric to measure how much of a resource something is in a world of heterogeneous natural resources (and heterogeneous individuals). So we will be unable to give each individual an equally-sized natural resource share.

In order to focus on the powerful challenge that Narveson sets for equal division, let us continue to make many of the simplifying assumptions made in Chapter Five (a static environment, single generation, single society, etc.).³⁸³ Now, however, let us imagine that instead of finding only manna on the planet, the explorers (whose population is N) find a wide variety of unproblematically-divisible (let us assume) natural resources including sand, oil, scrubland, gold, etc.³⁸⁴ In this first part of the chapter, I am interested in asking whether we can find a normatively desirable way to uncontroversially divide these natural resources so that each of the explorers receives an equally-sized share (at least in some sense). After rejecting several alternative methods of distribution, I ultimately defend envy-freeness as the right standard for carrying out a resourcist equal division in the heterogeneous natural resource case.

³⁸³ See Section 5.2

³⁸⁴ In fact, some of these resources may be problematically-divisible insofar as they display certain characteristics such as economies of scale. I will ignore this complication for now.

6.1.1 USING PHYSICAL NATURAL RESOURCE CHARACTERISTICS

To see the problem that Narveson raises, consider a naïve proposal to simply use some particular physical characteristic such as agricultural productivity to divide the resources equally. We could imagine that natural resources are divided into N portions of equal agricultural productivity and that each person receives one portion.

However, such a division seems subject to legitimate complaints. For example, someone who does not value agricultural productivity and receives a share of land with average agricultural productivity but which lacks the qualities she *does* value could rightly complain of exclusion.³⁸⁵ That is, she might argue that she did not receive a portion of natural resources that she values and that someone else received a share with characteristics that she does value. And even if *everyone* valued agricultural productivity to some extent (and so no one can complain of exclusion), those who value agricultural productivity only marginally (and who receive a share of land which is of average agricultural productivity but is otherwise unappealing) might complain that someone else (who received a share that was not only agriculturally productive but also, say, had immense natural beauty) effectively received more natural resources than they did.

Ultimately, such complaints would require the government to justify its choice of agricultural productivity as the criterion for dividing shares equally. And it is unclear how a liberal government could justify such a choice. Perhaps a government which endorsed farming as the highest human good might be able to defend agricultural productivity as the right equilibrium. Such a government might argue that each person *should* value the agricultural productivity of the land above all other characteristics. But

³⁸⁵ Assume that she is unable to sell her land for some reason or that she does not value wealth.

it is not at all clear how a government committed to liberal neutrality³⁸⁶ could justify giving preferential treatment to agricultural productivity (or any other particular physical characteristic or set of characteristics of the resource) as the right metric for measuring how large a share of natural resources each individual received.

This example brings out the problem that Narveson raises. Namely, in the presence of heterogeneous natural resources and different valuations of different natural resource characteristics, it will be quite difficult to uncontroversially divide natural resources into equally-sized shares in the same way as we were able to do in the case of the manna.

6.1.2 THE IDENTICAL RESOURCE BIT BUNDLE DISTRIBUTION

Interestingly, under certain idealized assumptions, there is a trivially straightforward solution to this problem. If we assume that the planet's resources are *perfectly divisible*³⁸⁷ (like the manna in the previous chapter) and we assume away any transaction costs, then we can simply divide *every single* different natural resource into N pieces and give one piece to each explorer. Each explorer would thus have a bundle of resources (including a certain amount of gold, oil, scrubland, etc.) which would then be *identical* to everyone else's bundle. There would thus be no need to develop a method for assessing the size of natural resource quantities.

Though this solution is of theoretical interest, it will not solve the problem of heterogeneity in any moderately plausible world (let alone the one we live in). Since the practical problems with this proposal are fairly obvious, I will only discuss them briefly.

³⁸⁶ I defined this concept in Section I.1

³⁸⁷ See Section 5.2 for a discussion of perfect divisibility.

First, even a resource that meets the criteria for being unproblematically-divisible will not necessarily be *perfectly divisible* into N physically identical pieces.³⁸⁸ Second, the location of the pieces may matter and so the different resource bits could be valued differently by different people. Third, it might be impossible to extract one's small piece of a particular resource without extracting other's pieces as well. In addition, it is likely to be quite expensive to *personally* make use of tiny bits of different resources. These problems suggests that the identical bundle of different resource bits solution would involve enormous transaction costs (and possibilities of a variety of market failures) as people try to trade pieces of their bundles to form a set of natural resource pieces that they can use in practical ways. Finally, an individual's share of resources (made up of tiny bits and pieces of different resources) would be virtually useless unless she were able to engage in trades with other people and found others willing to engage in trades with her. This would condemn those who do not interact with other citizens for a variety of reasons to have a basically useless natural resource shares. So while this solution was worth briefly considering, it will clearly not provide a credible answer to Narveson's challenge.

6.1.3 LOTTERIES

A more realistic way of equally dividing imperfectly divisible, heterogeneous resources is to use a lottery. We can think of a lottery as granting each person a notional

³⁸⁸ For example, it may be that if we divide the resource up, it is no longer the same resource (e.g. imagine trying to divide a single tree into N pieces.) We run into a similar problem if the resource is simply not evenly divisible by N (e.g. imagine trying to divide a grove of 10 trees among 11 people). In addition, it may be that there is sufficient intra-resource heterogeneity so that no matter how the resource is divided, the pieces would not be identical (e.g. even if there was a grove of 10 trees and exactly 10 people, it does not seem to be possible to divide the grove into 10 *identical* portions). Dworkin briefly considers and dismisses this possibility as well. Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 67.

“ticket” that gives her some probability of winning ownership of a variety of natural resources. Although a lottery has some normative plausibility and may even be an appropriate way of implementing a resourcist equal division in certain circumstances, I argue here that it nevertheless is not an attractive general way of equally dividing natural resources.

Before evaluating the attractiveness of lotteries, it is worth noting that, along with first possession arguments, lottery arguments have played and continue to play an important role in the perceived legitimacy of the existing natural resource property rights regime. For example, a lottery system is used in the Bible to assign plots of tribal land to particular Israelite families.³⁸⁹ Primogeniture, which assigns land to the first-born son, is justified by Hobbes as a kind of natural lottery.³⁹⁰ In contemporary discourse, if a nation-state happens to discover a valuable natural resource in its territory, it might implicitly justify its ownership of that natural resource through appeal to a lottery. It might argue that the presence of the resource in its territory was a matter of chance, and that it is willing to respect the property rights of other countries in natural resources found by chance in their territories.³⁹¹ Similarly, if an individual discovers oil in her backyard

³⁸⁹ If we start with the (flawed) presumption that each Israelite family in the particular tribe (and no one else) has an equal claim to that tribe’s land, this lottery is not a particularly bad solution for dividing the land equally given the heterogeneity of the land, the absence of a sophisticated bureaucracy, and the largely agricultural economy. Note that since each family receives some land, presumably of approximately equal agricultural productivity, this lottery is also attractively low-risk. Of course, *other peoples* in the Canaan region probably would not have agreed that distributing the land to Israelite families by lottery was a particularly good solution. I am also ignoring the important point that it is individuals, and not male heads of families that have equal claims to natural resources.

³⁹⁰ Hobbes, "Leviathan," 108. Viewing primogeniture as an equal lottery requires taking a highly problematic kind of pre-birth perspective that considers the chances of land ownership of potential individuals. I will consider primogeniture further below.

³⁹¹ As Barry argues, “[A]lthough the [global] distribution of natural resources is entirely arbitrary from a moral point of view, it has, at any rate, the kind of fairness displayed by a lottery.” Brian Barry, "Humanity

completely unexpectedly, she might appeal to the lottery intuition (in addition to her role as discoverer) in order to justify her claim to the oil.

Applying the lottery solution to the planet example, we could divide the natural resources on the planet into N portions and give each person a lottery ticket that entitles them to draw a number from a (very large) hat corresponding to the different natural resource portion.³⁹² Note that this lottery gives each person an equal (and positive) chance of winning each of the natural resources. I call a lottery which has this property an **equal lottery**. Insofar as lotteries are an attractive way of carrying a resourcist equal division, intuitively it is the equal lotteries which are most attractive. After all, a person who particularly values a specific natural resource but does not have an equal chance to obtain that resource might well complain that her lottery ticket does not even give her, even *ex ante* and in expectation, as many resources as the person who has the greater chance to obtain that particular natural resource.

Lotteries do have several advantages as allocation mechanisms. First, they can potentially be very easy to administer. This is especially true with certain “natural” lotteries. More importantly for our purposes, equal lotteries seem to allow us to sidestep the problem of finding a particular metric for measuring the “size” of natural resource shares. After all, every person’s “share” under this system is a lottery ticket, not a set of natural resources. And assuming we implement an equal lottery, every person’s share (i.e. the lottery ticket) is *identical* to everyone else’s share. In addition, each person’s lottery ticket provides her *ex ante* with *the probabilistic expectation* of receiving

and Justice in Global Perspective," in *Ethics, Economics, and the Law*, ed. J. Roland Pennock and John William Chapman, *Nomos* (New York: New York University Press, 1982), 237.

³⁹² Note that a more efficient method would entail dividing the resources into N shares, giving out N numbers, and letting people choose shares in the order of the numbers they draw. While this method would avoid costly transactions, many of the more fundamental problems with lotteries would remain.

a physical natural resource portion that she would agree is of average “size” in terms of resources. This is true *regardless of how the natural resources are divided before the lottery and regardless of the differences in people’s criteria for valuing resources*. Even if I value natural resources based on their natural beauty and you value resources based on their agricultural productivity, we will still both *ex ante* have a lottery drawing right with an expected value equal to the 1/Nth the value of all the natural resources *according to each of our particular valuation criteria*. So at least *ex ante*, it seems difficult to argue that anyone receives a share that somehow represents more resources than anyone else.

However, using lotteries to solve the problem of heterogeneity is unappealing for several reasons. First, natural lotteries, though easy to administer, are fraught with problems. They are rarely equal lotteries. In addition, notional natural lotteries that occur before a person is born (e.g. primogeniture, alphabetical order of last names) are not nearly as normative appealing as lotteries that occur when individuals are adults. This is first because individuals cannot be seen as consenting to such lotteries. More importantly, in these cases, individuals cannot trade their lottery ticket for other resources before the uncertainty is resolved. It is thus very difficult to think of a lottery a person lost before they were even born as granting that individual some equal share of resources with which to lead her life.

Lotteries that are human-made, on the other hand, are difficult and costly to administer, especially on a society-wide basis. In addition, these lotteries often generate incentives for a variety of costly post-lottery transactions. Some people will likely have no desire to own some particular resource, but be very eager to have a greater chance at having a different resource. If people have different valuations of resources, there would

be incentives for complicated insurance schemes before the lottery occurs and for a variety of costly trades after the lottery occurs.

But there is a third, more important problem with lotteries. Namely, achieving an *ex ante* equality of *expectations of benefits* is not as normatively attractive as achieving an equality of physical natural resource shares. Think about the simple homogenous cake example and assume there are two siblings. Instead of cutting the cake in half and giving one half to each sibling, we could simply flip a coin and give the whole cake to the winning sibling. The coin flipping method gives each sibling an equal chance at having all pieces of the cake. It is thus an equal lottery. And indeed, each sibling can be thought of as having a lottery ticket with an *expected value* of half the cake *ex ante*. But *ex post*, one sibling will have all the cake and the other none. Intuitively, other things equal, it seems that actually dividing the cake in half achieves a more desirable kind of equality than the coin-flip.

There are several reasons behind this intuition. First, benefits (however defined) generally exhibit decreasing marginal returns to material resources.³⁹³ That is, the more material resources I have, the less effective additional resources will be in providing me with benefits (on a variety of conceptions of benefits). So for example, especially for those at the bottom of the income scale, the benefit of going from no natural resources to having an average natural resource share may be quite significantly larger than the benefit of going from having an average share to a share that is twice as beneficial as the average share. If benefits exhibit decreasing marginal returns to resources, this

³⁹³ This is not always true. Consider the famous example of two travelers in the desert who come upon a source of water which is only sufficient to keep one of them alive until they reach civilization. In this case, the long-term ability to achieve goals is constant (at 0) when we give a person more water and then increases dramatically when the person has enough water to survive. In such a case, a lottery may well be the most justified solution. However, this case is quite unusual.

mathematically implies that *actually receiving* an average share will grant benefits that are greater in magnitude compared with the expected benefits of receiving a lottery ticket that only grants a share of average benefits in expectation.³⁹⁴ So if we are ultimately interested in the level of benefits that people receive from their natural resource shares (in addition to the equality of those benefits), a lottery will simply not be as appealing as giving each individual an equal physical natural resource share.

Of course, it is not always true that benefits exhibit decreasing marginal returns to resources. Consider the famous example of two travelers in the desert who come upon a source of water which is sufficient to keep one of them alive until they reach civilization but which is insufficient to keep either alive if divided equally. In this case, the benefits of half the water are very small but increase dramatically at a level of water sufficient to survive. In such a case, a lottery may well be the most justified solution. However, this case is quite unusual. For most natural resources and in most cases, benefits exhibit decreasing marginal returns to more natural resources.

Although the fact of decreasing marginal benefits forms a large part of the case against lotteries, it is not the only argument against it. Even if the siblings had constant and equal marginal benefits with respect to additional cake, we might still have reasons to prefer dividing the cake equally rather than giving the entire cake to one of the siblings on the basis of a coin flip. One reason might be the importance of considering *ex post results* rather than merely *ex ante* expectations. After all, *after the coin flip*, one of the siblings will have no cake at all to enjoy while the other has all of it to enjoy. If we care about how the siblings' actually end up faring (both in absolute terms and relative to each

³⁹⁴ This assumes that certain axioms are satisfied. See Chapter Six of Mas-Colell, Whinston, and Green, *Microeconomic Theory*.

other), then we might care about these ex post inequalities. Second, while the coin flip would provide the same *overall* benefit to the siblings, being indifferent to the *distribution of those benefits among the siblings* would require overlooking the moral importance of the separateness of individuals. These two arguments are developed further by Otsuka and Voorhoeve (among others) in the context of lotteries and I will not discuss them further here.³⁹⁵ If these arguments are right, then we have good reasons to be averse to *ex post inequality*. This ex post inequality aversion serves as a second reason against the lottery solution. However, as the water in the desert case shows, it is not always a decisive reason.

Note that the reasons for favoring equality of physical natural resource shares over equal lotteries also imply that when choosing among equal lotteries, the less risk the better.³⁹⁶ Cutting a heterogeneous cake into two portions and assigning the portions to two siblings using a coin flip seems more attractive than using a coin flip to determine the distribution of the whole cake. While both methods are equal lotteries (and both methods give each sibling half the cake's value *in expectation*), the former is less risky. Less risky lotteries tend to produce a lower amount of ex-post inequality and provide higher ex ante expected benefits to individuals who face decreasing marginal benefits to more natural resources. They are thus more normatively attractive.

This suggests that if we were to use a lottery to divide the natural resources, it ought to be done with as small a risk as possible. The government might, for example, try to divide

³⁹⁵ For a discussion of some of these issues in the context of choice under uncertainty, Michael Otsuka and Alex Voorhoeve, "Why It Matters That Some Are Worse Off Than Others: An Argument against the Priority View," *Philosophy & Public Affairs* 37, no. 2 (2009): 195-98.

³⁹⁶ Economists provide precise definitions of the riskiness of lotteries. See Section 6.D of Mas-Colell, Whinston, and Green, *Microeconomic Theory*.

the natural resources into *roughly* equally-sized shares before subjecting them to a lottery. But this again brings us back to the question of what constitutes an equally-sized share. In addition, I have argued that even a lottery with low level of risk is not as normatively attractive generally as actually giving a person an equally-sized physical natural resource share. While a lottery might be a useful device for achieving equal division in some specific cases (e.g. dividing limited water in the desert), generally the arguments I have made in this section suggest that we should continue searching for a method to grant each person an equally-sized *physical* share of natural resources.

Before moving on, it is worth noting that these arguments allow us to challenge the appeal to lotteries in contemporary justifications of natural resource property rights. Consider the case of the person who discovers oil in her backyard (or the nation which discovered oil in its territory)³⁹⁷ and appeals to a kind of lottery to justify its property to the newly-found natural resource wealth. A resource-poor person might object for several reasons. First, she might point out that since not everyone owns the same amount of land, not everyone has an equal chance to discover natural resources in their land. So the lottery to which the oil-rich person is appealing is not an equal lottery. Second, the resource-poor person might argue that, not knowing who would end up with the oil, no one would have agreed to a system which divides natural resources so unevenly given that the benefits of the upside potential of this lottery are not as valuable as the dangers of the downside are harmful.³⁹⁸ Third, she might appeal to the normative problems with ex

³⁹⁷ I have not yet dealt with the arguments of nations regarding their territory which is why I do not use the nation example here. The appeal to lottery is stronger in the case of the nation because, unless the individual was the original appropriator of the land, she can argue that the price she paid for the land reflected the probability of finding oil. In choosing to use the example of the individual, I'm assuming here that the oil's appearance is generally recognized to be completely unexpected.

³⁹⁸ In the case of countries, one could think of the situation of Malawi versus Kuwait

post inequality. Finally, she could argue that even if some kind of lottery is justified, the finders-keepers lottery is unjustifiably more risky than other possible lotteries. So while the lottery intuition plays an important (often implicit) role in the defense of current international scheme of natural resource property rights, it is not at all clear that it has this kind of justificatory power, at least not if a different system can be found that actually provides each person an equally-sized physical natural resource share.

6.1.4 MARKET-VALUE-BASED EQUAL DIVISION

Although the lottery intuition does play a role in popular thinking about the distribution of natural resources, few advocates of equal division have endorsed lotteries as the proper way to respect equal claims. Instead, many have argued that shares that are appropriately equal if they are of equal *market value*. Using market value as the metric for equality of shares could be defended in several ways. First, it could be appealed to as a way of ensuring that every individual receives a share that is at least somewhat useful to her. Second, market value might be seen as representing an appropriate aggregation of individual valuations. Third, it could be defended as ensuring that each person receives a share that reflects an equal cost to the rest of the society. I argue in this section that these defenses of market-value-based division are unconvincing.

Although I aim in this section to reject a market-value-based division, I concede that it has significant intuitive appeal. However, I believe that this appeal is based in large part on the connection between a market-value-based division and the envy-free standard (which I discuss and defend in the next section). To sever this potential connection, I will assume in this section that, for some reason, individuals are unable to sell their natural resource share and buy other shares *of natural resources* of the same

market value.³⁹⁹ However, I am assuming that individuals are perfectly able to sell their natural resource share to buy *other (non-natural-resource) goods and services*. Since the other justifications for market-value-based division do not explicitly depend on the ability of individuals to carry out trades of natural resources *for other natural resources*, this assumption will allow us to focus on the usefulness of wealth, aggregation of value, and opportunity cost arguments for a market-value-based equal division.

The first argument in favor of a market-value-based equal division is that by giving each person a natural resource that can be transformed into wealth, we ensure that every person will obtain a share of natural resources that they find valuable. After all, even if a person gets a share that *she* does not find useful directly, she can always sell her share and use the proceeds to finance her life plans more generally. In the absence of government knowledge about what each person finds valuable, perhaps the best we can do is to ensure that natural resource shares are equally transformable into wealth, something which each person generally can be presumed to value whatever her broader life plans are.⁴⁰⁰

But note that on this account, market value is merely another characteristic of natural resources; one which will be valued differently by different individuals. Although it seems safe to presume that individuals will value wealth somewhat and so will value a natural resource's propensity to be transformed into wealth, they might not value wealth to the same extent. And so they might not place the same *relative* value on market value *compared with other characteristics of the natural resources*. So while the person who

³⁹⁹ We might imagine that all the other individuals except the person whose situation we are considering fall in love with their natural resource share once they receive it and become unwilling to sell it at its market price.

⁴⁰⁰ Wealth is one of Rawls's primary goods. Rawls, *A Theory of Justice*, 54.

receives the pool of oil receives a resource with the same market value as the plot of land (i.e. he can sell it for the same price as he could have sold the land if he was given ownership of it), he may value the particular characteristics of the land (e.g. its natural beauty) more than he values the wealth he could get from the oil. It is perfectly possible that though he would be willing to sell his oil pool and receive its market value, he would not be similarly willing to sell the plot of land if he owned *it*. Thus, the person who receives the pool of oil can legitimately object to the idea that the pool of oil and the plot of land represent the same amount of natural resources.⁴⁰¹

A second defense of market value is given by Steiner who argues that market value is the right standard because the prices of natural resources somehow appropriately aggregate the natural resource valuations of all the different individuals in society. Some may value a piece of land for its agricultural productivity while others value it for its natural beauty. By using market value, the government does not have to commit to the importance of one particular physical characteristic over another. Rather, the market value represents an impersonal and, on Steiner's account, proper aggregation of the valuations of the different individuals in society. When individuals receive a share of equal market value, we might think that each has received a share that *as a society* they find to be equally valuable.⁴⁰²

⁴⁰¹ This complaint is similar to the complaint discussed in Section 6.1.1 above of the person who receives land that is of average agricultural productivity but is otherwise unattractive.

⁴⁰² In his earlier works, Steiner considered and then rejected this type of argument in favor of a market-value-based division. See Steiner, "Liberty and Equality." However, in his later works he repudiates this earlier rejection. See Steiner, "Original Rights and Just Redistribution," 119 fn. 74. Unfortunately, besides renouncing his earlier position *against* the use of market prices in determining equality of shares, Steiner does not say much about why he now thinks that market prices combine information about individual valuations appropriately.

There are, however, several problems with this argument for market value as the right criterion for equality. First, while prices are certainly affected by different individuals' valuations of natural resources, they are affected in a way that gives *greater weight* to the preferences of those individuals who have more wealth. So, for example, the valuations of those with *no* wealth have no effect on the price of natural resources. Nor is it obvious that the valuations of those that are born in the future are appropriately incorporated into this valuation. In a society with unequal wealth, it seems difficult to argue that market prices are the right metric for achieving equality of shares simply because they combine the valuations of different individuals in an unobjectionable way.

But even if we assumed that everyone had equal income, it is not clear that a market-value-division would be a desirable metric. The person who is given the pool of oil in such a world might still believe that the plot of land represents "more resources." He may be told that *the society* (in some aggregate sense) values the oil as much as it values the plot of land.⁴⁰³ But the person might object that what matters to him is what *he* values, not what, in aggregate, *the society* values.⁴⁰⁴ The fact that "society" values it does imply that he could sell it and use the wealth for his life plans more generally. But I have already discussed the insufficiency of this argument. It seems perfectly sensible for

⁴⁰³ Alternatively, someone might appeal to the fact that given certain assumptions, most individuals can agree that a particular unit of a natural resource is as valuable as its market price. That is, in some cases a wide variety of individuals will be exactly indifferent between consuming an additional unit of the natural resource and receiving its monetary value. But the conditions required for individuals to agree that the market price of a resource is an accurate representation of its value (perfect divisibility of the resource, continuous and differentiable indifference curves, and universal consumption of the resource) are fairly idealized and very unlikely to hold in practice. And even if these conditions were met, they would only imply agreement on market price as the value of the *marginal* unit of the natural resource, not on the value of the entire amount.

⁴⁰⁴ Steiner and others who appeal to market value often use "value" ambiguously. Each person receiving a share that she considers to be of equal value is very different than each person receiving a share that is of equal value as measured in the market.

the person to continue to insist that the plot of land represents “more resources” than the pool of oil that he received.

A third argument for using market-value-based division is that market value represents the *opportunity cost* of using a resource. The opportunity cost is the market value of the next highest economically valuable direct use of a resource. Several thinkers including Nicolaus Tideman, Phillippe Van Parijs, and Ronald Dworkin appeal to this idea when discussing a market-value-based division of natural resources. They argue that the quantity of resources that individuals should receive to lead their lives ought to be equal according to the economic costs *to others* of making those resources available.⁴⁰⁵

There is something that seems normatively appealing about this idea. Namely, it seems to incorporate other people’s preferences for the resource in question in a desirable way, ensuring that the natural resource share any person receives is not one that *others* find much more valuable relative to other natural resource shares.⁴⁰⁶ It also seems to provide an answer to those who complain about not receiving a different share of natural resources. If the owner has effectively paid the cost of the next best alternative use of the resource, it appears that others have little cause to complain.⁴⁰⁷

However, there are several problems which are quite similar to the problems with Steiner’s aggregate valuation argument. Consider again the case of the person who received a pool of oil but who wants the plot of land. Let us assume that the pool of oil

⁴⁰⁵ See for example Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 149. Also see Phillippe Van Parijs, "Real-Libertarianism," in *Left-Libertarianism and Its Critics : The Contemporary Debate*, ed. Peter Vallentyne and Hillel Steiner (New York: Palgrave, 2000), 129.

⁴⁰⁶ Van Parijs, "Real-Libertarianism," 129-30.

⁴⁰⁷ We can think of each person receiving a natural resource share of equal opportunity cost as notionally assigning to each person some equal initial endowment of “opportunity cost credits” that are all used up once a person has a share of equal opportunity cost to that of everyone else.

has the same opportunity cost as the plot of land. It is unclear why this fact should comfort oil-owner. The fact that the oil has a high opportunity cost means that it is readily transformable into wealth. But I have already argued that this by itself is insufficient to dismiss the complaints of the oil-owner. Perhaps the point is that the land which the oil-owner would prefer has an opportunity cost which is no different than that of his pool of oil. In fact, given that the oil-owner is willing to sell to his oil and buy the land instead, the opportunity cost of the land is exactly equal *to the economic cost to him* of not having the land.⁴⁰⁸ But note that the opportunity cost does not represent the *value to him* of the land. It represents the land's *economic* value to him in terms of his *willingness-to-pay for the land*. But though he is only willing and able to pay exactly the land's opportunity cost, if he owned the land, he would *not* be willing to part with it for this amount of wealth. Defenders of the opportunity cost argument often elide the distinction between value and *market or economic* value and so overstates the appeal of opportunity cost as a metric for equality of shares.

There is another problem with the opportunity cost argument. Namely, it actually provides a highly controversial conception of the proper market value for natural resources, one that is potentially different than the market value that might actually obtain and one that is potentially different than the fair market value. It implicitly dictates that the price of a natural resource *should be no higher* than the second highest price someone is willing to pay to directly utilize it. But note that if someone else (besides the highest bidder) owned the natural resource, they would likely be able to get *more* for it than merely the second highest price someone was willing to pay for its direct use. The

⁴⁰⁸ I am assuming here that the oil-owner has no disposable income besides what he could get from selling the oil and that he values the plot of land as a whole (that is, he is unwilling to pay nearly as much for just a portion of it).

second highest price would set *the floor* of what the owner would be willing to accept. To see one problem this creates, imagine that no one except X can make any direct use of a particular piece of arable land. So the opportunity cost of the land is zero. Thus, an implication of the opportunity cost view is that receiving the land should *not count at all* towards X's share of natural resources. Yet this seems strange. After all, if others owned the land, they would be likely be able to sell it to X for a positive price (if they had even a bit of bargaining power). Even though no one else can *directly* use the land (and so its opportunity cost is zero) people may be able to *indirectly* use the land by selling it to X. So if X and Y received the same amount of oil and X also received this piece of land that only he could use, Y might have a legitimate complaint.

A third problem is that opportunity cost is determined by the current distribution of income. Both Dworkin and Van Parijs concede this point. Their solution is to insist that opportunity cost should only be used as a metric where people have *equal* incomes. It is only in such an environment that we can measure the *true* opportunity cost of resources.

There are several responses to this equal-income qualification. First, the equal income suggestion will not solve the first and second problem I raised with opportunity costs. There is nothing in the equal income condition which precludes the example where one person receives the pool of oil and yet prefers the arable land given to another person (where both shares are of equal opportunity cost). Dworkin and Van Parijs might respond that what they actually require is for the natural resources to *be auctioned off* in an equal income environment. But it seems odd that the exact condition required for *envy-freeness* (as I discuss below) is also exactly what is required to measure "true"

opportunity cost. In addition, as I will argue shortly, Van Parijs and Dworkin are making a subtle but crucial mistake. If we try to have an equal income auction of natural resources followed by sales in an economy where incomes are unequal, the prices of the resources (and therefore their opportunity costs) will be determined by the *unequal* post-auction distribution of income. I discuss this important error in greater detail below.

Insofar as contemporary theorists have argued for a resourcist equal division, they have generally tried to respond to the challenge Narveson poses by arguing that a person receives an equal share as long as they receive a share of equal market value. Theorists like Tideman and Steiner have even relied on the normative desirability of this market-value-based division to condone unilateral appropriation of natural resources as long as those without resources receive their market value.⁴⁰⁹ However, many of the reasons that Tideman, Steiner, and others give for the desirability of a market-value-based division are unconvincing. In a world where individuals have unequal incomes, it is implausible to argue that the market aggregates individual valuations in a normatively desirable way. Even if it did, an individual ultimately cares about the value that *she* places on the natural resource share she receives, not the value that *society places on it* in some aggregate sense. A market-value-based division, under certain conditions, does ensure that each person receives a share that is equally costly in terms of the next most economically valuable use to which the resource could be directly put. But even in an equal income environment, since the opportunity costs measures *economic* value and focuses on *direct* use, it can still leave certain individuals with a natural resource share that they do not consider as valuable as some of the shares received by others.

⁴⁰⁹ See Steiner, "Original Rights and Just Redistribution."

6.1.5 ENVY-FREENESS AS THE RIGHT STANDARD

It might appear, then, that Narveson was right. There is no *objective* yardstick (e.g. agricultural productivity, market value, etc.) that the government can use to measure how much a resource something is in order to ensure that every person receives an equal amount. And the equal identical resource bits and lottery solutions are either unworkable or undesirable. However, I argue in this section that we can achieve a resourcist equal division in the case of heterogeneous natural resources by achieving an *envy-free distribution*: one where no person would prefer to have someone else's natural resource share. And in fact, markets are crucial for feasibly implementing this kind of solution in the absence of an omniscient government.

An envy-free distribution seems to extend in the right way what was appealing about the identical manna division to the heterogeneous resource case. One of the reasons that the manna division was so intuitively appealing is exactly because no one could complain that they preferred to have someone else's share of manna (since the shares were exactly identical). Given an envy-free distribution, no person would complain that her resource share represents "fewer resources" than someone else's share. An envy-free distribution is fully compatible with individuals having drastically different valuations of different natural resources. It also does not require the government to carry out the distribution by imposing a particular metric for measuring value.

There are, however, a variety of problems with the envy-free solution. First and most importantly, it is unappealing in exactly the way that the resourcist equal division of manna is unappealing. Namely, at best it only effectively equalizes natural resource *amounts*. Even after an envy-free solution is implemented, there may still be unjustified discrepancies in individuals' incremental benefits that require correction before natural

resource *shares* (as opposed to the *sizes of the shares*) can be properly viewed as equal. However, as I argued in Chapter Five, giving each person an equal amount of natural resources, though by no means ideal, is a good, feasible, and desperately needed first step in achieving the ultimate goal of a justified incremental benefitist equal division of natural resources.⁴¹⁰

The second problem (which does not arise in the manna case) is that the envy-free division relies on people *using their own (potentially faulty) judgment* to evaluate how much of a resource something is. In the manna case, it was objectively true that no share represented more resources than any other share. In the envy-free case what is true is that *no person thinks that* another share represents “more resources” than her share. In making this judgment, individuals are susceptible to a variety of mistakes. They might think, due to some empirical error or shortsightedness, that a particular resource will provide a higher benefit for them than it in fact will provide. Alternatively, they might be evaluating benefits in the wrong way (e.g. they might be thinking of how much welfare a resource will provide them as opposed to a broader view of the benefits that possibly includes things like their freedom or autonomy). They might also have a mistaken view of the good life. They could be correctly estimating the benefits that a piece of arable land will provide them *given their life plans*. But they might be choosing a life that is wrong for them. The envy-free distribution admittedly relies on individuals’ *possibly mistaken* estimation of how much of “a resource” different natural resources constitute.

There are several responses to this objection. The first response is that a liberal government is rarely in a position to correct these mistakes. This is either because the government lacks better information than the individual or because the government has a

⁴¹⁰ See Section 5.4.4.

commitment to liberal neutrality which prevents it from deeming a particular kind of life to be a mistake. Government non-interference might also be based on a view that it is better to let individuals to make their own mistakes under certain circumstances. This is not to say the government should not prevent any mistakes in a citizen's judgment. However, the appropriate level of correction for mistakes will be part of a broader theory of paternalism that I will not discuss here.

The more important response is that these mistakes will arise under *any* system of distribution in which we allow trades after the initial distribution is made. So, for example, even if natural resources were distributed according to a lottery, individuals might trade the share that they receive for a different share due to these mistakes. And note that insofar as the mistakes individuals make when determining whether they prefer someone else's share are not ones for which they could be held morally responsible, and are also ones that the government is unable to prevent, I do not preclude the possibility that those in error might be entitled to extra resources on the grounds that there are unjustified discrepancies in their incremental benefits. Such compensation, however, goes beyond the simple resourcist equal division I am trying to implement here.

The final major difficulty with the envy-free criterion is that it seems to permit natural resource distributions that are clearly undesirable. For example, simply destroying all the natural resources constitutes an envy-free distribution. In addition, assuming away intra-resource heterogeneity, the identical resource bits bundle distribution is also envy-free even though it unattractively necessitates a large number of transactions before any natural resources can be used.

While these allocations are envy-free, they hardly seem like the right solution. However, the problem is not that they generate distributions that are *unequally-sized from the individuals' point of view*. Rather, the problem is that destroying natural resources or implementing a solution that requires a large number of costly transactions is inefficient.⁴¹¹ Ultimately, we care about the *level* of benefits that people receive from their natural resource shares, not only about avoiding unjustified discrepancies in the those benefits.⁴¹² So among the envy-free solutions, we should prefer the ones that are more efficient. Such distributions should meet two conditions. First, they should not require the destruction of any natural resources. Second, they should not necessitate individuals carrying out (costly) trades of natural resources for other natural resources after the envy-free distribution is implemented in order to reach their desired natural resource bundle.⁴¹³ This second condition is an efficiency condition that Varian also suggests for choosing among envy-free distributions. I call distributions that meet this condition **trade-proof**. By including these efficiency conditions in addition to the envy-free condition, we can ensure that each person receives a share that is equally-sized while avoiding wasted resources.

⁴¹¹ Note that it is not true that every person would be better off under a more efficient solution. There could be someone who exactly prefers having a tiny bit of every natural resource. So the solution I am advocating is not necessarily a Pareto improvement over solutions with high transaction costs. Rather the idea of efficiency I am appealing to is that when choosing among different policies, we should choose the one that generally has lower costs.

⁴¹² Remember that the appeal to the efficiency criterion was based on the idea that we are interested in the level of concern the government shown individuals, not merely in the equality of that concern. See Section 4.2.3.

⁴¹³ It is worth emphasizing that the envy-free distribution ensures that people would not be willing to trade *their whole* natural resource share for someone else's whole share. But the envy-free condition does not preclude trades of portions of natural resource shares for other portions (as would occur in the case of the identical resource bit bundle allocation.)

6.2 Implementing Envy-Freeness

The challenge of achieving a distribution of natural resources that is (even only initially) both envy-free and meets the two efficiency conditions I have set out might intuitively seem very daunting. A solution that works in the two-person case, like letting one person divide the objects into two shares and then letting the other person choose her preferred share, is unworkable in the context of a large society. However, remarkably, we can use a market mechanism to meet this challenge. In particular, a natural resource auction where every bidder has an equal amount of income can, under certain conditions, achieve a distribution that is both envy-free and efficient in the two ways I specified above. Unfortunately, there are a variety of problems with implementing an equal-income auction which make it unworkable as a practical policy proposal in most cases. However, I argue that what is of real normative interest is the natural resource distribution that would result *after sales* of natural resources from an *initially* envy-free and trade-proof allocation. I argue that a properly specified auction where bidders have unequal income but whose *proceeds* are distributed equally can, given certain conditions, implement this distribution.

6.2.1 DIVIDE AND CHOOSE

The first potential procedure for implementing an envy-free, trade-proof distribution is a well-known solution called **Divide and Choose**. Consider again the problem of dividing a heterogeneous cake among two siblings. We could have one sibling divide the cake into two shares and have the other sibling choose the share that she wants. Assuming the siblings value the cake in similar ways or assuming the sibling doing the dividing knows what the other sibling likes in terms of the different pieces of

the cake, the solution will be both envy-free and trade-proof. That is, neither sibling will prefer the share that the other sibling receives, and there will be no opportunities for mutually beneficial trades of any part of the cake among the siblings after the distribution.⁴¹⁴ Divide and Choose is a well-known solution for fair division which is used, for example, in Genesis when Abraham divides potential grazing land into two portions (one to the right and one to the left of where he stands) and asks Lot (his nephew) to choose the portion that he prefers.⁴¹⁵

Although Divide and Choose is intuitively appealing, it is also a problematic way for achieving an envy-free, trade-proof distribution in practice. Even in the two person case, the shares may fail to be trade-proof if the divider does not know the preferences of the chooser.⁴¹⁶ If the divider makes a mistake about the preferences of the chooser, the shares may fail to be envy-free from the divider's perspective.⁴¹⁷ Most importantly, although there has been some work showing how *in theory* the Divide and Choose procedure could be used with more than two individuals,⁴¹⁸ implementing such a procedure would be highly impractical logistically and would require an unrealistic

⁴¹⁴ See S. J. Brams and A. D. Taylor, "An Envy-Free Cake Division Protocol," *American Mathematical Monthly* (1995).

⁴¹⁵ See Genesis 13: 8-12

⁴¹⁶ Imagine that the cake is half vanilla and half chocolate and that the chooser only likes vanilla and the divider only likes chocolate. If the divider does not know what the chooser likes, he might divide the cake into two shares each of which has some vanilla and some chocolate. This would not be a trade-proof allocation.

⁴¹⁷ Again imagine the cake which is half vanilla and half chocolate. Imagine that the divider likes chocolate and thinks the chooser likes vanilla better than chocolate. He might divide the cake into a share that is wholly chocolate and a share that is wholly vanilla. If the chooser turns out to be a chocolate lover, the divider will end up envying the (chocolate) share of cake that the chooser obtains.

⁴¹⁸ See Brams and Taylor, "An Envy-Free Cake Division Protocol."

uniformity of natural resource valuations or unrealistic knowledge of others' natural resource valuations among those doing the dividing.

6.2.2 THE EQUAL-INCOME AUCTION

There is, however, a more plausible procedure for implementing an envy-free, trade-proof natural resource allocation. This procedure uses a market mechanism to achieve an envy-free, trade-proof distribution. Economists such as Hal Varian have shown that conducting an auction of particular goods where every person has *an equal bidding income* can produce a distribution which is both envy-free and trade-proof.⁴¹⁹ This **equal-income auction** is promoted by Dworkin (who builds on work by Foley and Varian) as a way to divide natural resources in an envy-free way. The auction works as follows on Dworkin's account: Every person receives an equal amount of bidding-income (in Dworkin's example, clamshells). The available natural resources are then divided into lots, with each distinct natural resource being auctioned off as a separate lot and individuals being allowed to ask that lots (e.g. plots of land) be subdivided even further. Once the lots have been divided and the (equal) bidding income has been distributed, an auctioneer calls out a set of (clamshell) prices for all the lots simultaneously. If there is more than one person willing to buy any lot or if some lot remains unsold at the current prices, the auctioneer calls out a different set of prices. This auction ends (i.e. reaches equilibrium) when there is one and only one person willing to buy every natural resource at its current (clamshell) price.⁴²⁰

⁴¹⁹ Hal Varian, "Equity, Envy, and Efficiency," *Journal of Economic Theory* 9, no. 1 (1974).

⁴²⁰ Admittedly, there may be situations in which there is no envy-free, trade-proof equilibrium. Or there might be multiple equilibria. I will not consider these possibilities here.

It is fairly straightforward to see that an equal-income auction equilibrium is an envy-free allocation. As Dworkin explains, “No one will envy another’s set of purchases because, by hypothesis, he could have purchased that bundle with his clamshells instead of his own bundle.”⁴²¹ Varian provides a more formal discussion of this result.⁴²²

It is also straightforward to see that the distribution will meet the two efficiency conditions I set out above. The auction clearly does not require the destruction of any natural resources in order to achieve the envy-free result. In addition, there is no incentive for costly trades of natural resources after the auction is over. To see this, note that mutually advantageous trades of natural resource portions can involve either natural resource portions of the same clamshell price or portions of different clamshell prices. But the portions cannot be of the same price because if someone preferred a different, identically-priced natural resource to a natural resource she bought as part of her share for the same number of clamshells, she could have simply bought that natural resource instead in the auction. And the natural resource portions traded also cannot be of different clamshell prices. It cannot be that the person with the higher-priced portion would be willing to make the trade because she could have bought the lower-priced natural resource at the auction and still had some valuable clamshells left over.⁴²³

Despite its normatively attractive properties, Dworkin does not present the equal-income auction as a practical policy proposal for implementing an envy-free, trade-proof natural resource allocation (although he does think it could be used in some special

⁴²¹ Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 68.

⁴²² Varian, "Equity, Envy, and Efficiency."

⁴²³ For a more formal discussion of the envy-free and efficiency properties of equal-income auctions, see *Ibid.*. It is interesting to note that Dworkin does not mention this important efficiency property of the equal-income auction. Yet it is efficiency that intuitively seems to make this distribution preferable to other envy-free distributions.

situations).⁴²⁴ Rather, he presents it as a theoretical device for thinking intuitively about what equality of resources would entail. While Dworkin makes a real contribution by introducing the idea of envy-freeness and the possibility of using a market to achieve envy-freeness into the political theory literature, if there is no practical way to implement an envy-free distribution in the real world, it is unclear how appealing the concept is. Since I ultimately hope to develop a theory for how natural resource property rights should work in practice, I am interested in finding a procedure that can be realistically implemented.

The equal-income auction is unlikely to constitute such a realistically implementable procedure for several reasons. The main problem is the equal-income condition. In a world with a large number of people who have unequal income, the logistics of actually giving people an equal number of clamshells (or other counters) in order to conduct this kind of auction are quite demanding. In addition, although I have avoided the questions of dynamic equality in this chapter, it seems obvious that the equal bidding income requirement is something that would be particularly challenging to maintain over time.

The second problem with the equal income auction is that it is inefficient in the same way that the equal distribution of physical manna is inefficient. Namely, although people would not want to trade natural resources *for other natural resources* at the end of the equal-income auction, many would want to sell their natural resource shares to obtain *other goods and services* after the auction is over. Again, relatively few people in modern societies wish to manage or develop natural resources themselves (with the

⁴²⁴ Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 71-72.

exception of owning a small plot of land for a home.) And so in a modern society the transaction costs associated with these post-auction sales would be quite significant.

The third problem with equal-income auctions has to do with a lack of information, especially with respect to individuals who ultimately do not want to own natural resources. These individuals would generally be interested in buying a share in the equal-income auction that has the highest *post-auction* market value possible (since they are ultimately interested in selling their share to finance their life plans more generally). But they have no way of knowing what the post-auction market price of particular resources will be when they are bidding for resources in the (artificial) equal-income auction.⁴²⁵ This could easily lead to situations where certain individuals envy someone else's share *once it becomes apparent* that there is not as much demand in the *real* (unequal-income) economy for the shares they have bought with their clamshells.⁴²⁶ The problems of providing individuals with equal bidding income, the post-auction transaction costs, and the informational difficulties make the equal-income auction quite unappealing as a practical device for implementing an envy-free distribution.

6.2.3 THE ENVY-FREE-FOLLOWED-BY-SALES DISTRIBUTION

Given these problems, it is necessary to find an alternative to using an equal-income auction if the idea of an envy-freeness is to be workable. I argue in this section that rather than trying to find an alternative device for implementing an envy-free

⁴²⁵ To be clear, the *post-auction* market value of a resource is measured in real currency, *not in clamshells*, and is based on the prices that obtain once people have started selling their natural resource shares in the real economy, not in the artificial, equal-income clamshell economy.

⁴²⁶ For example, someone might use her clamshells to buy a large share of land rich in pyrite (Fool's Gold) thinking that its sale will enable her to purchase a variety of goods and services after the auction only to find that she would have been much better off buying land rich in gold.

distribution, we ought to focus on trying to replicate the natural resource distribution that would occur *after individuals sell their natural resource shares* in the post-equal-income auction environment. I call this the **Envy-Free-Followed-By-Sales (EFFBS)** distribution. I argue in this section that under certain conditions there is nothing normatively problematic about aiming for the EFFBS distribution and in fact doing so has the advantages of avoiding transaction costs and informational problems.

It is worth beginning by considering what the EFFBS distribution would look like and how the post-auction sales would affect what happens in the equal-income auction. Dworkin pays insufficient attention to what the *ultimate* distribution of natural resources will look like. And it would likely be very different from the distribution that obtains at the end of the equal-income auction even in the simple world we are considering (i.e. one with no changes in technology, demography, preferences, etc.). After all, the majority of people in most societies do not wish to manage or own very many natural resources themselves. Such individuals will not simply waste their clamshells in the equal-income auction. Rather, they will be interested in buying natural resources in the equal-income auction which have the highest *post-auction* market value possible. So the equal-income auction distribution is only temporary (even assuming no changes in preferences etc.) After the auction is over, many individuals will sell their shares and use the proceeds to finance their life plans more generally. And these sales will take place in an environment where incomes (on Dworkin's account) can be quite unequal. Note that after these natural resource sales occur in this unequal income environment, the distribution of *natural resources* will no longer be envy-free (I will return to this point shortly).

These post-auction sales also have important implications (which Dworkin overlooks) for the clamshell prices of natural resources in the equal-income auction. Let us imagine for now that the post-auction market for natural resources is approximately competitive. That is, individuals are basically able to buy and sell as much of any particular type of natural resource in the post-auction market at its market price. Of course, the assumptions of competitiveness are unlikely to hold exactly for heterogeneous natural resources. One piece of farmland is somewhat different from another piece of farmland, if for no other reason than location. But let us imagine for now that the differences are small so that we can think of there being a single price for an acre of farmland at least in a particular area. Let us also assume that the bidders in the clamshell auction can perfectly predict what the post-auction competitive prices of natural resources will be and that transaction costs are insignificant.⁴²⁷ At least under these conditions, *the clamshell prices of natural resources in the equal-income auction will be directly proportional to their post-auction real-market sale prices.* That is, they will represent the same relative prices with a different unit of measurement (clamshells vs. real currency).

To see why this is so, imagine Naïve, who is thinking of using some of his clamshells in the equal-income auction on a piece of farmland that he wants to actually own even after the auction is over. Assume that the farmland has the same clamshell price as a plot of beachfront land but that the farmland has a lower post-auction market price than the beachfront land. In this situation, it would be foolish for Naïve to buy the

⁴²⁷ Dworkin can try to deny them this knowledge. But this would be inconsistent with being committed to letting individuals choose the natural resources that best help them fulfill their life plans. For someone like Infirm, not being able to predict the post-auction market value of natural resources could lead to disastrous consequences where he gets a natural resource share which is useless to him.

farmland in the equal-income auction for its current clamshell price. After all, Naïve could instead buy the beachfront land for the same number of clamshells. Then, after the auction, he could sell the beachfront land, buy the farmland that he wanted in the first place, and have some (real currency) income left over. Assuming Naïve is rational (in the economists' sense) and values more income, he will thus want to buy the beachfront land. So Naïve will not be willing to buy the farmland at the current clamshell price. In order to get Naïve (or anyone else for that matter) to buy the farmland, the relative clamshell prices of the farmland and the beachfront property would have to change until they were exactly proportional to these natural resources' *post-auction* market prices. Generalizing this argument and assuming that the market for natural resources is competitive, that people value wealth, that they are rational (in the economists' sense), and that they can predict the post-auction competitive market price of natural resources, the only equilibrium in the equal-income auction would be for the clamshell prices of resources to be proportional to the post-auction, real-currency sale prices of the natural resources.⁴²⁸ An implication of this is that every person's share of natural resources in the equal-income auction will have exactly the same post-auction market value.

Given these results, someone who was at first attracted to the equal-income auction idea might now question her commitment to this procedure. After all, we can see that in fact it will ultimately lead to a highly unequal and not at all envy-free distribution

⁴²⁸ Note that this undermines Dworkin's argument for why the equal-income auction has independent merit besides its propensity to achieve an envy-free result as a mechanism for allocating natural resources. Dworkin argues that since people have equal bidding income, they each play an *equal* role in the determining the outcome of the auction. Dworkin, *Sovereign Virtue : The Theory and Practice of Equality*, 84. But my argument above shows that the prices (and distribution of bundles) that result from the equal income auction would ultimately be determined by the prices in the *real* economy. And these real-economy prices are shaped by people's preferences in unequal ways (e.g. those with more wealth have a greater influence.) Providing individuals with equal bidding income is simply a tool to achieve an envy-free, trade-proof distribution. It does not have the independent normative significance that Dworkin attributes to it.

of natural resources; a distribution where the prices of the natural resources are effectively determined by an *unequal* distribution of income. Some thinkers might respond either by advocating that we forbid sales of natural resource shares after the equal-income auction or by abandoning support for the equal-income auction altogether.

But I think such responses would be unwarranted for several reasons. First, the fact that the prices of the natural resource shares are *effectively* determined by an *unequal* distribution of income may be a problem for a view that placed normative significance on the market prices. But on my account the market price does not aggregate valuations in some desirable way nor does it represent some type of normatively relevant “true” opportunity cost. Rather, the market mechanism and the prices are merely a (very sophisticated) tool for achieving an envy-free, trade-proof initial distribution. It is this initial envy-freeness and the related efficiency properties of the market equilibrium, not the prices themselves, which are normatively important. Second, I have argued, in line with Dworkin, that what matters is not equality at every point in time, but rather equality from the viewpoint of individuals’ lives taken as a whole. And in this environment where there is no change in preferences, technology, natural conditions, etc. (so that people can perfectly plan their lives), giving each person a share that is *initially* equally-sized ensures that they have had an equally-sized share of natural resources with which to lead their lives (even if they then decide to sell their share). Finally, I have argued that as long as just background conditions obtain, we ought to allow individuals to sell their natural resource shares. Doing otherwise would treat individuals like Infirm who have no direct

use for natural resources unjustly.⁴²⁹ So I do not think the post-auction sales and their related effects on the equal-income auction prices should lead us to abandon support for the equal-income auction.

Granting that there are no deep normative problems with the Envy-Free-Followed-By-Sales distribution, there is no reason why we should not aim at implementing this distribution directly. In fact, there are good reasons for doing so. Namely, we can avoid the transaction costs arising from the natural resources sales that would occur after implementing the equal-income auction. In addition, if we can somehow use the real market to implement the EFFBS distribution, then we can avoid the informational problems (i.e. predicting the real market prices) that arise under the equal-income auction system. I now turn to exploring a proposal for implement the EFFBS distribution in the real (unequal income) economy: the equal-proceeds auction.

6.2.4 THE EQUAL-PROCEEDS AUCTION

I argue that there is a way to implement this EFFBS distribution without running an equal-income auction. Namely, it is possible to auction off natural resources in the *real* economy and to distribute the proceeds of this auction equally to every individual. I call this mechanism the **equal-proceeds auction**. In Chapter Five I showed how an equal-proceeds sale could replicate the distribution that would arise from a resourcist equal division of manna followed by sales. The equal-proceeds auction attempts to apply the same basic intuition to the heterogeneous natural resource case.

⁴²⁹ I develop the arguments against a market-value-based equal division above in Section 6.1.4. The arguments for taking a synoptic point of view and for allowing the right to sell as part of ownership are developed in Section 5.5

The idea of using an equal-proceeds auction to allocate natural resources is not new. It has been promoted by both Steiner and Tideman, for example. But the reasons I give in favor of it are novel. I argue that an equal-proceeds auction is a justified way of respecting equal natural resource claims in that, designed properly, it can replicate the natural resource distribution resulting from an initially envy-free, trade-proof division of natural resources followed by voluntary sales constrained by just background conditions. Replicating this distribution requires that special constraints be placed on the equal-proceeds auction, especially when the conditions of competition fail; constraints which are not present in the equal-proceeds auctions proposed by Steiner and Tideman.

In the case where natural resources are competitively available and we assume away transaction costs, I claim that an equal-proceeds auction can be designed which produces the same result as the equal-income auction followed by sales. However, this requires that we design the equal proceeds-auction in a particular way. First, the division of natural resources into “auction lots” would have to be the same as the division used in the equal-income auction. Second, as in the case of the equal-proceeds manna sale discussed in Chapter Five, the government would need to estimate the total final market value of all the natural resources and give each individual an equal share of the anticipated proceeds *before* the equal-proceeds auction takes place.⁴³⁰

Given the equal-proceeds auction is conducted in this way and assumptions about the market conditions obtain, I argue that the equal-proceeds auction would achieve the

⁴³⁰ As discussed in Chapter Five, this would serve three functions. First, it would avoid relying on individuals to correctly predict their ultimate payout when deciding how much to pay for a certain resources given their income. Second, giving individuals their share of the auction proceeds upfront would avoid the problem of individuals facing liquidity constraints (i.e. those have low levels of wealth and cannot costlessly borrow to buy natural resources in anticipation of receiving the proceeds of the auction.) Finally, it would avoid the transaction costs associated with individuals having to buy natural resources from those who purchased them at the auction only after they receive their proceeds.

EFFBS distribution.⁴³¹ I have already shown that, assuming competitive conditions and no transaction costs, each of the shares bought in the equal-income auction would have the same post-auction market value as any other share. And if the government correctly anticipates the total natural resource market value and distributes an equal portion of it to each individual before the auction, the individuals' effective incomes would be the same in both situations.⁴³² In addition, the items available for sale would be the same. Thus, any person would be able to use her auction proceeds to buy any of the shares available in the equal-income auction. Alternatively, she could keep the proceeds and receive exactly what she would have gotten by selling her share after the equal-income auction. So under the conditions I have described, the equal-proceeds auction will exactly replicate the EFFBS distribution.

However, if any one of the conditions I have described were to fail to hold, then the equal-proceeds auction would fail to replicate the EFFBS distribution. If there are transaction costs, then some individuals will be worse-off under the EFFBS distribution than they are under the equal-proceeds auction. But this difference is in fact one of the *strengths* of the equal-proceeds auction (i.e. there is nothing normatively desirable about the transaction costs). So the potential discrepancies arising from the absence of transactions costs are unproblematic. Second, if the division of natural resources into lots in the two auctions is different, the results could be different as well. I discuss how lot division ought to work and the consequences of different auction lot sizes below. Third,

⁴³¹ Ideally, I would provide a formal proof of this result. However, this is beyond the scope of this work.

⁴³² In the equal-income auction situation, each individual would enter the (unequal income) natural resource market with a physical share of natural resources that has a certain market value equal to that of everyone else's natural resource share. In the equal-proceeds auction situation, each person would enter the auction with that same equal market value in the form of wealth (assuming the government predicted correctly).

if the government fails to correctly predict the total market value of natural resources, it will distribute the wrong proceeds to individuals leading to differences between the EFFBS distribution and the equal-proceeds auction. However, as I discussed in Chapter Five, there are several steps the government could take to mitigate this problem.⁴³³

The most serious problem occurs when natural resources are not competitively available. To see why this is a problem, note that in the equal-proceeds auction, the price of a natural resource will be somewhere in between the highest willingness-to-pay and the second highest willingness-to-pay for the resource. On the other hand, in the equal income auction followed by sales, the price of a natural resource will be in between the price at which *the owner is willing to sell the resource* and the highest willingness to pay by someone other than the owner (where the owner is the one who bought the resource in the equal-income auction). Under competitiveness assumptions, these two prices would be the same (since there will be many people who are exactly indifferent between keeping the resource and receiving its market price and many others who are exactly indifferent between obtaining the resource and keeping their money). But when a certain type of natural resource is not competitively available, these prices will be different. In fact, the owner's willingness-to-sell may in some cases be higher than the highest willingness-to-pay of someone else. In such a case, that type of natural resource may not have a (post-auction) market price at all (that is, that natural resource or another sufficiently similar to it might simply be unavailable for purchase in the market.) Under these conditions, it will not be the case that an equal share of proceeds from the equal-

⁴³³ See Section 5.7

proceeds auction will be sufficient to buy any of the shares that would have been available in the equal-income auction.⁴³⁴

To see the problem, imagine the case of a large society where all the natural resources except one are competitively available. The resource that is not competitively available is a plot of arable land that some poor person named Destitute wants to own which has special meaning to her. The government accurately estimates the total market value of the resources divided by the individuals in society to be \$1000 and so Destitute receives a \$1000 to bid in the equal-proceeds auction. Assume that since Destitute has no disposable non-natural resource wealth, she cannot bid above \$1000.⁴³⁵ Also assume that Wealthy also wants to buy this land in order, say, to enlarge her game ranch and that she is willing to bid \$1100 for the land. Also assume that the equal-proceeds auction is run as a typical second-price auction in which the winner of the auction pays the price of the second highest bidder.⁴³⁶ So Wealthy bids \$1100 wins the auction, and pays \$1000 for the land. But in the equal-income auction the result would have been different.

Wealthy would have been unable to afford (using his clamshells) all the other land he has *and* the piece of land that Destitute wants. Assuming no one else places particular value on the land, Destitute thus have been able to buy the land using her clamshells. And she would have been unwilling to sell the land to Wealthy for \$1000 or (let us assume) even

⁴³⁴ This is in large part because the market price of non-competitively available resources in the equal-proceeds auction will be closer to what second highest bidder is willing to pay rather than the price at which it is possible to buy the resource.

⁴³⁵ If Destitute has some non-natural resource wealth the example becomes much more complicated but the fundamental problem does not go away.

⁴³⁶ Vallentyne seems to suggest that we might be able to solve this problem by running a first-price auction. But economic theory suggests that in many cases the price a person will ultimately bid in a closed-bid, first price auction would be closely related to what she thinks the second highest price will be. See Vallentyne, "Introduction: Left-Libertarianism - a Primer," 16.

for \$1100.⁴³⁷ So in the equal-income auction Destitute ends up owning the land and in the equal-proceeds auction Rich ends up owning the land (and Destitute gets to keep the \$1000 for something else.) Since Destitute effectively lacks the option of obtaining an equal share of natural resources (i.e. envy-free share she could have obtained at the equal-income auction), she has a legitimate grievance.

It is important, however, not to overemphasize the scope of this problem. In practice, it is likely to arise in only a small number of cases in a modern society where most people would prefer having additional income to owning particular undeveloped natural resources. In addition, although natural resources are often not competitively available, the difference between their market price and the price at which they are actually available for sale is likely to be small. In such cases, individuals should still be able to afford to buy, if they wish, a share of natural resources that is only modestly smaller than the one they could have had in the equal-income auction.⁴³⁸

However, there are some cases where the difference between the EFFBS distribution and the one generated by the equal-proceeds auction can be quite significant. This occurs when particular natural resources are quite far from being competitively available (i.e. the gaps between the two highest willingness-to-pays are large and the willingness-to-pay of the second highest bidder is very different from the price she would be willing to accept if she owned the natural resource). I refer to natural resources for which this is true as **contested natural resources**. The problem of contested natural

⁴³⁷ Assume that someone else (e.g. a farmer) is also willing to buy the land for approximately \$1000 so that the market price of the land would be \$1000 in the equal-income auction as well.

⁴³⁸ They can do so by requesting that the particular resource share in question be auctioned off in smaller pieces. Unless the difference between the price they are willing to pay and the price of the highest bidder is enormous, they should be able to put in the highest bid for a smaller share.

resources will not have major consequences for the overall distribution of natural resource wealth. Nevertheless, it can be of central importance for thinking about certain controversies over natural resource ownership (e.g. the land rights indigenous peoples).⁴³⁹

In such cases, the equal-proceeds auction as I have described may well not be the right allocation mechanism. Intuitively, what the equal-proceeds auction effectively does in such cases is to *force* the individual to sell the share she would have received in the equal-income auction for the price at which she is willing to pay to own that share. And I have already argued that such forced sales are generally unjustified.

It is unfortunately beyond the scope of this work to provide a solution to the problem of contested natural resources. However, I have demonstrated the limitations of the equal-proceeds auction. When particular natural resources are not competitively available, the equal-proceeds auction may fail to respect individuals' equal natural resource claims. In addition, I have provided a goal that a mechanism designed to solve this problem should aim for.⁴⁴⁰ Namely, it ought to replicate the distribution that would obtain by starting from an envy-free, trade-proof distribution of natural resources followed by voluntary sales of shares under just background conditions.

Although the problem of contested resources is significant, it is important not to lose sight the broader problems that have been addressed. I have presented and defended a standard (envy-freeness) which I have argued meets Narveson's challenge regarding equally dividing heterogeneous natural resources. By implementing an envy-free allocation, we divide resources in such a way so that no person can complain that another

⁴³⁹ Often this problem arises when there is a vast wealth difference between different individuals who are interested in the same natural resource.

⁴⁴⁰ Any solution will likely have to elicit the prices at which individuals are willing to sell a particular natural resource as well as the prices at which they are willing to buy them.

person's share would provide her with more resources than the share she has been given. I have also proposed a mechanism that is eminently feasible in the real world and which, in most cases, can replicate the Envy-Free-Followed-By-Sales distribution. As the contested resource case shows, this proposal is not perfect. But I believe it is certainly good enough to refute Narveson's argument that the problem of heterogeneity should lead us to abandon the idea of equal division altogether.

6.3 Problematically-Divisible Natural Resources

The heterogeneity problem I have been concerned with so far is only the heterogeneity *among* unproblematically-divisible natural resources. Many political theorists who have written on the topic of natural resources focus exclusively on natural resources of this type. But many other natural resources including, air, water, migratory animals, objects of great natural beauty, and even arable land under certain circumstances are not obviously amenable to division (or at least not without problems). This point is of enormous importance. The normative appeal of the equal-proceeds auction proposal is predicated on the idea that equal division constitutes the right way of respecting equal claims to natural resources. If this is not true for particular resources, then it would be a mistake to allocate them using such an auction.

Interestingly, not all political theorists ignore this type of natural resource diversity. On one reading of Hobbes, for example, he seems to recognize that though equal division is the ideal method of allocating natural resource property rights, it is not always appropriate for different types of natural resources. Hobbes writes:

The observance of this law, from the equall distribution to each man, of that which in reason belongeth to him, is called Equity, and (as I have said before) distributive Justice: the violation, *Acception of persons* ...

And from this followeth another law, *That such things as cannot be divided, be enjoyed in common, if it can be; and if the quantity of the thing permit, without Stint; otherwise Proportionably to the number of them that have Right.* For otherwise the distribution is Unequall, and contrary to Equitie.

But some things there be, that can neither be divided, nor enjoyed in common. Then, The Law of Nature, which prescribeth Equity, requireth, *That the Entire Right; or else, (making the use alternate,) the First Possession, be determined by Lot.* For equall distribution, is the Law of Nature; and other means of equall distribution cannot be imagined.⁴⁴¹

Unfortunately, Hobbes is quite unclear about which natural resource characteristics make equal division problematic and which characteristics recommend that natural resources should be enjoyed in common versus being allocated using a lottery. In this section, I therefore examine several resource characteristics that intuitively seem to raise doubts about the desirability of equal division; characteristics that have been explicitly assumed not to be present in natural resources thus far. These characteristics include scale economies, monopoly-proneness, essentialness, itinerancy, non-excludability, non-rivalrousness, and non-divisibility. I argue that with the exception of non-excludable natural resources and inseparable natural resource, most natural resources should be equally divided and therefore allocated using an equal-proceeds auction. I recognize, however, that many of these natural resource characteristics (such as non-rivalrousness and essentialness) do generate rationales for government involvement in the equal-proceeds auction as a purchaser and owner of natural resources. Nevertheless, I argue that this type of government ownership should not be interpreted as a justification of Democratic Ownership of the natural resources in question.

Before launching into the discussion of these resources, two things are important to note. First, the treatment of these natural resources in the real world involves a variety

⁴⁴¹ Hobbes, "Leviathan," 108.

of considerations (e.g. the obligations to conserve for future people, equality over time, etc.) that are addressed in future chapters. Here I will set these issues aside and focus how these resources ought to be treated in the case of a static, single-generation society. Second, a full justification of how many of these resources ought to be treated would require a lengthy discussion of other topics in political theory (e.g. a liberal theory of public goods). Since a full discussion of these other topics is beyond the scope of this work, much of what I say in this section *will not be fully fleshed out and defended*. Nevertheless, given the importance of problematically-divisible natural resources, giving some provisional and inadequately defended answers is better than simply ignoring these types of resources altogether.

6.3.1 ECONOMIES OF SCALE

The first set of problems with equally dividing certain natural resources is an important efficiency concern that arises when resources are divided into portions that are too small. Many of these issues were been briefly discussed in the case of the bundle of identical resource bits proposal considered above. But I have not considered yet how these problems apply to Dworkin's auction where each individual natural resource (e.g. every tree in the forest) is supposed to be auctioned separately. There are several problems with this proposal. The first problem is that there may be various administrative and logistical costs associated with having a greater number of auction lots. But another (potentially more serious) problem is the failure to realize economies of scale. For instance, it is inefficient to farm a tiny piece of land. That is, if we start with a tiny piece of land and we double it (along with all the other inputs used for farming) we may well end up with *more than double* the agricultural output. Over certain land sizes

there are *economies of scale* that would go unrealized in the case of farming tiny plots of land. So if we auctioned off each of a bunch of tiny plots of land separately, the total price we will get for the bunch would generally be lower than the price we would get for a plot of land that was sized to take advantage of scale economies which had the same aggregate size as all the tiny plots of land.

Now, someone might argue that the market will costlessly solve this problem and thus there will be no price difference. That is, efficient farmers will continue buying up tiny plots of land until they have achieved a farm size that takes advantage of scale economies. But this purchasing process would face several obstacles. The first is the sheer transaction costs. Think of a logger having to buy every individual tree to obtain ownership over a forest that is sized efficiently for logging. Second, we could have holdout problems. If A owns a small plot of land in the middle of an area that B wants to turn into an efficient farm, B could extract a very high (arguably unjust) price for the land. The negotiation process itself would also likely generate large transaction costs. Finally, the holdouts may be sincere, having grown attached to their small plot of land. But if the land had been auctioned in efficiently-sized lots, a holdout could have been given a land at the edge of the efficient farm thus not impeding the efficient use of the rest of the land. For all these reasons, the market will have difficulty correcting the problems resulting from having initial natural resource auction lots that are too small. And so the sum of the prices we obtain for auctioning off tiny pieces of land will generally be lower than if we had auctioned off the land in efficiently-sized portions.

Hobbes support for the practice of primogeniture can be seen as an endorsement of a lottery solution to the problem of economies of scale in agricultural land.⁴⁴² But I have already discussed the problems with primogeniture and with lotteries more generally.⁴⁴³ Although Hobbes thinks that “[o]ther means of equall distribution cannot be imagined,”⁴⁴⁴ I argue that the equal-proceeds auction with natural resources divided into efficient lots (using economies of scale as a criterion) is a better solution to the problem.⁴⁴⁵ Intuitively, we can think of this as follows: By auctioning natural resources in efficiently-sized portions, the government is merely trying to replicate the ultimate distribution that would have resulted if the natural resources were auctioned off in smaller portions and then sold in a world with no transaction costs or holdout problems. Auctioning off natural resources in lots that take into account economies of scale is thus meant to address efficiency concerns without undermining the underlying equality of the initial natural resource distribution.

However, in some cases auctioning natural resources off in larger lots will undermine the notional initial envy-freeness of the initial distribution. Note that natural resources often exhibit economies of scale for some uses but not others. A piece of land that is too small to efficiently farm might be perfectly efficient in providing a secluded get-away. In addition, particular individuals might be perfectly happy with an inefficient farm. Such individuals may not be able to afford a farm that they would have bought in

⁴⁴² That is, dividing the land among all the landowner’s sons would make the sum of all the resulting estates smaller than the value of the original estates even if all the sons were equally competent farmers.

⁴⁴³ See Section 6.1.3

⁴⁴⁴ Hobbes, "Leviathan," 108.

⁴⁴⁵ Note that if some group of individuals really prefers a lottery solution to the auction solution I am putting forward, they can request that the natural resource in question be auctioned off in smaller lots, each buy a lot, and then conduct their own lottery.

the equal-income auction if all the farmland is auctioned off in efficiently-sized portions. To address these concerns, we would have to allow *individuals to request that natural resources be auctioned off in smaller lots* (from a default lot size that is efficient based on economies of scale). However, in the case of such requests, the government may well have reason to scrutinize future sales of that natural resource to ensure that the individual is not simply trying to take advantage of holdout problems.

6.3.2 MONOPOLY-PRONENESS AND ESSENTIALNESS

Scale economy considerations, though important, cannot be the only factor determining auction lot sizes. These considerations must in some cases be weighed against concerns about monopoly power. I have argued in Chapter Five that sales of natural resources are only justified if the resulting prices are fair.⁴⁴⁶ One way in which, on some accounts, prices could fail to be fair is in the case of monopoly power. In such cases, the government faces three main choices. First, it could prevent the monopoly from being formed by barring certain voluntary transactions. Second, it could regulate the monopoly to ensure it charges fair prices. Third, it could simply buy the natural resource in question and have some government-owned entity develop and sell the resource instead of the monopolist.⁴⁴⁷ The issue of government ownership raises question about equal division is an appropriate way of respecting claims to these monopoly-prone resources. In addition, the issue of monopoly has implications for the

⁴⁴⁶ See Section 5.5

⁴⁴⁷ Note that other uncompetitive market structures (such as oligopoly) might pose similar problems. I focus on natural resource monopolies here for simplicity.

appropriate lot size. The problem becomes more complex when the resource in question is essential (e.g. water).

There is a natural barrier to entry in the case of natural resources due to the fact that they generally cannot be manufactured. This means that an entity which is able to buy up all of a particular natural resource can enjoy monopoly profits. In Chapter Five I argued that selling of natural resources should be allowed as long as it is done under just background conditions. One of these just background conditions is the presence of fair prices, and it is not implausible to think that monopolies will generally charge prices that are unfair.⁴⁴⁸ In a world of perfect information, no enforcement cost, and a valid theory of fair prices, a straightforward solution would be to allow firms to acquire whatever natural resource they want, but to ensure that they charge fair prices for the products of those natural resources. However, in the real world, a second-best solution may well be to prevent the transactions (or the collusion deals) which would give the firms monopoly power in the first place. If the government is in a situation where it is justified in preventing such transactions (i.e. the regulation solution is not attractive), then a fortiori it should not auction off resources in portions so large as to give any entity monopoly power straightaway. This is true even though the government would likely receive a much higher price if it effectively sold off all of a particular natural resource as one auction lot in a world where it was known that there would be no regulation of natural resource product prices.

⁴⁴⁸ As I suggested in Section 1.3, there is an important lacuna in liberal thought regarding the topic of fair prices.

Now, in many cases the government would have no particularly strong reason to auction off all of a natural resource as one auction lot.⁴⁴⁹ But at least in some cases there might be a scale-economies-based argument for doing so. The case where there are both scale economy concerns and monopoly concerns are present is what economists have termed *natural monopolies*.⁴⁵⁰ Imagine that the equipment needed to mine silver is enormously expensive but that once a firm has this equipment, the per-unit cost of extracting silver is relatively low. In such a society it may well be the case that it would be enormously inefficient to have multiple silver-mining companies. On the other hand, if there were only one company, the price it would charge would likely be unfairly high (and inefficiently high).⁴⁵¹ In deciding how large the auction lot of silver should be, the government would have to balance the monopoly and scale economy considerations. In some cases, the efficiency losses from having separate silver mining companies might increase the attractiveness of allowing a single, regulated company to own all of the silver deposits.

Note that as in the case of economies of scale more generally, the implicit intuition we are appealing to when we auction the natural resource as one large lot is equal division. The idea is that we are replicating the distribution that would arise under equal division in the case where no one places a high non-monetary value on owning

⁴⁴⁹ Smaller administrative costs and logistical costs might constitute a reason to auction all of a resource as one lot. But these reasons are very obviously outweighed by concerns about competition as well as a variety of other considerations.

⁴⁵⁰ Joseph E. Stiglitz, *Economics of the Public Sector*, 3rd ed. (New York: W. W. Norton, 2000), 190-98. The 'natural' in the term 'natural monopoly' has a different (normative) connotation which has nothing to do with the way 'natural' is used in the term 'natural resources'.

⁴⁵¹ Monopoly pricing is traditionally viewed as generating inefficiency. However, if monopolist was able to perfectly price discriminate, its pricing would not be inefficient. But it would still be unfair.

silver deposits,⁴⁵² where transaction costs are low, and where holdout problems are assumed away. In such cases, the market itself may well produce an outcome where one company bought up all of the silver shares to take advantage of scale economies.

How exactly the government should regulate the single silver mining company is part of larger theory of natural monopoly regulation which is beyond the scope of this work. Nevertheless, I want to suggest that the scope of government regulation with respect to natural resource natural monopolies should be limited, and that the presence of a natural monopoly is not a justification for some kind of Democratic Ownership of the natural resource. So for example, if a majority of individuals like silver jewelry and want cheaper prices for silver, the government ought not to force the natural monopolistic firm to sell silver at unfairly low prices to satisfy this majority preference.⁴⁵³

This might seem intuitively plausible in the case of silver. But I would like to explore the case against Democratic Ownership in the more problematic case of essential natural resources. Although what exactly counts as an essential natural resource is controversial,⁴⁵⁴ certain natural resources (e.g. water) are obvious candidates. The problem of essential resources becomes particularly salient when someone exercises monopoly power over them. And the case becomes even more complex when we consider an essential resource which is a natural monopoly (i.e. where there are also scale economy considerations).

⁴⁵² As I argued earlier, a person who places a high non-monetary value on raw deposits of silver should be allowed to request that a smaller lot be auctioned off for her.

⁴⁵³ I am assuming here that such government interference would be inappropriate in the case of an ordinary firm. I cannot, however, justify this position here.

⁴⁵⁴ For example, is a patch of land which provides the only safe passage between two towns an essential natural resource? It clearly seems to be if one of the cities lacks adequate medical facilities for example.

Imagine that in a certain community the process of purifying water (i.e. making it potable) requires enormously expensive equipment and that the community is a quite far away from other sources of potable water in the broader society. It would thus be enormously inefficient to have multiple water companies in this community. However, let us assume that a single water company, like most unregulated monopolies, would charge unfair prices. And since water is an essential resource, the prices it would charge might be particularly unfair.⁴⁵⁵ In addition, those who could not afford to buy the water would be faced with the prospect of serious exploitation by the wealthy or even death.

Since other basic rights (besides rights to natural resources) are involved in the case of essential natural resources, I will not be able to provide a full argument for how essential natural resources ought to be treated. But I would like to suggest that given a just distribution of wealth and government assurance of fair prices, there is no fundamental problem with private ownership of essential resources and thus no fundamental problem with equal division.⁴⁵⁶ After all, arable land, taken as a whole, is an essential resource. Yet as long as the distribution of wealth in society is just and the ownership of arable land is diffuse (so, let us assume, prices for food are not unfairly high),⁴⁵⁷ there seems nothing problematic about equally dividing arable land in the way that I have been advocating so far.

⁴⁵⁵ The demand for water would be highly inelastic leading to very high prices which, on some accounts, could be seen as grossly unfair.

⁴⁵⁶ Note that arable land, taken as a whole, is an essential resource (although it is not a case of natural monopoly). The mere fact that the product of a particular natural resource is essential for human life, does not seem sufficient to require that it be owned collectively or democratically in some sense.

⁴⁵⁷ In fact, it is possible for land to be so diffuse that the prices farmers receive for their produce is generally unfairly low. This is even more controversial than the idea that monopolies charge unfair prices and so I will not explore this point further here.

Nevertheless, in the case of essential natural resources, any deviation from the just wealth distribution or any deviation from fair prices can have disastrous consequences. In a world with a clear and present danger of such deviations and the potential for government regulation failures, there thus may be an argument for *government ownership* of essential natural resources. Of course, such government ownership would not eliminate the possibility of unfair prices (i.e. as in the case of government corruption). But it could prevent unfair prices in some situations. For example, in the case of a regulated water company that owned all the water in a particular isolated community, it might take even a well-intentioned government time to recognize that unfair prices were being charged for water and to act to force the firm to correct the problem. Although there is a general argument against government ownership of resources based on inefficiency, concerns about the potential consequences of regulation failures in the case of essential resources could easily outweigh these efficiency considerations.

This argument for government ownership of essential natural resources might be taken to imply that the proper way for respecting equal claims to these essential resources would be some kind of Democratic Ownership where every person had an equal vote over the fate of the resource. However, to endorse Democratic Ownership in this case would be to ignore *the rationale* behind the government intervention. The purpose of government ownership of these resources is merely to ensure (in an imperfect world) that fair prices will be charged for essential products (and to ensure the products' availability even when there is a temporary injustice in the distribution of wealth). In owning essential natural resources, the local government should thus, as far as possible, fill the role of a regulated firm providing these resources.

This view of the government's role has implications that are very different than those of Democratic Ownership. First, it implies that the government ought to buy the resource (e.g. the water) in the natural resource auction exactly as the firm would (effectively replicating the result of equal division followed by sales). This would allow an individual who wanted to own water for purposes other than drinking (i.e. purposes that didn't require purification) the option to purchase undeveloped water for these other purposes. It would also ensure that those who do not live in that particular community but who nevertheless have claims to the water have their claims respected.

The second implication is that the local taxpayers should be seen as the shareholders of the government-owned company.⁴⁵⁸ This implies very different norms about how the government-owned company ought to be run compared with the case where the company's actions should be determined directly by the votes of the citizens. First, even though all individuals have claims to the water, not all citizens should have an equal say in the how the company is run. Only the citizens whose local government bought the water should. Second, just as in the case of private companies, the majority of shareholders should not be able to fully determine (as the majority of voters would be able to do in the case of Democratic Ownership) what ought to be done with the essential natural resource. They would have to respect the *rights* of the minority shareholders. So for example, just as some majority shareholder in a company should not be able to force the company to sell products at an unfairly low price to a *different* firm that she owns, so too farmers, for example, should not be able to force the government-owned water company through the democratic process to sell water to them at an unfairly low price

⁴⁵⁸ One controversial implication of this position is that those who pay higher taxes should be viewed as owning a greater share of this government company.

even if they constitute a majority in the community. While there may be a rationale for government ownership of essential natural resources, this should be seen as a circumscribed type of collective ownership aimed at filling the role of a well-regulated firm charging fair prices. This type of collective ownership is very different than the conception of Democratic Ownership that I considered and rejected in Chapter Five.

6.3.3 ITINERANCY

The next category of natural resources that raises a problem for equal division is non-stationary or itinerant natural resources. Examples of such resources include migratory groups of animals such as wild game, birds, fish, etc. It also includes water in a river when we are thinking of individuals using water for drinking or irrigation. It seems difficult to equally divide these resources because it is difficult to provide individuals ownership over a *particular* antelope or tuna or a particular set of water molecules.

However, there is a straightforward solution in this case. Rather than dividing the resources themselves, we can equally divide permits to take one particular token of the resource. So we could auction off hunting licenses for a certain number of wild antelope or permits to draw a certain number of gallons of water from a river. We can simply auction such permits off in the equal-proceeds auction along with other resources.

I am making several assumptions here. First, I am assuming that the individual animals or units of water in question are not only itinerant but also quite similar to each others. Second, I assume that it is possible to monitor the number of animals or amount of water that a particular individual takes. Finally, I assume that individuals do not

special value on the existence of these animals or the water in their natural states. I relax these last two assumptions for natural resources more generally below.

6.3.4 NON-EXCLUDABILITY

The next problem is that some natural resources (including both itinerant and stationary natural resources) are non-excludable. It is important to begin by being clear here about the exact definition of non-excludability. First, practically no natural resource is literally non-excludable. After all, we could forbid people to leave their homes or even kill them altogether and thus exclude them from using natural resources. So we should not take non-excludability to mean that it is *literally impossible* to exclude individuals from appropriating or using a particular resource. Non-excludability is also should not be taken as simply a statement about whether individuals are currently *legally* excluded from using a particular natural resource or not. This is relevant for a predictive analysis of what will happen to a particular resource, but not for determining how property rights in the resource ought to work.⁴⁵⁹ Non-excludability as it is used here refers to those natural resources whose protection from unauthorized use is deemed too costly by society.

One way of determining whether we should protect a particular natural resource from unauthorized use is by asking whether the economic value of the resource is larger than the economic costs of preventing unauthorized individuals from using it. But this seems like the wrong way of approaching the problem. This is because what is at stake

⁴⁵⁹ Economists sometimes argue that when there is no legal excludability, a resource, such as fish in the ocean will suffer from the tragedy of the commons (e.g. overfishing) which can be solved through introducing fishing permits. See Chapter Four of John Hartwick and Nancy Olewiler, *The Economics of Natural Resource Use*, 2nd ed. (Reading, MA: Addison-Wesley, 1998). But if it is possible to introduce fishing permits, then fish are not non-excludable in the sense I am interested in here. The problem with an absence of legal excludability is an issue I have already addressed when rejecting Common Access. See Section 4.5.

here is more than mere efficiency. Individuals have initial *justice-based claims* to the natural resources. And while intuitively the economic value of the natural resources that might be protected seems to be relevant, we might be willing to pay to protect the natural resources from individuals who wish to unilaterally appropriate them even if the cost of doing so is greater than the economic value of the resources. Alternatively, we might decide not to protect the natural resources even if on some measures of its economic value,⁴⁶⁰ the value of the resource is greater than the cost of enforcing property rights to it.

Determining the exact answer for when we should provide protection of property rights when the costs of doing so are very high is beyond the scope of this work. If we do decide to protect natural resource property rights in a particular case, then the fact that this excludability is costly does not pose a special problem.⁴⁶¹ However, at some point and in some circumstances, even those societies intent on protecting individuals' claims to natural resources will decide that they cannot afford to protect these claims. For example, the society may be unwilling to prevent people from sailing in the ocean and it might be the case that it is enormously expensive to monitor their fishing habits. This is not a problem if we are a small island society and there are effectively infinitely many fish. But in the case of limited fish, the fact that we cannot prevent private fishing is a

⁴⁶⁰ Since individuals have pre-existing claims to these resources, intuitively it seems that what we should be interested in when deciding how much to pay for enforcement is the sum of the prices at which individuals would be willing to sell their portion of the resource. But even if some individual values the resource so much that she would only sell it at an enormously high price, we might nevertheless decide that we should not pay the cost of enforcing property rights in that particular resource.

⁴⁶¹ It is another interesting question of who should bear the cost of this protection (the government or the owner). Although I favor the government bearing this cost, I will not address this question here.

problem. In such cases, equal division (i.e. selling fishing permits) will likely not work when we have no way of monitoring how many fish particular individuals have caught.⁴⁶²

One imperfect solution is to think of resources which are very expensive to monitor and protect as Commonly Owned. Although there would be no legal ramifications for taking very large amounts of fish under this system, society need not condone everyone taking as many fish as they want. Individuals might be taught in such a society that everyone has equal claims to the fish in the ocean and that no one should take too many fish. While it is not a foregone conclusion that people would fail to respect the norms of Common Access, there is also the distinct possibility without government penalties, many individuals will take more than their fair share of fish.⁴⁶³ In addition, note that individuals who have equal claims to the fish but who cannot actually make use of the fish will be excluded from benefiting from them. These are exactly the problems that led to the rejection of Common Access in the first place.

But note that this solution may simply be the best we can do. The need for this non-ideal solution is generated by some sort of technological limitation that makes enforcement of property rights in particular natural resources expensive. However, in modern societies with competent and technologically sophisticated central governments, this Common Access solution and the concomitant reliance on norms need not be used very often.

⁴⁶² We could sell the permits and rely on the norms described below. There are two problems with this situation. First, the price we would get for permits with no enforcement mechanism would be low. More importantly, a person may buy permits for a certain number of fish but be unable to make use of those permits due to others' overfishing. The kind of erosion of confidence in the property rights system caused by this solution is a strong reason against it.

⁴⁶³ Developing exactly what constitutes a fair share of fish in this case is beyond the scope of this work.

6.3.5 NON-RIVALROUSNESS

The next resource characteristic that potentially can create problems for equal division is non-rivalrousness. A natural resource is non-rivalrous when one person's use of the resource does not diminish the benefit anyone else obtains from using the resource. I argue in this section that non-rivalrousness, when combined with costly excludability can generate a rationale for government ownership of natural resources. But, as in the case of the government's ownership of essential natural resources, this ownership has a particular, circumscribed purpose and should not be confused with Collective Ownership.

It is worth beginning by considering the issue of non-rivalrousness in a simple and largely unproblematic context. Imagine that a small plot of land which is being auctioned off has drawn interest from several buyers. One buyer is interested in purchasing that land in order to turn it into a small farm. Another set of potential buyers is a group of friends who want to buy that land and turn it into a large rose garden. Assume that the garden is non-rivalrous in the sense that one of the friends being in the garden does not detract from the experience of any other friend also enjoying in the garden.⁴⁶⁴ (Note, however, that *the land* is not non-rivalrous. After all, if the land is used for a farm it cannot be used as a rose garden and vice versa.) Also assume that in this case, the friends are the only ones who would enjoy being in the rose garden. Finally, assume that the friends are willing to truthfully reveal (to each other) how much they are willing to pay for having access to such a garden.

In this case, non-rivalrousness does not seem to generate any special problem for equal division. The friends can bid for the land just like the farmer can, and if their

⁴⁶⁴ In fact, the presence of one's friends would, in some cases, improve the experience. For simplicity, I will ignore this possibility.

combined willingness-to-pay is higher than the farmer's, then they can straightforwardly buy the land in the equal-proceeds auction.⁴⁶⁵ In addition, even if the friends do not actually wish to plant and care for a rose garden, some entrepreneur could buy the land, plant the garden, and charge a lifetime admission price for the friends. Assuming the friends value the garden highly enough so that they are each willing to pay this admission price, and assuming that the admission price covers the cost of the land (which will depend in part on how valuable the land would have been as a farm) and the cost of operating the garden as a business, there will be no special problem in this case. It replicates what would have happened if we began with an envy-free distribution of natural resources followed by sales.

But now let us imagine that a much larger plot of forest land goes on sale. One potential buyer is a logger who wants to use the land for timber. But there is also a large group of people who are willing to pay to use the forest as a recreational park. This case is much significantly more complicated than the rose garden case, so let us take the complexity bit by bit. The first problem is a basic difficulty of collective action. Note that since the good is non-rivalrous when used recreationally, a large group of individuals would likely want to combine their bids when attempting to buy the forest in an auction. And if we added up the willingness-to-pay of all the individuals who want to use the forest as a park, it might well be higher than the price the logger is willing to pay for the forest (especially if this forest is, say, particularly beautiful compared to other

⁴⁶⁵ There is in fact an important puzzle here once we try to relate what is happening here back to the EFFBS distribution. In order to achieve an envy-free result, we had to forbid individuals from pooling their clamshells to buy particular resources. Yet here we are imagining that the friends can pool their money to buy the land for the rose garden in the real economy. Intuitively, we might think of this as replicating the result where they each would have bought part of the land for the rose garden in the equal-income auction and *then pooled the land* to create the rose garden.

comparable forests). But unlike the case of the friends and the rose garden, it would be difficult for all the individuals who want the park to get together and place a joint bid for the park. This is both because there are a very large number of them and because they might not be willing (as the friends were) to truthfully reveal what they are willing to pay. If so, then the land might end up being bought by the logger when it would be more efficiently used as a recreational park.

Now, someone might wonder why an entrepreneur cannot solve the problem (as she did in the case of the rose garden). That is, someone could buy the land, cultivate and protect the park, and charge admission. There are several problems with this solution. First, most businesses are generally unable to charge each person a different price depending on their willingness-to-pay. If the entrepreneur were to charge a sufficiently high single price to cover all of her fixed costs in running the park, there would be many individuals who would have been willing to pay something to use the park and whose marginal use does not generate any costs, but who would end up being priced out of using the park. This is classic problem of the inefficiency generated by the private-market provision of non-rivalrous goods. Note also that it might be quite costly to exclude individuals from the park (e.g. the entrepreneur might have to build a very large fence around the park).⁴⁶⁶ This would add to the costs, add to the price, and thus increase the inefficiency of the private market solution. If there are a large number of people who are willing to pay small amounts for access to the park, the private market might allocate the forest to the logger even though the forest could be used more efficiently recreationally.

⁴⁶⁶ It is not clear that it is in fact the entrepreneur's responsibility to build this fence. However, at least in some cases owners are expected part of the cost of excluding individuals from their property, and I will assume this is the case in the case of the entrepreneur.

There thus seems to be a rationale for government intervention in this case. Imagine that the government had perfect information about individuals' willingness to pay and could charge individuals this willingness-to-pay. Under this idealized assumption, it could thus act as the agent of those who want to use the park for recreational uses (i.e. it could replicate an outcome analogous to that achieved in the rose garden example). It could buy the forest on behalf of these individuals and levy on each of them a tax based on their willingness-to-pay for the park.

Note that although there is government involvement in this case, the resource should not be seen being democratically owned. First, note that the government, acting as the agent of the individuals, should still buy the land in the equal-proceeds auction (and allocate the costs appropriately through taxation). Fundamentally, we can still think of the land as being equally divided in an envy-free way and then purchased in the course of voluntary transactions. In this case, however, it is purchased by the government as an agent of a group of individuals in order to help them overcome a collective action problem.

Second, the park should not be managed democratically any more than any other privately owned natural resources should be. And in fact, it should not even be managed as the group of friends would manage the rose garden. Rather, decisions on the park's use (in this static case where natural resource preferences do not change) should be made on the basis of various individuals' willingness-to-pay. The reason is that, unlike the rose garden case, there may in fact be *different* coalitions of individuals which want to buy the park. Imagine that one coalition would like to use the park for hiking and another would like to use the park for hunting (and assume these are mutually exclusive uses). Assume

that there is nothing unjust about hunting⁴⁶⁷ and that the coalition who wants the hunting has a higher aggregate willingness-to-pay than the hikers for this particular forest. The government ought to purchase the forest on behalf of hunters and, in our ideal example, tax them based on each of their individual willingness-to-pay. Even if the majority finds hunting distasteful (but again assuming it is not unjust to allow hunting), they have no more right to demand the forest not be used for hunting than if a group of hunter friends bought the park privately.⁴⁶⁸ It is a mistake to presume that merely because the government buys the forest (as an agent of the hunters), it is appropriate to subject its use to the norms of democratic ownership. Just as in the case of government ownership of essential resources, the rationale for government involvement is very specific and circumscribed. In this case, it is to solve a collective action problem among the potential bidders for the forest.

Now, it might be objected that in the real world the government will not only be charging the hunters for the forest but will in fact be taxing everyone to buy the forest and to ensure its upkeep.⁴⁶⁹ This is often necessary due to a lack of information about

⁴⁶⁷ A reader who strongly feels that hunting should be outlawed should substitute another activity for hunting which is mutually exclusive with hiking for the purposes of this example.

⁴⁶⁸ However, this distaste for hunting might mean that there is effectively a greater willingness to pay for non-hunting uses of land. However, note that those who dislike hunting would have to bid against the hunters on *all the possible* forest land auctioned. And even then, if the hunters wanted the forest land their share of natural resources (i.e. the share they would have bought at the equal-income auction) it will not be possible for even very wealthy individuals to prevent hunting altogether (unless they could make it generally illegal based on animal rights or some other argument).

⁴⁶⁹ In this case the government might decide not to auction the land off at all (since everyone is paying the auction price of the land and everyone is receiving the proceeds from the land sale). But this seems to be a mistake for at least three reasons. First, without placing the land for auction, the government cannot be sure some private person (e.g. a logger) does not have a greater willingness-to-pay for at least some of the land. Second, the people who ought to pay for the land even in the case where the government cannot only charge the hunters may be different from the people who are due the proceeds of the land (i.e. it may not be the case that the tax would be spread exactly equally). Finally, once we consider the international case, it becomes clearer that those who ought to pay for the land (the domestic taxpayers), are different from those who have claims to the land (everyone in the world).

willingness-to-pay and the difficulty and cost of imposing a tax on only those hunters who use a particular forest. Since all the citizens may be paying a tax for the upkeep of the forest, everyone might demand a voice over how it is used.

Fully responding to this objection is beyond the scope of this work. However, it is similar to one objection that arises in the literature on cost-benefit analysis. One response provided in that literature is that the policy of acting on behalf of hunters in buying land in a particular situation (and not making only hunters pay) is balanced by the government buying different land on behalf of hikers or buying a nature preserve for animal-lovers and making everyone (including the hunters) pay for those as well.⁴⁷⁰ It is not implausible to think that in a society where the government made a variety of natural resource purchases as an agent of different groups, it would be justified in acting on behalf of the hunters in buying at least some land even if it cannot effectively charge only the hunters for that land and even if the majority of the people paying the tax to buy the forest for the hunters dislikes hunting. If so, then non-rivalrousness (even in the absence of an omniscient government) does not fundamentally undermine the appropriateness of equal division (although it does, in some cases, provide a justification for government ownership of resources as an agent for a particular group of citizens).

Before moving on, it is worth noting that some natural resources (usually objects of unique natural beauty, endangered species, etc.)⁴⁷¹ might have what economists call *existence value*. That is, individuals may derive instrumental benefits from knowing that particular natural resources continue to exist in their natural state. Note that one person's

⁴⁷⁰ Anthony Boardman et al., *Cost Benefit Analysis : Concepts and Practice*, 2nd ed. (Upper Saddle River, NJ: Prentice Hall, 2001), 30.

⁴⁷¹ There is also a reason to preserve these resources based on obligations to conserve for future generations. I discuss such obligations in the homogeneous good case in Chapter Nine.

enjoyment of the existence of a particular resource does not detract from another person's enjoyment of the existence of the resource. Natural resources with this kind of existence value thus constitute a special case of non-rivalrous natural resources. Individuals who place an existence value on natural resources face collective action and free-rider problems in uniting to bid to preserve particular natural resources (just as the hunters do in uniting to bid for a forest). These problems provide a rationale for the government to bid for such natural resources on the citizens' behalf (based on their willingness-to-pay for preserving the existence value, measured correctly).⁴⁷² Such bids could help preserve a variety of natural resources in their pristine states.⁴⁷³

6.3.6 INSEPARABILITY

The final category of natural resources that I will consider here are inseparable natural resources. Inseparable natural resources simply cannot be divided into individual portions over which an individual can exercise significant control. A quintessential inseparable natural resource is the air, but there are a variety of others as well.⁴⁷⁴ I argue in this section that since inseparable natural resources cannot be equally divided, some decisions regarding their use should be made collectively (i.e. they ought not be fully subject to the norm of equal division).

⁴⁷² What seems appropriate is the citizens' willingness-to-pay appropriate for the continued existence of the resources, not their willingness-to-accept.

⁴⁷³ Taking into account existence values could also lead to topping off certain bids. So for example, a private science foundation may be interested in conducting geological studies in a certain area that could also be mined. If other citizens have a willingness-to-pay for the area largely remaining in its pristine condition (i.e. they are not bothered by the geological studies), there may well be justification in subsidizing the scientific foundation's bid for the area.

⁴⁷⁴ Other inseparable natural resources include the view of the night sky and even water in some cases (when individuals rely on a single freshwater source over time for bathing, washing clothes, sewage, and disposing of waste).

Imagine that the explorers' society there is a product that, when manufactured, unavoidably sends a certain type of gas into the air. To set aside issues of rights to health and the essentialness of the air, imagine that the gas does not cause health problems but is simply quite unpleasant (and the more gas there is, the more unpleasant it is to breathe the air) and that there is no other air pollution in this society. Further assume that once the gas is released, it evenly spreads across the entire society's air. How should the quantity of permissible pollution be determined?

Note that the air here is generally rivalrous. One firm's use of the air (as a dumping ground) does harm others' use of the air (for breathing). It is also, let us assume, excludable. That is, the society has a relatively low-cost means of monitoring the pollution caused by different firms. So it is not a pure public good according to the traditional economists' definition of the term. Nevertheless, it is true that the air is non-rival in breathing (so that my breathing air of a given quality will not reduce your benefit from breathing air of a given quality). So even without consider the inseparability of the air, there is some reason for government interference. In fact, ignoring the inseparability problem, this situation appears to be analogous to the case of the forest considered earlier. We might think of the air as all of the available forests, the polluters as the loggers, and the breathers as those who want to enjoy forests recreationally.⁴⁷⁵

If we think of the air in this way, a clear solution becomes apparent. The government should determine the aggregate willingness-to-pay of individuals for air at various levels of cleanliness and compare it to the willingness-to-pay of the polluting firms to pollute. It can use these measures to determine the "optimally efficient" level of

⁴⁷⁵ Think of a cubic foot of air. The percentage of molecules that are the polluting gas can be thought of in this analogy as the percentage of forest that has been cut down by loggers.

pollution (the one that generates the highest aggregate willingness-to-pay). It could then auction pollution permits (or implement a pollution tax) in order to efficiently generate this “optimal” level of pollution and then distribute the proceeds from the tax or auction equally. In fact, (with the exception of the equal distribution of proceeds) this is generally the solution advocated by economists and taken on board by some political theorists as well.⁴⁷⁶

The problem with this solution is that the air, unlike the forest, is inseparable. In the case of the forest, someone who is unhappy with the logging could be given the following argument: First, he, like the logger, received rights to an equal share of natural resources with which to lead their life. Second, if the logger is able to cut down trees in a particularly large area of forest, it is because others have effectively sold him their natural resource shares (through the equal-proceeds auction). Third, the complainant is perfectly free to use her share of the auction proceeds to buy a portion of forest in which no logging whatsoever would be allowed.

This argument does not work in the case of the air. Someone who despises pollution is not free to use her natural resource proceeds to buy a portion of air that is free from pollution. Whatever level of pollution occurs in society will affect the air that *everyone* will breathe. In addition, there is no way to think of the air auction as the eventual result of an initial equal division of the air followed by sales. Individuals are simply unable to exercise the level of control over a particular unit of air for an initial equal division of air to be coherent. Someone cannot simply sell her portion of air to the polluters. The intuitive problems with applying the arguments used in the forest case to

⁴⁷⁶ See Chapter Six of Hartwick and Olewiler, *The Economics of Natural Resource Use*.

the air only become more serious once we imagine that the pollution causes health problems as well as general unpleasantness.

It is unfortunately beyond the scope of this work to provide a full theory of how property in the air ought to work. However, I would like to suggest that certain decisions about the air (e.g. how much overall pollution to allow) should be taken collectively in some way. Note that the arguments in favor of equal division versus collective ownership are either weaker or non-existent in the case of inseparable natural resources. First, it is not significantly easier logistically to aggregate everyone's willingness-to-pay compared with governing the use of the resource through giving everyone an equal voice. Second, the market solution gives a greater say over how the air is to be used to those with more wealth despite the fact that everyone has equal claims to the air. And it is not plausible to see the wealthier individuals as having bought the shares of others since shares of air are not separable in this way. Finally, the autonomy argument in favor of equal division based on giving each person control over a particular share of natural resources does not apply in the case of inseparable natural resources. In addition, it seems far too dangerous to govern the air using the norms of common access in the case of the air (i.e. to rely on social norms against pollution to prevent people from polluting).

Several other things are worth noting about the air. First, the problem of deciding how much air pollution to allow may turn out to be quite similar to other problems (not specific to natural resources), such as how much national defense (and what kind) ought to be provided in a particular society. In determining how collective decisions regarding the air should be made, there seems to be a need for a liberal theory of public goods which takes into account justice considerations as well as efficiency and which considers

inseparability as distinct from non-rivalry. Second, although I have focused on the problem of the air on a societal level, there are local analogs of this problem as well (construction firms “dumping” noise into the air in a certain neighborhood). Third, the air also raises special issues in the international context. If the air really should be owned collectively in some way and pollution traverses borders, this provides a strong reason for having more robust international institutions, at least in certain areas. Fourth, it is important to emphasize that efficiency would likely play a role even if the air were viewed as collectively owned. So for example, we might decide collectively on the level of pollution and then auction off pollution permits to efficiently reach this pollution level.⁴⁷⁷ Fifth, it is important to emphasize that not all decisions regarding the air should be made collectively. After all, this could lead to a situation where a majority could preclude someone from using the air at all. However, I do not provide an exact account here of which decisions should be made collectively. Finally, note that though I have been talking about air pollution of a certain type, the problem of climate change is also a case of firms using the air as a dumping ground for certain gases. So the issues surrounding the air and other inseparable natural resources are of enormous importance for developing a fuller account of the proper level of international environmental protection.

Unfortunately, I cannot provide a full discussion of these issues here. My main aim in this section has been to argue that individuals’ aggregate willingness-to-pay, which plays a crucial role in the allocation of property rights in separable, non-rivalrous natural resources, is inappropriate to use in the case of inseparable resources like the air.

⁴⁷⁷ Note that we would not necessarily need to distribute the proceeds of this type of auction equally (since the reason behind that was based on equal division). We could instead use the proceeds to ameliorate the effects of the pollution on certain individuals.

The problem is that individuals cannot secure for themselves a share of inseparable natural resources over which they can exercise significant control, and so the argument for how an auction of such resources respects a particular individual's natural resource claims is bound to fail. I have suggested here that certain decisions regarding inseparable natural resources should be made collectively.

Conclusion

In this chapter I have been concerned with the problems caused by natural resource heterogeneity. I began by taking up Narveson's challenge of finding a way to give each individual an "equally-sized" share of natural resources. I rejected a variety of solutions including using particular physical characteristics, giving each person an identical bundle of natural resource bits, lotteries, and giving each person a share of equal market value. I ultimately endorsed envy-freeness as the right standard for achieving equally-sized shares. Implementing this standard ensures that no individual could complain that someone else's natural resource share would represent "more resources" to her compared with the shares she received. When combined with the trade-proof requirement, this provided a division that is to a large extent normatively analogous to the identical division of manna in the homogenous good case.

I then considered how the standard of envy-freeness could be implemented. The Divide and Choose method is wholly infeasible. The equal-income auction is more feasible but still faces far too many practical difficulties to be taken seriously as a general policy proposal. However, if we aim to replicate the Envy-Free-Followed-By-Sales distribution (as I argued we should), we can use an equal-proceeds auction to

approximately implement the standard of initial envy-freeness. Although an equal-proceeds auction would fail in to replicate the EFFBS distribution in certain cases, these failures are limited in scope and generally limited in effect and might be ameliorated using creative mechanism design.

In the latter part of the chapter, following Hobbes's lead, I considered whether equal division is appropriate for all natural resources. I argued that for most resources, there is no fundamental problem with equal division. Scale economy considerations and monopoly concerns can be addressed by adjusting the amount of natural resource auctioned off in any particular auction lot. Itinerancy can be addressed by auctioning off rights to take some number of tokens of a particular type of natural resource as opposed to being granted rights over a particular, specifiable set of objects or animals.

Essentialness serves as rationale for government to act as a firm which provides the developed natural resource at fair prices. Non-rivalrousness serves a rationale for government to act as an agent of individuals facing a collective action problem in bidding for natural resources. However, these rationales for government involvement are not arguments for Democratic Ownership of these resources and do not undermine the case for equal division as the governing principle for the allocating rights to these types of natural resources.

However, I did argue that equal division was untenable in two cases. I suggested that non-excludable natural resources should be governed by the norms of Common Access. I also suggested that inseparable natural resources such as the air should be subject to some type of collective decision-making. Although aggregating individuals'

willingness-to-pay is an appropriate way of determining how a forest should be used, it is not an appropriate method for deciding how much pollution should be put into the air.

Much of the analysis in this chapter has been simplified by the assumptions of a static society. In a society where preferences, technology, and natural circumstances are allowed to vary, a one-time equal-proceeds auction may not be a particularly desirable way of allocating natural resources (even when they are unproblematically-divisible). I therefore turn next to consider the problem of how a resourceist equal division can be maintained over time in the face of unexpected change.

Unexpected Change

So far in my discussion of equal division I have assumed a society in which there are no unexpected changes in preferences, technology, or natural circumstances. Given these assumptions, I argued that we can grant each individual an equal share of natural resources with which to lead her life merely by ensuring that her share is *initially* equal. I argued that the equal-proceeds auction is the proper way of granting individuals this initially equal natural resource share (with several important exceptions and caveats).

However, once we allow for a dynamic society, various problems arise with the equal-proceeds auction. First, as changes occur in society, some individuals may find themselves with enormously valuable natural resources while other might end up with natural resources that are worthless. In addition, new and highly valuable opportunities for natural resource use might be discovered only to be stymied by individuals who are unwilling to sell their natural resource shares. Finally, a society which grants individuals permanent ownership of natural resources seems to leave less room for mistakes and changes of heart. Permanent ownership can also severely restrict the natural resource claims of future people.

There is a clear way of solving these problems. Rather than selling property rights to natural resources in perpetuity, we could lease natural resources instead. This

solution has been endorsed by a variety of thinkers, including several Georgist libertarians. However, a system of natural resource leases is fraught with its own set of difficulties. There are epistemic problems in setting a lease price for natural resources, especially once they have already been developed. A system of leases also discourages economic development of natural resources and the formation of deeper non-economic bonds of attachment to the natural resource and the surrounding community of individuals.

I ultimately endorse natural resource leases as the right way to respect equal natural resource claims in a dynamic society. I argue that there are a variety of steps that could be taken (and should be taken) to mitigate the problems with such a lease system. For example, I advocate allowing lease terms to vary (even for the same type of natural resources).

The problems examined in this chapter are familiar ones. First, the issues surrounding the leasing of natural resources are not very different from the issues surrounding the leasing of a house. In addition, many jurisdictions already have property taxes which assess the value of land and charge the owner a portion of its value. This property tax, which changes as the value of the land changes, is quite similar to the natural resource rent that I am envisioning. Finally, the types of holdout problems that I discuss are faced by a variety of communities and are at the heart of eminent domain cases such as *Kelo v. New London*. Providing a full analysis of how these cases ought to be resolved would require a discussion of non-ideal theory that is beyond the scope of this chapter. But I do hope to show how a society which structures natural resource property rights properly in the first place would be able to avoid these controversies.

The argument of this chapter is divided into two main parts. In the first part I examine the problems with a one-time equal proceeds auction in the context of a dynamic society. The second part is devoted to examining the problems with the main alternative: leasing natural resources. I argue that the challenges facing the lease system are surmountable if we implement a system with leases of different lengths and institute certain requirements for those taking over a natural resource lease from a party unwilling to leave it. Although the resulting system cannot be thought of as fully implementing an initial envy-freeness, I argue that the deviations are justified.

7.1 The Problems with a One-Time Auction

Let us begin by imagining once again the case of the explorers on their way to a new planet. As in the first part of Chapter Six, we can imagine that this planet has a wide variety of unproblematically-divisible natural resources. Let us continue to assume that no children are born and that the explorers constitute a single society. But now let us consider the possibility of unexpected changes in the preferences of the explorers, their technology, and natural circumstances. In this dynamic environment, the level of benefits generated by any particular natural resource for any particular individual will be uncertain. This uncertainty, which was effectively assumed away in the previous two chapters, calls into question the desirability of allocating permanent natural resources rights using a one-time equal-proceeds auction.

One alternative to auctioning off permanent ownership rights to natural resources that is to auction off *natural resource leases* instead. I argue in this section that the auctioning off permanent ownership rights has several important drawbacks relative to

leasing natural resources. First, the riskiness of the one-time auction makes it subject to the same problems facing lotteries described in Chapter Six. Second, the one-time auction places greater hurdles for individuals who face credit restrictions. Third, the one-time auction can generate lost opportunities for higher aggregate benefits due to the problem of sincere holdouts. A one-time auction also reduces the revisability of individuals' life plans. Finally, the one-time auction limits the equality of the claims of future people.

The idea that natural resources should be seen as leased rather than being owned outright is not new. In fact, several economists have even suggested a similar proposal to collect annual rent from natural resources (rather than selling these resources outright) to Mikhail Gorbachev in a letter advising him on how Russia should structure property rights in its land.⁴⁷⁸ The letter summarized several reasons against selling the land outright. The ideas in this chapter build on some of these arguments as well as other arguments that proponents of the lease system has made.

7.1.1 UNCERTAINTY OF ECONOMIC BENEFITS

The first main problem with auctioning off permanent ownership of natural resources is that in a dynamic environment the benefits that individuals receive from their natural resource shares will be determined by chance to a large extent. Changing circumstances might make one person's share of natural resources enormously valuable while reducing the value of someone else's natural resource share to nothing. We might

⁴⁷⁸ I say that this proposal is similar (rather than saying it is identical) because it is not clear that the proposal entails natural resource holders viewing themselves as tenants (even though they are required to pay an annual rent). Nevertheless, the substance of that these economists propose, and in particular the arguments against selling the land outright, are very relevant for this chapter. See Nicolaus Tideman, November 7, 1990. The letter was signed by 30 prominent economists.

for example imagine two farmers one of whom buys a cranberry bog while the other buys a strawberry patch in the equal-proceeds auction. Let us assume that the land does not require any permanent capital improvements and that the farmers only value the land in economic terms. Initially, let us assume that both the cranberry bog and the strawberry patch have the same market value. But over time, the cranberry farmer might see the value of her bog significantly reduced due to, for example, lower demand for cranberries while the strawberry farmer's land might increase in market value enormously due to a surge in strawberry demand. Thus, although ex ante we might imagine that neither farmer has any reason to expect that their land will be any more valuable in the future than the other farmer's land, ex post there may be drastic inequalities in the economic values of the land.

This uncertainty and ex post inequality is undesirable for all of the reasons discussed in the section on lotteries in Chapter Six. First, since benefits generally exhibit decreasing marginal returns to more resources, we can increase the overall benefits individuals receive from natural resources by reducing the uncertainty surrounding their future value. In addition, this riskiness generates ex post inequality in benefits, and I have argued that we have reasons to be concerned with such inequality. These reasons include our interest in how individuals actually fare (as opposed to how they are merely expected to fare) and a respect for the moral separateness of individuals (so that the higher benefits of the strawberry farmer do not straightforwardly compensate for the lower benefits of the cranberry farmer).⁴⁷⁹

Leasing natural resources at regular intervals can mitigate this problem. If the farmers lease the land instead of buying it and the demand for cranberries unexpectedly

⁴⁷⁹ See Section 6.1.3

goes down, the rent on the cranberry bog will go down as well (once the lease is up). Similarly, if there is a sudden, dramatic surge in the demand for cranberries, the rent of the land will go up. If the farmer had bought the land outright, the economic benefits she would receive from it would be much riskier since the land's rental price would not change in response to changing economic circumstances in the cranberry market. Charging an adjustable price per time period for the cranberry bog therefore can reduce the risk that the cranberry farmer faces.⁴⁸⁰

Note that the government is generally in a much better position than the individual owner to bear this risk of changes in natural resource value. The government (as an agent of all those with claims to different natural resource) effectively holds the leases to all the various natural resources. It thus already holds a highly diversified position. So if consumers suddenly change their preference from strawberries to cranberries, the rental price the government could get from the strawberry patches would be higher while the rental price from the cranberry bog would be lower once their respective leases were up. So while such a change would be devastating to the cranberry farmer and represent a large windfall for the strawberry farmer were they to own their land, for individuals who have equal claims to natural resources and therefore rights to an equal share of proceeds from the lease sales, it would likely be approximately a wash.⁴⁸¹

⁴⁸⁰ Note that since there is effectively a single lessor for all divisible natural resources, it is in a good position to pool risk. Unless there is a general economic downturn or a shift away from natural resource product consumption altogether, a decrease in the rental price of one natural resource will often be compensated for by an increase in the rental price of another natural resource.

⁴⁸¹ Of course this does not mean that the lessors face no risk at all. There might a shift away from natural resource product consumption altogether or an even more general economic downturn which affects the value of the majority of assets in the economy. There might be a role for the government to protect individuals from such risks but I will not make an argument for this here.

Someone might object to the use of leases by pointing out that a private insurance market could solve the problem of future market value uncertainty. However, there are several reasons why a private insurance market is unlikely to work. The first is adverse selection. Owners of a natural resource might have better (private) information about the natural resource they own than an insurance company. If so, then only the “bad bets” would end up seeking insurance. The second problem is moral hazard. Individuals can affect the market price of the natural resources which they own. And so an insurance company would have to be able to distinguish owner-caused natural resource price reductions from price reductions caused by circumstances beyond the owner’s control. The information-gathering needed to mitigate these problems might be expensive and if there are relatively few individuals who insure, the resulting premiums might have to be quite high (leading even fewer individuals to insure). This is one example of the more general problem of economies of scale. A private insurance company would have to obtain a large number of clients to effectively pool risk and to efficiently bear the fixed costs of information-gathering and other aspects of running the insurance business. Yet a private insurance company may not be able to obtain the kind of volume necessary to take advantage of scale economies. One reason is that many individuals who end up buying particular natural resources in the auction may be those who are most optimistic about the prospects of the resource.⁴⁸² Such individuals, even if they are risk-averse, may not buy insurance against the decline in their resource’s value if that insurance has a premium payment that reflects a more pessimistic (and likely more realistic) outlook

⁴⁸² For a discussion, see R. H. Thaler, "The Winner’s Curse," *Journal of Economic Perspectives* 2, no. 1 (1988).

about the probability of a decline in the natural resource's value. For all these reasons, private insurance is unlikely to mitigate the risk of natural resource ownership.

The second objection is that the problem of uncertainty seems to plague all durable assets. If the government has a role in mitigating the uncertainty in the case of natural resources, why should it not also mitigate the uncertainty for other assets? If it should, then this argument calls for a radical increase in the level of government involvement in the private market; something which may cause libertarians at least to think twice about this argument.

There are several responses to this objection. First, the arguments I have made here can be seen from two perspectives. The first is the perspective of individuals who are the initial claimants of the natural resources. In the case of most assets, the person with claims to the asset can decide whether to lease it or whether to permanently sell it depending on which grants her more benefits. In the case of natural resources to which every person has an equal claim, we must decide collectively whether to auction permanent ownership rights or temporary lease them. So collectively we are simply making the same decision that individuals make all the time about whether to lease or sell particular assets. The problem of uncertainty provides *a* reason (as it does in the case of other assets) for to lease instead of sell. This is because it implies that, *ceteris paribus*, we may be able to obtain a higher overall price for the resources if we can mitigate the risk through the lease system. In the case of thinking through the question of whether the government should try to mitigate the riskiness of assets, usually we are concerned with the interests of the ultimate holder of the asset, not the interests of the original claimant of

the asset. Insofar as much of the argument is based on our collective interests as original claimants, it may be unique to natural resources.

However, at least part of the force of the argument derives from the predicament of the individuals who end up holding the natural resources and who face drastic uncertainty in the value of these resources (this is the second perspective). Since this predicament is shared by owners of all durable assets, the critic might continue to press her claim that the argument I am making effectively calls for far more government interference in markets. One response is that there may indeed be a case for the government to intervene to mitigate risk in the case of other assets; a possibility that has not been sufficiently recognized by many liberals but which I cannot explore further here.⁴⁸³ The more important response is that the presence of uncertainty is by no means a *decisive* reason for government interference. I have yet to discuss all the disadvantages of the risk reduction that the lease system generates in the case of natural resources. And though I end up endorsing the lease system, these disadvantages are by no means trivial. In addition, the disadvantages of risk reduction may vary by asset. Although I cannot make the case for it here, it may well be that the special characteristics of natural resources (which I discussed in Chapter Three)⁴⁸⁴ make the costs of this kind of risk reduction less severe in the case of natural resources compared with other assets.

⁴⁸³ One such example is in the case of particular types of human capital (e.g. specific skills). There may well be a rationale for government insurance in case a particular person's skills become obsolete. This is an interesting possibility which unfortunately I cannot explore in greater detail here.

⁴⁸⁴ Section 3.3.2

7.1.2 CREDIT CONSTRAINTS

The next problem with a one-time auction is the potential credit constraints faced by some individuals. This problem, which is of a more practical nature, is also raised by in the economists' letter to Gorbachev.⁴⁸⁵ Anyone who has sought to buy a house and who does not have the full amount up front will have first-hand knowledge of this issue. Buying a natural resource outright is obviously far more expensive than leasing it, and for many individuals who would want to buy more natural resources than what their auction proceeds allow them to afford, this would require borrowing large sums of money. In order to borrow this large amount of money, they have to find a lender who is fairly confident that they will in fact repay the loan. This requires costly information-gathering by the lender and even then the lender might reject the loan application of a large number of people who in fact would have been able to pay back the loan had they been given it. In addition, the asymmetry of information between lender and borrower creates a variety of moral hazard and adverse selection problems that are well studied in the literature on mortgages for homes.⁴⁸⁶

One might argue that the government could correct these problems by either becoming a lender itself or by giving various incentives for certain companies to lend to those who want to buy natural resources. This is, for example, what the United States

⁴⁸⁵ "Second, some persons who could make excellent use of land would be unable to raise money for the purchase price. Collecting rent annually provides access to land for persons with limited access to credit." See the Letter to Gorbachev, Tideman.

⁴⁸⁶ There is a moral hazard problem because a person might be tempted to simply walk away from the asset if its value dips below the loan repayment amount. This will depend in part on what the consequences are of not repaying the loan. There is also an adverse selection problem. As the interest rate goes up, generally fewer people are willing to borrow. However, the one group which is not discouraged by higher interest rates includes those who do not intend to repay the loan. So if the interest rate starts going up for some independent reason (e.g. there is economic uncertainty), the lender may end up with a larger and larger proportion of "bad bets".

government did in the case of Fannie Mae and Freddie Mac and the market for home loans.

But this is a limited and problematic solution. Even under such a lending program, there would undoubtedly still be individuals who would have been able to make the lease payments but who cannot qualify for loans. In addition, it exposes the taxpayer to a large risk of defaults. The more permissive the government is about who it lends to, the higher this default risk is. And though the government can seize the underlying natural resource in the case of default, there is likely to be a strong correlation between the market value of the particular natural resource and the probability of default by the owner of that resource. In addition, there is always the risk of systemic negative shock to the market for natural resource products or to the economy more broadly which could send default rates skyrocketing. Of course, in the case of the leases, the lessor (i.e. the government on behalf of those with equal claims) bears the risk of such negative shock as well. But in the case of the leases, the lessor also can enjoy the benefits of positive economic shocks (which is not the case for taxpayers in the lending case). Auctioning off permanent ownership combined with government-subsidized loans thus seems undesirable and unlikely to fully address the problem of credit constraints.

7.1.3 SINCERE HOLDOUTS

The third problem with auctioning off permanent ownership is the forgone opportunities for natural resource development that occur as a result of owners who refuse to sell their natural resources. Individuals often become attached to particular plots of land and to the surrounding communities in deep ways. And sometimes these attachments are not ones that the person would willingly sever for more wealth. Yet as

changes in preferences, technology, and natural circumstances occur, the economic value of natural resources can increase dramatically. This could simply be because there is another use for that particular natural resource. It could also be because of newly discovered complementarities between that natural resource and other natural resources. So for example, an opportunity for a new, large-scale development project can arise that requires all the land in a certain area. Or a large pool of oil might be discovered that can only be accessed efficiently by drilling in someone's land.

Several things are worth noting about this problem. First, the problem of sincere holdouts arises in its strongest form when the resource in question is distinctive and non-replicable. If the resource that some sincere holdout owns is replicable and there is another use that it could be put to that is enormously economically valuable, there will be an incentive to replicate it. Alternatively, the more of a particular type of non-replicable resource there is, generally the less likely it is that everyone who owns that type of resource will be unwilling to sell it. However, natural resources are often both unique due to their location and non-replicable. When combined with the tendency of individuals to form deep attachments to certain natural resource, the problem of sincere holdouts becomes very serious indeed.

Note also that this problem does not arise nearly as often when the conflicts between uses of natural resources are known right away. There can of course be cases in which a certain individual places a non-economic value on a particular natural resource. If this value is high enough, it will be impossible to achieve an envy-free solution unless that person receives at least a portion of that resource. And when more than one individual places non-economic value on owning the same natural resource, and it is

indivisible in some way, this can lead to a failure of the equal-proceeds auction to achieve the EFFBS distribution.⁴⁸⁷ However, this situation is unlikely to occur very often in the context of a one-time auction. This is because generally people are not *initially* particularly wed to any one natural resource. Rather, in most cases, deep connections to a particular plot of land only develop over time along with growing familiarity and deepening relationships to the surrounding community.

Third, note that the problem of sincere holdouts cannot be described as a problem of efficiency in the traditional economic Pareto or even the potential Pareto sense. This is because the sincere holdout is simply unwilling to accept money in exchange for the resource. So even if costless transfers of income were possible, it would be impossible to find an outcome where everyone (including the current owners) was no worse off.

Nevertheless, the sincere holdout clearly presents a problem. A system which does not allow society to take advantage of new natural resource opportunities may well lead to fewer aggregate benefits from natural resources and fewer benefits for individuals more generally in society. After all, the new opportunity for development of the resource may well be an enormously valuable one. Hypothetically at least, it seems that at some point, as we increase the benefit from the potential new use, we could outweigh the loss of benefit from forcing the person who has become attached to the natural resource to abandon it.

Now, someone might object that I am assuming that the benefits an individual receives from the kind of attachments they form to, say, the land on which they live and

⁴⁸⁷ Where two people want the same natural resource and cannot make use of it if it is divided, it is not implausible to think that the resource should be allocated using a lottery unless there are important social benefits in favor of one use over another (in which case it should be put to that use with the losing party being significantly compensated).

the surrounding community are comparable to the economic benefits from developing the land. In fact, I do think that such benefits are comparable and that the economic benefits can sometimes outweigh these other benefits (although I cannot defend this position here).⁴⁸⁸ But there is no need to assume that the development opportunity will have only economic benefits. It might also help revitalize a city (as in the case of *Kelo v. New London* which I discuss below), and there are very important benefits to revitalization that are non-economic in nature.

The lease system solves the problem of sincere holdouts in a very straightforward way. If there is a new opportunity for the use of land that someone is willing to pay a great deal to obtain (and the current lessee of the natural resource is unable to match this price) then the person will be forced to give up the land once the lease is up. There are, of course, a variety of problems with this solution that I will discuss below. But this openness to new opportunities with the potential for higher aggregate benefits is yet another reason why the lease system might produce greater total benefits for those with claims to natural resources compared with the one-time equal-proceeds auction.

It might be tempting to view decision to lease natural resources as condoning a drastic benefit reduction for particular individuals who have become attached to their natural resource for the sake of a greater aggregate benefit of society. This might be viewed as subject to the same objections that are marshaled against utilitarianism. But note that we are trying here to decide *ex ante* whether to lease natural resources or sell them outright. And at this point, no person can know that the particular plot of land to

⁴⁸⁸ When people decide to leave their home community for a new higher paying job, they are comparing economic benefits to the kind of benefits they receive from their existing ties to their home and community. And though the interpersonal comparison of benefits is a notoriously difficult problem, I hold in line with Sen that rough comparisons are possible in certain cases. See Amartya Sen, "The Possibility of Social Choice," *American Economic Review* (1999).

which *she* will become attached will *unexpectedly* be made far more useful for some other purpose at some future point in time.⁴⁸⁹ In addition, we are not aggregating benefits to determine how claims to natural resources ought to be distributed (as a utilitarian might). Rather, we are taking the aggregate benefits from natural resources as one criterion (along with equality of benefits) in deciding how the natural resource property rights regime should work.

Someone might object that there is no need to introduce the lease system to take advantage of the higher aggregate benefits presented by new opportunities. Another solution to this problem is to simply allow the government to force the sale of a natural resource when the general aggregate benefits are large enough. This is one way to describe what the United States Supreme Court condoned in the controversial case of *Kelo v. New London*.⁴⁹⁰ In that case, the government authorized the New London Development Corporation (NLDC), a nonprofit, private entity, to force unwilling owners of residential land to sell their plots (on which their homes were built) to the NLDC for a “just price” using the power of eminent domain. The NLDC intended to use the land for a major development project that was expected to create an excess of 1000 jobs, to increase tax revenues, and to economically revitalize the city.⁴⁹¹

⁴⁸⁹ However, we are balancing interests in a different way. Unless we imagine that individuals are behind some veil of ignorance when making this decision, some will know that they want to own land in the long-run whereas others might know that they have no desire to own any natural resources. Those with no desire to own natural resources at all might only be interested in how much money they can obtain and so easily favor the lease system. Others might be more ambivalent. How to balance these interests is a very interesting question that is beyond the scope of this work. I believe that the ultimate solution that I defend in this chapter of allowing different lease terms makes this controversy less important.

⁴⁹⁰ *Kelo v. City of New London*, 545 U.S. 469 (2005).

⁴⁹¹ *Ibid.*

However, this solution is highly problematic. First, it allows the sincere holdouts and the new private developer to capture the increase in the economic value of the natural resource that arise from the new opportunity. The lease solution, on the other hand, would allow those with equal claims to the natural resource (i.e. everyone) to capture the increase in the purely natural value of the land. Second, this solution severs whatever attachments the person had to the actual natural resource and the surrounding community. Of course, the lease solution also severs these connections, but the government-forced buyout does so *unexpectedly*. Third, this solution is highly susceptible to government abuse.

These problems were undoubtedly part of the reason for a backlash against this Supreme Court decision which has led to laws in a large number of states preventing local governments from replicating New London's actions.⁴⁹² I will return to the Kelo case later in this chapter. But it seems clear that, at the very least, there is a reason to continue considering alternatives to the eminent domain solution (e.g. leases).

7.1.4 REVISABILITY OF LIFE PLANS

There is another problem with auctioning off permanent ownership having to do with sincere holdouts which entails a potential inequality of benefits rather than a reduction in aggregate benefits. Namely, permanent ownership it makes it more difficult for an individual to change her mind about what natural resources she wants for her life plans. An individual may realize that she has poorly predicted how a particular resource would help her achieve her life's goals. She might also come to realize that her goals

⁴⁹² See E. J. Lopez et al., "Pass a Law, Any Law, Fast! State Legislative Responses to the Kelo Backlash," *Review of Law and Economics* 5, no. 1 (2009).

were mistaken. In both cases, she might wish to purchase a different natural resource than the one she bought initially. However, she might find that even a natural resource that she could have purchased in the initial equal-proceeds auction is now no longer available for sale.

Imagine that in the equal-proceeds auction some individual buys a small piece of land for the purpose of prospecting for gold. Also assume that the land produces the gold that was expected. Nevertheless, we might imagine that the person increasingly finds her life as a gold-pro prospector unfulfilling. She realizes that instead she would like to own a vineyard. But while she could have purchased a small vineyard in the equal-proceeds auction, she now finds that even by selling her current land, she is unable to buy any vineyard land. The owners of the vineyards, let us assume, are happy with their lives and have grown attached to their particular land. They are thus unwilling to sell it at its original price or even at a significantly higher price.

This person could try to argue that allowing her to forcibly buy part of the vineyard would increase overall benefits. But given the attachment the vineyard owners now have to their vineyards this may not necessarily be true. Certainly, it is not as likely to be true in this case as in the case where the land could be used for a major development project which would benefit thousands of people.

The person could instead argue that her benefits from her natural resource share are unjustifiably unequal. This seems like a more promising argument. There is no question that even limiting ourselves to the more limited envy-free standard (rather than to the unjustified inequality of incremental benefits ideal), the prospector will end up preferring having the vineyards to the land she bought. And she may well envy the

winemakers on account of this even if we look at her life taken as a whole. The question is whether we should hold her responsible for the mistake she made in choosing the natural resource she chose in the first place. If so, then the resulting inequality in benefits may be justified. But it seems at least plausible to think that it may not always be reasonable to expect a person to know their life plans fully and to choose accordingly in the context of a one-time auction. If so, we might think that there is an advantage to a system that allows for more revisability of life plans.

The lease system provides more of this revisability. The person could wait until the leases of a certain group of vineyards are up and then place a bid to lease a piece of each of the lands. She may not be able to buy as large a vineyard as she could have initially. But this lease solution at least provides for more revisability the one-time auction.

7.1.5 THE CLAIMS OF FUTURE PEOPLE

In addition to potentially lowering aggregate benefits and frustrating the changed desires of certain individuals, sincere holdouts in a system of permanent ownership can lead to violations of the equal claims of future people once they exist. Although a full discussion of the claims of future people will have to wait until the next chapter, their claims are such an important reason in favor of the lease system that it is important to bring them up here.

Tideman and the other authors of the letter to Gorbachev raise the problem of future people when advocating for the lease system. But they hold that future generations' natural resource claims are respected as long as they receive an equal share of the total market value of natural resources. Their worry is that current individuals

cannot be counted upon to set aside the appropriate amount of proceeds. But I argued in Chapter Six that giving individuals a share of equal market value is not sufficient to respect their shares. What is required is envy-freeness. And I affirm this commitment to envy-freeness as applicable to future generations in Chapter Eight. Once we are concerned with envy-freeness, the problem that future generations raise becomes far more serious for the one-time equal proceeds auction.

Imagine that instead of the gold prospector being the one who wants to own the vineyard it is some person who was not around when the equal-proceeds auction was conducted. I argue in the next chapter that such a person should have claims to natural resources that are equal to those of any of her contemporaries. Yet such a person will clearly envy the share of natural resources that one of her contemporaries owns (i.e. the share of the people who own the vineyard. Even if she is given a share of wealth that is equal to the vineyard owners received, she may be unable to buy a portion of the vineyard for herself. In the case of the gold prospector, someone could at least plausibly argue that she made a mistake for which she is responsible. But it is not at all clear how we can say the same in the case of the case of the future person.

The fact that future people cannot be present when the initial auction takes place also generates another problem. Part of the way that the auction produces an envy-free result (at least in the case of resources that are not perfectly competitively available) is through the bidding of individuals participating in the auction. If the new person had been there when the auction took place, she would have bid up the price of the vineyards and thus possibly forced the vineyard land to be divided into more plots. It is true that the initial bidders would take into account the preferences of future people when making

their bids (since these future people will be able to buy natural resources). But they would only take into account *what they expect* the preferences to be and only in a *highly discounted fashion*. Certainly the preferences of the person for the vineyard would not be taken into account in the same way as if she were actually present during the auction itself.

Again, the lease system can mitigate these problems. As in the case of the gold prospector, the new person would be given an opportunity (once the lease for a group of vineyard lands was up) to place a bid to lease some of the vineyard land.⁴⁹³ And her preferences would be taken into account once she already existed in setting the lease prices of the vineyard land and other natural resources. The lease system allows us to plausibly argue that we have respected the equal claims of future people once they exist by giving them wealth that they can actually use to gain possession of a wide variety of natural resources.

Now someone might object that there are other ways to respect the claims of future people besides the lease system. We might for example make ownership of some of the vineyard land provisional (i.e. set it aside for future people but let it be used in the meantime). However, this would require that we be able to predict the preferences of future people, something which becomes increasingly difficult to do as we think about increasingly distant individuals. We could also allow the government to seize resources (with some compensation to current owners) from sincere holdouts on behalf of new individuals. But I have already discussed the reasons why this solution is undesirable above.

⁴⁹³ The vineyard land at this point is quite likely to be what I referred to in Chapter Six as a contested resource. There is a reason based on the commitment to envy-freeness to insist that the new person ought to be able to give up her share of proceeds to obtain at least part of the land.

To summarize, the one-time auction of permanent ownership has several disadvantages relative to conducting a recurring auction of natural resources leases. The first is the greater uncertainty and possibility of large ex post inequalities in economic benefits from resource shares. The second is credit constraints which can reduce the number of individuals able to buy the natural resources thus reducing the overall price. The third reason is the potential for reduced aggregate benefits over time due to opportunities that cannot be realized because of the unwillingness to sell by sincere holdouts. The fourth is the lower revisability, which can arguably lead to unjustified discrepancies in natural resource benefits. The final reason is the serious challenges the one-time auction creates in properly respecting the equal claims of future people.

7.2 Defending Natural Resource Leases

Of course, the lease system has its own set of very serious disadvantages. First, since individuals physically build on and develop natural resources, we cannot literally re-auction the leases to all natural resources every time period. And given that we cannot carry out such subsequent auctions, there are deep epistemic problems in trying to determine what the rental price of natural resources should be over time. Second, leasing natural resources creates incentives for the lessee to fail to sufficiently protect or otherwise use up the natural resource which they are leasing. This is a particularly difficult problem in the case of non-renewably natural resources. Third, there are a variety of economic and non-economic costs associated with the potential uncertainty of possession of natural resources over time that the lease system generates relative to ownership. I argue in this section that a solution to this problem entails relying

on a hybrid lease system where different natural resources are leased for different amounts of time and some natural resources (e.g. non-renewable natural resources) are sold rather than leased.

7.2.1 THE EPISTEMIC SEPARABILITY PROBLEM

I will begin by assuming that the lease system we are implementing is one where natural resources are effectively leased yearly. That is, each year the owner pays the rental price of the natural resource and the proceeds are distributed equally. This is the solution that many Georgists have advocated.⁴⁹⁴

However, there is a very important problem with this proposal. Namely, it is difficult to determine what the rent of the natural resource should be over time. The rent should reflect what a one-year lease of the purely natural resource⁴⁹⁵ would obtain in a fair equal-proceeds auction. Yet natural resources are often developed in ways that entail physical alteration of them or capital improvements that are immovable. In Locke's words, the labor becomes *mixed* with the natural resource.⁴⁹⁶ So it is often impossible after the first year to observe the market price of just the natural resource as separate from the development.

And even if we could observe the market price of just the undeveloped natural resource, that market price will include value added by a variety of actors (and thus will be more than just the purely natural value). Perhaps if we knew the market value of *every* natural resource (as we do in the case of the one-time auction) we could somehow

⁴⁹⁴ See Tideman's position in Tideman and Vallentyne, "Left-Libertarianism and Global Justice."

⁴⁹⁵ For a definition and discussion of purely natural resources, see Section I.4

⁴⁹⁶ Locke, "Second Treatise of Government," 19.

account for these factors and compensate the actors accordingly.⁴⁹⁷ But in the case of the lease system, we will certainly not be able to observe the market prices of all the developed natural resources at once, let alone be able to observe directly the prices of only the underlying natural resources.

Friedrich Hayek (who interestingly admitted that he was led to economics by “a lay enthusiasm for Henry George”)⁴⁹⁸ places a great deal of weight on these problems.

He writes:

There exist some [who advocate] transferring the ownership of all land to the community and merely leasing it at rents determined by the market to private developers. This scheme for the socialization of land is, in its logic, probably the most seductive and plausible of all socialist schemes. If the factual assumptions on which it is based were correct, i.e. if it were possible to distinguish clearly between the value of the “the permanent and indestructible powers of the soil,” on the one hand, and, on the other, the value due to the two different kinds of improvements- that due to communal efforts and that due to the efforts of individuals owner- the argument for its adoption would be very strong... [H]owever, ... no such distinction can be drawn with any degree of certainty.⁴⁹⁹

Several things are worth nothing about Hayek’s statement. First, Hayek ignores here the problem of transition. Simply transferring ownership of land to the community from those who currently own it and who paid for it is deeply problematic. I address this issue in the final chapter. However, since we are dealing here with the idealized case of the explorers on a previously uninhabited planet, we can follow Hayek’s lead in ignoring the issue of transition.

Second, Hayek highlights three sources of natural resource value which are worth clarifying and distinguishing further. The first is the value of the “permanent and

⁴⁹⁷ I have been implicitly assuming so far that what we that we are auctioning off purely natural resource (i.e. that we have been able to make a determination as to the value added by various actors including discoverers, inventors, the government, etc. and compensate them accordingly).

⁴⁹⁸ Andelson quotes Hayek’s letter to Peter Minton. See Robert V. Andelson, "Hayek: "Almost Persuaded", " in *Critics of Henry George : An Appraisal of Their Strictures on Progress and Poverty*, ed. Robert V. Andelson (Malden, MA: Blackwell Publishing, 2003), 593.

⁴⁹⁹ Hayek, *The Constitution of Liberty*, 352-53.

indestructible powers of the soil.” This value can be seen as corresponding to what I have been calling purely natural value. The second is the value added by the community. This could be usefully further subdivided into the value added by the government through the provision of public goods and the value added by private actors in the community (e.g. neighbors creating positive externalities). The third category Hayek mentions is the value added by the owner. This can be further subdivided into three different types of actions. The first is the building of tangible, physical capital “on top” of the natural resource. The value of these capital improvements cannot be separated from the value of the natural resource in the sense that we cannot observe the market value of just that particular natural resource after these capital improvements have already been built.⁵⁰⁰ The second type of action is physical alterations to the natural resource itself (e.g. draining a swamp). The third subcategory includes actions that increase the value of the *surrounding* natural resources that the developer actually owns (e.g. Disney increasing the value of the surrounding land plots which are also already owned by Disney).⁵⁰¹ As I discuss below, isolating each of these sources of value represents different epistemic challenge.

The third thing to note is that isolating the purely natural value of natural resources actually requires solving two problems. The first is the normative contribution determination problem which I discussed (though did not definitively solve) in Chapter

⁵⁰⁰ Andelson argues that Hayek cannot be referring to this type of action since the value of physical capital improvements are separated all the time from the land by assessors. Andelson, "Hayek: "Almost Persuaded", 595-96. But I believe that Hayek is exactly calling into question the ability of assessors to make such a separation (among others) in the absence of separate market prices for the land and the capital improvements.

⁵⁰¹ Andelson uses this Disney World example. *Ibid.*, 594. Note that if Disney did not own the surrounding land, the increase in the value of the surrounding land would fall under the category of communal efforts.

One.⁵⁰² Hayek completely ignores this problem, most likely because he believes that the different agents should simply receive the market value of their contribution (if only this could be known with any degree of certainty).⁵⁰³ The second problem is the epistemic problem of actually determining the effective market value of each of the factor's contributions, and particularly the effective market value of the contribution of the natural resource itself. I focus in this section on this epistemic problem. It is a further assumption (which I will not defend here) that we will be able to use information about the effective market value of each of the components of the developed natural resource to determine each of their fairly assessed contributions to the total value of the developed natural resource (and thus be able to determine the purely natural value of the developed natural resource).⁵⁰⁴

With these points in mind, let us turn to considering the epistemic problem of trying to determine the effective market value contributed by the natural resources itself, the owner, the community, and the government. Some parts of this epistemic problem appear tractable. For example, it might seem straightforward to calculate the value of a particular capital improvement. We could, for example, plausibly have information on the price of the land before the improvement was built and after. We might naively think that we can just subtract the first from the second to get the effective market value of the

⁵⁰² See Section 1.3. I suggested in that chapter that we could use some fair market procedural standard or substantive standard based, for example, on the *average* marginal contributions of the different agents to solve this problem.

⁵⁰³ This is presumably because he thinks that whatever distribution the factors receive in the market is the right one, or at least that epistemic problems prevent us from trying for anything better. I have argued in Chapter One against the plausibility of this view.

⁵⁰⁴ The fairly assessed contribution of the natural resource itself is its purely natural value. The relationship between the effective market value of the natural resource itself and its purely natural value will depend on the particular solution to the contribution determination problem.

capital improvement. But of course the problem with this method is that many things could have happened to the value of the natural resource while the capital improvement was being built.

There are, however, other methods of which appraisers routinely use to separate the value of the land from the capital improvement. For example, appraisers have traditionally used the cost of completely rebuilding a structure to estimate its value. There are a variety of problems with this approach. But it can at least generate a rough estimate in many cases.

However, it is highly unclear how we could use this cost approach to even roughly value other components of the value of developed natural resources. We might have estimates about the cost of a particular public good. But it is not clear that the cost of a public good is even a good estimate of its total market value. More importantly, we would generally have little idea regarding how this total market value is distributed among different plots of land, say, in a particular area.

Guesses could be made regarding the effective market value added by the presence of public goods. But I believe that when Hayek was writing, such guesses would necessarily have been enormously speculative. This inaccuracy not only creates an element of arbitrariness, it can also lead to large amounts of discrimination and corruption among assessors. Furthermore, even taking guesses that are modestly educated would have required, in Hayek's time, an enormously costly assessment apparatus. Without a relatively accurate and economically viable way of determining the natural resource lease prices, the lease proposal seems undesirable. And insofar as the one-time auction is undesirable as well (once we introduce the possibility of unexpected

changes), it seems that Hayek's epistemic separability objection calls into question the entire approach to natural resource property rights that has been developed here.

However, since the time when Hayek wrote this criticism, there have been important advances that he could hardly have anticipated, most importantly in computing and, concomitantly, in statistical methods. These provide a revolutionary solution to the epistemic problem raised by Hayek.

As Joan Youngman writes in her book on property valuation and taxation:

The most challenging aspect of assessment, assigning a value to each taxable parcel, has been revolutionized in recent decades by the development of computerized methods for predicting market values. Computer-assisted mass appraisal (CAMA) compares the characteristics of recently sold properties with those of properties that have not changed hands in order to estimate the market value of properties in this second group. The availability of data on large numbers of comparable properties permits the correlation of characteristics such as location, size, design, and type of construction with sale price. This allows a market value based on these features to be projected for other properties that have not been sold. These methods do not necessarily require a large, permanent assessment staff. State revenue departments sometimes provide computer support to small jurisdictions, and a number of commercial firms offer CAMA services on a contract basis.⁵⁰⁵

This method allows a government to use the *actual* market value of sold properties along with data about the characteristics of those properties to infer effective market values for *all the different components* that contribute to the value of both sold *and* unsold properties.⁵⁰⁶

Assessors today use such methods to simply separate the value of the capital improvement (e.g. buildings) from the value of the land. But in theory, as long as we have data about properties sold in different communities and different jurisdictions, we could further separate out the different components of the value of land such as the value added by public goods and communal externalities. In fact, public economists can (and

⁵⁰⁵ Joan Youngman, *Legal Issues in Property Valuation and Taxation* (Cambridge, MA: Lincoln Institute of Land Policy, 2006), 16.

⁵⁰⁶ For another sophisticated example of how this method could be use, see Florenz Plassmann and Nicolaus Tideman, "A Framework for Assessing the Value of Downtown Land," (2003).

do) use this technique (which is known more generally as the *hedonic price* method) to estimate the effective market prices even of specific public goods such as the value added by a property being in an area with nice scenery.⁵⁰⁷

. It is worth emphasizing that without modern computing power, implementing such techniques would be unthinkable. Running the needed regressions requires an enormous number of calculations. Amazingly, many personal computers today can (with the right software) easily handle the necessary calculations to use this method to assess the land values of an entire city. In addition, the wide availability of computing power has led to advances in statistical theory. The resulting accuracy and relative ease of estimating the effective market value of different characteristics of real estate properties was inconceivable in Hayek's time (let alone Henry George's time).

There is, however, a subtle but important problem with using this technique to estimate the effective market value contributed by the natural resource itself. Namely, this technique requires that the value of the natural resource itself be included in the final market value of the sold real estate properties. But if the rent on the natural resource which the owner must pay always adjusts to exactly track this market value, then the value of the purely natural resource will not in fact be included in this sale price.

Georgist economists have suggested several potential solutions to this problem. These solutions are generally not ideal and I will not go into them here. Instead, I would like to suggest a different solution. Namely, if we are assuming that we are leasing the natural resource for a year, we could insist that the rents on it be paid monthly. And since the natural resource is only assessed once a year, the rents in the rest of the months will be fixed. So if the value of the purely natural resource changes (say it increases) in the

⁵⁰⁷ See Boardman et al., *Cost Benefit Analysis : Concepts and Practice*, 339-44.

middle of the year and the developed natural resource is sold, the new owner will be willing to pay a premium (since the natural resource is more valuable and yet the payments are fixed). The hedonic price methods would be able to pick up such premiums and these premiums could be used to update the lease price on that natural resource and the surrounding natural resources. This might be logistically difficult if the lease is only for a year, but as I argue below, for many natural resources we might think of the leases as being for longer time periods.

There are a variety of other technical and statistical issues with accurately measuring the effective market value of the natural resource itself which I will not consider further here. And in some cases no doubt human assessors will have a role in correcting these problems. However, these difficulties are relatively minor compared with the seemingly insurmountable epistemic problem that Hayek saw with George's proposal. Given modern computing power and statistical techniques, the government should be able to accurately price the rent that individuals ought to pay for purely natural resources even after they have been developed after the initial auction of the first lease.

7.2.2 THE PRINCIPLE-AGENT PROBLEM

Yet even if the government knows what rent to charge, it also faces another problem; one which is faced by landlords more generally. Namely, the person leasing the natural resource will not have the same incentives to take care of the natural resource as she would if she owned the natural resource outright. Uncorrected, this incentive misalignment could lead to a significant decrease in the overall value of natural resources (relative to the selling outright solution).

The problem also arises with the current property tax system in the United States. Since the owner of land is currently taxed in relation to the value of the land, she has an incentive to not take sufficient care of the land. For example, Inmar Associates, Inc., a solvents company in New Jersey, created significant contamination of the land which it occupied, thus significantly reducing the property's market value. It was then argued that it should have to pay less property tax since the property's value was now lower (despite the fact that the lower value was a result of the company's own activities.) While the appellate court found that a reduction in the property assessment was contrary to the legislative intent, the New Jersey Supreme Court disagreed. It argued that the uniformity in property valuation required the government to reduce the assessment.⁵⁰⁸

Any lease system would have to ensure that lessees such as Inmar Associates would have to bear the cost of any significant damage they cause to the natural resource. There are several solutions to this principal-agent problem. The first is to specify legally what a person can and cannot do with the natural resource. This is analogous to a landlord specifying that having pets in a particular apartment is not allowed. The problem with relying exclusively on this solution is that it is difficult to specify everything that could cause damage to the natural resource.

A second solution to the problem is for the government to require a security deposit along with the lease. Tideman has suggested that a security deposit could be used to avoid a situation where the lessee leaves the resource with either damage or a large stock of useless, run-down buildings that they refuse to clear (i.e. in the case where they do not leave the natural resource largely how they found it accounting for reasonable wear on the land). This solution should be sufficient to prevent most types of moderate

⁵⁰⁸ Youngman, *Legal Issues in Property Valuation and Taxation*, 36-39.

damages to most natural resources while providing significant protection to the government (acting as the agent of those with equal claims to natural resources). This solution would require carefully specifying what constitutes “reasonable wear” on a natural resource (similar to “normal wear and tear” clauses on most housing contracts).

A third solution is to force the lessee to pay for any damage that goes beyond the security deposit (if there is one). This would protect the government (as the agent of those with equal claims to natural resources) against larger damages. But note that the ability of the government to collect compensation for such damages would be limited by the ability of the lessee to pay for these damages. So the lessee might still have an incentive to undertake actions which are environmentally risky if the damage caused by an environmental disaster would be so large as to be beyond her capacity to pay. In addition, some environmental damage might destroy the natural resources in ways that cannot be monetarily compensated for. To protect against such large-scale environmental damage, the government would likely have to rely on the first solution (i.e. legal restrictions on certain highly risky or environmentally damaging actions).

While a combination of these solutions could plausibly work to solve the principle-agent difficulties in the case of renewable natural resources, non-renewable resources present a special problem. In the case of these resources, the buyer’s purpose is exactly to “use up” a certain portion of the non-renewable natural resource (i.e. there can be no expectation that the occupant will leave the resource in approximately the same condition as she found it). If the occupant merely leased the natural resource, she would have an enormous incentive to extract very large amounts of the non-renewable natural resource; amounts far larger than those she would have extracted if she owned the

resource outright. We might try to specify a certain amount of non-renewable resource that could be extracted as part of “normal use.” But it would be inefficient to specify a particular amount of the non-renewable resource (e.g. oil, gold, etc.) to extract ex ante since the efficient amount would depend on rapidly changing market conditions.⁵⁰⁹

One solution to this problem is to *sell* that portion of the non-renewable natural resources that the entity wishes to extract while leasing the surrounding land to that entity. Some natural resource economists have argued that we can align the incentives of the occupier of the land with extracting the efficient amount of non-renewable resources by combining a lease price for the surrounding land with a fee per unit of non-renewable resource extracted.⁵¹⁰ Although this is often referred to as a “royalty fee”, we might think of this as the extractor actually paying a price which is related to the purely natural value of the extracted non-renewable natural resource. A full discussion of this set of issues is beyond the scope of this work. The important point here is that the case of non-renewable natural resources clearly shows that the lease solution is not always appropriate.

7.2.3 THE COSTS OF UNEXPECTED RENT INCREASES

But even moving our attention away from non-renewable natural resources, there is another problem with the lease system which is generated by the possibility of unexpected increases in the rent of natural resources. Now, not all increases in natural resource rents are problematic. So for example, an increase in the rent of the strawberry

⁵⁰⁹ For an introduction to issues surrounding the extraction of natural resources, see Chapters Eight and Nine of Hartwick and Olewiler, *The Economics of Natural Resource Use*.

⁵¹⁰ For a discussion of the some of the issues relating to such a proposal, see Mason Gaffney, "Objectives of Government Policy in Leasing Mineral Lands," in *Mineral Leasing as an Instrument of Public Policy*, ed. Michael Crommelin and Andrew Thompson (Vancouver: 1977).

patch which is caused by an increase in the price of strawberries need not be a cause for concern. Similarly, an increase in the value of residential land due to new public goods that the owner finds valuable may not be particularly problematic. Unexpected rent increases are unproblematic when they are accompanied by corresponding increases in the *current occupants'* willingness-to-pay to lease the natural resource.

But there are many cases where an expected increase in natural resource rent is not accompanied by a corresponding increase in the current possessor's willingness to pay. The rent of the strawberry patch land might increase due to the lucrative nature of new commercial development opportunities for the land that the strawberry farmer has no desire or ability to pursue herself. Similarly, the rent of residential land might increase due to an increase in demand for some attribute of the land (e.g. closeness to the sea) that the occupant does not value as much as those who have a newly developed taste for this beach proximity. In a dynamic economy, examples of such unexpected increases in the land rents that are not accompanied by an increased willingness-to-pay by the current occupant will by no means be rare.

If individuals had no long-term ties to the natural resources in their possession, such rent increases might not be particularly concerning. So for example, if a particular plot of strawberry patch land became valuable due to an opportunity for commercial development and the farmer had no long-term ties to it, she could simply move to a different strawberry patch. But people do develop long-term ties (both economic and non-economic) to the natural resources in their possession. And so the unexpected rent increases which outstrip their willingness-to-pay can have important detrimental consequences for them.

There are several different types of long-term ties that individuals develop to the natural resources in their possession. Economically, natural resources often require significant capital improvements and physical alternations in order to be effectively developed. The strawberry farmer might, for example, have invested a good deal of money in an irrigation system. In addition, she might have cultivated economic relationships with customers and suppliers in a particular area. Finally, she might have developed a particular expertise in growing strawberries, and she might not be able to find a suitable alternative strawberry patch if her current patch is used for commercial development.

In addition to the economic ties to the land, the strawberry farmer might have also developed non-economic ties to it. She might have grown attached to *that particular* strawberry patch even if other, quite similar strawberry patches are available.⁵¹¹ In addition, the strawberry farmer might have developed ties to the surrounding community that she would find difficult to maintain if she had to move to a different strawberry patch. And being a strawberry farmer may, over time, grow to be part of her identity. And so if there were no suitable strawberry patches left, she might have to give up this part of her identity.

Given these long-term ties, two things can happen when the natural resource rents go up unexpectedly in a way not matched by an increased willingness-to-pay. First, the higher rent can effectively “eat into” the value of these long-term connections. That is, the occupant could be effectively faced with having to pay an unexpected price in order to maintain these long-term connections. Alternatively, the natural resource rent could

⁵¹¹ For a literary example of this type of attachment, see Chapter 21 of Antoine de Saint-Exupéry, *The Little Prince*, trans. Katherine Woods (San Diego: Harcourt Brace Jovanovich, 1982).

rise so high that the person could decide (or be effectively forced to) quit the natural resource altogether thus severing many of the long-term connections that she has developed in relation to it.

Both of these outcomes, if they occur, are highly undesirable from the perspective of the individual. But even the mere possibility of such outcomes has negative consequences. First, the possibility of unexpected rent increases can deprive a person of a basic peace of mind that accompanies permanent ownership. Second, even the possibility of rent increases could make the individual more reluctant to develop these economic and non-economic connections to the natural resource in the first place. Note that the expected value of these ties is lower in a world where the rent on the person's natural resource can unexpectedly outstrip her willingness-to-pay for it. And the higher the likelihood of such unexpected increases occurring, the lower the expected value of these ties will be. The resulting loss of certain ties and economic development not only impoverishes the occupant. It also impoverishes the broader community.

It is worth pointing out that these problems are quite similar to those we observe in the home rental market. The rent of a home can also unexpectedly outstrip a person's willingness-to-pay to rent. Faced with such an increase, a renter would effectively have to decide what she is willing to pay to avoid the physical moving costs and the loss of immovable improvements she has made to the house. If a nearby residence is unavailable, she might also have to consider her willingness-to-pay to stay at her current job and to maintain her ties to her community. As in the case of natural resources, the possibility of such a rent increase might make even someone with no future intention to

move less likely to make permanent improvement to the residence and to form long-term ties to the community.⁵¹²

Someone might point to this analogy with renting to argue that the costs I have described of the natural resource lease system are not so serious. After all, with the exception of a relatively small number of rent-controlled properties, many societies are willing to accept the dislocation of renters and the concomitant severing of their economic and non-economic ties to their property. And sometimes rent increases affect entire communities (e.g. in the case of so-called gentrification). In these cases entire communities can be dismembered. If we are willing to tolerate the free-market operation of the rental system for homes,⁵¹³ why should we not be willing to do so in the case of natural resources?

There are several responses to this objection. First, some might argue that we are making a mistake by not being more concerned with the plight of the renter, especially in the case of “gentrification” where the rent of whole neighborhoods increases at once. The fact that many societies provide no protection in these cases may have more to do with the lack of political power of low-income renters rather than with the justice of tolerating the dissipation of entire communities.

⁵¹² There is an important debate about whether homeownership creates generates these type of social capital. For a discussion and an attempt to empirically test this hypothesis, see D. DiPasquale and E. L. Glaeser, "Are Homeowners Better Citizens?," *Journal of urban economics* 45, no. (2) (1999).

⁵¹³ In addition to being helpful in thinking through the issues involved with the natural resource lease system, this analogy with renting homes also usefully highlights an important risk in our thinking about this problem. We might be tempted to imagine a person who currently has good reason to think that she owns her land but is suddenly faced with having to pay a large price to keep it. Such a case involves a violation of legitimate expectations and falls under a discussion of the problems of transition. In the case of implementing the lease system on the hypothetical planet, no person would think of herself as *owning* the land. Looking at the case of rent is more useful at looking at cases of unexpected property tax increases exactly because in the case of rent the person rightly sees herself as only leasing the asset in question.

A second response is that the dislocation of renters is tolerable only because of the fact that many of those renters have a choice of owning a home instead. Of course, in all current economies there are people who do not have a realistic choice to own a home. But for those who have meaningful choices and who choose to rent, the dislocation due to a rent increase may be viewed as a risk they chose to take. But in the lease system that we are currently considering, all natural resources would be leased. So the response available to some home renters' complaints may well be unavailable to those the complaints of those renting natural resources.

A third response is that the kind of *immovable* economic improvements needed to make full use of most natural resources are much more extensive than those needed to make use of a home. Furniture can be moved. Buildings generally cannot (at least not without enormous expense).⁵¹⁴ So the kind of economic losses generated by the natural resource lease system from decreased investments in such immovable improvements could be much greater than the economic losses (e.g. moving costs) generated by the system of leasing homes.

Fourth, although the connections people develop with their homes are very strong, there are some natural resources with which individuals can develop even stronger connections. Consider a cemetery. People generally like to think that those they bury in a certain place will remain there undisturbed into the foreseeable future. Yet over time, the land used for a cemetery might become enormously valuable for other purposes (consider the value of the cemetery land in Manhattan). In a society which leased natural resources, the owners of certain cemeteries could well find themselves no longer able to

⁵¹⁴ Harvard did recently physically move three historical buildings to a new location. See <http://wbztv.com/local/Harvard.Cambridge.Massachusetts.2.587882.html>.

afford to pay the rent on the land. While we may be willing to tolerate a system that unexpectedly requires a certain person to leave her home as long as she knew she was a renter, we might want to leave the option that at least for certain uses, land could be purchased for more than a yearly lease.

The final response is that while the renter's complaint about the lease system is made as a fellow citizen, the natural resource lessee's complaint about the lease system is made both as a fellow citizen *and* as a person with equal claims to natural resources. This lends far greater weight to the natural resource lessee's complaints. She might argue that all she wants is to own a relatively small piece of land without a particularly high economic value. It seems difficult to argue that she should have no option of doing so given that she has equal claims to natural resources. Assuming the home renter does not have similar equal claims to the housing stock, her complaints about the negative effects of one housing property system versus another seem less powerful (though they might still be convincing). For all these reasons, a simple system of yearly natural resource leases seems much more unacceptable than a system where some homes are leased annually. In particular, the problems caused by unexpected increases in rent (which are not accompanied by increases in willingness-to-pay) seem to require some solution.

Now, someone might object that I have significantly overstated the problem generated by unexpected increases in the purely natural value of residential land in particular. This is because, the person might argue, the purely natural value of residential land is very small. After all, the price of the island of Manhattan without the buildings, the community, and the public goods of New York City would be quite low. So while many of the issues I have raised here apply to the problem of property taxation

which attempts to capture these *other* sources of value, the danger of changes in the purely natural value of residential land significantly impacting the occupants of that land is not particularly large.

However, this objection requires mistakenly thinking about the purely natural value of residential land in terms of the flawed marginal product theory of value. Using this theory, one might well think that the island of Manhattan itself is worth very little. But though it is true that Manhattan without the buildings, community, and public goods would be of very low value, we also have to think about the buildings and the public goods without the land of Manhattan. The marginal product theory is not, as I argued in Chapter One, a coherent solution to the contribution determination problem.⁵¹⁵ Although I do not provide a particular solution to the problem in this work, I have argued that any plausible approach to this problem would assign natural resources (including residential land) a significantly higher value than the one suggested by the marginal product approach. If so, then the danger of the rent of residential land rising would be a significant problem.

7.2.4 SOME POSSIBLE SOLUTIONS

In this section I would like to explore three possible solutions to the problem of unexpected natural resource rent increases. The first potential solution is to simply not allow natural resource payments to increase in certain ways. That is, we could put in place certain kinds of natural resource rent control.

There are a variety of types of rent control which could be used, many of which correspond to the methods that have been used to protect individuals against unexpected

⁵¹⁵ See Section 1.2

increases in property taxes in the United States. We could restrict the increase in natural resource rental prices to only reflect increases in the value of the uses to which the natural resource is currently being put to. So for example, in the Georgia case of *Dotson v. Henry County Board of Assessors*, even though the farmland surrounding the Dotson farm had a market value of well over a thousand dollars for various types of commercial development, the Georgia Supreme Court ruled that the land could only be assessed at a value consistent with *farming uses*.⁵¹⁶ Limiting land rent increases to those consistent with the land's current use would make it far less likely that the rent would outstrip the current occupant's willingness-to-pay.

Alternatively, we could place strict limits on the rate at which land rent can increase or simply state that it can never increase for a certain occupant once she begins leasing a particular natural resource. This is analogous to Proposition 13 in California which froze increases in property taxes in responses to skyrocketing property values that threatened to price certain people out of their homes.⁵¹⁷ The proposal here is different from Proposition 13 in that it would be implemented *ex ante*, before any individual took possession of any natural resource. Nevertheless, it would have a similar effect of protecting individuals from unexpected increases in the rent payments on their natural resource properties.

While this solution is attractive from the perspective of the eventual occupants of natural resources, it is quite undesirable from the perspective of the lessor (i.e. those with equal natural resource claims). It basically has all the faults of the ownership solution (with the exception of the credit constraint problem). It creates large amounts of *ex post*

⁵¹⁶ Youngman, *Legal Issues in Property Valuation and Taxation*, 49-53.

⁵¹⁷ For a discussion, see *Ibid.*, 237.

inequality in natural resource benefits. It does not allow society to take advantage of new opportunities by pricing out sincere holdouts. It also does not allow for revisability and full respect of the claims of future people discussed above. At the same time, although the government (as an agent of those with equal natural resource claims) no longer benefits from the upside in case the rental price goes up, it bears the risk of a downside (when the natural resource rent price goes down). In addition, like other systems of rent control, this system can create situations where individuals are paying vastly different rents on basically identical properties. (This was the complaint of Stephanie Nordlinger in the case considered by the United States Supreme Court against Proposition 13).⁵¹⁸ Since it combines all the negative aspects of permanent ownership with some additional downsides, this natural resource rent control solution (even when it is implemented *ex ante*)⁵¹⁹ seems undesirable.

A second potential solution which has been suggested by Nicolaus Tideman is to encourage individuals to purchase private insurance against the possibility of their natural resource rent going up.⁵²⁰ This would allow those who wish to develop long term connections to their natural resource to do so while having a fair amount of confidence that they will not have to quit their natural resource as a result of unexpected price increases.

⁵¹⁸ See *Nordlinger V. Hahn*, 505 U.S. 1 (1992).

⁵¹⁹ Note that at least if this kind of rent protection is known about *ex ante*, the initial lease price of the natural resource will be higher to reflect the implicit value of this rent protection. This would reduce the occupants' windfall compared to the situation where the solution was implemented while certain individuals were *already* occupying certain properties (i.e. what happened in the case of Proposition 13).

⁵²⁰ This proposal is also put forth by Harold Kyriazi. See Harold Kyriazi, *Libertarian Party at Sea on Land* (New York: Robert Schalkenbach Foundation, 2000), 105.

There are, however, several problems with this solution. First, there are adverse selection problems similar to the ones discussed before which arise when people know more about their natural resource than the insurance company (e.g. if lessees know more about the potential volatility of their land's market value). Second, there is an interesting type of moral hazard problem that arises as well. Namely, there is a temptation among government officials to overvalue properties. This temptation is checked by political pressure exerted by the owner who does not want to pay higher amounts, and who would thus challenge overvaluations. But if the insurance company were the one paying for any increase in rent, there would be little incentive for the occupant to protest high valuations. Although the insurance company would then have an incentive to challenge valuations, it might not be as politically effective as the owner (depending on the situation). Finally, the insurance solution requires a high degree of sophistication among the average natural resource occupant. Yet the average person may have little idea how much insurance they would need to buy in order to achieve a particular level of certainty that they will not be forced to leave. These factors might help explain why there is no insurance market that protects homeowners from increases in their property taxes.

But there are other problems with the insurance proposal as well. First, there is a large potential for free-riding, especially in the case of residential land. Often, large development projects require buying up several plots of land in a particular area. So if I know that my neighbor has bought insurance against an increase in land rent or even if I suspect that she has, I would have far less incentive to buy insurance myself. If a developer is unable to bid the rental price of the land to a level that is sufficiently high so as to force my neighbor to leave, (i.e. beyond the price range for which she insured) then

my property will be safe as well. Second, if there is insurance on a particular property, a developer will have little incentive to place a good faith bid for leasing the land herself. This reluctance would be good for the insurance company and the current owner, but it would mean that the government (as an agent of those with equal natural resource claims) would not be able to receive the true economic value of the land in rent.

The solution that I endorse here is instituting different lease lengths for different natural resources. So for example, land slated for use as a cemetery might have a very long lease (or might even be sold permanently). The price of such long-term leases will be determined in part by the demand for them. But the government (as an agent of the natural resource claimants) should ensure that the price covers the effective insurance policy that the fixed-price long-term lease provides to the owner of the cemetery. The costs of such an implicit insurance policy will vary by location and such a pricing policy would encourage the graveyard to be located on land that is less likely to drastically increase in price.

But longer leases need not be limited to locations with ritual significance. Plots of residential land with different lease lengths could also be available. So for example, a middle class couple buying their first home might be willing to tolerate the risk of an unexpected increase in lease payments (which might force them to move). They thus might buy an apartment on land which only has a few years left on its lease. As they start a family, they might search for a home built on land which has at least 20 years left on the lease which would help ensure that they will not have to relocate their children. Then, when they retire, they might search for a home built on land with at least 50 years remaining on the lease to help ensure that they will not have to leave that home due to

unexpected land price increases. The availability of land with varying lease terms would allow for accommodations of those who place a high value on the ties they intend to form with the surrounding community (and are willing and able to pay for this security).

In deciding how much land to lease at different lease-lengths, the government should certainly consider what would offer the highest overall price for the land, (among other possible considerations) taking into account the potential value lost by missing out on new opportunities. It would thus generally want to offer the longer lease terms on land whose value is less likely to change over time. In addition, since development projects (especially in the case of residential land) often require multiple neighboring plots of land, particular neighborhoods or portions of neighborhoods should have lease terms that end at similar points in time.

There may also be economic reasons for granting particular occupants very long leases. If a particular natural resource requires economic development that is very expensive to carry out but lasts for a long time, longer lease-terms for that particular natural resource would seem appropriate to encourage such development. In addition, if a particular development is very difficult to undo and limits the uses to which the natural resource could be put (e.g. a water utility company flooding certain land it intends to lease as part of a dam project),⁵²¹ this also might serve as a reason for granting the occupant a very long lease.

While longer lease terms can solve the problems with the lease system in some cases, there might be other ways to mitigate the problems with the lease system that should be incorporated as well. For example, instead of giving a person a long-term lease

⁵²¹ See Youngman's discussion of *Hackensack Water Company v. Borough of Old Tappan*. Youngman, *Legal Issues in Property Valuation and Taxation*, 107-15.

to encourage long-term improvements of the natural resource that are generally useful, the government might provide rent reductions for certain types of improvement (similar to those that a landlord might offer to a tenant who is thinking of repainting the walls). The government could also insist in some cases that when a natural resource changes hand involuntarily, the new tenant should pay the old tenants the fair market value of the capital improvements that the tenant made (even if the new tenant simply wants to tear them down). The exact details of when such provisions should be included in the natural resource contract are beyond the scope of this work.

7.2.5 THE PROBLEM OF KELO V. NEW LONDON

I would like to turn now to discussing a case that I introduced earlier in this chapter and also in the introduction to this work: *Kelo v. New London*. I do not intend to discuss here how the case should have been decided. This would require a lengthy analysis of legal matters as well as of the problem of violations legitimate expectations; issues which are beyond the scope of this chapter. Instead, I would like to focus on showing how the hypothetical explorers could have avoided the problem raised by the *Kelo* case. I will, however, mention two points suggested more broadly by this dissertation regarding how we should think about such takings cases.

Let us imagine a city called New New-London on the explorer planet which quite similar to the city of New London. A main difference is that its property in land follows the lease system with varying lease terms which I have suggested here. I argue that New New-London would be able to solve the problem raised by the *Kelo* case in a desirable way. Consider first the case where the leases on the waterfront land in New New-London are almost up. In this case, the New New-London Development Corporation (NNLDC)

could simply wait until the leases in the waterfront area were up and then place a much higher bid for the land leases. I am assuming that, at least in the case of residential land, there is the requirement that the NNLDC pay the fair value of the homes if it wants to take over the land lease from the current owners. I am also assuming that the New New-London follows the suggestion of having similar lease termination dates for neighboring plots of land. It would thus not be long from the time when the first leases were up to when the NNLDC had possession of enough of the land to begin construction. In the meanwhile it could have, for example, rented the homes temporarily.

What about the problem of Susan Kelo and her fellow petitioners? In the case I am considering it is unlikely that they would be living in that location in the first place. Those who wanted a home which was secure from such unexpected increases in the land rent would have had the option of buying homes in locations with leases that had longer remaining terms. Part of the reason that Kelo was so set against leaving was that she had made “extensive improvements to her home”.⁵²² She might have not made such extensive improvements on a home built on land with only several years left in its lease. Alternatively, she might have bought a different home on land with a longer-term lease in which she would have been more secure in the enjoyment of these permanent improvements. Similarly, Charles Dery who lived in the same house with his wife for 60 years and wanted to remain in that house might have searched elsewhere for a longer-term lease.

Admittedly, it is possible that neither Susan Kelo nor Charles Dery might have been able to find to find a house with a sufficiently long-term lease so close to the water. It might be that waterfront property is very volatile and desirable for large scale

⁵²² *Kelo V. City of New London.*

development, and so generally the leases on such land are kept relatively short by governments anxious not to miss out on new opportunities. Or perhaps there are a few such properties but they simply would have been too expensive for Kelo or the Derys. Since there is no guarantee that the holdouts would have found a similar property with a longer lease, they might have had to choose between stability and other characteristics which they valued. But at least they would not have faced the disruption of the (arguably) legitimate expectations which was generated by the forced sale of their homes.

Of course, it is also possible that the city of New New-London would have wanted to carry out the development project but found that the leases on the waterfront land were not close to being up. In such a case, the NNLDC might have used a different neighborhood of New New-London where the land leases were closer to being up for the project. Alternatively, the NNLDC might have tried to simply try to buy all the homes in another neighborhood. But in the end it is certainly possible that the NNLDC might not have found any way to satisfy the companies that were on board as part of the industrial park. In such a case, the city of New New-London would simply have had to forego this development opportunity (presumably the companies might have tried to locate to a different city where land was more easily available). No doubt this would have entailed a large missed benefit for the city of New New-London. But such missed benefits are the price the city pays for the security in long-term ties and peace of mind that its residents enjoy as part of longer lease terms. Intuitively, it seems that these outcomes are much more desirable than the insecurity and disruption of expectation engendered by the status quo system which allows cities to unexpectedly seize homes from some for the private use of other entities.

Before leaving the case of *Kelo*, I would like to note two other points that are relevant to the case which have been suggested by this work. First, from a liberal perspective, a main reason that this ruling had plausibility is because it dealt with land; land which neither Mrs. Kelo nor her fellow petitioners created through their efforts. If instead what was needed for the revitalization project was, say, a piece of art that Mrs. Kelo created but was unwilling to sell (say, for example, to complete a popular museum modern art collection) it would have been highly problematic from a liberal perspective for the government to force Kelo to sell the piece she created to the museum (even if it would create far more economic benefits in the museum than it would in Kelo's living room). The court in its ruling did not sufficiently focus on the normative significance of the fact that what was at stake in this takings case was *land*.

The second point is that the distinction made in the law between a public use and private use may not be as normatively salient as has been commonly supposed. New London's actions would have been fully legal if the land were to be used for a public park. Yet I have argued in Chapter Six that in purchasing land for a park, the government should be seen as merely solving a collective action problem and acting on behalf of private individuals. In the case of New London, whether the land is used for a public park or an industrial park, the buyer (whether a private individual or the government) ought to have to wait until the relevant leases are up. But if there is an issue of other rights at stake (e.g. the government needs to seize the land to protect public safety⁵²³ or to compensate for past injustices⁵²⁴) the government might be permitted to seize the land even before the leases are up.

⁵²³ See for example *Berman V. Parker*, 348 U.S. 26 (1954).

Conclusion

I would like to summarize the arguments of this chapter by considering an important objection to the argument made here having to do with the envy-free standard which I developed in the previous chapter. It is worth standing back now and looking at the system that the explorers are now thinking of implementing on their new planet. It is a hybrid system which includes leases of various lengths (some of which, such as leases on cemetery land, might be longer than a person's lifetime), outright sales of non-renewable natural resources, and potential requirements on the transfers of leases from hand to hand (e.g. the requirement for new lessees to pay current occupants the fair market value of their improvements). Looking at this system, it is no longer true that the distribution of natural resources will be even initially envy-free in the elegant way is achieved by the equal-income auction (let alone envy-free over everyone's lifetime). If so, it is no longer clear that we are appropriately respecting the equal claims of different individuals.

But as I argued in Chapter Six, the envy-free standard is not the ideal of equality of natural resource shares. The ideal is that there should be no unjustified discrepancies in the incremental benefits individuals receive from their natural resource shares. The envy-free standard is a compromise that is justified in that it avoids a variety of practical and theoretical problems. In addition, I have argued that the total level of benefits ought to be considered alongside with the equality of the benefits in determining the best method of respecting equal natural resource claims. The question then is whether the moves we have made away from strict envy-freeness are justified by practical considerations and by considerations of total benefits.

⁵²⁴ See for example *Hawaii Housing Authority V. Midkiff*, 467 U.S. 229 (1984).

I believe the arguments in this chapter show that they are. I have argued that in a world prone to unexpected changes, a one-time auction can lead to high levels of ex post unjustified inequalities in benefits. In addition, the problem of sincere holdouts can lead to a decrease in overall benefits relative to a lease system. Finally, a one-time auction would create problems in respecting the claims of those who revise their life plans (assuming these claims have some weight) and the claims of future people. A variety of suggested solutions to these problems including private insurance markets and legal restriction are undesirable and often impractical. I thus suggested a system of recurrent natural resource leases instead.

First, I argued that such a system would be feasible. The important epistemic separability objection raised by Hayek against such a system can today be solved by computing power and advanced statistical techniques. Actual sales of existing properties, combined with data about the characteristics of those properties and surrounding properties, allow us to infer the effective market value contributed by different characteristics of a property. We can use this information to infer the effective market value of the purely natural resource even though we can no longer observe an actual sale price for just that natural resource.

In addition to being feasible, the lease system also only deviates from envy-freeness in justified ways. The lease system would be envy-free if we kept all the leases very short and we made no provisions to protect those made capital improvements on the land. But I argued that without some basic protections of the investments of developers, (e.g. requiring those who take over a lease to pay the fair market value of the improvements made by previous occupants) a society with a lease system would see a

much lower level of natural resource development and thus a significantly lower level of total natural resource benefits. In addition, though longer leases can create barriers to envy-freeness, they are necessary for allowing individuals to benefit from natural resources in certain ways by encouraging them to develop long-term economic and non-economic ties with the natural resource and the surrounding communities. And in the case of non-renewable natural resources, it is difficult to see how we could think about leasing them at all.

Of course, each of these movements away from envy-freeness is not without a normative cost. We might imagine a future person who enters society and wants to own a particular piece of land. She might find that the current occupant still has a significant amount of time left on the lease to that land. In the case of a cemetery, the new person may find that she will never be able to possess that particular piece of land in her lifetime. Alternatively, the land might have very expensive capital improvements on it which the new person cannot afford. All of these restrictions place the new person at a disadvantage relative to those who came before her. And if we hold that new people have claims to natural resources that are equal to those of their predecessors, this disadvantage would be a cause for legitimate complaint. The arguments in this chapter have been meant to show that such a legitimate complaint by the new person may well be outweighed by other legitimate considerations.

However, the new person's complaints are only valid if she really does have a claim to natural resources that is equal to that of her predecessors. Yet it is by no means clear on what basis the new person (who did not exist when the original natural resource

allocation was made) should be seen as having such an equal claim. I turn now to considering the complicated issue of the natural resource claims of future people.

Future People

Over the past few decades, political theorists have become increasingly concerned with the current rate of depletion of the Earth's natural resources and long-term environmental damage. However, the liberal theories of justice that might be used to consider these issues are often developed in a kind of timeless world where the horizon is limited to a single generation.⁵²⁵ In this chapter, I extend the equal division conception of the equal claims view that I developed in earlier chapters to address the controversies surrounding the natural resource claims of those who will be born in the future.

In attempting to set out the rights of members of future generations to natural resources, liberal political theorists have encountered a variety of problems. First, there has been significant controversy over whether members of future generations can have any rights based in some liberal theory of justice. Some theorists have pointed out that these future people do not yet exist and so they cannot be said to currently have interests that can be harmed; and having interests is a precondition for having rights. In addition, the identity of future generations depends on what natural resource policy is pursued. So even if future generations are denied claims to natural resources altogether, it does not appear that they can complain of being harmed since *they* would not have existed under a

⁵²⁵ For a brief discussion of this issue see the introduction of Peter Laslett and James S. Fishkin, eds., *Justice between Age Groups and Generations, Philosophy, Politics, and Society, Sixth Series* (New Haven: Yale University Press, 1992). Laslett and Fishkin admit that some authors have attempted to extend their theory beyond a single generation. But they argue that these attempts have been generally unsuccessful.

different policy. Also, if justice is seen as offering fair terms of rational cooperation it does not appear that the obligations to members of distant future generations can be seen as obligations of justice.

Even if members of future generations can be said to have some rights to natural resources, other problems arise. The first is the problem of uncertainty. As we think about the more distant future, our estimates of how many people will exist, what kind of interests they will have, and how our current policies will affect them necessarily become hazier. Second, even when thinking about the rights of the current generation's children to an equal share of resources, many liberals have struggled to balance the respect for the liberty of the parents and the equality-based claims of the children.

These difficulties have led many thinkers to abandon the framework of a liberal justice as a way of thinking about the problem of future generations. Instead, a variety of thinkers, some of whom might otherwise be sympathetic to liberal ideas, have turned to communitarian theories,⁵²⁶ democratic stewardship theories,⁵²⁷ theories of humanitarian obligations,⁵²⁸ theories of human flourishing,⁵²⁹ or theories that focus on the inherent value of natural resources⁵³⁰ as foundations for the obligation to conserve natural resources for future generations. I do not deny that these other approaches may have

⁵²⁶ See for example Avner De-Shalit, *Why Posterity Matters : Environmental Policies and Future Generations*, ed. Andrew Bennan, *Environmental Philosophies Series* (New York: Routledge, 1995).

⁵²⁷ See for example Dennis F. Thompson, "Democracy in Time: Popular Sovereignty and Temporal Representation," *Constellations* 12, no. 2 (2005).

⁵²⁸ See for example Brian M. Barry, *Democracy, Power, and Justice : Essays in Political Theory* (New York: Clarendon Press, 1989).

⁵²⁹ Ronald Dworkin, *Life's Dominion : An Argument About Abortion, Euthanasia, and Individual Freedom* (New York: Knopf, 1993), 78.

⁵³⁰ For a review of some examples see Chapter Eight of Beckerman and Pasek, *Justice, Posterity, and the Environment*.

merit. However, I want to argue that there are significant obligations for conserving natural resources that can be derived using the framework of liberal justice.

The difficulties that liberal theorists have faced are the result of several shortcomings in their discussion of the rights of future people. First, there has been insufficient distinction drawn between the rights of future people to natural resources as opposed to other forms of wealth. Second, some theorists have tried to think of the rights future people have before they are born. I argue that the proper temporal perspective entails considering the rights of these future people *once they already exist* and working backwards through time to see the consequences of these anticipated rights. Third, the theoretical focus has often been on the obligations of generations rather on the obligations of specific *individuals* within a generation. This focus has led theorists to fail to consider the obligations individuals of the same generation have *to each other* regarding natural resources. In addition, insufficient attention has been paid to the obligations of parents to provide for the natural resource claims of the children they bring into the world. Finally, the crucial fact that generations overlap has all too often been wholly abstracted from or simply given insufficient attention.

By avoiding these pitfalls, I aim in this chapter to demonstrate that every person, regardless of when she is born, has a right to a share of natural resources that is equal to that which anyone else receives (or to equivalent resources), and that current inhabitants of the earth have obligations to conserve natural resources for future generations.

The chapter is divided into seven parts. I begin in the first part by reintroducing the manna planet example and extending it to consider a simple two generation case. In part two I consider the rights of the members of the second generation. I examine more

specifically the content of the requirement to provide equivalent resources for the second generation in part three. I turn in part four to considering the obligations of the members of the first generation to each to conserve natural resources for the second generation. I then consider the case of multiple generations in part five. In part six I take up the question of the specific responsibilities that parents have to their children and examine the distributional consequences of these responsibilities in the two generation case. I then extend this analysis to the multigenerational case. I conclude by summarizing the argument and considering directions for future research on some broader issues of intergenerational justice that cannot be addressed in this work.

8.1 A Simple Two Generation Case

Since the normative controversies surrounding the rights of future generations are so complex, it is useful to begin exploring them in an unrealistically simplified context; one where we can abstract from the problems generated by natural resource development and natural resource heterogeneity. The manna planet example that was used to initially defend equal division in Chapter Four can be used for this purpose as well.

Imagine, once again, a group of inter-stellar explorers who have come upon a new planet that has a single, homogeneous, perfectly divisible, useful, and scarce natural resource called manna.⁵³¹ Assume again that any claims of the discoverers of the planet to the manna have been respected and that the remaining manna is what I call a purely natural resource.⁵³²

⁵³¹ The interstellar explorers and the example of manna is taken in modified form from Ackerman. See Chapter Two of Ackerman, *Social Justice in the Liberal State*.

Besides these assumptions (which were made in the static case), also assume that:

1. The explorers can have offspring
2. All new individuals in a particular generation are born at the same time and emerge as fully grown adults.
3. There are no technological advances (either manna related or otherwise).
4. The manna is a non-renewable natural resource whose full quantity is known and which can be immediately harvested in its entirety by the original explorers.
5. The manna is not absolutely necessary for the survival of the explorers.⁵³³
6. The manna need not be developed in any way through the use of immovable capital improvements.
7. Besides the manna, many other goods and services are produced in the economy some of which, but not all of which, require manna as an input.⁵³⁴

I will elaborate on each of these assumptions as they become relevant to the arguments.

Many of the critics of the liberal approach to the rights of future people have focused their attention on criticizing the basis of the rights of members of distant generations; individuals whose lives do not overlap temporally at all with those of the earth's current inhabitants. Before tackling this difficult issue, a more basic question is whether the newly-born (when they reach the appropriate age)⁵³⁵ each have a right to a share of natural resources that is equal to the share enjoyed by each currently living adult.

In the next section, I argue for the affirmative answer to this question.

⁵³² Purely natural resources are those resources that remain after any individual who can be fairly assessed as contributing to the value of the resource has been appropriately compensated.

⁵³³ We can imagine that the spaceship can provide for the basic survival needs. Alternatively, we can imagine that there is some other abundant natural resource that can be used for this purpose.

⁵³⁴ Intuitively, the analogy I have in mind is between manna and a non-renewable natural resource like oil.

⁵³⁵ When exactly a newborn or fetus is vested with different rights is a highly controversial topic that I set aside here. I am interested in whether the newly-born have rights to an equal share of manna once they reach the appropriate age.

8.2 The Gen 2ers Rights Once They Exist

In order to consider this question, let us make several additional simplifying assumptions. First, assume for now that there are only two generations. The original explorers (which I will refer to as Gen 1ers) and their offspring (Gen 2ers). The Gen 2ers do not themselves have any children. Second, let us assume that the generations' lives overlap. The third (fantastical) assumption is that the Gen 2ers are not born as a result of the actions of the Gen 1ers but simply appear (all at once and fully-grown). This assumption is meant to focus our attention on the rights the Gen 2ers have merely by virtue of their claim to equal concern as opposed to any claims they may have against the Gen 1ers by virtue of the fact that the Gen 1ers choices brought them into existence. Finally, let us assume for simplicity that there is an equal number (N) of Gen 1ers and Gen 2ers (so the total eventual population of the planet is $2N$). In this simplified scenario, do the members of the second generation have any rights with respect to the planet's manna?

Note that I am only concerned here with the rights of the Gen 2ers to natural resources. I am not concerned with their rights to some kind of broader equal start or to a just level of inheritance from the previous generation except insofar as these issues bear on the question of natural resource property rights. In addition, I am assuming for the purposes of this section that equal division is the right way of respecting equal natural resource claims (a position I defended in Chapter Four). For now, *I will also assume that any potential causes of unjustified discrepancies in incremental benefits have either been*

*corrected more generally or do not exist.*⁵³⁶ So that if the Gen 2ers have equal claims to natural resources, those claims are best respected by giving them an equal amount of manna. The question I am interested in here is whether they in fact have any sort of claims to the natural resources that are equal to those of the Gen 1ers.

8.2.1 LATER ARRIVAL TIME

The first question is whether the Gen 1ers should receive possession of the manna simply by virtue of their earlier arrival time on the planet. To focus on the early arrival time, it is useful to consider an analogy suggested by Casal and Williams between future people and late-arriving individuals.⁵³⁷ Imagine that instead of two generations, we have two groups of explorers: early-explorers and late-explorers. The early-explorers know that the late-explorers (whose spaceship, let us imagine, had veered off course through no fault of their own) will be arriving at the planet in 10 years. Casal and Williams suggest that once these late-explorers arrive, they should each receive a share of natural resources that is equal to the share appropriated by each of the early-explorers. They then draw an analogy between these hypothetical late-arriving individuals and children.

While the case of the Gen 2ers is different in important ways from the late-explorers case, the early arrival time of one group of individuals is common to both. In order to hone in on this issue, assume that even though the late-arriving explorers will not be able to make any use of the manna until they arrive, they can monitor the planet, communicate with the original explorers, and even have a weapon that can reach the

⁵³⁶ One of the main potential sources of unjustified discrepancies in incremental benefit is an increase in the level of technology over time (which I have assumed away).

⁵³⁷ Paula Casal and Andrew Williams, "Rights, Equality and Procreation," *Analyse & Kritik* 17, no. 1 (1995): 99-100.

planet in a matter of hours (and the original explorers have a similar weapon that can reach the late-arriving explorers.) These assumptions are meant to ensure the circumstances of justice (on most liberal account of these circumstances)⁵³⁸ and the general preconditions required for having rights are met for both the early-explorers and the late-explorers from the moment the original explorers land on the planet allowing us to focus on the early arrival time.

The earlier arrival time might serve as a reason for unequal manna shares in two ways. First, it might be seen as generating special (i.e. greater) claims to natural resources. For example, some right-libertarian might argue that the early-explorers have special rights in virtue of being the first to be in the process of executing a rational plan of action with the manna.⁵³⁹

However, in Chapter Two I argued against such a right-libertarian notion.⁵⁴⁰ I then argued that on the libertarian view only labor (or actions for which one can be held morally responsible on the liberal egalitarian view) can generate special claims to resources. No one has labored to create or has effort-based⁵⁴¹ claims to the (purely natural) manna. Earlier arrival (as separate from discovery) does not generate any labor-based claims to the manna. Nor does early arrival time by itself have the kind of independent moral weight necessary to establish special claims on the liberal egalitarian

⁵³⁸ Note that I am not taking a position here on the validity of the Humean position that the threat of mutual harm is one of the circumstances of justice. I am simply allowing for this possibility.

⁵³⁹ Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality."

⁵⁴⁰ See Section 2.2.4

⁵⁴¹ I am using effort here as a shorthand for value producing action for which a person can be held morally responsible. I recognize that the extent to which individuals are morally responsible for the effort they put forward is something on which liberal egalitarians disagree.

account. So the libertarian and egalitarian liberal arguments developed in the second and third chapters of this work still apply to support the conclusion that the late-explorers should have claims to natural resources that are equal to those of the early-explorers.

Now, one could concede that the late-explorers have equal natural resource claims, but argue that the best way to respect equal claims is through a first possession system. I dismissed this possibility in Chapter Four.⁵⁴² And note that in the case at hand, even the most plausible (but still unconvincing) arguments for first possession seem inapplicable. The late-arriving explorers (through no fault of their own) clearly do not have any kind of equality of opportunity to appropriate the manna.⁵⁴³ In addition, though they cannot use the manna until they arrive at the planet, the late-explorers are clearly not indifferent over the original explorers' manna appropriation.

Given that the early arrival time does not generate special claims to natural resources and given that equal division is the proper way to respect equal claims, each of the explorers (whether early-arriving or late-arriving) ought to have rights to an equal share of the planet's manna. Since the Gen 2ers did not choose to be born late, their late appearance on the planet is just as morally arbitrary from a liberal egalitarian perspective as the timing of the late-arriving explorers' appearance. Although the case of the Gen 2ers is not fully analogous to that of the late-arriving explorers, the thought experiment of the early and late explorers does suggest that an early arrival time, by itself, is not a sufficient reason to give Gen 1ers more manna than the Gen 2ers.

⁵⁴² See Section 4.4

⁵⁴³ Hillel Steiner, "The Rights of Future Generations," in *Energy and the Future*, ed. Douglas MacLean and Peter Brown (Totowa, NJ: Rowman and Littlefield, 1983), 163.

8.2.2 THE NON-EXISTENCE PROBLEM

However, even if we agree that the late-arriving explorers should receive an equal share of manna, we cannot necessarily infer from this that the Gen 2ers ought to receive an equal share. Though Casal and Williams try to draw a general analogy between late-arriving individuals and children,⁵⁴⁴ there are a variety of important distinctions between the cases. One crucial difference is that the late-arriving explorers *already exist*, and ex hypothesi have the characteristics and powers needed to have rights, when the *original* decision is made about how to divide the manna. The Gen 2ers, on the other hand, do not exist when this decision is made, and, on basically all liberal accounts of the preconditions required for an entity to have rights,⁵⁴⁵ thus cannot be said to have any rights when the manna is originally divided. Steiner, recognizing this point, writes, “Future persons have no rights against present persons. And [future persons] can therefore have no rights that present persons conserve anything for them.”⁵⁴⁶

I contend, however, that the Gen 2ers can press justice-based claims against the Gen 1ers. These claims need not (and indeed cannot) appeal to rights the Gen 2ers have *before they exist*. I concede in this chapter without argument that the Gen 2ers can have

⁵⁴⁴ Among the differences which I have assumed away here are that children are created as a result of their parents' actions. I will return to this difference later.

⁵⁴⁵ Beckermann and Pasek argue that individuals must have interests in order for them to have rights. Beckerman and Pasek, *Justice, Posterity, and the Environment*, 15-23. Steiner argues that they must be able to demand or decline their right to something in order to have rights. Steiner, "The Rights of Future Generations," 154-56. Ackerman argues that an individual must be able to demand justification from others and to defend her own pretension to power in order to be a full-fledged member of the political community. Ackerman, *Social Justice in the Liberal State*, 73.

⁵⁴⁶ Steiner, "The Rights of Future Generations," 156.

no such “pre-existence rights.”⁵⁴⁷ Instead, to think about these claims, I argue that we must take up the perspective of the Gen 2ers *once they have already appeared*.

Admittedly, it is not clear what rights the Gen 2ers have once they appear. We might hold that they have a right to an equal share of natural resources. But does this mean a right to an equal portion of the *total original* manna of the planet or merely a right to an equal portion of the manna that remains *once they appear*? And what if there is no manna left at all once they appear? Do they have a right to anything in that case?

To begin answering these difficult questions, imagine that at the point when the Gen 2ers appear, the Gen 1ers have already consumed half of the planet’s manna. What should be done with the remaining manna? One possibility is that it should be divided equally among everyone who currently exists, with the Gen 1ers receiving half of the remaining manna (on top of the manna they already consumed) while the Gen 2ers can receive the other half of this remaining manna. Another possibility is that the Gen 2ers should be entitled to the entirety of the remaining manna.

I contend that dividing the remaining manna among the Gen 1ers and the Gen 2ers would be unjust. As I argued in Chapter Five, we should not aim at achieving equal division *at every particular point in time*. Rather, I argued in line with Dworkin that we should evaluate equality of shares from a synoptic point of view; ensuring that each person has an equal share of natural resources with which to lead her life. And there is no reason to insist that a person’s lifetime share should be equal only to the share received by members of that person’s generation. Rather, it seems as though it should be equal to the share that *any* of a person’s contemporaries receive (whether in an earlier

⁵⁴⁷ For an argument for this position and for a discussion of theorists who hold the opposite view, see Chapter Two of Beckerman and Pasek, *Justice, Posterity, and the Environment*.

generation or a later generation.) Even though their lives do not *fully* overlap temporally, once the Gen 2ers exist, they each stand in relations of justice to all of their contemporaries (including the Gen 1ers) and can ask that their life be treated with a concern that is equal to the concern shown to Gen 1ers lives

So if the Gen 1ers tried to claim half of the remaining manna, the Gen 2ers could rightly complain. They could argue that this would provide each of the Gen 1ers $3/(4N)$ of the planet's original manna with which to lead their lives while each of the Gen 2ers would only receive $1/(4N)$. If equal concern implies equal natural resource claims and equal natural resource claims are best respected through equal division, and equal division requires (assuming away sources of unjustified discrepancies in incremental manna share benefits) that each person receive an equal amount of manna with which to lead her life, then the Gen 2ers can rightly argue that not granting them all of the remaining manna would fail to treat them with equal concern. This conclusion that the remaining half of the planet's manna should go to the Gen 2ers critically relies on the claim that equal shares should be viewed synoptically and the claim that a person's life should be treated with a concern equal to that given to the lives of any of her contemporaries, even those of a different generation.

A more difficult case arises if we imagine that the Gen 1ers consume *all* of the planet's manna before the Gen 2ers are born. Again, I have already conceded that the Gen 2ers have no rights to the manna before they are born. After they are born, I have argued that they have equal claims to natural resources. But in this example, there simply are no natural resources left once the Gen 2ers already exist. Thus, it seems (counter-

intuitively) that if the Gen 1ers are voracious enough in their consumption of manna, they can avoid sharing any of it with the Gen 2ers.

One response to this kind of problem, taken by Steiner, has been to call into question the property rights of the Gen 1ers to any objects which still exist when the Gen 2ers appear that have been created with the manna. Since the Gen 2ers did not consent to the Gen 1ers appropriation of the manna, Steiner argues they have no reason to respect the titles to the property in the objects that the Gen 1ers created with the manna.⁵⁴⁸ Presumably, to get the Gen 2ers' consent to respect this property, the Gen 1ers' would have somehow to compensate the Gen 2ers, perhaps even by giving them something equivalent to an original share of the manna.

But even if we accept Steiner's controversial argument, it does not lead to a principled commitment to compensation by the Gen 1ers to the Gen 2ers. Imagine that the Gen 1ers simply burn all the manna in order to enjoy the spectacle before any of the Gen 2ers come into being. Since this does not generate any physical property, on Steiner's account there are no grounds for the Gen 2ers to complain. Yet this seems implausible. Intuitively, it seems as though the Gen 2ers should nevertheless receive some resources from the Gen 1ers in this case.

To focus on the fundamental issue at hand, let us assume that though all the manna is gone, the Gen 1ers have, through their labor but without using any manna, created other goods called **widgets**. Further assume that both the Gen 1ers and the Gen 2ers agree that a widget is equivalent in value to one unit of manna. In addition, let us assume for now that each Gen 1er has widgets worth at least as much as $1/(2N)$ of the planet's original manna. The question I want to ask is whether any transfer of widgets is

⁵⁴⁸ Steiner, "The Rights of Future Generations," 159-64.

justified from the Gen 1ers to the Gen 2ers even though all of the manna is gone and the Gen 2ers did not exist when it was originally consumed.

This is a particularly difficult question and is in fact one where the foundation of the equal claims view becomes relevant. From within at least one of the liberal theoretical traditions discussed in this work, I think that no widget transfer is required by justice. In Chapter Two I argued that the equal claims view can be derived very minimally from a commitment to self-ownership and a broader commitment to equal concern. The idea was that natural resources were objects which are not generated by anyone's labor and so while libertarians can generally rely on self-ownership to determine property rights, self-ownership is silent when it comes to the distribution of purely natural resources. In the absence of guidance from the self-ownership principle, the broader commitment to equal concern "kicks in" and dictates that claims to natural resources should be distributed equally.

But in the case at hand, self-ownership is not silent. It very clearly indicates who owns the widgets. And while the principle of self-ownership *had* nothing to say about the *original* distribution of the manna, no Gen 2ers existed when the manna was being distributed and consumed. The manna shares were thus distributed equally to each person who was owed equal concern *at the time*. Note that in the case where half the planet's manna was left when the Gen 2ers appeared, equal concern "kicked in" and dictated that all of the remaining manna should be given to the Gen 2ers. But in the case where no manna is left, self-ownership fully determines the distribution of the resources at hand and so admittedly on this libertarian account, the Gen 2ers would not receive any widgets.

However, other accounts of the equal claims view could require widget redistribution. We could, for example, think of the equal claims view as being based on a requirement that each person should have an equal amount of “labor-free” resources with which to lead her life, a requirement which can sometimes trump self-ownership.⁵⁴⁹ On this account, without a widget transfer, the Gen 1ers would have labor-free resources equal the entire planet’s manna with which to lead their lives while the Gen 2ers would have none. Since *ex hypothesi*, everyone sees widgets as equivalent to units of manna, a transfer of widgets equivalent to $1/(2N)$ of the planet’s original manna from the Gen 1ers to the Gen 2ers would ensure that each person, on net, had an equal amount of labor-free resources with which to lead their lives.⁵⁵⁰

Of course, the widgets are not literally labor-free since they were created by the Gen 1ers labor. But the important point on this account is that *they were not created by the Gen 2ers labor*.⁵⁵¹ So they are labor-free from the Gen 2ers perspective. From the perspective of the Gen 1ers, the widgets are admittedly labor-created resources. But they are being used to *offset* against the larger share of labor-free resources that the Gen 1ers received. The transfer of widgets thus ensures that the Gen 2ers are able to enjoy the

⁵⁴⁹ An interesting question is how to treat gifts of various sorts (including inheritances) when calculating a person’s share of labor-free resources. Gifts are labor-free for the receiver but not necessarily labor-free for the giver and thus one might well think that they raise a different set of normative problems than natural resources. Although some theorists treat inheritances especially in a way that is similar to natural resources, I will not consider this question further here.

⁵⁵⁰ The Gen 2ers receive resources that they view as equivalent to $1/(2N)$ of the original manna stock. The Gen 1ers consume $1/N$ of the planet’s original manna and then have to give up resources that they view as equivalent to $1/(2N)$ of the original manna meaning that over their lifetimes, they are able to enjoy net resources equal to $1/(2N)$ of the original manna.

⁵⁵¹ Admittedly, the fact that the widgets were created by the Gen 1ers labor is relevant insofar as it undermines some of the liberal egalitarian arguments for treating claims to natural resources separately from other undeserved resources. However, it does not undermine all of the arguments since, for example, the widgets do not stand in the same relation to the Gen 1ers as their talents in terms of identity.

same share of net resources that from their perspective are labor-free as the Gen 1ers are able to enjoy.

Such an interpretation of the equal claims view that focuses on labor-free resources could be supported by a variety of liberals. For example, liberal egalitarians could support it based on a commitment to granting each person an equal share of undeserved resources with which to lead her life, combined with arguments that claims to “labor-free” resources should be equalized separately from claims to other undeserved resources.⁵⁵² Left-libertarians endorse the equality of natural resource claims as an explicit, separate normative principle. If they could further endorse the idea that this principle can at times trump self-ownership⁵⁵³ and expand the scope of the principle so that it does not only focus on *physical* natural resources,⁵⁵⁴ then they too could endorse widget redistribution in this case. Although I do not develop an argument for this here, I believe that other liberals could support widget redistribution as well.

Generalizing from the widget example, if no natural resources are available once the Gen 2ers appear, then the Gen 1ers have justice-based obligations to provide the Gen 2ers with property rights to **equivalent resources**. A significant part of the argument in

⁵⁵² Admittedly, the fact that the widgets were created by the Gen 1ers labor is relevant insofar as it undermines some of the liberal egalitarian arguments for treating claims to natural resources separately from other undeserved resources. However, it does not undermine all of the arguments since, for example, the widgets do not stand in the same relation to the Gen 1ers in terms of their identity as the products of particular talents. See Section 3.3.2.

⁵⁵³ The question of the relative weight of the egalitarian natural resource claims principle versus the weight of the self-ownership principle does not arise in left-libertarian writings because they do not consider an example (such as this one) where these two principles can conflict.

⁵⁵⁴ A principle that limits its scope to *physical* natural resources would likely have to argue that the Gen 1ers *did something unjust* when they consumed the planet’s physical manna and so now must provide restitution to the Gen 2ers. It is very difficult to show that this argument can be compatible with the idea that the Gen 2ers do not have rights before they exist. The argument that I am presenting here is that the Gen 1ers did not commit an injustice when they consumed the manna, but *now* that the Gen 2ers exist, equal concern requires that they be given an equal share of labor-free resources.

the rest of this chapter relies on this conclusion. Yet as I have admitted, this is not a conclusion that certain libertarians would endorse. Unfortunately, we have to leave such libertarians behind for the purposes of much of the argument in the rest of this chapter.

However, the significance of this should not be overstated. First, note that the idea that equal natural resource claims can be derived from only self-ownership and a broader commitment to equal concern is not a position that is held by any current libertarian. Rather, it is an argument that I have provided to show that right-libertarians should endorse the equal claims view and that left-libertarians have better reasons than the ones they give for supporting this view. If this foundation for the equal claims view cannot fully justify the obligations of conservation for future people that I hope to derive in this chapter, this is a problem. But it is a relatively limited theoretical problem in the broader scope of this work. Second, libertarians may have separate arguments for conservation that might lead to similar results as those developed here. Finally, the case where one generation consumes all of the planet's scarce natural resources before the second is born is basically only of theoretical interest. A variety of practical obstacles make real world situations far more similar to the case where half the planet's manna is left.⁵⁵⁵ And in this case there is theoretical consensus that the Gen 2ers should get this remaining manna.

Setting aside certain libertarian objections, I have argued that *once they exist* the Gen 2ers have a right to either manna or (if manna is unavailable) to other resources sufficient to equalize the share of labor-free resources that are devoted to the life of each. However, I have not yet shown that liberal justice can generate obligations of *natural*

⁵⁵⁵ This include the sheer difficulty of consuming all the resources at once, the fact that greater extraction is increasingly costly, the financial incentive for producers not to saturate the market at any particular point in time, and the fact that not all natural resources have even been discovered.

resource conservation. After all, on all the views I have explored, the Gen 1ers have been permitted to consume all of the planet's manna before the appearance of the Gen 2ers. Disagreement has only arisen over whether or not the Gen 1ers must then provide the Gen 2ers with equivalent resources. I do, however, intend to argue that there can be justice-based obligations of manna conservation *before* the Gen 2ers are born. However, the discussion of such obligations will have to wait until I have said more about equivalent resources and about the obligations of the Gen 1ers to each other.

8.2.3 THE NON-IDENTITY PROBLEM

Before turning to these issues, there is an important further challenge to the Gen 2ers' claims to resources that must be considered. The assumption that the Gen 2ers simply appear independently of the actions of the Gen 1ers, an assumption which was meant to set aside obligations of parents to their own particular children, has also abstracted from a different problem. Namely, in a more realistic world, the policy that the Gen 1ers pursue may well affect *who* will be born. Since the psycho-physical makeup of new individuals critically depends on which egg is fertilized and which sperm does the fertilizing, very small change in the chain of events (including a policy change) can affect the identity of the Gen 2ers.

The Gen 1ers could seize on this possibility to challenge the analogy between the late-arriving explorers and the Gen 2ers, and thus to call into question the claims of the *particular* Gen 2ers who are born to manna or equivalent resources. After all, the late-arriving explorers' identity does not depend on what policy the early-explorers pursue. So we can straightforwardly think about how different policies will affect the late-explorers' lives and can intelligibly say that the original explorers' over-consumption of

mana harms the late-arriving explorers. However, since different policies may lead to the birth of different individuals, it seems difficult to argue that a depletive policy carried out by the Gen 1ers harms the particular Gen 2ers who end up being born. After all, *those particular* Gen 2ers might well not exist under a different policy. So assuming a life without mana is worth living, The Gen 1ers might argue that the Gen 2ers have no way of claiming to have been made worse off by the depletive policy. If they are not harmed by the policy of total mana depletion, it is difficult to see how they can legitimately claim that the Gen 1ers ought to give them any resources. This is an example of Parfit's well-known "non-identity problem."⁵⁵⁶ In fact, Parfit himself considers this problem in the context of evaluating the justice of a policy that depletes natural resources.⁵⁵⁷

When Parfit discusses the non-identity problem in this context, he focuses on the effects on members of distant generations. The reason seems to be a doubt about whether policy changes would necessarily change the identity of *everyone* born in, say, 10 years. Parfit argues that we can, however, be reasonably certain that the cumulative effects of the small differences created by a policy change would ensure that the identity of virtually everyone, say, two hundred years from now will be different.⁵⁵⁸ Dworkin echoes Parfit's focus on the distant future by holding that, although claims of justice apply among contemporaries, the non-identity problem implies that there cannot be obligations of justice among distant generations.⁵⁵⁹

⁵⁵⁶ Derek Parfit, *Reasons and Persons* (Oxford: Clarendon Press, 1984), 351-79.

⁵⁵⁷ Derek Parfit, "Energy Policy and the Further Future: The Identity Problem," in *Energy and the Future*, ed. Douglas MacLean and Peter Brown (Totowa, NJ: Rowman and Littlefield, 1983).

⁵⁵⁸ *Ibid.*, 170.

How long it would take for a particular policy change to affect the identity of *everyone* who is born is a controversial empirical question that is virtually impossible to answer. Fundamentally, however, there is nothing about the non-identity problem that requires that *everyone's* identity be different. Even a small policy change today can lead to thousands if not millions of wholly different people being born a year from now.⁵⁶⁰ As long as we (hypothetically) have information about who is affected and who is not, we could make an argument for denying the rights to an equal share of manna (or equivalent resources) of those who would not otherwise exist. The non-identity problem can thus be relevant even when considering the natural resource claims of those born a few years or even a few months from now. It thus seems perfectly plausible for the Gen 1ers to appeal to the non-identity problem in order to attempt to deny the resource claims of at least some of the Gen 2ers (those whose sperm and egg combination was influenced by the Gen 1ers manna consumption policy).

In order to consider this argument, let us imagine that the Gen 2ers still simply appear, but that due to some unspecified causal mechanism, the exact psycho-physical make-up of *all the* Gen 2ers is affected by the policy that the Gen 1ers choose with regard to how much manna is consumed. This allows us to consider the non-identity problem while avoiding the complications of the parent/child relationship and the epistemic difficulty of isolating whose identity was in fact affected by the policy.

With this in mind, imagine once again that the Gen 1ers have consumed all of the planet's manna before the Gen 2ers are born, and consider the claims of the Gen 2ers.

⁵⁵⁹ Dworkin, *Life's Dominion : An Argument About Abortion, Euthanasia, and Individual Freedom*, 77-78.

⁵⁶⁰ Although a significant change might be required to ensure that a different egg is fertilized, the change required to affect which particular sperm does the fertilizing seems miniscule.

Parfit would argue the Gen 2ers cannot criticize the Gen 1ers actions by appealing to the effects of the Gen 1ers depletive policy on the Gen 2ers' lives. He argues that the only objection to the policy can come by thinking about the hypothetical individuals who *would have been* born under a less depletive policy.⁵⁶¹

One could attack Parfit's argument here by showing that it has intuitively implausible implications.⁵⁶² However, Parfit might argue that our intuitions are simply not reliable guides in thinking about the paradoxical non-identity problem. Another way to attack Parfit's argument is to show that in general the non-identity problem relies on the wrong idea of harm. Several papers have been written attempting to make this case.⁵⁶³ In this section, however, I aim to show that the non-identity problem simply does not arise in this case because Gen 2ers' claim to manna or equivalent resources does not rely on an argument that they *have been harmed by the depletive policy*.

In order to evaluate whether the Gen 2ers have been harmed, we have to answer the question, harmed relative to what? Answering this question requires taking up the proper temporal perspective. We might be tempted to start thinking about the problem at the point where the Gen 1ers are deciding whether or not to pursue the depletive policy

⁵⁶¹ Parfit, "Energy Policy and the Further Future: The Identity Problem," 174-75.

⁵⁶² Consider the situation where the Gen 1ers come to the planet as couples each of which has two children, and that they do not plan to have any more children given current policies. Now imagine that someone suggests a new policy that any child born beyond the second can rightly be made the slave of her parents (with the caveat that her life must be at least barely worth living.) Given this policy, the couples each decide to have a third child (and assume that under any different policy, they would not have had the third child.) One cannot appeal to the well-being of a different child that *would have been born under* a different policy in criticizing the slavery of the third children. Ex hypothesi, no other children would have been born. So if there is something objectionable about this outcome, the source of the objection must primarily be in how the policy affects the lives of the third children. And if an objection could be made based only on the effects on these third children, then it seems generally that, contrary to Parfit's argument, objections *can* be made that appeal only to the effects on the lives of people who, admittedly, would not have otherwise lived.

⁵⁶³ See for example Rahul Kumar, "Who Can Be Wronged?," *Philosophy & Public Affairs* (2003).

and asking if pursuing the depletive policy will harm the Gen 2ers. But this is the wrong temporal perspective. After all, at the point when the Gen 1ers are deciding whether or not to pursue the depletive policy, the Gen 2ers do not exist and as I have conceded, cannot have any rights that can be violated in any way. They thus cannot be harmed in the relevant sense at this point. To think about the question of harm, we need to start at a later point, one at which the Gen 2ers (whoever *they* turn out to be) already exist.

Consider the justice-based claims of *particular* Gen 2ers who have *already been born after the depletive manna policy* and who are not given any resources by the Gen 1ers. These Gen 2ers can concede that they have not been harmed by the depletive policy. But they could rightly point out that they are *not asking for compensation or restitution for a past harm*. Rather, their claim to resources from the Gen 1ers is based on the idea that they *now* have a claim to an equal share of labor-free resources with which to lead their lives. Though they can concede that they have not been harmed by the depletive policy, they can rightly claim that they are *being harmed now* by not being given the resources they are due on the basis of equal concern. While the non-identity problem can call into question claims for restitution or compensation by those who otherwise would not have existed, it cannot be used to dismiss complaints of *current harm*. And this, I argue, is exactly how the Gen 1ers' refusal to provide equivalent resources to the Gen 2ers should be seen. So the non-identity problem cannot be used by the Gen 1ers to deny the Gen 2ers' resource claims.

There is, however, a nagging problem that arises once we consider the possibility that the Gen 1ers might alter their depletive policy choice *in anticipation* of the Gen 2ers rightful claims to equivalent resources. As I will argue below, providing equivalent

resources can sometimes be very costly. If so, then at the very least the Gen 1ers might have prudential incentives to conserve some of the manna. But if the Gen 1ers conserve some of the manna in anticipation of the Gen 2ers claims, then the *particular* Gen 2ers who would have made the claims to equivalent resources under the wholly depletive policy will not be born. We might think that this places a limit on how strongly the Gen 2ers could press their claims. We might view the particular Gen 2ers who would be born under the depletive policy as *hypothetically consenting* to not pressing their claims to equivalent resources to the point where the Gen 1ers would have had an incentive to actually change the depletive policy that was responsible for those particular Gen 2ers' very existence.

But this idea of hypothetical consent is based on exactly the kind of mistake that Parfit accuses those who ignore the non-identity problem of making. Namely, it requires us to think of individuals as somehow "out there" waiting to be born and able to grant or withhold consent.⁵⁶⁴ Consider *when* this hypothetical consent would have to be given. Once the individuals already exist, they have no reason to consent to limit their claims. They only have a reason to consent to limit their claims *before they are born*. But unless we think of them as being in some realm waiting to be conceived, then it is not at all clear how we can think of them as giving any kind of consent to limiting their future claims. So although the Gen 2ers' identity may well be affected by the policy pursued by the Gen 1ers, this does not undermine the claims of the particular Gen 2ers who are born to an equal amount of manna or equivalent resources.

⁵⁶⁴ See Parfit, "Energy Policy and the Further Future: The Identity Problem." Barry echoes this when he writes of a misguided "tendency to think of [the unborn as] inhabiting 'never never land' while waiting anxiously for the chance to be born." Barry, *Democracy, Power, and Justice : Essays in Political Theory*, 507.

8.3 Equivalent Resources

The next issue is how to determine what constitutes being given equivalent resources when there is insufficient manna left and people cannot agree on what resources count as equivalent. The envy-free condition that was used in Chapter Six to solve a similar problem cannot be used in the multi-generational context because the consumed manna is obviously non-transferable. I argue in this section that since the Gen 1ers have the option to ensure that the Gen 2ers get appropriate resources by leaving sufficient manna for them, the Gen 1ers ought to provide the Gen 2ers with resources that the Gen 1ers could have reasonably anticipated would equalize the share of labor-free resources devoted to the life of each person.

It is important to emphasize that in many cases, granting the Gen 2ers equivalent resources in the homogeneous natural resource case will be straightforward. If there is manna available for sale, a person can simply be given sufficient wealth to buy the amount of manna that she is entitled to (i.e. enough to buy $1/(2N)$ of the original stock). Of course, if the Gen 1ers consume a great deal of manna, the remaining manna is likely to be relatively expensive, and so giving each of the Gen 2ers equivalent resources will be very costly. However, *determining* what resources would count as equivalent is not difficult in this case.

The real problem arises when there is not enough manna available to provide for all the Gen 2ers who want to actually own $1/(2N)$ of the original manna. As long as there is some manna left, this problem is unlikely to occur since the price of manna will keep rising in response to the Gen 2ers attempts to buy it. But if we imagine that there are a

large number of people who are **mana-adorers**, that is, who would value receiving a portion of mana more than any amount of wealth,⁵⁶⁵ a mana shortage could occur even while there is still some mana remaining.

This problem can also certainly occur in the extreme case where the Gen 1ers have consumed all the mana before the Gen 2ers appear. In this case, it will clearly be impossible to simply use the price at which mana is available for sale to determine what constitutes equivalent resources. In earlier sections I avoided this problem by assuming that everyone can agree that some resources (widgets) are exactly equivalent to mana. But it is far more realistic (and problematic) to assume that the Gen 1ers and Gen 2ers will not agree on a single resource that is exactly as valuable as the mana, especially in the absence of a market for mana.

In Chapter Six I argued for envy-freeness as the right standard for determining equality of resource shares.⁵⁶⁶ The problem with extending the envy-free requirement to this case is that the appropriate transfer of resources is not possible. Imagine the Gen 2ers place a far greater value on mana than the Gen 1ers had, and that otherwise their desire for other resources (e.g. the widgets) are the same. After the Gen 1ers consume all the mana, it is impossible to achieve a result where no one envies the labor-free resource share of someone else. We could aim at making the Gen 2ers unenvious by requiring a transfer of widgets sufficiently large to ensure that the Gen 2ers do not prefer the Gen 1ers' bundle ($1/N$ of the mana minus the widgets) to their bundle (the widgets). But this

⁵⁶⁵ This might seem like an extreme assumption. However, it is meant to model the kind of value certain people place on natural resources like the Grand Canyon or certain types of animals. For some people, I think the assumption that they would not accept any amount of money instead of being able to enjoy these natural resources is not so unreasonable.

⁵⁶⁶ See Section 6.1.5

would leave the Gen 1ers envious of the share of the Gen 2ers.⁵⁶⁷ We run into an analogous problem if we try to make the Gen 1ers unenvious through insisting on a small transfer of widgets. The difficulty arises because different individuals place a different value on manna (relative to other resources) and the transfer of manna is not possible in this case (since the manna was already consumed).

What then should be the right standard for equality of labor-free resource shares in this case? One consideration is that the Gen 1ers are in far greater control of the distributive outcome than the Gen 2ers are. While the Gen 1ers can ensure if they want that each of the Gen 2ers will get $1/(2N)$ of manna, the Gen 2ers do not exercise a similar control over the quantity of manna that will be available for the Gen 1ers. So if we are interested in increasing the likelihood that each person will receive an equal share of labor-free resources, it is better to make the party that can better control the outcome responsible for transferring enough resources to make the other envy-free. After all, the Gen 1ers can completely avoid any danger of ending up envious by simply leaving half of the planet's manna for the Gen 2ers.

On the other hand, it seems unappealing to insist that the Gen 2ers should *always* receive enough resources to ensure that they do not envy the Gen 1ers' labor-free resource shares. This would have the effect of strongly discouraging the Gen 1ers from *ever* consuming more than half of the planet's manna, even when their doing so seems intuitively appealing.

Imagine that when thinking about how much manna to consume before the Gen 2ers appear, the Gen 1ers have very good reason to expect that the Gen 2ers will benefit

⁵⁶⁷ Since the Gen 1ers place a lower value on the manna than the Gen 2ers and they value the widgets the same, the Gen 1ers would prefer (in retrospect) the bundle of resources received by the Gen 2ers (the widgets) to their bundle ($1/N$ of the planet's manna minus the widgets).

from the manna far *less* (relative to other resources) than the Gen 1ers would (and imagine that this discrepancy in incremental benefits is justifiable).⁵⁶⁸ If so, then the Gen 1ers would be better off by consuming the manna and giving the Gen 2ers equivalent resources. And the Gen 2ers would be no worse off. It might then seem intuitively appealing to allow the Gen 1ers to consume more than half of the planet's manna in this case.

However, there is always the *possibility* that the Gen 2ers will actually turn out to be manna-adorers. If this turned out to be the case, the Gen 1ers would be reduced to penury by having to transfer enough resources to at least try to make the Gen 2ers unenvious of them.⁵⁶⁹ So even if the Gen 1ers could reasonably place a tiny probability on the outcome that the Gen 2ers would turn out to be manna adorers, they would nonetheless have a prudential incentive based on risk aversion to never consume more than half of the planet's manna. And note that I have implicitly assumed here that the Gen 2ers would be truthful about how highly they valued the manna. If there is no manna left, the Gen 2ers will have an enormous incentive to inflate the value they would have gotten from a physical manna share.⁵⁷⁰

To avoid these problems while still favoring the Gen 2ers, I suggest that the Gen 1ers have an obligation (once the Gen 2ers exist) to provide them with resources that the Gen 1ers *could have reasonably anticipated while they were consuming the manna* would

⁵⁶⁸ Note that if we assume that the discrepancy in incremental benefits from the manna is not justifiable, then the Gen 1ers would be required to share these benefits with the Gen 2ers and thus allowing the Gen 1ers to consume more than half the planet's manna can be anticipated to make both generations better off.

⁵⁶⁹ Imagining that the Gen 1ers buy insurance against the possibility of the Gen 2ers placing a very high value on manna might help. But no insurance (even if we ignore the various problems with this insurance market) would be sufficient to *fully* protect the Gen 1ers in case the Gen 2ers turn out to be manna-adorers.

⁵⁷⁰ Similar problems would arise if we required that individuals receive full compensation for the full sentimental value they placed on objects that were damaged in tort cases. In such a world, taking any action which might cause damage to such a strongly sentimentally valued object could reduce a person to penury. It would place unreasonable and highly costly restrictions on people's actions.

make the Gen 2ers unenvious of the Gen 1ers' share of labor-free resources. This ensures that the Gen 1ers will have every incentive to only consume more than half the planet's manna if they could reasonably anticipate each person (both Gen 1er and Gen 2er) would at least receive resources equivalent to $1/(2N)$ of the planet's original manna. While more could be said about the topic of equivalent resources (e.g. what counts as "reasonable" anticipation), such issues touch on broader philosophical problems, and so I will not explore them in greater detail here.⁵⁷¹

8.4 The Obligation to Conserve

I turn now to considering the obligation of the Gen 1ers to conserve manna for the Gen 2ers. It might seem as though this obligation would straightforwardly follow from the requirement to provide equivalent resources. If the Gen 1ers could reasonably anticipate that a large portion of the Gen 2ers will be manna-adorers for whom no amount of resources would be sufficient to compensate for not having manna, it might seem as though they would have a justice-based obligation to conserve manna for them. But, as I argue in this section, this is not exactly correct. The reason is that the choice of whether to conserve or not occurs *before* the Gen 2ers exist. Since the Gen 2ers have no rights at this point, there cannot be a justice-based obligation *to the Gen 2ers* to conserve manna. However, I argue that once we think of the Gen 1ers individually and carefully delineate each of their obligations to the Gen 2ers after they appear, it becomes apparent that the

⁵⁷¹ One reason for not devoting more space to this problem here is that in the vast majority of real world cases, a significant portion of the natural resource will remain, in which case it will be perfectly clear what constitutes equivalent resources (giving each of the Gen 2ers enough wealth to buy, if they wanted, an equal portion of the resource).

Gen 1ers can have a justice-based obligation *to other Gen 1ers* to conserve natural resources for the Gen 2ers even before the Gen 2ers exist.

8.4.1 A TEMPTING ARGUMENT FOR CONSERVATION

Imagine that at the point when the Gen 1ers are choosing how much manna to consume, they know that a good portion of the Gen 2ers will be manna-adorers. They thus know that if they consume all the manna, they will not be able to provide these Gen 2ers with equivalent resources. Do they have a justice-based obligation to the Gen 2ers to conserve the manna?

It is clear that once the Gen 2ers are born, the Gen 1ers will be unable to meet their full justice-based obligations if they consume all the manna. It also seems clear that the Gen 1ers are acting reprehensibly by knowingly taking an action which will make them unable to meet a justice-based obligation later on. But is this enough to generate a justice-based obligation to conserve the manna?

The problem, as I have mentioned, is that the Gen 2ers have no right to the manna or equivalent resources before they exist. However, we might think this is not a problem. We can imagine a seemingly analogous situation where A enters into a contract to provide B with a certain piece of property to B in 10 years. B does not have a right to the property *until after 10 years are up*. But at the end of 10 years, if A does not have the property, he is properly required to give B equivalent resources. Now, if it is determined that there would be no equivalent resource that A could give B if he fails to deliver the property, A might be rightly prevented from destroying or using the property *before* the end of 10 years. This idea forms the basis for the contemporary legal practice of a

prohibitory injunction.⁵⁷² The injunction against A forcing him to refrain from destroying or consuming the property is *not* based on any rights to the property B has *before* the end of 10 years. Rather, it is justified because 1) it can be foreseen that B *will have* the right to the property and 2) it can be foreseen that A will be *unable* to provide B with appropriately equivalent resources if A destroys or consumes the property before the end of 10 years. We might analogously think that Gen 1ers can be properly prohibited from consuming more than an equal original share of manna on the basis of an analogous argument.

While this analogy has some initial plausibility, it is ultimately flawed. Although it is true that the prohibitory injunction against A is not based on the current *property* rights B has, it is still an obligation grounded in justice that is ultimately based on *some broader right of B's* to the protection of her legitimate interests. Since unlike B the Gen 2ers do not yet exist and have no current interests, they cannot be said (on most liberal accounts of the preconditions for rights) to have even the rights necessary to generate this prohibitory injunction against the Gen 1ers. So while both B and the Gen 2ers lack the appropriate *property* rights at the appropriate time, the Gen 2ers, unlike B, have *no rights at all* at that time.

This is a disappointing conclusion for those interested in securing a liberal justice-based obligation for conservation. However, there are two reasons to be hopeful. First, the difficulty of providing the Gen 2ers with resources that are appropriately equivalent to an equal original share of manna can generate a strong prudential motivation for the Gen 1ers to conserve the manna. By consuming all the manna now, the Gen 1ers will

⁵⁷² Microsoft® Encarta® Online Encyclopedia 2009, "*Injunction*" ([cited April 23 2009]); available from <http://encarta.msn.com>

generate obligations that will reduce them to penury when trying to provide equivalent resources to the Gen 2ers once they are born.⁵⁷³ More importantly, I argue below that the Gen 1ers may well have a justice-based obligation *to each other* to conserve the manna. This argument, however, requires a more detailed account of the obligations of the individual Gen 1ers to the Gen 2ers and in particular, what happens when a particular Gen 1er fails to meet his obligation to the Gen 2ers.

8.4.2 RESIDUAL LIABILITY

So far in this chapter I have followed the lead of other political theorists writing on the topic of intergenerational justice who tend to regard generations as monolithic. To be fair, at some points in an argument, thinking in terms of generations is a useful abstraction to make. Although I have been careful to refer to individuals (e.g. Gen 1ers or members of the first generation) I too have been assuming that the Gen 1ers are acting in some kind of unity (e.g. pursuing a depletive policy.) But this kind of talk, though useful in abstracting from certain complications, is inconsistent with the liberal focus on the individual. It is *individuals* who have rights to use natural resources and it is individuals who have particular obligations. When political theorists worry about the *first generation* consuming all the natural resources, they often do not actually mean there was some collective policy binding on all the members of the first generation that individuals must consume all natural resources. Rather, they are talking about the ways in which individuals choose to exercise their natural resource property rights. Similarly,

⁵⁷³ Simply because it is impossible to fully provide equivalent resources to the Gen 2ers does not release the Gen 1ers from the obligation to try. There may in fact be side constraints that provide a limit to the obligations of the Gen 1ers to the Gen 2ers (e.g. prohibitions against slavery, concerns about abject poverty). However, it seems clear that if the Gen 1ers knowingly consumed the manna while knowing that the manna-adorers with rights to equivalent resources that they will not be able to meet are going to appear, they will certainly not lead a comfortable life.

when they speak about the obligation of the *first generation*, they do not mean some obligation of some collective body, but rather they are referring to the obligations of each of the individuals making up the first generation. While talking in terms of generations is a useful abstraction, eventually it is necessary to examine the rights, incentives, and obligations of each of the individuals who make up a particular generation. Doing so can illuminate certain obligations that cannot be seen simply by looking at intergenerational obligations.

Once we consider the Gen 1ers as individuals, the first questions that arise are who exactly has an obligation to which Gen 2er, and what is the content of these obligations? If Gen 2er are *not* born to particular parents (as we have been assuming so far), there seems to be no reason why any particular Gen 1er should have a special obligation to a *particular* Gen 2er. It seems uncontroversial to hold that each of the Gen 1ers has an obligation to contribute equally towards meeting the legitimate claims of each of the Gen 2ers once they are born. Since each of the Gen 1ers received an equal amount of manna ($1/N$ of the planet's original manna), the ultimate goal of ensuring that each person receives an equal share of labor-free resources with which to lead their lives will best be met by equally sharing the burden of providing for the Gen 2ers. Otherwise, we might have one Gen 1er responsible for providing equivalent resources for a manna-adoring Gen 2er while another Gen 1er is responsible for providing resources for a Gen 2er who does not particularly value manna. These two Gen 1ers will clearly not have received an amount of net labor-free resources with which to lead their lives.

The next question is what happens when one of the Gen 1ers fails to meet her obligation to the Gen 2ers? I argue that the other Gen 1ers bear a responsibility for

making up at least part of the shortfall for the Gen 2ers. That is, Gen 1ers bear a residual liability for the Gen 2ers' claims even after contributing their equal portion to meeting these claims.

Imagine that there are only two Gen 1ers, Anthony and Agnes and to avoid using fractions throughout this long example, let us assume there are 24 units of manna on the planet. Initially, Anthony and Agnes each receive 12 units of manna. Anthony decides to save 6 units in order to ensure be able to meet his portion of the obligation to the Gen 2ers. He also decides to turn the other 6 units into a manna preserve for his personal enjoyment. Agnes on the other hand, decides to consume all of her manna. When the Gen 2ers appear (call them Ben and Beatrice), they each rightly demand 6 units of manna or equivalent resources. Anthony dutifully turns 3 units of manna to Ben and the other 3 units of manna to Beatrice. So Beatrice and Ben now each have half of their claims. When they ask Agnes for the other half or equivalent resources, she points out that she has no manna and directs them back to Anthony. Anthony objects that he has already borne his equal share of the obligation to the Gen 2ers. If Agnes has no manna, he argues, she needs to contribute resources equivalent to 3 units of manna to both Ben and Beatrice.

As long as Agnes can do this, there is no particular problem. But imagine that Agnes does not have sufficient resources to meet Ben and Beatrice's demand for equivalent resources. This generates an interesting situation that pits legitimate claims against each other. Anthony can rightly argue that he has already contributed half of Ben and Beatrice's share and that the other half should be contributed by Agnes. Beatrice and Ben can argue that equal concern requires that they should also receive 6 units of the

original planet's manna, not 3. Clearly, Agnes is to blame in this situation. But ex hypothesi there may simply be no morally acceptable way of making Agnes provide equivalent resources to Ben and Beatrice.⁵⁷⁴

Deciding how *exactly* to resolve this situation is beyond the scope of this work. But I want to argue that Anthony should be forced to provide at least *some* more manna to Ben and Beatrice. The general situation where individuals have legitimate claims to resources that cannot be met by the person with the duty to provide for these claims is not so unusual. For example, it often happens that though someone suffers harm through no fault of their own in a tort case, they cannot receive sufficient compensation because the person who was responsible for the harm simply has insufficient funds to meet their legitimate claims. There is a case to be made that in such cases, the rest of society should contribute at least part of the shortfall.

There are, however, important objections to this proposal. First, we often cannot be sure that the victim could not have avoided the harm by taking greater care either to protect herself or to avoid dealings with those who do not have sufficient means to compensate her in case of harm. Second, without a very clear account of what is due to the victim, those making the determination of compensation might be tempted to overcompensate the victim (especially since for some harms, no amount of money can make a person whole again). If Agnes were to commit a general tort against Ben and Beatrice, Anthony might appeal to these arguments to justify not contributing to compensating Ben and Beatrice even though Agnes cannot compensate them.

⁵⁷⁴ We may be unwilling to violate some moral side constraints (e.g. we are unwilling to force Agnes into servitude to Beatrice and Ben). And it is possible that even if there were no moral side constraints, Agnes would still be unable to meet Ben and Beatrice's claims.

But in the case at hand, Anthony cannot appeal to such arguments. First, at least in this case when there is manna left (Anthony's manna preserve), what is required to meet Ben and Beatrice's obligations is very well-defined. More importantly, unlike the tort case, Ben and Beatrice could not have in any way avoided the current situation in which there is a shortfall in what they are rightly owed. Their (unsatisfied) claim was generated simply by virtue of them being born.

In fact, Ben and Beatrice's case for manna from Anthony may be even stronger if it is the case that Anthony had the duty and the power to prevent Agnes from wasting her manna. However, since it is not clear what Anthony's obligations would be in this case, I will ignore this line of argument for now (since it is complicated and even without it, it seems as though Ben and Beatrice have a strong case for Anthony sharing some more manna with them.)

This does not necessarily mean, however, that Anthony should give up his entire remaining manna to Ben at Beatrice. After all, this would mean that Anthony would have less manna to lead his life than Ben and Beatrice do. But Ben and Beatrice may be justified in asking Anthony to give up to another 2 units of manna of the planet's original manna (on top of the 6 units he has already given up.) This would ensure that Anthony, Ben, and Beatrice each receive 4 units of the planet's manna to lead their lives (while the profligate Agnes receives 12 units of the planet's manna.)

I will not take a position on exactly how much manna Anthony should have to give up. For my purposes, it is enough that he should have to give up something. And I think the case for him giving up something is strong. After all, although it is not necessarily Anthony's fault that Agnes did not save her manna, it is certainly not Ben or

Beatrice's fault either. So it does not seem right that they alone should bear the full burden of the consequences of Agnes's irresponsibility (by receiving only 3 units of the planet's manna each while Anthony enjoys 6). Rather, it seems that Anthony should bear some *residual liability* in case that other Gen 1ers (such as Agnes) do not meet their responsibility to the Gen 2ers.

8.4.3 DERIVING AN OBLIGATION TO CONSERVE

This residual liability on the part of each of the Gen 1ers to meet at least part of the shortfall in the claims of the Gen 2ers forms the basis of an overlooked justice-based obligation on the part of Gen 1ers to conserve natural resources for the Gen 2ers.

Although it is an obligation to conserve resources *for the Gen 2ers*, it is *not an obligation which is owed to Gen 2ers*. Rather it is owed to other Gen 1ers who can rightly demand that they not be put in a situation where they are forced to enjoy fewer natural resources than the potentially profligate fellow Gen 1ers.

In the example discussed above, Anthony can rightly demand that Agnes bear her fair share of the obligation to the Gen 2ers. Anthony could make the following argument:

- 1) Beatrice and Ben will appear and will have legitimate demands for manna or equivalent resources
- 2) Each person should only bear an equal portion of the burden for providing for the legitimate claims of the Gen 2ers
- 3) If Agnes fails to provide manna or equivalent resources to Ben and Beatrice, Anthony will have to bear more than his equal portion of the burden for providing for the Gen 2ers.
- 4) Therefore, Agnes must either refrain from using one half of her manna or must set aside sufficient equivalent resources in order to ensure that Anthony does not bear more than his fair share of the burden.

This argument can generate obligations of *manna conservation* if we assume that Anthony and Agnes can predict that Ben and Beatrice will be manna-adorers and so there would simply be no resources that are equivalent (in the envy-free sense) to manna. In this case, there would be no way for Agnes to provide appropriately equivalent resources to Ben and Beatrice and so Anthony would have the right to insist that Agnes refrain from consuming half of her manna share (i.e. that she conserve 6 units of manna for Ben and Beatrice.) Generalizing this argument to the case of the Gen 1ers and Gen 2ers, assuming every the Gen 2ers can be predicted to be a manna-adorer, the Gen 1ers would have obligations to each other to each conserve $1/(2N)$ for the each of the Gen 2ers (i.e. half the planet's manna in total.)

There are several things to note about this conclusion. First, I have shown there can in fact be justice-based duties on the parts of members of earlier generations to conserve natural resources for members of future generations. The content of these duties involves conservation for future people but the obligations themselves are owed to contemporaries. Second, a person can always meet these obligations by forbearing from consuming an appropriate portion of her manna so there is no concern that I have introduced obligations that are impossible to fulfill. Third, these obligations of conservation are sensitive to the expected preferences of the future people. If it can somehow be predicted that Beatrice and Ben will value manna in purely economic terms, there is no need for Anthony to insist that Agnes save actual physical manna. She can also save some resources that can be predicted to be equivalent for Beatrice and Ben. This is intuitively appealing. We would want not to force the first generation to conserve

natural resources that they might find extremely valuable if it is likely that the next generation would be perfectly satisfied with some equivalent resources.⁵⁷⁵

There is, however, an important problem. If we imagine that there is only one Gen 1er, she will have no obligation to conserve manna. More importantly, in the case of multiple Gen 1ers, they can all mutually agree to release each other from the obligation to conserve. It thus seems that the obligation to conserve that I have developed is an obligation to the wrong party.

There are several responses to this objection. First, I by no means deny that even the single Gen 1er has a *moral* obligation to conserve manna for the Gen 2ers. And she also has a more general moral obligation to not put herself in a situation where she will not be able to meet her justice-based obligations which she violates through her profligate behavior. Second, by not conserving any manna for the manna-adoring Gen 2ers, she condemns herself to a future life of penury since any extra wealth she accumulates above some moral minimum would go to the Gen 2ers. This gives her strong prudential motivations to conserve. In the more realistic case of the multiple Gen 1ers, *every* Gen 1er would have to be willing to accept this life of penury and be willing to commit these moral wrongs in order for the justice-based obligations to be mutually renounced. And this would never occur in the real world. So while I have not derived an obligation to conserve natural resources that applies in all possible cases, this may be the best that can be done given the liberal ideas about the circumstances of justice. And it is more of a justice-based obligation of conservation than liberals have previously acknowledged.

⁵⁷⁵ The issue of anticipating future people's preferences requires a discussion of heterogeneity in the multigenerational context. Such a discussion is beyond the scope of this chapter

8.5 Multiple Generations

So far I have developed the theory in the context of a simple two-generation case. In this case, I have argued both that future people have rights, once they exist, to an equal share of natural resources or equivalent resources and that under certain circumstances, current people have an obligation (to each other) to conserve natural resources for future people. However, one of the thorniest problems in addressing the question of the rights of future people from the liberal perspective has been showing why a particular collection of individuals has any obligations to respect the rights of those whose lives do not overlap with theirs temporally. I refer to these individuals as members of distant generations or **distant future people**. Many theorists have concluded that there can only be broader moral obligations (e.g. humanitarian ones) to these distant future people, not obligations of justice.⁵⁷⁶ However, I argue that once the fact of overlapping generations is taken into account, it can be shown that contemporaries have justice-based claims to each other to conserve resources for even members of distant generations.

Brian Barry uses a powerful analogy to discuss the question of intergenerational justice. He sees generations as analogous to individuals placed on islands which are situated along an ocean current. Goods can be dispatched only down-current. Barry rightly questions whether obligations of liberal justice can apply in such a situation.⁵⁷⁷

Indeed, if generations were like individuals on the islands that Barry describes, then it might be plausible to think that there are no intergenerational obligations of justice (at least not on many liberal account of the circumstances of justice.) But generations overlap, and though Barry as well as Beckerman and Pasek think they can safely abstract

⁵⁷⁶ For example, see Beckerman and Pasek, *Justice, Posterity, and the Environment*, 107-08.

⁵⁷⁷ Barry, *Democracy, Power, and Justice : Essays in Political Theory*, 499.

from this important fact, I argue that this overlap is crucial for evaluating whether or not current individuals have justice-based obligation to conserve resources for members of distant generations.

Not all theorists have abstracted from the fact that generations overlap. For example, contractarian libertarians like David Gauthier have appealed to the overlap between generations as a key reason for why members of distant generations can hope to have natural resources when they are born as a matter of justice. Gauthier argues that there is an agreement about (among other things) natural resources between all the generations that overlap at a particular time. He then argues that this agreement would be stable over time and gets extended to the members of the new generation as they reach the proper age. This agreement ensures that the oldest generation does not take too many natural resources relative to the currently alive youngest generation. And since it is stable over time, it ensures that generations continue to conserve natural resources. It thus ensures that even distant generation will have natural resources once they became the youngest generation.⁵⁷⁸

However, Avner de-Shalit rightly criticizes this theory. He points out that if we merely rely on power, it is unlikely that the agreement would work in the way Gauthier describes. Although de-Shalit has several criticisms of this view, the most powerful is that there is no reason why all the currently alive people could not agree to simply use up all the planet's resources (e.g. simply burn the manna for the spectacle.) It may be true that previous generations have saved the manna for them. But these previous generations are dead and have no more power. It is also true that the current generations will have to

⁵⁷⁸ For a summary of Gauthier's position and a criticism of it, see De-Shalit, *Why Posterity Matters : Environmental Policies and Future Generations*, 89-99.

face future generations in a bargain over the planet's remaining meager resources. But at that point the burned manna will be gone and no longer "on the table" so to speak. If the relative power of the parties is what rightly determines how the remaining meager resources should be allocated, then it is unclear that the newly born individuals (who were not around when the manna was used up) would receive any compensation for the fact that the manna was gone.⁵⁷⁹ Although I think Gauthier is right to think about the fact that generations overlap, overlapping generations will not be sufficient to lead to conservation in a theory which uses the bargaining power of the different parties to determine the requirements of justice.

However, I do think within more principled liberal framework, the fact of overlapping generations combined with the other liberal theoretical commitments can protect the rights of distant generations. To see this, imagine that there will be four generations on the manna planet, the Gen 1ers, the Gen 2ers, the Gen 3ers, and the Gen 4ers. Also assume that each generation overlaps temporally only with the adjacent generation(s). So for the Gen 1ers, both the Gen 3ers and the Gen 4ers are "distant". Again, I will continue to assume for now that all members of a generation simply appear fully grown at the same time (rather than being born to particular parents).⁵⁸⁰ I will continue to assume that there are an equal number (N) of individuals in each generation.

To focus on the issue of conservation, let us assume for now that it can be anticipated that every individual born will be manna-adoring. In the two-generation case,

⁵⁷⁹ Ibid., 96.

⁵⁸⁰ Alternatively, one could assume that parents have particular children but hold the position that everyone ought to be equally responsible to provide for the claims of future people. I continue to make the spontaneous generation assumption both for simplicity and because I generally support the parental responsibility position (and so would rather not use an example where children are born as the result of certain parental decisions yet the parents are not responsible).

each of the Gen 1ers was required to conserve half of her original share of manna (i.e. consume $1/(2N)$ and save $1/(2N)$ for the next generation). The extension to four generations seems straightforward. The Gen 1ers divide the manna among themselves but now they only consume $1/(4N)$ of the manna and pass on the other $3/(4N)$ to the Gen 2ers who each consume $1/(4N)$ and pass on the remaining portion to the Gen 3ers who each consume $1/(4N)$ and pass the final quarter to the Gen 4ers who each also consume $1/(4N)$ of the manna. This solution is suggested by the requirement of transitivity. If each generation's members are entitled to the same amount of manna received by the members of the previous generation, then it seems that, by transitivity, the Gen 4ers will be entitled to the same amount of manna as the Gen 1ers.

But there is an important objection here. Each generation only overlaps with temporally adjacent generations. So the circumstances of justice (on at least the Humean account) only ever apply between adjacent generations. It is not immediately obvious what obligations the Gen 1ers could have to the Gen 3ers since their lives do not overlap.

Imagine that one of the Gen 1ers suggests that he and his fellow Gen 1ers should each consume $1/(2N)$ of the manna instead of $1/(4N)$. They will still, he argues, be able to provide an equal share to anyone who lives at the same time as them (i.e. the Gen 2ers). They will thus be able to meet their obligation of justice.

However, there is an important flaw in this logic. To see the problem, imagine that the Gen 1ers proceed to turn "their" $1/(2N)$ of planet's manna into beautiful manna preserves for their own exclusive personal use which they plan to destroy at the end of their life. When the Gen 2ers appear, the Gen 1ers dutifully hand over to each of them $1/(2N)$ of the planet's manna (i.e. the same share as they used themselves.) The Gen

2ers, however, could rightly complain. They could rightly point out despite appearances, they have not been given an equal share of manna with which to lead their lives. After all, they could point out that when the Gen 3ers arrive, the Gen 3ers are going to rightly demand from the Gen 2ers a part of the manna that the Gen 2ers received, and this is a demand that the Gen 1ers will not have to face since they will already be dead. Since the Gen 2ers will have to share some of their manna with the Gen 3ers they will not be able to enjoy the full half of the planet's original manna that the Gen 1ers left them and thus will have less manna with which to lead their lives than the Gen 1ers did.

Faced with this complaint, the Gen 1ers might offer to hand over an additional $1/(6N)$ of the manna to each of the Gen 2ers. This way the Gen 2ers could each keep $1/(3N)$ for themselves and give $1/(3N)$ to the Gen 3ers when they appear to satisfy the Gen 3ers' demands. But the far-sighted Gen 2ers would rightly point out that this is not sufficient. This is because the Gen 3ers will not only demand $1/(3N)$ of the manna. After all, the Gen 3ers will have the legitimate demands of the Gen 4ers to contend with. The Gen 2ers would rightly argue that in addition to the $1/2$ of the planet's original manna that the Gen 1ers were planning on giving them, they need another $1/4$. This would allow them to consume a fourth themselves (which is what the Gen 1ers would then consume) while meeting the legitimate needs of the Gen 3ers who would rightly demand $1/2$ of the original planet's manna so that they could consume $1/4^{\text{th}}$ and give the Gen 4ers $1/4^{\text{th}}$ as well. This is exactly the original solution suggested by the requirement of transitivity.

So the Gen 1ers have an obligation *to the Gen 2ers once they appear* to provide enough manna (or equivalent resources) to ensure that all the remaining generations are able to consume a share that is as large as each of the Gen 1ers. Although the Gen 1ers

will never directly have to confront the demands of the Gen 4ers, they will have to confront the demands of the Gen 2ers who can anticipate that they will have to confront the demands of the Gen 3ers who can anticipate that they will have to confront the demands of the Gen 4ers. If we assume that individuals in all generations are manna-adorers, and we consider the obligations of the individual Gen 1ers to each other, we can, as before, derive duties on the part of the Gen 1ers to conserve manna for the Gen 4ers. The logic used in this four generation example could be extended to any number of generations as long as the generations are connected by a chain of overlapping generations.

Now there is an objection that once we consider a very large number of generations (approaching infinity), each generation's members will only be able to use a miniscule amount of natural resources.⁵⁸¹ One possible response to this problem is that it is a particular artifact of assuming that the individuals simply appear rather than being born to particular parents. As I argue below, this objection does not apply to the case where children are born to particular parents and we hold that there is parental responsibility for providing them with resources. However, a second response is that there is nothing particularly disturbing about this outcome from the perspective of justice. If a new batch of individuals simply appear over time for a very long time independently of anyone's actions, it is indeed true that each individual will only be able to consume a very small amount of manna. But since arrival time has no normative significance in terms of justifying differential shares of manna (as I argued in an earlier section) this situation does not seem to be different normatively from one where there are simply a

⁵⁸¹ Michael Otsuka is one of the many theorists to point out this problem. See Otsuka, "Self-Ownership and Equality," 164.

very large number of initial explorers on the planet but no future individuals come into being. In such a situation, each individual would rightly be entitled to an equal (though minuscule) portion of natural resources. Although the paltriness of individual manna shares is unfortunate, there is nothing particularly unjust about this outcome.

Another objection is that we have to predict the number of future people in order to know how much manna each person can use today. And this is something that is nearly impossible to predict. The first response is that we will simply have to take our best estimate. Surely, the response cannot be to simply ignore our obligations to conserve altogether or pretend that these obligations do not exist. The second response is that this problem too is an artifact of the unrealistic assumption that children simply appear. One of the conclusions that I draw in the next two sections when considering the case of parental responsibility is that the need to predict the total number of future people is far less pressing when parents are viewed as having the core obligation to meet the natural resource claims of their children.

8.6 Parents and Children

Thus far, I assumed that the Gen 2ers simply appeared and so I effectively assumed that each of the Gen 1ers shared an equal responsibility for providing manna (or equivalent resources) for the Gen 2ers. But of course, children do not simply appear spontaneously. Instead their existence is due to the actions of particular individuals who are already alive. In this section, I argue that a commitment to equal concern and liberal neutrality imply that it is the parents who have primary obligation to provide for their children's natural resource claims. However, I hold that other individuals have residual

liability for any child's claims not met by her parents. Analogously to the case above, this residual liability on the part of non-parents can serve as the basis for a justice-based parental obligation (to other adults) to conserve natural resources for children even before they are born.

Imagine that there are four Gen 1ers and that they form two couples. Adam and Eve (A&E) constitute the first couple and Bill and Fran (B&F) constitute the second. Again, to simplify the situation and consider the obligations of conservation, let us imagine that all current and future people can be anticipated to be manna-adorers. Further imagine that the couples decide they want nothing to do with each other. They simply want to justly divide up the planet's manna and lead their separate lives.

However, the just division of the planet's manna depends on what assumption we make about future people and how we view the allocation of responsibility to meet the manna claims of those people. The question I now want to consider is how the manna is to be divided in the case where offspring are born due to the actions of particular Gen 1ers (i.e. the parents). I will continue to assume that the offspring appear fully grown.

Assume that the couples have different preferences with regards to children (and there is no conflict of preferences within either couple.) A&E are looking forward to having two children together. B&F do not want to be encumbered by children. They would like to spend their time pursuing their other interests instead. Imagine that there is no doubt that A&E will have exactly two children and that we know that their children will have no children. Initially, each person on the planet receives $1/4^{\text{th}}$ of the planet's manna. However, A&E argue that since it is known that two manna-adoring children will be born, B&F should have to conserve and then transfer sufficient manna to ensure

that each person (Adam, Eve, Bill, Fran, and the two children) will effectively have $1/6^{\text{th}}$ of the original manna with which to lead their lives. That is, Adam, Eve, Bill, and Fran should each conserve and then transfer to the children $1/12^{\text{th}}$ of the original manna.

However, B&F may well object to having to share the burden of providing for A&E's children. They might point out, in line with Eric Rakowski, that, "It is ... unjust to declare ... that because two people decide to have a child, or through carelessness find themselves with one, *everyone* is required to share their resources with the new arrival, and to the same extent as its parents."⁵⁸² They could argue that A&E should have full responsibility to provide manna for their own children. That is, Bill and Fran could argue that they should each be able to consume the full $1/4^{\text{th}}$ of the original manna that they are given.

A&E might provide several responses to B&F contention. First, they could argue that B&F will benefit from the birth of their children in various ways, and in particular, the children could increase the value of B&F's manna.⁵⁸³ But B&F might well point out that they want nothing to do with either A&E or their children, either in terms of market transactions or in terms of other forms of social cooperation. They are content, let us assume, to simply stay on their part of the planet and consume their rightful share of the planet's manna. The question of how more general positive and negative externalities from the birth of children ought to be handled is interesting, but is beyond the scope of this chapter (which is the reason I make this isolation assumption.)

A&E might also argue that B&F have no right to deny the children a claim to as much manna as B&F had. Thus, if B&F receive $1/4^{\text{th}}$ of the original manna each, the

⁵⁸² Eric Rakowski, *Equal Justice* (Oxford Oxford University Press, 1991), 153.

⁵⁸³ Casal and Williams, "Rights, Equality and Procreation," 102.

children ought to receive this amount as well. B&F would happily concede this point. They would argue that the children are certainly entitled to $1/4^{\text{th}}$ of the original manna. That is, to a share as big as B&F were given. But they would insist that it is Adam and Eve who must provide them with this manna.

But A&E might complain that if they want to have two children, this means that they cannot consume any manna at all themselves. They would have to give each of their children $1/4^{\text{th}}$ of the original planet's manna (i.e. in total, their entire share.) This, they might complain, would deny them an equal share of manna with which to lead their lives. A&E could point out that even if they only had one child whose manna claims they had to meet, they would not have as much manna to lead their lives as B&F do.

But B&F would point out that A&E are making a crucial mistake in their manna calculation. Namely, A&E are not counting the manna they give to their children as manna they are using to lead their life. Yet it seems as though they should. After all, A&E *choose* to have the children. Just as B&F's various interests cost manna, having a child costs manna as well. To be sure, the manna cost of a child is a different type of cost; it is a justice-based cost rather than a physical cost. But B&F could point out that many of their activities also have such justice-based costs. They have to buy a car that meets certain emission standards or make sure that their pets are properly immunized. These things cost them resources (let us assume manna) that could have been used for other purposes. Having children is admittedly an activity that "costs" a great deal of manna that could be used for other purposes. But the large magnitude of the cost and the fact that it is not a physical cost do not seem to be reasons for not counting the manna

used to meet the children's claim as part of the share of manna with which the parent can lead her life.

A&E might object that B&F cannot compare buying a car and raising pets to having a child. There is a much greater moral importance, they would argue, to having a child than these other activities. B&F would respond that certainly having a child is a unique moral activity since it creates a being with justice-based claims of her own. But this does not demonstrate that it is somehow a worthier goal in life than raising pets and pursuing other interests. In any case, the commitment to liberal neutrality forbids the government from basing obligations on the idea that having children is a more morally worthy activity. Since A&E are rightly unwilling to share the costs of raising B&F's pets or funding B&F's travel around the planet, B&F also can rightly reject sharing the cost of A&E's choice of having children.

The implication of this argument is that A&E have sole responsibility for providing for their children's manna share (or equivalent resources). However, just as in the example of Agnes and Anthony, it is true that if A&E cannot provide for their children's manna claims, B&F will have some residual obligation to do so. Again, it is certainly not the child's fault that her parents have not provided for her natural resource claims. Just as in the case of Ben and Beatrice, Adam and Eve's children seems to have a strong case for receiving at least some of the shortfall in their manna shares from other adults who had more manna than them with which to lead their lives (i.e. Bill and Fran). As before, B&F's residual liability can serve as a basis for B&F's right that A&E conserve manna for their children even before those children are born.

There are several things worth noting here. First, a complete defense of the idea that parents are always *fully* responsible for the natural resource claims of their children is beyond the scope of this work. Although I am generally sympathetic to the claim that people should not be forced to contribute to the natural resource claims of others' children, I recognize that in some cases parents should not be held responsible for the claims of their children.⁵⁸⁴ The spontaneously generated Gen 2ers case can be thought of as modeling no special parental responsibility (I will refer to this as the case of **shared responsibility**).⁵⁸⁵ That case shows that the central conclusions of this chapter (that future people have rights to natural resources and that there is an obligation to conserve natural resources) do not depend on the thesis of parental responsibility for children's claims.

However, a comparison of that case to the Adam and Eve example also shows that insisting on parental responsibility has enormous distributional consequences. If we were to assume that Adam and Eve bear no special responsibility for their children's manna claims, then each person (Adam, Eve, Bill, Fran, and the two children) would receive $1/6^{\text{th}}$ of the planet's manna (or equivalent resources) with which to lead their lives. If we assume that Adam and Eve are responsible for their children's claims, then each person receives $1/4^{\text{th}}$ of the planet's manna with which to lead their lives. This is a consequence of the idea that B&F should not have to bear the cost of A&E's children combined with a commitment of granting to the children the same share as any of the adults. Again, the reason this does not add up to more than the total manna of the planet

⁵⁸⁴ To take an extreme example, a parent who was raped should not be held responsible for meeting the natural resource claims of her child.

⁵⁸⁵ Although I do not do so in this chapter, the case of some parental responsibility could be developed as a particular hybrid of the full responsibility case and the spontaneously generated children case.

is that the $1/4^{\text{th}}$ that Adam and Eve have is the same $1/4^{\text{th}}$ (physically) that each of their children has. Adam and Eve have chosen to use their share of manna to have children (each of which has a justice-based manna cost of $1/8^{\text{th}}$ of the original manna from each parent). In the parental responsibility case, however, Adam and Eve are admittedly unable to *physically consume* any manna themselves.

Note that if we take Bill and Fran's right not to have to share the burden of providing for the natural resource claims of Adam and Eve's children seriously, we can quickly be led to the conclusion that B&F, at some point, have the right to demand that A&E stop having children (i.e. when they no longer have the resources to meet their children's justice-based claims.) Now actually implementing this proposal may run into other justice-based constraint (e.g. we may not be willing to forcibly require Adam and Eve to become sterilized or be kept apart). However, if we assume a perfectly costless, non-invasive contraception method, we might think that B&F have the right to insist that A&E use this method.

This might still seem disturbing. But note if A&E forbear from using their manna for other purposes, they will be able to have two children. In addition, if there is injustice in the distribution of non-natural resource wealth that forces A&E to use up their manna for other purposes, this would certainly affect the situation. These are complex and controversial issues which are important to mention here, but whose full discussion is far beyond the scope of this work.

8.7 Parental Responsibility and Multiple Generations

Having discussed the parental example in the case of two generations, I turn now to considering how parental responsibility works in the multiple generation case. I argue in this section that the presumption of parental responsibility does not affect the conclusion that currently alive individuals have obligations to conserve natural resources for distant future people. In fact, in some ways it makes this argument more robust. It also mitigates some of the problems that plagued the shared responsibility case (in particular the need to know the total number of future people to determine how much manna each person receives.)

Consider again the case of four generations now assuming children are born to particular parents. Assume that each person has two children except for the members of the 4th generation who have no children at all (and so the population of each generation is again N). Again assume that it can be predicted that every person born will be a manna-adorer, that generations overlap only with the adjacent generations, and that new individuals emerge fully grown.

Again, we can appeal to transitivity and the fact of overlapping generations to extend the distributional outcome of the two generation parental responsibility case to the multigenerational parental responsibility case. When we do so, we see that each of the $4N$ people receives $1/N$ of the original manna with which to lead their lives. Again, this does not add up to more than the planet's manna because the share of each of the parents is also the same physical manna as the share of their children. In addition, note that no one except the Gen 4ers uses the manna for any purpose besides providing for children. This contrasts with the shared responsibility case where each person only receives $1/(4N)$

of the original manna with which to lead their lives (which they use for purposes that do not necessarily have anything to do with the next generation.) The reasons for these differences are the same as the reasons for the differences between shared responsibility and parental responsibility in the two generation case.

Note that the objection about each person receiving only a miniscule portion of natural resources does not apply. Each person in the parental case has $1/N$ of the planet's manna with which to lead their life regardless of how many generations there are. Again, the decision to have a child is a natural resource-using activity (and a very expensive one at that.) However, it still might seem disturbing that any parents (or two children) cannot actually consume any manna. I discuss this issue below.

Note also that the uncertainty about the number of future people is not nearly as large a problem in the parental responsibility case as in the shared responsibility case. When everyone is a manna-adorer, we can safely assume without affecting the requirements of justice that the Gen 1ers cannot even estimate the number of children the Gen 2ers will have. This is because the entire manna conservation obligation of a particular parent is to her children. It is her children's decision whether to have children themselves (thus creating new manna provision obligations.) So unlike the shared responsibility case above, there is no manna that is effectively being "set aside" for distant generations and thus no pressing need to predict the number of future people who will exist throughout time (as long as the Gen 1ers actually leave the Gen 2ers $1/N$ of the manna). However, if the Gen 1ers want to provide equivalent resources to the Gen 2ers instead of manna (in the case where the Gen 2ers are not manna adorers), they will likely need to predict the number of children the Gen 2ers will have (and these children's

natural resource preferences). A full discussion of this issue is beyond the scope of this work.

The fact that a parent's manna provision obligations are only to her own children also makes it hard to see how the problem of distant generations can even arise. In the case of shared responsibility, each of the Gen 1ers consumed $1/(4N)$ of the manna and passed the rest of the manna to the Gen 2ers in order to ensure that the Gen 2ers could meet the manna claims of the Gen 3ers and the Gen 4ers. The fact that the Gen 1ers were effectively setting aside manna for the Gen 4ers generated a temptation (which I argued was unjust to indulge) for the Gen 1ers to consume more than $1/(4N)$ of the manna. However, in the case of parental responsibility, the only person an individual has an obligation to conserve manna for is her own child (someone whose justice-based claims she will have to confront.) So there is no opportunity to try to consume manna that is rightly due to members of distant generations.

However, the question of whether distant generations can be treated unjustly can still come up in a different context; that of an "environmental time bomb" policy.⁵⁸⁶ This is a policy which has no discernable effect on natural resources in the immediate future but which will have enormous consequences for the environment in the distant future. This, I think, is one of the hardest cases in thinking about natural resource conservation for future generations.

Imagine that there is a machine that can produce significant amounts of widgets but which requires manna to do so. This machine *does not consume* the manna fed into it, but it does cause some damage to it. However, this damage only has perceptible

⁵⁸⁶ Parfit considers this type of problem in the case of a risky nuclear technology. Parfit, "Energy Policy and the Further Future: The Identity Problem," 166-69.

effects far into the future. Before the death of the Gen 3ers, the manna used by the machine is indistinguishable in terms of its useful properties from any other manna.

However, after the death of the Gen 3ers (which occurs, let us assume, half-way through the life of the Gen 4ers), this damaged manna suddenly disintegrates.

Let us make a few further assumptions about this case:

1. Regardless of how many times it was used before, the machine can be used once by each generation and any additional uses do not hasten the time at which the manna disintegrates.
2. No permanent objects are made with the manna planet's manna.
3. The Gen 4ers cannot get as much use out of the manna by using all of it before it disintegrates as they could if it were around throughout their lifetime (think of it as a heating fuel for example).
4. The long-term affect of this machine is common knowledge.
5. Half the Gen 1ers use this machine and have two children. The other half of the Gen 1ers use this machine and then consume the manna themselves without having children.

The question I am interested in here is whether there is any injustice in the Gen 1ers using this machine. Again, the thought might be that since the Gen 4ers are "distant", there are no obligations of justice to forbear from using it.

Two things are worth noting about this situation. First, those Gen 1ers who use the machine and decide not to have children do not act unjustly. After all, if the Gen 1ers do not have children, they can fully destroy their manna share if they wish. A fortiori then, they can run it through the machine. Second, Gen 1ers might have good reason to refrain from using the machine even if it turns out that there are no obligations of justice to refrain from doing so. They might care about their distant descendents and about future people more generally. In more realistic cases of "environmental time bombs" this

kind of altruism towards future people becomes important for consideration of justice because often the damage caused by such policies will not be so contained to particular natural resources. In these cases, it will be necessary for the perpetrators of the damage to obtain the appropriate consent of the owners of other resources affected and/or to buy the rights to do the damage to all the natural resources that might be affected by a time-bomb policy. This could easily be prohibitively expensive if people generally care about the welfare of future people.

However, in the case at hand, I will assume that the Gen 1ers do not care enough about their descendents to forego the additional widgets generated by the use of the machine. If we think of this environmental time bomb as going off even further into the future than in this example and we increase the widgets that can be produced by the machine, this assumption might not be that unrealistic. In any case, rather than relying on this altruism, I want to show that the Gen 1ers have obligations of justice to refrain from using this machine.

By now the general form of the argument to show injustice in the multi-generational case will be familiar. We will have to show that the Gen 2ers, anticipating the claims of the Gen 3ers who anticipate the claims of the Gen 4ers, will have a legitimate complaint against the Gen 1ers who use this machine and have two children; a claim which those Gen 1ers will be unable to meet. Since all Gen 1ers have a residual liability to respect this Gen 2er claim, the other Gen 1ers (i.e. those who have no children) will have a right to insist that the machine not be used by those who want to have children.

An obvious reason why the Gen 2ers might complain is that the “machine-used” manna is not the same (physically) as the natural manna which the Gen 1ers were able to use to lead their lives. But the Gen 1ers might respond by asking the Gen 2ers to explain why this makes a difference. After all, until the Gen 3ers die (which occurs long after the Gen 2ers are dead), the processed manna is just as useful as the unprocessed manna. And since the machine can be used once a generation, it is even possible for the Gen 2ers to use their processed manna to produce the same number of widgets as the Gen 1ers did. The Gen 2ers might complain that this manna cannot support as many descendents as the unprocessed manna. But let us imagine that the Gen 2ers do not care about distant descendents (i.e. the Gen 4ers).⁵⁸⁷ The Gen 2ers might also complain that the unprocessed manna would have had a higher market value since it could be used to better support the Gen 4ers (and so Gen 3ers who want to have children and consume manna would be willing to pay more for it). Let us set this objection aside by assuming that in any case, the Gen 2ers would have been unwilling to sell their manna (since, like everyone else in this example, they are manna adorers).

Given these assumptions, it seems the Gen 2ers only have reason to complain about the processed manna if they know that they will be confronted with a legitimate complaint from the Gen 3ers. After all, if they change their mind and have no children (for reasons not having to do with manna), it is difficult to see how they can complain of not receiving an equal share of manna.

The Gen 3ers do, I argue, have such a legitimate complaint against the Gen 2ers who try to give them the processed manna. And again, this complaint will have to relate

⁵⁸⁷ This assumption becomes more plausible if we assume the environmental time bomb has a “longer fuse” in generational terms.

to the Gen 4ers (since the Gen 3ers would have no complaint if they chose for other reasons not to have children.) So we need to consider the nature of the complaint the Gen 4ers will make to the Gen 3ers.

Although it seems obvious that the Gen 4ers have a reason to complain, we need to be careful in fleshing out this complaint. The complaint cannot be that they did not receive an equal amount of manna. They do receive an equal amount of manna and the manna is physically identical to the manna that was received by the Gen 3ers. But although the Gen 4ers cannot complain that they failed to receive an equal amount, they can complain that they received an unequal *share*. That is, they can argue that there is an unjustified discrepancy in the incremental benefits that they receive from their manna share. The Gen 3ers were able, if they wanted, to use the manna throughout their lives. The Gen 4ers must use up their entire share in the first half of their life. And ex hypothesi, having to do this makes the manna not as useful. And clearly the fact that the manna is not as useful for the Gen 4ers is not their fault. Of course, it is not the Gen 3ers fault either. But the Gen 4ers might nevertheless rightly ask that they receive enough additional manna from the Gen 3ers in order to ensure that there are no unjustified discrepancies in the benefits they each receive.

Although I cannot give a full account of how to determine how much manna would appropriately equalize the incremental benefits, let us assume that for each unit of manna the Gen 3ers receive, the Gen 4ers should receive two units of manna (again, because their manna will disintegrate half-way through their lives.)⁵⁸⁸ Note that this means that the Gen 3ers cannot have two children since the Gen 3ers will have

⁵⁸⁸ This figure assumes that the Gen 4ers were not planning on having children anyway. If we assumed that they were planning on having children, this figure would likely be much higher.

insufficient manna to provide each of their two children double the manna they had.⁵⁸⁹

The Gen 3ers (appealing to their residual liability) will have the right to insist that their fellow Gen 3ers limit themselves to at most one child.

Next, consider whether these Gen 3ers have a complaint against the Gen 2ers. Again, this complaint cannot be that they received a different amount of manna from the Gen 2ers. The Gen 2ers also had only processed manna with which to lead their lives and they provided their children with an identical amount of it. So the Gen 3ers cannot be said to envy the share of the Gen 2ers in the sense I have defined. Instead, the complaint has to be again that there is an unjustified discrepancy in the incremental benefits the Gen 3ers receive from their manna shares relative to the Gen 2ers. After all, while all the Gen 2ers are able to use their manna share to have two children, the Gen 3ers with the processed manna can only have one child.

Although I cannot provide a full argument for it here, it seems relatively clear that this discrepancy in incremental benefits is unjustified. Those who used their manna share to have two children can hardly accuse the Gen 3ers who want to use their manna share to have two children of having expensive tastes. In addition, clearly the Gen 3ers cannot be held morally responsible for the fact that they cannot use their manna to have two children. Although this problem is not the Gen 2ers fault either, the Gen 2ers can still rightly be asked by the Gen 3ers to transfer sufficient manna so as to equalize the manna shares by eliminating as far as possible this unjustified discrepancy in the incremental benefits. And since the Gen 3ers are assumed to be manna-adorers, the Gen 2ers will not be able to give them equivalent resources. And so since the Gen 2ers were just barely

⁵⁸⁹ Each of the Gen 3er parents will have $1/N$ (processed) manna with which to lead their life (which they choose to use through having a child.) The child receives $2/N$ of the original stock of manna which ex hypothesi provides equivalent incremental benefits to a share of $1/N$ of the original manna.

able to meet their obligations to two children in the case without the machine, they will have to settle for having only one child. How much manna they will have left over for their own consumption will depend on how much manna they need to give the Gen 3ers to eliminate the unjustified discrepancy in incremental benefits. This will depend in part on the relative weight that the Gen 3ers give having a child versus having more manna.

So the Gen 1ers who use this machine and have two children will be confronted by children who cannot have two children themselves. And so these children can complain to the Gen 1ers about an unjustified discrepancy in incremental benefits from the manna shares and demand a greater manna amount of manna to appropriately equalize the manna shares. And since the Gen 1ers were barely able to provide sufficient manna for two children before and since the Gen 2ers are manna-adorers, the Gen 1er parents will be unable to meet the obligation of their two children. And since the non-parent Gen 1ers have a residual liability to these children, they will be confronted by the demand to meet at least some of these claims.⁵⁹⁰ And so the non-parent Gen 1ers can rightly insist that anyone who uses the machine must have only enough children (i.e. at most one) so that they can provide fully for their manna claims. Assuming the Gen 1er parents are committed to having two children, they thus have a justice-based obligation (to their fellow Gen 1ers) to refrain from using the machine.

Although I have argued for a justice-based based obligation to refrain from engaging in this environmental time bomb policy, it is important to emphasize that it will not *always* be unjust to take actions that will damage future natural resources. If the individuals are not manna-adorers, at various points throughout this argument it would

⁵⁹⁰ Parent Gen 1ers will also be confronted with the claims of others' children. I introduced the non-parent Gen 1ers to forestall the (unlikely) possibility of a kind of corrupt bargain among the Gen 1ers not to use the machine despite knowing that they will not be able to meet their future justice-based obligations.

have been possible to provide the different individuals with equivalent resources instead of more manna. And so in more realistic cases, the critical question will be whether the policy in question can generate sufficient resources to be able to provide what can be anticipated to be equivalent resources to future people which it affects.

Other results that seem intuitively problematic also lean heavily on the manna-adoration assumption and on other features of this simplified example. For example, it seems intuitively problematic that every person who has two children will be unable to use any of her natural resources share for any other purpose besides meeting her children's natural resource claims. It also seems impossible for people to have more than two children or for the population to grow.⁵⁹¹ These results depend critically on the manna-adoration assumption which precluded the possibility of providing individuals with equivalent resources. I made this assumption largely to consider the obligation with regards to natural resources which people placed a particularly high value which could not always be placed in monetary terms. These are exactly the natural resources that we would think current individuals have an obligation to preserve for future generations. Second, note that there is nothing in this discussion that prevents parents from using renewable resources (e.g. arable land) and passing those resources on (in the same condition) to their children. Third, natural resource-related technological progress has been assumed away. However, it is not implausible to think that such technological change might justify parents having rights to a greater amount of natural resources than their children, thus allowing them to consume some of it while still meeting their obligation to their children. Fourth, all the manna was assumed to be known. Although I

⁵⁹¹ Note that it will not generally be true that people can only have two children. Even in the case where children will demand natural resources, a person who wants to have more than two children can by manna from others who want less than two children.

have not discussed it in this chapter, anticipation of future discoveries of natural resources may well function much in the same way as anticipated technological progress to allow earlier generations a right to a greater portion of manna. Although all of these assumptions played a role, the critical assumption at least in generating the strong obligations for conservation was the assumption of manna-adoration.

Conclusion

Although I have considered several controversial topics in this chapter, there are many topics in intergenerational justice that bear on questions of natural resource property rights that I have only briefly touched upon. The first is technology. An important question I set aside is the extent to which earlier generations can claim a greater share of resources due to the more advanced technology that future individuals will have access to. I have also not considered the extent to which parents should compensate others and be compensated for the externalities generated by having children. In addition, I have not given an account of the proper restrictions on bequests and other intergenerational gifts of natural resources. The answers to all of these questions are parts of a broader theory of intergenerational justice, and they have important consequences for natural resource property rights in the intergenerational context. Unfortunately, they are beyond the scope of this work.

Although these questions remain unanswered here, several important controversies have been considered in this chapter. I began by arguing that once individuals exist, they have rights to shares of natural resources that are equivalent to those of the members of the previous generation (or to equivalent resources). Late arrival

time is no reason for an unequal share, nor is the fact of initial non-existence, nor is the fact that one's identity often depends on the natural resource property rights regime pursued by the previous generation. Resources should generally be judged to be equivalent from the perspective of what earlier generations could have reasonably anticipated would be equivalent resources for later generations.

I then argued that by considering the *intragenerational* obligations, it is possible to derive an obligation to conserve natural resources for future people. Whether we think of individuals as having a shared responsibility to provide for the next generation or whether it is the parents who ought to do so, all adults have a residual liability to children when those who are supposed to provide for them fail to do so. Those who wish to avoid being asked to shoulder more than their fair share can thus rightly insist that their contemporaries put aside appropriate resources for the next generation. When future generations place a special value on certain natural resources, this can translate into obligations of justice to conserve.

I also considered the case of several generations. I argued that in the case of both shared responsibility and parental responsibility, even distant future people ought to have a share of natural resources (or equivalent resources) that is equal to that of current individuals. We will be confronted with the demands of the next generation who can anticipate being confronted with the demands of the next generation and so on down the line through the link of overlapping generations. Current individuals cannot avoid respecting the natural resource claims of distant people either through a policy of over-depletion or through a policy of an "environmental time bomb". Thus, principles of liberal justice need not be abandoned when thinking of the problem of future generations.

And in fact these principles can generate obligations to conserve and save thus ensuring that the natural resource claims of both contemporaries and future people are respected.

Multiple Nation-States

In the Introduction to this work, I pointed out that natural resources have generally received relatively little attention in contemporary discussions of distributive justice. However, the literature on *global* distributive justice is an important exception. A variety of scholars working on global justice issues have converged on the idea that redistributing natural resource wealth constitutes an important step towards realizing a more just world order. These scholars include Charles Beitz, Thomas Pogge, Brian Barry, and Hillel Steiner.

There remain, however, important disagreements and unresolved issues. First, and most importantly, there remain a variety of scholars who argue that no natural resource wealth redistribution is warranted in the global case. Second, even among those who agree that international redistribution of natural resource wealth is appropriate, there is disagreement over the extent of the redistribution. There is also disagreement about the purpose of the redistribution, with some thinkers pointing to the need to help the global poor, others concentrating on the importance of helping all states develop just institutions, while others focus on evenly dividing natural resource wealth (with poverty reduction and institutional improvements as important but ultimately secondary benefits).

In this chapter I argue that international redistribution of natural resource wealth is justified above and beyond a duty of assistance to burdened peoples. I also argue that

it is individuals rather than nations who ought to be seen as having ultimate claims to natural resources. I then extend the arguments made in earlier chapters to develop (in an idealized world), a scheme for the just global scheme of natural resource property rights. I consider and criticize alternative approaches to the problem taken by thinkers such as Hillel Steiner. In particular, I argue that the proper scheme of global natural resource redistribution can sometimes require more than financial compensation. It can also require international borders to be redrawn; something that most thinkers on this topic have not considered.

The argument of the chapter is divided into seven main sections. I begin in the first section by reintroducing the simple hypothetical planet example and adjusting it to consider the problem of the multi-national case. In the second section, I develop a liberal egalitarian argument for the position that global natural resource redistribution is a requirement of justice. In the third section, I make the case that individuals should be seen as the ultimate claimants to natural resources rather than nations. In the fourth section, I compare the argument I develop to Beitz's argument for the natural resource distribution principle and resolve the discrepancies. In the fifth section, I briefly consider the potential challenges to the argument due to the existence of non-liberal nations. I then develop a proposal in the sixth section for respecting individuals' equal natural resource claims in the multi-national case. In the seventh section, I compare the proposal to Hillel Steiner's proposal and argue that financial compensation to other nations may be insufficient to legitimize its having more than a proportional share of the world's natural resources.

9.1 A Simple Multinational Example

Let us begin, as we have in earlier chapters, with a variation of Ackerman's hypothetical example of explorers on a previously uninhabited planet.⁵⁹² To focus on questions that arise particularly in the global case, let us assume away many of the complexities that have been considered in previous chapters and imagine that the planet has a single, perfectly homogenous natural resource (arable land). In addition, imagine that the explorers only live for a brief period of time during which they experience no significant technological, natural, social, or demographic changes (besides their eventual death, which occurs at the same time for all of them).

In previous chapters, I assumed that these explorers form a single political entity. I argued that in such a case, each person has an equal claim to natural resources and that a resourcist equal division (where each person received an equal amount of natural resources) was generally the right way of respecting these claims. For the purposes of this chapter, I take as given that *within a single liberal state*, these arguments about the requirements of justice are correct. The question I am interested in here is whether the equality of natural resource claims and the idea of equal division still hold in the multinational case, and if so, what are the implications for the global distribution of natural resource property rights in an idealized world.

There are many ways in which the initial hypothetical situation could be structured. Since I am interested initially in replying to the objection that no natural resource redistribution is required in the global case, I will consider a situation in which

⁵⁹² I first introduced this example in Chapter Five. The example is loosely based on one described by Bruce Ackerman. Ackerman, *Social Justice in the Liberal State*, 31.

the world's natural resources have *already* been unequally divided among different nations.

Imagine that the explorers initially constitute separate nations.⁵⁹³ I assume for the purposes of this chapter that the existence of multiple nation-states is justified.⁵⁹⁴ I also assume that each explorer is a part of exactly one nation, and, since we are considering the static case, that national membership is fixed.⁵⁹⁵ Furthermore, imagine that due to some accident for which no person or nation can be held morally responsible, the nations have ended up with territories of random and vastly different sizes. Assume that all that the nations have done so far is to demarcate their borders (i.e. they have not made any valuable improvements to their territorial land). Before any improvement can be made, some person in a land-poor nation asks whether the current borders are in fact justified. She contends that they are not and that significant redistribution of the planet's natural resources is called for.

There is, it seems to me, a great deal of intuitive force in favor of some kind of redistribution in this case. Yet admittedly, several prominent liberal thinkers have

⁵⁹³ Many thinkers, most notably Rawls, uses the term "people" instead of "nation." For a brief discussion of the distinction between nation and people see Charles Beitz, "Rawls's Law of Peoples," *Ethics* 110, no. 4 (2000): 679. Here, I do not mean to attribute any specific historical or cultural dimension to the nations in the hypothetical example. I leave the exact characteristics of nation open to the reader's interpretation as the arguments are compatible with a variety of conceptions of nation.

⁵⁹⁴ There are many reasons why the existence of nation-states might be justified. It may be that the formation of nation-states around some (let us assume) pre-existing bonds of common ethnicity, religion, language, or at least history is necessary in order to maintain the civic virtues needed to sustain a modern liberal state. See Yael Tamir, Yael Tamir, *Liberal Nationalism* (Princeton, N.J.: Princeton University Press, 1993). Alternatively, the justification may be that the main alternative, a global state, would be too dangerous. See for example Rawls's discussion of the dangers in Rawls, *The Law of Peoples* 36. While I recognize this assumption is controversial for cosmopolitans, they are not the main targets of this chapter (since for them the international case will not raise deep theoretical concerns separate from those raised in the single nation-state case).

⁵⁹⁵ This assumes away for now the problem of immigration. Issues of immigration in relation to natural resources will be considered briefly in the next chapter.

accounts of global economic justice that appear to imply that no natural resource redistribution would be warranted. I have no intension of fully dismissing or fundamentally criticizing their theories. Instead, I hope to argue in the next section that the special characteristics of natural resources should lead even these thinkers to support natural resource redistribution. And that this support would be consistent with their broader, more conservative theories of global distributive justice.

Since almost every theoretical controversy in the literature on global justice will have some bearing on the question of natural resource redistribution, I will make several additional simplifying assumptions to focus on the most fundamental controversies first:

1. Nations are the relevant actors in matters of global justice.
2. Each nation has an equal population size.
3. Each nation has achieved just institutions and is able to meet all of its citizens' basic needs (despite the fact that some nations are quite land-poor).
4. Each nation is what Rawls calls a liberal people.⁵⁹⁶
5. The nations are in a state of autarchy.

The first assumption is a normative one. I make it in order to reply more easily to the arguments of thinkers such as John Rawls, who takes peoples as the relevant actors in matters of global justice. In addition, I want to demonstrate that even if we take this position, which is generally held by those unfriendly to global redistribution, there is still a strong case for such redistribution. The other assumptions are meant to simplify the argument and avoid a variety of secondary controversies. After making the argument for natural resource redistribution in this highly stylized case, I will relax each of these assumptions later in this chapter.

⁵⁹⁶ Rawls, *The Law of Peoples* 23-25.

9.2 International Natural Resource Redistribution

I begin by outlining a liberal egalitarian argument for the equality of claims to natural resources among nations. The argument is as follows:

- 1) The international distribution of natural resources is a matter of justice
- 2) Each nation ought to have an equal claim to all resources which are:
 - a) Not the result of choices for which any individual can be held morally responsible AND
 - b) Not the result of choices for which nations can be held morally responsible
- 3) Purely natural resources meet conditions 2a) and 2b)
- 4) Claims to purely natural resources ought to be equalized separately from claims to other resources that meet conditions 2a) and 2b)
- 5) Therefore, nations ought to have equal claims to purely natural resources.

I am taking as given in this chapter the idea that equal claims to arable land are best respected through equal division (I argued for this position extensively in Chapter Four and Chapter Five).⁵⁹⁷ Since the world's land has *not* been divided equally, if this argument is right, then the equality of national natural resource claims is not being respected and there is indeed a good justice-based reason in favor of natural resource redistribution in the autarchic nation-state case.

9.2.1 NATURAL RESOURCES AND THE SCOPE OF JUSTICE

There are two main objections to the idea that the international distribution of natural resources falls within the scope of justice. The first is based on challenging whether the right kind of scarcity obtains in the case of natural resources. The second is based on the claim that international cooperation, international institutions, international

⁵⁹⁷ Also relevant are the arguments made in Chapter Six against using a lottery to respect equal natural resource claims since this could justify the current distribution. See Section 6.1.3.

interdependence, or a global state are necessary for generating international claims of justice. I consider and dismiss both of these arguments in this section.

The first possible objection lies in challenging whether natural resources should be viewed as scarce. Many liberals view considerations of justice as arising only under conditions of scarcity; when the resources available cannot meet all the desires for the resources. Now, clearly the planet's natural resources are limited. And intuitively it seems quite plausible to presume that different nations will in fact desire more land than they have.

One could argue, however, that we should not view the nations as desiring more land. Perhaps this is because the nations are mistaken in desiring more natural resources or perhaps this is because their desire for more land should not be taken into account for some reason. If the nations are viewed as not desiring more land than they have, then there is no conflict over natural resources and no problem of justice.

The first way to eliminate the conflict over natural resources is to assume that nations only care about developing just institutions. In the present case where every nation has already achieved just institutions, this would imply that the nations would simply be indifferent about the uneven distribution of natural resources. This would eliminate the moral conflict over the current distribution of the planet's land.

In a precursor to the *Law of Peoples*, Rawls makes such an assumption and the assumption seems to still be present in some parts of the *Law of Peoples*.⁵⁹⁸ Two thoughts may be behind this assumption. The first thought is that we should not assume that a particular nation always desires more resources. But as Pogge points out, in the

⁵⁹⁸ In some places, Rawls does not include citizen well-being as an interest of peoples (Rawls, *The Law of Peoples*). In at least one place, however, Rawls does include the well-being of persons as an interest of peoples (see Rawls, *The Law of Peoples* 34.).

domestic original position Rawls recognizes that it cannot hurt to have greater resources since one can always give them away or forgo their use.⁵⁹⁹ And this seems true in the case of land as well. The second thought is that unlike a person in the domestic case, a liberal nation cannot be said to have any particular conception of the good. So its rational interests will be different. But it is unclear why a representative of a nation of individuals, each of whom is assumed to want more economic resources *ceteris paribus*, should not desire to obtain more resources for the nation as a whole. It seems much more plausible to assume that *ceteris paribus* the nations should be interested in securing greater resources for themselves as a means for achieving greater well-being for their citizens.⁶⁰⁰

Now, one could concede that nations should care about their citizens' well-being but argue that natural resources are simply not an important determinant of how a people fares. In fact, this is exactly how Rawls responds to Beitz's proposal for a natural resource distribution principle. Rawls writes that since "the crucial element in how a country fares is its political culture, the arbitrariness of the distribution of natural resources causes no difficulty. I therefore feel we need not discuss Beitz's resource redistribution principle."⁶⁰¹ To back up this claim, Rawls cites the contrast between Argentina (resource rich yet relatively poor) and Japan (resource poor and yet well-

⁵⁹⁹ Thomas Pogge, "An Egalitarian Law of Peoples," *Philosophy & Public Affairs* 23, no. 3 (1994): 208 fn. 17.

⁶⁰⁰ For other arguments against this point, see *Ibid.*: 208-11.

⁶⁰¹ Rawls, *The Law of Peoples* 117.

off).⁶⁰² Rawls also cites David Landes who, in *The Wealth and Poverty of Nations*, calls the oil windfall of Arab countries a “monumental misfortune.”⁶⁰³

There are a large number of problems with Rawls’s contention. First, the comparison between Argentina and Japan only demonstrates that the natural resources are neither necessary nor sufficient for high levels of economic well-being. But showing that something is neither necessary nor sufficient for faring well does not demonstrate that it is unimportant.⁶⁰⁴

A second problem is that Rawls’s evidence for the empirical claim that natural resources are not crucial to how a nation fares inappropriately includes examples from real-world governments that are highly corrupt. In limiting our attention to liberal peoples, we are assuming that, in line with Rawls, the peoples have a reasonably just constitutional democratic government “that answers to and protects their fundamental interests... [and is not] an autonomous agency pursuing its own bureaucratic ambitions.”⁶⁰⁵ In *The Wealth and Poverty of Nations* (the source that Rawls cites to back his claim that natural resources are relatively unimportant), David Landes attributes the reason for the Arab countries monumental misfortune to large-scale corruption and

⁶⁰² Ibid., 108.

⁶⁰³ Ibid., 117 fn. 51. Rawls admits that this claim may be a little too strong.

⁶⁰⁴ Consider an analogy to inheritance wealth in the domestic case. It is possible to name examples of individuals who started with large inheritances but who ended up poor and individuals who started out with no inheritance and ended up rich (analogously to Argentina and Japan in the resource case). It is also possible to find examples of individuals whose inheritance led them to great disaster through their own doing and who would have been better off without it (analogously to the Arab countries example). Following Rawls’s thinking on natural resource wealth, one might conclude that a person’s industriousness and talents are so much more important than inheritance in determining her well-being that the question of the distribution of inheritance wealth may be safely disregarded. Yet, Rawls does not support ignoring the distribution of inheritance wealth simply on the grounds that it is not crucial to how an individual fares.

⁶⁰⁵ Rawls, *The Law of Peoples* 24.

mismanagement.⁶⁰⁶ He states that the oil wealth has “intoxicated rulers, henchmen, and purveyors, who have slept on piles of money, wasted it in on largely worthless projects, and managed to exceed their figuratively (but not literally) limitless resources.”⁶⁰⁷

Evidence from countries that have managed their natural resource wealth well, such as Norway and Botswana, suggests that natural resources could be a great boon for well-governed peoples.⁶⁰⁸

Now, there may admittedly be reasons (e.g. the Dutch Disease) for why large amounts of natural resources might still be a curse even for well-governed nations.⁶⁰⁹

Given these problems, it might even be true (though this seems unlikely) that *on average* natural resources have no effect on how a country fares. But the fact that natural resources have no effect *on average* does not imply that they are unimportant. The benefits of natural resources as a function of the quantity of natural resources may be hump shaped (i.e. having too few natural resources leads to low national well-being as

⁶⁰⁶ A monumental misfortune is indeed a strong claim to make considering that the GNI (Gross National Income per Capita) of resource rich Saudi Arabia (\$8120) is more than 3 times the income of neighboring resource-poor Jordan (\$1720). The source is the country data of the World Bank www.worldbank.org, these numbers were calculated using the Atlas method.

⁶⁰⁷ David Landes, *The Wealth and Poverty of Nations* (New York: W. W. Norton, 1998), p. 414. The problem of mismanagement is not limited to the Arab countries. Beitz cites Gustav Ranis who suggests that Latin America governments also mismanaged their potentially beneficial resource wealth by using it to postpone change rather than to ease the pain of change. See Beitz, *Political Theory and International Relations*, p. 206 footnote 44. Pogge, *World Poverty and Human Rights*, p. 113. Pogge gives the example of Nigeria (rich with oil) which has been ruled by military strongmen during 28 of the past 32 years.

⁶⁰⁸ Botswana had a GNI per capita of \$3,260 while the average for Sub-Saharan Africa was \$540. World Bank Data 1997 figures calculated using the Atlas method. World Bank data tables <http://www.worldbank.org/data/countrydata/countrydata.html>. Norway as a result of vast oil money has been able to accumulate the second highest pension fund in the world valued at over 200 billion euros. See <http://www.pensionfundsonline.co.uk/pdfs/Top-100-Global-Pension-Funds.pdf>

⁶⁰⁹ The problem is that natural resource exports can cause an appreciation of the value of the domestic currency making other exports less competitive. This can significantly harm the manufacturing sector and lead to unemployment. For a discussion of the effects of the Dutch Disease in the British case, see for example K. Alec Chrystal, “Dutch Disease or Monetarist Medicine?: *Review*”, St. Louis Federal Reserve Bank, May 1984 27-37. Other development economists have added that once exporters are forced out of certain markets because of loss of competitiveness, entering again may be very difficult due to fixed costs of entry and the loss of learning by doing.

does having too many natural resources). If so, rather than being an argument against redistribution, the case for equalizing natural resource wealth would be *even stronger* than in the case where more natural resources unambiguously increased national well-being.⁶¹⁰

In any case, as Beitz argues, the empirical evidence regarding the effects of natural resource wealth is no where near sufficiently conclusive to support Rawls's dismissal of a need for natural resource redistribution.⁶¹¹ In addition, as Beitz points out, there is no need to assume that a justice-based obligation to respect the equality of natural resource claims must be met through massive and immediate redistribution of natural resources. If such an action would bring the recipient nation misfortune, we can adjust the method of redistribution rather than ignoring our obligation for redistribution altogether.⁶¹²

The second challenge to 1) comes from those theorists who would argue there can be no obligations of justice (though there can still be a duty of humanitarian assistance) in the autarchic nation-state case because of the lack of international cooperation, international institutions, international interdependence, or a global state.⁶¹³ A full refutation of this position would require a deep discussion of the nature of justice which is beyond the scope of his chapter. I will, however, offer some arguments against the cooperativist and statist challenges.

⁶¹⁰ This would imply that by redistributing natural resources, we would be helping both countries with low levels of natural resource wealth and countries with very high levels of natural resource wealth. That is, implementing an egalitarian natural resource redistribution might even be a Pareto improvement.

⁶¹¹ Beitz, *Political Theory and International Relations*, 206.

⁶¹² Beitz, "Rawls's Law of Peoples," 690.

⁶¹³ For a quick description of each of these type of views, see Joshua Cohen and Charles Sabel, "Extra Republicanam Nulla Justitia?," *Philosophy & Public Affairs* 34, no. 2 (2006): 152-53.

The first possibility is that considerations of justice simply do not arise in the absence of social cooperation. Charles Beitz cites William Nelson as attributing this view to John Rawls.⁶¹⁴ Beitz then states, “I believe [this view] is wrong. It seems plausible in most discussions of distributive justice because their subject [is limited to] the distribution of the benefits of social cooperation.” Beitz then points out that the case of autarchic states demonstrates that there can be questions regarding the allocation of resources without any social cooperation among the relevant agents taking place.⁶¹⁵

I would add to Beitz’s comments that the cooperativist view is often misperceived as plausible because when we imagine no social cooperation, we often imagine situations where other, more plausible preconditions of justice are also absent. Consider Nozick’s example of multiple Robinson Crusoes on different islands.⁶¹⁶ Not only is social cooperation absent, but there is also no possibility of the use of coercive force by any of the Crusoes. There is also no need for any deep kind of reciprocity. In the autarchic nation-state case on the other hand, there is the potential for the use of coercive force and a need for reciprocity.⁶¹⁷ This is because though the nation-states do not desire to find mutually acceptable terms of social cooperation, they are interested in finding *mutually acceptable terms for non-interference*. These terms, which each nation expects other nations to abide by, would likely include among other things an account of justified use of force and also an account of each nation’s exclusive rights to certain property within

⁶¹⁴ Beitz, *Political Theory and International Relations*, 140 fn. 28.

⁶¹⁵ *Ibid.*, 140-41.

⁶¹⁶ Nozick, *Anarchy, State, and Utopia*, 185.

⁶¹⁷ I simply provide coercive force and reciprocity as two possible differences without being committed to either as a precondition for justice. In addition, I take no view about whether there are in fact requirements of justice in the Crusoe islands case.

its borders. So while it may be plausible to think that there are no requirements of justice in Crusoe islands example, it may not be the absence of social cooperation which makes it so.

Other theorists have argued that it is the absence of a global state (not the absence of social cooperation per se) which eliminates any requirements for justice. Thomas Hobbes supports such a view.⁶¹⁸ But since liberals generally reject the Hobbesian view that there can be no injustice in international relations in the absence of a world state, I will focus instead on a more recent statist view presented by Thomas Nagel that allows that there can be injustice in the international case but rejects that considerations of *socioeconomic* justice can arise in the absence of a world state.

Some of the responses to Nagel have focused on making the case that given the existing extensive interactions between states, including those of economic trade and international institutions, it is simply implausible to hold that there are no requirements of economic justice internationally.⁶¹⁹ I think these arguments are correct. But I would press the criticism against Nagel even further and argue that even if we assume absolute autarchy and no world state, the problem of economic justice still arises between nations.

Unlike Hobbes, Nagel does recognize some requirements of justice in the international case. He admits that “the protection, under sovereign power, of negative rights like bodily inviolability, freedom of expression, and freedom of religion is morally unmysterious. These rights, if they exist, set universal and prepolitical limits to the

⁶¹⁸ Hobbes, "Leviathan," 90.

⁶¹⁹ See Cohen and Sabel, "Extra Rempublicam Nulla Justitia?." See also, A. J. Julius, "Nagel's Atlas," *Philosophy & Public Affairs* 34, no. 2 (2006).

legitimate use of power, independent of special forms of association.”⁶²⁰ By recognizing these “universal” rights, Nagel diverges from Hobbes (and his view thereby becomes significantly more plausible from the perspective of most liberals).

But Nagel goes on to insist that “[s]ocioeconomic justice is different. On the political conception it is fully associative. It depends on the *positive rights* that we do not have against all other persons or groups, rights that arise only because we are joined together with certain others in political society under strong centralized control... [These positive rights include] amelioration through public policy of unfairness in the distribution of social and economic goods.”⁶²¹

There are many problems with Nagel’s view and a full criticism is beyond the scope of this paper.⁶²² I would like to focus here on the vagueness regarding his distinction between prepolitical rights and socioeconomic rights. One distinction Nagel seems to make is that the prepolitical rights are negative rights whereas the rights related to economic justice are positive rights. But this well-known theoretical move (most often made by libertarians) is implausible. After all, the right a nation might claim with regard to another nation’s resources need not be seen as a positive right to *be given* the resources. Instead, it can be seen as a negative right not to be interfered with *when taking* the resources. If the socioeconomic rights are different from prepolitical rights, it is not because they are positive rights and the prepolitical rights are negative rights. In any case, Nagel cannot merely be saying that people outside the state lack positive rights to

⁶²⁰ Thomas Nagel, "The Problem of Global Justice," *Philosophy & Public Affairs* 33, no. 2 (2005): 127.

⁶²¹ *Ibid.* emphasis added

⁶²² For other criticisms, see Cohen and Sabel, "Extra Rempublicam Nulla Justitia?." Also see, Julius, "Nagel's Atlas."

the state's resources. He holds that the question of justice does not *even arise* in this case (even though it does arise in the case of prepolitical rights).

To make sense of this claim, I think Nagel needs to say much more about where the prepolitical rights come from. Nagel seems to think that the existence of the prepolitical rights in the international realm is "morally unmysterious." While I agree that the *existence* of the rights that Nagel mentions is relatively morally *uncontroversial* in the international case (although, importantly, Hobbes would disagree), where they come from in Nagel's account and which rights are included in this list *does* seem quite mysterious to me. I suspect that if Nagel were to give an account of where these rights come from, he might find that the list also needs to include some kind of protection of the right to property. At the very least, he might find that the list includes a protection of the right to property *in natural resources*. After all, Locke seems to have thought that such a right is prepolitical at least in some sense. And this thought is intuitively plausible since at least in some sense the natural resources exist prior to the state, and more importantly, as I argue below cannot be seen as being created by any particular state.

But I think Nagel's claim that economic justice only arises within the state is implausible even when considering non-natural resource wealth. Imagine that a nation invades another nation solely for the purposes of obtaining resources (and the invaded nation knows this). Would the nation be justified in defending its resources using force? After all, wouldn't it be violating the invaders' prepolitical right to protection from bodily harm by protecting its resources? It is unclear to me how a nation could *justify* harming the invaders (who *ex hypothesi* only want their resources) without *justifying* why they

ought to have exclusive rights to the resources within their territory in the first place.⁶²³ I am not sure how Nagel would respond to this case.

One clear answer can be provided by Hobbesians who argue that whatever the defending state does cannot be characterized as unjust. Another clear answer to this case can be provided by admitting that the global distribution of economic resources *does* raise questions of justice and then arguing that the invaded nation indeed has an *exclusive right* to their resources. It seems to me that aspects of the autarchic nation-state situation such as the possibility for the use of coercive force and the need for finding mutual acceptable terms of non-interference strongly suggest that the question of justice would arise in regards to international property rights. If so, then the most convincing defense against resource redistribution in the international case is not that questions of economic justice *do not arise* in the multi-national case. But rather it is the argument that while they do arise, each autarchic nation-state is *justified* in keeping its resources. I think that at least some of the arguments that cooperativists and statist make could be reframed to support this position, and I turn now to evaluating this controversy specifically with regard to natural resources.

9.2.2 TWO TYPES OF MORAL ARBITRARINESS

A strong (though controversial) case can indeed be made for autarchic nation-states having rights to many of their resources even in the face of large global inequalities. This case, I contend, is most plausibly based on an account that gives moral

⁶²³ Note how this situation is different from Nozick's example of multiple Robinson Crusoes on different islands. Nozick, *Anarchy, State, and Utopia*, 185. In the island case, the different Crusoes could not harm each other and could not physically make use of the undeveloped natural resources of any of the other Crusoes.

weight to considerations of national responsibility.⁶²⁴ But I argue in this section that there is a category of resources that ought to be distributed equally even if we grant the moral importance of this type of responsibility. These are goods that are both arbitrary from an individual moral point of view and are morally arbitrary from a second, national point of view in that they are not the result of choices for which *any nation* can claim moral responsibility.

When thinking about international distributive justice, we can divide resources into three categories.⁶²⁵ The first category is made up of resources that are the result of choices for which particular *individuals* (but not nations)⁶²⁶ can claim moral responsibility. I call these resources **individually deserved**. These resources include, for example, those that are generated as a result of at least some types of individual effort. Liberal egalitarians generally agree that these resources should not be subject to redistribution either within the state or globally.⁶²⁷

The second category is made up of resources that are the result of choices for which no individual can be held morally responsible but which are the results of choices for which a self-governing nation can be held morally responsible. I call resources that

⁶²⁴ Other accounts are possible. As I argue below, I think this account is most consistent with Rawls's arguments against cosmopolitan distributive justice which is one reason I focus on it here.

⁶²⁵ A fourth category of resources: resources that are both deserved by individuals and deserved by nations is a logical possibility. But I think it is more plausible to say that a portion of the value of a particular resource is deserved by a particular individual while another portion of the value of the resource is deserved by the nation rather than saying that two moral entities both deserve the same resource.

⁶²⁶ I am assuming that not every resource that is deserved by the individual can be thought of as being deserved by the nation that she is a member of. On the view I am considering here, the nation is a moral agent which is separate than the individuals which make it up.

⁶²⁷ The exception, as I discussed in Chapter Four, is Rawls who in *A Theory of Justice* holds that even products of effort should be treated as morally undeserved because it is too difficult to separate them in practice from the products of undeserved differences in individual levels of effort.

fall in this category **nationally deserved**.⁶²⁸ Resources in this category are the ones that lie at the heart of the debate between cosmopolitan liberal egalitarians and thinkers that resist massive global redistribution such as Stephen Macedo and John Rawls.

As Macedo argues, national responsibility is one of the primary morally significant aspects of political communities. Macedo contends that cosmopolitans overlook the morally basic fact that societies not only “place different values on goods, such as wealth, leisure, or learning, but that [the societies] make different collective choices about how to produce various goods, how to implement policies, how to administer programs, and how to organize and manage social relations.”⁶²⁹ Nations are not only self-governing, they are also, in Macedo’s words, self-responsible. This national responsibility, by Macedo’s account, provides a strong reason against the cosmopolitan requirements for international redistribution.

Rawls is far less explicit than Macedo about the role of national responsibility (though he does mention it).⁶³⁰ Nevertheless, the examples he appeals to against cosmopolitanism only make sense in view of some theory of this kind. In arguing against cosmopolitanism, Rawls gives two separate examples of two nations which have made different policy choices.⁶³¹ He then argues that the nation which pursued the prudent

⁶²⁸ This name and the categorization I use seem to imply an endorsement of the national responsibility view. No such endorsement of the national responsibility view should be attributed here. I am merely trying to use the most convenient names and categories possible for the sake of the flow of the argument.

⁶²⁹ See Stephen Macedo, "What Self-Governing Peoples Owe to One Another: Universalism, Diversity, and the Law of Peoples," *Fordham Law Review* 72 (2003). Also see Rawls, *The Law of Peoples* 6.

⁶³⁰ Rawls does briefly mention in setting out his examples that the peoples that constitute the different societies are assumed to be made of peoples that are both “free and responsible, and able to make their own decisions.” Rawls, *The Law of Peoples* 117.. However, arguments about moral responsibility of peoples play little role in the rest of the book.

⁶³¹ In the first example one nation chooses to save while the other chooses not to save. In the second example, one nation chooses to have a high population growth while the other nation chooses not to.

policies should not have to continually subsidize (through a scheme of global redistribution) nations that have made different choices which have led them to greater poverty.

Replying to Rawls, Beitz points out that in both of his examples, most *individuals* in the societies are not responsible for their low welfare. Beitz writes:

“[M]any or even most of those to whom disadvantages [resulting from societal policies] accrue would be more accurately described as the innocent victims of the past choices of others rather than as the authors of those choices themselves. It seems no less fair to impose the costs of bad choices of previous generations on successor members of their own societies than on outsiders- especially outsiders who, by hypothesis, enjoy a higher material standard (once again, through no fault of their own) than the unfortunate members of the society which was imprudently governed.”⁶³²

Beitz admits that there may be important incentive effects for holding current individuals responsible for the collective actions taken by their co-nationals. But he argues that there is no justice-based reason for doing so.⁶³³

Beitz contends that one’s intuition about the cases Rawls raises depends most likely on how one feels about individual moral responsibility in the domestic case.⁶³⁴ But in fact, Beitz has shown that the cases actually largely turn on whether one takes seriously (as Macedo does) the moral responsibility of *nations*. Those who have such a view of national responsibility would argue that while the current level of national capital might be morally arbitrary from the individual point of view, it is not morally arbitrary from the point of view of the nation in the sense that the self-governing nation as a whole ought to be held morally responsible for the decisions that have led to its low (or high) level of capital.

⁶³² Beitz, "Rawls's Law of Peoples," 691.

⁶³³ Ibid.

⁶³⁴ Ibid.: 690.

Much more can and needs to be said about the topic of national responsibility. And most likely this nascent debate will be a fierce one among liberal egalitarians in the future. However, for the purposes of this chapter, the most important resources are not the nationally deserved resources. Instead, it is resources in the third category: those whose creation is due to choices for which *neither the individual nor any particular nation* can be held morally responsible. I call these resources **globally undeserved**.

I argue that on the liberal egalitarian account, justice requires that claims to these globally undeserved resources ought to be distributed equally. The argument is analogous to that made in Chapter Three in the domestic case (with the key difference being that, *ex hypothesi*, nations are the units of moral concern rather than *individuals*) and so I only very briefly review it here: The commitment to equal concern (for nations in this case) generates a *presumption of equality* which dictates that, in the absence of good reasons to the contrary, we ought to grant all the units of equal concern (which in this case are the nations) *equal* claims to resources. Globally undeserved resources are morally undeserved both by individuals and by particular nations and so there is no good reason to grant special claims to them to any particular entity. Therefore, nations should be presumed as having equal claims to globally undeserved resources.

Interestingly, while Rawls does not consider any type of globally undeserved resources, Macedo does briefly consider such resources when he considers differences in societal wealth that are the result of differences in national brute luck. He asks, “[G]ranting that societies make different political choices, are not all subject to brute luck and fortune? Shouldn’t we compensate for arbitrary fortune across societies as we do within societies?” Macedo replies by minimizing the role of brute luck. He points out

that “[e]arthquakes may be a matter of luck, but building codes are not.” He seems to be arguing that resources that fall in this third category are negligible.

I think Macedo significantly understates the role of brute luck in the fortunes of different nations. After all, even a society with very well-constructed buildings suffers some poor brute luck when it is hit by an earthquake. And there are always calamities that could not have been reasonably anticipated. But regardless of one’s view of brute luck, globally undeserved resources cannot be dismissed as unimportant. This is because, as I argue in the next section, this category also includes purely natural resources.

9.2.3 PURELY NATURAL RESOURCES AS GLOBALLY UNDESERVED

In this section my goal is to show that purely natural resources are not deserved by any individual nor are they deserved by any particular nation. First, let me briefly review the idea of purely natural resources that was developed in Chapter One. I conceded in Chapter One that even pristine natural resources (such as the planet’s arable land) may have a value that is fairly attributable to the labor of particular agents (e.g. discoverers of the land and inventors of uses for the land).⁶³⁵ But I argued that after all such agents have been appropriately compensated (by being given a portion of the pristine natural resource), a significant amount of natural resources remain. These remaining resources are what I called purely natural resources. In thinking about the distribution of the planet’s arable land, I am considering the distribution of the arable land remaining after all appropriate compensation to agents such as discoverers and inventors have been made.

⁶³⁵ The pristine natural resource will also have a value that is not purely natural if we can reasonably anticipate that an agent will not receive a fair return for the value that she adds to the resource.

As I argued in Chapter Five, purely natural resources are not deserved by any individual. Ex hypothesi, they do not have a value that is fairly attributable to anyone's labor. If they did, they would not be purely natural resources since additional compensation would be required. Since they cannot be seen as having been generated by anyone's labor, a fortiori they cannot be seen as being generated by anyone's choices. They are thus individually undeserved.

But unlike resources such as a nation's existing capital stock, purely natural resources are, at least initially, also globally undeserved. Ex hypothesi, in the example I am considering no nation has yet done anything valuable with the arable land. And by focusing on purely natural resources, I am assuming that discoverers and inventors (which may indeed have been aided by government actions) have already been appropriately compensated. In addition, in conditions of absolute autarchy, the value of land to any particular nation will not be based on any expected value from actions taken by any other nation. Thus, at least in this initial example, it is difficult to see how the vast majority of the planet's arable land could be seen as nationally deserved by any nation. It is correspondingly difficult to see how the existing borders can be anything but morally arbitrary from the perspective of both individual and national responsibility.

In response to the arbitrariness of borders, Rawls in *The Law of Peoples* suggests that "to fix on the arbitrariness of ... borders is to fix on the wrong thing. In the absence of a world state, there must be boundaries of some kind, which when viewed in isolation will seem arbitrary, and depend to some degree on historical circumstances." Rawls also

argues that without boundaries of some kind, the asset of the territory would tend to deteriorate.⁶³⁶

I think the reply of a land-poor nation to this argument is fairly obvious. Namely, they could rightly point out that they are not questioning *the existence* of borders or the need for natural resource property rights. Rather, they are questioning *the distribution* of borders and natural resource wealth.⁶³⁷ That is, they are arguing that the borders should either be *redrawn* (or at least that they should be given some kind of compensation).

The next objection that someone could raise is that the very idea of moral arbitrariness that I am relying on is unavailable in the international case, at least for someone committed to a Rawlsian kind of political liberalism. After all, on Rawls's account, the idea of moral arbitrariness relies on an idea of moral desert that seems to require a particular conception of the good.⁶³⁸ But there is no agreement on any conception of the good even within a particular liberal nation. The problem only seems more intractable when we consider the diversity of views among a collection of liberal nations.

One reply to this problem would be to endorse a kind of comprehensive liberalism rather than a Rawlsian political liberalism. However, I think there is no need to make the choice between these two liberalisms when our attention is limited to liberal nations. In

⁶³⁶ Rawls, *The Law of Peoples* 39. Rawls concludes his discussion of the role of boundaries by stating that the way wealth inequalities work out is something which he will take up in future sections. But the sections Rawls cites are those that deal exclusively with the duty of assistance to burdened people. Ex hypothesi, the land-poor nation is *not* burdened in Rawls's sense. Its claim to redistribution is not based on its citizens' basic needs or on a chance to achieve just institutions. Rather it is a claim of justice which is based on the fact that natural resources are globally undeserved.

⁶³⁷ Pogge recognizes the inadequacy of Rawls's response as well. See Pogge, "An Egalitarian Law of Peoples," 198.

⁶³⁸ See Rawls, *Justice as Fairness : A Restatement*, 74 fn. 42.

Justice as Fairness: A Restatement, Rawls solves a similar problem in the domestic case with respect to the distribution of talents by stating that the idea that the distribution of talents is undeserved is not made from within a particular conception of the good, but rather is a moral truism that all reasonable conceptions of the good can endorse.⁶³⁹ This is because Rawls argues that all reasonable conceptions of the good could endorse the idea that something is deserved only if it is the result of certain choices. Since for now I assume that all peoples are liberal peoples, it would seem that, from a Rawlsian perspective, a similar consensus could be built around the idea that the current natural resource distribution is something no nation can claim to morally deserve.

The next objection to the argument for the moral arbitrariness of the current land distribution comes from Hillel Steiner. Steiner argues, in response to Beitz, that land can indeed form a very important part of the identity of a people. And so if the distribution of talents is not arbitrary because of its connection to the identity of the person, the same may well be true of land.⁶⁴⁰

The question of the relationship between identity and moral arbitrariness is complicated and a full discussion is beyond the scope of this chapter. But it is important to note that the connection between a nation and its land is something that most often develops over time as many generations of a certain nation's citizens live on a particular piece of land with particular characteristics.⁶⁴¹ In this hypothetical example, we are interested in the *initial* distribution of perfectly homogenous land (i.e. the nations have

⁶³⁹ See *Ibid.*

⁶⁴⁰ Hillel Steiner, "Just Taxation and International Redistribution," in *Global Justice*, ed. Ian Shapiro and Lea Brilmayer (New York: New York University Press, 1999), 178-80.

⁶⁴¹ Exceptions to this are certain religious connections to land which I briefly discuss below in the context of non-liberal peoples.

done nothing more than demarcate their border) among liberal nations. Challenges to the arbitrariness of the land distribution based on identity connections are thus likely to be far less important.

9.2.4 EQUALIZING NATURAL RESOURCE CLAIMS SEPARATELY

Although we are quite close to defending the equality of natural resource claims, there is still one more obstacle. Namely, although natural resources may be globally undeserved, they may not be *the only* resources which are globally undeserved. If so, there may be benefits to distributing natural resource claims unequally in order to compensate for other globally undeserved inequalities (e.g. inequalities in societal brute luck.)

Now, I have already considered an analogous problem in Chapter Three when I argued that claims to natural resources ought to be equalized separately from claims to other (individually) undeserved resources in the domestic case. Here I will briefly summarize the main arguments.

Before doing so, it is important to emphasize that I am not proposing that we disregard other inequalities in globally undeserved resources. Instead, what I am proposing is to distribute claims to natural resources equally and then, separately, to distribute claims to other types of globally undeserved resources equally.

There may admittedly be a variety of benefits to using natural resource claims to compensate for other globally undeserved inequalities. Nevertheless, I argue that there may be commensurability problems and other theoretical and practical problems with using natural resource claims to compensate for other types of inequalities. And these problems may have costs that outweigh these benefits.

The second argument is that we may face profound uncertainty in terms of which resources (besides natural resources) are globally undeserved and how to reliably distinguish between globally undeserved resources and other resources in practice. Note that since the account of national responsibility is so much more underdeveloped than the account of individual responsibility, these uncertainties are likely to be much larger in the global case. And the absence of a global state increases the practical difficulties with correcting for other globally undeserved inequalities. Given these uncertainties and the costs of making mistakes, we might be justified in treating globally undeserved resources (besides natural resources) as though they were deserved, at least given current conditions.

The third argument is that there is a *pragmatic case* for moving forward with equalizing natural resource claims as *a good first step* towards achieving the liberal egalitarian agenda even if it is not a first-best solution.⁶⁴² This is because:

- a) The benefits that are given up by doing so are relatively small
- b) The moral cost of the status quo is incredibly high
- c) Natural resource redistribution provides an important area of theoretical consensus among libertarians, liberal egalitarians, and even non-liberal thinkers and so it is the most promising way of avoiding the status quo.

For all these reasons (which are analogous to those given in Chapter Three in the domestic case), I argue that it makes sense for liberal egalitarians to endorse equalizing claims to natural resources separately from claims to other globally undeserved resources. This concludes the liberal egalitarian argument for the equality of natural resource claims in the autarchic nation-state example.

⁶⁴² This argument is similar to the one made by Pogge in calling for a Global Resource Dividend. See Pogge, *World Poverty and Human Rights* 196-215.

A commitment to the equality of natural resource claims implies that redistribution is required in the case at hand. Again, I am assuming equal division is the right way to respect natural resource claims. Since the planet's natural resources are not distributed equally, there is a justice-based argument for redistribution.

9.3 Individuals versus Nations as Claimants

In order to present the argument for international redistribution as simply as possible, I took as given one of the main premises of the opponents of redistribution; namely that nations should be seen as the claimants in international justice. I begin this section by showing that an almost identical argument could be made for international natural resource redistribution by taking individuals as the ultimate claimants to natural resources. I then turn to arguing that in fact individuals ought to be seen as the claimants to natural resources in the global case. Later in the chapter, I take this as the starting point for developing an account of how exactly natural resources ought to be distributed in the idealized multi-national case.

Viewing individuals as the ultimate claimants to natural resources does not change the conclusion that natural resource redistribution is required in the autarchic nation-state example. The liberal egalitarian argument could be easily adjusted. An identical argument could be given for why the international distribution of natural resources is a matter of justice. The argument for 2) made use of the idea of equal concern for nations. If we substitute the idea that the ultimate units of equal concern in the international case are individuals, we would obtain the conclusion that it is individuals who have equal claims to globally undeserved resources. The argument for

purely naturally resources being globally undeserved does not change nor does the argument for equalizing claims to natural resources separately from other globally undeserved resources. Since in the autarchic nation-state case, *groups of individuals of identical size* have access to different amounts of natural resources, their equal claims are being violated and natural resource redistribution is warranted.

Next, I argue that in fact individuals are the ones who should be seen as having equal claims to natural resources. It is useful to begin by emphasizing that the stakes of this argument may be significantly lower theoretically than they first appear. Moral cosmopolitans hold that individuals are always the units of moral concern in questions of global distributive justice. Rawls generally grants primacy to peoples in questions of global justice. But it is possible that these thinkers have set up a false dichotomy. I do not see why nations cannot be claimants in *some* matters of global distributive justice while individuals could be seen as the appropriate claimants in other matters. In any case, I leave this possibility open. Here I am only making an argument regarding who are the appropriate claimants when it comes to the distribution of *natural resources*.

In the Introduction to this work I characterized the liberal tradition as one that treats *individuals* with equal concern. Now, this commitment to equal concern for individuals does not necessarily settle the debate between cosmopolitans and non-cosmopolitans since thinkers such as Macedo can argue that the concern for the individuals is the *ultimate source* of the moral significance of the nation.⁶⁴³ But I think the liberal commitment to concern for individuals does generate a kind of **presumption**

⁶⁴³ After all, as Macedo points out, being a member of a political society is a great good for the individual. See Macedo, "What Self-Governing Peoples Owe to One Another: Universalism, Diversity, and the Law of Peoples," 5. Macedo does not provide a full argument for the view that respect for the nation's choices is predicated on concern for the individuals that comprise that nation, but this does not mean that one could not be made.

of individualism in favor of individuals having claims to resources if no good reasons can be presented why another entity has special claims to them. And since, as I have argued, neither particular individuals nor any particular nation morally deserves natural resources, it seems plausible to presume that individuals are the appropriate claimants as a kind of liberal default position.

Now, someone might grant that there is such a presumption of individualism yet argue that there *is* a good reason for granting claims to natural resources to nations. Namely, although nations are not responsible for creating the natural resources, nations are responsible for the upkeep and management of the natural resources. Granting nations equal claims to natural resources thus ensures that the natural resources do not deteriorate. This is the Rawlsian point raised earlier. And while I argued it was wholly insufficient as an argument for minimizing the importance of the arbitrariness of borders, it seems to have more plausibility as an argument for granting nations as opposed to individuals claims to natural resources.

However, the argument is unconvincing. First, consider the point that nation-states can often take actions *to increase* the value of natural resources through governmental policy. Although this is certainly true, it is also true that a variety of individuals also take actions that increase the value of natural resources. As I argued in the case of individuals, this provides a reason for giving individuals rights to the *value they can be fairly assessed as having added*. It does not provide an argument for giving the nation a right to the *purely natural resource*.⁶⁴⁴

⁶⁴⁴ Now, it is true (on the account of natural resource value that I provided in Chapter One) that the government improvements will also increase the purely natural value of natural resources *separately* from the value that is fairly attributable to the government action. And so there is an efficiency argument for giving nation-states claims to purely natural resources. But note that a similar argument could be used to

Now consider the possibility that a nation-state might through mismanagement actually lower the value of natural resources. This seems to me to be a very strange reason to grant the nation claims to natural resources. First, it is unclear to me why the deterioration of natural resources should be a cause for concern if the nation is properly the one that has claims to the resource. After all, if I let my lawnmower rust, there is no grave injustice going on. Natural resource deterioration only seems problematic from the perspective of justice if other entities (individuals in other nation-states, future people, and individuals in the nation itself) are the ones that ultimately have some claims to the natural resource.

Second, it seems odd to give an entity claim to a resource because of the fact that it has the power to cause damage to the resource. The fact that it is in my power to do significant damage to your house hardly seems like a reason to give me ownership of your house.⁶⁴⁵ Rather than giving nations claims to natural resources, someone who begins from a presumption of individualism might argue that we ought to hold nations responsible for the natural resource damage they perpetrate.

Now, it might be objected that holding nations responsible in this way creates others moral problems such as the danger of a global state. But I argue in the next chapter that given the existence of global public goods such as the air, we cannot afford to avoid developing such mechanisms of national accountability. In addition, I argue that these mechanisms need not rise to the level of a global state.

grant claims to purely natural resources to discoverers because they add value. I rejected such efficiency-based arguments for distributing claims to purely natural resources in Chapter Four.

⁶⁴⁵ There is admittedly an efficiency reason for doing so if I cannot be held to account for my actions and I have an incentive to destroy your house.

Note that this question of whether nations or individuals are the ones with claims to natural resources is not merely of theoretical concern. If nations have different populations (a possibility which I have so far assumed away), giving an equal natural resource claim to nations may lead to very different distributive results compared with granting equal claims to individuals. This practical difference between the two views provides an opportunity to challenge the nation-based view through a test case that appeals to intuition.

We could construct the case by imagining two nations that are perfectly identical with the exception of a dramatic difference in population size and try to imagine how land ought to be distributed between them. But I think this would be unfair to the nation-based view. After all, someone who viewed nations as the ultimate claimants of natural resources need not concede that every nation should get the same amount of land regardless of their condition. The proponent of the nation-based view might, for example, argue that average levels of well-being are an important determinant of the allocation of natural resources among nations. If so, then population would be an indirect factor in determining land allocation.

So let us compare instead two (autarchic) nations where such considerations are not present: The first nation is *very populous* (e.g. half a billion people). The other is *quite small numerically* (e.g. a million people). Imagine that both nations, through some accident, receive *an equal allotment of land*. Instead of imagining they are otherwise identical, we can imagine instead that they are *equal* in whatever other factors besides population a proponent of the nation-based view would think are relevant. For example,

we might imagine that the more populous nation is proportionally wealthier so that it has an equal per-capita income.

Now, there is no need to redistribute land to the populous nation on the basis of a lower level of national well-being. Still, I think there is an intuitive pull towards giving the more populous nation more land in this case. If so, I think the reason is that it is *individuals* rather than nations which have equal claims to the world's natural resources. There are other considerations that arise in favor of the individual-based view once we consider the issue of immigration. However, this issue of immigration and natural resource claims is one that I take up in the next chapter.

9.4 Beitz's Natural Resource Distribution Principle

Readers familiar with the global justice literature will recognize many similarities between the arguments made here and those made by Charles Beitz in defense of his (natural) resource distribution principle. However, there are several important differences between my argument and Beitz's. I argue in this section that my argument could be supported by Beitz and is better geared towards addressing the opponents of global natural resource redistribution. I also argue that several of Beitz's conclusions, which are different from mine, are at odds with the premises of his argument.

Beitz and I both agree on several important points. First, the international distribution of natural resources does raise questions of justice even under conditions of autarchy. Second, natural resources are undeserved from an individual point of view.

Third, it is individuals who ultimately have claims to an equal share of the world's natural resources.⁶⁴⁶

But there is also a crucial difference between my argument and Beitz's. While Beitz focuses on making an airtight case for natural resources being undeserved from an individual moral point of view, I have emphasized their uniqueness in terms of being undeserved from the national point of view as well. This point, I believe, makes the argument much more powerful against thinkers who hope to resist international redistribution such as Macedo and Rawls. However, there is no conflict between my argument and Beitz's. The point about natural resources being globally undeserved follows from Beitz's rightful insistence that natural resource wealth is not, at a fundamental level, socially created. While Beitz draws the implication from this that natural resource distribution is still a subject of moral conflict even in the absence of social cooperation *among nations*,⁶⁴⁷ I have emphasized the implication that individual nation-states cannot be seen as morally responsible nationally for their natural resource wealth.

Given that our premises are so similar, one might expect our conclusions to be similar as well. But there are in fact several important differences. The first is the extent to which natural resource distribution takes account of existing inequalities in the *non-natural resource wealth* of nations. Beitz, I argue, actually has two competing formulations of how natural resources ought to be distributed. In developing the first formulation, Beitz considers what kind of natural resource distribution parties would

⁶⁴⁶ Beitz writes, "Each person has an equal prima facie claim to a share of the total available natural resources." See Beitz, *Political Theory and International Relations*, 141.

⁶⁴⁷ *Ibid.*, 137.

agree to under a veil of ignorance where they did not know the resource endowments of their own society.⁶⁴⁸ He suggests that the natural resource distribution principle would function just like the difference principle in domestic society, protecting resource-poor nations from adverse consequences.⁶⁴⁹ Both the veil of ignorance set up and the reference to the domestic difference principle formulation suggest that natural resources should be distributed in a way that favors those nations who are worse-off not only in terms of natural resources, but also in terms of overall wealth. I call this the **veil of ignorance formulation**.

His second formulation, which I call **the equality formulation**, suggests that the natural resources should be distributed so that each person has an equal share unless an inequality of shares is to the benefit of *everyone* including those least advantaged by the inequality.⁶⁵⁰ For simplicity, I will assume for now that no Pareto improvements are possible from the starting point of equality. This formulation is insensitive to differences in the non-natural resource wealth of different nations.

At first it seems puzzling that the veil of ignorance formulation and the equality formulations would lead to different results. After all, they seem to lead to the same result in the domestic case. The difference arises because Beitz is only distributing a *subset of goods* (natural resources), but he seems to be measuring who is worst off in terms of *all goods*. In such a case, the veil of ignorance will lead to very different

⁶⁴⁸ Beitz has a habit of dropping the 'natural' modifier even when he is clearly referring to natural resources. This makes some of his statements difficult to interpret. For example, when he states that individuals do not know the "resource endowments of their own societies" does this mean they do not know their level of natural resources or their level of overall resources? I take him in this case to mean the overall level of resources.

⁶⁴⁹ Beitz, *Political Theory and International Relations*, 142.

⁶⁵⁰ *Ibid.*, 141.

distribution than the equality formulation. The equality formulation will ensure that all peoples basically have an equal amount of natural resources. The veil of ignorance view, where peoples do not know how they fare in terms of resources overall, is likely to generate a system which gives poorly-off peoples a much larger share of natural resources.

Although this divergence raises very interesting points about the veil of ignorance, here I will simply focus on the question of which formulation is correct given Beitz's premises. I argue that the veil of ignorance formulation is inconsistent with Beitz's starting position of equality of natural resource claims. After all, the veil of ignorance formulation may well lead us to give *all* natural resources to the worst-off peoples if the inequalities in other resources turn out to be sufficiently severe once the veil of ignorance is lifted (i.e. the well-off peoples would then have to buy their land from these worst-off peoples). But, as I argued in previous chapters, it is implausible to hold that someone has equal claims to natural resources but then endorse a policy which gives them no valuable rights to natural resources whatsoever.⁶⁵¹ If Beitz is committed to the equality of individual natural resource claims, then it seems to me that the veil of ignorance formulation cannot be right. In addition, note that the veil of ignorance formulation would not be appealing to those who take national responsibility seriously. After all, a nation may be generally resource-poor through its own fault. Thus, by giving it a greater portion of natural resources, we would be rewarding its irresponsibility.

The second difference between my argument and Beitz's is that Beitz seems to limit *the goals* of natural resource redistribution. Twice Beitz emphasizes that natural

⁶⁵¹ Beitz's proposal here is quite similar (on an international scale) to Otsuka's egalitarian division proposal; a proposal which I rejected in Chapter Five for similar reasons.

resources should be distributed for the purpose of helping ensure that nations have a fair chance of achieving just institutions and fulfilling their citizens' human rights.⁶⁵² Beitz thus seems to shift to a kind of social liberal perspective.⁶⁵³ I argue, on the other hand, natural resource redistribution is not aimed specifically at these social liberal goals.

Imagine that when deciding how natural resources ought to be distributed, each nation's representative knows that her citizens' basic needs are all met, that the human rights of her people are being respected, and that her people has achieved just institutions. Is there any warrant for natural resource redistribution? The answer on the social liberal account is No. But the answer given Beitz's premises seems to be Yes. After all, the differences in natural resource distribution are still generating differences *in well-being* among the different peoples; differences that are still a source of moral conflict and which are the result of the current, morally arbitrary distribution of natural resources. I see no reason therefore why the purpose of resource redistribution should be *limited* to giving nations a chance to develop just institutions and meet human rights. It is ultimately the fact that natural resources are globally undeserved which is the main reason justifying redistribution, not the need to ensure just institutions and every person's basic needs.

The final difference between us is that Beitz seems to question whether population is the right standard to use when determining a nation's natural resource allocation. He writes, "There is no intuitively obvious standard of equity for such

⁶⁵² See Beitz, *Political Theory and International Relations*, 141-42.

⁶⁵³ The social liberal position, championed by John Rawls, is that redistribution is only necessary in order to help countries achieve just institutions and meet basic human needs. Once this is done, no more redistribution is needed. For a description of this view, see Charles Beitz, "International Liberalism and Distributive Justice: A Survey of Recent Thought," *World Politics* 51 (1999): 271-72.

matters; perhaps the standard would be population size, or perhaps it would be more complicated, rewarding societies for their members' efforts in extracting resources and taking into account the different resource needs of societies with different economies."⁶⁵⁴

But this is quite puzzling. For Beitz goes on to say, "The underlying principle is that *each person* has an equal prima facie claim to a share of the total available resources."⁶⁵⁵ If every *person* has an equal claim, then this seems to straightforwardly imply that the standard for equity among nations ought to be based on *the number of people* in each nation (i.e. on the nations' population size). Now, it may be true that if there is some inequality in the distribution of natural resources that would make every nation better off relative to the population-based division, this inequality should be permitted. And it may also be true that we cannot know at the level of theory what exactly this inequality would look like. But it seems strange to conclude from this that there is no *intuitively obvious standard of equity*. Instead it seems more accurate to conclude that the right standard of equity is division in proportion to population unless a different division happens to improve everyone's situation *relative to the baseline of a population-based division*.⁶⁵⁶

I do, however, concede that there is a serious intuitive problem with using population once we are in a non-ideal world where some nations have been decimated unjustly while others have pursued irresponsible population policies. I will come back to this thought in the final chapter of this work. But at the level of ideal theory, I do not see

⁶⁵⁴ Beitz, *Political Theory and International Relations*, 141.

⁶⁵⁵ Ibid. Emphasis added.

⁶⁵⁶ I think, though, that the existence of such Pareto improvements based on unequal divisions of purely natural resources (the natural resources themselves as separate from any value added by any labor) is not very likely. This is primarily because the distribution of purely natural resources, as I argued in Chapter Three, does not affect incentives in nearly the same way as, say, the distribution of the products of talents.

how someone like Beitz who holds that it is *individuals* who have equal claims to natural resources can endorse anything other than population as the right baseline standard at least for the distribution of natural resources among peoples.

9.5 Toleration of Non-Liberal Peoples

I turn next to relaxing the assumption that all the nations are liberal. I briefly consider the question of burdened peoples and outlaw states in the final chapter. Here I am interested in the question of how the proposal should be adjusted if we introduce the idea that some nations are what Rawls calls “decent peoples.”⁶⁵⁷ There are two important challenges that arise in this case. First, the non-liberal peoples may refuse to concede that the initial distribution of land is morally arbitrary. Second, they might wish to forbear from respecting the equal natural resource claims of their own citizens internally. Both of these present important challenges to equality of individual natural resource claims in the international case.

The first problem is, I think, the less difficult of the two. The reason this problem might arise once we introduce decent peoples is that decent people do not necessarily affirm conceptions of the good that are reasonable. Their conceptions of the good are instead on Rawls’s account “not unreasonable.”⁶⁵⁸ And so we cannot count on the fact that the moral arbitrariness of the natural resource distribution will be seen as a moral truism by the decent peoples in the same way.

⁶⁵⁷ See Rawls, *The Law of Peoples* 3 fn. 2.

⁶⁵⁸ *Ibid.*, 74-75.

There are two responses to this concern. First, the decent peoples would still have to justify their view of why the existing natural resource distribution is not morally arbitrary. And this may be difficult to do in a way that is consistent with the requirements of the reasoning that is appropriate for discussing matters of global justice in the Society of Peoples. The second response is that toleration may not be an appropriate response to a nation that denies the moral arbitrariness of the natural resource distribution and wishes to keep a share that is larger than one proportional to its population. After all, if that nation claims more than this share of natural resources, some other nation will have to do with less. And that nation does view the distribution of natural resources as morally arbitrary and, on the basis of liberal principles, believes that justice requires that it receive a share of land proportional to its population.

In denying the need for toleration in this case, I am siding (admittedly without providing a full argument) with Pogge and others in endorsing a more comprehensive liberalism. As Pogge writes:

[I]f the Algerians want the world [including the global distribution of natural resources] to be organized according to the Koran and we want it to accord liberal principles, then we can *not* both have our way. There is no room for accommodation here, and, if we really believe in egalitarian liberal principles... then we should politically support these principles, and the global institutions they favor, against their opponents.⁶⁵⁹

Although it is not clear that a decent nation could justify keeping more than its equal share, insofar as it can, a more comprehensive liberalism seems appropriate.

A much deeper problem arises when a decent nation agrees to appropriately share natural resources with other nations but refuses to grant all of its own citizens equal claims to natural resources. For example, imagine that the common good conception of justice in a particular nation views women owning land as inappropriate. This is a harder

⁶⁵⁹ Pogge, "An Egalitarian Law of Peoples" p. 217

case precisely because accommodation is possible. In addition, while the right to an equal claim to natural resources is an important one, it is not crucial in the same way as a general right to property or as some very basic political rights. And so such a society might still be considered decent by most liberals.

Unfortunately, resolving this case requires a lengthy discussion of the debate between political liberalism and comprehensive liberalism. And this is beyond the scope of this work. I will, however, make a few comments. First, it is unclear how the world ought to treat such a nation in terms of its international allocation of land. After all, this decent nation's allocation of land is predicated on the idea that each of its citizens has an equal claim to the world's land. So if they deny certain individuals' claims to natural resources within their own society, it is not at all clear that the share that would normally be due to the women of that nation should go to that nation at all. Second, it seems to me that even liberals who value toleration should insist on the point that the restriction on women owning land should be reflectively endorsed by the women themselves.⁶⁶⁰ But if it is endorsed by them, shouldn't we hold that they ought to be given an equal claim to land that they can renounce (if they wish) rather than simply ignoring this right because of their society's common good conception of justice (which may or may not in fact be endorsed by them)? Finally, whether or not a society wishes to allow women to own land, I think we ought to *at least* insist that it allow such women some type of right of exit. All of these (very preliminary) comments indicate a preference for a much more

⁶⁶⁰ Pogge rightly points out that "those touting hierarchical values and those suffering most from global inequality are rarely the same." He argues that those who suffer most from global inequalities rarely give the hierarchical values of their rulers and oppressors their considered and reflective endorsement. See Pogge, "An Egalitarian Law of Peoples," 218-19.

comprehensive liberal theory than Rawls's. Unfortunately, a defense of this preference is beyond the scope of this work.

9.6 Distributing of Natural Resources among Nation-States

Since these issues regarding the treatment of decent peoples have not been settled, let us set them aside by assuming again that all the nations are liberal. Having argued that some redistribution is required in the autarchic nation-state case with randomly sized territories, we are now faced with the question of what kind of redistribution is required. I suggest in this section one plausible scheme of redistribution; one that takes individuals to be the ultimate claimants of natural resources and at the same time takes seriously the connection individuals have to their nation.

One way to think about what should be done in the autarchic nation-state case where land has already been distributed randomly is to imagine that rather than already having assigned territories, the interstellar explorers are on their ship attempting to decide how the planet's land ought to be divided among them *once they arrive at the planet*. Here we are faced again with several possibilities. First, we could imagine that the explorers on the ship have not yet formed well-defined nations. On this account, we can thus think of the distribution of the world's land occurring in the following way: First, land in the world is divided equally among the individual explorers. Next, each of the explorers buys and sells plots of land, moving closer to individuals with whom she shares certain bonds. Eventually, groups of individuals decide to unify their particular plots of land into a single territory under a single government. But this grouping is seen as provisional. At any time, a person can leave the grouping taking her share of natural

resources with her. She can decide to live by herself, or more plausibly, she can join a different grouping bringing with her a share of the original grouping's land.

I do not take a position on the plausibility of this view.⁶⁶¹ But I will not consider such a proposal here because the thinkers who share this view will not have any strong objections to the extension of the theory developed in earlier chapters to the multi-national case. After all, with the exception of the fact that the grouping of individuals is claiming *exclusive* political power in its territory, there is not much difference on this account between a nation and a group of individuals in a domestic society which chooses to live together in a relatively contiguous area. I am interested here in exploring the implications of a view that gives greater weight to national sentiments.

One way of taking national sentiments more seriously is to imagine that even before arriving on the planet, the explorers *already* form separate nations based on some common ethnicity, language, history, etc., and that each of these groupings has its own territorial sovereignty aspirations. Although each person recognizes the possibility that they might want at some point to leave their own nation-state, they believe that they will live amongst their own people for the foreseeable future. (Since I am assuming a static world initially, I do not yet consider such a change of heart.) Since the members of the various nations share in the desire for national sovereignty, let us assume that even those who do not wish to own land themselves do want their share of land (based on their equal claim to natural resources) to be part of their nation's territory.⁶⁶² And they would like

⁶⁶¹ I think some would view it as not taking existing national bonds sufficiently seriously.

⁶⁶² There could be many reasons for this preference. One reason might be that the greater extent of the country serves as an important method of self-defense. Or perhaps the individuals simply have some other type of preference for their nation having a greater territory. Or perhaps their common sympathies might be such that if they sell their land, they generally want it to be to someone in their nation.

their people's land to be roughly contiguous (or at least have someone coordinate the decision over which land to acquire.)

Under these circumstances, the explorers might agree to the following land allocation process:

1. Each person consolidates her natural resource claims with her fellow co-nationals under a single national representative.
2. Each nation is initially given a share of (ex hypothesi perfectly homogeneous) land proportional to its nation's population.
3. The national representative decides, based on the preferences of her people, whether to sell any of this land to other nations or to try to buy any of the land that the other nations were given, dividing the proceeds of the land sales or the burden of the land purchases appropriately among her own people.⁶⁶³
4. Finally, the national representative equally divides the nation's land among her own peoples and then allows *intra*-national sales of land.⁶⁶⁴

This procedure raises several questions. First, even if we agree that land should be divided proportionally to population, how should the allocating authority decide which land goes to which nation? After all, although the land is homogeneous, it matters spatially which nation-state is where relative to other nation-states. For much of this chapter, I assume that the nation-states are autarchic and this certainly decreases the importance of location. But the exception to this autarchy assumption is the initial buying and selling of land among nation-states. And it will make a difference where exactly a nation-state is located for these transactions. I will set aside this problem by (fantastically) assuming that we can move the land on the planet (much like the squares on a gem puzzle) to form whatever picture of land distribution among nations is dictated

⁶⁶³ I am effectively (and I think plausibly) assuming that not every nation has the same collective preference for having a large territory.

⁶⁶⁴ Alternatively, I argued in Chapter Five that under certain conditions, equal division combined with sales can simply be implemented by auctioning off the land and distributing the proceeds equally.

by the buying and selling of land and the desire for contiguous territory. Note that this assumption along with the perfect homogeneity of land implies that *in the international market*, each acre of land will have the same price.

The next question is how should the preferences of the co-nationals over the extent of the territory be aggregated? A related question is how should the proceeds of the international land sales and the burden of paying for any international land purchases be distributed? The guiding principle for answering these questions is that the individuals should be seen as having *temporarily entrusted* their equal natural resource claims to their national representative, *not completely given them up to her*. This means that generally, the proceeds from any international land sales should be distributed equally since we can think of this as the government effectively selling a portion of each person's rightful share of land. On the other hand, any purchase of land on the international market above the nation's proportional amount should be seen as a public good purchase that ought to be funded as such (rather than the funding somehow being taken away from the wealth due to every person as a result of their equal natural resource claims.) Of course, as I recognized in earlier chapters, equal natural resource claims are not inviolable and there might be a variety of reasons for breaking these general rules.⁶⁶⁵ I will discuss this issue further when I consider this kind of land market in the case of heterogeneity of land in the next chapter.

What then are the implications of this proposal for what should be done in the case of the randomly assigned territory sizes? Well, since nothing much has been done

⁶⁶⁵ For example, if the government desperately needs the money for an important public purpose and cannot possibly raise it from its citizens, it might sell land on the international market without compensating them. The desperate financial circumstances under which this would be allowed are similar to those that would permit the government's seizing a part of a citizen's land without compensation in the domestic case.

with the territories besides demarcating the borders, we can simply redraw the borders granting each nation territory proportional to its population and allow the kind of international buying and selling of land described in step 3. Alternatively, it may be possible to minimize border adjustments if a country which happens to currently be land-poor also happens to be one that would have been willing to sell its land. In such a case, an appropriate transfer of wealth from a nation with more than its population proportional share of land to the land-poor country may well be sufficient. More needs to be said about what kind of financial compensation would be appropriate. I take up this question in the next section when responding to Steiner's approach to the question of international natural resource distribution.

9.7 The Insufficiency of Financial Compensation

Steiner would argue that all that is required in the case of the randomly assigned territories case is that the nation-states with more than proportional territory financially compensate the nation-states with the less than proportional territory. As long as the *market value* of each nation's territory plus net compensation is equal, there is no injustice on Steiner's account.⁶⁶⁶ This financial compensation would be *sufficient* to legitimize current holdings for Steiner even if the nations with the larger territories acquired them through unilateral appropriation rather than being assigned their territories by some random process.

The first question to ask is what market value should be used? Steiner is quite vague about this issue. Since Steiner generally does not discuss the possibility of

⁶⁶⁶ Each person on Steiner's account has a right to an equal portion of *the aggregate global [market] value* of the earth's territorial sites. Steiner, "Just Taxation and International Redistribution," 175.

physical borders actually changing, one must assume that he means some variation on the intra-national market price of the land. One possibility is the intra-national price of the land in the compensator nation. Another possibility is the price of the land in the compensated nation. Or perhaps some average of these prices. Steiner does not specify the answer to this question.

But whatever the price, the compensated nation, it seems to me, still has a legitimate cause for complaint. They may rightly point out that by viewing financial compensation as sufficient, Steiner is effectively legitimizing a system of equal division followed by *forced* sales of natural resource shares. If they have an equal claim to natural resources shouldn't *they* decide whether or not to sell their natural resources? They may well admit the compensation is better than nothing. But they could argue that what they want to do with their wealth is buy back their lost proportional share of land. And this is something that Steiner, with his system which legitimizes fixed political borders, leaves no room for. The international example thus offers another illustration of the problems with using market value as a standard for equality; problems which I discussed at length in Chapter Six.⁶⁶⁷

I hold that financial compensation would only be sufficient under a very special set of circumstances in this idealized case: Namely, if the financial compensation allowed the land-deprived nation to *actually buy if it wanted to* enough land to bring it to the territory it would have had if it began with population-proportional equality. Now, it may be that land-rich countries are simply unwilling to provide compensation at such high levels. Also, if there are simply not enough nations willing to sell their land at any price,

⁶⁶⁷ See Section 6.1.4.

it is possible that this condition could simply be impossible to meet. If so, the land-poor nation-states may rightly demand that the *international borders be redrawn*.

Now admittedly, in the example I have described redrawing the borders is quite simple. And though I think that such redrawing of borders is a very plausible requirement in this case, I recognize that there are important reasons for why most theorists take the current global distribution of sovereign territory as given. One reason is a kind of political infeasibility of redrawing international borders. Another reason is that nations have developed ties to their land in ways not captured by this simple example. In addition, there are expectations generated by the existing sovereign territorial claims that must be considered. Most importantly, it would be difficult to redraw international borders without moving whole communities.

No doubt these are very weighty considerations against redrawing borders, and I will briefly discuss each of these issues in the final chapter of this work. Nevertheless, I think it is important to emphasize the requirements of justice even while recognizing that in practice there will often be significant countervailing considerations. In doing so, we might find that redrawing borders in some cases is not so objectionable after all (e.g. if no population needs to be moved). In addition, even if borders cannot be redrawn due to other moral constraints, our estimates of the compensation owed to natural-resource poor countries may well be affected by having a full view of the requirements of justice in an ideal world.

Conclusion

I began this chapter with a thought experiment about explorers on a new planet who were divided into autarchic nation-states with territories of random sizes. I argued that justice requires some kind of natural resource redistribution in this case. The centerpiece of the argument was that each nation has an equal claim to the planet's natural resources. Assuming that equal division was the appropriate way to respect nations' equal natural resource claims, I argued that equality of claims was not being respected and thus some natural resource redistribution is required in this case.

The argument for the equality of claims had four main steps. First, I criticized the position of those for whom social cooperation or being part of a single state are a prerequisite for economic justice. Taking nations to be the relevant claimants in matters of global justice, I then argued that nations ought to have equal claims to resources which are created by choices for which neither individual nor nations could be held morally responsible. I then argued that purely natural resources are part of this class of globally undeserved resources. Finally, I argued that claims to natural resources should be equalized separately from claims to other globally undeserved resources and concluded that indeed nations had equal natural resource claims.

Next, I considered the issue of whether individuals or nations should be seen as appropriate claimants in matters of global justice. I argued that at least in the case of natural resources, individuals ought to be seen as the proper claimants based on a presumption of individualism and a lack of good reasons for viewing nations as the claimants. I also demonstrated that viewing individuals as the natural resource claimants

did not change the conclusion that distribution was warranted in the autarchic nation-state case.

I then turned to consider an argument made by Charles Beitz in favor of a natural resource redistribution principle. Although we share many premises, I suggested that Beitz's conclusions are inconsistent with mine and that the discrepancy is the result of a conflict between Beitz's conclusions and his premises. Beitz's natural resource distribution goals of meeting the needs specifically of poor nations, the development of just institutions, and the protection basic human rights, as well as his agnosticism about population as the equitable baseline standard for natural resource distribution are inconsistent with his commitment to the equality of individual claims to natural resource shares.

Next, I briefly considered the question of the respect that ought to be shown to decent nations. I argued that claims of decent nations to more than a population proportional share of land ought not to be respected. I then considered the possibility that a decent nation would not respect its citizens' equal natural resource claims. I argued that at the very least, the common good conception of justice that condoned such a denial of natural resource claims ought to be reflectively endorsed by the affected citizens and a right of exit ought to be provided.

I then presented my own proposal for what to do in the case of autarchic nation-states with randomly assigned territory sizes of perfectly homogeneous land. I suggested that we could answer this question by considering how territory would have been divided ideally. The division in a world where the explorers already constituted separate nation-states could have taken place in the following way: First, individuals assumed to care

about the extent of their nation's territory consolidate their natural resource claims. Next, nations are given population proportional shares of land. Third, they buy and sell land on the international market. Finally, they distribute their land equally among their own citizens and permit intra-national sales of land. I considered the implications of this proposal for how land ought to be redistributed in the randomly assigned case, and argued, against Steiner, that financial compensation may not be sufficient.

Of course, the simplified world considered here is very different than the real world. The redistribution of land which could be carried out so easily here faces enormous obstacles, both practical and theoretical, in cases where land has already been improved and where it has been tied to a particular nation for generations. I turn in the next chapter to considering these problems and the other questions relating to implementation.

From Theory to Practice

So far in this work I have tried to make out the case that there is currently an important injustice in the distribution of natural resource property rights. I have argued that property rights in most natural resources should be distributed in an egalitarian manner through a system of leases whose proceeds are distributed equally. Yet the distribution of natural resource wealth in the world in which we find ourselves is highly unequal. Many liberal thinkers including Thomas Paine, John Stuart Mill, Herbert Spencer, Henry George, and several contemporary left-libertarians have advocated a more egalitarian distribution of natural resource wealth. And while the proposal developed in this work is different in important ways and has some new theoretical foundations, the challenges of implementation that these thinkers confronted must be faced by this theory as well.

The implementation challenges give rise to some of the most powerful objections against the theory developed here. Many of the most prominent critics of egalitarian natural resource distribution proposals have been willing to concede that natural resource property rights ought to be distributed equally as a matter of ideal theory. Instead of focusing on theoretical objections, they have raised serious objections regarding the implementing such an egalitarian natural resource property rights distribution *in the imperfect world in which we live*. One of the most important objection these critics have raised has been based on a concern for the rights of existing owners of natural resources,

many of whom paid for the natural resources which they currently legally own. Others have expressed concerns over the potential abuses of power by the institutions (especially the international institutions) required to implement a more just international natural resource property rights regime. Still others have argued that this proposal is utopian and that we should focus on correcting other, more easily corrigible injustices instead.

There is certainly some validity to the concerns raised by these critics, and in this chapter I hope to respond to these concerns. The argument of the chapter is divided into six main parts. In the first part, I briefly outline the theoretical issues that still need to be addressed in ideal theory and consider the ways in which these gaps place limits on the discussion of implementation. In the second part I argue that the injustice in natural resource property rights is a particularly pressing one in the world in which we live. The third part is devoted to addressing the questions of how to transition to the just natural resource property rights system in a way that appropriately respects the rights of current owners. I then briefly examine in the fourth part a variety of remaining theoretical and practical difficulties relating to implementation. In the fifth part I examine the institutions required to carry out this transition and argue that they can be limited so that they are not unacceptably dangerous. In the sixth part I provide some concrete suggestions for moving (at least in a modest but significant measure) towards a more just natural resource property rights regime given current institutional and political constraints.

Many of the controversies that are considered in this chapter require far more than one chapter to discuss fully. While I thus cannot address every issue in complete detail, I hope to provide an overview of the central issues and to show that some implementation

of the proposal developed in this work is both enormously important and eminently feasible.

10.1 An Incomplete Ideal Theory

Before beginning my discussion of implementation, it is important to acknowledge the gaps in the ideal theory that I have developed in this work. First, I have not provided a solution to the contribution determination problem. The theory developed here is only meant to apply to *purely* natural resources; that is, the natural resources that remain after all agents who contributed to the value of the natural resources have been appropriately compensated. I have suggested that fair market value (where fairness might be defined either procedurally or substantively) can be used to properly assess the contribution of the different factors that add value to natural resources. But I have not defended this assertion in this work. A full ideal theory of property rights in purely natural resources (and correspondingly a complete implementation proposal) would require a convincing and specific solution to the contribution determination problem.

Second, I have only provided an overview of how property rights in certain problematically-divisible natural resources ought to work. While I generally defend equal division as the right way to respect natural resource claims, I have recognized in Chapter Six that when natural resources exhibit economies of scale, itinerancy, monopoly-proneness, essentialness, non-excludability, non-rivalrousness, and non-separability, equal division might not be appropriate. I have given an overview of arguments defending the applicability of equal division to many of these types of resources. But I have recognized that more needs to be said to fully justify the

applicability of equal division to these types of resources. In addition, more needs to be said about property rights in those natural resources (non-excludable and non-separable) to which equal division does not apply. So for example, though I have argued (in a preliminary way) that decisions over certain aspects of the use of non-separable natural resources such as the air ought to be made collectively, I have not spelled out in any detail what this ought to mean in practice.

The largest shortcoming of the theoretical account I have provided is due to the fact that I have largely examined the problems of heterogeneity, unexpected change, future people, and multiple nation-states only in isolation. A full ideal theory would also need to provide an account of how natural resource property should work in a world where all of these real-world complexities are present simultaneously. We could make the problem more tractable by considering the interactions of each of these complexities in pairs: unexpected change and problematically-divisible natural resources, unexpected change and future people, unexpected change and multiple nation-states, future people and heterogeneity, future people and multiple nation-states, and multiple nation-states and heterogeneity. We could then consider each of the triples, and conclude by considering an idealized world with all four complexities being present simultaneously. Since I have not considered these combinations, the ideal theory developed here is admittedly incomplete.

Without a fully developed ideal theory, the discussion of implementation to which this chapter is devoted will necessarily be incomplete as well. Nevertheless, I believe that the ideal theory is sufficiently developed in this work so that realistic proposals for reform can be considered. These proposals raise many of the same difficulties that more

comprehensive implementation proposals would raise (e.g. the rights of current natural resource owners); difficulties which I argue can be overcome. And since, as I argue in the next section, the problem of the injustice of natural resources is so pressing, it may well be irresponsible to wait until all the problems in ideal theory are resolved before attempting to alter the status quo in at least the modest ways suggested in the final part of this chapter.

10.2 The Importance of Implementation

By this point, most readers may well already be convinced that there is indeed an injustice in the current distribution of natural resources (indeed many may have held this conviction even before reading this work). But there are also many other injustices in the world. Why then should we focus our efforts on correcting *this* injustice, especially when the theoretical and political obstacles we face in doing so are so formidable? I have already argued that implementing the just scheme of natural resource property rights can help us avoid (or lead us to a solution to) various specific public policy dilemmas. In this section, I argue that moving towards a more just scheme of natural resource property rights can help mitigate the most pressing problems facing the world including poverty, war, and environmental degradation.

10.2.1 POVERTY

Many thinkers have written with great eloquence and pathos about the problem of global poverty, and I will only briefly repeat some of the shocking statistics here. As Pogge writes:

Some 2,800 million or 46 percent of humankind live below the World Bank's \$2/day poverty line – precisely: in households whose income per person per day has less purchasing power than \$2.15 had in the US in 1993. On average, people living below this line fall 44.4 percent below it. Over 1,200 million of them live on less than half, below the World Bank's better-known \$1/day poverty line. People so incredibly poor are extremely vulnerable to even minor changes in natural and social conditions as well as to many forms of exploitation and abuse. Each year some 18 million of them die prematurely from poverty-related causes. This is one-third of all human deaths – 50,000 every day, including 34,000 children under the age of five.⁶⁶⁸

Such poverty clearly represents a humanitarian crisis of absolutely overwhelming proportions. But if the argument of this work (and the works of others) is right, much of this poverty can be traced, at least in part, to an injustice in the distribution of natural resources.⁶⁶⁹

Some might argue that the redistribution of *purely* natural resource wealth would not significantly affect the problem of global poverty. For example, Locke suggests that natural resources only account for 1/100 of the value of human wealth. In today's economy, driven as it is by human capital, technology, and innovation, natural resources might be viewed as comprising a small and ever decreasing portion of human wealth.

There are several responses to this objection. First, even a redistribution of 1/100 of human wealth would make an enormous difference in the life of the global poor, many of whom live on less than \$1 a day.⁶⁷⁰ Second, Locke focuses in his analysis on agricultural land as opposed to natural resources such as fossil fuels which, intuitively at least, seem to be more valuable in and of themselves. Finally, as I argued in Chapter One (in line with Cohen), Locke drastically understated the proportion of human wealth that

⁶⁶⁸ Pogge, *World Poverty and Human Rights* 2.

⁶⁶⁹ *Ibid.*, 201-03.

⁶⁷⁰ As Risse points out, "More than 20% of the world population lives in abject poverty, on less than a \$1 a day..." See Mathias Risse, "How Does the Global Order Harm the Poor?," *Philosophy & Public Affairs* 33, no. 4 (2005).

can be fairly attributed to natural resources by relying on the flawed marginal product theory of value.⁶⁷¹

Again, without a solution to the contribution determination problem, it is difficult to say with any specificity how large an effect a redistribution of natural resource wealth would have on the problem of global poverty. In addition, even with a theoretical solution to the contribution determination problem, we would still face the problem of data collection. However, recent interest in “green accounting” has produced some estimates of global natural resource wealth. Such estimates (which are admittedly somewhat speculative) imply that an equal division of natural resource wealth globally would be on the order of about \$500 per person per year.⁶⁷² Note that this figure likely significantly understates the full value of purely natural resources because it does not include even a rough estimate of the purely natural value of residential land (which I argued in Chapter Seven, is likely to be significant).⁶⁷³

Yet even if the purely natural value of residential land were added in, this amount might still not seem like much to readers in developed nations. But if such a distribution actually occurred, it would have an enormous effect on global poverty. Even using the with \$500/year figure, such a redistribution of wealth would effectively mean a rough *doubling* (at least) of the annual income of the poorest 25% of the world. No one would live on less than a dollar a day and only a small proportion would live on less than two dollars a day. This redistribution of natural resource wealth would thus eliminate the

⁶⁷¹ See Section 1.2

⁶⁷² I estimated this using World Bank data from 1998. See Arundhati Kunte et al., "Estimating National Wealth: Methodology and Results," in *Environmental Economics* (The World Bank, 1998). I divided the total market value of the natural resource wealth by the total global population and assumed that it was invested to provide an annuity in perpetuity. The final figure depends critically on the interest rate used, but my very primitive estimations gave figures somewhere on the order of \$500 per year.

⁶⁷³ However, it also significantly overstates the figure because they are estimating the value of pristine natural resources, not the value of purely natural resources.

most abject kinds of global poverty. Although clearly much global poverty would remain, it is practically impossible to overstate the moral importance of such a change in the distribution of global wealth.

The effects of poverty reduction would not only increase welfare. Higher levels of wealth also mean greater opportunities for both adults and for children, greater access to credit, and greater ability to make use of (admittedly generally very limited) political liberties. In addition, the wealth individuals would have whether in liquid forms or in the form of specific assets would likely reduce exploitation of these vulnerable individuals.

The effects of a more egalitarian natural resource wealth distribution would not be limited to the very poorest. With the vast majority of people in the world living on less than \$4000 a year, \$500 a year would provide a very substantial increase in income. This increase in income, even for those who do not face abject poverty, would likely bring with it concomitant increase in a variety of normatively important benefits.

One could object that much of this reduction in global poverty will have to come at the expense of resource-rich countries many of whom are quite poor themselves. A redistribution of natural resource wealth away from these countries might harm the poor in those countries. And since at least some of wealth will go to natural-resource poor but wealthy countries such as Japan, it is not completely clear that a redistribution of natural resources will in fact benefit the global poor.

There are several replies to this objection. First, it is misleading here to talk about harming resource-rich but poor *countries*. Many of the resource-rich countries which are classified as poor are failing (in some cases spectacularly) to distribute their natural resource wealth equally even among their own citizens. So, the redistribution will not be

coming at the expense of the poor of the natural-resource rich countries, but most often at the expense of the corrupt elite in those countries.

A second response is that in fact redistributing these poor countries' natural resources might not even be as harmful to them as first appears. There is a large literature on the various harmful effects (often referred to as "curses") that high natural resource wealth can generate.⁶⁷⁴ As I discuss in further detail below, high natural resource wealth can lead the country to be an attractive target for takeovers (which are often quite violent) either by internal groups that are currently excluded from the government or external entities such as other nations eager to control the country's natural resources. Natural resource wealth also allows political elites to "buy off" dissatisfied members of society dulling the drive for beneficial social and political reform. Generous government subsidies (funded by natural resource wealth) can discourage innovation by domestic firms. Strength in the local currency, fueled by the high foreign demand for domestic natural resources, can severely reduce the competitiveness of non-natural resource exports; exports which are often important sources of innovation and diversification for the domestic economy. The reliance on natural resource wealth can also discourage innovation in education and effort by students, many of whom can anticipate cushy jobs in the government or the natural resource sector. All of these "resource curses" are the result of very high concentrations of natural resource wealth and would be significantly mitigated with a more egalitarian global distribution of natural resource wealth. This is not to say that resource wealth

⁶⁷⁴ See for example, J. D. Sachs and A. M. Warner, "The Curse of Natural Resources," *European Economic Review* 45, no. 4-6 (2001).

redistribution would be welcomed by resource-rich countries, only that the long-run effects would not be as detrimental for these countries as it first appears.

10.2.2 WAR

The second reason for implementing a more just distribution of natural resources and natural resource wealth is the possibility of averting violent conflict. Many wars between nations have been fought at least in part over natural resources.⁶⁷⁵ Natural resources represent an important source of wealth. But some natural resources (e.g. oil, water) are also important strategically and are crucial for economic prosperity more broadly in a way that goes beyond their market value. Given their importance and the arbitrariness of their distribution among nations, it is not surprising that they have been an important source of international conflict. And needless to say these international conflicts have had enormous negative consequences on the lives of billions of individuals.

Moving towards a more just distribution of natural resources would help mitigate the problem of violent international conflict. First, it would reduce the economic benefit of having sovereignty over a particular resource since the purely natural value of that resource would be distributed more equally globally. This would reduce incentives to invade a country in order to gain control of its natural resource. In addition, insofar as particular countries place a particularly high strategic value on having sovereignty over land containing at least some portion of a particular natural resource (e.g. oil), countries which currently own (at least locally) all of a particular resource might find it

⁶⁷⁵ See Philippe Le Billon, *Fuelling War : Natural Resources and Armed Conflict* (New York: Routledge, 2005).

prohibitively expensive to maintain control over all that resource. At the margin, borders might be redrawn to spread ownership of such strategically valuable natural resource more widely.

Unfortunately, the details of how this would all work requires examining the theoretical interaction between the issues of multiple nation-states and natural resource heterogeneity; issues which I have not discussed in this work. However, it seems clear that at least reducing the premium a nation obtains by having sovereignty over natural resources would reduce the incentive for countries to fight over natural resources.

The desire to control natural resources not only leads to international conflict. It can also lead to civil wars and other episodes of internal violence. In the current global order, most countries are willing to purchase natural resources from all but the most despicable regimes. The enormous benefits that thus flow from the control of government (and the concomitant control of natural resource wealth) generate strong incentives for various groups to attempt to seize control of the institutions of the state. Such struggles often become violent, sometimes degenerating into enormously devastating civil wars.

A more just distribution of international natural resource rights would help to mitigate this problem as well. Again, it would reduce the enormous economic benefits from controlling natural resources. In addition, in many cases the civil wars are driven in part by legitimate outrage on the part of groups of citizens being denied a fair share of the country's natural resource wealth. Giving these individuals their equal share of natural resources would help quell this outrage. Thus, a more just distribution of natural resources can significantly help make both international wars and civil wars less likely.

10.2.3 ENVIRONMENTAL PROTECTION

A third reason for the importance of implementing a more just system of natural resource property rights is the environment. Environmental degradation is clearly a very important problem in the world today. The issue of global warming and the effects on certain countries is a major concern. The environmental damage in some developing countries is shocking and has enormously negative public health consequences. There is also overuse of various animal resources such as fish, voracious consumption of non-renewable resources, extinction of species, and destruction of irreplaceable habitats in search of short term gain (strip mining, certain types of deep sea fishing, etc.) In some areas, human overpopulation is threatening already fragile ecosystems. Clearly not all environmental damage or uses of non-renewable resources constitutes injustice. But some of the activities that are currently carried out seem to clearly constitute violations of obligations to other nations or obligations to conserve for future people.

Moving towards implementation of a more just scheme of natural resource property rights can help mitigate these problems. Although I have argued that some resources whose use is simply too difficult to monitor should be viewed as owned in common, far too many resources are viewed in this way both within particular nations and internationally. Forcing individuals to pay for the natural resources they use would help to better align incentives for conservation. The uses of some resources such as the air are also currently being determined using an inappropriate normative framework. This can lead to over-pollution especially in countries in which certain citizens are extremely poor. Note also that any cost-benefit analysis that is being carried out to

determine acceptable level of environmental damage is biased by the fact that the very poor have not been given their fair share of natural resource wealth.

Much of the improvement in environmental protection would also come by considering the obligations to conserve for future people. A great deal of the irreparable harms to natural resources that future people are likely to value could be avoided by insisting that the current generation meet its obligations to conserve. Forcing parents to take into account the natural resource claims of their children would help reduce overpopulation which is placing a strain on the environment. Again, a full discussion of the specific policy proposals requires a discussion of issues that have not been fully addressed in this work. Nevertheless, better defined property rights, more income for the poor, and better recognized and enforced obligations to conserve for future people seem quite likely to lead to greater protection of the environment.

10.2.4 THE CHALLENGE TO LIBERAL RIGHTS

In addition to the potential for mitigating poverty, war, and environmental degradation, liberals have a special reason to be concerned with implementing a more just natural resource property rights regime. Namely, the current injustice in the distribution of natural resource property rights has served (and continues to serve) as moral failing of the current liberal regime; a failing which critics exploit to launch broad and radical attacks on liberalism more generally.

For those interested in critiquing the broadly liberal system of property rights (which is generally dominant in much of the world), natural resource property rights present an attractive point of attack. All physical property is, at least in part, made up of natural resources. And if the original title to natural resources is tainted, this taints the

title to all subsequent property rights. Several theorists, including John Christman, have mounted criticisms of the current natural resource property rights regime and the liberal defenses of it (e.g. Locke, Nozick) in order to generate support for a radically egalitarian property rights regime; a regime that is far more egalitarian than those most liberal egalitarians would endorse and which extends to all goods, not just natural resources.⁶⁷⁶

Critiques of the current natural resource property rights regime can also be used as grounds for other “rights” that have little to do with property but which nevertheless pose a challenge for existing liberal rights. For example, Mathias Risse develops an alternative account of how natural resource property rights should work in order to ground, among others, a right to immigration.⁶⁷⁷ Admittedly, the theory developed here also might lead to the conclusion that citizens of certain natural resource-poor nations have a right to settle on land currently claimed by a particular natural resource-rich nation. But on the account developed here, this is done *through a redrawing of borders*. This redrawing of borders is very different than generating an obligation on the part of the natural resource-rich nation to admit foreigners *as citizens* to their nation. Enforcing *this* obligation on the citizens of the resource-rich nation may well violate a host of traditional liberal rights such as some basic type of freedom of association.

Both the critiques of both Risse and Christman certainly have some validity. The current regime of natural resource property rights is indeed unjust and the liberal defenses of it are wholly inadequate. This lends plausibility to their critique of a variety of other rights such as the more general right of ownership or the right of a nation to determine its immigration policy (at least within certain limits). Unless the injustices in the

⁶⁷⁶ John Christman, "Can Ownership Be Justified by Natural Rights?," *Philosophy & Public Affairs* (1986).

⁶⁷⁷ See Mathias Risse, "On the Morality of Immigration," in *Faculty Research Working Papers* (Harvard Kennedy School, 2008).

distribution of natural resource property rights in corrected, the current (broadly liberal) dominant global order might continue to come under theoretical attack from a variety of critics.

While the prospect of reducing poverty, war, environment damage, and threats to liberalism might seem attractive, one could object that political constraints make any significant redistribution of natural resource wealth and property rights unlikely in the short-run. I fully concede this point. Still, in showing the normative importance of this potential redistribution, I am making the case for a more careful consideration of the existing political constraints. Some of these constraints will simply be based on a reluctance of the powerful and wealthy to give up their unjust advantage; a reluctance backed by force. Other political constraints, though, are the result of legitimate concerns about the rights of current natural resource owners. The importance of carrying out redistribution can give us reason to work to erode the power of those who resist the redistribution without justification and to try to fairly consider and address the legitimate concerns of those who oppose redistribution on principled grounds. I turn now to consider the most powerful basis for these principled objections to redistribution: the claims of the current legal owners of natural resources.

10.3 The Rights of Current Owners

One of the most difficult problems facing proposals for the egalitarian distribution of natural resource wealth is the concern over the rights of current owners. Herbert Spencer, an advocate of the egalitarian distribution of natural resource wealth, writes that estimating natural resource wealth and appropriately compensating current owners “who

have either by their own acts or by the acts of their ancestors given for their estates equivalents of honestly earned wealth [is] one of the most intricate problems society will one day have to solve.”⁶⁷⁸ In order to avoid at least some of the intricacy, I will focus in this section on the case of a single society. This will also permit a fuller engagement with the classical liberals who have written on the subject while mainly considering natural resource redistribution in the context of their own domestic situation.⁶⁷⁹ I will explore the complexities added by the international case in the section below.

Concern over the rights of current owners has not only served as a central criticism of natural resource redistribution proposals. It is an issue that has divided even supporters of redistribution. Mill, for example, was in favor of taxing only the unearned increase in natural resource rents, thus implicitly allowing current owners to keep much of the current market value of the natural resources in their possession.⁶⁸⁰ Henry George was vehemently opposed to any compensation of current owners.⁶⁸¹ Indeed, given the practical and theoretical complexities of the rights of current owners, such disagreement is not surprising. In this section I argue that redistribution of property rights in purely natural resources should take place and that the current legal owners of the purely natural resources ought to be compensated. I consider some important objections to this general position from those who argue that no redistribution of property rights (even with compensation) should take place as well as from those who argue that redistribution should take place without any compensation to current owners. I then provide a particular proposal for how such redistribution with compensation could be

⁶⁷⁸ Herbert Spencer, *Social Statics* (New York: D. Appleton, 1883), 142.

⁶⁷⁹ An important exception to this is Thomas Paine. Paine, "Agrarian Justice."

⁶⁸⁰ See Book V Chapter II number 5 of John Stuart Mill, *Principles of Political Economy, with Some of Their Applications to Social Philosophy* (London: Longmans, 1926).

⁶⁸¹ See Book VII, Chapter Three of George, *Progress and Poverty*.

implemented. I argue that compensation to current legal owners of natural resources need not undermine the egalitarianism of the natural resource wealth redistribution proposals (as Henry George feared it would).

10.3.1 THE HISTORICAL COMPLEXITY OBJECTION

Before considering a specific proposal for redistributing current natural resource property rights, it is worth considering some objections that have been raised against the proposal more generally. The first objection is that the injustice in the appropriation of natural resources is something which happened in the distant past, and any attempts to disentangle the complex history behind this injustice are bound to fail. Those raising this objection would admit that injustices did in fact occur in the *initial acquisition* of natural resource. But they would argue that trying to trace the counterfactual of who would currently own the natural resources had natural resource property rights been distributed properly is a hopeless endeavor. In addition, such a project runs into a variety of theoretical difficulties such as the non-identity problem. Finally, since the original injustice occurred so long ago, it is impossible to hold responsible the party that actually perpetrated the injustice. With very few exceptions, those in current possession of titles to natural resources are not the ones who actually unjustly appropriated the resource in the first place. These critics might concede that the ideas in this work may be feasibly applied to newly discovered resources. But they would hold that trying to do anything of substance about property rights in resources that are currently legally owned by specific agents is misguided.⁶⁸²

⁶⁸² One conclusion from this critique is that we should simply accept the property system as is. Another (much more radical) conclusion from this critique is that the entire property rights system is illegitimate

Although I ultimately dismiss this objection, it does have some force, in part because two of its claims are correct. First, it is true that most of the specific individuals who initially unjustly appropriated the natural resources are long gone. And since the current legal owners most often have bought the natural resource from someone else, they often have captured little of its purely natural value.

But note that this point by itself does not undermine the proposal we are considering. It is exactly because we recognize that the current possessors may not be responsible for much of the injustice in natural resource property rights that we are considering the question of how to appropriately compensate them. Now, it might turn out that once we examine the issue more carefully, we will find that no compensation is sufficient. But the mere fact that the initial appropriation occurred long by actors who are different from the current possessors does not undermine the proposal to redistribute natural resource property rights *as long as we remain committed to appropriate compensation for the current legal owners.*

The historical complexity objection is also undoubtedly right in suggesting that it is very difficult to rectify the thousands of years of injustice in the historical distribution of natural resource property rights. Clearly, the current global distribution of property rights would be vastly different had natural resource property rights been appropriately respected all along. And a person who is currently excluded from natural resources might well appeal to this historical injustice in order to claim some rectificatory compensation. The historical complexity objection correctly suggests that the practical difficulties of thinking through the counterfactuals and theoretical difficulties such as the

and must be abandoned. See for example, Rousseau, "Discourse on the Origin and the Foundations of Inequality among Men".

non-identity problem make it enormously difficult to provide appropriate rectification for this historical injustice.⁶⁸³

Nevertheless, the historical complexity objection is ultimately unconvincing because it implicitly assumes that a person excluded *today* from natural resource wealth can *only* complain of a *historical* injustice. In Chapter Eight I have argued that every person who is born has an equal claim to natural resources, a claim that she herself has and which is not based on some claim of her ancestor. The fact that this claim is not being met by the *current* property rights system constitutes a *current* injustice which is separate from the historical injustice created by the previous denial of an equal share of natural resources to particular individuals and their ancestors. As Henry George writes, “[The natural resource ownership system] is not merely a robbery in the past; it is a robbery in the present – a robbery that deprives of their birthright the infants that are now coming into this world!”⁶⁸⁴ The correction of this *current* injustice is the goal of the resource redistribution proposal that is being considered in this section.

It is useful here to think of an analogy. Imagine that we discover a person’s car which was stolen several years ago. It may well be that the current possessor is not the thief of the car and had no idea that the car was stolen when he bought it. It might also be true that any attempt to estimate the magnitude of the harm the original owner has suffered as a result of not having her car for the past several years might be highly speculative. Nevertheless, there is a *current* injustice in that the original owner still does not have her car. And *this* injustice may well motivate us to try to return the car to her (assuming that we can appropriately compensate the current possessor). So historical

⁶⁸³ I will return to the issue of rectification below

⁶⁸⁴ George, *Progress and Poverty*, 282.

complexity provides no fundamental objection to the proposal to redistribute natural resource property rights now with appropriate compensation for current owners.

10.3.2 THE EPISTEMIC SEPARABILITY OBJECTION

The second main objection that has often been raised to compensation proposals has been the epistemic separability problem. We only want to give currently excluded individuals rights to the purely natural value of natural resources, not rights to the entire improved resources. Yet it is difficult to observe the value of most natural resources separately from their improvements. And even if we could, this would still not correspond to only the purely natural value (since it would include the value added by the community, public goods, etc.).

I have already considered this objection in Chapter Seven since it arises in ideal theory when trying to estimate rents in implementing a lease system over time.⁶⁸⁵ The problem is not fundamentally different as applied to determining the purely natural resource value of currently owned natural resources for purposes of compensation, and so I will only briefly rehearse the solution here. I argued in Chapter Seven that current statistical techniques (hedonic price methods) combined with thorough data collection, modern computing power, and a solution to the contribution determination problem can allow us to solve this difficulty. We can use sale prices of developed natural resources along with information about the characteristics of those properties to not only separate the value of the developments from the value of the land of other unsold properties (this is currently done by property tax assessors using Computer Assisted Mass-Appraisal methods). We can also use this data to estimate the effective market value contributed by

⁶⁸⁵ See Section 7.2.1.

different characteristics of the unimproved land (e.g. proximity to a certain community or to a certain public good). We can thus ensure that excluded individuals only receive rights to the purely natural value of developed natural resources, not rights to the value of the improvements.

10.3.3 THE MORAL LIABILITY OF CURRENT LANDHOLDERS

Both the historical complexity and the epistemic separability objections have most often been raised to suggest that we should simply keep current property rights as they are and not try to redistribute them even with compensation to current owners. However, one could also object to the proposal that I consider here by advocating, as George did, that the property in purely natural resources be confiscated *without* compensation to current owners. Although most of George's critics found this idea to be particularly objectionable, it may not be so outrageous. After all, in some states the law dictates that third parties who buy property from a thief are required to return the property to the original owner without any compensation. In making the case for confiscation without compensation, George attempts to draw an analogy between this general legal practice and the claim that current owners should be forced to relinquish (without compensation) their claim to purely natural resources.

George points out that legally, if A can show that he was wrongly deprived of a particular plot of land, then:

The law simply says, "The land belongs to A, let the Sheriff put him in possession!" It gives the innocent purchaser of a wrongful title no claim, it allows him no compensation. And not only this, it takes from him all the improvements that he has in good faith made upon the land. You may have paid a high price for land, making every exertion to see that the title is good; you may have held it in undisturbed possession for years without thought or hint of an adverse claimant; made it fruitful by your toil, or erected upon it a costly building of greater value than the land itself, or a modest home, in which you home, surrounding by the fig trees you have planted and the vines you have dressed, to pass your declining days; yet if Quirk, Gammon, and Snap can mouse out a

technical flaw in your parchments, or hunt up some forgotten heir who never dreamed of his rights, not merely the land, but all your improvements may be taken away from you. And not merely that. According to the law, when you have surrendered the land and given up your improvements, you may be called upon to account for the profits you derived from the land during the time you had it.

Now, if we apply to this case of *The People v. The Land Owners* the same maxims of justice that have been formulated by landholders into law, and are applied every day in English and American courts to disputes between man and man, we shall not only not think of giving the landholders any compensation for the land, but shall take all the improvements and whatever else they may have as well.⁶⁸⁶

After making this analogy, George emphasizes that he only wants to confiscate the unimproved value of the land while allowing the current landholder to keep the value of his improvements. In this section I would like to set aside the issue of the improvements and focus simply on the permissibility of confiscating the purely natural value of a natural resource which someone bought (in a fully legal manner) from another party.

Let us first consider what justification there might be for seizing the good from the current possessor without compensation in the legal case (e.g. the case of the stolen car considered above). The first justification is that the buyer could have exercised greater scrutiny to ensure the goods she was buying were legitimately owned by the seller. Clearly in some cases, the buyer might have some reason to suspect that the good in question is stolen. Returning to the stolen car analogy, if B bought a very expensive, barely used car from C for a low price, and C is far too poor to afford such a car, we might think that B had good reason to suspect that the car might be stolen. Even if C gave B a title to the car that looks authentic and had some story of how he gained legitimate possession of the car and why he needs to sell it now at a discount, we might not be particularly sympathetic to B's plight if B then finds out the car was stolen from A and has to return the car to A without compensation. We might think that B should have taken better care to ensure that the car she was buying was legally owned by C. Holding

⁶⁸⁶ George, *Progress and Poverty*, 283.

the final possessor of the car responsible in this way ensures that buyers will have incentives to take precautions to ensure that they are not buying illegally obtained goods.

But let us now imagine instead that after buying the car from C, B sells the car to D who had no reason to suspect that the car was stolen and even took reasonable precautions to ensure that B's title was legitimate (but those steps failed to discover the truth). The response to D's complaint of injustice is that D is free to sue B to recover her losses. And B is free to sue C to recover his losses. So at least in some cases, it is possible that D will largely be made whole.

Of course, there will be current title holders who had no good reason to suspect the good they are buying might be stolen, who took reasonable steps to ensure that what they were buying was not stolen, and who are unable to recover from a previous seller (e.g. we might imagine that B died before D could sue him). We might respond to the complaints of such individuals by pointing out that given an imperfect world, any rule will produce some unjust losses, and that epistemic problems prevent us from knowing with certainty when a particular person's losses are in fact unjust. The rule whereby the current possessor is not compensated may be the best of the feasible rules available even though it does admittedly generate unjustified harms in some cases. When the first two justifications are satisfactory in a sufficiently large number of cases, this third justification may be plausible as well.

Without settling the question of whether the current possessor ought to be deprived of the good without compensation, I want to consider the strength of these responses to the landholders in George's hypothetical case of *The People v. the Land Owners*. First, note that in the car example, the question was whether the buyer had good

reason to suspect the *legal* pedigree of the sellers' title to the property and whether she took reasonable steps to ensure the authenticity of this *legal* title. In the case of the landholders who bought the land from the previous landholder, there is no question of the legal validity of the title they bought. Rather, the analogous question is whether the current possessors of the land had good reason to suspect the *moral* pedigree of the ownership title and whether they took reasonable steps to consider the justice of the property title they were buying.

Asking individuals to consider the moral status of the property title they are buying is, in most cases, more demanding than asking them to take steps to ensure its valid legal status. Nevertheless, it may not always be unreasonable to ask individuals to do this. So for example, there may well be an argument for denying slaveholders full compensation for the market value of their slaves during an emancipation process. We might argue that the slaveholder should have realized that title in another human being was invalid as a matter of justice even if it was legally condoned. So just as B should have known the car she was buying from C had a legally invalid title and therefore B does not merit compensation, the slaveholder should know that his title to the slave was unjust and does not merit compensation.

The argument is questionable even in the case of the slaveholder. After all, the slaveholder can argue that the society as a whole condoned the sale of slaves, and that he was relying on the moral judgment of the society as a whole. Intuitively, it seems quite plausible that the society as a whole bears at least partial responsibility for condoning slavery. And so the society as a whole should bear a significant part of the cost of correcting that mistake. If so, then the question is not whether compensation is due or not

to the slaveholder, but rather how much compensation. This will depend on how reasonable it is to have expected the slaveholder to recognize the injustice of the title to the slave herself and how we judge this responsibility relative to the slaveholder's defense referring to the official legal approval of the practice.

Returning to the question of landholder, it may be plausible to hold that the society as a whole should bear some responsibility for condoning this unjust practice. But I think it is significantly less plausible to hold individual landholders responsible for failing to recognize the injustice of property in land. Though I believe that the current system of natural resource ownership is indeed unjust, its injustice is not nearly as obvious as the injustice of slavery. The lottery argument and even the first possession arguments have a plausibility that seems significantly higher than the plausibility of the arguments for the justice of slavery.⁶⁸⁷

Of course, in both cases individuals should know that property rights in both land and people were rarely acquired in the ways that might (even in a remotely plausible way) justify the ownership title. The response to this point in both cases might be versions of the historical complexity argument which I considered above. But in the case of slavery, the historical complexity argument is far less plausible because it is very clear that there is a person that is the victim of a *current* injustice (i.e. the slave). Although I have argued that the historical complexity argument is unconvincing in the case of natural resources as well, it is not as obviously wrong in that case. It is more difficult to

⁶⁸⁷ The one argument that has some plausibility (but is still of course ultimately unconvincing) is Locke's argument about capturing a slave in a just war. See Locke, "Second Treatise of Government," 17.. Yet even someone who took such an argument seriously would have been a fool to assume that all slaves were captured in just wars. In addition, this argument has a much more difficult time justifying ownership of the children of those captured in just wars. Of course, in making judgments of relative plausibility of arguments we have to be especially careful not to let our particular social circumstances (i.e. the fact that slavery is almost universally recognized in modern liberal democracies as a grave and obvious injustice) to cloud our judgment.

see the claims of individuals to be victims of a current injustice as opposed to simply demanding rectification for some wrong (i.e. an unjust natural resource appropriation) committed in the distant past. Also, it should be noted that the legal practice of private natural resource ownership is far more widespread both within particular societies and across societies compared with the institution of slavery around the time when it was abolished, say, in the United States. In addition, at least in recent decades there has been little written in the public domain (and relatively little even in academic circles) focusing on the injustice of natural resource ownership. Finally, the moral wrong of natural resource ownership is simply not as grave as the moral wrong of slavery. For all these reasons, it seems to me implausible to hold current legal owners of natural resources responsible for failing to recognize the injustice of the property title they are holding. In this way, they are unlike B (who should have investigated the legal status of the car title) and instead are far more like D who we recognize has not failed to take reasonable steps to ensure the legitimacy of the property title she was acquiring.

The second response in the legal case is that the current possessor can sue the person who sold her the good in an attempt to recover her losses. This is true even when that seller is not the original thief. One idea behind this might be that as we work backwards through the chain of buyers, each buyer may bear more of a responsibility for not taking additional steps to ensure that the title was valid. In addition, a particular buyer may well be in the best position to locate the person from whom she directly bought the good. Such a procedure might thus produce the best chance of eventually (working through a chain of transactions) holding the original thief responsible.

However, there are a few problems with applying this thinking to the case of the landholders. First, the chain of buyers for natural resources will generally be much longer than the chain of buyers for a stolen good. Second, (and more importantly) after going back a few links, it is quite likely that the actor who sold the natural resource no longer exists. Finally, it is not at all clear that as we go further back, the moral responsibility for not recognizing the injustice of the title increases in the way that the responsibility for not taking steps to authenticate the title of a property title might increase in the analogous legal situation.

In addition, insofar as this procedure will be able to identify the “original thief” at all, this original thief will be likely be some political regime. The original thief is the entity which originally captured the purely natural value of the resource. And if we go back far enough, some past regime often granted exclusive natural resource property rights to a particular individual or sold it in exchange for money. If we think that the current government is responsible for the actions of previous regimes, then it might be that the current government is in fact the entity that is responsible for the original theft.⁶⁸⁸

So it seems that the two justifications that might be used to hold a current possessor of a stolen good responsible in the legal context cannot be plausibly applied to establish an analogous responsibility of current legal owners of natural resources. The injustice of the current natural resource property rights regime does not seem to be sufficiently obvious. In addition, it is not possible for the current possessor to recover

⁶⁸⁸ We might view a particular nation-state as an entity which is in some ways responsible for its previous actions. But the connection between a previous regime’s actions and the current government might in some cases be of a more practical nature that does not require complicated claims about agency. Insofar as a previous regime sold the land, it often received some revenues for it. And in a country like the United States, these revenues likely reduced the size of the national debt that otherwise would have obtained.

damages from a previous seller which will (with an even remote possibility) lead back through a chain of transactions to the original thief.

More interestingly, although both lines of argument fail to convincingly show that the individual landholders should be held responsible, both seem to suggest that the government bears at least some responsibility. A plausible defense to the argument that the person should have recognized the injustice of the property title is that the current landholder relied on the judgment of the society which condoned the practice. In addition, insofar as an original thief can be found, it will often be some past political regime. And, on certain views of nation-states, current governments might be properly held to be morally responsible (and might have even have benefited in identifiable ways) from the previous capture of the purely natural value. I will return to this point about the culpability of the government below. My purpose in this section has been to show that though it *might* be reasonable in a legal case to seize without compensation the goods of a current possessor who bought the good from someone else, the analogy between this situation and the situation of current landholders which George tries to draw is ultimately unconvincing.

10.3.4 MILL'S PROPOSAL

There are, of course, other objections to compensating current owners. But it might be best to consider these objections with a concrete proposal for natural resource property rights redistribution in mind. Mill presents such a proposal in his *Principles of Political Economy*. He suggests a two step process for moving towards equal natural resource claims: First, estimate the market value of all the land (excluding improvements). Second, over time, when the rent on the land increases in a way that can

be determined to be not due to the efforts of the landholders, (e.g. through an increase in the price of grain) tax the unearned increase in the rent.⁶⁸⁹

There are, however, several problems with Mill's proposal. The first problem is that though Mill constantly says he wants to let the current owners keep the value of the land they legally own, by taxing increases in rent, Mill's proposal is quite likely to entail taxing away part of the value that the current owners already paid for. When people buy natural resources, they often have an expectation that the value of the natural resource will increase over time. Assuming the seller has a similar expectation, this anticipated increase will be included in the price of the land that the current landholder has paid. In addition to an expected increase, the land's price may well also be based on a certain probability distribution of what will happen to the land's value over time. If the government takes away the increase in the value without also making up for any decrease in the value, the government will effectively capture some of the value that the current owner paid for.⁶⁹⁰

To his credit, Mill recognized that unexpectedly taxing the unearned increase in the price of land might generate this problem. He writes, "In England, for example, have not all who bought land for the last century or more given value not only for the existing income, but for the prospects of increase...?"⁶⁹¹ Mill responds to this objection by arguing that its validity depends on whether there has been a practice of unexpectedly raising the land tax or not. If there is, then Mill argues that the landholders' objection against an increase in the land tax would be unfounded.

⁶⁸⁹ See Book V Chapter II § 5 of Mill, *Principles of Political Economy, with Some of Their Applications to Social Philosophy*.

⁶⁹⁰ Note that the fact that the current price includes an anticipation of future price increases is also an argument simply compensating current owners based on the previous price that they paid.

⁶⁹¹ Mill, *Principles of Political Economy, with Some of Their Applications to Social Philosophy*, 819.

But this response is unconvincing. Even if the landholders lived in a country where they believed that there was say, a 20% chance that the land tax might unexpectedly increase, only that probability of an increase would be figured into the original price. Actually increasing the land tax when the landholders only believed there was a chance of such an increase would still effectively confiscate at least some of what the landholders paid for their land.

Mill's second argument is that the legislature in England has kept the land tax inappropriately low for a long time (and in fact voted to decrease the land tax several decades before Mill's book was written). All the while, Mill points out, the value of land increased immensely.⁶⁹² But while this point might be an important consideration for determining what is due to those who held the land when the decrease was enacted, anyone who bought the land *after* the decrease was enacted paid a price which took this decrease into account. So the low rate of taxation can hardly serve as a justification for unexpectedly increasing the taxes on new landholders.

A proponent of Mill's proposal might answer this complaint by taxing only those increases in the value of the unimproved natural resource which were *wholly unanticipated*. Such increases are those that neither the current legal landholder nor the previous landholder even considered to be possibilities when settling on the price of the land. One problem with this is that it is difficult to determine which increases in value were wholly unanticipated in this way. In addition, an advocate of this proposal would need an account of why wholly unanticipated *decreases* in the value of natural resources are not something for which the government should compensate the current landholder. Most importantly, this proposal would not solve the other problems with Mill's proposal.

⁶⁹² Ibid.

In fact, it would actually aggravate the problem regarding the unacceptable egalitarian modesty of Mill's proposal that I discuss below.

Before discussing this central egalitarian criticism, it is worth pointing out other problems with Mill's taxation scheme. First, his suggestions for estimating unimproved value of natural resources are crude and he makes no attempt to distinguish between the different sources of value of unimproved land (e.g. the purely natural value from the value added by public goods). However, I have argued that there are solutions to these epistemic difficulties and there is no reason to think that Mill would object to availing himself of these solutions. More importantly, Mill's proposal is subject to problems similar to those discussed in Chapter Seven with regard to yearly leases. Namely, an increase in tax might effectively force certain landholders to sell the land they possess, severing a variety of economic and non-economic connections. In the discussion of the lease system in Chapter Seven, those forced to sever these connections knew *ex ante* that they only had short-term leases. Under Mill's system the people who would be forced to leave their land would be those who, like Susan Kelo, thought they were buying permanent ownership of the land.

However, the most important problem with Mill's proposal is that the egalitarian benefits it produces are minor at best. Henry George criticizes Mill's proposal for exactly this reason.⁶⁹³ Relative to a redistribution of the entire value of all purely natural resources, Mill's proposal is incredibly modest. In the short run it would do nothing to alleviate the enormously pressing problem of poverty and the legitimate complaints of those who are currently being excluded from natural resource ownership.

⁶⁹³ George, *Progress and Poverty*, 279-80.

10.3.5 AN ALTERNATIVE PROPOSAL

Rather than trying to make minor alterations to Mill's proposal, I would like to suggest an alternative: The government could actually buy all the purely natural resources from current owners for appropriate compensation and replace the ownership titles with leases of the kind described in Chapter Seven (with rents from the leases distributed equally).

The first question to ask is what constitutes appropriate compensation for current owners? Here we need to distinguish two objectives that Mill and others have generally conflated. The first is ensuring that we are not depriving the current landholders of the value that they paid for with their (presumably justly obtained) wealth. The second is respecting the landholders' current expectations. I hold that appropriate compensation is one that does not deprive the current landholders of what they paid for the land, but that appropriate compensation need not fully respect the landholders' current expectations.

Note that while respecting expectations and not seizing paid-for value often go hand in hand, they need not always coincide. To take an obvious case, imagine some individual who was favored by the government (for some reason not having to do with any effort he put forth) and was given an enormous amount of natural resources 10 years ago. The person did not pay any money for the natural resources (or put forth effort to acquire them). But he may have developed expectations based on his legal ownership of the resources (e.g. he may have been profligate in his spending, knowing that he still has a massive amount of natural resource wealth to fall back on). Thus, he has expectations based on the legal system that might be due a certain respect, but seizing the resource would not entail depriving him of any wealth that he paid for the natural resource.

There are other (less extreme) cases where these two different concerns come apart. The favored person might have actually bought the resource from the government. But the transaction might have not been “at arm’s length”. Part of the concern for him in this case would be based not confiscating the wealth he used to buy the natural resource while another part would be for his legal expectations. Another example is where wholly unanticipated changes in the value of the natural resource occur while the current legal owner is in possession of the natural resource. So a farmer might accidentally discover oil on land which no one ever thought might contain it.

Based on the arguments in the section about the moral liability of current owners, it seems clear to me that we should not confiscate the wealth that the owners effectively placed in the natural resource. However, it is far less clear that every expectation based on current legal practices is enough to generate a requirement for full compensation. Thinking back to the car analogy, imagine that instead of buying the car from B, D simply received it as a gift, and let us assume that D had no reason to suspect that the car B gave her was stolen. To avoid certain attacks on the legitimacy of D’s expectation, let us even imagine that the current law allowed the gift recipient to keep the good in such stolen good cases. But let us imagine next imagine that A discovers that D has possession of the car and sues D for the return of the car. The court not only orders that the car be returned to A but also overturns the law that allows gift recipients to keep the cars in such cases. Note that although D did not pay anything for the car, she may well have come to rely on the car, form connections with the car, and develop expectations that she would be able to keep the car in the future. Nevertheless, whatever the strength of the case for compensating D for the market value of the car in the case when she

bought it from B, the case for doing so seems significantly weaker in the case of a gift. Similarly, a person who, wholly by accident, discovers oil on land that she currently owns, should not, it seems to me, be fully compensated despite the fact that she can expect to fully benefit from the oil under the current law.

The extent to which current expectations should be respected is open to reasonable disagreement. One consideration that seems relevant is the nature of the connection that the person has formed with the property in question. However, settling this issue is beyond the scope of this work.⁶⁹⁴ However, it seems to me at least that in most cases, a person should not be given full compensation merely on the basis of current expectations (even expectations that are in line with current law). I will return to this issue briefly when I consider compensation of current owners in the international case.

The second question that needs to be answered is what should be the length of the leases? The government could suggest a default lease length which corresponds to the length of the lease it would have offered if the natural resource had been leased all along. But it may well be sensible to allow the current legal owner to request a longer lease term (in exchange for higher rent) in recognition of the fact that the current owner did buy the resource with an expectation that she could keep it forever (and even pass it on to her children) if she wanted to do so. How long of a lease the government should be willing to offer to such a person is something that is also open to reasonable disagreement and cannot be settled here.

One could object to this proposal on practical grounds by pointing out that such a massive purchase of purely natural resources would require an enormous outlay of wealth

⁶⁹⁴ For a treatment of some issues in this area, see Daniel N. Shaviro, *When Rules Change : An Economic and Political Analysis of Transition Relief and Retroactivity* (Chicago: University of Chicago Press, 2000).

by the government. In order to minimize the upfront costs, the government might be permitted to pay the compensation in yearly installments until the person stops leasing the natural resource that she is currently holding (or until she has exhausted the original compensation that she was due for the original natural resource title).

Much more could be said about the specific details of how this proposal would work. However, rather than getting bogged down with the details, I would like to consider broader objections that critics of compensation to landholders such as Henry George might raise.

George might first object to this proposal by arguing (as he does against Mill) that it allows the current landholders to keep their enormous unjust advantage (i.e. they are able to effectively keep the natural resource's unimproved value).⁶⁹⁵ But this objection is based on a simple mistake. Consider the landholder who bought her land yesterday. Insofar as she paid for the land, she did not capture the advantage of its purely natural value. By compensating her when we confiscate the purely natural resource and make her a tenant, we are not permitting her to keep her enormous advantage, but rather ensuring that she is not unjustly disadvantaged by the change in property rights regime.

By far the most serious objection George would raise against the system I am proposing is that it would not actually produce any egalitarian benefits. This is because the payment to the landowners for the current market value of their natural resource would basically be exactly equal the value of the future lease payments (in terms of present value). The proposal I am advancing, then, appears to be a “wash”. As George writes, “Just in proportion as the interests of the landowners are conserved, just in that proportion must general interests and general rights be disregarded, and if the landowners

⁶⁹⁵ George, *Progress and Poverty*, 279.

are to lose nothing of their special privileges the people at large can gain nothing.” With this point in mind, it is easy to see why George was so vehemently against any compensation to the landholders.

There are several important responses to George’s objection here. First, in contrast to Mill, I have suggested that in some cases, current landholders may not in fact be due the entire current market value of the purely natural resource they possess. For example, they might have bought the resource from the government at a sale which was not “at arm’s length” or there may have been a wholly unanticipated increase in the purely natural resource value of their holdings. Second, the present value of the lease payments for some natural resources may actually be higher than the current market value of the permanent title to the natural resource for the reasons discussed in Chapter Seven.⁶⁹⁶ In addition, it allows natural resources to be put into more economically valuable uses in a way that might be prevented by sincere holdouts.

George might respond in turn that these differences are likely to be relatively minor. There may only be a relatively small number of current landholders who can be identified as having bought their resources from the government at transactions that were not at arm’s length. And, as I conceded earlier, it may be difficult to identify in an unobjectionable way clear cases of wholly unanticipated increases in purely natural resource value. In addition, any extra wealth that the lease system might generate above and beyond the current market prices of the title is likely to be quite small compared to the total value at stake. And since the lease system also needs to take into account considerations besides maximizing rent payments when determining lease lengths (e.g. respecting the claims of future people), it is not clear that the net economic benefit will

⁶⁹⁶ Namely, the lease system provides a kind of implicit insurance to landholders. See Section 7.1.1

even be positive. Although it is impossible to be sure whether the net effect will be positive or not, I think George would be right to argue that any discrepancy between what is owed to current owners and the present value of future lease payments is likely to be quite small.

But the more important response to George's concern is that even an exact equivalence between the compensation due to current landholders and the present value of the lease payments would not eliminate the egalitarian benefits of the proposal I am advancing. This is because *there may well be a difference between the appropriate distribution of the burden of compensating the landowners and the appropriate distribution of the benefits from the lease payments*. Since both George and Mill advocated that natural resource rents should simply be collected by the government (rather than fundamentally being viewed as being owed to individuals) they failed to consider this possibility.

In fact, there are good reasons to think that the burden of compensating current legal owners of natural resources should be distributed differently than the lease payments. I have argued that respecting equal claims requires distributing the proceeds of the lease system equally on a *per capita* basis (each person receiving an equal amount). But there is little reason to think that the appropriate distribution of the burden of paying the current landholders in this case entails every person contributing an equal *amount of money*.

There are many other ways for the burden to be shared which seem more reasonable. We might try, as best we can, to estimate who has most benefited from the injustice. I have argued above that one entity that was able to capture the purely natural

resource value is a previous political regime. This might suggest that the burden of compensating current landholders should be borne by taxpayers (e.g. financed through some proportional increase in all tax rates) who would have otherwise been likely faced with a greater national debt. We might also note that though much of the purely natural resource value was already consumed by unidentifiable individuals, some of it has been passed on to current individuals as inheritance. This might lead us to ask those who benefited from larger inheritances to bear a greater portion of the burden. Finally, those who currently consume goods with natural resource components may be capturing some of the benefit since a key cost of producing the good they are consuming might not have been borne by the producer of those goods. Thus, we might spread the burden in relation to consumption in general or natural resource consumption more specifically.⁶⁹⁷

Alternatively, we might despair in trying to find (even roughly) who benefited from the injustice and might determine that everyone should bear the burden of landholder compensation equally. But even in this case there is little reason to think that this should mean that everyone should contribute an equal amount of money. We might instead think that people should devote an equal amount of their time to correcting the injustice. This would distribute the burden in proportion to something like effective hourly wages.

Note that however we allocate the burden, it seems reasonable to spread it, at least in part, over time. It seems reasonable that future people who will also benefit from having a just distribution of natural resource property rights should shoulder some the costs of transition.

⁶⁹⁷ For several interesting suggestions, see Nicolaus Tideman, "Designing a System of Compensation for the Introduction of Public Collection of the Rent of Land as the Principal Source of Public Revenue."

I have no intention of settling here the question of how exactly the burden of compensating landholders should be borne. This is a specific case of a more general question of how the burden of compensating for past injustices should be borne; a question which is beyond the scope of this work. However, it seems highly implausible to hold that the very poor should contribute the same amount of money as the very rich to this compensation effort. As long as the burden of compensating current landholders is not shared in this way, the distributional consequences of the proposal I have advanced here in terms of achieving a more egalitarian distribution of property rights to purely natural resources could well be enormous.

10.4 An Overview of Some Difficult Problems

Although the issue of the rights of current landholders in the domestic case is important, it is only one of the many incredibly complicated issues surrounding implementation. There is no possible way to examine all of these issues thoroughly in the context of a single chapter. Some of these issues require a discussion of aspects of ideal theory that are missing in this work. Others touch on enormously difficult questions of implementation that any proposal for change must confront. Still others are issues related to certain practical difficulties or theoretical complications with the proposal suggested here that I have generally set aside so far. Although I cannot discuss all these difficulties in any detail here, it is important to at least describe the central problems. Doing so not only provides direction for future research. A discussion of some of these complications also suggests the scope of the institutions (both domestic and international)

which will be needed to fully implement the just scheme of natural resource property rights (a topic which I take up in the next part of the chapter).

10.4.1 DIFFERENT AGES AND DIFFERENT LIFESPANS

The first complication I would like to briefly explore is an interesting problem that arises once we consider the rights of individuals of different ages in the transition stage and the rights of individuals with different lifespans more generally. Imagine that we implement the proposal that I have described where we compensate the current landholders and implement a lease system. The government receives the first rental payment from the lessees, and as it is about to send an equal portion to each person it realizes it has the following problem. Should it send an equal amount to a 70 year old person as it sends to an 18 year old person? After all, the 70 year old can complain that she should have an equal amount of natural resources with which to lead her life. And if she is merely given her share of lease payments for her remaining years, it is not clear that we will be able to say that her equal natural resource claim was respected. Note that if instead of implementing a lease system, we instead had an equal-proceeds one-time auction of the purely natural resources, the distributional consequences for the 70 year old versus the 18 year old would be very different.

A similar issue arises in ideal theory as well. Moving from the one-time equal proceeds auction to the equal proceeds lease system will have important effects on people of different lifespans. Thinkers like Steiner seem to ignore this issue because for them, the lease payment a person receives is fundamentally compensation for a lost liberty to use a particular natural resource, a liberty which we might think of a person having at each moment in which she is alive. But the view presented here is somewhat different.

The lease payment on my account is supposed to implement a system in which everyone (as far as is possible given other constraints) has an equal amount of natural resources with which to lead their lives taken as a whole. On this view, a person with a lifespan that shorter than someone else's should receive a greater share of lease payments.⁶⁹⁸ The details of how this interesting problem ought to be addressed practically are beyond the scope of this work.

10.4.2 RECTIFICATION

As I mentioned above, the proposal for implementation explored here is only concerned with correcting the *current* injustice in natural resource property rights. In terms of the car analogy, it is concerned with returning the car to its rightful owner. There is also the further question of the rectification for previous injustices. In terms of the car analogy, this is analogous to claims for damages from being deprived from the car by the thief in the past (e.g. lost wages from being unable to get to work on the day the car was stolen). Although the proposal developed above is not aimed at addressing the issue of rectification, it is nevertheless an important problem that deserves at least some attention.

One reason that I avoid the issue of rectification is because of its enormous complexity. Solving the problem of rectification in the case of natural resources is complex for at least three reasons. First, the practical difficulties of thinking, even in the most rudimentary ways, through the counterfactuals are very daunting. What would the world look like today if natural resources had always been distributed equally? How can

⁶⁹⁸ One of the reasons this point is so interesting is that it is a practical difference which depends on the fundamental foundation of the equal claims view one has. A foundation based on equal initial liberties can, like Steiner's system, lead to the conclusion that the payment should not vary with lifespan.

we put a price on the damage that was caused? It seems to me to be incredibly difficult to reliably identify and put any sort of price on the moral horrors that were caused as a result of people being unjustly excluded from natural resources for thousands of years.⁶⁹⁹

The second problem is figuring out who should bear the costs of rectification. As I have discussed above, the individuals who committed the past injustices are long dead. And though we might point to some benefits that particular individuals might not have had if not for this injustice, such counterfactuals will generally be speculative (an important exception is the enormous natural resource wealth that has been amassed by countries such as Norway and Saudi Arabia). In addition, any small benefit we identify certain individuals are enjoying will have to somehow be allocated among the billions who might plausibly claim to be worse off today as a result of this injustice. In addition, the problem of the expectation of the individuals who currently enjoy these benefits will need to be addressed.

The third difficulty is the non-identity problem. As I argued in Chapter Eight, the non-identity problem cannot be used as a defense against the claims of those who wish to undo the *current* injustice in natural resource distribution.⁷⁰⁰ But it is a problem that those who ask for rectificatory compensation must contend with. It is quite likely true that *someone like* the current global poor would have been enormous better off if, counterfactually, the world had been respecting equal natural resource property rights all along. But the specific people who exist now cannot straightforwardly claim that they would have been better off, since *they* would not exist in this counterfactual world. In

⁶⁹⁹ Nozick gives these issues and the difficulties they present some attention. See Nozick, *Anarchy, State, and Utopia*, 152-53.

⁷⁰⁰ See Section 8.2.3.

this way, they are not like the original car owner who is asking to be compensated for lost wages as a result of not having a car.

The presence of these difficulties does not demonstrate that the problem of rectification should be ignored (no more than the presence of similar difficulties in the debate over slavery reparations in the United States shows that the reparations issue should be ignored). Rather, they are meant to show that it is an enormously complicated problem with no easy solutions.

10.4.3 LEGAL OWNERS IN THE INTERNATIONAL CASE

So far in discussing the rights of current owners, I have restricted my attention to the domestic case. Once we consider the question in the international context, the question of the rights of current owners becomes much more complicated. First, governments actually outright hold the title to a variety of natural resources. Second, even a natural resource that is currently owned by an individual is not really fully owned by her. If someone owns land on the US-Mexico border and she sells her land to a Mexican, that land does not become part of Mexico. So at least in some sense, the nation-state is, as a current empirical matter at least, is viewed as the ultimate owner of the natural resources within its territory.⁷⁰¹

Figuring out the exact relationship between the current ownership rights of the individual and the ownership rights of the state is a very complex matter with very important implications. There are two separate questions here. The first question is how the relationship currently works in practice. Answering this question is necessary in

⁷⁰¹ As Barry points out, the basis of national sovereignty over natural resources is convention reinforced by international declarations. See Barry, "Humanity and Justice in Global Perspective," 235-36.

order to provide an account of appropriate compensation for the current legal owners of natural resources. The second question of how the relationship ought to work as a matter of ideal theory. I (very briefly) touched on this question in Chapter Nine. Answering this question is necessary for developing an account of how the lease system should work in the international case (assuming the lease system is appropriate).

Rather than considering the issue in abstract, it might be more useful here to consider a concrete proposal for natural resource redistribution in the international case. Given space considerations and the lack of key parts of the necessary ideal theory, this exercise will necessary be quite speculative and lacking any substantive defense. Although I provisionally believe that the proposal I am about to suggest is plausible, the purpose of presenting this proposal is not to convince the reader, but rather to raise questions for future research.

With these disclaimers in mind, consider the following possible scheme of international natural resource property rights redistribution: Each country could compensate its own legal owners of natural resources in the way described above.⁷⁰² An international fund could then be set up to compensate nation-states appropriately for their current ownership rights. And then nation-states could be granted leases for their territories which they then could lease to their citizens in the way described above.

Rather than trying to provide a justification for why I support this proposal, I would like to explore (in a very preliminary way) questions similar to those I raised in the domestic case. The first question is what is the appropriate level of compensation for

⁷⁰² Some plausible arguments could be made for holding nation-states responsible for compensating their own citizens. After all, some nations have natural resource property rights regimes that are for more egalitarian (though arguably less efficient) than most liberal democracies. It is difficult to argue that such nation-states should be responsible for compensating the landholders in nations which chose to have more inegalitarian regimes.

nation-states? Note that unlike individuals, it is very rare for nation-states to have obtained their natural resources through purchase.⁷⁰³ Therefore, the relevant question to ask is what compensation is due as a result of existing expectations. As I argued above, this is a weaker claim than the one created by having actually paid for the natural resource. As in the case of the individual, the attachments a nation has formed to the particular land in question seem to be relevant here. So Denmark might not be compensated for the majority of Greenland (meaning it might find it very difficult to afford to keep all of the land of Greenland in the lease system) but we might provide Denmark with compensation for the land on the European mainland.

Note that if nation-states receive no compensation at all, each will be able to afford to keep a territory whose market value is proportional to the nation's population using only the proceeds of the international lease system. The compensation (again, based on the respect due to existing national expectations) would allow countries with traditionally larger territories to be able to more easily afford to keep territories closer to the status quo size (i.e. larger than what would be warranted by their population).

A country might argue that it is entitled to compensation based on the fact that it must compensate its existing legal natural resource owners. But this depends on the circumstances. Surely, if some government sold a natural resource to some private individual yesterday, it would be outrageous for it to demand compensation based on the fact that it has to now compensate the legal owner. Basically, it would just be returning the money that it received yesterday for a good that it did not rightly own. On the other hand, if some king several centuries ago was the one that sold the resource, the current

⁷⁰³ The purchase of Alaska (also known as Seward's folly) is a well-known exception. But this example also presents an example of a wholly unanticipated increase in value due to the discovery of large amounts of Alaskan oil.

democratic government of the country might have a case for obtaining some compensation on the basis that it now has to compensate the current owner. This will turn on the empirical facts of the case and on the answer to the theoretical questions regarding the extent of national responsibility.

The next question is who should compensate current nations for their legal ownership rights? This is again a difficult question with no easy answer. We might try to find the international actors which have most benefited from the current property rights regime. It seems to me that countries that engaged in extensive colonization (e.g. Great Britain) might fit in this category. In addition, governments that currently have enormous natural-resource-derived wealth seem to be appealing candidates. Alternatively, we might simply hold that all nations should contribute equally. As in the domestic case, the appropriate standard of equality will be controversial. One thing that seems clear to me is that, as in the domestic case, the appropriate standard should not require the poorest person in the world to contribute the same amount as the richest person.

The third question is what is the appropriate lease length? In the domestic case, I suggested it may well be justified to allow a person to choose to obtain a lease that lasts through her lifetime. But in the case of the nation-state, it is not clear what this would mean (since the concept of a lifetime of a nation-state is far less well defined). Remember that in the domestic case I argued that the longer the lease is, the higher the rent should be. The reason is that the lessee with a long lease is in effect buying the ability to be a sincere holdout even when the land in their possession becomes enormously valuable. So in reality different nations may well face a choice in terms of affording a relatively large territory with a shorter lease (e.g. 100 years) or a very small

territory with a longer lease (e.g. 1000 years). Clearly much, much more could be said about this proposal. But in the interest of providing an overview, I would like to turn to other problematic issues.

10.4.4 POPULATION SIZE AND PREVIOUS INJUSTICE

In the proposal I just described, nation-states' lease proceeds (and thus the value of the territory they can afford to lease) will depend on their population size. But the size of the population is for every nation the result of past injustices. In some cases, the injustices are obvious and recent. Horrific genocides have reduced the population of various nations in the recent past. And it would seem wrong to give a nation that had been recently decimated a smaller territory.

But there is another kind of injustice which is related to population size. Namely, I have argued that people ought to be responsible for providing for the natural resource claims of their children (who, once they are born, indeed have claims to natural resources that are equal to those of anyone else in the world). However, given that this requirement has not been enforced, as we transition to a just international property rights regime, certain nations in which parents have had a small number of children (e.g. around two) might find themselves faced with the natural resource demands of individuals in densely populated nations where parents have been having far more than two children. Although I did not explicitly develop an account of what justice requires in world with both future people and multiple nation-states, it seems clear that an implication of my arguments is that by having children without providing for their natural resource claims, parents in high population growth countries have done (and continue to do) an injustice to individuals in low-population growth countries.

This is, again, another enormously complicated issue. After all, the individuals in the high population growth countries are not responsible for the unjust (I have argued) actions of their parents. Nevertheless, there is a case for holding the nation-state with the high past population growth rate as a whole at least partially responsible. This debate about personal versus national responsibility in the case of population growth is taken up briefly in the global justice literature between Beitz and Rawls.⁷⁰⁴ However, both authors fail to recognize the possibility that the high population growth (when appropriate natural resources or equivalent resources are not provided to children) is an injustice committed by *prolific individual parents* (as opposed to nation-states with poor public policy) against their fellow human beings. Admittedly, much more needs to be said about this injustice (e.g. defending the idea that it is in fact an injustice) than has been said in this work.

10.4.5 PAST ENVIRONMENTAL DAMAGE

Another enormously difficult question involves the extent to which nation-states should be held responsible for previous environmental damage they committed. This issue comes up in several contexts. First, we might find when valuing a nation's natural resources that many of its resources are in fact quite degraded due to the actions of previous political regimes and individuals. However, if the valuation is lowered, this would effectively mean not holding the nation responsible for the environmental damage

⁷⁰⁴ See Rawls's reply to Beitz and other cosmopolitans in Rawls, *The Law of Peoples* 117.

it caused in the past. Instead, lowering the valuation would effectively spread this responsibility equally globally.⁷⁰⁵

This issue also arises in the context of non-separable resources such as the air. I have argued in this work that decisions such as the total level of pollution should be decided collectively. But the level of air pollution today depends on pollution that was generated in previous centuries in an era when pollution decisions were not made collectively. And some countries produced far more of this pollution than others (since certain countries were more industrialized). How should such previous use of non-separable resources figure into the collective decisions about pollution today (and in particular the distribution of pollution permits)? This issue is very much alive in international policy debates and, like the other issues raised here, has no easy answers.

10.4.6 CONFLICTING NATIONAL TERRITORIAL CLAIMS

Yet another overwhelmingly complicated issue which is very much at the center of global debate is the issue of conflicting national territorial claims and the status of claims to being there first. A full discussion of this issue would require a discussion of how the issues surrounding multiple nation-states interact with unexpected change. However, I think some preliminary insights can be gleaned by returning to an example I discussed in the chapter on unexpected change in the domestic case.

Imagine someone (call her A) who is born with an intense desire for a particular piece of land that is currently being used as a cemetery. We might imagine that the land is in a location that A finds very meaningful and that she wants to build a house on it; a

⁷⁰⁵ This is a question that is similar to the one raised by the *Inmar* case considered in Chapter Seven. See Section 7.2.2

house in which she wishes to spend the rest of her days. This presents a very difficult case. A was not able (as a result of not existing in this case) to bid to be the tenant when the decision was made to grant the cemetery owner a long-term lease. She thus has a legitimate complaint that her equal claims have not been respected since she envies the natural resource the cemetery owner has and has no way of obtaining even a part of the land (even with her equal share of rents from the lease system). But the cemetery owner also has a legitimate claim since she was granted a long-term lease by the government in order to cultivate certain connections with the land that, by their nature require, long-term possession. My arguments in Chapter Seven suggest that the denial of equal claims to future people like A may just be a price we may have to pay for having long-term leases to land in cases such as cemeteries.

Several things are worth noting about this cemetery/future person example which might be of relevance to the international case. First, notice that there is a certain kind of weight that is placed on who is there first. If the temporal position were switched, A might have built her home and the cemetery owner might have been the one who was envious (assuming that he too found the spot particularly meaningful). At several points in this work I have argued that first possession is an obviously implausible justification of exclusive natural resource property rights. But while simply being the first to a natural resource is wholly insufficient to generate exclusive ownership, being somewhere first with the intention of carrying out an action that requires a deep connection (economic or non-economic) to a natural resource might be sufficient in some cases to recommend giving the person a long-term lease to the resource; a lease with a length sufficient to prevent latecomers from outbidding the person for even a portion of the land.

However, the second thing which is crucial to note that the long-term lease only seems justified in this example if it the future contestability of the land *cannot be anticipated*. If it can be anticipated when the cemetery owner is asking for a long-term lease on the land that someone else may well be enormously interested in that *particular* plot of land in the future, it would be irresponsible for the government to grant a long-term lease to the cemetery owner. It would be equally irresponsible to grant the homeowner the long term lease if the temporal situation were reversed. A shorter term lease would allow the new arrival to leverage her equal natural resource claim to obtain at least part of the land. It might be that in such a case, both the cemetery owner and the homeowner might find that no long-term leases are available in that particular area (just as Susan Kelo might find that no long-term leases are available for residential homes on the waterfront). In such a case, the individuals will have to choose between obtaining land in whose long-term possession they could be assured and choosing a shorter-term lease in the land which is their first choice.

Two further points are worth emphasizing; points which are relevant for thinking about cases where future conflict between entities could not have been anticipated. First, while a nation undoubtedly forms a deep connection with *some* of its natural resources, most nations do not form a deep connection with *every inch* of land (let alone every drop of oil). It seems to me (though clearly more discussion is warranted) that no deep part of the identity of the United States would be lost if a few hundred acres of uninhabited, unremarkable California land suddenly dissolved into the ocean (or became part of Mexico). Second, even if a nation would want to form such deep connections (requiring security in long-term possession) with every inch of its land, it may not be able to afford

to do so. It is important to emphasize again that long-term leases ought to be much more expensive than short term leases exactly because they allow the entity to resist future demands by others for a share of the land.

Of course, none of what I said here can be used to resolve any particular international conflict over territory. Even attempting to do so would risk grossly oversimplifying some enormously complex problems. But I do believe that the cemetery owner/home-builder example I have developed here might provide some insight into an important aspect of such problems. Unfortunately, I cannot explore this issue in greater detail here.

10.4.7 IMMIGRATION AND SECESSION

Another difficult issue which is important to mention is the connection between natural resource claims and changes in nationality, in particular immigration and secession. Though these issues requires a discussion of unexpected change in the international context, a discussion which I have not provided in this work, I do want to raise these issues here and to say a few preliminary things about them due to their prominence in the natural resource writings of authors such as Risse and Tideman

The issue of immigration raises a variety of interesting issues. When a person leaves a particular country, it seems as though she would take her claim to a natural resource share with her. This suggests that a country which experienced large emigration would find it increasingly difficult to afford the same size territory (since the proceeds of the lease system in the international case are distributed in proportion to population). In addition, granting people an equal claim to natural resources would also significantly change the incentives relating to immigration. Under some plausible conceptions of how

the international lease system would work, countries which absorbed immigrants would find it easier to afford larger territories.

The issue of secession is also interesting to consider. If each person has a claim to an equal share of natural resources, it seems plausible that at least under certain conditions, individuals be allowed to simply secede and form their own country with its own territory. Tideman argues that this is a central part of what it means for a person to have an equal claim to natural resources.⁷⁰⁶

It seems to me that both the issues of immigration and secession raises normative questions that cannot be settled merely through a discussion of natural resource property rights.⁷⁰⁷ Nevertheless, a theory of natural resource property rights (especially if it includes the proposition that each person has a claim to an equal share of natural resources) would undoubtedly play an important part in a broader theory of immigration or secession.

10.5 Institutions

One final issue that I would like to consider in some more detail in this chapter is the question of institutions. While the institutions for carrying out the natural resource property rights redistribution proposal that I have put forward largely exist in the case of most developed countries, these institutions do not exist in developing countries nor do they exist at the internationally level. I would like to briefly consider what institutions are required in order to transition to (and maintain) a just scheme of natural resource

⁷⁰⁶ Nicolaus Tideman, "Secession as a Human Right," *Journal of Moral Philosophy* 1, no. 1 (2004).

⁷⁰⁷ As I suggested above, immigration (viewed as allowing non-citizens to become citizens or at least residents) requires discussion of freedom of national association. On the issue of secession, we might want to know whether the individuals seceding plan to form a just society and what kind of threat they would pose to those from whom they are seceding.

property rights. I then want to consider whether nations working in concert can fill these institutional roles in the global realm.

I begin by examining the institutions needed to redistribute natural resource property rights and to maintain the just natural resource property rights regime going forward in the domestic case. First, there needs to be an institution in charge of setting the terms of the leases. These institutions would need to set the rents and determine that appropriate distribution of proceeds. They would need to determine the lease terms for currently existing resources and for newly discovered natural resources. Assessors would also be needed to carry out the estimates of the purely natural value of natural resources and to keep those assessments up to date over time in order to adjust rent payments as leases expire.

Next, a variety of institutions are needed to address issues raised by problematically-divisible natural resources. As I argued in Chapter Six, the government might have a role in managing essential resources and non-rival resources. There would also need to be an institution in charge of non-rival resources (e.g. national parks) which would be responsible for collecting information about willingness-to-pay in order to determine the different uses to which these resources should be put. Institutions would be needed to inculcate the norms needed to protect non-excludable natural resources from overuse and to monitor the status of these natural resources (as the condition of the natural resource may deteriorate to the point where the costs of exclusion become sensible to bear). Institutions of collective decision-making would be needed to determine the use of non-separable natural resources.

Institutions are also required to ensure that obligations of conservation for future people are met. Such institutions would need to anticipate the natural resource preferences of future people. They would also need to ensure that appropriate steps are being taken to conserve irreplaceable resources. In addition, such institutions would need to ensure that parents are bearing the natural resource costs of having children by setting aside sufficient wealth so that it can be reasonably anticipated that their children will be able to obtain (if they choose to) a share of natural resources that these children will find at least as good as the share available for the parents.

Institutions would also be needed to fairly settle controversies over natural resources. Cases in which there are conflicting claims which raise complex legal as well as moral questions are bound to arise. Institutions will be needed to resolve these controversies (e.g. courts). Individuals should be able to expect fair treatment from such institutions, and should have a basic level of respect for their jurisdiction.

Domestic institutions would be needed to meet all the requirements of the international aspects of the global property rights regimes. These include institutions to determine how large a territory the nation wants (given its ability to pay). These also include a body to represent the nation's interests in decisions regarding the management of global non-separable natural resources. In additions, institutions are needed to prepare and present any complaints the nation might have about the requirements that are being imposed on it or the conduct of other nations in relation to natural resources.

Finally, institutions would be needed to enforce the laws. Such institutions would need to protect the rights of the legitimate natural resource possessors from others and enforce the courts' decisions. They would need to ensure that natural resource tenants

paid their rents on time and to enforce the terms of the lease if some person refused to vacate or was causing impermissible damage to the underlying resource. They would need to enforce, as far as possible, the obligation of parents to provide for their children. They would need to ensure that individuals and firms are respecting the collective decisions made about non-separable natural resources and to take preventative or punitive action in the case of violations.

This description of needed institutional roles in the domestic case suggests two points. First, many similar institutions already exist in the domestic case (at least in developed countries). And there also does not seem to be insurmountable obstacles to creating domestic institutions to fill these roles or to have existing domestic institutions take up these roles. The second point is that in the international realm we are very far indeed from having institutions which can fulfill these roles. This is most true of the institutions required for enforcement.

Below I give some suggestions of what could be done given that these international institutions are not developed. But here I would like to ask the question of whether implementing these institutions on the global scale would be desirable. Many theorists might be worried that doing so would be the first step to creating a potentially abusive world state.⁷⁰⁸

There are several points to make regarding this concern. The first point to make is that these dangers need to be weighed against the benefits that global institutions could bring. Besides the increased justice of the global regime, these benefits, as I have argued above, include reduced poverty, war, and environmental degradation. The second point is that the scope of these institutions is limited to issues related to natural resources.

⁷⁰⁸ See Rawls who cites Kant on this worry. Rawls, *The Law of Peoples* 36.

They are primarily concerned with issues of distribution not with issues of basic liberties. A third point is that we could limit the sanctions these institutions could impose as a way of addressing concerns about abuse of power. So for example, we might only give these institutions the ability to impose (gradually) increasing tariffs on the exports of countries which fail to meet their obligations. As Pogge argues, given the enormous benefits from international trade, this power should be enough to ensure compliance in the vast majority of cases.⁷⁰⁹ But if the international institutions in charge of enforcing the property rights regime engaged in blatant abuses of power which threatened the basic liberties of the citizens of a country, the country could choose to revert to autarchy rather than meeting the requirements of justice regarding natural resources. Since the elimination of trade with the withdrawing country harms other countries as well, this would give these other countries incentive to ensure that the institutions do not abuse their power.

Much more could be said about this issue. But a much more pressing problem than figuring out how to limit the power of global institutions is deciding what can be done given that these institutions do not yet exist and are unlikely to exist in the foreseeable future. I turn now to considering this question.

10.6 Some Moderate Proposals

The requirements of justice which I have tried to describe here are radical. They require large-scale compensation schemes, vast redistribution of natural resource wealth, the redrawing of borders, forcing nations to conserve natural resources, etc. These kinds

⁷⁰⁹ This is how Pogge suggests that countries be given incentives to meet their natural resource obligations. Pogge, *World Poverty and Human Rights* 208.

of requirements can quickly lead to the reaction that any change is utopian. To forestall this reaction, I would thus like to end this chapter by discussing what can be done here and now given current theoretical, institutional, and political limitations to move, in a small but significant way, towards a more just natural resource property rights regime.

10.6.1 POGGE'S GLOBAL RESOURCE DIVIDEND

Before discussing my own proposals, I would like to briefly consider the proposal suggested by Thomas Pogge to redistribute natural resource wealth globally. Pogge makes the case for instituting a Global Resource Dividend (GRD), a small natural resource extraction tax whose proceeds are to be used for the benefit of the global poor. Pogge argues that the GRD is a modest change to the existing world order that can be endorsed by a wide variety of strands of Western normative political thought.⁷¹⁰

Little progress has been made to implement Pogge's proposal, and I would like to suggest a few reasons why this might be the case (in order to avoid similar pitfalls when making my proposals). The first reason is that Pogge's proposal has been open to a variety of theoretical criticism. Pogge begins with the idea that people have equal claims to natural resources.⁷¹¹ But this idea, as I have argued in this work, is controversial. And even those who do agree with it have failed to provide sufficient justification for it. Pogge also implicitly relies on the idea that some type of equal division (as opposed to, say, democratic ownership) is the right way to respect equal claims to natural resources. But this too is controversial. Pogge spends very little time considering the myriad of philosophical issues which are raised by his proposal. Insofar as this work addresses

⁷¹⁰ Ibid.

⁷¹¹ Ibid., 202.

some of these philosophical issues such as the theoretical objections to the equal claims view and equal division, it can help strengthen Pogge's proposal.

But there are other reasons why Pogge's proposal has not been implemented. Pogge tries to find a proposal that would be acceptable to all major strands of Western political thought. But he does this by developing a proposal which also has portions that are objectionable in light of each of these strands. For example, in order to accommodate those with sovereignty concerns, Pogge only taxes countries on resources that they decide to extract. But as Steiner argues, it seems unfair that countries which choose not to physically use their resources should be exempt from compensating others.⁷¹² After all, the decision to keep resources in pristine condition is a kind of conservationist use of natural resources that excludes others from using them. Second, by taxing countries on the value of the extracted natural resources, Pogge is effectively taxing their citizens' labor as well as the value of the natural resource. This not only creates some inefficiency. It also can be seen by libertarians as violating rights.⁷¹³

Even though libertarians may have problems with Pogge's proposal, his response is that it is better than the status quo. And in fact, this is the response he hopes to be able to give to all those who raise objections to his view. But the problem is that while some proposal's being better than the status quo may be a reason to support it *if there is no*

⁷¹² Steiner, "Just Taxation and International Redistribution." Steiner argues that the fact that only natural resource use is taxed should lead left-libertarians to withdraw their endorsement of Pogge's GRD. But this argument mistakes the kind of endorsement Pogge is looking for. Pogge is not arguing that everyone can endorse the GRD as a *first-best* policy. He instead argues that everyone can endorse it as an improvement over the status quo. I think left-libertarians could endorse it in this sense. But as I argue below this kind of overlapping weak endorsements is unlikely to do the work that Pogge wants in terms of generating support for the GRD.

⁷¹³ Pogge might respond that the GRD he envisions is so small that inefficiency is unlikely to be a major problem. He might also respond that it is surely less than the total purely natural resource value of the developed resource. These responses seem convincing. But note that different developed natural resources have different proportions added by the value of labor. So perhaps the problem is that by taxing developed natural resources, Pogge is effectively having countries contribute different shares of purely natural resource value.

other choice, it may not be a good reason if there is a different possible proposal that does not have elements that one finds objectionable. Pogge needs to say much more than he does about why we should view *his proposal* as the only viable proposal for reform.

The next problem with Pogge's proposal is that he does not address the issue of the rights of current owners. Pogge is unclear how his GRD should be raised. If a tax is merely to be levied on companies that extract natural resources, in many cases this would amount to confiscating the value these companies paid for the rights to those resources. Pogge is not sufficiently careful to ensure that the party who benefited from capturing the purely natural value is the one who is paying the tax.

The most important problem, however, is that Pogge's proposal requires the cooperation of many countries simultaneously. Of course, it is possible for one country to contribute to the fund while others do not do so. But it is generally difficult to convince agents to meet their obligations when they see others are failing to do the same. Pogge's proposal is framed in such a way as to make it very easy for a country to say, "I will contribute if others contribute" and for the equilibrium to be that no one contributes. And of course many countries would not contribute even if others contributed.

This problem is exacerbated by the fact that some countries may feel like they have good reasons not to contribute. Perhaps they already give a large amount in international aid. Or perhaps they are just now beginning to develop their natural resources whereas other countries have been able to develop their resources "dividend-requirement free" for centuries. Or perhaps they feel like the countries which are to receive this aid have pursued irresponsible population policies. Pogge's proposal is not responsive to these concerns, some of which may well be legitimate.

In response to unjustified reluctance to participate, Pogge might respond that countries that do not contribute will be disciplined. But this requires concerted action by a large number of countries.⁷¹⁴ And as more countries impose sanctions on a particular country, the incentive for other countries to forego sanctions grows larger since they can obtain goods from the penalized country at a discount.⁷¹⁵ Although Pogge's GRD is modest and well-intentioned proposal, the international collective aspect of Pogge's proposal makes it unlikely to be implemented in the near future.

10.6.2 CONSTRAINED OPTIMIZATION

Before presenting alternatives to Pogge's proposal, it is important to keep the general goal that we are after in mind. Namely, we are after an overall just distribution of global natural resource property rights. Yet since we are considering realistic proposals here, we do not have the option of reforming the entire global system of natural resource property rights. This means that the proposals developed here will necessarily have to take into account the fact that they are carried out under a background of broader injustices both in the overall distribution of natural resource property rights and in the distribution of other forms of wealth.

Consider Alaska's treatment of property rights in its oil fields. Alaska leases out the fields and charges royalty charges for the oil and gas. It then distributes much of the revenues equally on a per capita basis to every citizen of Alaska through a dividend of its Permanent Fund.⁷¹⁶

⁷¹⁴ The current difficulty in placing pressure on the Sudan with regards to Darfur demonstrates the difficulty of such concerted international sanctions.

⁷¹⁵ Alternatively, Pogge's proposal could be made feasible with the creation of new global institution with the power to impose global sanctions. But this is something that is unlikely to occur in the near future.

⁷¹⁶ For information on the Alaska Permanent Fund, see <https://www.pfd.state.ak.us/>

Now, if Alaska were the only society in the world in a single generation model where other forms of wealth were distributed justly and the lease system was applied to all natural resources, this would be exactly the system that would be suggested by the theory developed here. But given other injustices and distributive facts about the world, the Alaska system is unjust. The system is clearly unjust with respect to those individuals who do not currently live in Alaska. But it is also unjust in important ways even to those living in Alaska.

Assuming for the moment that Alaska is the only society in the world, the optimal move from the status quo would require that *all* Alaskan natural resources be bought from their current owners and that a lease system of *all* Alaskan natural resources should be instituted. A wealthy Alaskan would likely end up with a *net liability* to the government under such a system. So distributing the proceeds of *one particular set of natural resources* in Alaska equally on a per capita basis is a mistake. Instead, in designing the distribution policies, we should ascertain (as far as possible) the ideal distribution and try to approximate this ideal. This would likely require distributing the dividend much more heavily in favor of the Alaskan poor in the imaginary case where Alaska the only society in the world.

The second constraint we are under is limited political will to make changes. We must balance the political difficulty of achieving a certain proposal with the benefits in terms of the ideal distribution. So for example, we could advocate that the Alaskan oil revenue be distributed in a way that benefits more heavily the Alaskan poor. But looking at the benefits in terms of how close this brings us to the *global* ideal, the benefits seem minimal. Even the poor in Alaska are likely already capturing more than a per capital

share of the global purely natural resource value. Although in some sense giving more of the Alaska oil revenue to the resource poor in Alaska is better than the status quo, the benefits are minimal and the political costs would be moderate. It would be much better to work towards a proposal which would see that a portion of the Alaska oil revenue be used for foreign assistance to the poor in resource-poor countries even though this is a more politically challenging cause to champion.

10.6.3 MORE EGALITARIANISM DOMESTICALLY

With the constraints of current injustices and limited political will in mind, I would like to turn to making some proposals for change. The first place to start is within particular countries since appropriate institutions and avenues for political reforms already exist in at least some form in these nations. Much progress could be made towards a just outcome if certain countries distributed natural resource wealth more equally within their own borders. I am not speaking here of wealthy countries such as Norway. More equal distribution of natural resource wealth internally is likely to have minimal benefits in terms of the ideal global distribution. Instead, I would like to focus on middle income countries with relatively high levels of natural resource wealth and high levels of income inequality (e.g. Brazil) and poor countries with high levels of natural resource wealth (e.g. Nigeria).

Countries such as Brazil already have relatively large amounts of natural resource wealth. They also have some of the poorest people in the world. So if a country like Brazil could distribute more of the proceeds of the sales of its natural resources to its own

poor, this would be a significant move towards the global ideal.⁷¹⁷ Brazil's government may be sufficiently responsive to citizens so that we might expect that activists in countries such as Brazil could successfully advocate for more redistribution of the country's natural resource wealth to the poor.

Other countries also have enormous natural resource wealth but have governments that are more corrupt and less democratic than Brazil's. These countries are also generally poorer overall, with a small, corrupt, wealthy elite and a large population that sees relatively little benefits from the country's natural resources. It may be unrealistic to expect democratic efforts to yield natural resource redistribution in these countries. Instead, activists in liberal democratic countries should work to place pressure on their own governments to press these governments to do more to share their resource wealth with their own poor.

In addition to political pressure, economic pressure could also be employed against these regimes. Buying natural resources from these corrupt elites is quite similar to buying stolen goods from a thief. It is certainly useful to do so for the buyer since she often gets a discount. Yet despite the benefits of the current system for liberal democracies, it is not unrealistic to expect that activists could succeed in having political and economic pressure applied to these regimes to make a difference at the margin in terms of sharing natural resource wealth with their own people.

10.6.4 INCREASED FOREIGN AID

⁷¹⁷ It is unlikely that these poor have a net liability when thinking about their rightful share of global resources minus the portion of the burden of transition they should rightly be expected to bear.

What about poor countries which are also natural-resource poor? The first policy proposal to help these countries is increased foreign assistance. In liberal democracies, it is not unrealistic to hope that activists could successfully place pressure on their own governments to make transfers to these resource-poor countries using natural resource revenues. Studies show that citizens in countries like the United States consistently underestimate the level of foreign aid that the United States gives and, at least after deliberation, generally support increasing this level.⁷¹⁸ If the debate could be framed in terms of sharing natural resource wealth that wealthy developed nations have and which these countries lack through no fault of their own, it is not implausible to imagine that the United States might increase its levels of transfers to these countries. Nations like Norway, which have enormous levels of natural resource wealth per capita and are generally wealthy, should be making greater foreign transfer contributions.

While internal pressure from citizens might work in wealthy liberal democracies, it is unlikely to work in countries which also enjoy enormous natural resource wealth (which generally shared among their citizens), but which are less democratic and have fewer sources of non-natural resource wealth. For countries like Kuwait, international pressure could be brought to bear to share natural resource wealth. Such international pressure is exemplified by the quote given from Gordon Brown in the Introduction to this work when he said he would like to see countries benefiting from windfall oil revenues increasing their levels of foreign aid.

These efforts at international transfers of natural resource wealth are likely to be more effective when attempted collectively. Conference of natural-resource-rich nations

⁷¹⁸ Bruce A. Ackerman and James S. Fishkin, *Deliberation Day* (New Haven [Conn.] ; London: Yale University Press, 2004), 53-54.

could be developed to coordinate transfers. Such conferences generate publicity and can increase transfers if countries know that they are not the only ones contributing. Note that although I admit that international cooperation can help, unlike Pogge, I do not frame my proposal in terms that *require* collective international action.

Three things are worth briefly noting about these transfers. First, they should not be framed as *foreign aid*. Such terminology suggests humanitarian obligation as opposed to duties of justice on the part of the natural resource-rich countries. Second, it is important that these transfers be given to the poor in natural resource-poor countries and not simply to countries which the resource-rich nations favor or in which they desire a greater political influence. Third, and most importantly, as Pogge discusses, mechanisms must be in place to ensure that the money is used for the benefit of the individual poor in resource-poor countries rather than being appropriated by corrupt regimes.⁷¹⁹

One might wonder why the poor in resource-rich countries should not also receive transfers. There are at least three reasons. First, on at least some notions of national responsibility, we might hold the entire nation responsible for failing to redistribute wealth to its poor even though the poor themselves are not individually responsible. Second, the transfer of natural resource wealth only to resource-poor countries might create more pressure for governments in resource-rich countries to share their wealth as well. Third, the elites in the resource-rich country have already proven themselves to be corrupt, and, ironically, their wealth gives them greater means to try to capture the international transfers for their own purposes.

One might also wonder why those in resource-poor countries (such as a lower income person in Japan) should not also receive some transfers. There are three reasons

⁷¹⁹ Pogge, *World Poverty and Human Rights* 206-07.

for this. First, although Japan does not own many natural resources themselves, I have pointed out that consumers of natural resources also capture some of the purely natural value (the price of natural resource products would be higher if natural resource owners had always had to pay their full costs). In addition, it is not implausible to think that when thinking about who should bear the burden of the global transition, even a lower income Japanese citizen might be wealthy enough to have a net liability. Finally, even if some Japanese citizens actually do not have a net liability, given that Japan has a decent safety net for its poor, the moral consequences of failing to meet these individuals' natural resource claims are less severe.

10.6.5 UNOWNED INTERNATIONAL NATURAL RESOURCES

Although increased international aid is an important avenue to pursue, the most promising avenue for reform (especially in the coming decades) is the egalitarian distribution of the proceeds from leasing natural resources that do not currently fall within the borders of any country. There are a variety of significant natural resource deposits in international waters, the most important of which are the fossil fuels in the Arctic seabed.

Most authors writing on the topic of global justice implicitly assume that the entire world is divided into nation-states. But this is not the case. There are large swaths of the Earth which are under international jurisdiction (e.g. oceans). These areas include valuable natural resources such as fish, beautiful underwater scenery, and valuable minerals and fossil fuels. These areas are currently under the authority of the United

Nations International Seabed Authority (ISA).⁷²⁰ It is exactly because these natural resources do not fall under any country's jurisdiction that they present a very attractive proposal for moving towards a more just global distribution of natural resource wealth.

In fact, one of the ISA's missions is to provide for international wealth redistribution. It hopes to charge countries for the exploitation of resources beyond 200 miles off their coasts. According to Article 82 of UN Convention on the Law of the Sea, "payments or contributions [for the use of these resources] shall be made through the Authority, which shall distribute them to States Parties to this Convention, on the basis of equitable sharing criteria, taking into account the interests and needs of developing States, particularly the least developed and the land-locked among them."⁷²¹

If one were to substitute "natural resource-poor" for "land-locked" and place a greater emphasis on distribution to *poor individuals* within the resource-poor nations, this mission would certainly be supported by the theory developed here. Although in an ideal world, the proceeds of such contributions would be distributed equally, I have argued that existing injustices recommend that the proceeds be used for the benefit of poor individuals in resource-poor countries.

In addition to the need to reform its redistributive criteria formally, the ISA faces several obstacles. First, the technology needed to make deep sea mining economically feasible may be decades away. Many of the polymetallic nodules (containing valuable metals such as cobalt, copper, and nickel) will thus likely remain untapped in the foreseeable future. So while one might think that the ISA would be flush with wealth, in fact it has not collected any significant revenue from companies who wish to mine so far.

⁷²⁰ For the homepage of the ISA, see <http://www.isa.org.jm/en/home>

⁷²¹ For a text of the agreement, see http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm

Second, not every country has ratified the treaty which gives the ISA authority. In particular, the United States has not ratified the treaty. According to the National Center for Public Policy Research in the United States, “The Law of the Sea Treaty calls for technology transfers and wealth transfers from developed to undeveloped nations. It also requires parties to the treaty to adopt regulations and laws to control pollution of the marine environment. Such provisions were among the reasons President Ronald Reagan rejected the treaty in 1982.”⁷²²

Admittedly, the United States has reason to be concerned about the ISA. Like other international organization, it is governed “democratically” with each of its 158 members (divided into regional groups) having a voice in electing the governing council, making rules governing the exploration and exploitation of the natural resources in international waters, and determining the distribution of proceeds. Many of the regimes represented in the council do not even share natural resources in a fair manner within their own countries. It is unclear, then, whether the assembly can be counted upon to share natural resource wealth in a way that benefits *the poor individuals* in the resource-poor nations. Thus, the first challenge facing activists is to ensure that the organization is reformed before it obtains significant funds so that it could be counted upon to determine who can exploit the natural resources in a fair and transparent manner (e.g. through an open bidding process) and also set up mechanisms to distribute proceeds in a way that bypasses corrupt regimes (e.g. set up an impartial foundation to provide grants to development NGOs). If the ISA can be reformed, the next step would be to shore up support for it, by for example, pressuring the United States government to sign on to it.

⁷²² See <http://www.unlawoftheseatreaty.org/42.html>

Another step is to ensure that one of the greatest potential sources of ISA funding remains owned internationally. There has been an enormous amount of international interest lately in the Arctic seabed. The melting of ice in the Arctic region has meant that these deposits are more accessible than ever. Countries including Canada, the United States, Norway, Iceland, Denmark, and Russia are all working to extend the normal 200 mile area from their land borders in which exclusive economic control is condoned under current international law.

Such efforts must be resisted. Each of the countries which border the Arctic already has *far* more than its per capita share of the world's natural resources. It would be the height of injustice to allow these wealthy, natural resource-rich countries to appropriate *even more* of the world's natural resources for themselves. The Arctic is currently estimated to have as much as a quarter of the world's oil reserves.⁷²³ As prices of fossil fuels continue to rise, these deposits will become increasingly valuable. In the coming decades, this source of funding could make an enormous difference in alleviating global poverty and moving towards a more just distribution of global natural resource wealth.

10.6.6 INCREASED CONSERVATION

So far the recommendations have focused on the redistributive element of the theory developed in this work. However, it is also important to discuss ways in which the goal of greater environmental protection could be achieved. One important recommendation is greater global cooperation on decisions regarding natural resources such as the air. I have argued that measures of willingness-to-pay are inappropriate for

⁷²³ Daniel Cressey, "Russia at Forefront of Arctic Land-Grab," *Nature* 448, no. 7153 (2007).

determining the total overall level of carbon-dioxide emissions or emissions of chemicals that damage the ozone layer. Instead, I have argued that these decisions should be made collectively in some sense on an international scale. Countries such as the United States should thus make greater efforts to cooperate with other countries on these issues.⁷²⁴

In addition, there is a need for greater international cooperation on issues of conservation. In Chapter Six, I argued that the government has a role in bidding for resources which have an existence value. But some natural resources (e.g. whales, the Grand Canyon, etc.) may have an existence value for individuals in a variety of countries. In addition, they might be anticipated to have value to future people in a variety of countries. In the absence of the full lease bidding system and a system for explicitly respecting the claims of future people, countries should cooperate more in preserving both the resources within their own borders and the resources in international waters.

Conclusion

Although many more policy recommendations could be discussed, those which I have discussed above provide a good start in moving towards the ideal that I have tried to defend in this work. Admittedly, this ideal is incomplete. I have not provided a solution to the contribution determination problem; a solution which is necessary to determine the fair lease prices that should be charged for natural resources. Also, more needs to be said about how problematically-divisible natural resources such as the air ought to be managed. In addition, the complexities I have considered in this work including

⁷²⁴ Of course, a caveat to the recommendation for greater engagement with international bodies regarding non-separable natural resources is that the collective decision making procedure should be just. I will not discuss this issue further here.

heterogeneity, unexpected change, future people, and multiple nation-states need to be considered in tandem in order to develop a full ideal theory.

Part of the reasons that these complexities are so important to explore is that the injustice in natural resource property rights is such a pressing problem. It is a central cause of global poverty. It is also an underlying cause of many enormously bloody conflicts all over the world, both within countries and internationally. Problems with the current global natural resource property rights regime are also generating large-scale environmental degradation. Finally, justified criticisms regarding natural resource property rights are being leveraged to ground far more radical criticisms of liberal rights more generally. Liberals thus have very good reasons to prioritize trying to implement a more just natural resource property rights regime.

One of the most important obstacles related to implementation is respecting the rights of current legal owners. I rejected the idea that historical complexity provides a sufficient reason for accepting the status quo. I also rejected the idea that current legal owners have a moral liability for natural resource injustices that is sufficiently large so as to undermine their claims to compensation. I argued that they ought to receive compensation, but that the burden of providing this compensation should not be distributed by having each person contribute an equal amount of money. If so, implementation of a more just natural resource property rights regime even with compensation will have important egalitarian consequences.

There are many other difficulties related to implementation which are enormously challenging to resolve. These include how to address different individual lifespans, the compensation owed to nation-states, conflicting national territorial claims, and the

connection between natural resource rights and issues such as immigration and secession. We also need an account of how to compensate individual for historical natural resource property injustices as well as an account of the extent to which nations should be held responsible for previous population policies and environmental degradation. Finally, we need institutions both at the domestic level and internationally to carry out the implementation; institutions which must be carefully designed to avoid abuses of power.

These difficulties seem overwhelming. But there are small steps that can be taken in the short run to move significantly towards a more just distribution of natural resource property rights. These steps include greater domestic redistribution of natural resource wealth in countries where the global poor reside, increased foreign transfers from resource-rich, well-off countries to poor individuals in resource-poor nations, and increased transfers of the value of natural resources which are not owned by any country to these individuals. In particular, I have argued that it is important to prevent the vast natural resource wealth of the Arctic from being appropriated by natural resource-rich nations. Less controversially, I have recommended greater international cooperation on conservation of globally valuable natural resources and management of globally non-separable natural resources. These policies allow us to move in small but significant ways from theory to practice.

Conclusion

Looking back on this work, what can we say about how property rights in natural resources should be structured? Every person, whatever her country and whenever she is born, has an equal claim to natural resources. For the vast majority of natural resources, this claim is best respected through giving each person an equal share of natural resources. In practice, equality of shares can best be achieved through a system of natural resource leases of varying lengths whose proceeds are distributed equally to every person. This is, in brief, the answer I have tried to defend in this work.

However, current domestic and international natural resource property rights regimes clearly diverge from the regime that I have developed and defended here. Rectifying this injustice requires overcoming a variety of obstacles: We need to fully develop a convincing ideal theory, determine what is to be done regarding past injustices, and muster the collective will to make difficult changes.

While these obstacles are daunting and many of our answers are provisional, something must be done now. Poverty, war, and irreversible environmental degradation are enormous problems caused by the current natural resource property rights regime. These problems simply cannot wait until we are certain about all the solutions. I have provided some suggestions in Chapter Ten regarding steps I believe can be taken now to mitigate in some small measure the current injustice given current theoretical, institutional, and political limitations. These steps include greater redistribution of

natural resource wealth domestically in countries in which the global poor reside, increased pressure on corrupt regimes to share natural resource wealth with their citizens, increased pressure on resource-rich, wealthy countries to give foreign assistance to resource-poor, underdeveloped countries, and greater global cooperation in making collective decisions regarding the use of inseparable natural resources such as the air.

One proposal which I believe is particularly important and promising concerns the distribution of rights in the Arctic seabed. I argued that we ought to prevent any of the countries bordering the Arctic from claiming sovereignty over it.⁷²⁵ Instead, I advocated that the UN should lease portions of the Arctic seabed to energy companies (through the already-existing International Seabed Authority) and use the proceeds to provide development assistance to destitute individuals in resource-poor countries. Since the Arctic seabed is not currently legally owned by any nation, this proposal does not require addressing the complex issues of the rights of current owners. And as much as one quarter of the world's untapped oil deposits, the proceeds from these leases might make important difference in the lives of a very significant number of individuals who are currently living in extreme poverty while being unjustly excluded from their share of natural resources.

The main arguments in the work can be utilized to construct a defense of this Arctic seabed lease proposal:

- 1) All people have equal claims to purely natural resources
- 2) The best way to respect these claims (for most natural resources) is through equal division which gives every person an equal share.

⁷²⁵ It would be the height of injustice to allow the countries that border the Arctic (Russia, the United States, Canada, Denmark, and Norway) and which already have far more than a per-capita share of the world's natural resources to further augment their already unjustly large share.

- 3) The appropriate way to give each person an equal share is through a system of natural resource leases whose proceeds are distributed equally.
- 4) Given the broader global distribution of natural resources, we can move closer to equal division by giving the poor in the resource-poor rights to the proceeds of the Arctic seabed leases.

By defending each of the steps in the case for the Arctic seabed lease proposal, I can summarize the main arguments in this work.

The first part of this work was devoted to a defense of the view that every person has an equal claim to purely natural resources. Right-libertarians object that natural resources like the Arctic seabed are valueless without human labor. But I have argued in Chapter One, in line with G. A. Cohen, that the right-libertarians are relying on an incoherent marginal product theory of value in making this claim. Though it is true that the seabed itself without the labor is useless, the labor without the seabed also produces no value. While Cohen thinks there is no solution to this problem, I have suggested that we can use the shares of the value that each of the factors could obtain in a fair market to determine their contribution to the value of the composite resource. If so, we can theoretically isolate the purely natural resource by appropriately compensating various agents who added value to the resource. If we compensate these agents, we would still be left with some portion of the Arctic seabed. That remaining portion would be a purely natural resource. Although right-libertarians are correct that individuals do not have equal claims to natural resources, it seems plausible that they may have equal claims to *purely* natural resources like the post-compensation Arctic seabed.

We still need an argument, however, for why individuals have equal claims to purely natural resources. The existing libertarian appeals to theological claims, self-

preservation, and initial liberty fail, I argued, to support the equal claims view.

Nevertheless, I argued in Chapter Two that libertarians and classical liberals can support the equality of natural resource claims on different grounds. Their central principle of distributive justice is a commitment to some type of negative liberty (e.g. formal self-ownership in the case of libertarians). This principle implies that the only justification for unequal prima facie claims to resources is labor. But purely natural resources (such as the post-compensation Arctic seabed) have a value that is not due to anyone's labor. So the central libertarian principle of distributive justice is silent regarding the allocation of this resource. In the absence of reasons to the contrary, the liberal commitment to equal concern suggest that individuals should have equal claims to resources. And so people should be seen as having equal claims to purely natural resources because no reason can be given based on negative liberty for why the claims to them should be unequal.

In Chapter Three I argued that liberal egalitarians too have a reason to be committed to the equality of purely natural resource claims. Purely natural resources, like natural talents, are undeserved in the sense that they are not the results of choices for which anyone can be held morally responsible. So they are part of a class of resources to which people have equal claims. But a liberal egalitarian might wonder why natural resources such as the Arctic seabed should not be used to compensate individuals for inequalities in talents. Although I gave several responses to this question, I think the most powerful argument is a pragmatic one. There is a much broader liberal consensus surrounding the idea that people have equal claims to natural resources than there is surrounding the idea that everyone has equal claims to the benefits from natural talents.

In addition, the theoretical and practical problems related to equalizing natural resource claims are significantly easier to solve than those related to measuring and equalizing the benefits from natural talents. And, of course, equalizing claims to natural resources does not then prevent the implementation of a separate proposal to equalize claims to the benefits from natural talents. Since the problems of natural resource inequality are so pressing and practical proposals like the one relating to the Arctic seabed are both feasible and can garner a broad consensus, liberal egalitarians have a strong pragmatic reason to be interested in the implications of the equal claims view even if ideally there might be some benefit to distributing natural resources in ways that compensates for other undeserved inequalities.

There can, of course, be agreement that people have equal natural resource claims without there being agreement that equal division is the right way to respect those claims. For example, perhaps we should allow the Arctic seabed to be commonly owned and open to anyone who wants to use it. In Chapter Four, I argued that such a proposal would disadvantage those who could not physically make use of the resource.⁷²⁶ It would also discourage investments necessary to efficiently develop the seabed; investments that are only economically sensible when long-term ownership can be expected.

Others have suggested that we might think of the Arctic as collectively owned with everyone having an equal voice in how it is used. I argued that such a proposal would also lead to inefficiency due to the costs of decision-making. It could also impermissibly exclude certain individuals in the minority from benefiting from the resource. This is not to say that it is impermissible to make decisions regarding natural

⁷²⁶ I used the example of a disabled person but the Arctic seabed, which requires specialized equipment to develop, vividly shows the point to have much broader applicability.

resources democratically. Rather, the point is that the mere fact that someone had an equal voice in a decision regarding natural resources is not sufficient to show that her claims to those natural resources has been justly respected.

Other thinkers have argued that we should allow individuals to appropriate portions of the Arctic seabed as long as they leave other individuals unharmed in some relevant way. But since there is scarcity in those portions of the seabed that have fossil fuel, any appropriation would leave others harmed (at least in Locke's sense). If we try to make the idea of the relevant harm less restrictive, we might, like Nozick, end up relying on some kind of implausible first possession standard in order to actually determine which of the many "harmless" sequences of appropriation should be allowed to take place.

In Chapter Five I argued that an equal division is not subject to these problems. It is an efficient allocation which ensures that no one is excluded. But how should shares of natural resources be equal? Although I argued that what really matters is avoiding unjustified discrepancies in the benefits people derive from natural resources, the best we can do pragmatically is to give each person an equal amount of natural resources.

But how do we give individuals equal amounts of the Arctic seabed? After all, the seabed is not a homogeneous good. And even if it were, we would need to know how it compares to other natural resources in order to give each person an equal share of natural resources more generally. I began Chapter Six by taking up this difficulty which is raised by Narveson. I considered and dismissed a variety of solutions to this problem including trying to use a particular physical characteristic, relying on lotteries, and dividing natural resources according to market value. I argued, in line with Dworkin, that

the best way to give every person an equal amount of resources in the case of heterogeneity is to ensure that no person would prefer someone else's share to her own. However, in contrast to Dworkin, I argued we should ultimately be interested in the distribution that occurs after voluntary sales of resource shares from an envy-free starting point. I then argued that auctioning off the natural resources and distributing the proceeds equally will enable us, given certain conditions, to achieve this distribution.

Now, someone might object that though an auction might be appropriate for a part of the seabed that will be used for an oilfield, it might not be appropriate for a part of the seabed that would be best used as a underwater nature preserve. The objector might also want to know how we should think of the pollution that the buyers of the seabed will release into the ocean.

In the second half of Chapter Six, I considered the question of the applicability of equal division to different types of natural resources. There may well be a rationale for the governments of several countries to jointly bid on portions of the Arctic seabed if their citizens place an existence value on their remaining in their natural states (i.e. they are willing to pay for them to remain in this way even if they will never visit these seabeds themselves).⁷²⁷ But this is a rationale for government involvement in the auction. It does not undermine the applicability of equal division to seabeds.⁷²⁸ As for the issue of ocean pollution, since the ocean is a non-separable resource, I concede that equal division is not an appropriate way of structuring property rights in it. Rather, like the air, the total level of ocean pollution should be determined collectively (and then a

⁷²⁷ There may well be coordination problems and free rider problems which will lead to too few nature preserves being purchased. Solving this problem in the way that I have suggested in this work would admittedly require an entity which can act on behalf (and tax) all the world's citizens.

⁷²⁸ Note that it will be much easier to afford a much larger nature preserve if it is placed in areas which happen not to have a great deal of fossil fuels.

permit system might be used to efficiently allocate the permissible pollution amounts among different entities, including firms that extract resources from the Arctic seabed).

So far I have suggested that we sell the seabeds and the fossil fuels below them in an auction. But once we consider the possibility of unexpected change, there will be problems with this proposal. It will produce ex post inequalities, lead to reduced social benefits due to sincere holdouts, limit the revisability of life plans, and lead to increased difficulties in respecting the claims of future people. Although a lease system with very short-term leases would solve these problems, it generates its own set of difficulties. Leasing out seabeds which sit atop of fossil fuel deposits would generate enormous incentives for over-extraction on the part of lessees. Having a short-term lease system could also reduce incentives for companies to invest in long-term extraction infrastructure. Instead, I advocated a system where non-renewable natural resources are sold outright with leases to the surrounding land. Lease lengths, I argued, should vary in response to the kind of connections (both economic and non-economic) that individuals want (and are willing to pay) to develop with a particular natural resource. In addition, methods need to be used (security deposits, legal requirements, etc.) to ensure that the lessees do not damage the underlying resource.

Why do we need these restrictions if they only prevent damage that will become apparent long after all those alive now are dead? More generally, why should we *have to* structure the property rights system to take into account the claims of future people when those individuals do not yet exist? Certainly it would be a nice thing to do, and some thinkers have argued that we have a humanitarian obligation not to do devastating damage to the environment or an obligation based on preserving some intrinsic value of

the environment itself. But I argued in Chapter Eight that we also have an obligation that can be grounded in liberal theories of justice for doing so. I began by arguing that *once future people exist* they are entitled to natural resources or to other resources that are equivalent to those any of their contemporaries received. This is true despite the fact that they arrive later, do not exist when the initial allocation of natural resources is made, and may have an identity that causally depends on the natural resource decisions of the previous generation. I then argued that each person has an obligation to equally share the burden of providing for future people once they exist. But if one person has not set aside sufficient resources, future people can demand, once they exist, more resources from others. This type of residual liability can generate an obligation on the part of some person *to her contemporaries* to conserve natural resources for future people.

Why, though, do we have justice-based obligations to distant generations? I argued that this is because we will be confronted with the demands of the members of the next generation who can anticipate being confronted with the demands of the members of the next generation who can anticipate being confronted with the demands of the members of the next generation and so on. The claims of distant future people can be anticipated through a chain of overlapping generations by individuals whose lives overlap with ours. We must thus consider the natural resource claims of even distant future generations when drawing up the lease terms on resources like the Arctic seabed.

The next question is why should the rents from these leases be distributed to the poor and not equally to everyone? In a world where the Arctic seabed was the only natural resource and all wealth had always been distributed justly, I would argue for equal distribution, even to the rich. But this is not the world in which we find ourselves.

Instead, we find ourselves in a world with a vastly unequal distribution of natural resource property rights and significant injustice in the distribution of wealth more broadly. In such a world we have to think carefully of what the ideal would be and try to work towards that given the limited amount of change we can affect.

Note that if we were able to implement a full transition, many individuals (e.g. those who have benefited from the current injustice in the distribution of natural resources, those who earn higher wages, etc.) would likely be confronted with a net liability. This is because I have argued that the burdens of compensating current land holders should be shared in way that is different (and more progressive) than the way in which the proceeds should be shared (i.e. equally on a per-capita basis). It makes little sense to give individuals who would have a net liability under a full transition a portion of what little redistribution is possible. Instead, it makes sense to use the proceeds of the lease system to help the poor in the natural-resource poor countries (i.e. those who we can be fairly certain would be owed a net payment if a full transition were to take place).

It would of course be wonderful if immediate mobilization could occur to implement this proposal. But in the (quite likely) event that this does not happen, it is important to ask whether it would make a difference if some country, say Russia, obtained legal sovereignty over the Arctic before the political forces to prevent such legal change in status could be mobilized. I made arguments in Chapters Nine and Ten that strongly suggest that such change in the Arctic's legal status should make no difference.

Natural resources like the oil in the Arctic seabed are, contrary to what Rawls says, important to how different countries fare. I also argued against Nagel that natural resources fall under the scope of global justice even when they fall within the boundaries

of a state. In addition, I think that both cosmopolitans and liberal egalitarians who take national boundaries seriously could agree that natural resources like the Arctic seabed should be subject to redistribution even if they are within Russia's border. This is not because, as Beitz argues, they are a *pure* case of an undeserved resource than natural talents. Rather, purely natural resources are special because they are neither deserved by individuals nor by nations.

Russia might try to argue that it has claims to compensation as a current owner. But I suggested that this claim might not be particularly strong. After all, Russia will have only had the resource for a short while when making this claim and it is unlikely that it will have formed deep connections with it (besides the economic ones). In addition, if arguments such as the one made in this work gain popularity, Russia's claim will be even weaker since it will not be able to argue that the confiscation of the Arctic by the world community was wholly unexpected. Even if Russia sells of the rights to the seabed, I have suggested that Russia would be responsible for compensating the owners. It might thus demand compensation to help defray these costs. But since it recently received the seabeds' market value through the sales, it would hardly be in a position to morally ask for such compensation.

Though Russia's success in obtaining legal sovereignty over the Arctic would make little difference in terms of the requirements of justice, it would certainly make it more politically difficult to implement the proposal defended here. Preventing the Arctic seabed from being appropriated presents a unique opportunity for those alive today to prevent the perpetuation of the illegitimate practices of the past. I am hopeful that arguments of justice can have a real effect on the allocation of the wealth in the Arctic

seabed and, eventually, on the distribution of global natural resource property rights more generally.

Still, it is certainly possible that such hope is misplaced. After all, the basic idea advanced here regarding the egalitarian distribution of natural resource wealth is not new. It was suggested by, among others, Thomas Paine, John Stuart Mill, and Henry George, all three among the more well-read and well-respected authors of their time. Yet their theories failed to generate any substantial change. Robert Nozick believes that theories of the kind they developed and of the kind developed here (theories which try to distribute the purely natural resource value equally while respecting individuals' rights to the value added by labor) are bound to fail. Nozick writes in his section on justice in natural resource acquisition, "No workable or coherent value-added [natural resource] property scheme has yet been devised, and any such scheme would fall to objections (similar to those) that fell the theory of Henry George." I would like to conclude this work by reviewing the responses to the objections "that fell the theory of Henry George" thus suggesting that this theory will not in fact be subject to a similar fate.

The first main objection to George's theory is that it is undesirable to rely *only* on natural resource taxes to finance all the legitimate functions of government (a position which is a consequence of George's general commitment to libertarian self-ownership). A similar criticism which is more applicable to the equal division theory developed here is the one raised by Cohen and Otsuka who point out that an equal division of natural resources is insufficient to ensure that people do not die. A disabled man, Cohen points out, may simply not have enough to live on if she only receives her equal share of natural resource wealth.

But the theory developed here, unlike other egalitarian natural resource theories championed by left-libertarians, does not take the position that equal division of natural resources is the *only* principle of distributive justice besides self-ownership (although it leaves this possibility open). As even some left-libertarians recognize, there may well be other principles (e.g. some form of social insurance against infirmity) that, combined with equal division, prevent the scenario that Cohen envisions.

A second major objection to George's proposal was outrage over his plan not to compensate the current legal owners of natural resources. I have rejected George's position on this issue. I have argued that generally current legal owners of natural resource should generally receive something close to the market value of the natural resources in their legal possession. As I suggested in Chapter Ten, as long as the burden of compensating the current legal owners is not distributed on a per capita basis (which seems to be an unjustified way of distributing this burden) the egalitarian benefits of this proposal would not be undone.

A third major objection to George's theory is what I have been calling the epistemic separability objection. Hayek argues that it is impossible in practice to separate what I call the purely natural resource value from the value added by the owner, the government, and the community. This would mean that both accurate compensation of current landholders and future determination of natural resource rents would be impossible to carry out with any accuracy.

This, I think, is one of the most powerful objections that this type of theory has faced in the past. But I have argued that the availability of modern computing power combined with new statistical techniques (hedonic price methods) make it possible to

overcome this epistemic difficulty. In fact, such techniques are already being used to separate land values from the values of buildings. These techniques can be extended with relative accuracy to make finer distinctions in the sources of land value.

A final objection that George's proposal faced is that it is too radical. Indeed, George's proposal is radical. And since the theory presented here (like Steiner and Tideman's theories) extends George's insights to the international realm, it is in some ways even more radical. It is exactly for this reason that I have tried to present some policy proposals which are modest and which can be achieved in the short-run given current institutional constraints and uncertainty about a variety of theoretical issues.

Much more work remains to be done on the topic of natural resource property rights. A more specific solution is needed for the contribution determination problem. More needs to be said about how resources like the national parks and the air ought to be managed. Complexities raised by heterogeneity, unexpected change, future people, and multiple nation-states need to be considered in tandem. More research needs to be done about the problems of rectification and the limits of national responsibility.

Still, we do not need to address all of these issues to know that there is a deep injustice with the current global natural resource property rights regime. Individuals who are desperately poor are being denied an equal share of resources that no one created. Enormously bloody wars are being fought over control of objects that should be divided equally. Irreversible environmental damage is occurring on a daily basis, often most affecting those who are too poor to avoid its consequences.

These problems are not simply misfortunes which cry out for humanitarian intervention. Instead, they are injustices caused by flawed human institutions. Yet as the

abolition of slavery in much of the world demonstrates, injustice need not be perpetuated forever. I have developed a theory of property rights in natural resources here that builds on the moral basic insight that nature's bounty should be shared equally by every person. I hope that this theory can contribute to a process which will one day make the injustices created by the exclusive ownership of natural resources a thing of the past.

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