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Chapter III: Our Common Inheritance

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Chapter III: Defending the Inheritance Allocation

I argued in the previous chapter that several of the most prominent frameworks of environmental justice are inadequate insofar as not one of these frameworks can both condemn a poor generation's mining of the Grand Canyon for valuable metals while also condoning that generation's mining of a similarly-endowed small canyon. I then suggested that recognizing the natural world as the common inheritance of humankind has significant potential for navigating this Canyon Dilemma.

However, two key questions remain unanswered. First, what conception (if any) of the common-inheritance idea can successfully navigate the Canyon Dilemma? Second, even if some conception of the common-inheritance idea can navigate the dilemma, why should we view the natural world as humanity's common inheritance in this particular way? These are the questions I take up in this chapter.

My search for an answer to the first question begins with a well-known conception of the common-inheritance idea: *resourcist equal division (RED) of the natural world*. This conception grants each person an equal share of the natural world, where share size is determined without regard for differences in advantage. I shall argue that, although RED cannot navigate the Canyon Dilemma by itself, it need not be abandoned altogether. A commitment to an infringement of RED shares aimed at addressing disadvantage can enable navigation of the

Canyon Dilemma, at least as long as the infringement is limited and grants special protection to personally important portions of individuals' shares.

This allocation method is admittedly complex. But it is not unfamiliar. It is in fact precisely the allocation method many countries utilize to allocate rights to an inheritance in the case of intestacy (i.e. when there is no will). In such a case, each equal heir is initially granted an equal share of the inheritance (where share size does not depend on differences in the heirs' advantage). The shares are then taxed to address disadvantage in society (though the taxation is limited and personally important portions of individuals' shares receive special protection).

In answer to the second question, I shall argue that a pluralist framework of environmental justice with commitments to both addressing disadvantage and to a novel conception of the separateness of persons that I call *geo-autarchy* can justify this hybrid rights-allocation method. Geo-autarchy grants each person a sphere of moral authority that extends to the natural world, that is determined independently of considerations of others' circumstances, and that is granted substantial strength in contests with other-regarding demands. As I shall argue, a pluralist framework of environmental justice committed to both geo-autarchy and to addressing disadvantage can navigate the Canyon Dilemma and offer a compelling moral foundation for our obligations to protect the natural world.

1. Equal Shares Conception of the Common-Inheritance Idea

As I argued in Chapter II, the common-inheritance idea – the idea that all persons, present and future, have some type of equal, initial right to the natural world – has significant potential for navigating the Canyon Dilemma. There are many possible conceptions of this idea, including various joint-ownership, common-ownership, and equal opportunity for appropriation

conceptions,¹ and I cannot consider all of the possibilities here.² I wish instead to consider in depth one prominent conception of the common-inheritance idea: Granting each person, present and future, some type of equal share of the natural world.

Proponents of equal shares conceptions disagree among themselves on how the equality of shares should be evaluated. Michael Otsuka argues that shares of the natural world are appropriately equal when “they are such that each is able to attain the same level of welfare as anybody else given the combination of her worldly and personal resources.”³ In other words, on Otsuka’s view, shares of the natural world are equal when they are distributed to undo other inequalities in individuals’ opportunities for welfare.

However, a commitment to this equal shares conception is clearly a non-starter as a solution to the Canyon Dilemma. After all, the 1900ers are worse off than future people through no fault or choice of their own. As I argued in Chapter II, allocating rights to the natural world to undo inequality of opportunity for welfare would implausibly permit the Grand Canyon’s destruction.

I therefore wish to consider a more commonly-endorsed equal share conception: resourcist equal division (RED). I take this allocation method to be defined by three commitments:

- i) Each claimant should receive an equal share of what is to be allocated.
- ii) The standard for measuring share size does not depend on interpersonal comparisons of advantage.

¹ For a review, see Peter Vallentyne and Hillel Steiner, "The Origins of Left-Libertarianism : An Anthology of Historical Writings," (New York: St. Martin's Press, 2000).

² I criticize these alternatives elsewhere. [Identifying information omitted]

³ Michael Otsuka, *Libertarianism without Inequality* (New York: Oxford University Press, 2003), 25.

- iii) The allocation is also subject to an efficiency criterion, where the efficiency criterion also does not depend on interpersonal comparisons of advantage.⁴

This conception of the common-inheritance idea is worth considering for three reasons. First, it is a familiar and prima facie plausible allocation method. For example, in the case of an intestate (i.e., no will) inheritance of monetary wealth and N equal heirs, many societies allocate initial rights to the money, not by subjecting it to common or joint ownership, allowing the heirs some type of equal opportunity to appropriate the wealth, or by distributing the wealth to undo disadvantages among the heirs. Instead, each of the equal heirs is granted ownership of an *equal amount of the total monetary wealth*, without regard to differences in the heirs' advantage. This is a resourcist equal division, where share size is measured by dollar amounts and efficiency is measured by total dollars allocated.

Second, although the term "resourcist equal division" is novel, the allocation method it refers to is well-known, with several prominent scholarly proponents. There is a sizeable literature in welfare economics (the so-called "fair division"⁵ literature) that endorses this allocation method,⁶ with applications to the allocation of rights to the natural world.⁷ A resourcist equal division is also endorsed by several political philosophers, including both Hillel Steiner and Ronald Dworkin, as a way of allocating rights to the natural world.⁸

⁴ Just as "equal concern" is often taken to mean concern that is ideally *both substantive and equal*, so, too I take the term "equal division" to encompass a concern with both the equality of the division and the size of each claimant's share.

⁵ Since "fairness" is used in many other contexts with different meanings, and since the fairness of the division method explored here is tendentious, I resist the traditional "fair division" term.

⁶ See, for example, Steven J. Brams and Alan D. Taylor, *Fair Division: From Cake-Cutting to Dispute Resolution* (Cambridge University Press, 1996).

⁷ See, for example, Carsten Helm, "Fair Division Theory and Climate Change Policy," *Environment and Development Economics* 13, no. 04 (2008).

⁸ Ronald Dworkin, *Sovereign Virtue: The Theory and Practice of Equality* (Cambridge, MA: Harvard University Press, 2000), 65-71. Hillel Steiner, "The Natural Right to the Means of Production," *The Philosophical Quarterly* 27, no. 106 (1977).

Finally, the idea of a resourcist equal division has significant potential to navigate the Canyon Dilemma. Since this allocation rule does not take differences in individuals' advantage into account, it does not reduce the weight of advantaged future people's claims to the Grand Canyon. It is thus not subject to several key problems faced by the frameworks of environmental justice considered in Chapter II. For all of these reasons, I now turn to considering whether a commitment to a resourcist equal division of the natural world can navigate the Canyon Dilemma.

2. Resourcist Equal Division and Intergenerational Environmental Justice

Unfortunately, the Canyon-Dilemma-navigating potential of a resourcist equal division is difficult to ascertain. In the philosophy literature, RED has only been applied to the allocation of full private ownership of natural resources among members of a single generation. It is not even clear what a resourcist equal division of a canyon would mean in a single generation, let alone in the intergenerational cases that constitute the Canyon Dilemma. Resourcist equal division approaches are simply insufficiently well-developed to be broadly applicable to intergenerational environmental justice.

It is far beyond the scope of this chapter to develop RED approaches in the necessary ways. My aim here will be more modest and four-fold. First, I will describe two ways in which RED approaches must be broadened in order to be applicable to intergenerational environmental justice. Second, I will highlight several problems that RED approaches face in the context of intergenerational environmental justice. Third, I will argue that the relevant problems are not insurmountable. Finally, I will offer some solutions to the problems that, though simplistic and

unrealistic, will enable evaluation of the basic normative potential of RED to navigate the Canyon Dilemma.

2.1 Heterogeneity: Resource and Property-Right

In the case of the money inheritance above, granting each person a resourcist equal share was straightforward: give 1/Nth of the money to every heir. However, a resourcist equal division of the natural world is much complex because the natural world is made up of *heterogeneous resources*. As Narveson 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...⁹

Narveson ultimately concludes that the problem of heterogeneity is a fatal one for RED.¹⁰

The problem of resource heterogeneity is admittedly daunting. After all, we cannot evaluate how much of a “resource” something is by comparing or aggregating the advantage that it would produce for different individuals (since this would require interpersonal comparisons of advantage). However, there are plausible solutions to this problem that Narveson overlooks. For example, the *envy-free standard* has been used by proponents of RED to evaluate share equality, and the *Pareto standard* has been used to evaluate efficiency in the face of resource heterogeneity.¹¹ An allocation is envy-free just in case no one would willingly trade her share for anyone else’s share. This standard requires comparing the welfare an individual receives from one bundle of resources to the welfare she would receive from another, but never requires

⁹ Jan Narveson, "Libertarianism Vs. Marxism: Reflections on G.A. Cohen's Self-Ownership, Freedom, and Equality," *The Journal of Ethics* 2, no. 1 (1998): 15.

¹⁰ *Ibid.*, 15-17.

¹¹ Brams and Taylor, *Fair Division*, 44.

comparing one person's welfare from resources to another's. An allocation is Pareto efficient just in case there no alternative distribution that makes at least one person better off without making at least one person worse off. This standard requires comparing how a person fares under one distribution to how that same person fares under another, but never requires comparing one person's welfare from a distribution to another's welfare.

These standards also offer a plausible generalization of the type of solution RED offers in the simple monetary inheritance allocation case. Granting $1/N$ th of the monetary wealth to every heir is the unique envy-free, Pareto efficient solution.¹² Moreover, although I shall not defend these standards further here, the sophisticated welfare economics literature utilizing them should at least partially allay concerns that resource heterogeneity poses an insurmountable problem for RED.¹³

However, Narveson in fact *understates* the problem of heterogeneity. After all, for each of the various types of resources in the natural world, there are an enormous number of possible property rights regimes, include various forms of common-ownership, joint-ownership, private individual ownership, and property right lotteries. And individuals will often value different property rights in resources differently. Thus, the problem heterogeneity poses for RED is far more serious than even an RED skeptic such as Narveson recognizes.

RED's proponents often assume away property-right heterogeneity by taking as given that what is being divided are physical resources (i.e., full private ownership of physical resources).¹⁴ However, this assumption is a non-starter when it comes to intergenerational

¹² If a distribution gives one heir more money than another, then it will not be envy-free since the heir with less money will prefer the other heir's share. If any of the money remains unallocated, the distribution cannot be Pareto efficient since it would be possible to give one of the heirs the unallocated money, making that heir better off without making any other heir worse off.

¹³ For a review, see Steven J. Brams, "Fair Division," in *The Oxford Handbook of Political Economy*, ed. Barry R. Weingast and Donald Wittman (Oxford: Oxford University Press, 2008).

¹⁴ See, for example, Dworkin, *Sovereign Virtue*, 67.

environmental justice. An RED that focused only on full private ownership would not only have to exclude parts of the natural world like the atmosphere that cannot be straightforwardly owned in individual portions. It would also be unable to ground the restrictions on ownership that are necessary to safeguard natural resources for the sake of future people.

To satisfactorily address property-right heterogeneity, RED will have to be understood more broadly than it traditionally has been.¹⁵ Rather than being understood as a commitment to equally dividing *physical resources*, RED will instead have to grant individuals equal shares of *property rights*. On this broader understanding, RED need not preclude common or joint-ownership approaches. Indeed, common or joint-ownership of certain resources could be straightforwardly endorsed by this broader RED. The appropriate property rights regime in different parts of the natural world will, on this view, simply depend on what achieves the most attractive combination of share equality and efficiency, where shares are understood as bundles of property rights.

Admittedly, evaluating share equality and efficiency when shares are constituted by property rights rather than resources is more complex. However, it is far from impossible. Indeed, both the envy-free standard and the Pareto standard can be utilized to evaluate share equality and efficiency, even if shares are understood as bundles of property rights rather than bundles of resources.

2.2 Side Payments

Any RED that hopes to provide an attractive solution to problems of intergenerational environmental justice will also have to be broadened in a second way: Allowing *side payments*.

¹⁵ This is contrast to Mathias Risse, *On Global Justice* (Princeton: Princeton University Press, 2012), 111.

The assumption of side payments, which is not uncommon in the fair division literature,¹⁶ permits property rights that are not part of the *initial* allocation bundle to be used as part of the RED.

To understand what is meant by side payments and to see the need for permitting them, consider the problem of allocating rights to a house between two heirs. Assume that the heirs agree on the dollar value of the house, but that the house cannot be sold. Also assume that, while payments between the heirs are possible, negotiations are not, and the heirs do not wish to share the house. How should rights to the house be allocated?

Any RED restricted to allocating only rights to the house seems unattractive. The house cannot be divided in half. Insisting that the heirs' share the house is undesirable. And any type of joint ownership which requires mutual consent for house use will lead the house to go unused (since negotiations are impossible). Granting one of the heirs full ownership of the house can avoid these problems. But only at the cost of share inequality.

Allowing for side payments can allow for a more attractive RED in this case. We could, for example, grant Heir 1 full ownership of the house, *along with a legal obligation to make a side payment to Heir 2 equal to half the dollar value of the house*. If we measure shares net of side payments, this distribution would achieve full share equality and efficiency.

Two conditions make side payments particularly attractive in this case. First, the features of the house make sharing it unattractive, creating opportunities for beneficial trades of heirs' rights to the house for property rights in other resources. Second, due to the impossibility of negotiations, the parties cannot take advantage of such opportunities themselves.

¹⁶ See Brams and Taylor, *Fair Division*, 54-56.

Both of these conditions are often met in the context of intergenerational environmental justice. The first condition can be met when there is a large benefit from destructively using all of some natural resource. For example, it might be highly inefficient to only mine a small fraction of a canyon's wealth at a time. And the second condition is always met, since current people cannot communicate with future people. Thus, RED approaches will need to permit side payments if they wish to offer attractive solutions to problems of intergenerational environmental justice.

2.3 Share Equality/Efficiency Tradeoffs

In addition to being broadened in these two ways, RED approaches to intergenerational environmental justice will need to address two key theoretical problems (in addition to the problem of heterogeneity). The first is the trade-off between share equality and efficiency. In certain idealized cases, both of these desiderata can be realized simultaneously.¹⁷ However, as I shall demonstrate below, unavoidable conflicts between these desiderata can easily arise, especially once we allow for property-right heterogeneity and consider multiple generations. In such cases, determining the RED will require ascertaining *how* unequal different allocations are, *how* inefficient they are, and how share equality and efficiency should be traded off.

In part, this challenge is technical (e.g., constructing a measure of *how* envy-free some distribution requires mathematical sophistication). However, more fundamentally, the challenge is a normative one, requiring an understanding of the moral grounds for valuing share equality and efficiency. I shall briefly return to this issue below.

¹⁷ For a discussion, see Hal Varian, "Equity, Envy, and Efficiency," *Journal of Economic Theory* 9, no. 1 (1974).

2.4 Information

The final key challenge that RED approaches to intergenerational environmental justice must address involves problems of information. Even in the case of a single generation and a small group of individuals, informational problems are daunting for RED.¹⁸ In the case of intergenerational environmental justice, the informational problems seem overwhelming. A resourcist equal division of rights to the natural world requires knowledge of (among other things):

- The preferences of future people over different property rights in different natural resources
- The number of future people
- The future states of the natural world

Whatever mechanisms or behavior we might use to gain insight into the preferences of currently existing people are unavailable in the case of future people. And the reliability of any guesses regarding the near future quickly diminishes as the relevant time horizon expands.

Some scholars hold that these epistemic challenges are insuperable. On this view, the guesses we can make about the future (and especially the distant future) are simply insufficiently reliable to serve as a basis for distributive justice. The best we can do for distant future people is to keep their options open in certain ways and/or to avoid actions that will lead to obvious humanitarian disasters.¹⁹

However, the view that we cannot rely on *any* guesses about the distant future value of natural resources (besides those necessary for basic human needs) is implausible. Such a position would, for example, imply that we must make the same efforts at long-term preservation

¹⁸ Brams and Taylor, *Fair Division*, 16-21.

¹⁹ For a discussion, see Avner de-Shalit, *Why Posterity Matters: Environmental Policy and Future Generations* (New York: Routledge, 1995), 126-29.

for one non-descript rock as we do for the Grand Canyon. While problems of information are undoubtedly challenging, abandoning RED in favor of a framework that eschews *any* guesses about the distant future is not necessarily a more attractive option.

Moreover, there has already been substantial work in the fair division literature on how RED allocations should be made given a lack of information.²⁰ There is also a substantial literature on information problems in environmental welfare economics,²¹ much of which is applicable intergenerational RED problems. Thus, while information problems pose acute challenges for RED approaches, these challenges should not lead us to abandon RED altogether.

2.5 Intergenerational Resourcist Equal Division: Some Simplifying

Assumptions

Clearly, RED approaches require a great deal of further development before they can be applied to problems of intergenerational environmental justice. However, determining if such scholarly efforts are worthwhile requires ascertaining the normative plausibility of RED. To do so in the absence of the necessary development, I will make several unrealistic simplifying assumptions that sidestep the challenges highlighted above.

First, I will sidestep the problem of heterogeneity by assuming all property rights have an uncontroversial *resourcist value* that can be measured in terms of full ownership of some *numeraire resource*. In the case of allocating property rights to a heterogeneous inheritance among several heirs, for example, this assumption holds if all of the heirs agree on the dollar

²⁰ See, for example, Alain Leroux and Justin Leroux, "Fair Division with No Information," *Economic Theory* 24, no. 2 (2004).

²¹ See, for example, Geoffrey Heal and Antony Millner, "Uncertainty and Decision in Climate Change Economics," *National Bureau of Economic Research Working Paper Series* No. 18929 (2013).

value of all of the possible property rights in all of the goods that constitute the inheritance (and agree that dollars are the right resource for measuring the value of shares). Dollars would be the numeraire resource in this case. This assumption allows share size to be measured using the share's resourcist value and efficiency to be measured using the aggregate resourcist value of the property rights in an allocation, where the numeraire resource provides a measure of resourcist value.

In addition to this numeraire resource assumption, I shall assume that all side payments are made using (full ownership of) the numeraire resource. I shall set aside any cases in which share equality and efficiency conflict. And I will assume that the entity implementing the resourcist equal division has perfect information. These admittedly unrealistic assumptions will enable evaluation of RED's potential to navigate the Canyon Dilemma.

3. A Resourcist Equal Division of Canyon Rights: A Simple Case

Even with these simplifying assumptions, determining the resourcist equal division of rights in the cases constituting the Canyon Dilemma is challenging, especially since these cases involve millions of individuals and a very large number of generations. It is therefore useful to first consider an intergenerational resourcist equal division in the following simpler case:

Rights to a Canyon: The world has only two individuals: Al and Bea. Al will live in the first period followed by Bea in the second, non-overlapping period.

The only natural resource is a canyon that can be used in two ways. It can be enjoyed for its scenic beauty or it can be mined for gold nuggets (an action that destroys its scenic beauty).

Assume also:

- The canyon can only be mined productively in the first period.
- If Al mines the canyon, he can enjoy its scenic beauty before it is mined.

- Side payments are possible from Al to Bea but not from Bea to Al.
- All rights to the canyon have an uncontroversial resourcist value in terms of (ownership of) gold nuggets.

What is the RED of rights in this case?

3.1 High Scenic Value

The answer clearly depends on the relative resourcist value of the different rights.

Consider first the following case:

High Scenic Value: The resourcist value of access rights to an unmined canyon is 2,000 gold nuggets. The resourcist value of mining rights is 1,500 gold nuggets.

Three possible allocations of property rights to the canyon are worth considering:

1. Al is granted full ownership of the canyon (access rights and mining rights).
2. Al is granted full ownership of the canyon along with a duty to make side payments to Bea equal to half the resourcist value of the mining and access rights.
3. Al is granted *restricted* ownership of the canyon (access rights but no mining rights). Bea is granted rights to an unmined canyon (access rights to the canyon in the second period and claim-rights against Al's mining of the canyon).

The table below summarizes the consequences these three possible property rights allocations:

Scenic Value = 2,000 gold nuggets

Possible Rights Allocations	Al	Bea	Total
Allocation 1: Al: Unrestricted ownership Bea: Rights to useless mined canyon	3,500 (2,000 beauty + 1,500 mining)	0	3,500
Allocation 2: Al: Unrestricted ownership – side payment Bea: Side payment	1,750 (2,000 beauty + 1,500 mining – 1,750 side payment)	1,750	3,500
Allocation 3: Al: Ownership with restrictions on mining Bea: Rights to unmined canyon	2,000	2,000	4,000

The RED in this case is clearly Allocation 3. Allocation 1 (in which Al is granted access and mining rights) is the least desirable, since it is both inefficient and highly unequal. Allocation 2 (in which Al has access rights and mining rights but must transfer half their value to Bea) is equal but inefficient. Allocation 3 (in which Al’s rights to the canyon are restricted to prevent mining so that both Al and Bea can enjoy the canyon’s beauty) is the RED because it achieves both full share equality and efficiency.

As this example demonstrates, if we accept that future people have rights to a resourcist equal share of the natural world, if we allow for property-right heterogeneity, and if we apply RED intergenerationally, then resourcist equal division approaches can easily justify restrictions on the rights of current people to destructively use the natural world. In High Scenic Value, for example, the RED forbids the canyon’s mining.

3.2 Low Scenic Value

There will, however, also be cases in which the RED grants AI mining rights. Consider, for example, the following case:

Low Scenic Value: The resourcist value of access rights to an unmined canyon is 500 gold nuggets. The resourcist value of the mining rights is 1,500 gold nuggets.

Consider again the three possible allocation of rights to the canyon described above, whose consequences are summarized in the table below:

Scenic Value = 500 gold nuggets

Possible Rights Allocations	AI	Bea	Total resources
Allocation 4: AI: Unrestricted ownership Bea: Useless mined land	2,000 (500 beauty + 1,500 mining)	0	2,000
Allocation 5: AI: Unrestricted ownership – side payment Bea: Side payment	1,000 (500 beauty + 1,500 mining – 1,000 side payment)	1,000	2,000
Allocation 6: AI: Restricted ownership Bea: Rights to unmined canyon	500	500	1,000

The RED in this case is Allocation 5. Allocation 4 (in which AI is granted access and mining rights) is efficient but is unequal. Allocation 6 (in which both AI and Bea enjoy the unmined canyon) is equal but inefficient. Allocation 5 (in which AI enjoys access rights and mining rights but must make a side payment of 1,000 gold nuggets to Bea) is both efficient and equal. Thus, when the resourcist value of rights to enjoy the canyon's scenic beauty is low relative to the resourcist value of the mining rights, the RED allows AI to mine the canyon as long as the appropriate side payments to Bea are made.

3.3 Several Generations

Consider next the consequences for RED of having more than two generations:

Low Scenic Value with Four Succeeding Generations: This case is similar to Low Scenic Value except that there are four succeeding generations after A1 (with one person in each generation).

Although access rights to an unmined canyon have a low resourceist value for each person, the RED will forbid A1 from mining the canyon in this five-generation case. The aggregate resourceist value of not mining the canyon is now 2,000 gold nuggets (500 for each of the four individuals living after A1). This is greater than the 1,500 gold nugget value of the mining rights. Thus, in this five generation case, an allocation of rights that keeps the canyon intact achieves full share equality and is more efficient than any allocation of rights that allows A1 to mine the canyon.

4. Resourceist Equal Division and the Canyon Dilemma

Having evaluated RED in these simple cases, we can now consider a resourceist equal division of rights in the cases that constitute the Canyon Dilemma.

4.1 Resourceist Equal Division of Rights to the Grand Canyon

I begin with the Grand Canyon case, and make the following simplifying assumptions:

- 1) Property rights to all natural resources besides the canyon are allocated justly and cannot be altered.
- 2) Side payments to future people are possible, but the real interest rate is zero, and side payments from future people to current people are impossible.
- 3) Humanity's lifespan is equal to the canyon's.

- 4) The *yearly* resourcist value of access rights to the unspoiled majesty of the Grand Canyon is uncontroversially equal to the 1/50th the resourcist value of the Grand Canyon mining rights for every generation, regardless of their overall levels of wealth.
- 5) The world's natural wealth is fixed.

The question I wish to consider is this: Will a resourcist equal division of rights permit the Grand Canyon's mining?

Consider first the standard case of Mining the Grand Canyon. Remember that, in this case, the 1900ers mine the Grand Canyon for their own benefit, an action that immediately destroys a scenic majesty that would have otherwise have lasted 1,000 years.

The RED would clearly *condemn* the 1900ers' actions in this case. The reasons are similar to those for rejecting Allocation 1 in High Scenic Value above. One problem is inequality of shares. If the 1900ers were to mine the Grand Canyon, the RED would demand that they make side payments to future people. However, the more fundamental problem is the enormous inefficiency of this mining. The resourcist value of the mining rights pales in comparison to the resourcist value of 1,000 years of access to the Grand Canyon (the ratio is 1 to 20). Thus, a resourcist equal division would clearly deny the 1900ers rights to mine the Grand Canyon.

Note that, given the assumptions above, as long as the unmined Grand Canyon lasts for at least 50 years, its mining will be inefficient. This true regardless of how long the Grand Canyon's destruction is delayed. Note also that intergenerational differences in advantage and human-made wealth do not affect the RED.²² Just as a particularly poor and disadvantaged heir

²² The assumption that the poverty of the 1900ers would not affect the RED is admittedly unrealistic because a poor generation would almost surely place a higher relative resourcist value on the gold nuggets vs. scenic beauty than a rich generation. Although addressing such heterogeneity in valuation is beyond the scope of this chapter, it is not difficult to see how a resourcist equal division of rights could nevertheless forbid the Grand Canyon's mining given

is not granted rights to any greater share of an inheritance than any other heir, so, too, RED resists granting the 1900ers any greater claim to the Grand Canyon despite their relative poverty and disadvantage. Thus, the RED can protect the Grand Canyon from mining in all of the variations of the case considered in Chapter II, even in cases in which the mining is the only way to alleviate substantial poverty.

4.2 Resourcist Equal Division of Rights to the Small Canyon

Consider next the small canyon horn of the Canyon Dilemma. Let us once again make assumptions 1) - 3) above. However, remember that the small canyon is far less majestic than the Grand Canyon. Assume that the resourcist value of yearly access rights its scenic beauty is $1/900^{\text{th}}$ of the resourcist value of the mining rights. Remember also that, as I assumed in Chapter II, natural wealth is growing over time in the small canyon case. Can a resourcist equal division condone the small canyon's mining in this case?

Ascertaining the RED in the case of growing natural wealth is difficult. Indeed, it requires evaluating a tradeoff between share equality and efficiency of the kind I highlighted in Section 2.3 above. The small canyon's mining is inefficient (its resourcist value unmined is $1000/900$ greater than the resourcist value of the mining rights). However, since natural wealth is growing over time, the mining would increase the equality of intergenerational shares. Thus, the RED will depend on how fast natural wealth is growing and on our evaluation of the share equality/efficiency tradeoff. Although *certain* RED approaches could permit the small canyon's mining in this case, I shall not discuss it further.

that the vast majority of the generations are not desperately poor and will therefore place a high value on the scenic value access rights relative to the mining rights.

I wish instead to consider a variation of Mining the Small Canyon in which natural wealth is fixed over time. What would the RED be in this case?

Given that the small canyon lasts for 1,000 years,²³ the RED would *deny* the 1900ers the right to mine it (for reasons similar to those for rejecting mining in Low Scenic Value with Four Succeeding Generations above). Although the yearly resourceist value of access to the small canyon's scenic beauty is low, the total resourceist value of the unmined small canyon is substantial – 1000/900 greater than the resourceist value of the mining rights. Keeping the small canyon intact is thus more efficient than mining it. And in the case of fixed natural wealth, keeping the small canyon unmined achieves full share equality.

Note that this prohibition on mining is unaffected by the 1900ers' advantage levels and poverty. Indeed, even if the 1900ers were *very severely disadvantaged* and future people were fabulously well-off, the RED would nevertheless deny the 1900ers the right to mine the small canyon, at least given the assumptions above. Yet I take it that this implication is implausible. Even in a world with fixed natural wealth, insisting that highly disadvantaged 1900ers cannot relieve their desperate poverty by mining a single small canyon seems unacceptably harsh.

Some proponents of RED might claim that this judgment is due to a failure to fully appreciate the value of 1,000 years of small canyon scenic beauty. However, an absolute commitment to RED has implausible implications even in single-generation contexts. Consider, for example, the following case:

Dividing the Gold: A society comprised of two individuals, Rich and Poor, has 200 gold nuggets that can be transformed into a variety of goods.

- Rich has a great deal of human-made wealth through no fault or choice of his own. He places a moderate value on gold nuggets.

²³ However, the RED could permit the small canyon to be mined even in this fixed natural wealth case if it lasted less than 900 years unmined and if the mining wealth was shared intergenerationally through appropriate side payments. This case would be similar to Low Scenic Value above.

- Poor faces extreme poverty through no fault of choice of her own. 100 gold nuggets would enable her to address her most desperate needs, but would still leave her malnourished, without adequate shelter, etc.
- There is no way to transfer any human-made wealth between Rich and Poor.

An absolute commitment to RED requires granting Rich and Poor ownership of 100 gold nuggets each. However, I take it that this distribution fails to take Poor's plight seriously enough.²⁴ If so, this suggests that the problem in the small canyon case lies, not in a failure to appreciate future benefits, but in the unacceptable harshness of an uncompromising commitment to RED. Just as RED insists that well-off Rich be granted rights to a full 100 gold nuggets, so, too, it implausibly demands that future people be granted rights to the unmined small canyon, despite the 1900ers' plight. RED thus cannot navigate the Canyon Dilemma

5. The Inheritance Allocation

One possible response to RED's failure to navigate the Canyon Dilemma is to begin our search for a solution anew. However, another possibility is worth considering: A *pluralist* approach to environmental justice that takes resourcist equal shares of rights to the natural world as baseline but allows partial infringement of these shares to address disadvantage.

This approach might seem ad hoc, designed specifically to navigate the Canyon Dilemma. However, this type of property right allocation is routinely used in many societies. For example, although I suggested earlier that societies allocate rights to intestate inheritances among equal heirs utilizing a resourcist equal division, this is inaccurate. *Initial* rights to intestate inheritances are allocated using a resourcist equal division. However, this is followed

²⁴ Indeed, it is precisely this type of case that Otsuka uses to dismiss a resourcist equal division of rights to the natural world. See Otsuka, *Libertarianism without Inequality*, 21.

by an *infringement of individuals' shares aimed at addressing others' disadvantage*,²⁵ where the infringement is partial and grants special protection to personally important portions of individuals' inheritance share (e.g., family land).²⁶ We might call this hybrid allocation method an *inheritance allocation*.

A commitment to an inheritance allocation of rights to the natural world seems able to navigate the Canyon Dilemma. Indeed, even a modest commitment to infringement of shares to address disadvantage is sufficient to permit the 1900ers to mine the small canyon. After all, the 1900ers' disadvantage-based claims to assistance are fairly strong. And future people's rights to the unmined small canyon do not constitute a particularly large or personally important part of their resourcist equal share of the natural world.

Infringement of future people's Grand Canyon rights, on the other hand, could plausibly be seen as transgressing the limits on infringement permitted by an inheritance allocation. After all, rights to the Grand Canyon constitute a much larger and more personally important portion of future people's resourcist shares of the natural world than access rights to the small canyon. Just as inherited family land is often protected from redistribution, even in the case of a wealthy heir, so too, future people's access rights to the Grand Canyon might be protected by certain inheritance allocations. Thus, a commitment to allocating rights to the natural world among present and future people in a way akin to the allocation of an intestate inheritance among equal heirs can navigate the Canyon Dilemma.

²⁵ This analogy between the two cases is somewhat obscured by the fact that, in inheritance cases, shares are often redistributed to address the plight of non-heirs. In the case of the natural world, the disadvantaged are always also share recipients.

²⁶ For a discussion of some of these special protections, see Martha Eller Gangi and Brian G. Raub, "Utilization of Special Estate Tax Provisions for Family Owned Farms and Closely Held Businesses," Internal Revenue Service, <https://www.irs.gov/pub/irs-soi/spestate.pdf>. (Accessed December, 2016)

Needless to say, many more cases would need to be considered before we could have confidence in the intuitive plausibility this type of allocation. However, the more pressing and interesting question that any proponent of an inheritance allocation must answer is this: *Why* should we allocate rights to the natural world in this way? This is the question that I now wish to consider.

6. Justifying the Inheritance Allocation: Unpromising Approaches

One way to justify an inheritance allocation of rights to the natural world is by appealing to the justification for society's use of this allocation method in the case of intestate inheritances. However, this approach is problematic for two reasons. First, there is no clear and uncontroversial justification for the existing method of allocating intestate inheritance rights. Moreover, while there may well be important similarities between the two cases, a key justification for the allocation of intestate inheritances is respect for the presumed will of the bequestor – a consideration that is inapplicable in the case of the natural world.

I will therefore pursue a different route for justifying an inheritance allocation of rights to the natural world – one that seems more promising. As I highlighted above, there already exist several prominent frameworks of justice that endorse a resourcist equal division of rights to the natural world. Perhaps, then, we can simply add a commitment to addressing disadvantage to these frameworks, resulting in a pluralist framework of environmental justice that could justify an inheritance allocation.

However, this strategy faces two key challenges. First, none of the existing justifications for a resourcist equal division are convincing. Second, even if they were, they are unamenable to

the kind of alteration necessary to justify an inheritance allocation of rights to the natural world. Or so I shall argue in this section.

6.1 Geo-Libertarianism

One prominent framework that endorses RED is *geo-libertarianism*, a framework of justice that combines a commitment to full self-ownership with a commitment to a resourcist equal division of rights to the natural world.²⁷ Geo-libertarians generally take a resourcist standard for measuring individuals' natural resource share size to be either axiomatic or, in Hillel Steiner's words, "evident."²⁸

However, there are at least three reasons why geo-libertarianism is unlikely to offer a compelling justification for an inheritance allocation. First (and most obviously), geo-libertarianism's justification for resourcism is non-existent. And far from being "evident," resourcism is deeply puzzling. After all, as Amartya Sen points out, what is important for people is surely not the resources they have but rather what the resources *can do* for them. To focus on dollar amounts or gold nuggets in measuring share sizes while ignoring what is of fundamental moral importance (e.g., some type of advantage) is, Sen argues, to fetishize resources.²⁹

Second, some geo-libertarians endorse conceptions of rights that do not grant any moral standing to future people.³⁰ These forms of geo-libertarianism would face difficulties justifying

²⁷ See, for example, Tideman's view in Nicolaus Tideman and Peter Vallentyne, "Left-Libertarianism and Global Justice," *Human Rights in Philosophy & Practice*. Hillel Steiner endorsed this type of view before his expansion of what counted as "natural" to include natural talents and luck. See Steiner, "The Natural Right to the Means of Production."

²⁸ Hillel Steiner, *An Essay on Rights* (Cambridge, MA: Blackwell, 1994), 78.

²⁹ Amartya Sen, *Choice, Welfare, and Measurement* (Cambridge, MA: Harvard University Press, 1997), 365-66. For an example of this type of criticism applied to a resourcist approaches to rights to the natural world, see Chris Armstrong, "Natural Resources: The Demands of Equality," *Journal of Social Philosophy* 44, no. 4 (2013): 331.

³⁰ Hillel Steiner, "The Rights of Future Generations," in *Energy and the Future*, ed. Douglas MacLean and Peter Brown (Totowa, NJ: Rowman and Littlefield, 1983), 156.

granting equal shares of the natural world to distant future people, a key commitment of any type of inheritance allocation that hopes to protect the Grand Canyon in delayed-destruction variations of the case.

Finally, even if geo-libertarians could justify granting all people, present and future, resourcist equal shares of the natural world, they would have difficulty adding a concern for disadvantage to their theory without compromising their core commitment to libertarianism. After all, if disadvantage-based claims are sufficiently weighty to justify a substantial deviation from strict resourcism, why are they never sufficiently weighty to justify a deviation from full self-ownership? Thus, geo-libertarianism does not seem to offer a promising foundation for an inheritance allocation of rights to the natural world.

6.2 The Impossibility of Interpersonal Comparisons of Welfare

RED is also endorsed by the welfare economists writing in the “fair division” literature. Welfare economist proponents of RED have traditionally justified this allocation method by appealing to the epistemic problems with making interpersonal comparisons of welfare.³¹ Since we cannot reliably compare one person’s welfare to another’s, the best we can do on this view is ensure some type of resourcist equality of shares.

However, this type of framework also cannot provide a plausible justification for an inheritance allocation. The first problem is that this epistemic justification for a resourcist equal division is unconvincing. While accurate interpersonal welfare comparisons may be difficult to make, it seems implausible to hold that we cannot compare welfare interpersonally *at all*.³² Can

³¹ See, for example, H. Peyton Young, *Equity: In Theory and Practice* (Princeton, NJ: Princeton University Press, 1995), 12.

³² Sen, *Choice, Welfare, and Measurement*, 205-06.

we really say nothing as a matter of justice about how the welfare that a person might obtain from visiting a small canyon compares to a destitute miner's welfare from being kept alive? Moreover, even if we accept the impossibility of making interpersonal comparisons of *welfare*, this does not rule out utilizing comparisons of other, non-welfarist forms of advantage (e.g., capabilities) to allocate rights to resources.³³ Finally, even if all interpersonal comparisons of advantage are inadmissible, it is unclear why this implies resourcist equality of shares. Why not, for example, simply choose whatever distribution would be the least costly to implement?

However, even if a commitment to avoiding interpersonal comparisons of welfare could justify a resourcist equal division, it would be unable to justify an inheritance allocation. After all, if interpersonal comparisons of advantage are epistemically impossible, it is unclear how we could justify *the deviation* from resourcist equal shares that is a key part of the inheritance allocation.

6.3 Dworkin's Liberal Egalitarianism

Perhaps the most promising foundation for the inheritance allocation is Ronald Dworkin's liberal egalitarianism.³⁴ Dworkin justifies equality of resources by arguing that individuals should not be responsible for others' choices. Since a commitment to equality of welfare makes some people responsible for others' choices (e.g., for others' development of expensive tastes), Dworkin concludes that we should aim for equality of resources instead.³⁵

However, Dworkin's framework also fails to offer a convincing justification for the inheritance allocation. The first problem is that this framework, too, fails to justify a resourcist

³³ For an example of this criticism, see Young, *Equity: In Theory and Practice*, 13.

³⁴ Dworkin, *Sovereign Virtue*, Chapter 2.

³⁵ *Ibid.*, 48-59.

equal division of rights to the natural world. As many theorists have pointed out, Dworkin sets up a false dichotomy between equality of welfare and equality of resources.³⁶ It is possible to be concerned with *some* welfare differences and not others. Moreover, not all welfare differences are the result of choices that individuals can be held morally responsible for. Therefore, accepting that individuals should not be held responsible for others' choices leads us, not to equality of resources, but rather to something like a commitment to *reducing inequality of opportunity for advantage*.³⁷

Admittedly, understood in this way, Dworkin's framework is amenable to the kind of deviations from resourcism that the inheritance allocation calls for in cases like Dividing the Gold and Mining the Small Canyon. However, this flexibility also makes Dworkin's framework incapable of offering the protections for resourcist shares needed to safeguard the Grand Canyon.³⁸ Remember that the 1900ers are badly off relative to future people through no fault or choice of their own. If the only viable way to even partially address this substantial inequality in intergenerational opportunity for advantage is to permit the 1900ers to mine the Grand Canyon, it is unclear how a Dworkinian framework would justify forbidding this action (at least if we reject the kind of imperative to keep future people's options open that would require us to offer the same protections to any non-descript rock).³⁹ Thus, none of the key frameworks that endorse a resourcist equal division of rights to the natural world seem able to offer a plausible justification for the inheritance allocation.

³⁶ G. A. Cohen, "On the Currency of Egalitarian Justice," *Ethics* (1989): 916.

³⁷ *Ibid.*, 916-34.

³⁸ For a similar criticism of Dworkin's inability to justify resourcism, see Armstrong, "Natural Resources: The Demands of Equality," 335.

³⁹ Dworkin in fact defends this view. See Ronald Dworkin, *A Matter of Principle* (Oxford: Oxford University Press, 1985), 202.

7. The Separateness of Persons and Geo-Autarchy

A key problem for Dworkin's framework is that protecting individuals from being held responsible for others' *choices* cannot justify a strong commitment to resourcism. However, the idea that individuals should not be responsible for *others' circumstances* holds greater promise. After all, both commitments of the inheritance allocation protect individuals from being responsible for others' circumstances in certain ways. A resourcist equal division grants heirs the same share of inheritance regardless of others' circumstances. And even the infringement of shares endorsed by the inheritance allocation respects limits to what individuals can be asked to sacrifice for the sake of others.

A well-known principle that limits individuals' moral responsibility for others' circumstances is respect for the *separateness of persons* – the idea that persons are fundamentally individually-responsible agents each with his or her own life to live.⁴⁰ Perhaps, then, a certain conception of this principle – one that extends to individuals' rights to the natural world – can play a role in justifying the inheritance allocation.

Indeed, I shall argue in this final section that a novel conception of the separateness of persons that I call *geo-autarchy* can, as part of a pluralist framework of environmental justice that is also committed to addressing disadvantage, justify an inheritance allocation of rights to the natural world.

⁴⁰ Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), 33-34. For a discussion, see Matt Zwolinski, "The Separateness of Persons and Liberal Theory," *The Journal of Value Inquiry* 42, no. 2 (2008).

7.1 Autarchy and Geo-Autarchy Defined

Autarchy⁴¹ conceives of the separateness of persons as granting each person a sphere of moral authority – a *predominion* – over a certain portion of the universe that is viewed as *hers* – properly devoted to her life rather than to the life of any other. A person’s predominion is protected from *other-regarding demands* (i.e., moral demands based on others’ disadvantage, inequality of advantage, and/or aggregate advantage) in two key ways. First, the property rights that constitute a person’s predominion (*predominion rights*) are determined *independently* of other-regarding considerations. This ensures that, even in a world filled with enormous unmet basic needs, the advantaged will have some resources that are in a meaningful sense theirs. Second, predominion rights are granted substantial strength that depends (positively) on these rights’ *centrality to the personhood* of the rights-holder.

Importantly, autarchy need not be understood as an absolute moral value nor as a lexically prior constraint.⁴² I understand it instead as constituting one part of a broader, pluralist theory of justice in which respect for the separateness of person is one moral value among many. Such a pluralist theory would allow predominion rights to be infringed for the sake of other considerations. However, autarchy places a high justificatory bar for such infringements, especially when it comes to predominion rights that are particularly central to the rights-holder’s personhood.

I shall not define “centrality to personhood” in any detail here.⁴³ However, I will assume that one determinant of a right’s centrality to personhood is its importance to the reasonable life

⁴¹ Note the difference between “autarky,” meaning self-sufficiency, and “autarchy,” meaning self-rule. Both meanings bear some relation to the separateness of persons, though the self-rule meaning is the closer of the two.

⁴² For a brief discussion, see Zwolinski, "The Separateness of Persons and Liberal Theory," 156-58.

⁴³ For a brief discussion, see Eric T. Olson, "Personal Identity," Stanford Encyclopedia of Philosophy, <https://plato.stanford.edu/cgi-bin/encyclopedia/archinfo.cgi?entry=identity-personal>.

plans of the rights-holder.⁴⁴ I will also assume that this is not the only determinant. So, for example, a predominion rights to a part of one's body can be more central to one's personhood than a right to a resource with similar centrality to one's reasonable life plans.

Different autarchy conceptions differ, not only based on their understandings of "centrality to personhood," but also based on *how far* an individual's predominion is seen to extend. All plausible versions of autarchy include self-ownership rights in a person's predominion. Geo-autarchy holds that a person's predominion includes, *not only rights to her body, but also certain rights to the natural world.*

7.2 Autarchy and Rights to Body Parts

Before considering geo-autarchy further, I first wish to consider the implications of autarchy more generally for the allocation of rights to body parts. Besides being of independent interest, this serves three purposes for my argument. First, it provides a useful illustration of the key features of autarchy in a context in which the importance of protecting individuals from other-regarding demands is well-established. Second, it suggests that autarchy is not merely an ad hoc principle constructed to justify an inheritance allocation of rights to the natural world. Third, the plausibility of autarchy's allocation of rights to body parts lends support for the plausibility of geo-autarchy's allocation of rights to the natural world.

I begin by assuming a simple pluralist theory of distributive justice with three commitments:

- i) Self-ownership
- ii) Autarchy

⁴⁴ For a discussion, see Zwolinski, "The Separateness of Persons and Liberal Theory," 155.

- iii) Some combination of principles concerned with avoiding disadvantage, fostering equality of advantage, and/or increasing aggregate advantage.

I wish to consider how this pluralist theory of justice would allocate rights to body parts in the following case:

Rights to a Kidney: There are two individuals in society Healthy and Sick. Healthy has two well-functioning kidneys while Sick is suffering from kidney failure through no fault or choice of his own. The government can successfully transplant Healthy's left kidney into Sick body without any pain to Healthy and without economic costs. Healthy refuses to voluntarily donate her left kidney to Sick, and there is no other way of saving Sick's life.

Determining the allocation of rights to Healthy's left kidney is not straightforward.

Although our theory endorses self-ownership (which would grant Healthy rights to his kidneys), it also endorses some combination of advantage-based principles. These principles would grant Sick the right to Healthy's left kidney (since this would clearly decrease disadvantage, increase equality of advantage, and increase aggregate advantage). The question, then, is how self-ownership and these advantage-based principles should be balanced. This is the question that autarchy helps answer.

Consider first the assignment of predominion rights to Healthy's kidney. This is straightforward. We are committed to self-ownership. And autarchy requires us to assign predominion rights independently of other-regarding demands. Thus, ownership rights to Healthy's kidney straightforwardly fall within *Healthy's predominion*. This is true regardless of how much good the kidney could do for others. Autarchy insists that the kidney is in a morally weighty sense *Healthy's* – a resource that should be devoted to Healthy's life rather than the life of anyone else.

However, since the separateness of persons is not the only moral value endorsed, Healthy's predominion rights can be infringed for the sake of other-regarding considerations in

certain cases. Whether infringement will be permitted in this case will depend on the particular weight granted to the separateness of persons vs. the other-regarding considerations. However, the version of the pluralist theory that I shall endorse here resists this infringement. It is not difficult to see how it might do so. Admittedly, Sick has very weighty moral claims to Healthy's kidney, since the kidney would save Sick's life. Yet autarchy insists that predominance rights, especially those central to the personhood of the rights-holder, have substantial strength in contests with other-regarding demands. And Healthy's kidney *is* quite central to Healthy's personhood. It is, after all, an important part of Healthy's body.⁴⁵ Moreover, its removal could at least potentially set back Healthy's central life plans (e.g., if Healthy's right kidney stops functioning).

However, the pluralist theory I endorse here would not grant self-ownership rights absolute protection. If, say, 1,000 of Healthy's co-citizens could be saved with one drop of Healthy's blood, it would permit this type of predominance right infringement. After all, a single drop of blood is clearly far less central to Healthy's personhood than a kidney is. And the moral weight of saving 1,000 people is far greater than saving the life of one person. Thus, as part of a pluralist theory of distributive justice, autarchy implies a commitment to individual self-ownership that is robust but not absolute in the face of other-regarding considerations.

7.3 Geo-Autarchy and Resourcist Equal Division of the Natural World

Geo-autarchy extends the moral protections offered by the separateness of persons beyond the body to individuals' rights the natural world. Rather than justifying this extension

⁴⁵ See Ronald Dworkin, "Comment on Narveson: In Defense of Equality," *Social Philosophy and Policy* 1, no. 01 (1983): 38-39.

straightaway, I first wish to consider its practical implications. Let us assume once again that geo-autarchy is one principle in a pluralist theory of justice also committed to self-ownership and to some combination of principles concerned with ameliorating disadvantage, fostering equality of advantage, and/or increasing aggregate advantage. (I will set aside deep ecological considerations for the purposes of this chapter.) I wish to return to the problem of allocating ownership right to gold nuggets between Rich and Poor. The first question, which is my focus in this subsection, is the allocation of *predominion rights* to the gold nuggets.

Geo-autarchy insists that the predominion rights to the gold nuggets be assigned to each person *independently of other-regarding considerations*. However, it is unclear how this can be done. In the case of Healthy's kidney, self-ownership provided positive guidance regarding how predominion rights should be allocated when advantage-based considerations were set aside. Yet self-ownership is silent about the assignment of rights to the natural world. If we are forbidden from considering advantage-based considerations, there seems to be no basis whatsoever for allocating rights to the gold nuggets.

However, protecting individuals from other-regarding demands does not require abandoning advantage-based principles altogether. We can instead protect individuals from such demands by treating all individuals *as though were equally advantaged in every way, including both their total level of advantage and their marginal advantage from resources* when assigning predominion rights. Given this counterfactual assumption, predominion rights to the natural world can be allocated on the basis of advantage-based principles without making any person's predominion depend on the others' disadvantage.

Consider, for example, the allocation of predominion rights to the gold nuggets between Rich and Poor. In addition to the equal advantage assumption, let us assume (quite plausibly)

that additional gold nuggets increase individuals' advantage and that more gold nuggets grant increasingly less advantage to individuals. Given these assumptions, any plausible principle or combination of principles concerned with disadvantage, equality of advantage, or aggregate advantage would lead us to grant rights to *100 gold nuggets each* to Rich and Poor, regardless of the differences in their actual circumstances. After all, a given amount of gold nuggets will always ameliorate disadvantage, improve equality of advantage, and increase aggregate advantage if it is distributed more equally between two identically-advantaged individuals with identical and decreasing schedules of marginal advantage from gold nuggets.⁴⁶ And keeping the resourcist equality of the distribution constant, increasing the overall quantity of gold nuggets distributed to both claimants will unambiguously decrease disadvantage, increase aggregate advantage, and will not decrease equality of advantage. Thus, regardless of how disadvantaged Poor is relative to Rich, each is granted predominion rights to 100 gold nuggets.

Of course, many questions must be answered if this approach is to be extended to more complex cases. Should both individuals be assumed to be as advantaged as Rich, as advantaged as Poor, or as advantaged as some average or representative person? In cases of heterogeneous resources and property rights, must we assume that every individual receives the same advantage from *every* property right in every resource, or can we allow for differences in individuals' relative valuations of property rights while still respecting the separateness of persons? Clearly much more work remains to be done.

Nevertheless, several broader lessons can be drawn from even this simple example. First, however geo-autarchy contends with added complexity, *it will allocate rights to the natural*

⁴⁶ We can clearly reduce disadvantage and inequality of advantage by taking gold nuggets from the individual with more and giving them to the individual with less. And since the person with fewer gold nuggets has greater marginal advantage from resources, this redistribution also increases aggregate advantage.

world using some type of resourcist equal division. As the gold nugget example demonstrates, with the equal advantage assumption (and some additional fairly minimal assumptions), any plausible set of advantage-based principles will imply concern with both share equality and some type of aggregate efficiency. Moreover, given the equal advantage assumption, whatever standards of share equality and efficiency are used, they will not rely on interpersonal comparisons of the claimants' actual advantage from resources.

Second, the geo-autarchist justification for RED provides a partial answer to one of the key questions I highlighted above: the tradeoff between share equality and efficiency. On the geo-autarchist view, resourcist share equality and efficiency are not wholly novel desiderata of distributive justice. Rather, they arise from applying traditional advantage-based distributive principles (e.g., utilitarianism, prioritarianism, etc.) to a context in which differences in advantage and marginal advantage from resources are intentionally set aside. The balance between share equality and efficiency will therefore depend on the particular advantage-based principles endorsed. For example, a commitment to utilitarianism would imply a greater focus on efficiency compared with share equality in RED than would a commitment to prioritarianism.

Finally, geo-autarchy offers a novel and powerful response to Sen's fetishism objection. It insists on resourcism in the initial allocation of rights to the natural world, not because resources are of fundamental importance, but rather because a commitment to the separateness of persons protects individuals from other-regarding demands when it comes to determining each person's rightful sphere of moral authority. By treating individuals *as though* they are equally advantaged in the allocation of predominion rights, geo-autarchy protects individuals' sphere of moral authority from other-regarding demands in a way that results in a resourcist equal division of predominion rights to the natural world.

7.4 Infringement of Resourcist Shares

If the pluralist framework of justice assumed above were to grant absolute priority to the separateness of persons over advantage-based considerations, then its distributional results would be geo-libertarian: Full self-ownership and a resourcist equal division of rights to the natural world. However, the framework assumed here does not grant the separateness of persons absolute priority. It can therefore offer a second response to Sen's fetishism objection. Namely, advantage-based considerations *are* important. And they are taken into consideration when determining the *all-things-considered* allocation of property rights to the natural world.

Consider, for example, the allocation of *all-things-considered* property rights to the gold nuggets. Geo-autarchy grants Rich predominance rights to 100 gold nuggets, despite Poor's poverty. Whether infringement of these predominance rights will be permitted in this case will once again depend on the particular weight granted to the separateness of persons vs. the other-regarding considerations. However, the theory I endorse would allow for substantial infringement of Rich's predominance rights to the gold nuggets. It is not difficult to see how this could be consistent with resisting predominance right infringement in the kidney case. After all, though Poor's plight is not quite as desperate as Sick's, she nevertheless has very weighty disadvantage-based claims to some of Rich's gold nuggets. Yet rights to gold nuggets are clearly not nearly as central to Rich's personhood as Healthy's kidney rights are to hers. The gold nuggets are not part of Rich. And gold nuggets are *ex hypothesi* not particularly central to Rich's reasonable life plans given Rich's other wealth. Thus, it is not difficult to justify a substantial redistribution of gold nuggets from Rich to Poor.

However, the infringement of individuals' predominant rights to the natural world is not justified in all cases, even in the face of severe disadvantage. If, for example, Rich's resourcist equal share of the natural world was some land that Rich viewed as central to his religion, the pluralist framework of distributive justice that I endorse would resist redistributing Rich's share of the natural world to Poor. This is so even if we assume (not implausibly) that, despite the importance of the land to Rich's religious practice, Rich's land is much more personally important to Poor given her poverty. A commitment to geo-autarchy privileges the importance of an individual's predominant rights for *her* life plans, even when the relevant rights have greater importance or could do greater good for someone else.

Thus, a pluralist framework of justice committed to both geo-autarchy and to addressing disadvantage justifies an inheritance allocation of rights to the natural world. It grants individuals *pro tanto* rights to a resourcist equal share of rights to the natural world. Yet it permits infringement of shares to address disadvantage, where the infringement is partial and depends on the centrality of the relevant right to the personhood of the right-holder.

7.5 Extending the Separateness of Persons to Rights to the Natural World?

This justification for an inheritance allocation critically depends on an admittedly controversial extension of the protections offered by the separateness of persons. Many readers might be willing to accept that an individual's body is worthy of special protection from other-regarding demands. But they might balk at geo-autarchy's extension of these protections to individuals' rights to the natural world. Doing so, some might argue, would entail a failure to recognize the special moral status of the human body.

Let me offer three responses to this important objection. First, protecting nothing but rights to a person's body from other-regarding demands cannot ensure respect for the separateness of persons. As several philosophers have recognized, if rights to the natural world may be permissibly assigned to simply foster some ideal distribution of advantage, then the advantaged can be forced to serve as *nothing more* than a means for the lives of others, even if their self-ownership is fully protected.⁴⁷ For example, assigning rights to the natural world to achieve equality of opportunity for advantage would permit us to assign rights to, say, the air to the disadvantaged, enabling them to extract *anything* (e.g., kidneys) from the advantaged needed to realize equality without violating self-ownership. Protecting *only* a person's body from other-regarding demands fails to ensure that each person is treated as a fundamentally individually-responsible (rather than other-responsible) agent.

Second, although geo-autarchy protects both rights to the natural world and self-ownership rights from other-regarding demands, it nevertheless grants the body a special moral status in two ways. First, the body is treated differently from the natural world when it comes to the assignment of predominion rights. While geo-autarchy allocates predominion rights to the natural world through a resourcist equal division, it does not similarly endorse a resourcist equal division of predominion rights to body parts. The independent commitment to self-ownership – a commitment that I assume any theory that endorses geo-autarchy would also endorse – ensures that each person is granted predominion rights to her own body.

Geo-autarchy also grants the body special protections when it comes to balancing predominion rights against other-regarding demands. Rights to one's body are, after all, *particularly* central to personhood (on a variety of accounts of this entails). Therefore, holding

⁴⁷ Otsuka, *Libertarianism without Inequality*, 31-34.

centrality to reasonable life plans constant, geo-autarchy grants predominance self-ownership rights substantially greater weight in contests with other-regarding demands than predominance rights to the natural world. Thus, while geo-autarchy does view a person's resource share of the natural world as *hers* in a way similar to the way her body is *hers*, her body is nevertheless offered substantially greater protections.

Finally, while geo-autarchy's central claim may seem initially implausible, its implications are attractive. It has what I take to be attractive implications in Dividing the Gold. And, unlike all of the frameworks of environmental justice considered thus far, it can navigate the Canyon Dilemma, to which I now return one final time.

7.6 Geo-Autarchy and the Canyon Dilemma

I have suggested that a commitment to some type of inheritance allocation can navigate the Canyon Dilemma. And I have argued here that a pluralist framework of environmental justice committed to geo-autarchy can justify some type of inheritance allocation. The final task is confirming the pluralist framework of justice I have endorsed here can indeed support the type of inheritance allocation needed to navigate the Canyon Dilemma.

To do so, this pluralist framework will admittedly have to endorse two contentious positions on issues of intergenerational justice. First, it will have to justify granting *non-existent future people* an equal share of the natural world. Second, it will have to allow for infringement on future people's shares for the sake of the disadvantage of current people. In effect, it will

have to treat future and current people in a way akin to contemporaries in the same society. I shall not attempt to justify these controversial positions here.⁴⁸

However, taking these positions as given, it is not difficult to see how the pluralist framework assumed above could condone the small canyon's mining. In some cases (e.g., given a sufficient growth rate in natural wealth), this framework would grant the 1900ers the right to mine the small canyon as part of their resourcist equal share of the natural world. However, even in cases in which this right does not fall within the 1900ers' predominion, the framework defended here can nevertheless grant the 1900ers this right on disadvantage-based grounds. After all, the 1900ers' poverty gives them powerful claims to assistance. And access rights to the small canyon are highly unlikely to be central to many future people's reasonable life plans. Thus, just as some of Rich's gold nuggets can be justifiably redistributed to Poor, so, too, future people's predominion rights to the unmined small canyon can be infringed to alleviate the 1900ers' poverty.

The framework defended here can also condemn the Grand Canyon's mining. This framework straightforwardly assigns future people predominion rights to an unmined Grand Canyon as part of their resourcist equal share of the natural world. And it can resist infringing on these shares, even when the 1900ers' poverty is fairly severe (as long as it is not of the most desperate kind).⁴⁹ As the kidney example demonstrates, the pluralist theory assumed here can resist infringing on predominion rights, even when the result would be a person's death. It would be admittedly implausible to assign the average future person's predominion rights to an

⁴⁸ For a discussion of some of the issues, see Lukas Meyer, "Intergenerational Justice," Stanford Encyclopedia of Philosophy, <https://plato.stanford.edu/archives/sum2016/entries/justice-intergenerational/>. (Accessed December, 2016)

⁴⁹ The pluralist framework assumed here could permit even the Grand Canyon's mining if, say, this was the only way to avert an economic catastrophe threatening hundreds of thousands of lives.

unmined Grand Canyon strength anywhere near the strength of a person's predomination right to her kidney. However, we do not need to assign future people's Grand Canyon rights this strength to protect the Grand Canyon from mining. After all, saving Sick's life required infringing on only one person's (Healthy's) predomination rights (strong though they might be). In poverty-alleviating versions of Mining the Grand Canyon on the other hand, for every one 1900er whose poverty would be somewhat alleviated by the mining and for every one destitute miner whose life would be saved, the predomination rights to an unmined Grand Canyon of *a very large number* of future people would need to be infringed. Thus, even predomination right strength that is a fraction of the strength of Healthy's rights to his kidney would be sufficient to protect the Grand Canyon from mining in the face of the 1900ers' severe poverty. Given the rare scenic majesty of the Grand Canyon and its special ability to allow human beings to reflect on their place in the universe,⁵⁰ it is not implausible to assign future people's rights to an unmined Grand Canyon *this* strength. Thus, the framework of environmental justice defended here can indeed justify the type of inheritance allocation of rights to the natural world that can navigate the Canyon Dilemma.

Conclusion

I began Chapter II with a challenge for frameworks of environmental justice: Protect the Grand Canyon, but not a similarly-metallurgically-endowed small canyon, from mining by a poor generation.

⁵⁰ See, for example, Dina Mishev, "At the Grand Canyon, a Cancer Survivor Rises to the Challenge of a Rim-to-Rim-to-Rim Hike," *Washington Post*, January 7, 2017.

I have argued here that a pluralist framework of environmental justice committed to both addressing disadvantage and to a novel conception of the separateness of persons that I call geo-autarchy can meet this challenge. Geo-autarchy insists that each person be granted a sphere of moral authority that includes rights to the natural world, that is determined independently of other-regarding considerations, and that is protected in certain ways from other-regarding demands. By requiring certain rights to the natural world to be assigned without regard to others' circumstances, geo-autarchy grants even highly advantaged future people a resourcist equal share of the natural world – a share that would include rights to an unmined Grand Canyon. And by insisting that these rights (especially personally important ones) be granted substantial protection from other-regarding demands, geo-autarchy protects future people's rights to an unmined Grand Canyon from infringement, even in the face of current people's substantial poverty. A geo-autarchy-based pluralist framework of environmental justice can therefore explain why poor previous generations would have acted impermissibly in destroying the Grand Canyon's scenic majesty for their own benefit. It also implies that, even if future people are optimistically assumed to be substantially and increasingly better off than us, there are nevertheless serious and anthropocentric moral limits on our permission to destructively use the natural world.