The Environmental Education Crisis:

On the Limitations of Liberal Education in the Climate Crisis

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Abstract

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Education

Given the current state of climate change and environmental degradation, we must consider the role education should play in preparing the next generation to work towards ending the climate crisis. In response to this question, many educators, scholars, and environmentalists advocate for environmental education. In the context of liberal democracies, environmental education is potentially problematic, as it promotes certain kinds of environmentalist values that ostensibly conflict with the liberal principle of political neutrality in education, or the idea that the liberal state should not promote any particular morality or conception of the good through its educational institutions. In this thesis, I will explore the following questions: what constitutes adequate environmental education in the context of the global climate crisis, and is this view compatible with liberal educational principles? Ultimately, I conclude that problematizing capitalism is a necessary condition for adequate environmental education because of capitalism's role in the destruction of the environment, and it follows that adequate environmental education cannot be fully compatible with liberal educational principles.

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Introduction

Given the current state of climate change and environmental degradation, we must consider the role education should play in preparing the next generation to work toward ending the climate crisis. In response to this question, many educators, scholars, and environmentalists advocate for "environmental education."[1] The modern environmental education movement began roughly in conjunction with the broader environmentalist movement in the 1970s and was most specifically defined by the United Nations in various documents from environmental summits throughout the decade (Gough, 2012). The founder of environmental education, William Stapp, broadly defined it as "aimed at producing a citizenry that is *knowledgeable* concerning the biophysical environment and its associated problems, aware of *how* to help solve these problems and *motivated* to work toward their solution" (Stapp et al., 1969, p. 30–31, emphasis in the original). This form of environmental education has persisted over time. For example, today, the U.S. Environmental Protection Agency (EPA) states that environmental education includes (among other features) the cultivation of both "*knowledge and understanding* of the environment and environmental challenges," and "*attitudes* of concern for the environment and *motivation* to improve or maintain environmental quality" [italics added] (2021).

In the 1990s, the United Nations and many associated researchers shifted their language away from "Environmental Education" towards "Education for Sustainable Development" (Gough, 2012), which places a greater emphasis on accommodating human aspirations to

[1] The term "environmental education" can refer to both the specific educational framework broadly defined by U.N. documents in the 1970s and similar frameworks like the EPAs, as well as a more general term to describe educational movements and frameworks concerned with environmental issues. For the remainder of this project, I will use "EE" when referring to the version defined by U.N. in the 1970s, and "environmental education" to refer to all of the various educational movements surrounding environmentalism more generally (such as ecopedagogy or Education for Sustainable Development).

develop, especially in places that are currently "underdeveloped" (Bonnett, 1999, p. 313-314).[2] Another popular, more radical framework for environmental education is ecopedagogy, an environmentalist branch off of the critical pedagogy movement, which is rooted in Marxist theory. Ecopedagogy theorists Greg William Misiaszek and Carlos Alberto Torres (2019) define ecopedagogy's goal as "to teach to critically understand the connections between human acts of environmental ills and social conflict (socio- environmental issues) for praxis to end oppressions" (p. 465). For example, Misiaszek and Torres contend that ecopedagogy should "problem-pose" concepts such as "anthropocentrism" (p. 473), "development" (p. 473), and "neoliberal globalization" (p. 474).[3]

In the context of liberal democracies, all three of these educational movements are potentially problematic, as they all promote certain kinds of environmentalist values that ostensibly conflict with the liberal principle of political neutrality in education, or the idea that the liberal state should not promote any particular morality or conception of the good through its educational institutions.[4] John Rawls has called any such particular morality a *comprehensive doctrine* (1993). Views about political neutrality in education have sparked many debates surrounding topics like sex education, social justice education, and, of course, environmental education. In the case of environmental education, arguments along these lines have been made by both scholars (Jickling & Spork, 1998; Postma, 2002; Schinkel, 2009), and politicians, who have called environmental education "propaganda," "a politicization of what's taught in American classrooms," and "special interest-driven doctrine through educational policy" (Starr,

[2] For the remainder of this project, I will refer to "Education for Sustainable Development as "ESD."
[3] Though there are many more particular variations of environmental education, I intend to evaluate these three influential frameworks (EE, ESD, and ecopedagogy) as explanatory examples throughout my thesis.
[4] This project will be roughly situated in the context of the United States, though I think similar arguments would apply in other Western democracies.

2009). However, given the current scientific predictions on climate change, many might instead conclude that we need to teach students a robust form of environmental education that best prepares them to work towards ending the climate crisis.

Furthermore, as the climate crisis progresses to the point where many across the world are already suffering from climate-related harms, we must consider why so little progress has been made toward a just response to this existential threat. One increasingly popular explanation is that efforts to address the climate crisis have failed to adequately challenge our current economic system of global capitalism, which is inherently linked to the destruction of the environment. Variations of this argument have been made by numerous scholars who I will discuss in the following chapters (Foster, 1999; Fraser, 2022; Saito, 2017; Lowy, 2018; Wright, 2019). Concerns about connections between capitalism and the climate crisis are gaining traction in public discourse as well, as evidenced by growing interest in broadly socialist "Green New Deal" policies that address social injustice in conjunction with climate change.

If it is true that capitalism is inextricably linked to the climate crisis, we might conclude that a robust form of environmental education should not merely promote broadly environmentalist ideas like conservation or sustainability (along the lines of the EE movement), but also should provide students with a critical understanding of the economy's connection to environmental injustice (along the lines of the ecopedagogy movement). Such a radical form of environmental education would be even more problematic in relation to liberal neutrality than more mainstream forms like EE or ESD. This conundrum raises two related questions.

Thesis Question and Roadmap

In this thesis, I will explore the following questions: what constitutes adequate environmental education in the context of the global climate crisis, and is this view compatible with liberal educational principles?

For the purposes of my argument, I will define "adequate environmental education" as environmental education that gives students the conceptual resources and motivations to have a legitimate chance at ending the climate crisis. In response to my thesis questions, I will argue that problematizing capitalism is a necessary condition for adequate environmental education because of capitalism's role in the destruction of the environment, and it follows that adequate environmental education cannot be fully compatible with liberal educational principles.[5] To make my argument, in Chapter One, "Environmental Education Under Liberalism," I will aim to provide the strongest possible liberal justification for environmental education. In other words, I will attempt to see how "environmentalist" environmental education can be under liberal educational principles, if at all.

In Chapter Two, "Limitations of Liberal Environmental Education," I will aim to show why adequate environmental education must problematize capitalism. To make my argument, I will draw on theories, such as eco-Marxism and the work of Nancy Fraser, to demonstrate that it is not possible to end the climate crisis under capitalism. Then, I will discuss why environmental education may not be able to problematize capitalism under liberalism, even within the strongest version of liberal environmental education articulated in the previous chapter. Additionally, given this conclusion, I will discuss why EE and ESD are not adequate forms of environmental education, while ecopedagogy is.

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[5] Note that I am not arguing that problematizing capitalism is a *sufficient* condition for adequate environmental education. There may be additional necessary conditions, which I will discuss in Chapter Three.

In Chapter Three, "Objections and Further Considerations," I will aim to anticipate and respond to possible objections to my conclusions in the previous chapter. The first objection I will consider is that we should not abandon liberal educational principles, even if they do not permit adequate environmental education. Second, I will consider the objection that capitalism is not the primary cause of the climate crisis, so it should not be the focus of environmental education. To make this argument, I will introduce two alternative perspectives on the primary cause of the climate crisis (and consequently, the necessary focus of environmental education): anthropocentrism and colonialism.

What is the Climate Crisis?

Before proceeding with the rest of my argument, I will briefly provide a more specific definition of the "climate crisis" that I will refer to for the remainder of the project.[6] To do so, I will draw on Stephen Gardiner and Arthur Obst's (2023) book *Dialogues on Climate Justice*. In this book, the authors define the climate crisis as a "perfect moral storm" (p. 20). The perfect moral storm is comprised of four sub-storms: the global storm, the intergenerational storm, the ecological storm, and the theoretical storm.[7] Embedded in the first three storms is the concept of "skewed vulnerabilities." This is the idea that, unlike as conceived in traditional notions of the climate crisis as a tragedy of the commons that affects all people equally, those who are most vulnerable to the effects of the climate crisis tend to be the least responsible for the climate crisis (p. 21).

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[6] Of course, there are other viable definitions of the climate crisis that may yield different conclusions about what must be done to end it. A central idea of Gardiner and Obst's definition is that the climate crisis is a problem of justice rather than of merely science, economics, etc. I will take this as given in this project.

[7] The theoretical storm refers to the idea that we do not have sufficient theory to accommodate the complexity of the climate crisis (Gardiner & Obst, 2023, p. 39). I will discuss it below when I address why I believe tackling these questions through a philosophical lens is valuable.

In the case of the global storm, those in poor countries tend to be the most vulnerable to the effects of the climate crisis, despite burning a very small amount of the historical total greenhouse gasses. For example, many island nations will lose huge amounts of land as an effect of rising sea levels, and many nations in the Global South will become too warm to be habitable. The idea of the global storm can also be extended to include the skewed vulnerability of poor people and people of color in wealthy countries, who tend to bear the brunt of environmental harm due to forces like systemic racism, as articulated by the environmental justice movement in the United States. Another example of skewed vulnerability within the wealthy countries is Indigenous communities in Alaska, who were previously nomadic but have been forced onto coastal reservations that are extremely vulnerable to rising sea levels as a result of colonization (Gardiner and Obst, 2023, p. 25).

The second storm, the intergenerational storm, points to the injustice surrounding the skewed vulnerability between generations. Namely, while young people and future generations are not responsible for the climate crisis, they will experience an unfair burden of the harms caused by the climate crisis. Furthermore, because they are not yet alive, future people have no way to advocate for their interests, and those alive today are not incentivized to sacrifice their interests for people who do not yet exist. This relates to what Gardiner and Obst call the "tyranny of the contemporary," or the idea that older generations tend to "pass the buck" to future generations (p. 31).

The third storm, the ecological storm, refers to "ecologically skewed vulnerability," or the problem that animals and the rest of nonhuman nature are not at all responsible for the climate crisis, but are some of the most vulnerable (p. 37). This is related to the idea that Gardiner and Obst call "the tyranny of humanity," or how humans tend to "pass the buck" onto

other animals and the rest of nature (p. 36). For example, the massive bushfires in Australia between 2019 and 2020 caused by rising temperatures and drought resulted in the death or harm of 3 billion animals (Vernick, 2020). Implied by the ecological storm is the position that nonhuman animals and nature have some degree of inherent moral value independent from humans, and that humans are not the only things in the world that "matter for their own sake" (Gardiner and Obst, 2023, p. 38). This view could be characterized as an "ecocentric" theory of value, while the view that nonhuman nature is only valuable in relation to its usefulness to humans represents an "anthropocentric" theory of value (McKinnon, 2022, p. 121). The strongest form of anthropocentrism could be characterized as "human supremacy," implying human separation from and dominance over nature (Kopnina et. al., 2018). Anthropocentric and ecocentric theories of value will be relevant in a later chapter, but for now, it is worth noting that to end the ecological storm, we may need to adopt an ecocentric value theory.

I have spent time explaining each of these storms because a central premise of my argument will be that we will not have truly ended the climate crisis until all of these storms have been addressed. For example, if all of humanity were to pick up and move to another livable planet while continuing to harvest resources from Earth in a way that damages Earth's ecosystem, the climate crisis would still not be resolved under this definition. In this case, the ecological storm would still be in full force, as nonhuman animals and the rest of the ecosystem would continue to suffer from anthropogenic, or human-caused, environmental harms.

Why Philosophy?

One might agree with my view that climate change is an existential issue for humanity and that environmental education should be part of the response to the crisis. However, they might wonder why I have chosen to explore this issue through *philosophical* inquiry specifically.

Why is environmental education not just a question of pedagogy or policy, for example? To respond, I would emphasize that pedagogy and policy are indeed important areas to explore in relation to environmental education, and my arguments will have implications for pedagogy and policy that I will touch on throughout. However, this does not mean that questions surrounding environmental education can be reduced to purely pedagogical or political questions. Theory, pedagogy, and policy should all continually interact and inform one another.

More specifically, I believe philosophical inquiry into environmental education is necessary because both the climate crisis and education separately raise fundamental questions of justice that mandate a philosophical response. As argued by various philosophers and highlighted by the various "storms" mentioned above, the climate crisis is fundamentally a problem of justice, not reducible merely to a scientific, economic, or political problem (Brown, 2012; Budolfsen et. al., 2021; Gardiner, 2011). Furthermore, Gardiner (2011) argues that a central element to the "perfect moral storm" of climate change is the "theoretical storm." The theoretical storm metaphor represents the problem that we do not have sufficient general theories to guide us through the complexity of the questions raised by the climate crisis (p. 7). Examples of such questions raised by the other "storms" include: what do we owe to future people? How do wealthy countries repair the global harm of decades of unsustainable resource usage and consumption? How should humans relate to nonhuman animals and the rest of nature? So, not only is the climate crisis fundamentally an issue of justice, but also, according to Gardiner, the theories we do have are "inept" or "unsuited" to the task (p. 214). At the same time, environmental education clearly raises fundamentally philosophical questions about education. As I have described in this introduction, those who argue that environmental education violates

liberal neutrality in education are making normative claims about the scope of education. To answer such questions about education, philosophical inquiry is necessary.

With this in mind, I can characterize my first goal in this project as showing that liberal educational philosophy is part of the theoretical storm of the climate crisis in the sense that it is to some extent inept in the current context. I will not attempt to mount a general argument against liberal education, but rather aim to show that it is no longer a viable framework given the complexity introduced by the climate crisis. I hope that this approach will appeal to liberals in addition to those who already object to liberalism more generally. My second goal is to attempt to ameliorate a small element of the theoretical storm by beginning to theorize what adequate environmental education might look like in the current context. Finally, a fundamental principle of liberal democracies is that we should give rational reasons for state-sponsored actions and goods, like education. My third goal is simply to provide justificatory reasons for environmental education, especially since the version I am proposing is likely to be one that many citizens will disagree with.

Chapter One - Environmental Education Under Liberalism

In this chapter, I will argue that cultivating certain environmentalist attitudes and motivations in students through environmental education is not only possible in liberal democracies, but also sufficiently justifiable to the extent that it should be compulsory at all levels of education. By considering the strongest possible interpretation of liberal environmental education here, I aim to strengthen my larger argument that adequate environmental education is ultimately not possible under liberalism.

For the scope of this chapter specifically, I will use the term "environmentalism" to refer to action intended to conserve natural resources and curb climate change for the sake of maintaining environmental quality. My argument here does not necessarily justify a more radical, non-anthropocentric interpretation of environmentalist principles in environmental education.[8] It would be much more challenging to argue that non-anthropocentric environmentalism is not a comprehensive doctrine. Additionally, I will define "compulsory" as a curriculum that all schools must teach, rather than a curriculum all students must complete (such as math or English). This particular definition of compulsory will be significant in Section Four.

Section One - Liberalism and Education

For the scope of this project, I will adopt a general perspective on liberalism following J. Mark Halstead's overview "Liberal Values and Liberal Education" (2005). Halstead argues that liberal education is best understood in terms of the fundamental values of liberal societies. Halstead notes that there are many different versions of liberalism, and that liberalism is associated with various political perspectives. His particular definition is associated with the philosophical tradition that can be traced from Immanuel Kant to contemporary philosophers like

[8] See Bell (2006) for a discussion of non-anthropocentric environmentalism under liberalism. I will discuss potential limitations of anthropocentric environmentalism in the following chapters.

Rawls, Ronald Dworkin, H.L.A Hart, Bruce Ackerman, and Joseph Raz (2021, p. 18). The version of liberalism in this chapter will be primarily situated in the dominant Rawlsian liberal tradition (as opposed to the more conservative, libertarian version of liberalism), so Halstead's definition is at least generally aligned with the one I will assume here.[9]

He defines three fundamental values of liberalism: freedom, equality, and rationality.[10] First, freedom is individual liberty, or freedom of action and freedom from constraint in the pursuit of one's interests. Second, equality is equality of respect for all individuals within the structure and practices of society, exemplified by nondiscrimination on irrelevant grounds, for example. Third, rationality is basing decisions on logically consistent rational justifications (2005, p. 18). In liberal societies, these values are connected with political frameworks like fundamental rights, without which the values cannot be achieved (2005, p. 20), democracy, which is seen by liberals as the most rational way to safeguard against tyranny and guarantee equal rights (2005, p. 21), and economic systems that ensure private property and free markets (2005, p. 22).

To further explain liberalism, Halstead gives examples of what would be excluded by these three liberal values. First, the value of freedom excludes a totalitarian emphasis on communal unity to the extent that it endangers individuality; thus liberalism is incompatible with Marxism. Second, the value of equality rules out hierarchical rankings of individuals according to which some have greater freedom than others; thus liberalism rejects slavery or Nazi claims of

[9] See Forrester (2019), Nussbaum (2001) for historical perspectives on Rawls' exceptional influence on contemporary political philosophy.

[10] While these values are generally agreed upon by liberals, they have varying interpretations and can conflict with one another. Different liberal political perspectives often depend on how much priority each value has over the other values. For example, politically left liberals, generally aligned with the Rawlsian version this p relies on, tend to emphasize equality, while politically right liberals tend to emphasize freedom.

white supremacy, for example. Third, the value of rationality rules out uncritical acceptance of dogma and theories of cultural relativism (2005, p. 19).

Halstead then argues that these general values directly inform the principles that are usually associated with liberal education. Stemming from the value of equality, liberal education seeks to ensure that all citizens have equal education, in effect reducing disadvantages in terms of general life prospects of future citizens (2005, p. 25).[11] Stemming from the general values of freedom and rationality is the educational value of personal autonomy, the idea that education should prepare students to make free choices based on their own rational beliefs rather than other (irrational) influences, such as family or culture (2005, p. 23). Relatedly, stemming from the general value of rationality, liberal education should promote open-mindedness and critical thinking. Thus, education should avoid indoctrination and remain neutral, not endorsing any particular conception of the good life (2005, p. 24), or, in Rawlsian terms, any comprehensive doctrines.

However, under the broad umbrella of liberals, there is debate about the extent to which true neutrality is possible. Rawlsian "political liberals" contend that there is a truly neutral *political conception of justice*. Unlike comprehensive doctrines, which include particular views of morality and the good life, the political conception of justice is "freestanding" in that it only includes principles that all reasonable citizens would be willing to endorse, and can therefore be legitimately promoted through coercive political power (Rawls, 1993). To determine what such principles are, Rawls introduces the thought experiment of the "veil of ignorance," also known as the "original position," in which parties involved in deliberation about the structure of their

[11] Like with liberalism more broadly, equality in the context of education can have various meanings in practice, ranging from the minimal, formal equality of opportunity to more robust forms aiming for goals closer to equality of outcome.

society do not know anything about who they are, including their social identities like race and gender, their economic status, or their natural endowments (1971). The original position erases any incentive for particular groups of people to favor their own interests over the interests of others, so the principles derived should be maximally fair and just. One form of power that the state can use to promote the political conception is education.

On the other hand, "comprehensive liberals" contend that the political conception is reliant on its own comprehensive doctrine, and is not as neutral as political liberals may believe. In other words, liberalism is itself a kind of view about how the world is and what makes a good life. There is no "purely political" or "freestanding" conception that all reasonable citizens will ascribe to (Bialystok, 2014, p. 421). Rather, comprehensive liberals remain "liberal" by "favouring those positions that are most conducive to respect for pluralism and individual rights, sometimes carving out a more substantial role for the government in advancing and protecting these values" (Bialystok, 2014, p. 423). From the standpoint of comprehensive liberalism, such positions that align with liberal values may be justifiably favored in education specifically. In the following sections, I will aim to give both a political and comprehensive liberal justification for environmental education.

Section Two - Political Liberalism and Environmentalism

In this section, I will claim that environmentalism should be required by the political conception of justice rather than considered part of a comprehensive doctrine. As mentioned above, Rawlsian political liberalism permits the state to promote the political conception of justice as derived from the original position. Of particular interest to this project is Rawls' stipulation that under the veil of ignorance, parties "have no information as to which generation they belong" (1971, p. 137). Such a restriction is necessary because "questions of social justice

arise between generations as well as within them, for example, the question of… the conservation of natural resources and the environment of nature" (1971, p. 137). The problem of justice between generations results in Rawls' "just savings principle," which regulates the amount of resources each generation must save for future generations, with the aim of creating not only a just structure in the present, but also a "fair system of cooperation between generations over time" (2001, p. 160). This is also known as "intergenerational justice."[12]

According to Rawls, by the principle of intergenerational justice, a society must monitor its "wealth" including its "stock of natural resources or productive assets" (1993, p. 273). Just management of natural resources clearly relates to common environmental concerns, such as deforestation and overuse of non-renewable energy sources like fossil fuels. Additionally, though Rawls does not directly address climate change in his discussion of environmental issues, it is obvious that practices that cause global warming, such as burning fossil fuels, are perpetuating further intergenerational injustice (as well as *intra*generational injustice along the lines of race and nationality).[13] Such practices are resulting in drought, extreme heat, wildfires, and floods. At the current rate, future generations will have fewer natural resources and, more significantly, be left with an inhospitable planet to call home. In other words, the climate-related ills caused by the present generations will be unjustly distributed to future generations.

Furthermore, it is worth emphasizing that today, prior and ongoing actions that cause climate change and environmental degradation constitute intergenerational injustice against presently existing people, not solely against abstract future people. We are already suffering

[12] Rawls' principle of intergenerational justice (or "just savings principle") has received surprisingly little attention in the broader literature on Rawlsian conceptions of educational equity and justice. For example, the following papers do not contain any mention of intergenerational justice: Anderson (2007), Brighouse & Swift (2006), Levinson et. al. (2022), Satz (2007), and Schouten (2012).

[13] See Stevens (2014) for further discussion of the connection between *intra*generational justice and environmentalism.

from the effects of climate change, and young people will bear the brunt of this injustice throughout their lifetimes as conditions continue to worsen. For example, the Intergovernmental Panel on Climate Change reports that in just the next decade, climate change will drive at least 32 million and up to over 100 million people into extreme poverty globally (Levin et. al. 2022). Therefore, I argue that environmentalism is required by the political conception of justice on the grounds of intergenerational justice, not just for the sake of future generations, but, urgently, for today's young people as well. If this is right, then, according to Rawls, liberal democratic governments can legitimately promote environmentalism through coercive political power. Among other important implications, this conclusion opens the door for the possibility of environmental education (in the form of the cultivation of environmentalist attitudes and motivations), which I will discuss in the following section.

The idea of intergenerational justice is not the only possible foundation of a politically liberal conception of environmentalism, but it will be my focus in this chapter. My primary goal here is to see how far this particular concept can take us, without providing a thorough comparison to other potential bases of liberal environmentalism. However, I do think that intergenerational justice has some particular relevance to the case of education, because, like education, it raises questions about what we owe to young people.[14]

Section Three - Politically Liberal Justification for Environmental Education

Now that I have argued that environmentalism is necessary to achieve intergenerational justice, I will consider the implications of this conclusion for education. To do so, I will begin by surveying the small but relevant literature that considers intergenerational justice as a liberal justification for environmental education, and draw on the literature as well as my own views to

[14] See Bell (2002; 2006), Hailwood (2004), Stevens (2014), and Wissenberg (1998) for some additional philosophical accounts of the possibility of liberal environmentalism.

defend Derek Bell's (2004) argument that compulsory environmental education should be part of education for citizenship in a society governed by Rawlsian principles from later objections.[15]

Bell's argument rests on Rawls' comments on education in *Justice as Fairness: A Restatement* (2001), which contends that education should prepare children for citizenship in a society of free and equal citizens who are able to both form, revise, and pursue their own comprehensive doctrines, and live by the principles of justice. To achieve the educational goal of creating citizens who can live by the principles of justice, political liberalism should impose educational requirements that promote political virtues "of reasonableness and a sense of fairness, and of a spirit of compromise and a readiness to meet others halfway" (p. 39, quoting Rawls, 2001, p. 116). Bell conceptualizes these requirements as part of what he calls the justice-based, universal, compulsory curriculum, or "JBUC curriculum" for short (p. 39). Bell does not provide an exact definition of "compulsory." Recall that my definition of "compulsory" as something all schools must teach is more minimal than a definition that requires all students to demonstrate proficiency in a given curriculum, for example. Therefore, I will assume that my conception of "compulsory" does not conflict with Bell's, even if his is more stringent than mine. He does note, following Rawls, that the JBUC curriculum would be required in all schools, public or private (p. 39).

Next, Bell makes a similar claim to mine in the previous section, arguing that there is "a conception of 'sustainability' implicit in Rawls' 'just savings principle'" (p. 46). He expands that sustainability is "a concept defined in terms of what is necessary for all (current and future) members of society 'to have a decent standard of life' through 'social cooperation' (p. 46; citing Rawls, 2001, p. 84). He notes that his notion of sustainability as derived from the just savings

[15] In this paper, Bell is focused on "children's education" (p. 38), not higher education. As I will discuss in Section Five, compulsory environmental education in higher education requires a separate justification.

principle is anthropocentric and not necessarily "green," in that it may not require us to turn our society into "one big Yellowstone Park." For the scope of this chapter, his conception of sustainability aligns with my conception of environmentalism as action intended to conserve natural resources and curb climate change.

Because of this sustainability that Rawlsian political liberals are committed to, Bell argues that in addition to promoting "'political virtues,' which are designed to ensure intra-generational justice," the JBUC curriculum should also promote "'sustainability virtues,' which are designed to ensure inter-generational justice." To do so, the JBUC curriculum should help citizens recognize that "the current generation has a duty to ensure that the 'circumstances of justice' are maintained for future generations." More specifically, the curriculum should "aim to promote a positive attitude toward 'sustainability' and a basic understanding of the environmental and social science frameworks that citizens need to participate in 'sustainability' decisions" (p. 47). Thus, Bell establishes a Rawlsian justification for compulsory environmental education on the basis of intergenerational justice. However, various authors have objected to intergenerational justice as a justification for environmental education. Overall, as I will aim to show in the remainder of this section, these objections can be easily overcome. Below I will provide overviews of these objections and brief responses:[16]

1. *The Problem of Reciprocity*

Dirk Willem Postma (2002) argues that liberalism is an inadequate framework for environmental education, in part because liberal ethics cannot include obligations towards future generations. He gives three objections to intergenerational ethics: (1) the problem of reciprocity,

[16] There are certainly other objections to the concept of intergenerational justice more generally, but for the scope of this project, I will only address objections raised in the philosophical literature on environmental education specifically.

(2) the problem of ignorance, and (3) the problem of paternalism (p. 45). The problem of reciprocity follows from the asymmetry of the relationship between the current generation and future generations: while the present generation's choices can obviously influence the lives of future generations, the reverse is logically impossible. Postma claims this is a problem because reciprocity is considered a "defining characteristic of any moral relationship" in the liberal framework (p. 46). The problem of ignorance follows from the fact that we will never be able to actually know the needs and desires of future generations, so it is difficult to determine the content of our obligations to them. Finally, the problem of paternalism follows from the problem of ignorance, because, since we are largely ignorant of future generations' needs and desires, any attempt to anticipate them runs the risk of being paternalistic or even repressive.

Postma goes on to explain that problems (2) and (3) can largely be resolved by taking a negative, or "hands-off," approach to intergenerational justice rather than a positive one. In other words, current generations should not take any actions that restrict the range of options and opportunities available to future people. This approach can be summarized by the maxim "leave the future open to future generations," which Postma claims aligns with common conceptions of sustainability (p. 47). This approach by definition requires no knowledge of the needs and desires of future generations, and is at odds with any form of paternalism.

However, the problem of reciprocity still remains unaddressed by the "hands-off" approach to intergenerational justice. Postma notes that Rawls, along with other contractual theorists, assumes no altruism, and explains a willingness to cooperate by assuming a position of mutual dependency between contractual parties in the original position (p. 48). However, in the case of the intergenerational relationship, there is obviously no mutual dependency. The moral choices of the present generation are unsanctioned by future generations. Therefore, without an

assumption of altruism, there is no reason for the present generation to care about the future generation (p. 49).

Bell anticipates this objection and directly responds to Postma. Bell argues that Postma's understanding of Rawls is flawed because Rawls does not equate reciprocity with mutual dependency. He explains that while non-overlapping generations cannot be mutually dependent, they can be governed by a principle of reciprocity, engaged in the "cooperative venture" of realizing and preserving the just society (p. 46). For Rawls, "the life of a people is conceived as a scheme of cooperation spread out in historical time" (Bell, 2004, p. 46; quoting Rawls, 1999, p. 257). In this sense, a "people" is not one generation, but many extending through time. Therefore, Bell concludes that a Rawlsian notion of reciprocity is compatible with justice between generations, and intergenerational justice still provides a political liberal justification for environmental education.

Matt Ferkany and Kyle Powys Whyte (2013) provide an additional response to Postma's objection. Recall that Postma argues that there is no reason for the present generation to care about future generations under Rawlsian liberalism, since no altruism is assumed. This makes two assumptions: first, that all parties under the original position know they are from the same generation, and second, that this generation will be the most recent generation in the society once the principles of justice are agreed upon and the veil of ignorance is lifted. However, Ferkany and Whyte note that these assumptions are not actually representative of the knowledge parties would have under the original position. Even if the parties know they are from the same generation, they do not know to which generation they belong historically, so "the self-interested among them should adopt a principle of intergenerational savings" (p. 13; quoting English, 1977; Rawls, 2001, p. 160). Furthermore, some Rawls scholars reject even the assumption that parties

under the original position know they are from the same generation as this violates restrictions on self-knowledge, which would only further the case that self-interested parties should adopt principles of intergenerational justice (Ferkany & Whyte, 2013, p. 13; quoting Paden, 1996). Either way, this argument undermines Postma's objection that an unreasonable degree of altruism is required for intergenerational justice.

Andreas Schinkel (2009) also briefly responds to both Bell and Postma, agreeing with Postma that an adequate justification for intergenerational justice is lacking in Rawlsian ethics. He asserts that Bell's argument is "far removed" from "human motivations that, hypothetically, gave rise to the social contract in the first place," and "we cannot assume that the contracting parties will be motivated by the ideal of the 'single co-operative venture' of 'realizing and preserving a just society'" (p. 517; quoting Bell, 2004, p. 46). This portion of Schinkel's objection seems largely addressed by Ferkany and Whyte's response.

However, Schinkel proceeds to consider another possible way out of the problem of reciprocity. He posits that self-interested parties may indeed adopt a just savings principle for the sake of their offspring, as "we may reasonably assume that people will want to see their children and grandchildren grow up with good prospects for their future" (p. 517). If this is right, then there is further reason to be confident intergenerational justice does not require an unreasonably high degree of altruism (as Postma asserts), and does provide a basis for environmental education under a political liberal framework.

2. *The Problem of Distant Generations*

Despite this brief consideration, however, Schinkel immediately rejects the possibility that intergenerational justice can be justified on the basis of self-interested care for one's offspring. He explains that while the self-interest of the party may extend to one's children or

grandchildren, we would have to "stretch our imagination" to assume that "they will care about their offspring ad infinitum" (p. 517). In other words, it's hard to imagine that a party would care about their descendants hundreds of years in the future. I will call this the problem of distant generations.

It is not necessary to address this objection as Ferkany and Whyte have already provided an unrelated basis for a self-interested motivation for intergenerational justice (that parties under the original position do not know they will be the most recent generation once the veil of ignorance is lifted). However, I do think this objection is worth briefly exploring because the problem of distant generations perhaps is a strong explanation for why citizens and politicians in liberal democracies (who may not be acting from the original position in deciding what principles they will vote or advocate for) are uninterested in employing just savings principles. This problem is related to what Stephen Gardiner (2014) calls the "tyranny of the contemporary" in climate injustice, or the idea that because the full effects of actions that cause environmental harm are often spread out over long periods of time, each generation is tempted to "pass the buck" of just savings onto the subsequent generation.

In response to Schinkel, I contend that this problem can largely be solved by shifting the discussion away from what any given generation owes to every subsequent generation "ad infinitum" to what any given generation owes to the *next* generation (or two). Under this interpretation of intergenerational justice, no (altruistic) concern for abstract future people is required, but a high degree of sustainability could still be maintained over time. Specifically, the "hands off" or negative approach to intergenerational justice, as described by Postma, requires that current generations not bring about any state of affairs that is "irreversible or irrevocable" and effectively restricts the "range of options and opportunities of future generations" (p. 47). If

this language is shifted from “future generations” to “the next generation,” the current generation would still be required to avoid actions that are “irreversible or irrevocable.” Minimally, this would prevent the use of any nonrenewable resources, such as fossil fuels, and any actions that would result in mass ecosystem destruction, such as deforestation. Furthermore, global warming caused by greenhouse gas emissions will also result in many irreversible effects, such as a significant rise in sea levels and the melting of glaciers and ice sheets (Solomon et. al, 2009), so greenhouse gas emissions should be curbed as well. Such actions, even when only carried out for the sake of the next generation, are essentially identical to the actions required by savings principles that seek justice for distant generations.

One might object that the current generation, if only motivated by concern for their children and grandchildren rather than distant generations, would be incentivized to take unsustainable actions where the harms are primarily distributed in the long term. For example, the current generation might be motivated to continue burning fossil fuels for the sake of economic development and the hope of giving their children a better life. They might assume that the harms associated with burning fossil fuels will not harm their children, but only generations beyond their self-interest. However, such an objection can easily be refuted by returning back to the scientific literature. Recall that climate change will drive at least 32 million and up to over 100 million people into extreme poverty globally over the next decade (Levin et. al. 2022). Even those in relatively privileged positions in society would be naive to assume their children will be invulnerable to the effects of climate change, as demonstrated by the example of wealthy California homes burning in forest fires caused by extreme heat and drought (Trotta,

2022).[17] That being said, I maintain that a "hands off" approach that only requires concern for the next generation can avoid Schinkel's objection about future generations, while maintaining just savings over time. Therefore, I contend that neither the problem of reciprocity nor the related problem of distant generations undermines intergenerational justice in a Rawlsian framework, as intergenerational justice does not require an unreasonable degree of altruism. Consequently, Bell is not misled in employing intergenerational justice as a justification for environmental education as citizenship education under Rawlsian liberalism.[18]

Section Four - Comprehensive Liberal Justification for Environmental Education

So far, I have assumed political liberalism as a starting point, and argued that environmental education should be considered a form of compulsory citizenship education that promotes the principle of intergenerational justice. However, this justification may only be compelling to a subset of liberals, that is, political liberals. On the other hand, from the comprehensive liberal standpoint that true state neutrality is impossible, the question concerning environmental education becomes: is environmental education sufficiently "liberal" to the extent that it is justified in liberal democracies, even if some citizens will disagree with its aims?

In this section, I will give a separate justification for environmental education as citizenship education, assuming comprehensive liberalism as the starting point. It is not my intent here to take a position in the debate between comprehensive and political liberalism. Rather, I only aim to show that *all* liberals, political or comprehensive, should endorse some

[17] Of course, in a just society (and world), there would not be such varying degrees of vulnerability to climate change due to other forms of social injustice, so the question of the vulnerability of privileged people's children would not be a consideration under the original position.

[18] I have not addressed here another relevant paper, Stevens (2014), that questions the value of intergenerational justice as a political liberal justification for environmental education. Stevens argues that *intra*generational justice can achieve many of the same environmentalist goals while avoiding the problems of intergenerational justice outlined by Postma (2002). Since I have aimed to resolve the problems outlined in Postma, I will not provide a more thorough response to Stevens here. However, I do think a comparative analysis of environmentalism rooted in intergenerational vs. intragenerational justice is worth considering in the future.

form of environmental education. To do so, I will primarily employ Lauren Bialystok's (2014) comprehensive liberal defense of social justice education (SJE) to the case of environmental education specifically.[19] I will assume that environmental education fits within Bialystok's conception of SJE and can therefore be justified using the criteria for justifiable SJE. Environmental issues are a matter of social justice, both intergenerationally, as demonstrated by the previous sections, and *intra*generationally, as argued by David Stevens (2014). Furthermore, Bialystok explicitly states that "care for the environment" is generally endorsed by SJE (p. 426). Finally, the public critiques of environmental education that I highlighted in my introduction are similar to the critiques of SJE that Bialystok highlights, such as accusations of "brainwashing."

In her defense of SJE, Bialystok is responding to the current political discourse surrounding SJE, or generally "progressive" education that addresses politically divisive social justice topics like racism, gender and sexuality, environmental justice, etc. Critics raise arguments against SJE, making claims like SJE is politically biased and is "brainwashing" or "indoctrinating" students, while advocates argue that SJE is necessary to promote a socially just society (2014, p. 414). After a discussion of political vs. comprehensive liberalism, Bialystok states that a defense of SJE can either (1) argue that SJE is bound within the political conception of justice and can only endorse positions that on which there is no "reasonable" controversy (starting with political liberalism, as I have done in the previous section), or (2) it can "bite the bullet" and acknowledge that it is making claims about the good that not all reasonable citizens will agree with (starting with comprehensive liberalism) (2014, p. 425). Bialystok opts for option (2), as option (1) is subject to the same criticisms as political liberalism more generally.

[19] SJE is clearly a form of citizenship education, as it ideally "reinforces Canadian [or American] political values" (similar to Bell's "JBUC curriculum") that cohere with the "contemporary Canadian [or American] liberalism" (Bialystok, 2014, p. 419).

However, option (2) presents the new challenge of showing why claims associated with SJE, but not any claims whatsoever, are a justified bias in the education system of a liberal democracy (2014, p. 425).

To address this problem, Bialystok argues that much (but not all) of SJE is justifiable in a liberal democracy, not because every citizen endorses the concrete values it represents, but because and only insofar as it reflects a democratic political culture that does (2014, p. 431). With this grounding in mind, Bialystock gives the following criteria for justifiable SJE in liberal democracies, arguing that any political views forwarded through education in Canada must:

> "1) have legislative backing in the form of such precedents as the Charter, human rights codes, and current policy;[20]
>
> 2) be compatible with reasonable pluralism;
>
> 3) not engage in partisan politics or political activism that students do not choose;
>
> 4) be connected with developing skills for democratic engagement; and
>
> 5) respect students' freedom to abstain from activities that contravene their own (emerging or tentative) comprehensive doctrines" (2014, p. 415).

Bialystok claims that these criteria can distinguish between defensible and indefensible applications of comprehensive doctrines in education (thus avoiding the objection that if SJE is allowed to be taught, so should be religious fundamentalism or racist ideologies) (2014, p. 431). Using these criteria, I will now see if any form of environmental education is justifiable from the comprehensive liberal standpoint. Additionally, I will apply the criteria to EE specifically, to show how they could assess a particular form of environmental education.

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[20] The Bill of Rights is a comparable document in the United States.

Criterion (1), the requirement of legislative backing, rules out most of the comprehensive doctrines that we would oppose in school, such as religious fundamentalism (2014, p. 430). For the case of environmental education, the political view in question is, of course, environmentalism. As defined in this chapter, environmentalism meets criterion (1) in the United States. The landmark environmental policy in the United States is the National Environmental Policy Act of 1970 (NEPA), which requires Federal agencies to assess the environmental effects of any proposed major Federal actions, including, as of 2021, those which will cause greenhouse gas emissions (EPA). The United States has also expressed support for the environment on the global stage, as it adopted the Paris Agreement on Climate Change in 2021, an international treaty that requires signatory countries to reduce their greenhouse gas emissions as soon as possible (The United States Government). Other important policies that demonstrate a political culture of environmental concern in the United States include (among others) the Clean Air Act, the Clear Water Act, and the Endangered Species Act. Therefore, some degree of environmentalism is clearly part of the democratic political culture in the United States.[21]

For the case of EE specifically, recall that EE, as defined in this project (and by the United States Federal government), aims to promote "*attitudes* of concern for the environment and *motivation* to improve or maintain environmental quality" (EPA). Nothing about "concern for the environment" or "maintaining environmental quality" falls outside of the form of environmentalism represented in the democratic political culture in the United States, so EE does not violate (1).

Criterion (2), the requirement of reasonable pluralism, rules out comprehensive doctrines that cannot accept the reasonableness of their rivals. For example, the view that abortion is evil

[21] Roughly the same can be said for other liberal democracies, and perhaps even all countries in the Paris Agreement, though to varying degrees depending on their other environmental policies.

cannot accept the reasonableness of the rival view that abortion is a personal choice (Bialystok, 2014, p. 430). Unlike this example, environmentalism has no inherent contradiction with alternative views, and thus is compatible with (2). However, an extreme form of environmental education that promotes the view that those who do not care about the environment are evil, for example, would not be permitted by (2). Of course, this is not a view promoted in EE, so EE does not violate (2).

Criterion (3), that students must choose to engage in partisan politics, rules out forms of SJE that include activities like mandatory protesting. This is necessary because such activities prevent students from forming their own conclusions autonomously (a fundamental aim of liberal education), unlike discussion of political views in class that may motivate independent political involvement (Bialystok, 2014, p. 430). Bialystok provides the environmental education-relevant example of a Canadian third grade class who organized a protest of an oil pipeline, violating (3) (2014, p. 432; quoting Reynolds, 2012, p. 20). However, other forms of environmental education, such as EE, only seek to "motivate" environmentalist action, and do not violate (3). Therefore, (3) may rule out some but not all forms of environmental education.

Criterion (4), developing skills for democratic engagement, requires that students be taught skills like critical thinking, logic, and media literacy alongside comprehensive doctrines to prevent them from becoming dogma (and inherently illiberal) (Bialystok, 2014, p. 430). Like (3), this criterion may rule out some forms of environmental education, but not others. For the case of EE, the EPA states that EE "teaches individuals how to weigh various sides of an issue through critical thinking and enhances their own problem-solving and decision-making skills." So long as this aim is achieved, EE does not violate (4).

Finally, criterion (5) requires that students be allowed to abstain from SJE activities, because it is illiberal to force students to violate their own comprehensive doctrines (Bialystok, 2014, p. 431). Bialystok compares forcing students to participate in SJE activities to forcing students to pray in school. However, this criterion does not mean that students may stay at home when SJE topics are discussed, just that they need not participate (2014, p. 431). This criterion does have the potential to be problematic for the *compulsory* environmental education I am arguing for. If students are required to demonstrate competency in environmental education through some form of evaluation, students would be forced to participate or risk severe academic consequences like failing a class or being held back.

However, because I have defined compulsory education more minimally as something all schools must teach, this conception of compulsory environmental education should not conflict with this constraint in SJE. This may mean that students would not be evaluated in environmental education, or at least that they would not be punished for opting out of evaluations. But, because some of the most important components of environmental education are not easily evaluated (such as cultivating environmentalist attitudes), this should not present a significant limitation. Therefore, subject to the minimal constraints required by criteria (3), (4), and (5), environmental education is justified in promoting environmentalist views in line with the democratic political culture under Bialystok's comprehensive liberalism. Furthermore, EE specifically (according to the EPA's current definition), should pass all the criteria so long as it is not compulsory in the sense that all students must participate.

So far, I have aimed to show that environmental education that promotes environmentalism is justified under both political and comprehensive liberalism. Though I will not endorse one interpretation of liberalism or the other, I do think it is worth briefly considering

the relative merits of each of these justifications. The political liberal justification is much simpler, and even Bialystok notes that this approach is "attractive" (when not considering the comprehensive objection to political liberalism) (2014, p. 425). Furthermore, the political liberal justification actually requires that environmental education be compulsory (though there is nothing in the comprehensive liberal justification that would prohibit compulsory environmental education). Finally, the principle of intergenerational justice requires us to consider the lives not only of distant future generations, but also our own children, especially if we limit it to duties to the next generation, as I have suggested. As the state of the climate crisis progresses, the risks to existing young people become more drastic, and appealing to intergenerational justice could be increasingly compelling to the general public.

However, I think the comprehensive liberal justification may provide a more tactful response to critical members of the public who may not be swayed by appeals to intergenerational justice, like those who call environmental education "propaganda" or "special interest-driven doctrine" (Starr, 2009). Under the political liberal justification, the available response to critics is to say that they are unreasonable for not endorsing the political conception, something all reasonable citizens would endorse. Under the comprehensive liberal justification, we do not have to call their views unreasonable, since there is no purely political conception. Rather, we would just point out that, in a liberal democracy, their views are unfortunately at odds with the democratic political culture and the state's aims of promoting comprehensive liberal values, including environmentalism.

Section Five - Liberal Justification for Environmental Education in Higher Education

At this point, I have argued that environmental education should be compulsory in general K-12 education according to the principles of education for citizenship, under both

political and comprehensive liberalism. However, some environmentalists might object to the idea of K-12 environmental education on the grounds that the average citizen is not in a position to combat climate change through individual action, as the solutions will require structural change. For example, in a paper on the tension between individual and structural approaches to decarbonization in the climate movement, Brownstein et. al. (2022) highlight this anti-individualist view through examples of headlines like "You Can't Save the Climate by Going Vegan" and "I Work in the Environmental Movement. I Don't Care if You Recycle."[22] The objector might further emphasize that it is especially problematic to focus on promoting sustainability to students with lower socioeconomic status, because individual sustainable choices, such as vegan food and electric cars, are often expensive. Therefore, compulsory environmental education is at best wasting resources and at worst putting undue economic pressure on the worst off.

In response, I argue that the individualist/structuralist debate rests on a false dichotomy that is grounded in problematic either/or thinking. On the contrary, as Brownstein et. al. argue, "individuals and structures are interdependent and mutually supporting," and certain individual actions contribute to achieving structural reform. Instead of either/or thinking, we should adopt "symbiotic" both/and thinking in climate research and activism (p. 270). Additionally, I would emphasize that the promotion of "sustainability virtues" in environmental education need not prescribe specific actions that overly burden students from lower socioeconomic backgrounds. Acting on sustainability virtues could be as simple as voting for environmentalist legislation or candidates. Therefore, I maintain that we should not abandon the importance of individual action and should provide compulsory environmental education to all citizens.

[22] See Appendix 1 and 2 for a visual representation of the two sides of this debate from Brownstein et. al (2022).

However, adopting the symbiotic both/and model also means that we should not ignore the necessity of structural change and the limitations of individual actions. Indeed, even the effectiveness of collective actions will be limited if leaders do not care about the environment or do not know how to solve environmental issues. Therefore, I claim we should be particularly concerned about the "environmental qualifications" of those who are uniquely positioned to change structures. To address this concern, I propose compulsory environmental education at the level of higher education, with the goal of preparing those who will be in positions of power to be even more environmentally knowledgeable and concerned than average citizens. However, this requires a slightly different justification than K-12 environmental education, because not all citizens are required to complete higher education, but I claim is nonetheless justified by education for citizenship.

To justify my proposal along the lines of citizenship education, I will draw on Anderson (2007), who shifts the focus onto the qualifications of the "democratic elite" in her conception of education for citizenship.[23] Anderson defines the elite as "those who occupy positions of responsibility and leadership in society: managers, consultants, professionals, politicians, policy makers" (p. 596). As most of these positions require a university education, Anderson contends that an educational system suitable for a democratic society must cultivate in its elite the qualifications of "responsiveness to and effective service of the interests of people from all sectors of society" (p. 596). To achieve this end, Anderson argues that higher education institutions have an obligation to integrate across all sectors of society (p. 597).

I think Anderson's argument can be interpreted in terms of Bell's language to be claiming that universities have an obligation to instill in the democratic elite a more thorough and specific

[23] Using Anderson (2007) to argue for compulsory requirements in higher education was inspired by Tanchuk et. al (2018).

version of Rawls' "political virtues," especially the "readiness to meet others halfway." However, if Bell is right that general education should also promote "sustainability virtues," I think Bell and Anderson's views can be combined to conclude that universities also have an obligation to instill in the democratic elite a more thorough and specific version of "sustainability virtues." Democratic elites, who can change the structures that are contributing to unsustainable natural resource usage and climate change, also need the qualifications of "responsiveness to and effective service" of environmental issues. Therefore, I claim that education for citizenship also justifies compulsory environmental education in higher education.

One might ask how environmental education in higher education would differ from that in K-12. Though I cannot fully outline all potential differences here, to briefly respond, I will give an example of one potential framework from the EE movement. The recommendations for higher education EE found in the United Nations' Tbilisi Declaration of 1977, an influential, framing document of EE, state that "university-level education should see the introduction, as a basis for all specialized courses (for engineers, architects, planners, economists, etc.) of thorough knowledge of the functioning of ecosystems and insight into the socio-economic factors governing the relations between people and the environment" (p. 21). According to this perspective, environmental education in higher education may involve more specialized environmental knowledge for professionals who will have to make decisions with environmental implications.

However, looking back to Anderson, a primary motivation for her focus on integration is that academic knowledge alone is not sufficient to create a responsive democratic elite, because responsiveness requires knowledge that is "emotionally engaged" (p. 608-609). Therefore, democratic elites need first-person interaction with those in the groups they must respond to.

Applying this idea to the context of environmental issues, I think it is possible that higher-level environmental education could achieve adequate responsiveness by increasing first-person interaction with various groups, including those already suffering from climate harms or environmental injustice, young children concerned about their futures, or even with the natural world itself through outdoor or place-based education. However, this is just an initial exploration, and I believe the question of what kind of higher-level environmental education would sufficiently qualify the democratic elite merits much further discussion.

With the addition of this higher education justification, I have made my argument that cultivating certain environmentalist attitudes and motivations in students through environmental education is not only possible, but also sufficiently justifiable to the extent that it should be compulsory at all levels of education in liberal democracies. Before concluding, however, I want to emphasize that, recalling my definition of environmentalism in this chapter, the *certain* environmentalist views that I have argued are justified under liberalism do not include more radical, ecocentric forms of environmentalism. I have not argued that environmental education may cultivate belief in the inherent value of nature, for example. This distinction will be relevant in Chapter Three.

Chapter Two - Limitations of Liberal Environmental Education

Section One - What is Capitalism and Why is it Destroying the Environment?

In this chapter, I will make my argument that problematizing capitalism is a necessary feature of adequate environmental education, and therefore, adequate environmental education cannot be fully compatible with liberal educational principles. To begin, I will survey the arguments of scholars who argue some version of the claim that capitalism is fundamentally dependent on the destruction of the environment. Specifically, I will first present John Bellamy Foster's (1999) eco-Marxist view that draws on the traditional Marxist critique of capitalism.[24] Second, I will present Nancy Fraser's (2022) more far-reaching view of capitalism as an "institutionalized societal order," and her following analysis of capitalism's destruction of the environment. My intention here is not to comprehensively assess and endorse a particular one of these two views. Rather, my aim in examining multiple views is to show that the idea that capitalism must be ended in order to end the climate crisis is not dependent on an overly specific conception of "capitalism" itself.[25]

Foster's Marxist Analysis

Prior to the last 20 years, many scholars believed that Marxist theory was not useful for an ecological analysis due to Marx's uncritical analysis of technological development under capitalism. Critics claimed that Marx was a "technological utopian" who believed socialism would solve all ecological problems. Of particular interest in this project (in relation to the ecological storm) are critiques that Marx's value theory was distinctly anthropocentric, as he saw human labor as the only source of value, ignoring the value of nature in production (Saito, 2017,

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[24] Some of these scholars like Foster also might call themselves "eco-socialists," but I will call them "eco-Marxists" to highlight their support of a distinctly Marxist analysis for the scope of this project.

[25] Also, for this project, I just wanted to learn about different arguments on the subject!

p. 10). Therefore, we should "forget about Marx" (Saito, 2017, p. 10; citing Immler, 2011, p. 36). However, beginning in the late 1990s, Marxist theorists such as John Bellamy Foster (1999), have argued that Marx actually does have a valuable ecological analysis, and that Marx actually is useful in understanding the modern climate crisis. For the purposes of this project, I want to briefly consider what we might learn from a Marxist analysis about why capitalism is fundamentally dependent on the destruction of the environment.

Before moving to the ecological analysis, I will briefly elaborate on what "capitalism" actually means under a traditionally Marxist definition. According to Erik Olin Wright (2019), sociologists influenced by the Marxist tradition generally define capitalism along two lines. First, they claim that capitalism involves a "free" market economy, emphasizing that market transactions are not regulated by the state. Second, and perhaps most significantly, in the Marxist tradition, capitalism is defined by a class structure between capitalists, who privately own the means of production, and workers, who provide waged labor as employees (p. 2). Though there is certainly more to be said about Marx's conception of capitalism, for the scope of this chapter, I will take Wright's definition to be sufficient.

Under this general definition of capitalism, Foster argues that capitalism is fundamentally reliant on the destruction of the environment by drawing on Marx's concept of "metabolic rift." According to Foster, Marx employed the concept of "metabolism" to describe the relationship between humans and nature through labor (p. 380). Foster elaborates that Marx argued that capitalism had caused a "metabolic rift," or an "estrangement of human beings in a capitalist society from the natural conditions of their existence," and that the "basic conditions of sustainability had been violated" (p. 383). The metabolic rift is a result of the "antagonism between town and country," or how capitalist production concentrates laborers in cities, removed

from the natural conditions of their existence (p. 383). Marx also considered the metabolic rift in relation to global colonialism, with the land and resources of colonies far removed from the industrialized colonizing countries they were supporting (p. 384). Ultimately, Marx concluded that the land must be treated as "permanent communal property" rather than private property in order to preserve it for future generations (p. 384-385).

Under Foster's Marxist analysis, we might say capitalism is causing the climate crisis because it alienates humans from the natural conditions of their existence and conceptualizes land as private property that can be destroyed for the sake of production. In my view, this separation of humans from the conditions of their existence is even more relevant in today's technological and globalized world. For example, in a single day, I could eat an apple from another state, order a shirt online from another country, and then fly to another continent. I would never witness the labor and impact on the environment that went into growing the apple or making the shirt, nor the effects of the pollution from the plane flight, making it extremely easy to continue consuming unsustainably. Furthermore, not only is it easy to consume unsustainably, but it is also essentially unavoidable if I am a laborer in a major city. I cannot afford to spend my entire paycheck on apples from the farmer's market, nor all my time growing apples myself (if I even have a backyard, that is).

Fraser's Eco-Socialism

While Foster and other eco-Marxists' analysis relies on the traditional, Marxist definition of capitalism, philosopher Nancy Fraser, in her book *Cannibal Capitalism* (2022), provides a new definition of capitalism and subsequent explanation for why capitalism is fundamentally dependent on the destruction of the environment. The fundamental difference between Fraser's conception of capitalism and the Marxist definition is that Fraser views capitalism as more than

an economic system. Rather, she argues that capitalism is best conceived as an "institutionalized societal order, on a par with, for example, feudalism" (p. 18). She elaborates that "to gain a critical perspective, we must understand capitalism more broadly," encompassing not only "the economy" but also "those relations, activities, and processes, defined as non-economic, that make the economy possible" (p. 81).

Fraser argues that the benefit of separating economic and non-economic realms is that it allows us to examine the relation between the economy and "its others - including the vital other known as 'nature'" (p. 81). She continues that this relation between the economy and nature is "contradictory" and "crisis prone." This is the case because the economy is dependent on nature for resources and to absorb waste. However, at the same time, capitalism institutes a division between the realms - conceptualizing the economy as a "field of human activity that creates value, while positioning nature as a realm of stuff, devoid of value, but infinitely self-replenishing and generally available to be processed in commodity production" (p. 81). This "ontological gulf" becomes disastrous under capitalism's drive for endless accumulation, where owners are incentivized to maximize profits by taking natural resources as cheaply as possible without replenishment. In other words, by "simultaneously needing and rubbishing nature," capitalism is a "cannibal that devours its own vital organs" (p. 83).

Ultimately then, Fraser concludes that capitalism "represents the sociohistorical driver of climate change, and hence the core institutionalized dynamic that must be dismantled in order to stop it" (p. 77). Furthermore, capitalism drives climate change "non-accidentally, by virtue of its very structure" (p. 78), and therefore, a "deep structural transformation" is required (p. 80). In summary, Fraser provides another lens through which to understand why capitalism is fundamentally dependent on the destruction of the environment, that is, that the "cannibalization

of nature" is a background condition for capitalism resulting in an endemic ecological contradiction.

What Does it Mean to "End Capitalism"?

So far, I have explained different views on why we might say capitalism is fundamentally dependent on the destruction of the environment. This conclusion is crucial, because if it is true, we must work to end capitalism if we want a viable chance of ending the climate crisis. However, there are various views on what it means to "end capitalism." Perhaps the most widely known view on ending capitalism is that of revolutionary Marxism, which characterized many of the revolutionary struggles of the 20th and late 19th centuries. According to this view, ending capitalism means seizing state power and the means of production, to the end of using state power to suppress elites and institute an alternative economic system. However, in practice, these revolutionary ruptures with capitalism have not succeeded in instituting long-term, emancipatory alternatives to the systems they destroyed (Wright, 2019, p. 18). For that reason, in this project, I am not endorsing the revolutionary Marxist view on what it means to end capitalism.

However, outside of the revolutionary view, what it means to end capitalism is less clear. Wright (2019) contends that there is no "purely capitalist" economy. Rather, any economic system will be a combination of "capitalist and noncapitalist elements." An economy is not capitalist just because it contains some amount of capitalist elements; an economy should be considered capitalist "when it is the case that capitalism is dominant in determining the economic conditions of life and access to livelihood for most people" (p. 26). With this idea in mind, Wright advocates for a strategy of "eroding capitalism," which seeks to increase the prominence of noncapitalist elements to the extent that "capitalism could eventually be displaced from this dominant role in the system as a whole" and no longer determines people's economic conditions

of life (p. 26). I take it to be a clear implication that if capitalism is no longer determining people's economic conditions of life, then it is generally no longer causing the climate crisis either. In this sense, we might say that "ending capitalism" means making capitalism nondominant in the greater economic system. In general, I am persuaded by this view of what it means to end capitalism, and will adopt this perspective as I proceed with my argument.

However, in the context of this project, this view raises the question of the extent to which an economic system where capitalism is "nondominant" is compatible with broadly liberal principles. Though liberalism is generally associated with capitalist economies, perhaps an economic system where capitalism is sufficiently nondominant could be considered liberal as well, depending on the definition of liberalism. So far, I have relied on Halstead (2005) to give an overview of liberal values. On the question of liberal economic values, Halstead claims "liberal economic theory accepts the holding of private property as legitimate and supports the notion of the free market economy… though the state may intervene to regulate the economy if necessary, to ensure free and fair competition and to prevent harm to others" (p. 22, citing Ackerman, 1992, p. 9-10; Dworkin, 1978, p. 119; Gaus, 1983; Koerner, 1985). Based on this definition, the question seems to be what degree of "state intervention" in the economy is necessary to "prevent harm to others," especially in the context of the climate crisis. How far could this aim be stretched towards ending capitalism without overly impeding other liberal economic values?

Though there is certainly much to be discussed in response to this question, for the scope of this project, I will assume that an economic system where capitalism is sufficiently nondominant and is no longer causing the climate crisis is incompatible with liberalism because of liberalism's general acceptance of private property and free markets. In particular, if the

Marxist view is correct that land must be treated as communal property in order to stop environmental degradation, it seems clear that an environmentally sound economic system (such as an economy where some forms of free markets remain but private land ownership has been abolished) would be incompatible with liberal economic principles.[26]

Section Two - Objections in Favor of Market-Based Solutions to the Climate Crisis

The conclusion that we must end capitalism to end the climate crisis is at odds with the market-based view of what must be done to combat climate change, such as instituting carbon pricing and cap-and-trade programs, which has dominated the discussion of climate policy for years (Stokes & Mildenberger, 2020). Because of the prominence of this perspective in the mainstream political discourse, I think it is worth addressing through objections and responses. However, before proceeding, I want to emphasize that even under the view that the total eradication of all capitalist elements from the economy is not necessarily required, market-based solutions alone do not constitute action toward ending capitalism. Rather, these solutions might fall under what Wright calls the strategy of "taming capitalism." Wright explains the idea behind this strategy as counteracting the harms of capitalism rather than eliminating the cause of the harms, as an eroding strategy would aim to do. In other words, taming capitalism "is like a medicine that effectively deals with symptoms rather than with the underlying causes of a health problem" (p. 20).

Objection One - Market-Based Solutions Can End the Climate Crisis

The clearest objection to the claim that we must end capitalism in order to end the climate crisis is that market-based solutions, such as carbon pricing or cap-and-trade programs, actually

[26] This question is a place for future research. One related idea that I would like to explore is that even if liberal *economic* principles may allow for broadly ecosocialist policies and the nondominance of capitalism, some liberal *educational* principles, like neutrality, may still prohibit the promotion of ending capitalism in environmental education that I am advocating for.

do work. If this is true, then we should attempt to use the benefits of capitalism rather than try to end it. Such a position is exemplified in the Washington Post Editorial Board's opinion piece "Want a Green New Deal? Here's a better one," where the Board argues that the "relentless power of the market" can be transformed from an "obstacle to a centerpiece of the solution" (2019). In this article, the Board makes appealing claims like "when the market demands an outcome, things change fast" and "if it costs more to pollute, there will be less pollution."

Indeed, there are examples where market-based strategies have successfully "changed things fast" and "reduced pollution." In the chapter "The Big Trade" from *Who Rules the Earth?* (2015), Paul Steinberg broadly argues that, "market-based regulations can, when used with care, offer significant social and environmental benefits" (p. 100). To introduce the chapter, Steinberg tells the story of how in response to the leaded gasoline crisis in the 1970s, the EPA put a cap on the total amount of lead that could be released into the environment. Then, they allowed the gasoline companies to buy and sell permits. The effect was a drastic reduction in the amount of lead pollution over the following years, an example of a successful cap-and-trade program (p. 98).

However, there are also numerous examples of failed attempts to combat climate change through market-based strategies. For example, in the article "The Trouble With Carbon Pricing," Leah C. Stokes and Matto Mildenberger (2020) highlight the case of California's carbon pricing program. The program has been lauded as the "best-designed" in the world, but has proven to be "weak in practice." Stokes and Mildenberger argue that the problem is that any politically viable carbon price will not work fast enough, because carbon pricing strategies have the politics backward. They claim that "we need to disrupt the political power of carbon polluters before we can meaningfully reshape economic incentives," not the other way around.

Furthermore, besides the fact that market-based strategies arguably have the politics backward, once we remember the full scope of the climate crisis as conceptualized by Gardiner and Obst (2023), I believe it is clear that market-based strategies are fundamentally insufficient. For one, they only have the potential to mitigate future emissions, but a just response to the climate crisis requires responding to environmental injustice that is already occurring as a result of historical injustice. Relatedly, market-based strategies provide no particular response to the fundamental problem of skewed vulnerabilities. Even worse, those with the most money will be able to "pay to pollute" under carbon pricing or cap-and-trade programs, likely resulting in the perpetuation of further inequity. For example, wealthy countries could pay to continue burning fossil fuels and further increase their wealth, while poor countries are left behind despite already being the most vulnerable to climate harms.

However, it is important to note that there could be a place for market strategies in the solution to the climate crisis. Neither Wright nor Fraser equate capitalism with markets, and both emphasize that non-capitalist systems can include markets (see Wright, 2019, p. 2; Fraser, 2022, p. 4). Therefore, the potential benefits of market-based strategies that Steinberg highlights could still be utilized in fighting the climate crisis in another non-capitalist economic system. The main point is that market strategies *alone*, within a broadly capitalist system, cannot end the climate crisis for the reasons already described.

Objection Two - Ending Capitalism is not Pragmatic

A second but related potential objection is that ending capitalism is just not pragmatic. According to the IPCC, we only have until 2030 to cut global emissions in half to avoid far worse climate catastrophe (2022). Even if market-based solutions may not fully end the climate crisis, we should still focus on them for the time being. We do not have time to end capitalism

and fix all of our social justice issues worldwide in the next seven or so years. This position is also reflected by the Washington Post Editorial Board, who write that "the goal is so fundamental that policymakers should focus above all else on quickly and efficiently decarbonizing. They should not muddle this aspiration with other social policy, such as creating a federal jobs guarantee, no matter how desirable that policy might be."

This objection rests on the premise that market-based solutions are more politically viable than far-reaching, expensive socialist policies, like those outlined in the Green New Deal (at least in the original version proposed by Sen. Edward J. Markey and Rep. Alexandria Ocasio-Cortez) (H.Res.318, 2023; S.Res.173, 2023). However, there are various reasons to believe this is not actually the case. As I highlighted in the previous section, Stokes and Mildenberger argue that any politically viable carbon pricing strategy will not work fast enough because of the political power that fossil fuel companies have in the current system. Furthermore, Stokes and Mildenberger highlight the case of the Yellow Vest movement in France, which arose in response to a proposed carbon tax that was subsequently abandoned. The participants in the Yellow Vest movement opposed the carbon tax because it was leading to an increase in oil prices for regular people; rather than eating the cost of the carbon tax themselves, fossil fuel companies simply offset the cost onto consumers.

Even the Post Editorial Board acknowledges the fact that carbon taxes can hurt the poor, but respond with the idea that "the revenue from carbon pricing could be recycled back to Americans in a progressive way, and most people would end up whole or better off." At this point, they undermine their own initial point that we should not "muddle" decarbonization efforts "with other social policy." Indeed, it appears that even they believe that in order to have a politically viable carbon tax program, we need to consider questions of social justice as well.

On the other hand, socialist, Green New Deal policies like a federal green jobs guarantee can serve to benefit the vast majority of people. As argued by Aronoff et. al. (2019) in the book *A Planet to Win: Why We Need a Green New Deal*, tying green investments to broadly socialist policies like jobs guarantees and housing rescue can make such investments "viscerally popular" (p. 10). In a section called "The Case for Practical Radicalism," Aronoff et. al. argue that in contrast to the "faux Green New Deal" position (essentially the pro-market stance of the Post Editorial Board), they see the "broadening of climate policy as a political asset: it's an opportunity to build majority support for big change and mobilize political energies to change the status quo" (p. 17). Furthermore, the authors of *A Planet to Win* do not see carbon taxes as mutually exclusive with broader climate policy. In fact, they endorse a progressive carbon tax as a "secondary tool," or a complement to other policies aimed at "raising the general standard of living" (p. 20). This leads to a similar conclusion to that of the previous objection: while market-based reforms have the potential to help, they alone are not enough. Therefore, I maintain that we must end capitalism to have a chance at ending the climate crisis.

Section Three - Implications for Environmental Education

Such a conclusion clearly has significant implications for environmental education. Recall that I have defined "adequate environmental education" as environmental education that gives students the conceptual resources and motivations to have a legitimate chance at ending the climate crisis. If capitalism is even in part causing the climate crisis, then in order to give students the necessary conceptual resources, environmental education must provide students with a critical understanding of capitalism. Relatedly, environmental education must cultivate motivations in students to end capitalism well. I will call the complementary ends of teaching a critical understanding of capitalism and cultivating motivations to end capitalism

"problematizing capitalism."[27] In this language, my conclusion is that problematizing capitalism is a necessary condition for adequate environmental education.[28]

In the previous chapter, I gave what I take to be the strongest possible justifications for environmental education under liberalism. Most generally, it seems relatively obvious that since ending capitalism is incompatible with liberal economic values (as I claimed earlier in the chapter), environmental education that problematizes capitalism should be considered incompatible with liberalism. Otherwise, liberal education could essentially function to undermine liberal economics. Furthermore, I think there are specific educational principles from the standpoints of both political and comprehensive liberalism that may prevent environmental education from problematizing capitalism.

From the standpoint of political liberalism, I concluded the cultivation of certain environmentalist attitudes and motivations, along the lines of what Bell calls sustainability virtues designed to ensure intergenerational justice, should be promoted through compulsory environmental education. However, such a justification would not hold if environmental education directly problematizes capitalism. Recall that Bell, drawing on Rawls, makes the case for environmental education by arguing that sustainability virtues should be considered part of the justice-based universal compulsory curriculum (JBUC curriculum), which is aimed to prepare children for citizenship in a society of free and equal citizens (p. 39). Specifically, Bell contends that the JBUC curriculum should "promote a positive attitude toward 'sustainability' and a basic understanding of the environmental and social science frameworks that citizens need to participate in 'sustainability' decisions" (p. 47). The JBUC curriculum more generally aims to

[27] This language of "problematizing" is generally inspired by the Freiean notion of "problem-posing" characteristic of the critical pedagogy movement (i.e. Freire, 2018).

[28] Note that I am not arguing that problematizing capitalism is a sufficient condition for adequate environmental education. In the following chapter I will discuss why this might be the case.

teach children "political virtues" of "reasonableness and a sense of fairness, and of a spirit of compromise and a readiness to meet others halfway" (p. 39; citing Rawls, 2001, p. 116).

However, Bell maintains that beyond the political and sustainability virtues promoted through the JBUC curriculum, "political liberalism does not prescribe educational content" (p. 39). So long as it does not prevent students from becoming "good citizens," under political liberalism, families and communities should be free to choose educational content that serves their own comprehensive doctrines. For example, there is nothing objectionable about private Catholic schools that meet the JBUC curriculum requirements (p. 39). However, assuming that there will be a national curriculum (that students may opt out of through private or homeschooling), the question remains of what should be included in a national curriculum, and how should this be decided. After considering various proposals, Bell ultimately argues that "state schools might follow a democratically chosen national curriculum while non-state schools (supported by state funds) should be allowed to teach any 'permissible' curriculum" (p. 41).

If Bell is right that political liberalism does not prescribe any particular educational content and aims to allow families and communities to pursue their own comprehensive doctrines to the greatest extent possible, it is hard to imagine that environmental education that actually problematizes capitalism could be permissible under political liberalism. In order to truly cultivate an understanding of capitalism's role in the climate crisis, specific educational content will be surely necessary. Because the goal of ending capitalism is currently not a dominant orientation in the public political culture (though it is becoming increasingly so), it is highly unlikely that educational content that problematizes capitalism will become part of a democratically chosen national curriculum. Even if somehow this did occur, as the structure of education under political liberalism allows individuals to opt out of the national curriculum in

favor of private education, I believe it is reasonable to assume that too large a proportion of the population would opt for private options. Therefore, politically liberal environmental education could not problematize capitalism, and consequently, will be inadequate in the context of the climate crisis.

From the comprehensive liberal standpoint, recall that rather than attempting to ensure that education only endorses positions on which there is no "reasonable" controversy, education can "bite the bullet" and acknowledge that it is making claims about the good that not all reasonable citizens will agree with (Bialystok, 2014, p. 425). One might ask why environmental education cannot just "bite the bullet" and problematize capitalism, even if reasonable citizens will disagree. However, if Bialystok is right about her qualifications for permissible SJE, I contend that problematizing capitalism in environmental education is also incompatible with comprehensive liberalism.

As I mentioned above in my discussion of political liberalism, it would potentially be problematic if students are allowed to opt out of environmental education. Because the goal of ending capitalism is not dominant in the democratic political culture, it is reasonable to assume that too large a portion of the population would opt out of a form of environmental education that problematizes capitalism. Recall that in the previous chapter, I adopted a definition of "compulsory" that only requires schools to teach a given curriculum, not that all students must actually take said curriculum. This allowed my form of proposed environmental education to pass Bialystok's third criterion, that a form of SJE must "not engage in partisan politics or political activism that students do not choose" (2014, p. 415). However, if students are not allowed to opt out, which I am claiming is necessary to have a critical mass of the population receiving adequate environmental education, they may be forced to engage in partisan politics

that they do not choose. Therefore, comprehensive liberal environmental education could not problematize capitalism (at least to a large enough proportion of the population), and consequently, will also be inadequate in the context of the climate crisis.

Section Four - Application to Existing Environmental Education Frameworks

Before concluding, I will briefly discuss whether or not various environmental education frameworks meet my proposed necessary condition of problematizing capitalism.

Environmental Education (EE)

As stated in my introduction, the modern EE movement began roughly in conjunction with the broader environmentalist movement in the 1970s, and is "aimed at producing a citizenry that is *knowledgeable* concerning the biophysical environment and its associated problems, aware of *how* to help solve these problems and *motivated* to work toward their solution" (Stapp et al., 1969, pp. 30–31, emphasis in the original). In the previous chapter, my argument primarily considered EE as presently defined by the EPA, which is still broadly aligned with the original definition. I will not elaborate here, as in the previous chapter I broadly concluded that this form of environmental education is justified under liberalism. Consequently, it could not meet the condition of problematizing capitalism.

Education for Sustainable Development (ESD)

As mentioned previously, Education for Sustainable Development is a branch off the original EE movement that originated in the 1990s (Gough, 2012). ESD is tied to the more general concept of "sustainable development," which Richard Kahn characterizes as an environmental policy approach that seeks "win-win-win" solutions for people, business, and the environment (2008, p. 1). Similarly, Michael Bonnett (1999) notes that the "addition of the idea of development to sustainability seems to provide a political 'dream ticket' in the area of

environmental policy making" (p. 317), and Helen Kopnina characterizes the approach as an attempt to "keep your cake and eat it too" (2020, p. 2).

Critics of ESD are suspicious of the seemingly too good to be true policy solution, noting that the approach has the potential to take a neoliberal view that prioritizes economic growth over social and environmental aims (Bonnett, 1999; Kahn, 2008; Kopnina & Cherniak, 2016; Kopnina, 2020, Sauvé, 1996). For example, Bonnet highlights the view of Vandana Shiva (1992), who argues that from the "perspective of the market economy," sustainable development will actually result in "the maximization of profits and capital accumulation… and will override and denude the economies of nature and of people" (1999, p. 317; citing Shiva, 1992).

In relation to education, according to the United Nations, "education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues" (1992, p. 2). According to this definition, and implied by the "for" in "Education for Sustainable Development," it aims to promote, rather than merely explain (or even critique), sustainable development.[29] If critics are right that sustainable development is fundamentally a neoliberal, capitalist enterprise, then ESD clearly does not meet the condition of problematizing capitalism, and is ultimately an inadequate form of environmental education. Furthermore, while I have argued that EE cannot take a position on capitalism, ESD is arguably pro-capitalist and therefore, more pernicious. As Kahn puts it, ESD at its worst is really a "seductive pedagogical 'greenwash' developed by and for big business-as-usual" (2008, p. 2). On the other hand, one might argue that ESD is a step in the right direction from EE in the sense that it at least brings the political economy more centrally into the conversation and addresses social justice in connection to environmentalism. Additionally, it is

[29] Interestingly, certain theorists raise concerns about ESD from the liberal perspective as well, arguing that the promotion of sustainable development conflicts with liberal neutrality (see Bell, 2006; Jickling, 2005).

worth noting that many of these critics believe the concept of sustainable development should be part of environmental education, but addressed in a more critical manner (Bonnett, 1999, Kahn, 2008; Sauvé, 1996).

Ecopedagogy

Recall that ecopedagogy is an environmentalist branch off of the critical pedagogy movement, which is rooted in Marxist theory and the work of Paulo Freire. Misiaszek and Torres (2019) put forth a fifth, "missing chapter on ecopedagogy" as an addition to Freire's *Pedagogy of the Oppressed*, as they best estimate Freire himself would have written it. To begin, they define the focus of the chapter as "how the wellbeing of the rest of Earth is affected by and causes humanization or dehumanization, as we teach about the planet holistically" (p. 470). While the first four chapters of *Pedagogy of the Oppressed* take a generally anthropocentric focus on humanization, this chapter broadens humanizing education to include consideration of "connections between humans' and nature's oppressions." Furthermore, ecopedagogy involves not just humanizing education, but *planetarian* education as well. In planetarian education, "dialogue on oppressions extends beyond human emancipation to include nature's oppressions—teaching to better understand oppression including humans, but also beyond humans—the trees, the birds, the rivers, the seas: life in plenitude" (p. 470).

In terms of problematizing capitalism, much of Misiaszek and Torres' paper addresses the political economy of neoliberal globalization specifically. They claim that while problem-posing global neoliberalism is not "the end" of teaching about oppression, ecopedagogy should maintain a "specific focus on reading the global market's effects on both the World and Earth." (p. 479). Because of ecopedagogy's focus on problem-posing the political economy, I contend

that it meets the necessary condition of problematizing capitalism for adequate environmental education.[30]

A People's Curriculum for the Earth

Lastly, I want to briefly examine a more specific, curricular example of environmental education from *A People's Curriculum for the Earth* (Bigelow & Swinehart, 2014). This curriculum was published by Rethinking Schools, a popular publisher of social justice education curricula. In the introduction, the authors orient the curriculum as *for* rather than *about* the Earth, which implies "teaching not so much *about* fossil fuels as teaching *against* fossil fuels-and against a system that privatizes decisions on which the future depends" (p. x). Additionally, they state that teaching about the environmental crisis must "engage students in thinking about the nature of global capitalism" and "confront students with the fundamental clash between an economic system that prizes wealth accumulation above all else and people's need for a healthy environment," as well as "confront the myth that private property is, in fact, private" (p. xii).

To achieve these goals, one of the lessons in the book is called "The Thingamabob Game: A Simulation on Capitalism vs. the Climate" (p. 147). To give a brief overview of the game, groups of students represent manufacturers of goods (thingamabobs) that require natural resources and whose production creates greenhouse gasses. Then, they compete in a profit-based economy, and determine if they can be environmentally responsible in the face of the rewards. At the end of the game, the authors suggest the students write about possible lessons learned and then discuss their writing as a class. Beyond their writing, the authors suggest discussion questions, including "what prevented you from being more ecologically oriented?" and "could the rules be changed in ways that would not lead to climate ruin?" (p. 149). The authors conclude

[30] There are many other ecopedagogy theorists besides Misiaszek and Torres, but all share the premise that the political economy of neoliberalism or capitalism must be problem-posed (eg. Kahn, 2010; McLaren, 2013).

by noting potential limitations of the game, such as the fact that it does not account for uneven vulnerability to the climate crisis globally (p. 150). Clearly, this curriculum does problematize capitalism, and can serve as a more concrete example of what an adequate form of environmental education might consist of.

Chapter Three - Objections and Further Considerations

Objection One - We Should Not Abandon Liberal Educational Principles

In this chapter, I will aim to anticipate and respond to possible objections to my conclusions in the previous chapter. To begin, one might accept my premise that capitalism is causing the climate crisis, but reject my conclusion that this means we must abandon liberal educational principles. In other words, even if environmental education will be inadequate by my proposed standard, we should still maintain liberal education for its unrelated value.

In response to this objection, I would emphasize that I do not necessarily believe *all* liberal educational principles must be abandoned for adequate environmental education. Recall that Halstead (2005) characterizes liberal education as valuing ideals such as personal autonomy, open-mindedness, critical thinking, and equality of education (p. 23-25). Stemming from the values of open-mindedness and critical thinking are principles in favor of neutrality and against indoctrination (p. 24). My position that environmental education should problematize capitalism ostensibly conflicts with these principles. However, while Halstead generally groups the aims of maintaining neutrality and avoiding indoctrination together, I claim that these two aims can diverge, at least under certain views of indoctrination. With that in mind, I claim that my position does require abandoning neutrality, but nonetheless does not require indoctrination, depending on the implementation.[31]

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[31] I think it is an open question whether or not indoctrination may be justified given the current crisis. My intuition is that it is not necessary, and students will come to the desired conclusion once they have the opportunity to learn about capitalism in relation to the climate crisis in a non-indoctrinatory way. The view that indoctrination is necessary blames people for failing to come to the correct view themselves, while the view that indoctrination is not necessary merely blames the lack of education people currently receive on this topic. Anecdotally, I just took a course where we studied the exact question of whether capitalism was causing the climate crisis. At the beginning, the professor asked us to vote on whether we think we need to end capitalism, and the vote was about split fifty/fifty. By the end of the class, after reading views on both sides, though perhaps more views against capitalism, nearly the whole class believed we need to end capitalism. I do not think that indoctrination occurred here.

To clarify this distinction, a more specific definition of indoctrination is necessary. Eamonn Callan and Dylan Arena (2018) define indoctrination as "the inculcation of closed-minded belief" (p. 13). To further specify, they define closed-mindedness as follows: "To believe Proposition P close- mindedly is to be unable or unwilling to give due regard to reasons that are available for some belief or beliefs contrary to P because of excessive emotional attachment to the truth of P" (p. 8). Another significant feature of Callan and Arena's definition is that indoctrination does not entail the intent to indoctrinate (p. 10). They note that many cases of indoctrination are perpetrated by teachers who are themselves victims of indoctrination and lack the self awareness to avoid indoctrinating their students (p. 12).

Though Callan and Arena separate intent from effect in order to show that mere intention to indoctrinate is an insufficient condition for indoctrination, this distinction is relevant to my argument as well. I contend that environmental educators should have the *intent* to cultivate certain beliefs (notably, that we need to end capitalism to end the climate crisis), but they should not attempt to cultivate beliefs closed-mindedly. This should remain the case even if their intent does not come to fruition and not all students adopt the desired beliefs. By doing so, environmental educators could avoid indoctrination. However, the intent to cultivate beliefs against capitalism, even open-mindedly, is clearly not neutral by any reasonable definition of the term.

Such an orientation is generally aligned with *A People's Curriculum for the Earth* and Bigelow and Swinehart's distinction between "partisan" vs. "biased" teaching, for example. The authors claim that a bias means "being unwilling to examine or express one's own premises" (p. x), similar to Callan and Arena's definition of closed-mindedness. While the authors condemn biased teaching, they endorse "partisan teaching," asserting that their curriculum "takes sides"

because they "cannot be neutral about the environmental crisis." Rather, partisan teaching involves "wrestling with multiple viewpoints," "alerting students to social and environmental injustice," and "seeking explanations" (p. x).

Of course, actually avoiding indoctrination is surely to be difficult in practice, and whether or not indoctrination has occurred would be highly dependent on particular teachers (as is the case in almost any kind of education). In terms of curriculum, I think one way that environmental education could possibly achieve the end of cultivating open-minded belief against capitalism is to present more views against capitalism than in favor of capitalism among class readings. However, any argument against capitalism could still be examined critically. For example, a teacher may present an article advocating for the Green New Deal, and then lead a discussion where students can give reasons why they do or do not agree with the claims in the article (as opposed to the teacher explicitly endorsing the article). The activity of giving reasons for one's beliefs and considering reasons for opposing beliefs should prevent closed-mindedness by Callan and Arena's definition.

Bigelow and Swinehart advocate for such a strategy in *A People's Curriculum for the Earth*, noting that in compiling their curricular materials, they did not "seek to give 'equal time' to free market proponents whose policy agenda promises more environmental degradation." However, they also do not advocate for shielding students from alternative perspectives, because it is important to understand such views as well (p. x). Another potential form of curriculum is activities that help children understand the functioning of capitalism for themselves, such as the "Thingamabob Game" that I described in the previous chapter. In this game, the role of the

teacher is merely to facilitate a simulation that helps students learn about the realities of our economic system.[32]

Some liberals may still be unsatisfied with my conclusion that we must abandon neutrality by having the intent to cultivate (open-minded) beliefs against capitalism, even if we can avoid indoctrination. To briefly respond, I believe that the sacrifice of abandoning neutrality in this way may actually effectively promote other liberal values like freedom and autonomy. The climate crisis will be a significant influence on the lives of all young people today, and providing students with a critical understanding of and motivation to end capitalism will allow them to have a greater ability to resist and control this force of injustice as future citizens.[33]

Objection Two - Environmental Education Should Not Center Capitalism

One might object that while we do need to take drastic action to end the climate crisis, ending capitalism (and moving towards socialism), is not the right approach to the problem. If this is true, then it would obviously be misguided to consider problematizing capitalism as a necessary condition for adequate environmental education. Here, I will consider two potential alternative primary causes of the climate crisis, anthropocentrism and colonialism, which I find to be particularly salient, and how they might relate to environmental education.[34]

Anthropocentrism

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[32] This is just an initial answer to the question of how to cultivate particular viewpoints without indoctrination, and is certainly an area for further research.

[33] The idea that we must abandon neutrality on the question of capitalism in order to promote other liberal values is something I want to think more about in future research. One idea I have is that failing to problematize capitalism in environmental education might constitute a form of epistemic injustice, such as "civic hermeneutical injustice" (Tanchuck et. al., 2018) or "societal hermeneutical injustice" (Kotzee, 2013), and therefore would impede other liberal values like freedom or autonomy. For example, Fricker (2013) argues that epistemic justice is a "condition of the liberal political ideal of freedom" (p. 1317).

[34] Of course, one might propose numerous other causes. For example, ecofeminist theory links environmental destruction/oppression with the oppression of women (i.e. Warren, 1990).

Regarding anthropocentrism, one could argue that it is not our economic system per se that is the problem for the climate, but rather something more fundamental, that is, how we view humans in relation to the rest of nature. Jonathan Porritt argues that both capitalism and communism "insist that the planet is there to be conquered" (Porritt, 1984, p. 44) and "gathers together capitalism and communism as varieties of what he calls the 'super ideology of industrialism'" (McKinnon, 2022, p. 134; citing Porritt, 1984, p. 44). Though Porritt blames the ideology of industrialism, the ideology of anthropocentrism is also clearly present in the position that the planet is there to be conquered. According to Catriona McKinnon, for Porritt and many other green thinkers, "the road to a future free from climate crisis must be mapped in new ways that make good on the shared failures of left- and right-wing politics in the domain of environment" (2022, p. 134-135). Therefore, one might claim that while ending capitalism may be useful, we should focus more on the deeper issue of anthropocentrism.

This position could be further justified by the various examples of socialist or communist societies that have had a terrible record on environmental issues. Such societies could be characterized as what Michael Lowy calls "productivist socialism," that "ignores natural limits" (2018, p. 1). Lowy contends that the majority of "actually existing socialisms" of the twentieth century had "environmentally oblivious bureaucracies." Similarly, Fraser acknowledges that ecological devastation is not unique to capitalism (p. 80). She highlights the example of Chernobyl, one of the worst environmental disasters in history, which occurred in a communist society.[35] With these examples in mind, one might conclude that socialism alone cannot be the solution to the climate crisis because it can be, and historically has been, anthropocentric.

[35] I do not take these examples to be necessarily devastating to the eco-Marxist arguments mentioned in the previous section. An eco-Marxist, who contends that Marx provided a sufficiently ecological view, could argue that these "actually existing socialisms" were not perfectly aligned with Marx's theory. Whether or not Marx's theory is

In the context of education, various scholars raise concerns about anthropocentrism. For example, Bonnett (2007) claims that most official environmental education policy makes little reference to "nature," instead focusing on the anthropocentric concept of "sustainability" (p. 707). However, he argues that environmental education must not only focus on a "*short-term* pragmatic agenda" of damage limitation, but also a "*long-term* agenda of developing a right relationship with nature" and foster "an appreciation of nature's value that truly transcends the instrumental" (p. 719-720). Similarly, Kopnina (2011) raises concerns about anthropocentric bias in the sustainable development and ESD discourse. Specifically, she argues that because the values supporting an anthropocentric, sustainability-oriented environmentalism are basically "instrumental or utilitarian," people will be "less likely to act to protect the environment if other human-centered values… interfere" (p. 74). Additionally, she cites empirical research that supports this view with evidence that those with "ecocentric orientations" are much more likely to act on their values to protect the environment (p. 74; citing Gagnon Thompson & Barton, 1994; Kortenkamp & Moore, 2001). Furthermore, related to the above concern about productivist socialism, Walsh (2019) and Boxley (2019) specifically problematize the anthropocentrism of educational frameworks rooted in the Marxist tradition. With these critiques in mind, we might be concerned about a form of environmental education that does not problematize anthropocentrism, demonstrating why problematizing capitalism is not a sufficient condition for adequate environmental education.

Colonialism

Regarding colonialism, one might similarly claim that it is not our economic system that is the root cause of the climate crisis, but rather, it is global colonial domination. Heather Davis

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sufficiently ecological seems to be a separate (but related) question from whether or not existing communist societies have been sufficiently ecological.

and Zoe Todd (2017), arguing that the beginning of colonialism should be considered the start date of the Anthropocene, claim that settler colonialism is a "severing of relations" that is, a "severing of relations between humans and the soil, between plants and animals, between minerals and our bones" (p. 770). This ideology is similar to anthropocentrism, as it emphasizes the separation of humans from nature. However, a difference between the related ideologies of anthropocentrism and colonialism is that colonialism can account for oppression between groups of humans as well. Sharon Stein (2019) argues that colonial ideology locates "non-European people with the denigrated category of 'nature,' in part because they did not generally treat 'nature' in this extractive way" (p. 4). In other words, colonialism is characterized both by human separation and dominance over nature, as well as (human) European separation and dominance over (human) non-Europeans.

Recalling Gardiner and Obst's (2023) definition of the climate crisis, one could argue that the ideology of colonialism can account for both the global storm and the ecological storm of the climate crisis (while perhaps anthropocentrism can only account for the ecological storm). This is reflected in the work of Kyle Powys Whyte, who argues that solutions to the climate crisis that do not address colonialism alongside capitalism and industrialization will "produce great suffering for Indigenous peoples" (2019, p. 19). For example, Hydropower and forest conservation "still involve displacement of Indigenous peoples" (Whyte, 2019, p. 14). Though Whyte does regard capitalism as problematic, he argues that focusing on ending capitalism alone will be insufficient for Indigenous people. Another example of the potential limitations of an approach to the climate crisis focused only on ending capitalism could be the case of public lands. On the one hand, the concept of public lands has the potential to pose a challenge to the dominant paradigm of private property (Devall, 1979, p. 140) and could be part of a socialist

response to the climate crisis. However, historically, public land management in North America has often perpetuated colonialism by erasing Indigenous names and language (McGill et. al., 2022), placing bans on subsistence hunting in national parks and wilderness areas (Eichler & Baumeister, 2018), and removing Indigenous people from their native lands (Binnema & Meini, 2006).

In the context of education, certain theorists have made claims that critical educational frameworks rooted in Marxist theory are not truly decolonial. Such critiques support the claim that a purely anti-capitalist form of education may be problematic, and, along the lines of Whyte, continue to harm Indigenous people. For example, C.A. Bowers (2008) argues that environmental educators should avoid embracing a "critical pedagogy of place" because of its "commitment to universalizing the process of decolonization" (p. 325).[36] He elaborates that the movement's universalizing nature stems from its roots in critical theory's Western epistemological framework of abstract rational thought. This presents a contradiction, because, despite the movement's commitment to decolonization, it is rooted in an epistemology that presents a prejudice against non-Western ways of knowing (p. 327). Similarly, Catherine Walsh (2019) questions critical pedagogy's ability to support decolonization given its Western roots. Within this broad discussion, she specifically notes that Peter McLaren's revolutionary critical pedagogy (2010), a branch off the critical pedagogy movement (like ecopedagogy), remains a "Western, anthropocentric, and largely Marxist-informed endeavor" (p. 213). Walsh highlights Sandy Grande's *Red Pedagogy* (2004), which claims that "revolutionary critical pedagogy remains rooted in the Western paradigm and therefore in tension with indigenous knowledge and practice" (p. 238). With these critiques in mind, we might be concerned about a form of

[36] Critical pedagogy of place is a combination of critical theory and place-based education.

environmental education that is not committed to decolonization, again demonstrating why problematizing capitalism is not a sufficient condition for adequate environmental education.

Response to Objection Two - Maintaining the Necessity of Ending Capitalism

In response to this objection, I would generally agree with the claim that ending capitalism alone is insufficient because anthropocentrism and colonialism could fail to be addressed in such a strategy. However, I maintain that capitalism cannot be ignored either. Anthropocentrism and colonialism are inherently tied to capitalism, so all must be addressed to achieve climate justice. In other words, ending capitalism is a necessary, but not sufficient, condition for ending the climate crisis. Consequently, in relation to environmental education, problematizing capitalism is a necessary, but not sufficient condition for adequate environmental education; problematizing anthropocentrism and colonialism should also be considered necessary conditions. To justify this claim, I will briefly discuss connections between capitalism and anthropocentrism, as well as connections between capitalism and colonialism.

Connections Between Capitalism and Anthropocentrism

Recalling Fraser's and Foster's arguments that capitalism is inherently dependent on the destruction of the environment, we can see how capitalism is inherently anthropocentric. Foster's theory of the "metabolic rift" speaks to how capitalism relies on the separation of people from the natural world. Similarly, Fraser's idea that the "cannibalization of nature" is a "background condition for the possibility" of capitalism demonstrates how capitalism cannot function outside of a view that nature only has instrumental value for the sake of production. Therefore, I claim that we must first end capitalism in order to have a chance of eradicating anthropocentrism.

However, the objector might be easily convinced that we should end capitalism in order to end anthropocentrism, but following Porritt, skeptical that the socialist solutions that often

accompany efforts to end capitalism (such as many Green New Deal policies) will lead us to any less of an anthropocentric future. But, the sole fact that socialist or communist nations have a historically poor record on the environment does not necessarily imply that they must be this way in the future. As Fraser argues, while "ecological disaster is not unique to capitalism… what *is* unique, however, is the structural character of the link between ecological crisis and capitalist society" (p. 80). She elaborates that, in contrast to the view of theorists like Porritt, the anti-ecological worldviews and commitments of the industrialist, "really existing socialisms" of the twentieth century did not arise from "dynamics *internal* to socialism." Rather, they arose in response to the world system structured by competition and capitalist societies (p. 80). Fraser concludes that we should opt for a goal that could be characterized as "ecosocialism" (p. 112).

Even ecosocialists, who, unlike eco-Marxists like Foster, are skeptical that Marxist theory itself can lead us to a non-anthropocentric future, believe that socialism can be melded with an ecocentric value theory (Saito, 2017, p. 11). For example, Lowy is concerned about "productivist socialism," but argues that ("red") ideas about socialism should be blended with ("green") environmentalism, resulting in the "Red-Green Future" (2018). Lowy's proposal for the Red-Green Future is centered around the idea of "democratic ecological planning, wherein the population itself, not 'the market' or a Politburo, make the main decisions about the economy" (2018, p. 1). Though this is just a brief consideration, I contend that ending capitalism and moving towards socialism can indeed lead us to an ecocentric future. However, as the objection highlights, it is important to acknowledge that socialism also may not be "structurally ecocentric" in the same way that capitalism is "structurally anthropocentric."[37] Therefore, we

[37] Again, I do not think this conclusion necessarily undermines the eco-Marxist claim that Marxist theory itself is sufficiently ecological. However, because socialism can be implemented in productivist ways (independently of whether or not Marx himself was "productivist"), we should still explicitly state that socialism must not be anthropocentric. Indeed, Foster notes that "there is simply no indication anywhere in Marx's writings that he

should name ending anthropocentrism, in addition to ending capitalism, as an explicit goal that is necessary for ending the climate crisis, and subsequently, problematizing anthropocentrism should be considered a necessary condition for adequate environmental education.

It is also worth noting that various scholars argue liberalism more broadly is inherently anthropocentric (Bell, 2004, p. 49; Dobson, 1998; Vincent, 1998, p. 450; Wissenberg, 2006, p. 21).[38] If this is true, then even if liberal educational principles could permit problematizing capitalism, they still might prevent problematizing anthropocentrism. Bell (2004) echoes this conclusion, stating that under political liberalism, unlike anthropocentric notions of sustainability, any "green" ideal (roughly meaning any ideal that is ecocentric) cannot be promoted in schools, but rather can only be taught *about* in conjunction with competing "non-green" or "anti-green" ideals (p. 49). Therefore, liberal environmental education may not be able to meet this additional necessary condition for adequacy.

Connections Between Capitalism and Colonialism

According to Fraser, expropriation is another "background condition of possibility" for capitalism, like the cannibalization of nature. However, Fraser actually gives the background condition of expropriation special significance, claiming that "capital itself comes from… a rather violent story of dispossession and expropriation" that continues to occur (less officially) today (p. 7). Fraser elaborates that from a Marxist analysis, we learn that accumulation proceeds via exploitation. However, taking into account capital's "back-story" of expropriation, we learn "an even dirtier secret: behind the sublimated coercion of wage labor lie overt violence and outright theft" (p. 7). Because of her argument that expropriation is not just a historical condition

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believed that a sustainable relation to the earth would come automatically with the transition to socialism" (1999, p. 386).

[38] There is some literature on a more ecological form of liberalism. For example, Bell (2006) argues that a certain form of Rawlsian liberalism can promote "ecological justice."

for the beginning of capital but a phenomenon that continues to occur today, Fraser concludes that expropriation is "structurally necessary" to the social system of capitalism (p. 14).

She elaborates that the combination of exploitation and expropriation divides the producing class into "two distinct categories of persons: one suitable for 'mere' exploitation, the other destined for brute expropriation" (p. 14). Furthermore, she argues that the "ex/ex division coincides roughly but unmistakably with the global color line," giving the examples of chattel slaves, colonized subjects, and conquered "natives" as examples of racialized populations subject to overt expropriation under capitalism (p. 16). With Fraser's analysis in mind, it becomes clear how colonialism and capitalism are fundamentally linked. Because of capitalism's unending drive for accumulation, and because expropriation, in addition to exploitation, is necessary for accumulation, I claim that we cannot end colonialism without also ending capitalism. Therefore, we must maintain ending capitalism as a central goal for ending the climate crisis.

However, I think Fraser's analysis can also help reveal why focusing only on ending capitalism may be insufficient, reflecting Whyte's claim that any solutions to the climate crisis that do not address colonialism alongside capitalism will continue to harm Indigenous people (and, I would add, others subject to various forms of colonization worldwide). As Fraser mentions, Marx arguably did not "unfold the full epistemic shift from exploitation to the still more hidden abode of expropriation" (p. 7). A socialist solution to the climate crisis that only responds to exploitation, but (perhaps like Marx) not sufficiently to the particularities of expropriation, will likely be insufficient in addressing the global storm.[39]

[39] It is worth noting that I think Fraser would broadly agree with this conclusion, as she emphasizes that the ecological contradiction of capitalism is "entwined with several others [contradictions], equally endemic to capitalism, and cannot be addressed in abstraction from them" (p. 78).

This conclusion is reflected in the work of Olúfẹ́mi O. Táíwò, who argues, in his book *Reconsidering Reparations* (2022), that climate impacts will "perversely distribute the costs and burdens of climate change, disproportionately impacting those who have been rendered the most vulnerable given the accumulated weight of history" (p. 161). Specifically, the most vulnerable tend to be colonized Black and Indigenous peoples in the Global South (those who Fraser also identifies as the most likely to be subject to expropriation) because of the way our political and economic systems [global capitalism] distribute risk (p. 11, p. 171). Táíwò, therefore, argues that we need to focus on reparations, in the anticolonial tradition of "worldmaking," in order to achieve climate justice.

Táíwò's proposal for constructive reparations that address climate change includes five parts. Part one is "unconditional cash transfers" (p. 174), which intervenes directly in accumulation and avoids the paternalism and "poverty traps" of other welfare programs. Part two is "global climate funding" (p. 176), which requires rich countries to pledge to fund green development in low-income countries, so that they contribute their fair share to reducing greenhouse gas emissions. Part three is "torch the tax havens" (p. 179) to prevent the elite from hoarding and hiding the world's wealth, or reorganizing financial systems to prevent unjust accumulation. Part four is "community control" (p. 180), which requires building a social system that will protect the resources redistributed from reparations rather than expropriate them again when elites feel the effects of social change. Part five is "divest-invest, from fossil fuels to communities" (p. 182), which involves reframing "responsible climate investments" as green investments in Black and Indigenous communities. This idea is similar to campaigns surrounding defunding the police and investing in communities (thinking of fossil fuel companies as the police).

I believe Táíwò's proposal provides a clear way to address colonialism in the solution to the climate crisis. Furthermore, I take this proposal to be basically compatible with socialist visions for climate justice. On the other hand, Táíwò's view of reparations is fundamentally incompatible with capitalism. Indeed, Táíwò explicitly states that "capitalism is the *how*" of global racialized injustice (p. 23). Therefore, I maintain that ending capitalism and moving towards socialism can indeed lead us to a future free of climate injustice along colonizer/colonized lines. However, similar to my conclusion surrounding anthropocentrism, and as illuminated by Fraser's distinction between exploitation and expropriation, it is important to acknowledge that socialism also may not be "structurally anticolonial," despite the fact that capitalism is "structurally dependent" on expropriation. Therefore, we should name ending colonialism, in addition to ending capitalism, as an explicit goal that is necessary for a just response to the climate crisis, and subsequently, problematizing colonialism should be considered a necessary condition for adequate environmental education.

Conclusion

In this project, I have proposed that problematizing capitalism is a necessary condition for adequate environmental education in the context of the climate crisis. In the final chapter, I considered two additional necessary conditions: problematizing anthropocentrism and problematizing colonialism. I do not want to claim that I have exhausted all possible necessary conditions for adequate environmental education. I believe there could be many more features that are required in order to give students the conceptual resources and motivations to have a legitimate chance at ending the climate crisis. My intent here was rather to justify certain baseline criteria that might help identify where existing environmental education frameworks fall short, rather than propose my own complete framework for environmental education.

Though I am not sure what the ideal form of environmental education looks like, I firmly believe that as the climate crisis progresses, educators can no longer ignore the role of global capitalism (or anthropocentrism and colonialism) in perpetuating environmental degradation and injustice. We cannot deny that in the coming decades, the changing environment will greatly affect our lives. Making exceptions to our educational principles in liberal democracies is a relatively small shift that we can make among the many that will be necessary for a just response to the climate crisis.

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Appendices

Appendix 1 - Structuralist Meme (Brownstein et. al. 2022)

Appendix 2 - Individualist Earth Day poster from 1970 (Brownstein et. al. 2022)