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Sustainability as a Moral Discourse: Its Shifting Meanings, Exclusions, and Anxieties

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Abstract: As sustainability gains popularity in public discourse, scholars have noted its diverse uses, multiple meanings, and contradictory outcomes. This paper explores how the current proliferation of the concept of sustainability stems in part from its varied normative appeals, which in turn motivate, legitimate, and unsettle its diverse mobilizations. As the concept of sustainability calls for an extension of moral horizons beyond the immediate here and now, this redrawing of moral boundaries has simultaneously produced new externalities as well as enduring anxieties and responses within these moral bounds themselves. Drawing on ethnographic and historical materials, we argue that sustainability's moral boundaries have become both an object of scholarly critique and their own productive site of anxiety and negotiation. Questions about sustainability's moral horizons and externalities often surface in the concept's public deployment itself. We suggest that these tensions can be made visible by attending to the intersections between sustainability and a broader range of moral concerns at work.

Keywords: sustainability; morality; discourse; anthropology



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1. Introduction

In August 2021, the Intergovernmental Panel on Climate Change published a major report that synthesizes the latest physical science of the state and prospects of climate change. The document attracted much public attention with its stark conclusions, predicting that even an immediate reduction in greenhouse gas emissions would not halt the continued rise of the global surface temperature and extreme weather events until at least mid-century [1]. Commenting on the bleak future sketched in the report, one of its lead authors Paulo Artaxo reportedly said: “[W]e are damaging the climate in such a way for the next generations that this will certainly make the socioeconomic difficulties in the future much, much worse than in our generation” [2].

In highlighting the differential experiences of climate change among different generations, Artaxo points to the ethos of intergenerational ethics built into the concept of sustainability. Since the outset of its popularization in the 1970–80s, the sustainability concept has evoked the rights and moral standing of future people. The oft-cited 1987 Brundtland Commission Report, for example, defines “sustainable development” as that which “meets the needs of the present without compromising the ability of future generations to meet their own needs” [3] (p. 43). “[W]e are the last generation that can prevent irreparable damages to the planet and to its inhabitants,” stated María Fernanda Espinosa Garcés more recently in her 2019 official speech as the President of the United Nations (UN) General Assembly titled “Climate and Sustainable Development for All” [4]. The question of what constitutes intergenerational responsibility beyond the immediate present is a long-standing one that far predates the current socio-environmental predicaments (e.g., [5,6]). While philosophers and the general public alike have long debated what they owe to the

generations yet to come, these fundamentally normative questions have acquired new meanings and stakes in the current conjuncture [7–11].

Taking these discussions around responsibility for the future as a point of departure, this study considers how the moral connotations of sustainability mediate its current diverse and often conflicting mobilizations. As sustainability enters mainstream government and corporate discourse, scholars have noted the radical malleability of the concept [12–14]. The concept is being mobilized in contexts as disparate as the high-level politics of the UN Sustainable Development Goals (SDGs), grassroots environmental justice movements [15], the capitalist axiom of maintaining natural capital intact [16], and militarization against purported security threats induced by environmental disasters [17,18]. This paper builds on and adds to this prior body of work on the “multiple” and “situated” nature of sustainability [19,20] by attending to how the concept has acquired potent moral connotations. We will explore how the current proliferation of the concept of sustainability stems from not only its flexibility but also its varied normative appeals, which in turn motivate, legitimate, and unsettle its diverse mobilizations.

In directing attention to the oft-assumed moral connotations of sustainability, this paper specifically examines the politics and dynamics around the horizons of its imagined moral communities. Calls for sustainability often entail an imperative to extend the temporal and spatial boundaries of attention beyond the needs of the immediate here and now, as evinced by its embedded intergenerational ethic mentioned above (cf. [21,22]). If sustainability thus prompts an alleged reflexivity on moral boundaries, we propose that studying its implications necessitates a twofold analytical approach. On the one hand, scholars drawing implicitly or explicitly on the Marxian tradition have importantly highlighted how the projects conducted in the name of sustainability continue to produce uneven consequences for different subjects despite the concept’s professed extension of moral horizons. That is, what and who still remains beyond the bounds of moral considerations, and to what effect?

On the other hand, we suggest that this framework needs to be paired with sustained attention to the processes of producing, naturalizing, and redrawing these boundaries, as well as the anxieties that their resultant externalities leave behind. This approach takes inspiration from anthropological studies of morality and ethics. Although sustainability is often presented as a novel moral call to account for environmental, social, and economic outcomes [23], anthropologists have long studied how various senses of morality are already embedded in many practices currently subjected to “sustainable” interventions. Moral norms and values are presumed and enacted within diverse practices around ecology and natural resource use (cf. [21,22,24–26]), social relations (cf. [27–29]), or economy and market (cf. [30–34]), generating tensions that anthropologists have urged should be taken seriously as a site of analysis (cf. [35]). Building on these lines of inquiry, this study moves beyond revealing the adverse costs of projects carried out in the name of sustainability to evaluate their “actual” (im)morality. We will consider how the flexible scope of sustainability animates contestations and anxieties around its moral boundaries by intersecting with a broader range of concerns. We ask: How are sustainability’s moral boundaries drawn and redrawn in practice? What implications does this boundary-drawing work have on not only those being excluded, but also those *within* the boundaries?

By tracking the malleability of sustainability’s moral boundaries, we argue that they have become both an object of scholarly critique and their own productive site of anxiety and negotiation as the concept gains popularity in the public discourse. Questions about sustainability’s moral horizons and externalities often surface in the concept’s public deployment itself. These reflections within “sustainable” projects become particularly visible when scholars attend to the intersections between sustainability and a broader range of moral concerns. We hope that this study will point to new directions for studying the moral landscapes of environmental agendas.

This study will examine the implications of moral boundary-redrawing under the discourse of sustainability in several historical and ethnographic settings. We will begin with the archaeology of the sustainability concept to demonstrate its capaciousness, with

specific attention to its ambiguous temporal and spatial horizons. The ensuing sections consider how the malleable bounds of sustainability are negotiated within a broader landscape of moral concerns. We will first revisit scholarly critiques of the injustices wrought in the name of sustainability, which we show stem from particular moral boundaries articulated through the logics of expertise and waste. This will be followed by sections that focus on mobilizations of the concept of sustainability in urban centers—often blamed for their “unsustainable” practices—and how they generate their own moral anxieties and responses. We will consider these dynamics in both the history of discourse about urban life and a contemporary “sustainable” infrastructure project in Singapore, where anxieties about urban sustainability fuel yet also unsettle the city-state’s political project of self-branding as a global financial hub. We will conclude with a reflection on the implications of the moral responsibility for sustainability for questions of action and accountability. (Note: While we limit our examination of sustainability’s moral underpinnings to largely secular discourses, diverse religious communities have long engaged with the concept of sustainability from an explicitly moral standpoint. See, for example, [36,37]).

2. The Discourse of Sustainability

2.1. *Archaeology of the Concept*

In this section, we will consider how the concept of sustainability presumes particular boundaries to socio-ecological systems. The reasons for the current prominence enjoyed by the concept of sustainability seem self-evident. Yet they beg the question: Why do we alight on questions about “sustainability” in response to current socio-ecological crises and not, for example, questions about economic equity, or political oppression?

An answer to that question must begin with an archaeology of the concept [38]. Notwithstanding its connotations of immediacy and timeliness with respect to twenty-first-century crises, sustainability is not a new topic. Discussions of sustainability were ubiquitous in the colonial era. “Unsustainable” was a common pejorative used by colonial powers to describe native systems of natural resource use, such as swidden agriculture [15]. In the then-East Indies, the colonial Dutch referred to the native swidden agriculture as *roofbouw* “exhaustive or robber agriculture”, because they saw the burning and then seeming abandonment of the forest as destructive, profligate behavior, which robbed nature of its resources, and was thus unsustainable [39] (p. 1245). In this context unsustainable meant undeveloped and primitive, whereas sustainable meant developed and modern. The colonial use of the concept reflects one of the oldest definitions of “sustainable” in the Oxford English Century (online), dating from the seventeenth century: “Capable of being upheld or defended as valid, correct, or true.” In this sense, sustainable literally meant defensible, and unsustainable meant undefensible.

There is a history, therefore, of use of the concept of sustainability in politicized contexts. The concept has been used to imagine negative future trajectories of some systems of natural resource use and not others. In some cases, it has been applied to entire regions, as was the case with the “theory of Himalayan degradation”. As summarized by Ives and Messerli (1989) [40], population growth placed increased pressure on natural resources in the region, especially forests, and this led to increased run-off and disastrous flooding, degradation of soils and lower crop yields—a thesis that seemed to have clear roots in Malthusian thinking. One influential study from that era refers to a “point of no return” and a “downward spiral from which there is no escape” [41]. However, Ives and Messerli (1989) among other scholars eventually concluded that this declensionist narrative was unhelpful, even destructive: “This construct must be challenged ... before any real progress can be made toward solution of the Himalayan problem” [40].

There often seems to be a moral connotation to labeling systems as sustainable or unsustainable, which can make invoking the concept of sustainability a political tactic. Labeling something as unsustainable can create a state of exception, which renders the exertion of political power more permissible [42]. The temporal projection or extrapolation of patterns of resource use, which purport to illustrate eventual failure, can be weaponized

to use against marginal populations, based on the perceived inability of that population to manage their resources. Resource mis-use connotes moral failure, which provides a more compelling argument for intervention than other failings.

2.2. Sustainability

The term “sustainable” is often used without attention to its many connotations. It may connote ever-adapting, but more frequently it connotes just the opposite, never changing. In common usage, it has connotations of an idealized stasis, a Clementsonian equilibrium. Clements’ (1916) ideas about the norms of equilibrium have been held in disrepute for a generation. It is now generally accepted within academia that disequilibrium, not equilibrium, is the normal state of affairs [43]. However, the idealization of equilibrium never ceased in many conservation and development circles where it still guides policy interventions, raising the question: Is the current discourse of sustainability a round-about way of making equilibrium legitimate again? Is sustainability actually an everyday possibility, or just an idealized state?

The modern discourse of sustainability does not problematize its definition: consensus is assumed, but the notion of just one definition of sustainability is problematic. Anthropologists typically reject universalistic definitions, arguing that concepts of sustainability must vary cross-culturally, as well as across disciplines and across nations (e.g., [44] on climate change). There has been a generation of scholarship on how concepts of deforestation, desertification, and famine vary among the different actors involved (e.g., [45]). For the same reasons, the definition of “sustainability” must be context-dependent. The positionality of the subject will shape what is seen as sustainable versus unsustainable [15]. This raises a key question: Who defines what sustainability is, who applies that definition, and to whom? For example, in the case of the colonial critique of swidden agriculture mentioned earlier, it is clear that colonial officials were privileged to question the sustainability of swidden agriculture, whereas few observers if any had the privilege to question the much more obviously unsustainable colonial plantations.

Finally, is there no downside to sustainability, is it possible for something to be sustainable for all of the actors involved? Is sustainability a “win-win” phenomenon, or does sustainability for some mean unsustainability for others? Many anthropologists would not deny that sustainability is sometimes a useful concept, which can be used to help mobilize resources in support of salutary conservation and development goals. It is clearly a complex concept, however, with multiple possible valences, which can be put to political ends. An important contribution that anthropology can make to the current discourse of sustainability is simply to complicate ingenuous use of the concept, and point to the need to make explicit the political, economic, and cultural values that are often implicit in the use of the term.

2.3. Un-Sustainability

In the current moment, there is much discussion of sustainability but strangely little discussion of un-sustainability. Yet one cannot be understood without understanding the other, and defining “unsustainability” is not as easy as it seems. Most empirical assessments of sustainability versus unsustainability are *ex post*, looking back, not *ex ante*, looking forward, and even then, agreement among observers is often elusive. For example, how long does something have to be unsustainable to be so labeled? Consider the famous case of the Norse settlements in Greenland. Norse seafarers colonized Greenland around AD 985, and they numbered over 3000 settlers at their peak. However, in the last quarter of the fifteenth century, one-half millennium after their founding, the Norse settlements in Greenland disappeared [46]. Was the Norse Greenland settlement a “sustainable” one or not? Arnold Toynbee (1987) called it “an abortive Scandinavian civilization” [47], but scholars such as Bergland (2010) demur, writing: “It is not correct to regard the Norse in Greenland as a failure: it endured for as long as its inhabitants could manage the conditions

they were given” [48]. There is always a temporal dimension to claims of sustainability versus unsustainability, therefore, whose character is not often articulated and defended.

Jared Diamond (2005) considers the Norse Greenland case to be one of “collapse” [49]. However, recent work problematizes simplistic concepts of societal collapse. The archaeologist Harvey Weiss has studied the impact of the sudden onset of multidecadal- to multicentury-length droughts in third millennium B.C.E. Mesopotamia. The droughts were highly disruptive to the agricultural foundations of the complex states of the era, so people responded to them by abandoning urban centers and pursuing less centralized and less sedentary systems of livelihood. Weiss (2000) asks if this was really “collapse”, or “adaptation” [50], thus illustrating a subjective aspect to the way that scholars have posited judgements of sustainable versus unsustainable.

The wider discourse of crisis is itself being re-examined. Masco (2017) asks why crisis has become so dominant in American media culture [51]. He argues that although crisis may seem to be a permanent condition, “it is in fact the effect of financial, technological, militaristic, and political processes interacting with earth systems.” One problem with the ubiquitous crisis discourse is that it directs our attention away from these political processes. Swyngedouw (2010) problematizes related ideas of the end-times, of apocalypse. His thesis is that global apocalyptic imagery of climate change is populist and thus apolitical, even reactionary—a charge that is perhaps also applicable to sustainability: “Populism ... does not invite a transformation of the existing socio-ecological order but calls on the elites to undertake action such that nothing really has to change” [52]. These critiques suggest that claims of unsustainability are highly loaded and must always be interrogated for political dimensions, and conversely, that the same must be done with claims of sustainability. As such, the next three sections will demonstrate how these boundaries around sustainability become a crucial site of negotiation.

3. Producing and Sustaining Sustainability

The concept of sustainability has been used by governments and international agencies to legitimate numerous development projects since its popularization in the 1970s, such as those under the auspices of the 2030 Agenda for Sustainable Development. The private sector has also quantified this in the form of “sustainable finance” [53]. In parallel, scholarship has developed a continuously shifting and dynamic literature that is centered on what John Elkington proposes as a “triple bottom line”—its environmental, social, and economic factors [23], to which Jon Hawkes has added a fourth pillar of culture [54].

In particular, social scientists have pointed out how applications of this concept have generated or reproduced many forms of inequity by problematizing, intervening, and molding the subjectivities of populations, especially in the global south [55,56]. Indeed, scholars have noted that some views of sustainability objectify nature and in part continue to fuel the global ecological crisis, while inadequately engaging with the social, political, and cultural realities of everyday people [57]. It has even been used to justify forms of “green washing” where products or projects are claimed to be environmentally friendly but are not, as well as “green grabbing” [58], where resources are expropriated and absorbed into forms of capital accumulation. Importantly, both the popular uses of this term and the robust body of scholarship tracking them have embedded in them their own implicit sense of moral boundaries.

This literature often pits a “global” capitalist accumulation force against a “local” population. Companies desire the label of “sustainability” to show that they are morally upstanding in both social and environmental dimensions. They hope to be economically profitable while demonstrating sustainable practices. However, for those dispossessed and forced to relocate in the name of “sustainable” projects, the idea of morality might not resonate. In fact, these very same projects would be deemed immoral. With the widespread realities of dispossession in the name of sustainability, it is important to then raise the question: *How* and *why* does mainstream sustainability work? This section seeks to move beyond the narrative of exploitation and resistance in the name of sustainability [59–61],

tracking how actors negotiate, misrecognize, or maneuver the interconnectedness between the local, regional, and global scales to rearticulate and reconfigure the concept's moral boundaries [62].

To this end, this section offers an analysis of the mainstream discourse of sustainability that is sensitive to its assumed moral underpinnings, while unpacking its epistemic practices. In tandem with ethnographic cases around Asia, we identify two key dynamics facilitating sustainability's widespread uptake despite its outcomes: (1) the distance and separation of decision-makers in projects carried out in the name of sustainability; and (2) problematizing "waste" that sustainability promises to eliminate. Here, *distance* and *problematization* are mechanisms of moralization in dominant practices of sustainability, and engaging them enables a concerted negotiation around the question of "sustainability for whom?" and contextually grounded, just outcomes.

3.1. Distance and Decision-Makers

Key decisions are often formulated by elites from a *distance*, articulated and implemented then by formal institutions. In this case, examples of malls and Corporate Social Responsibility (CSR) projects illustrate the ways that distance enables the boundaries of local moral worlds to be constructed.

Sustainability and "green" labels have been applied in the construction of numerous malls, and the investors and consumers in the mall are at a stark distance from those inheriting its externalities. Marks and Zhang (2019) write about electricity as a key infrastructure that enables the air-conditioned lifestyles of the middle-class in urban Thailand, while resulting in socio-ecological devastation with the dam building on the Mekong River in Laos [63]. They identify the ways that rent-seeking electricity suppliers and regional hydropower investors are interested in expanding their political and economic capital, while Thai NGOs and environmentalists remain largely unsuccessful at national environmental reform [63]. The decision-making capacities continue to rely on the political-economic coalition that stands to gain from this construction, and a large middle-class consumer base that is largely distanced from the externalities of hydropower dams. Ignorance for the middle-class is not bliss for those whose livelihoods depend on the river.

For advocates of sustainability, their local moral world is not composed of those suffering from their projects. Many of these projects are happening in places far removed from central headquarters where policy decisions are made, or there are emotional and moral separations despite close proximity. As Archer (2021) discovers, many involved in sustainable agriculture "adopt standards that were designed with only a superficial consideration of their [marginalized farmers as stakeholders'] concerns and experiences in a process that values the interests of corporations above everyone else" [64] (p. 16). This evinces the ways that decision-makers can be rooted in their own local moral worlds with little regard for those whose lives will be affected by these projects.

This form of distancing extends what some call the "identifiable victim effect" [65], which refers to how greater aid is offered to an identified victim, rather than a statistical one. More empathy is involved especially when a higher proportion of the reference group can be saved, like the comparison between 120 people out of the millions who fly a year might die in a plane crash, as opposed to 120 fatalities out of 120 on board that plane [66]. Seeing a statistic or humans from a distance blocks pathways of empathy, as seen with the mall/dam unevenness and the delineation of moral worlds.

While malls as sites of consumerism lay bare the uneven logic of middle-class supply at the expense of those impacted by their demands, Corporate Social Responsibility (CSR) schemes display a slightly different type of moral distancing—one that is more proactive. Many "sustainable" CSR projects have emerged as apparently win-win situations where projects that are good for business are supposedly also good for the public, a dynamic that the following section interrogates. It parallels how sustainable projects seem to seamlessly pair and align the benefits in economic and social/environmental terms. In effect, CSR co-opts potential criticisms against a company's practices by showing how "good" their

business is, couched in moral terms. As Rajak (2011) claims, the moral economy of CSR is the very mechanism through which corporate power is authenticated [67].

The concomitant soft-spoken CSR rhetoric masks the more hard-faced security practices on the ground. Gardner (2012) demonstrates this in the extractivist “community engagement” projects by Chevron in Duniyapur, Bangladesh, where disinvestment in the land and detachment for residents followed [61]. A laborer in Kakura captures the untenability of life, saying that “we have gained nothing from the gas field, apart from the threat of setting our village on fire” [61] (p. 229). The enactment of these corporate policies is not by corporations *in* local communities, but distant corporate decision-makers that travel to “engage” these communities. In this manner, the maintenance of these time-space distances allows for the deployment of “sustainable” strategies that are seemingly win-win but may not be necessarily tenable of the life worlds of others, operating based on the suspension or retraction of necessary empathy or moral culpability in the creation and implementation of these policies.

Intermediary layers and scales play important roles as well that complicate this “core-periphery” dynamic. To be sure, companies themselves do not have morals as they are not living entities, but their ideologies, their key stakeholders, and their operating logics are undeniably tied to morality and ethics. In other words, these corporations and their CSR programs are not one metaphysical actor, but heterogeneous and deeply contested, enacted in material and embodied processes that are constantly unfolding [68]. Often, local politics and relations can mitigate or exacerbate these distant global decisions’ plans [69]. Even within these more “local” contexts where communal or municipal officials clash, moral distancing through physical or social detachment still occurs along class, gender, ethnic, and racial lines. The complexity of the situation thus calls for additional inter-scalar accounts of how distance, empathy, and morality work through the material and discursive practices of sustainability.

3.2. The “Waste” Problem

Not only does maintenance of distance avoid moral culpability in the pitfalls of “sustainability”, but sustainability’s problematization of waste and the appeal of optimization further legitimate these practices. Sustainability heavily depends on waste—identifying what constitutes “waste” and formulating a clean, optimal solution to take care of it. Modernity and the pursuit of rationality are premised on this spatial and temporal break with a backward and “dirty” past. Key lodestones of sustainability projects like the circular economy or “green” products highlight the ways that waste is minimized or reduced in light of a better solution. Foucault’s take on governmentality and the “conduct of conduct” has been a pivotal approach to understand knowledge production and its effects [70]. The creation of a “problem” denotes a site for intervention, and development projects have repeatedly utilized this strategy driven by forms of modern expertise to legitimate action through diffuse forms of power and subject creation [71–73]. The identification of something or someone as “waste”, “wasteful”, or “wasted” is followed by absorption into a more sustainable cycle. In other words, sustainability takes something that was once waste and creates some form of value. This is not to say that this model of waste elimination is not useful; in fact, it is what key processes of industrial ecology and symbiosis have long relied on [74]. Rather, the issue is about the underlying incessant expansion of consumption and how eliminating waste has been co-opted into these processes [75]. Waste then supports and sustains socio-political agendas under what are green and sustainable façades.

The idea of “wasteland” has often been used to justify calls for development in urban and rural contexts. Harms (2016) shows how urban development in Ho Chi Minh City turns on the ways “wasteland” (*đất hoang*) is converted into something valuable, or in other words “civilized” [76]. The same term is used in the context of Vietnam’s forests, where “bare hills” are designed as wasteland to be reclaimed despite evidence that there was important vegetation on these hills [56] (p. 152). In Kalimantan, land management similarly supports classifying certain land that has the weeds *Imperata cylindrica* and *Chromolaena odorata* as

“wasteland” as these forms of fallow-period vegetation are valued by farmers and not the central government’s capital-intensive land-use schemes [77] (p. 189). If premised on eliminating waste, sustainability would aim to remove these areas deemed “wasteland” to generate what is apparently of greater value. The process by which this happens overlooks the value that is already accorded to the land by the farmers and local residents. This is not to romanticize these groups, which are also deeply heterogeneous. It is to point out the importance of connecting sustainability with wider social and economic processes, asking “sustainability for whom?” and the values that are attached to this. Whether sustainability is a moral or an immoral practice is related to the perspectives by which these processes are produced.

Along with tracking how “waste” is discursively produced, it is important to follow its material flows, management, and accompanying forms of labor. As Reno (2015) writes, “waste is a material that has effects in the world, including local and global political disputes, liberal and illiberal forms of governance, competing assessments of economic and moral value, and concerns about environmental pollution and crisis” [78] (p. 558). Importantly, sustainable forms of waste management often obfuscate the labor that goes into its reproduction. Environmental anthropologist Amy Zhang (2019) writes about Chinese modern green infrastructure projects and waste systems, and the dual effects of citizen recycling programs in Guangzhou [79]. Attempts to encourage citizens to participate in “sustainable” municipal recycling programs, which involved initiatives like increasing the number of bins, resulted in sanitation workers who were mostly rural migrants having double the amount of work [79]. In this case, the sustainability label is promoted by and for urban residents at the expense of rural migrants. While inhabiting spaces that are proximate in the city, rural migrants are cast as social “waste” through a form of moral distancing and invisibilization. Further, Zhang (2020) details how the non-human labor of black soldier flies used to treat organic waste within a *circular* spatial logic of modern urban living has been rendered invisible as well [80]. Ecological modernization, of which the mainstream idea of sustainability is part, thus creates these uneven social dynamics that are undergirded by deeply moral concerns.

Projects that purportedly promote sustainability often rely on an uneven geography of power that enables a distancing from its injustices, the problematization of waste, and the desirability of clean solutions. These mechanisms help reproduce the particular moral boundaries of sustainability that have been proliferating in contemporary discourse. Bringing these together invites further discussions about the limits and performances of sustainability. In this manner, its ethics are evinced through sustainability’s techniques (how) and the knowledge-making practices (problem/intervention). Not only are they illuminated, but this very illumination enables a reappraisal of its morality. In other words, these are key sites of action to rethink im/morality. For example, shortening the distance between actor and acted upon and cultivating empathic connections, as well as recasting what is “problematic” and its accompanying “clean” solutions often with racist and classist assumptions, may offer avenues to pursue more just forms of sustainability. In this context, our next two sections will focus on sustainability and its moral boundaries in urban centers. When sustainability produces exclusionary effects, what responses does this animate from not only those being excluded, but also those *within* its boundaries?

4. The Good and Green City

The kinds of “sustainability” projects that (re)produce injustices described in the previous section often involve urban elites removed from the sites and communities exposed to their socio-ecological externalities. Indeed, cities often stand in for unsustainable modes of living as concentrated centers of economic activity and consumption. It is in the city, and in economies and ecologies that service consumption in the city, that we find a primary locus for “unsustainable” living. As an instantiation of our discussion of unsustainability above, the city (particularly the capitalistic city in a Marxian view) becomes a site of excess and immorality, responsible for environmental degradation and human depredation. Yet,

with the idea of sustainability increasingly gaining popularity in the public discourse, cities are also seen as a potent site for “climate action”. Cities can transform to become centers of sustainability, as it were. For example, water management plays a role here as cities experiment with local green and nature-based solutions to meet at least a portion of their water needs in civic and responsible ways. Theoretically, the city becomes a site where responsible civic action becomes possible, desirable, and indeed necessary.

This section considers these dual imaginations of the (un)sustainable possibility of cities within a longer lineage of debates on the moral status of urban life. These debates far predate contemporary environmental politics, as we will show by briefly reviewing the classical ideals of the city and its politics. We then consider examples from more recent theoretical understandings of the city, particularly those propounded by the Chicago school of sociologists and by Marxist urbanists, before looking at cities in light of the recent formulation of the SDGs. In these ways, moral concerns about the (un)sustainability of urban life are not only being cast by its critics but are present within urban discourse itself. Cities have long been a site of moral concerns and debates in Western thought, and climate politics of the city, we argue, urge us to revisit western classical notions of the city and of the expansive communities they might, in principle, include.

Indeed, moral concerns about city and civility are embedded in the very etymology of the words that are used to discuss the politics of sustainability today. For example, although the word “politics” has acquired a somewhat negative connotation of conflict and unrest amongst contemporary English speakers, the word hides its urban (and indeed urbane) roots. Nested in the word “politics” is the Greek “polis” (πόλις), whose ideals survive in English in words such as “cosmopolitan”. The word “polis” will also be familiar to those who are concerned with the workings of huge urban agglomerations that are scattered, if connected, across the globe: the megalopolis. “Politics” quite literally, is that which concerns the “polis” or concerning the affairs of the city. What concerns the affairs of the city, at least in Athens, would among other things have been the rights of citizens and affairs of the state, i.e., voting (at least for a section of the adult male population). There was, however, more to the affairs of the state and the city than voting. There were other ways of the city: good manners, and art and civilization (which may not outside of political configurations have been possible). Therefore, the equivalent word for the city in ancient Rome, a short sail away from Ancient Athens, would have been “civitas”. This word derives from “civis” (or citizen), which makes its ideals more evident (at least to those who speak English) through derivative words, in particular, “civility” and “civilization”. The broad proposition, albeit not a new one, is that in these ancient conceptions in Greece and in Rome, the city is the site of civility. It is the place of good manners and high values, albeit in relation to only some constituents (adults as against children, men as against women, and masters as against servants or slaves). It is the place where a good life is achievable and livable, albeit with attendant ethics and politics (cf. [81]). The good life, according to Aristotle [82], would be a life of moderation, and one by extension that could be sustained.

While a deeper investigation of the history of the idea of the city is beyond the scope of this paper, this notion of sustainability as a moral virtue is by no means peculiar to ancient thought, finding expression in more recent ideals of what one might call the “ecological city”. As examples, we jump from the European classical ideal to its modern-day extension in the Chicago school’s approach to the city—which marked an important moment in the history of urban studies and held implicit ideas about sustainability—and to two subsequent approaches that drew on the Chicago school’s legacy: Marxist urbanism and the new urban agenda. In an important early article by Roderick Duncan McKenzie, a student of Robert E. Park, titled “The Ecological Approach to the Study of the Human Community” (1924) [83], he likens the growth of concentric zones of human settlements to that of organic plants, reflecting a functionalist view of urban society (cf. [84]). More interestingly, he argued in a quintessentially Aristotelian fashion that there are four types of human community in different stages of development which tend to “develop in cyclic fashion” [83] (p. 292). There is a “natural” condition of evolution and devolution, as it were, between these types of settlements. If Aristotle writes

of political change, McKenzie describes a kind of socio-natural change. McKenzie writes that under a “given state of natural resources and in a given condition of the arts the community tends to increase in size and structure until it reaches the point of population adjustment to the economic base” [83] (p. 292). Subsequently, as a result of invasion, failed accommodation, and so on, “when a community starts to decline in population due to a weakening of the economic base, disorganization and social unrest follow” [83] (p. 295). In this vision, there is an implicit vision of urban sustainability that is, ironically in contrast to contemporary discourses, made unstable because of decreasing rather than increasing population. Nevertheless, there is a recognition that urban sustainability requires a precarious balance of population and resources.

If the Chicago school of sociologists saw cities as sites of certain kinds of socio-ecological formations, a Marxist line of thinking, famously propounded by David Harvey, saw contemporaneous cities as distilling, so to speak, dynamic capitalistic process, and so becoming sites of accumulation and of inequality. The city, for Harvey, is a social product which is “predicated on, among other things, a certain division of labor and a certain hierarchical ordering of activity” [85] (p. 203). Furthermore, the market system, which allows for “an immense increase in the production of wealth” [85] (p. 139), itself becomes possible under conditions of resource scarcity, which has to be carefully “socially organized in order to permit the market to function” [85] (p. 114). Given that capitalism is “forever increasing its productive capacity” [85] (p. 139), it also continues to circulate surplus value in and between cities, drawing strength by transforming the countryside around it (cf. [86]). “Patterns in the circulation of surplus value are changing,” writes Harvey, “but they have not altered the fact that cities—those ‘workshops of civilization’—are founded upon the exploitation of the many by the few. An urbanism founded upon exploitation is a legacy of history” [85] (p. 314).

Yet, for Harvey, the city could also be seen as a place to achieve socio-economic equity if (and perhaps only if) the built form of the city is carefully re-oriented to meet social goals. This cannot just be “urban renewal”, which is just to “move the poverty around” [85] (p. 143). Instead, the city can also be the “locus of the accumulated contradictions [of capitalism] and therefore the likely birthplace of a new mode of production” [85] (p. 203). Therefore, if contemporary capitalistic urbanism presents a “particular form or patterning of the social process”. Harvey envisions that it could also be repurposed to serve a desirable political end [85] (p. 196). The city, then, is not just a place of endless capitalistic consumption, wreaking havoc on the world (and its human and non-human inhabitants); it can also be a place of social correction to achieve social (and environmental) justice. Thus, even as cities are seen to foster unsustainable, immoral practices, there is a recognition of the socio-ecological footprints of urban life and a moral urge to extend horizons of consideration.

It is this aspect of urbanism as a site of potential collective (and corrective) action that finds new socio-ecological expression in the SDGs framework and articulation through the “new urban agenda” (cf. [87]). The SDGs, which build and expand on the previously articulated Millennium Development Goals, were adopted in 2015 by UN member states. These seventeen goals look to achieve social, economic, and environmental sustainability, and the eleventh goal shines a light on “sustainable cities and communities”. Proponents of the new urban agenda believe that the “success of the SDGs will be determined to a large extent in the world’s cities” [88] (p. 4). Indeed, building on earlier scholarship of interconnected global cities (e.g., [89,90]), the SDGs seek to allay anxieties of neoliberal urbanism (cf. [91]) through a combination of sustainable and inclusive urban development, and through renewed economics through renewed urbanism. For their proponents, “SDGs are philosophically premised on the developmental interdependence of social, economic, and environmental values, giving much greater weight than ever before to the absolute ecological limits of human existence and the dangers of climate change” [87] (p. 529).

One example of this kind of developmentalist action that is licensed by such discourses may be found in localized “green urbanism” related to water resources management (e.g., [92]). In the semi-arid national-capital region of India, in Delhi, for example,

“[d]rinking water is being transported from more than 300 km away to meet the demands, and unaccounted-for water losses are more than 44 per cent” [93] (p. 214). With a growing population and an unreliable water supply, the Delhi government has begun to promote in-city rainwater-harvesting mechanisms (cf. [94]) and waterbody rejuvenation (cf. [95]). By practicing local water resources management and building green infrastructure, Delhi’s dependence on distant water resources can be reduced, its relationship with the neighboring (and largely agrarian) state of Haryana can be improved, and indeed, Delhi can become a model for sustainable urbanism. There are two aspects of this, one which relates to the sustainability of the urban settlement itself, and the other which relates to the sustainability of the larger world through corrective action in urban settlements. In either case, the localized city is seen to be a place where better and more responsible politics can be practiced and achieved. Even in the context of a climate crisis, there is a return to notions of civility, and expanding civic responsibility in relation to cities.

Indeed, scholars have begun to write about this kind of “climate urbanism” which ostensibly involves the “active promotion of cities as viable and appropriate sites of climate mitigation and adaptation” [96] (p. 993). Simultaneously, we must not forget that even these new “ecologies of urbanism” [97,98], with their attendant meanings of climate responsibility, are “closely associated with human agency and action; meaningful accounts of the past, present, and future motivate purposeful human action” [97] (p. 15). In such discussions of civic behavior and sustainable action, it is not just matter and material nature that is under contention and rendered problematic (where does waste belong, where should the river flow, etc.), but also people, “who are deemed out of place, a disruption to the ecologies of urbanism imagined by different groups in the city” [97]. In this respect, perhaps, as David Harvey had written earlier, “[a]n urbanism founded upon exploitation is a legacy of history. A genuinely humanizing urbanism has yet to be brought into being” [85] (p. 314). Nevertheless, whether in relation to social or climate justice, the notion of the city as a place for human (and ecological) improvement and corrective civil politics persists, even as it now involves and invokes “sustainability” as a moral virtue. In this respect, perhaps we have not moved very far from the western classical ideal of the city as a site of civility and civilization with all its attendant confusion and contradictions. Our next section will examine these tensions and anxieties around the (un)sustainability of urban life through a close study of a contemporary “green” initiative in Singapore.

5. Spectacular and Anxious Sustainability

A 40-meter-tall indoor waterfall cascades through a glass and steel dome. Surrounding the waterfall is a lush collection of trees and shrubs that sit atop grey concrete walls and stairs. Forming an arc over the plants, waterfall, and shops in the mall is a glass roof larger than the size of three football pitches. The Israeli-Canadian architect, Moshe Safdie, explained his vision of the Jewel, a nature-themed entertainment and retail complex inside the Changi Airport, Singapore: “The Jewel weaves together an experience of nature and the marketplace, dramatically asserting the idea of the airport as an uplifting and vibrant urban center, engaging travelers, visitors and residents, and echoing Singapore’s reputation as ‘The City in the Garden’” [99]. Boasting “innovative feats of sustainable engineering and construction,” Enterprise Singapore (a state agency that promotes entrepreneurship and development) has proudly proclaimed the Jewel to be a “symbol of smart and sustainable Singapore.”

Not everyone is convinced, however. Conservationists have criticized the government for leveraging the concepts of a “garden city” and “city in a garden” as justification for “green” infrastructure like Gardens by the Bay and, most recently, the Jewel Airport. These structures of “controlled tropicality,” they contend, are unnatural and have more to do with development than conservation [100] (p. 185). Writing about the façade of “a futuristic eco-paradise,” Ooi (2019) paints the Jewel as “a have-your-cake-and-eat-it-too concept, a fantasy paraded about by aviation industry leaders” [101] (p. 186). He points out that green plants that absorb carbon cannot possibly offset carbon emissions left by the thousands of airplanes that take off from Changi’s runways. The lush greenery and verdant landscape, in

other words, are staged to serve as convenient masks that cover up capitalist consumerism that in turn drives climate change. Ooi's appraisal supports the assertion that Singapore's national economic strategy places "a premium on physical and economic development at the expense of environmental protection" [102] (p. 7). Others have pointed to Singapore's "greenwashing" practices, as the city-state continues to describe itself as a "City in a Garden" even as it renews its commitment to its petrochemical refineries [103,104]. In what he calls a national greenwashing campaign, Schneider-Mayerson (2017) contends that the construction of an image of "sustainable urbanism" in Singapore takes on both economic and social relevance and has become a useful tool for nation-building [104].

As experts increasingly engage in the framework of sustainable development, we noted in Section 3 growing scholarly attention to the depoliticizing effects of sustainability. Practicing sustainability, some suggest, involves either subscribing to technological optimism carried out in the form of silver-bullets [105,106] or capitalist commodification of nature through market-led innovations such as carbon credit systems [107,108]. However, these visions of sustainability often face difficulties in implementation, as fantastical dreams meet bureaucracy and sticky politics [109,110]. States, markets, and international organizations embedded in the process of attaining sustainable development thus cannot be seen as neutral actors severed from history and politics. As Scoones (2016) argues, the matter of sustainability is "a normative struggle, rooted in political and moral choices" that demands our attentiveness to the people who are excluded from the negotiating and/or decision-making table and to those who benefit from these policies [111] (p. 308).

Following these observations of the politics of sustainability, it would not be inaccurate to characterize the eco-technological excess of the Jewel as a form of greenwashing that exemplifies a technocratic faith. While we agree with such a characterization, we also find Weston's (2017) proposal of "yes-and thinking" to be instructive [112]. Writing about environmentalist critiques of spectacular infrastructure, Weston urges readers to grapple with the appeal of the extravagant Grand Venice Mall in Uttar Pradesh. As an air-conditioned mall located at an airport, the Jewel is indeed a hypercapitalist spectacle that promotes consumerism. Yet what also deserves critical attention is the Changi Airport Group's (CAG) promotion of and preoccupation with sustainability within this spectacle. Eager to bridge the contradictions between sustainability and aviation, the CAG's 2018 Sustainability Report stresses energy efficiency through "a robust Carbon Management Plan" that contributes to seven of the SDGs. From an overview of the Airport's technologies that will "reduce its climate change impact" to a pledge to reduce Changi's carbon emissions by 20% over the next ten years, the report illustrates a recognition of the threats that anthropogenic climate change poses. In explicit acknowledgment of the existential threat that rising sea levels pose to low-lying Singapore (approximately 30% of the island city-state is located less than 5 m above mean sea level), the new airport terminal (Terminal 5) under construction will be built at 5.5 m above mean sea level as a precaution against climate change. In addition, CAG has also reacted to increasingly intensive rainfall and (extant and anticipated) sea level rise by constructing flood-prevention barriers and raising building foundations. These environmental policies exceed the boundaries of the airport's spectacular infrastructure; touting environmental engineering solutions, Prime Minister Lee Hsien Loong estimates that the city-state will have to spend upwards of SGD 100 billion (USD 72 billion) to safeguard the city against climatic change [113]. Even as CAG is keen to safeguard business continuity and to stimulate consumer spending, both of which contribute to climate change, the group is also acutely aware that it must reduce its carbon footprint to stave off projected disaster.

Sustainability, then, is a concept that reveals productive anxieties and contradictions in anticipation of environmental catastrophes. Combining an assertion of imminent disasters and a preoccupation with technological solutions, sustainability thrives on a dramatic juxtaposition of crisis and relief—impending disaster that is tempered by the promise of technological resolution. Atelier Ten, the environmental design consultancy involved in the design of the Jewel, describes the project as one that "contribute[s] to its [Singapore's]

status as one of the world's greenest places" [114]. As such, the firm proposed a strategy of only air-conditioning "occupied zones" and embedding hard floor surfaces with chilled water pipes to conserve energy [114]. Further still, the Jewel uses a combination of natural lighting during the day and photovoltaic panels to generate renewable energy. There are tanks installed to harvest rainwater that become part of the Rain Vortex (the indoor waterfall); excess rainwater is used to irrigate plants [115].

The Jewel is an example of hypervisible green infrastructure that serves to signal Singapore's place in Southeast Asia and the world at large. By embarking on billion-dollar infrastructure projects, Singapore intends to "future-proof [itself] against competition" and ensure that the city-state will have "the best chance of success in an uncertain world" [116]. In the words of the Prime Minister, these infrastructure projects "epitomized how, in Singapore, we must dream boldly to create new possibilities for ourselves" [117]. If we take Singapore to be a model for "climate adaptation, sustainable urbanism, national greenwashing and eco-authoritarianism" [104], what might be more interesting than a catch-all framework of capitalist hypocrisy—while certainly undeniable—is an exploration of how the city-state sustains and depends on these tensions and contradictory horizons. While Singapore's decidedly unsustainable economic policies contribute to the development of climatic crises, the government has also historically thrived on its ability to put out fires and overcome real and perceived challenges [118]. It is precisely this history of delivering technical solutions to various anxieties that has allowed the postcolonial ruling party to build and maintain its political legitimacy. Of course, it remains to be seen whether Singapore's Rain Vortexes and Supertrees will be the anchor that prevents the island from sinking with the rest of us.

6. Conclusions

Sustainability as a concept seems full of contradictions. As scholars have noted, the concept sustains while demanding change, calls for inclusion while excluding, and is applied both top-down and bottom-up. Its moral community seems to be defined only loosely, with its spatial and temporal boundaries constantly redrawn and contested. We have also demonstrated, however, how this seemingly elusive concept animates articulations and negotiations over its moral boundaries by converging with a broader range of concerns and expectations. Indeed, throughout this paper, we saw a wide range of moral logics that are invoked in projects conducted in the name of sustainability: benevolent expertise, waste eradication, local self-sufficiency, and technological progress and abundance. Sustainability also joins, perhaps unexpectedly, with age-old concerns about the moral standing of urban life, even as urban settlements marshal the idea of sustainability to license different kinds of development initiatives. What might seem like the most extravagant of nature-themed entertainments like the Jewel in Singapore, too, grapples with the tensions embedded in its sustainability branding.

In exploring these multiple intersections between sustainability and other normative axes, this paper has proposed and utilized a twofold analytical approach that attends to both the processes and consequences of the sustainability agenda. The moralizing discourse of sustainability can generate new socio-ecological externalities, (re)producing the boundaries of a moral community despite its professed inclusivity. Yet we have combined this analysis of the consequences of sustainability's persistent moral boundaries with simultaneous attention to the logics and processes through which these bounds are produced, negotiated, or unsettled. How do sustainability's moral boundaries become justified and meaningful *despite* their uneven outcomes? What other concerns are at work and shaping these negotiations? What lingering concerns and anxieties do these persistent boundaries leave behind, and how do they manifest? With these questions about the processes through which the concept's scope is drawn and redrawn, we begin to see sustainability as not only a locus of multiple meanings, but a dynamic site of negotiation with moral communities at stake. Examining the implications of this moral boundary-

remaking in the name of sustainability needs to encompass its effects among both those excluded and those in the midst of its growing mobilization.

Of course, moral concerns and anxieties alone do not always catalyze action. Neither do they necessarily create legal liability. From major industrial catastrophes like the 1984 Bhopal disaster to recent CSR projects mentioned above, corporations can invoke “moral responsibility” for the harm and risk inflicted precisely to insist on “no liability” on their end [119] (p. 15). In the discussions of intergenerational equity with which we opened this discussion, attempts to establish future generations’ legal rights have been more controversial than a general recognition of the present generation’s moral obligations to their successors [120,121]. As the concept of sustainability mingles with a range of moral concerns, the extent to which its articulation may spur political, legal, or institutional action requires further exploration.

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References

1. IPCC. Summary for Policymakers. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*; Masson-Delmotte, V., Zhai, P., Pirani, A., Connors, S.L., Péan, C., Berger, S., Caud, N., Chen, Y., Goldfarb, L., Gomis, M.I., et al., Eds.; Cambridge University Press: Cambridge, UK, 2021.
2. Reuters. Reactions to landmark U.N. climate science report. *Reuters*, 9 August 2021.
3. World Commission on Environment and Development. *Our Common Future*; Oxford University Press: Oxford, UK, 1987.
4. Garcés, M.F.E. Climate and Sustainable Development for All. Available online: <https://www.un.org/pga/73/2019/03/28/climate-and-sustainable-development-for-all/> (accessed on 8 November 2021).
5. Arendt, H. *The Human Condition*; University of Chicago Press: Chicago, IL, USA, 1958.
6. Rawls, J. *A Theory of Justice*; Harvard University Press: Cambridge, MA, USA, 1971.
7. Brown Weiss, E. In *Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity*; United Nations University Press: Tokyo, Japan, 1989.
8. Caney, S. Justice and Future Generations. *Annu. Rev. Polit. Sci.* **2018**, *21*, 475–493. [CrossRef]
9. Chakrabarty, D. *The Climate of History in a Planetary Age*; University of Chicago Press: Chicago, IL, USA, 2021.
10. Gardiner, S.M. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*; Oxford University Press: Oxford, UK, 2011.
11. Whyte, K.P. Time as Kinship. In *The Cambridge Companion to Environmental Humanities*; Cohen, J., Foote, S., Eds.; Cambridge University Press: Cambridge, UK, 2021; pp. 39–55.
12. Keil, R. Sustaining Modernity, Modernizing Nature: The Environmental Crisis and the Survival of Capitalism. In *The Sustainable Development Paradox: Urban Political Economy in the United States and Europe*; Krueger, R., Gibbs, D., Eds.; The Guilford Press: New York, NY, USA, 2007; pp. 41–65.
13. Kirsch, S. Sustainable Mining. *Dialect Anthropol.* **2010**, *34*, 87–93. [CrossRef]
14. Seghezzo, L. The five dimensions of sustainability. *Environ. Politics* **2009**, *18*, 539–556. [CrossRef]
15. Randle, S.; Baker, L.; Claus, C.A.; Hebdon, C.; Keleman, A.; Dove, M.R. Unsustainability in Action: An Ethnographic Examination. In *Routledge Handbook of Environmental Anthropology*; Kopnina, H., Shoreman-Ouimet, E., Eds.; Routledge: New York, NY, USA, 2016; pp. 170–181.
16. Rothschild, E. Maintaining (environmental) capital intact. *Mod. Intellect. Hist.* **2011**, *8*, 193–212. [CrossRef]
17. Bevacqua, M.L.; Bowman, I.U.C. Tano’ i Chamorro/Chamorro Land: Situating Sustainabilities through Spatial Justice and Cultural Perpetuation. In *Sustainability: Approaches to Environmental Justice and Social Power*; Sze, J., Ed.; NYU Press: New York, NY, USA, 2018; pp. 222–245.

18. Masco, J. Bad Weather: On Planetary Crisis. *Soc. Stud. Sci.* **2010**, *40*, 7–40. [\[CrossRef\]](#)
19. Greenberg, M. What on Earth Is Sustainable? Toward critical sustainability studies. *Boom* **2013**, *3*, 54–66. [\[CrossRef\]](#)
20. Sze, J.; Rademacher, A.; Beamish, T.; Grandia, L.; London, J.; Warren, L.; Middleton, B.R.; Ziser, M. Introduction. In *Sustainability: Approaches to Environmental Justice and Social Power*; Sze, J., Ed.; NYU Press: New York, NY, USA, 2018; pp. 1–28.
21. Dove, M.R.; Kammen, D.M. The Epistemology of Sustainable Resource Use: Managing Forest Products, Swiddens, and High-Yielding Variety Crops. *Hum. Organ* **1997**, *56*, 91–101. [\[CrossRef\]](#)
22. Dove, M.R.; Kammen, D.M. *Science, Society and the Environment: Applying Anthropology and Physics to Sustainability*; Routledge: New York, NY, USA, 2015.
23. Elkington, J. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*; Capstone: Oxford, UK, 1997.
24. Rappaport, R.A. *Ecology, Meaning, and Religion*; North Atlantic Books: Berkeley, CA, USA, 1979.
25. Scaramelli, C. *How to Make a Wetland: Water and Moral Ecology in Turkey*; Stanford University Press: Stanford, CA, USA, 2021.
26. Sivaramakrishnan, K. Ethics of Nature in Indian Environmental History: A Review Article. *Mod. Asian Stud.* **2015**, *49*, 1261–1310. [\[CrossRef\]](#)
27. Durkheim, E. The determinations of moral facts. In *Sociology and Philosophy*; Routledge: London, UK, 1974; pp. 35–62.
28. Han, C. *Life in Debt: Times of Care and Violence in Neoliberal Chile*; University of California Press: Berkeley, CA, USA, 2012.
29. Mattingly, C.; Throop, J. The Anthropology of Ethics and Morality. *Annu. Rev. Anthropol.* **2018**, *47*, 475–492. [\[CrossRef\]](#)
30. Browne, K.E.; Milgrin, B.L. (Eds.) *Economics and Morality: Anthropological Approaches*; Altamira Press: Lanham, MD, USA, 2009.
31. Muehlebach, A. *The Moral Neoliberal: Welfare and Citizenship in Italy*; University of Chicago Press: Chicago, IL, USA, 2012.
32. Polanyi, K. *The Great Transformation: The Political and Economic Origins of Our Time*; Beacon Press: Boston, MA, USA, 1957.
33. Scott, J.C. *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*; Yale University Press: New Haven, CT, USA, 1976.
34. Thompson, E.P. The Moral Economy of the English Crowd in the Eighteenth Century. *Past Present* **1971**, *50*, 76–136. [\[CrossRef\]](#)
35. Fassin, D. Introduction: Toward a Critical Moral Anthropology. In *A Companion to Moral Anthropology*; Fassin, D., Ed.; John Wiley & Sons, Inc.: Malden, MA, USA, 2012; pp. 1–17.
36. Hulme, M. Climate Change and Virtue: An Apologetic. *Humanities* **2014**, *3*, 299–312. [\[CrossRef\]](#)
37. Jenkins, W.; Tucker, M.E.; Grim, J. (Eds.) *Routledge Handbook of Religion and Ecology*; Routledge: New York, NY, USA, 2017.
38. Foucault, M. *The Order of Things: An Archaeology of the Human Sciences*; Routledge: New York, NY, USA, 2002.
39. Jansonius, H. *Groot Nederlands-Engels Woordenboek voor Studie en Practijk*; Nederlandsche Uitgeversmij: Leiden, The Netherlands, 1950.
40. Ives, J.D.; Messerli, B. *The Himalayan Dilemma: Reconciling Development and Conservation*; Routledge: New York, NY, USA, 1989.
41. Eckholm, E.P. *Losing Ground: Environmental Stress and World Food Prospects*; W.W. Norton & Company: New York, NY, USA, 1976.
42. Agamben, G. *Homo Sacer: Sovereign Power and Bare Life*; Stanford University Press: Stanford, CA, USA, 1998.
43. Clements, F. *Plant Succession: Analysis of the Development of Vegetation*; Carnegie Institute: Washington, DC, USA, 1916.
44. Lahsen, M. Transnational locals: Brazilian experience of the climate regime. In *Earthly Politics: Local and Global in Environmental Governance*; Jasanoff, S., Martello, M.L., Eds.; MIT Press: Cambridge, MA, USA, 2004; pp. 151–172.
45. Fairhead, J.; Leach, M. *Misreading the African Landscape: Society and Ecology in Forest-Savanna Mosaic*; Cambridge University Press: Cambridge, UK, 1996.
46. McGovern, T.H. Management for extinction in Norse Greenland. In *Historical Ecology: Cultural Knowledge and Changing Landscapes*; Crumley, C.L., Ed.; Society of American Research Press: Santa Fe, NM, USA, 1994; pp. 127–154.
47. Toynbee, A.J. *A Study of History*; Oxford University Press: Oxford, UK, 1987; Volume I.
48. Berglund, J. Did the Medieval Norse Society in Greenland Really Fail? In *Questioning Collapse: Human Resilience, Ecological Vulnerability, and the Aftermath of Empire*; McAnany, P.A., Yoffee, N., Eds.; Cambridge University Press: Cambridge, UK, 2010; pp. 45–70.
49. Diamond, J. *Collapse: How Societies Choose to Fail or Succeed*; Viking: New York, NY, USA, 2005.
50. Weiss, H. Beyond the younger dryas: Collapse as adaptation to abrupt climate change in ancient West Asia and the Eastern Mediterranean. In *Environmental Disaster and the Archaeology of Human Response*; Bawden, G., Reycraft, R.M., Eds.; Maxwell Museum of Anthropology, University of New Mexico: Albuquerque, NM, USA, 2000; pp. 75–95.
51. Masco, J. The Crisis in Crisis. *Curr. Anthropol.* **2017**, *58*, S65–S76. [\[CrossRef\]](#)
52. Swyngedouw, E. Apocalypse forever? Post-political populism and the spectre of climate change. *Theor. Cult. Soc.* **2010**, *27*, 213–232. [\[CrossRef\]](#)
53. Archer, M. Sustainable Finance. In *Oxford Bibliographies*; Wohl, E., Ed.; Environmental Science; Oxford University Press: Oxford, UK, 2019.
54. Hawkes, J. *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning*; Common Ground Publishing: Champaign, IL, USA, 2001.
55. Escobar, A. *Encountering Development: The Making and Unmaking of the Third World*; Princeton University Press: Princeton, NJ, USA, 1995.
56. McElwee, P.D. *Forests Are Gold: Trees, People, and Environmental Rule in Vietnam*; University of Washington Press: Seattle, WA, USA, 2016.

57. Brightman, M.; Lewis, J. Introduction: The Anthropology of Sustainability: Beyond Development and Progress. In *The Anthropology of Sustainability: Beyond Development and Progress*; Brightman, M., Lewis, J., Eds.; Palgrave Macmillan: New York, NY, USA, 2017; pp. 1–34.
58. Fairhead, J.; Leach, M.; Scoones, I. Green Grabbing: A New Appropriation of Nature? *J. Peasant Stud.* **2012**, *39*, 237–261. [\[CrossRef\]](#)
59. Brosius, J.P. Green Dots, Pink Hearts: Displacing Politics from the Malaysian Rain Forest. *Am. Anthropol.* **1999**, *101*, 36–57. [\[CrossRef\]](#)
60. Forsyth, T.; Walker, A. *Forest Guardians, Forest Destroyers: The Politics of Environmental Knowledge in Northern Thailand*; University of Washington Press: Seattle, WA, USA, 2008.
61. Gardner, K. *Discordant Development: Global Capitalism and the Struggle for Connection in Bangladesh*; Pluto Press: London, UK, 2012.
62. Appadurai, A. *Modernity at Large: Cultural Dimensions of Globalization*; University of Minnesota Press: Minneapolis, MN, USA, 1996.
63. Marks, D.; Zhang, J. Circuits of Power: Environmental Injustice from Bangkok's Shopping Malls to Laos' Hydropower Dams. *Asia Pac. Viewp.* **2019**, *60*, 296–309. [\[CrossRef\]](#)
64. Archer, M. How to govern a sustainable supply chain: Standards, standardizers, and the political ecology of (in)advertence. *Environ. Plan. E* **2021**. [\[CrossRef\]](#)
65. Schelling, T.C. The Life You Save May Be Your Own. In *Problems in Public Expenditure Analysis*; Chase, S.B., Ed.; The Brookings Institution: Washington, DC, USA, 1968.
66. Jenni, K.; Loewenstein, G. Explaining the Identifiable Victim Effect. *J. Risk Uncertain.* **1997**, *14*, 235–257. [\[CrossRef\]](#)
67. Rajak, D. *In Good Company: An Anatomy of Corporate Social Responsibility*; Stanford University Press: Stanford, CA, USA, 2011.
68. Welker, M. *Enacting the Corporation: An American Mining Firm in Post-Authoritarian Indonesia*; University of California Press: Berkeley, CA, USA, 2014.
69. Besky, S. *The Darjeeling Distinction: Labor and Justice on Fair-Trade Tea Plantations in India*; University of California Press: Berkeley, CA, USA, 2014.
70. Rose, N.; Miller, P. *Governing the Present: Administering Economic, Social and Personal Life*; Polity Press: London, UK, 2008.
71. Ferguson, J. *The Anti-Politics Machine: "Development," Depoliticization, and Bureaucratic Power in Lesotho*; University of Minnesota Press: Minneapolis, MN, USA, 1990.
72. Li, T.M. *The Will to Improve: Governmentality, Development, and the Practice of Politics*; Duke University Press: Durham, NC, USA, 2007.
73. Mitchell, T. *Rule of Experts: Egypt, Techno-Politics, Modernity*; University of California Press: Berkeley, CA, USA, 2002.
74. Chertow, M.; Ehrenfeld, J. Organizing Self-Organizing Systems: Toward a Theory of Industrial Symbiosis. *J. Ind. Ecol.* **2012**, *16*, 13–27. [\[CrossRef\]](#)
75. Ahmann, C. Waste to energy: Garbage prospects and subjunctive politics in late-industrial Baltimore. *Am. Ethnol.* **2019**, *46*, 328–342. [\[CrossRef\]](#)
76. Harms, E. *Luxury and Rubble: Civility and Dispossession in the New Saigon*; University of California Press: Oakland, CA, USA, 2016.
77. Dove, M.R. *Bitter Shade: The Ecological Challenge of Human Consciousness*; Yale University Press: New Haven, CT, USA, 2021.
78. Reno, J.O. Waste and Waste Management. *Annu. Rev. Anthropol.* **2015**, *44*, 557–572. [\[CrossRef\]](#)
79. Zhang, A. Invisible Labouring Bodies: Waste Work as Infrastructure in China. *Made In China: Under Construction*, 23 July 2019.
80. Zhang, A. Circularity and Enclosures: Metabolizing Waste with the Black Soldier Fly. *Cult. Anthropol.* **2020**, *35*, 74–103. [\[CrossRef\]](#)
81. Amin, A. The Good City. *Urban Stud.* **2006**, *43*, 1009–1023. [\[CrossRef\]](#)
82. Aristotle. *Nicomachean Ethics*; Brill: Leiden, The Netherlands; Boston, MA, USA, 2010.
83. McKenzie, R.D. The Ecological Approach to the Study of the Human Community. *Am. J. Sociol.* **1924**, *30*, 287–301. [\[CrossRef\]](#)
84. Park, R.E.; Burgess, E.W.; McKenzie, R.D. *The City*; University of Chicago Press: Chicago, IL, USA, 1967.
85. Harvey, D. *Social Justice and the City*, Revised ed.; The University of Georgia Press: Athens, GA, USA, 2009.
86. Cronon, W. *Nature's Metropolis: Chicago and the Great West*; W. W. Norton & Company: New York, NY, USA, 1991.
87. Parnell, S. Defining a Global Urban Development Agenda. *World Dev.* **2016**, *78*, 529–540. [\[CrossRef\]](#)
88. Revi, A.; Rosenzweig, C. *The Urban Opportunity: Enabling Transformative and Sustainable Development*; Sustainable Development Solutions Network: Paris, France; New York, NY, USA, 2013.
89. Hannerz, U. *Transnational Connections: Culture, People, Places*; Routledge: New York, NY, USA, 1996.
90. Sassen, S. *The Global City: New York, London, Tokyo*; Princeton University Press: Princeton, NJ, USA, 1991.
91. Smith, N. New Globalism, New Urbanism: Gentrification as Global Urban Strategy. *Antipode* **2002**, *34*, 427–450. [\[CrossRef\]](#)
92. Narain, S. A God We Must Not Fail. Available online: <https://www.downtoearth.org.in/blog/water/a-god-we-must-not-fail-69781> (accessed on 6 May 2020).
93. Revi, A. Climate Change Risk: An Adaptation and Mitigation Agenda for Indian Cities. *Environ. Urban.* **2008**, *20*, 207–229. [\[CrossRef\]](#)
94. Rohilla, S.K.; Matto, M.; Jainer, S.; Kumar, M.; Sharda, C. *Water Efficiency and Conservation in Urban India*; Centre for Science and Environment: New Delhi, India, 2017.
95. Delhi Urban Arts Commission. *Water & Heritage: Rejuvenation of Baoli Precincts*; Delhi Urban Arts Commission: Delhi, India, 2018.
96. Long, J.; Rice, J.L. From sustainable urbanism to climate urbanism. *Urban Stud.* **2018**, *56*, 992–1008. [\[CrossRef\]](#)

97. Rademacher, A.; Sivaramakrishnan, K. (Eds.) *Ecologies of Urbanism in India: Metropolitan Civility and Sustainability*; Hong Kong University Press: Hong Kong, China, 2013.
98. Rademacher, A.; Sivaramakrishnan, K. (Eds.) *Places of Nature in Ecologies of Urbanism*; Hong Kong University Press: Hong Kong, China, 2017.
99. Safdie Architects, L. Jewel Changi Airport. Available online: <https://www.safdiearchitects.com/projects/jewel-changi-airport> (accessed on 24 November 2021).
100. Geh, M.; Sharp, I. Singapore's Natural Environment, Past, Present and Future: A Construct of National Identity and Land Use Imperatives. In *Spatial Planning for a Sustainable Singapore*; Wong, T.-C., Yuen, B., Goldblum, C., Eds.; Springer: Singapore, 2008; pp. 183–204.
101. Ooi, M.Y. Changing Course: Jewel Changi and the Ethics of Aviation. In *Eating Chilli Crab in the Anthropocene*; Schneider-Mayerson, M., Ed.; Ethnos Books: Singapore, 2020; pp. 183–200.
102. Han, H. Singapore, a Garden City: Authoritarian Environmentalism in a Developmental State. *J. Environ. Dev.* **2016**, *26*, 3–24. [CrossRef]
103. Myers, N. Edenic Apocalypse: Singapore's End-of-Time Botanical Tourism. In *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments, and Epistemologies*; Davis, H., Turpin, E., Eds.; Open Humanities Press: London, UK, 2015; pp. 31–42.
104. Schneider-Mayerson, M. Some Islands Will Rise: Singapore in the Anthropocene. *Resilience* **2017**, *4*, 166–184. [CrossRef]
105. Hornborg, A. *Global Magic Technologies of Appropriation from Ancient Rome to Wall Street*; Palgrave Macmillan: New York, NY, USA, 2016.
106. Verhees, B.; Raven, R.; Veraart, F.; Smith, A.; Kern, F. The development of solar PV in The Netherlands: A case of survival in unfriendly contexts. *Renew. Sustain. Energy Rev.* **2013**, *19*, 275–289. [CrossRef]
107. Bakker, K. The limits of “neoliberal natures”: Debating green neoliberalism. *Prog. Hum. Geog.* **2010**, *24*, 715–735. [CrossRef]
108. Corbera, E.; Brown, K. Offsetting Benefits? Analyzing Access to Forest Carbon. *Environ. Plan. A* **2010**, *42*, 1739–1761. [CrossRef]
109. Rademacher, A. *Building Green: Environmental Architects and the Struggle for Sustainability in Mumbai*; University of California Press: Oakland, CA, USA, 2018.
110. Sze, J. *Fantasy Islands: Chinese Dreams and Ecological Fears in an Age of Climate Crisis*; University of California Press: Oakland, CA, USA, 2015.
111. Scoones, I. The Politics of Sustainability and Development. *Annu. Rev. Environ. Resour.* **2016**, *41*, 293–319. [CrossRef]
112. Weston, K. *Animate Planet: Making Visceral Sense of Living in a High-Tech Ecologically Damaged World*; Duke University Press: Durham, NC, USA, 2017.
113. Chang, A.-L. National Day Rally 2019: \$100 billion needed to protect Singapore against rising sea levels. *Straits Times*, 18 August 2019.
114. Atelier Ten. Jewel Changi Airport with Safdie Architects. Available online: <https://www.atelierten.com/projects/jewel-changi-airport/> (accessed on 24 November 2021).
115. Cripps, K. Inside Changi Airport Singapore's New 'Jewel', home to world's tallest indoor waterfall. *CNN*, 16 April 2019.
116. Ng, J.S. Bold moves in infrastructure: Thinking big pays off for Singapore planners. *Straits Times*, 5 February 2018.
117. Lee, U.-W. Changi Airport to break passenger records in 2019 thanks to Jewel: PM Lee. *Business Times*, 19 October 2019.
118. Chua, B.H. *Liberalism Disavowed: Communitarianism and State Capitalism in Singapore*; NUS Press: Singapore, 2017.
119. Fortun, K. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*; University of Chicago Press: Chicago, IL, USA, 2001.
120. Spijkers, O. Intergenerational Equity and the Sustainable Development Goals. *Sustainability* **2018**, *10*, 3836. [CrossRef]
121. Wolf, C. Environmental Ethics, Future Generations and Environmental Law. In *The Routledge Companion to Philosophy of Law*; Marmor, A., Ed.; Routledge: New York, NY, USA, 2012; pp. 397–413.