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Abstract: This paper develops an understanding of climate denial as an expression of alienation in the sense described by Marx. We first argue for an expanded and differentiated conception of climate denial, theorizing four distinct types that go beyond the simple rejection of an anthropogenic warming trend: naturalist denialism, technological denialism, gradualist denialism, and politicized denialism. We then claim that these forms of climate denial illustrate and are illustrative of Marx’s concept of alienation from species-being (*Gattungswesen*). The article is intended as a contribution to the growing literature on climate denial as a social and ideological problem rather than as an individual epistemic or moral issue.

Climate Denial as Alienation: Four Types

Toward the end of *Our Final Warning*, Mark Lynas’s exhaustive review of hundreds of scientific papers on climate change, the author reflects on the stark reality confronting us. “There is so little [carbon] budget left,” he writes, “that achieving 1.5°C in effect means the world would have to hit net-zero emissions within less than 20 years.”[[1]](#footnote-1) While the more conservative IPCC gives 2050 as a deadline for achieving net-zero carbon emissions—with “rapid,” “deep,” and “immediate reductions” necessary this decade—the implications are no less alarming.[[2]](#footnote-2) Reaching this goal, Lynas notes, would mean

ceasing work on all power-plant sites that are constructing coal-, oil-, or gas-fired units -right now. Park the diggers and walk away, then tear up the plans for those that have not yet started construction and rescind all permits for those still in the planning stage. These are not UN-level decisions…they will have to be taken in national capitals from Beijing to Berlin. We also need to stop selling cars and trucks straight away…as well as home boilers, aircraft and shipping, cement kilns, blast furnaces and other industrial infrastructure. All of it must be canceled, whatever the implications for jobs and the economy.[[3]](#footnote-3)

The sheer speed and scale of the requisite undertaking, coupled with the political and economic necessity of a planned and strategic (rather than haphazard) decarbonization process, should indicate that a habitable climate future cannot be realized from within the status quo. As the IPCC acknowledged already in its 2018 report, avoiding a catastrophic degree of warming would require “rapid, far-reaching, and unprecedented changes to all aspects of society.”[[4]](#footnote-4) Without a radical departure from business as usual, future emissions scenarios are consistent with warming of 3-5°C by the end of the century, an unimaginable nightmare of sea-level rise, prolonged drought, ecosystem collapse, global food shortages, continents rendered uninhabitable, and mass extinction of wildlife.[[5]](#footnote-5) This is the empirical truth of climate change.

As should be obvious, there is a massive chasm between this empirical truth and mainstream political discourse at local, national, and global levels. Governments around the world are poised to oversee an *increase* in fossil fuel burning,[[6]](#footnote-6) and the leader of the most influential country in the world has explicitly promised that “nothing will fundamentally change” under his administration.[[7]](#footnote-7) The most auspicious international effort to mitigate climate change, the Paris Accords, is remarkable in that it contains no commitment whatsoever to reducing emissions. It should therefore really be called “the Paris agreement to ignore reality,” in Clive Spash’s memorable phrase.[[8]](#footnote-8) A November 2023 UNEP Report concludes that *even if* the Paris policies were fully implemented (far from a foregone conclusion), the world would still warm 2.5-2.9°C by 2100.[[9]](#footnote-9) Gills and Morgan sum up the situation concisely: “We live in a time of Climate Emergency. Nevertheless, our collective actions do *not yet* approximate a real understanding nor fully appropriate actions.”[[10]](#footnote-10)

This spectacular divergence between the incipient climate breakdown and the seeming indifference of public concern is perhaps the most extraordinary and perplexing feature of the early twenty-first century. We cannot understand it without reference to climate denial. According to the Yale Climate Opinion Map’s survey of the United States, only 72% of the population acknowledges that global warming is occurring, and only 58% believe that present warming trends are anthropogenic. Barely half agree with the statement that “the president should do more to address global warming,” and only a third report that they discuss the topic at least occasionally or hear about it regularly in the media.[[11]](#footnote-11) While the United States is not exactly representative in terms of the prevalence of climate denial, it is not a distant outlier either.[[12]](#footnote-12) Whether these figures will be affected by our living through the hottest year on record—which came to pass between this article’s initial drafting and its final revision—remains to be seen.[[13]](#footnote-13)

Keeping in mind the empirical reality discussed above, however, it becomes clear that climate denial is even more extensive than this. There is an overheated world of difference between admitting that anthropogenic climate change is occurring and knowing that we have only a few decades to limit warming to 1.5°C by phasing out emissions through drastic social transformation. Climate denial as a phenomenon must be understood in the broadest possible terms: not only as the assertion that the climate is not changing or that human activity is not responsible, but also as the (often implicit) assumption that the timeline for action can be measured in centuries, or that we can rely on apolitical technological fixes in lieu of social change, or that we can maintain business as usual with some minor alterations. With this more encompassing definition at hand, even many concerned environmentalists must be registered on a spectrum with garden variety denialism.

Climate denial has been studied and interpreted in numerous ways, usually without reference to the distinction just made. Explanations for its persistence in the face of overwhelming scientific evidence have focused on the corrupting influence of “pseudoscience,”[[14]](#footnote-14) on the limitations of human intellectual and/or moral capacity,[[15]](#footnote-15) on the legacy of “Western modernity,”[[16]](#footnote-16) on “willful hermeneutical ignorance,”[[17]](#footnote-17) and on “populist” rage against educated elites.[[18]](#footnote-18) Each of these approaches may be called *idealist* in the sense that they regard climate denial as a strictly cognitive failure and, conversely, climate education as a matter of epistemic correction or moral improvement. It is a cognitive failure, of course, but it is also an intelligible response to an empirical truth that cannot be incorporated into the prevailing political and economic system. Likewise, these accounts predominantly understand climate denial in negative and in subjective terms, i.e., as a lack of information or perspective among specific individuals. While this is obviously part of the story, it fails to account for the production of climate denial as an active and ineluctably social project (discussed further below).

This essay is a contribution to the growing literature on climate denial as *ideological* in the materialist sense,[[19]](#footnote-19) i.e., as the expression of a specific political-economic antagonism rather than the epistemic/moral failings of given individuals or an amorphous abstraction like “Western modernity.” Climate denial is undoubtedly a case of “false consciousness,” but it is *socially necessary false consciousness*.[[20]](#footnote-20) As an increasing number of scholars and commentators are recognizing, rapid decarbonization of the kind described by Lynas is not compatible with an economic system predicated on competitive for-profit production and the imperative of perpetual growth, i.e., capitalism.[[21]](#footnote-21) If the structural requirements of capitalist production are to be met and the system is to reproduce itself, the full reality of climate change cannot be recognized as true and incorporated into daily life.[[22]](#footnote-22) Situating climate denial in this way is supported by empirical studies, which confirm that “system justification motivation,” or the extent to which one is invested in maintaining the present economic-political model, is the greatest predictor of denialist beliefs among individuals (more than race, gender, age, or education level).[[23]](#footnote-23)

In what follows, we build on this critical intervention to develop an account of climate denial and inaction as an expression of alienation. While it is commonplace in the literature to situate the climate crisis itself in terms of an alienation from nature,[[24]](#footnote-24) we argue that climate denial is symptomatic of alienation in the sense of Marx’s *Entfremdung*. This includes alienation from nature as well as human self-alienation, particularly from our own species-being (*Gattungswesen*). After offering a taxonomy of four types of climate denial (part one), we proceed to show how these varieties of denialist discourse are rooted in alienation from species-being as described by Marx (part two).

1. Types of Climate Denial

As we have already indicated, climate denial is not simply the assertion that warming has not taken place but encompasses a wide range of beliefs. In *Living in Denial*, Kari Norgaard draws on Stanley Cohen’s work to distinguish three levels of denialism. While “literal denial” asserts that “something did not happen or is not true,” “interpretive denial” disputes the “*meaning* of events” rather than their reality. Finally, “implicatory denial” does not minimize information but rather “the psychological, political, or moral implications that conventionally follow.”[[25]](#footnote-25) This is a useful framework for tracking broad formal differences in degree and style of climate denial, but, as Norgaard acknowledges, the differences are not actually so profound: interpretive and implicatory denial nevertheless involve forms of literal denial. A more precise and critical taxonomy would focus on the *content* of the implicit or explicit assertions that contribute to the culture of denialism. With this in mind, we distinguish four types, which we call *naturalist denialism*, *technological denialism*, *gradualist denialism*, and *politicized denialism*. Each may be placed (roughly) on the spectrum Norgaard establishes, and, as in that spectrum, the distinctions are neither mutually exclusive nor meant to be exhaustive.[[26]](#footnote-26) The purpose of this taxonomy, beyond more fully cataloging the content of denialist assertions, is to bring into relief more sharply the various modulations of alienation from species-being at work in each one (and thus in climate denial writ large).

*Naturalist Denialism*

In 2018, congressman Mo Brooks publicly claimed that sea level rise could be caused not by a warming climate, but by rocks falling into the ocean.[[27]](#footnote-27) This is the logic of naturalist denial: it recognizes that changes have taken place, but attributes these changes to the natural cycles of the Earth rather than to human activity. Other iterations of this form of denial even acknowledge that global temperatures are increasing, but explain this in terms of the natural (read: non-anthropogenic) propensity of the planet to undergo periodic warming and cooling phases. Like all forms of denialism, this argument relies on a basic logical error: while it is true that the Earth has undergone warming and cooling in the past without intervention from humans, this does not alter the fact that the present warming trend is indisputably anthropogenic (and happening much faster than any previous uptick in temperatures).

As Norgaard notes, “to say that something is ‘natural’ is to normalize it, to consider it acceptable, and also often to imply that it cannot be changed.”[[28]](#footnote-28) The result of naturalist denialism is the false conclusion that climate change is inevitable and, thus, that political-economic changes would be pointless. This is the case both when naturalist denial takes on a pessimistic tint (doomsday is coming and we cannot stop it) and when its tone is more optimistic (the Earth will naturally repair itself without human intervention).[[29]](#footnote-29) What both strains have in common is an attitude of apathy. Pessimistic-naturalists are apathetic because they are unduly hopeless, while optimistic-naturalists are apathetic because they are unduly hopeful.

It would be too convenient to chalk up naturalist denialism to lack of education, as if academics and intellectuals were innocent of this form of delusion. While the more literal misattribution is absent, the concomitant pessimism and resulting apathy do appear in the work of “climate fatalists” like Roy Scranton and Jonathan Franzen.[[30]](#footnote-30) In such accounts, catastrophic climate change is presented as a foregone conclusion, too late to stop and too overwhelming to resist. The only course of action left open is to accept our abysmal fate. Here, a social problem (burning fossil fuels to power a growth-dependent economy) is falsely naturalized, presented as inevitable and thus passively accepted. For both Franzen and congressman Brooks, struggling for decarbonization is pointless because the changes taking place are outside our purview anyway–we ostensibly have power over neither the rocks nor our own emissions.

*Technological Denialism*

In 2007, British billionaire Richard Branson offered a $25 million reward for the development of technology that would remove substantial amounts of carbon dioxide from the atmosphere.[[31]](#footnote-31) There is no better expression of technological denialism: rather than use his influence to challenge the economy’s dependence on fossil fuels, Branson stakes his hopes for the future on a technological miracle that will allow the present order (and his status within it) to continue unchanged. The inverted reflection of naturalist denialism, technological denialism presupposes that there are no limits to human power over nature. We cannot engineer a different society but we *can* engineer a different planet.[[32]](#footnote-32) The two leading contenders for the mantle of technological savior are BECCS (bioenergy with carbon capture and sequestration) and SRM (solar radiation management). To be effective at scale, the former would require so much land that it would trigger a major global food crisis; the latter could be implemented immediately, but the risk of unintended side effects is so severe that the result may be worse than the warming it was meant to redress.[[33]](#footnote-33) Ignoring these physical realities and banking on a technological fix is only another way of evading the “rapid, far-reaching, and unprecedented changes to all aspects of society” demanded by the IPCC reports.[[34]](#footnote-34)

Also worth mentioning in this context is Persson and Savulescu’s *Unfit for the Future*, which argues that climate catastrophe can only be averted through “moral enhancement” by means of genetic editing. Noting that rapid decarbonization in “affluent countries” would require a curtailment of consumer habits and thus of “individual liberty,” they conclude that “democratic politicians are badly suited to implement such a policy because they have to please the majority of their citizens who look bent upon deriving as much satisfaction as possible out of the advances of science.”[[35]](#footnote-35) Convincing people to sacrifice the luxuries of the present to sustain the future requires changing their very biology. “Our moral dispositions have a biological basis,” they write, “thus, [they] are open in principle to manipulation by biomedical techniques.”[[36]](#footnote-36) Apparently, it is more realistic to expect people to submit to biomedical “moral enhancement” than to adopt sustainable lifestyles. Naturalist and technological denialism join hands here: climate denial and inactivity is not a political-economic problem, but a biological one, and the solution is not political-economic but technological.

It should also be pointed out that the more common techno-utopian form of denialism is complemented by an overcorrection that we might call techno-primitivism, a fetishization of pre-modern/pre-industrial life.[[37]](#footnote-37) Both have the effect of abstracting technology as such from its social context; both are thus forms of climate denial. As Holly Jean Buck has argued, some degree of geoengineering is likely to be *part* of the decarbonization process in the short term if we want to avoid drastic declines in global standards of living. The task is to critically interrogate the limits of technological solutions without simply demonizing them.[[38]](#footnote-38)

*Gradualist Denialism*

If we keep close at hand the exigencies of the carbon budget discussed above, any suggested path to mitigation that does not aim to achieve net-zero emissions within two or three decades must be counted as climate denial, at least at the interpretive and implicatory levels.[[39]](#footnote-39) This applies first of all to “market-based” approaches, which suggest that fossil fuels could be phased out through carbon pricing and the subsidization of alternative energy sources.[[40]](#footnote-40) Even bracketing the question (so forcefully posed by the degrowth movement)[[41]](#footnote-41) of whether production output could keep increasing through a transition to green energy, the timeline of even the most optimistic market-based solution is inconsistent with the necessity of rapid decarbonization. A paradigmatic case in point is the Nobel-prize winning Yale economist William Nordhaus, who explicitly advocates for modest emissions reductions in the short term.[[42]](#footnote-42) In his scathing review of the “appalling bad neoclassical economics of climate change,” Steve Keen points out that this field operates at a shocking distance from prevailing climate science, and even with some basic misconceptions. Nordhaus, for example, assumes that most economic activity will be unaffected by climate change *because most economic activity takes place indoors*, relying on a basic confusion between climate and *weather*.[[43]](#footnote-43) Between common “folk” beliefs about burning carbon that violate the conservation of matter[[44]](#footnote-44) and this Nobel laureate’s assumption that the climate cannot affect us while we are inside, there is only a difference in degree. His confidence in the viability of modest short-term reductions likewise dependson this delusional presupposition.

Gradualist denialism also presents itself in subtler and more implicit ways, not through what is said but through what is not said. As we know, the climate crisis is imminent and severe, and yet the overwhelming majority of people in the United States report seldom hearing or talking about it, as if we have decades or centuries to begin addressing the problem. Again, intellectuals are not absolved here–even political theorists only occasionally discuss what is unquestionably the most momentous political problem of the century. In 2023, *American Political Science Review* published only two articles concerned with climate change broadly construed; *Philosophy and Social Criticism* and *Political Theory* published only one a piece, while the *Journal of Political Philosophy* did not publish a single article on this topic. This would seem to indicate that, in the theoretical imaginary, the climate crisis has low priority relative to other social issues. Quite apart from questions of scale–what other social issue threatens to displace three billion people by 2070?[[45]](#footnote-45)–this demotion of the climate catastrophe fails to register how it impacts every conceivable area of human concern. No one who publishes in or edits these journals would deny the reality of anthropogenic climate change, but their norms of attention suggest that they think the problem lies in the distant future rather than the present.

Gradualists may object, not without reason, that limiting warming to 1.5°C is simply an unrealistic goal, suggesting that we reorient ourselves to a new target of 2 or 2.5°C. Besides the fact that this would only kick the can down the road two or three decades at best,[[46]](#footnote-46) it is worth reflecting on what a 2°C world would look like: tens of millions of people displaced, global food availability slashed, a rash of deadly heat waves, desiccation for some regions and flash flooding in others, coral reef extinction, and the jeopardization of the Amazon rainforest.[[47]](#footnote-47) The most severe impacts will occur predominantly (though not exclusively) in the poorest parts of the world, disproportionately affecting marginalized communities.[[48]](#footnote-48) The counsel to be “realistic” and take our time with decarbonization is at the very least a form of implicatory denial, and a particularly ugly one.

*Politicized Denialism*

When we say that climate denial is politicized, we have more in mind than the observation that belief in climate change divides along sectarian lines. Considering the fact that this empirical reality has been transfigured into a “controversy,” the key question is *why*. Accounts indexed to ignorance or moral limitation tend to overlook the extent to which climate denial has been and continues to be a “deliberate and organized effort to misdirect the public discussion and distort the public’s understanding.”[[49]](#footnote-49) ExxonMobil does not act alone here, but in tandem with a wide and dispersed network of corporate interests and conservative think tanks.[[50]](#footnote-50) Capitalist apologists and political agnostics have no explanation for why this massive misinformation campaign is necessary if decarbonization can actually be achieved (or is not worthwhile at all) from within the present system.

While this form of “socially organized denial”[[51]](#footnote-51) draws on all the arrows in the denialist quiver (naturalist, technological, and gradualist in literal, interpretive, and implicatory registers), the emphasis has shifted in recent years to the impact that decarbonization would have on consumer sovereignty and liberal property rights.[[52]](#footnote-52) The “freedom” to own a private jet and eat beef and the constitutional right to realize profits from fossil fuel investments apparently override any responsibility to ensure a habitable climate future. The familiar refrain that ecological concerns must be taken seriously to the extent that they do not disrupt the economy or threaten jobs is another expression of this tendency. The obvious contradiction here–there are no freedoms, rights, or jobs on an uninhabitable planet–is smoothed over through the denial of climate change; the empirical reality is ignored because it is incompatible with specific political values or system-immanent economic requirements.[[53]](#footnote-53) The problem is not limited to a Right-wing fringe: ostensible centrist and left-liberal voices are already chiming in to defend the sanctity of free speech against a “climate exception.”[[54]](#footnote-54) As Boykoff and Boykoff have shown, the public perception of climate change is severely distorted by the journalistic and discursive norm of respecting “both sides” in the name of fairness, neutrality, and the apparently inalienable right to an opinion.[[55]](#footnote-55)

In a way similar to the gradualist form, politicized denial is operative even when climate change is not an explicit part of the conversation. In the wake of the political events of 2016, theorists and commentators are falling over each other to defend and rehabilitate liberal democratic constitutionalism (and implicitly, capitalism).[[56]](#footnote-56) Meanwhile, a significantly smaller current is taking stock of the gap between the urgent need for decarbonization and the inherently slow and conflictual nature of parliamentary procedure.[[57]](#footnote-57) Given the economic-political ramifications of a warming world, it is unlikely that liberal democratic constitutionalism will be maintained in any case, which is why the United States is already preparing for a form of “green security,”[[58]](#footnote-58) or what Mann and Wainwright have termed “climate Leviathan.”[[59]](#footnote-59) Even in the best case scenario, can the necessary immediate transition to alternative energy afford to be mediated by constitutional property disputes, decentralized jurisdictional limitations, a workforce reliant on the fossil economy, or an electorate steadfastly unwilling to change its carbon-intensive lifestyle?[[60]](#footnote-60) Defenders of liberal democratic constitutionalism seem intent on ignoring these questions, implicitly denying the empirical reality of the warming condition. In Christina Lafont’s *Democracy without Shortcuts*, for example, climate change is mentioned only twice: once in celebration of how public opinion has changed for the better (!), and once cautioning a hypothetical “enlightened vegan minority” against trying to enforce its agenda without the slow process of “winning hearts and minds” (the ecological impact of meat production merits only a parenthetical mention).[[61]](#footnote-61) In a special issue of *Philosophy and Social Criticism* dedicated to critiquing the book, not one of the thirteen reviews challenges Lafont on the climate front.[[62]](#footnote-62)

It should also be acknowledged that certain Marxists are not immune to this form of climate denialism. While few today would go as far as David Harvey did in the 1990s (dismissing existential concerns as “far fetched and improbable”[[63]](#footnote-63)), there is nevertheless still a reticence in certain quarters to acknowledge ecological limits alongside labor exploitation. In his recent criticism of degrowth, Matt Huber goes beyond pointing out legitimate problems–certain elements of the movement eschew political economy and class mobilization–and altogether dismisses the need for a contraction of material throughput. Workers, he argues, are more likely to respond to and organize around the promise of more consumption rather than less.[[64]](#footnote-64) If the degrowthers are correct about the relationship between emissions and the volume of material goods produced, however, those same workers will face ecological collapse before they have a chance to enjoy their newfound abundance. This empirical question is not addressed by Huber; it is simply ignored because it makes a specific political project more complicated and more difficult.[[65]](#footnote-65) A confrontation with class division is a necessary condition for addressing the climate breakdown, but it is not a sufficient one. When Marxists pretend otherwise, they are engaged in politicized denialism. Fortunately, this disposition is becoming increasingly marginalized as more and more theorists recognize Marx as an ecological thinker and/or apply the historical materialist method to environmental concerns. On this note, we turn to Marx’s concept of alienation.

1. Alienation

Marx’s concept of alienation (*Entfremdung*) has been interpreted in various ways and criticized in even more.[[66]](#footnote-66) Rather than getting mired in the debates, what we attempt in this section is an interpretation and defense of the concept *through* the phenomenon of climate denial. In other words, we start from the empirical realities of climate change and its social erasure and reconstruct Marx’s theory of alienation from there.

First of all, it must be noted that anthropogenic climate change cannot be understood without reference to both historically specific and transhistorical moments. The material properties of carbon dioxide, for example, are not relative to time or place: it trapped heat in the atmosphere 300 million years ago and will do so 300 million years in the future, with or without human involvement. At the same time, the human activity of extracting carbon in fossilized form and setting it on fire is historically specific, unique to a particular conjuncture. Alienation, likewise, presupposes both a transhistorical constant and a historically-specific condition. As István Mészáros points out, if human beings are alienated they must be alienated “from something, as a result of certain causes…which manifest themselves in a historical framework.”[[67]](#footnote-67) The concept relies on something being true about human beings transhistorically, or a conception of human nature, and the distortion or dissociation of that nature in contingent ways.

Marx’s comments in the 1844 manuscripts refer to alienation under the (historically specific) capitalist system. What capitalism alienates us *from* is our (transhistorical) human nature (*menschlichen Wesen*).[[68]](#footnote-68) His analyses of alienation from the labor process, from the products of labor, and from other people are well-known and straightforward. The most contentious and for our purposes the most relevant form of alienation he discusses there is alienation from species-being (*Gattungswesen*), which could also be rendered as “species-essence” or “species-nature.”[[69]](#footnote-69) The unique feature of the human species, he posits, is a lack of total identity or coincidence with the metabolic social labor process described above, the ability to regard this process as an object of reflection, concern, and self-conscious change. Perhaps the key passage from the manuscripts:

The animal is immediately identical with its life-activity [*Lebenstätigkeit*]. It does not distinguish itself from it. It is *its life-activity*. [The human being][[70]](#footnote-70) makes his life-activity itself the object of his will and of his consciousness. He has conscious life-activity. It is not a determination with which he directly merges. Conscious life-activity directly distinguishes [the human being] from animal life-activity. It is just because of this that he is a species being. Or it is only because he is a species being that he is a conscious being [bewusstes Wesen], i.e., that his own life is an object for him. Only because of that is his activity free activity.[[71]](#footnote-71)

As animal lovers, we are not interested in reading this passage as reflecting human exceptionalism but only human differentiation. More important than what animals cannot do is what human beings can do: regard their own life activity–a metabolic relation to nature and socially-mediated labor–as an object of consciousness and thus, potentially, as something freely transformed.

In Marx’s account, this capacity is distorted under capitalism (which is not to say it was realized previously). Rather than freely determined and self-conscious activity, economic life–and thus species-being itself–is turned into something “alien” (*fremden*). While the language of *Gattungswesen* disappears in Marx’s later work, the spirit of the critique reemerges frequently. In the *Grundrisse*, for example, he describes how “the exchange relation establishes itself as a power external to and independent of the producers,” destroying the relation between human productive activity and our ability to consciously control and transform it. “What originally appeared as a means to promote production,” he goes on, “becomes a relation alien [*fremden*] to the producers.” Elsewhere he refers to the “sacrifice of the human end-in-itself to an entirely external end” as “total alienation” (*Entfremdung*).[[72]](#footnote-72) These passages act as a bridge between the 1844 manuscripts and the famous discussion of “commodity fetishism” in *Capital*; under this mode of production, social relations take on the “fantastic form of a relation between things.”[[73]](#footnote-73) The emphasis here is on how a form of productive activity that could and should be freely and self-consciously chosen (in line with human species-being) falsely appears as something independent, something that perpetuates itself for its own sake and not for that of human beings.[[74]](#footnote-74) This perspective is also operative in the third volume of *Capital*, where Marx describes the “alien” [*entfremdenten*] and “irrational” forces that govern the production process, where once again social relations “appear…as overwhelming natural laws, governing [producers] irrespective of their will.”[[75]](#footnote-75) In the same paragraph he refers to *Versachlichung*, rendered in the translation as “reification.” This would become a major category (as *Verdinglichung*) for Lukács and the early Frankfurt School, where it signifies, in Paul Leduc Browne’s formulation, “that people do not recognize the world as the product of their collective activity [but as] natural law or chance, in the guise of a *sui generis* reality that no one controls.”[[76]](#footnote-76)

Marx’s concept of alienation can be both illustrated and defended by returning to the manifestations of climate denial discussed above; likewise, the full significance of climate denial only comes into view when understood as an expression of alienation. Naturalist denialism, first of all, denies that human beings have a shifting and dynamic metabolic relation to nature. It does this in two different ways: when congressman Brooks attributes sea-level rise to falling rocks, he is simultaneously denying that humans could have such a profound impact on nature’s equilibrium and asserting that nature is fundamentally intractable and beyond human manipulation. Drawing an impassable conceptual wall between human beings and nature has the effect of reifying both, as if a static harmony or spontaneous equilibrium existed *a priori*. Human activities such as burning fossil fuels are thus rendered unproblematic, while the whims of nature are presented as something that we must endure rather than address. The conscious and deliberate direction of life activity is therefore a non-sequitur, as this life activity is misconstrued from the outset as fundamentally non-relational and as a permanent, automatic process. A refusal to acknowledge our responsibility for climatic changes is also a refusal to acknowledge our species-being. Rather than marking any progress, the more sophisticated forms of naturalist denialism represent an even starker expression of alienation. The fatalists assert directly that the fossil economy is beyond our control. It has such autonomy, in fact, that even the clear vision of a disaster on the horizon cannot motivate a change of direction: the car is self-driving itself over a cliff, and we are only its passengers. We have no authority over our own life activity, and consciousness can only be consciousness of our powerlessness.

Regarding technology as a panacea is another way of hypostatizing social conditions. We said earlier that technological denialism is the inverted image of naturalist denialism. They deny the metabolic relation to nature from different directions, the naturalists by implying that human beings have no control over nature and the technologists by assuming a hyperbolic control over nature. The omnipotence presupposed by the discourse of technological denialism does not extend to social conditions, however. The physical laws of the natural world are negotiable, while the economic laws of capitalism are ironclad. When science fiction scenarios–direct carbon capture on a massive scale, sustainable solar radiation management, biomedical “moral enhancement”–appear more “realistic” than changing how we produce and consume things, alienation from species-being reaches its pinnacle. Our life activity is understood as something less open to change, less under our control, than our “moral genes” or the brightness of the clouds.

There is no better expression of the relationship between climate denial and alienation from species-being than Nordhaus’s defense of gradualism. In the assumption that most economic activity will be unaffected by climate change because it takes place indoors, we can read off a kind of alienation check-list. The metabolic relation to nature is obliterated, as is the social character of all production: your local Starbucks is indoor, but it obviously relies on coffee (grown outside) and on the transport of both materials and people. This erasure of the very nature of human life activity is presented by an eminent scholar in a respected field. Such distortion is only possible and only necessary because economic alternatives have been disqualified from the outset. The “rapid, far-reaching, and unprecedented” social change heralded by the IPCC is a non-starter because the growth-dependent fossil economy is taken as a non-variable; it is the end of history and there is no alternative. Once again, the balance sheet of what is amenable to self-conscious change and what must simply be accepted as brute fact is topsy-turvy: the requirements of the market are taken for granted, but the physical realities of the carbon budget (or the basic distinction between weather and climate) are fungible. Because the imperative of growth precludes decarbonization, the gradualist insistence on the priority of preserving this imperative as the best of all possible economies has the effect of relinquishing human agency over economic planning. As Aronoff puts it, the “overriding assumption” behind the market-based solution monopoly is “borderline religious.”[[77]](#footnote-77)

This leads us, finally, to politicized denialism as alienation. In an article on “the mortality cost of carbon,” R. Daniel Bressler calculates that the emissions contributed by every three-and-a-half average Americans will cause one “excess death” from heat alone by 2100.[[78]](#footnote-78) In a more recent article, Lenton et al. put the ratio of average American lifetime consumption to future climate death at 1.2 to one, remarking that warming of 2.7°C by 2100 could leave one third of the human population outside of a habitable climate niche.[[79]](#footnote-79) This is the consequence of every piece of single-use plastic, every plane trip, and every acre of deforestation. Relatively minor differences in footprint aside, this holds true for conservatives and progressives, for Rawlsians and Marxists, for activists and the politically apathetic. It is true whether one believes it or not. But politicized denial acts as though the climate catastrophe must be triangulated against other values like consumer sovereignty or constitutional rights; increased awareness of the direct effects of our actions apparently has no bearing on these entrenched principles. Meanwhile, its valorization of mutual toleration and the right to an opinion calls up an image of society as a collection of individuals with different ideas, instead of a totality where the material life of each individual is interconnected with that of all others. This mystification occurs in both Right-wing paranoia campaigns–“the global warming cult is coming for your coffee”[[80]](#footnote-80)–and in democratic treatises like Lafont’s book. If the “vegan elite” concerned about climate change fails to “win hearts and minds” in time, so much the worse for the tens of millions in line to die from heat exposure between now and the end of the century. Apparently, shortcutting democracy is a bigger injustice than this.

Politicized denial, in other words, reveals a disconnect between the actual consequences of our life activity and our imaginary conceptions of it. The terms of our political discourse–private property, pluralism of opinions, consumer sovereignty–seem applicable to an alternate universe where burning fossil fuels does not lead to a greenhouse effect. With realities of the kind Bressler and Lenton et al. describe in mind, how can we understand arguments about one’s “right” to use a gas-powered stove, or own a private jet, or hold an “opinion” contrary to scientific evidence? In academic journal articles defending the status quo, we can still encounter questions like “what reason do we have to believe that [socialism or barbarism] are our only choices?”–with climate breakdown not considered or mentioned.[[81]](#footnote-81) The ethos of liberal democratic constitutionalism still governs our conversations in spite of its glaring obsolescence in the face of the impending catastrophe; it carries on a sleepwalking, zombie-like existence, acting without awareness of the world around it. This is alienation from species-being at a fever pitch: conscious awareness of our own life activity–in terms of the consequences of what we do every day–is constricted by abstract principles that have no reality or meaning apart from that very life activity. A system of values originated and perpetuated by human beings exists in apparent isolation from the material practices of those same human beings.

When considered in relation to its full, empirically-supported significance, climate denialism goes far beyond the brute gainsaying or skeptical indifference we have come to associate with that term. Through naturalist, technological, gradualist, or politicized denial, the scope, speed, severity, and full consequences of climate breakdown are minimized or obscured. What each of these forms have in common is a distortion of (one or all of) human beings’ metabolic relation to nature, the social character of their material reproduction, and the fact that this relation and this reproduction are amenable to self-consciousness, deliberate control, and transformation. In each type, the physical or ideological requirements of the prevailing economic system are conceived as a reality more fixed, more static, less optional, less negotiable than the chemical properties of carbon or the melting point of arctic ice. A system that ostensibly exists for the benefit of human beings (and by their consent and affirmation) appears as something apart from them, something independent. Their own activity is alienated in precisely the sense theorized by Marx. What he describes as our species-being, the ability to take our socially-mediated relation to nature (our life-activity) as an object of self-conscious collective concern, is erased under the denialist logic discussed here, both through a mystification of that relation itself and through an emphatic refusal to recognize it as our own activity, i.e., as contingent and alterable.

“System change, not climate change” is gradually becoming the mantra of the ecological movement. Too gradually, to be sure. This slogan nevertheless already indicates that addressing the climate catastrophe requires overcoming alienation of the kind described by Marx. First of all, affirming that climate change is within our power to stop but *only* through a systemic change is tantamount to acknowledging our metabolic relation to nature and its socially-mediated character. We cannot alter the nature of carbon, only our emissions and the social structures compelling them. To demand such a transformation is to affirm that this system is in principle transformable, that we can assume an active and conscious role in its construction in line with our species-being. Adequate consciousness, however, is not sufficient to rectify alienation. It is therefore not enough to rectify climate denial. Climate change can only be addressed, and the last vestiges of denialism expunged, when the material contradictions at the root of alienation are overcome. In other words: social theorists have only interpreted climate denial in various ways–the point, however, is to change the conditions necessitating it.

Bibliography

Adorno, Theodor W. *Critical Models: Interventions and Catchwords*. Translated by Henry W. Pickford. New York: Columbia University Press, 2005.

Albert, Michael J. *Navigating the Polycrisis: Mapping the Futures of Capitalism and the Earth.* Cambridge: MIT Press, 2024.

Antonio, Robert J., and Robert J. Brulle. “The Unbearable Lightness of Politics: Climate Change Denial and Political Polarization.” *The Sociological Quarterly* 52, no. 2 (2011): 195–202.

Aronoff, Kate. *Overheated.* New York: Bold Face Books, 2021.

Baer, Hans A. *Global Capitalism and Climate Change: The Need for an Alternative World*

*System*. Lanham: AltaMira Press, 2012.

Battistoni, Alyssa, and Geoff Mann. “Climate Bidenomics.” *New Left Review*, no. 143 (2023):

55–77.

BBC. “Branson Launches $25m Climate Bid.” February 9, 2007. http://news.bbc.co.uk/2/hi/science/nature/6345557.stm.

Boykoff, Maxwell T., and Jules M. Boykoff. “Balance as Bias: Global Warming and the US Prestige Press.” *Global Environmental Change* 14, no. 2 (2004): 125–36.

Bressler, R. Daniel. “The Mortality Cost of Carbon,” *Nature Communications* 12, no. 1 (2021).

Browne, Paul Leduc. “Reification and Passivity in the Face of Climate Change.” *European*

*Journal of Social Theory* 21, no. 4 (2018): 435–52.

Brulle, Robert J. “Institutionalizing Delay: Foundation Funding and the Creation of U.S. Climate Change Counter-Movement Organizations.” *Climatic Change* 122, no. 4 (2014.): 681–94.

Brulle, Robert J., and Kari Marie Norgaard. “Avoiding Cultural Trauma: Climate Change and Social Inertia.” *Environmental Politics* 28, no. 5 (2019): 886–908.

Buck, Holly Jean. *After Geoengineering: Climate Tragedy, Repair, and Restoration*. New York: Verso, 2019.

Buller, Adrienne. *The Value of a Whale: On the Illusions of Green Capitalism*. Manchester:

Manchester University Press, 2022.

Burkett, Paul. *Marxism and Ecological Economics: Toward a Red and Green Political Economy*.

Chicago: Haymarket Books, 2009.

Burton, Mark, and Peter Somerville. “Degrowth: A Defence.” *New Left Review* 115 (January/February 2019): 95–104.

Busk, Larry Alan. *Democracy in Spite of the Demos*. London: Rowman and Littlefield International, 2020.

Busk, Larry Alan. "From the Epistemology of Ignorance to *Rassenwahn*: Thinking Ideology with

Mills and Adorno." *Constellations* 28, no. 3 (2021): 368-378.

Carrington, Damian. 2024. “World’s Top Climate Scientists Expect Global Heating to Blast Past

1.5C Target.” *The Guardian*, May 8, 2024.

https://www.theguardian.com/environment/article/2024/may/08/world-scientists-climate-failure-survey-global-temperature

Cann, Heather W., and Leigh Raymond. “Does Climate Denialism Still Matter? The Prevalence

of Alternative Frames in Opposition to Climate Policy.” *Environmental Politics* 27, no. 3 (2018): 433–54.

Chaturvedi, Sanjay, and Timothy Doyle. *Climate Terror: A Critical Geopolitics of Climate Change*. New York: Palgrave, 2016.

Chitty, Andrew. “Review of ‘Marx and Alienation’.” Marx and Philosophy Review of Books,

2014. https://marxandphilosophy.org.uk/reviews/7864\_marx-and-alienation-review-by-andrew-chitty/.

Christophers, Brett. *The Price is Wrong: Why Capitalism Won't Save the Planet*. London: Verso, 2024.

Collomb, Jean-Daniel. 2014. “The Ideology of Climate Change Denial in the United States.” *European Journal of American Studies* 9, no. 1 (2014).

Dance, Scott, Sarah Kaplan, and Veronica Penney. “Scientists Knew 2023’s Heat Would Be

Historic — but Not by This Much.” *Washington Post*, January 9, 2024. https://www.washingtonpost.com/climate-environment/2024/01/09/record-hot-year-2023-global-temperatures/.

Dembicki, Geoff. *The Petroleum Papers: Inside the Far-Right Conspiracy to Cover Up Climate*

*Change*. Vancouver: Greystone Books, 2022.

Derysh, Igor. “Joe Biden to Rich Donors: ‘Nothing Would Fundamentally Change’ If He’s

Elected.” *Salon*, June 19, 2019. https://www.salon.com/2019/06/19/joe-biden-to-rich-donors-nothing-would-fundamentally-change-if-hes-elected/.

Dupré, Louis. “Hegel’s Concept of Alienation and Marx’s Reinterpretation of It.” *Hegel-Studien*

7 (1972): 217–36.

Dunlap, Riley E., and Aaron M. McCright. “Challenging Climate Change: The Denial

Countermovement,” in *Climate Change and Society*, ed. Riley E. Dunlap and Robert J. Brulle, 300–32. Oxford: Oxford University Press, 2015.

Ekberg, Kristoffer, Bernhard Forchtner, Martin Hultman, and Kirsti M. Jylhä. *Climate*

*Obstruction: How Denial, Delay and Inaction Are Heating the Planet*. London: Routledge, 2023.

Feygina, Irina, John T. Jost, and Rachel E. Goldsmith. “System Justification, the Denial of Global Warming, and the Possibility of ‘System Sanctioned Change’.” *Personality and Social Psychology Bulletin* 36, no 3 (2010): 326–38.

Foster, John Bellamy, Richard York, and Brett Clark. *The Ecological Rift: Capitalism’s War on the Earth*. New York: Monthly Review Press, 2011.

Frame, Mariko Lin. *Ecological Imperialism, Development, and the Capitalist World-System:*

*Cases from Africa and Asia*. New York: Routledge, 2023.

Franzen, Jonathan. “What If We Stopped Pretending the Climate Apocalypse Can Be Stopped?”

*The New Yorker*, September 8, 2019. https://www.newyorker.com/culture/cultural-comment/what-if-we-stopped-pretending.

Freddoso, David. “The Global Warming Cult Has Come for Your Coffee.” *Washington*

*Examiner*, January 21, 2023. https://www.washingtonexaminer.com/opinion/the-global-warming-cult-has-come-for-your-coffee.

Gardiner, Stephen M. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford:

Oxford University Press, 2011.

Gills, Barry, and Jamie Morgan. “Global Climate Emergency: After COP24, Climate Science, Urgency, and the Threat to Humanity.” *Globalizations* 17, no 6 (2019): 885–902.

Gunderson, Ryan. “Ideology Critique for the Environmental Social Sciences: What Reproduces the Treadmill of Production?” *Nature and Culture* 12, no. 3 (2017).

Gunderson, Ryan, Diana Stuart, and Brian Peterson. “Ideological Obstacles to Effective Climate Policy: The Greening of Markets, Technology, and Growth.” *Capital & Class* 42, no. 1 (2018): 133–60.

Haas, Tobias. “On the Links between Climate Scepticism and Right-Wing Populism (RWP): An

Explanatory Approach Based on Cultural Political Economy (CPE).” *New Political Economy* 29, no. 3 (2023): 464–77.

Hansson, Sven Ove. “Dealing with Climate Science Denialism: Experiences from Confrontations

with Other Forms of Pseudoscience.” *Climate Policy* 18, no. 9 (2018): 1094–1102.

Harvey, David. *Justice, Nature and the Geography of Difference*. Cambridge: Blackwell, 1996.

Hayek, Matthew N., Helen Harwatt, William J. Ripple, and Nathaniel D. Mueller. “The Carbon

Opportunity Cost of Animal-Sourced Food Production on Land.” *Nature Sustainability* 4, no.1 (2021): 21–24.

Heath, Yuko, and Robert Gifford. 2006. “Free-Market Ideology and Environmental Degradation: The Case of Belief in Global Climate Change.” *Environmental Behavior* 38, no. 1 (2006): 48–71.

Hébert, Raphael, Shaun Lovejoy, and Bruno Tremblay. “An Observation-Based Scaling Model

for Climate Sensitivity Estimates and Global Projections to 2100.” *Climate Dynamics* 56 (2021): 1105–29.

Henley, Jon. “Few Willing to Change Lifestyle to Save the Planet, Climate Survey Finds.” *The*

*Guardian*, November 7, 2021. https://www.theguardian.com/environment/2021/nov/07/few-willing-to-change-lifestyle-climate-survey.

Hickel, Jason. *Less Is More: How Degrowth Will Save the World.* New York: Random House, 2020.

Hickel, Jason, and Giorgos Kallis. “Is Green Growth Possible?” *New Political Economy* 25, no.

4 (2019): 469–86.

Holleman, Hannah. *Dust Bowls of Empire: Imperialism, Environmental Politics, and the*

*Injustice of Green Capitalism*. New Haven: Yale University Press, 2018.

Hornborg, Alf. “Artifacts Have Consequences, Not Agency: Toward a Critical Theory of Global

Environmental History.” *European Journal of Social Theory* 20, no. 1 (2017): 95–110.

Hornborg, Alf. “Why Ecological Economics Should Not Adopt Marxian Value Theory.”

*Ecological Economics* 193 (2022): 107334.

Huber, Matthew T. *Lifeblood: Oil, Freedom, and the Forces of Capital*. Minneapolis: University

of Minnesota Press, 2013.

Huber, Matthew T. *Climate Change as Class War: Building Socialism on a Warming Planet*.

London: Verso, 2022.

IPCC. "AR6 Synthesis Report: Headline Statements." 2023.

https://www.ipcc.ch/report/ar6/syr/resources/spm-headline-statements/

IPCC. “Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C.” 2018.

https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/.

Isaac, Jeffrey C. “Beyond Trump? A Critique of Nancy Fraser’s Call for a New Left

Hegemony.” *Philosophy and Social Criticism* 45, no. 9–10 (2019): 1157–69.

Jacobs, Ben. “Republican Congressman Explains Sea-Level Rise: It’s Rocks Falling into the

Sea.” *The Guardian*, May 17, 2018. https://www.theguardian.com/environment/2018/may/17/republican-congressman-mo-brooks-sea-level-rise-rocks.

Jacques, Peter J. “A General Theory of Climate Denial.” *Global Environmental Politics* 12, no. 2

(2012): 9–17.

Jamieson, Dale. *Reason in a Dark Time: Why the Struggle against Climate Change Failed--and*

*What It Means for Our Future*. Oxford: Oxford University Press, 2014.

Johnson, Harriet. “The Reification of Nature: Reading Adorno in a Warming World.” *Constellations* 26, no. 2 (2019): 318–29.

Jylhä, Kristi M., and Nazar Akrami. “Social Dominance Orientation and Climate Change Denial: The Role of Dominance and System Justification.” *Personality and Individual Differences* 86 (2015): 108–11.

Kallis, Giorgos, and Erik Swyngedouw. “Do Bees Produce Value? A Conversation Between an

Ecological Economist and a Marxist Geographer.” *Capitalism Nature Socialism* 29, no. 3 (2018): 36–50.

Keen, Steve. “The Appallingly Bad Neoclassical Economics of Climate Change.” *Globalizations*

18, no. 7 (2020): 1149–77.

Kemp, Luke, Chi Xu, Joanna Depledge, Kristie L. Ebi, Goodwin Gibbins, Timothy A. Kohler,

Johan Rockström, et al. “Climate Endgame: Exploring Catastrophic Climate Change Scenarios.” *Proceedings of the National Academy of Sciences* 119, no. 34 (2022): e2108146119.

Klare, Michael T. *All Hell Breaking Loose: The Pentagon’s Perspective on Climate Change*. New York: Metropolitan Books, 2019.

Kochan, Donald. “There’s No Climate Change Exception to Free Speech.” *The Hill*, October 28, 2021. https://thehill.com/opinion/energy-environment/578789-theres-no-climate-change-exception-to-free-speech/

Kolin, Andrew. *Irrationality of Capitalism and Climate Change: Prospects for an Alternative*

*Future*. Lanham: Lexington Books, 2022.

Kovel, Joel. *The Enemy of Nature*. London: Zed Books, 2007.

Kramer, Ronald C. *Carbon Criminals, Climate Crimes*. New Brunswick: Rutgers University Press, 2020.

Lafont, Cristina. *Democracy without Shortcuts: A Participatory Conception of Deliberative*

*Democracy*. Oxford: Oxford University Press, 2020.

Lamboll, Robin D., Zebedee R. J. Nicholls, Christopher J. Smith, Jarmo S. Kikstra, Edward

Byers, and Joeri Rogelj. “Assessing the Size and Uncertainty of Remaining Carbon Budgets.” *Nature Climate Change* 13, no. 12 (2023): 1360–67.

LaVenia, Peter A. Jr., and Larry Alan Busk. “Degrowth or Class Struggle? A Critique of

Matthew Huber’s *Climate Change as Class War*.” Online in advance in *Capitalism Nature Socialism*. https://doi.org/10.1080/10455752.2024.2380846.

Lenton, Timothy M., Chi Xu, Jesse F. Abrams, Ashish Ghadiali, Sina Loriani, Boris

Sakschewski, Caroline Zimm, et al. “Quantifying the Human Cost of Global Warming.” *Nature Sustainability* 6, no.10 (2023): 1237–47.

Levin, Kelly, Taryn Fransen, Clea Schumer, Chantal Davis, and Sophie Boehm. “What Does

‘Net-Zero Emissions’ Mean? 8 Common Questions, Answered." https://www.wri.org/insights/net-zero-ghg-emissions-questions-answered.

Lockwood, Matthew. “Right-Wing Populism and the Climate Change Agenda: Exploring the

Linkages.” *Environmental Politics* 27, no. 4 (2018): 712–32.

Longo, Stefano B., Rebecca Clausen, and Brett Clark. *The Tragedy of the Commodity: Oceans, Fisheries, and Aquaculture*. New Brunswick: Rutgers University Press, 2015.

Lynas, Mark. *Our Final Warning: Six Degrees of Climate Emergency*. London: 4th Estate, 2020.

Malm, Andreas. *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. New York: Verso, 2016.

Malm, Andreas. “The Future Is the Termination Shock: On the Antinomies and

Psychopathologies of Geoengineering. Part One.” *Historical Materialism* 30, no. 4 (2022): 3–53.

Mann, Geoff, and Joel Wainwright. *Climate Leviathan: A Political Theory of Our Planetary Future*. New York: Verso, 2018.

Mann, Michael E., and Tom Toles. *The Madhouse Effect: How Climate Change Denial Is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy*. New York: Columbia University Press, 2016.

Marlon, Jennifer, Emily Goddard, Peter Howe, Matto Mildenberger, Martial Jefferson, Eric Fine, and Anthony Leiserowitz. “Yale Climate Opinion Maps 2023.” https://climatecommunication.yale.edu/visualizations-data/ycom-us/

Marx, Karl. *Capital Volume I.* Translated by Ben Fowkes. London: Penguin, 1976.

Marx, Karl. *Capital Volume III.* Translated by David Fernbach. London: Penguin, 1981.

Marx, Karl. *Economic and Philosophic Manuscripts of 1844*. Translated by Martin Milligan.

Amherst, Prometheus Books, 1988.

Marx, Karl. *Grundrisse*. Translated by Martin Nicolaus. London: Penguin, 1973.

Mason, Sharon E. “Climate Science Denial as Willful Hermeneutical Ignorance.” *Social*

*Epistemology* 34, no. 5 (2020): 469–77.

Mészáros, István. *Marx’s Theory of Alienation*. London: Merlin Press, 2006.

Michaels, David. *Doubt Is Their Product*. Oxford: Oxford University Press, 2008.

Mittiga, Ross. "Political Legitimacy, Authoritarianism, and Climate Change." American Political

Science Review 116, no. 3 (2022): 998-1011.

Mounk, Yascha. *The People Vs. Democracy*. Cambridge: Harvard University Press, 2018.

Müller, Jan-Werner. *What Is Populism?* Philadelphia: University of Pennsylvania Press, 2016.

Norgaard, Kari Marie. *Living in Denial: Climate Change, Emotions, and Everyday Life*. Boston: MIT Press, 2011.

Nordhaus, William. “Climate Change: The Ultimate Challenge for Economics.” *American*

*Economic Review* 109, no. 6 (2019): 1991–2014.

Oksala, Johanna. “Political Philosophy in the Era of Climate Change: Between Eco-

Cosmopolitanism and the Green State.” *Graduate Faculty Philosophy Journal* 37, no. 1 (2016): 51–70.

Oreskes, Naomi, and Erik M. Conway. *Merchants of Doubt*. New York: Bloomsbury, 2011.

Painter, James, Joshua Ettinger, David Holmes, Loredana Loy, Janaina Pinto, Lucy Richardson,

Laura Thomas-Walters, Kjell Vowles, and Rachel Wetts. “Climate Delay Discourses Present in Global Mainstream Television Coverage of the IPCC’s 2021 Report.” *Communications Earth & Environment* 4, no. 1 (2023): 1–12.

Parr, Adrian. *The Wrath of Capital: Neoliberalism and Climate Change Politics*. New York:

Columbia University Press, 2014.

Parsons, Laurie. *Carbon Colonialism: How Rich Countries Export Climate Breakdown*.

Manchester: Manchester University Press, 2023.

Pearce, Joshua M., and Richard Parncutt. “Quantifying Global Greenhouse Gas Emissions in

Human Deaths to Guide Energy Policy.” *Energies* 16, no. 16 (2023): 6074.

Persson, Ingmar, and Julian Savulescu. *Unfit for the Future: The Need for Moral Enhancement*.

Oxford: Oxford University Press, 2012.

Pirani, Simon. *Burning Up: A Global History of Fossil Fuel Consumption*. London: Pluto Press, 2018.

Pongiglione, Francesca, and Carlo Martini. “Climate Change and Culpable Ignorance: The Case of Pseudoscience.” *Social Epistemology* 36, no. 4 (2022): 425–35.

Rees, William E. “The Human Ecology of Overshoot: Why a Major ‘Population Correction’ Is

Inevitable.” *World* 4, no. 3 (2023): 509–27.

Rekker, Saphira A. C., Katherine R. O’Brien, Jacquelyn E. Humphrey, and Andrew C. Pascale.

“Comparing Extraction Rates of Fossil Fuel Producers against Global Climate

Goals.” *Nature Climate Change* 8, no. 6 (2018): 489–92.

Richard, Jacques. *Radical Ecological Economics and Accounting to Save the Planet: The Failure*

*of Mainstream Economists*. New York: Routledge, 2023.

Ripple, William J, Christopher Wolf, Jillian W Gregg, Johan Rockström, Thomas M Newsome,

Beverly E Law, Luiz Marques, et al. “The 2023 State of the Climate Report: Entering Uncharted Territory.” *BioScience* (2023).

Robock, Alan. "20 Reasons Why Geoengineering May Be a Bad Idea." *Bulletin of the Atomic*

*Scientists* 64, no. 2 (2008): 14-18.

Saito, Kohei. *Marx in the Anthropocene: Towards the Idea of Degrowth Communism*.

Cambridge: Cambridge University Press, 2023.

Sayers, Sean. *Marx and Alienation: Essays on Hegelian Themes*. Basingstoke, Palgrave, 2011.

Schwartzman, David, and Salvatore Engel-Di Mauro. “A Response to Giorgios Kallis’ Notions

of Socialism and Growth.” *Capitalism Nature Socialism* 30, no. 3 (2019): 40–51.

Scranton, Roy. *Learning to Die in the Anthropocene: Reflections on the End of a Civilization*.

San Francisco: City Lights Publishers, 2015.

Shearman, David, and Joseph Wayne Smith. *The Climate Change Challenge and the Failure of*

*Democracy*. Westport, CT: Praeger, 2007.

Spash, Clive L. “‘The Economy’ as If People Mattered: Revisiting Critiques of Economic

Growth in a Time of Crisis.” *Globalizations* 18, no. 7 (2021): 1087–1104.

Spash, Clive L. “This Changes Nothing: The Paris Agreement to Ignore Reality.” *Globalizations*

13, no. 6 (2016): 928–33.

Steel, Daniel, C. Tyler DesRoches, and Kian Mintz-Woo. “Climate Change and the Threat to

Civilization.” *Proceedings of the National Academy of Sciences* 119, no. 42 (2022): e2210525119.

Sterman, John D., and Lisa Booth Sweeney. “Understanding Public Complacency about Climate

Change: Adults’ Mental Models of Climate Change Violate Conservation of Matter.” *Climate Change* 80 (2007): 213–238.

Stoner, Alexander M., and Andony Melathopoulos. *Freedom in the Anthropocene: Twentieth-*

*Century Helplessness in the Face of Climate Change*. New York: Palgrave Macmillan, 2015.

Stuart, Diana, Ryan Gunderson, and Brian Petersen. *The Degrowth Alternative: A Path to*

*Address Our Environmental Crisis?* London: Taylor & Francis, 2020.

Stuart, Diana, Ryan Gunderson, and Brian Petersen. “Overconsumption as Ideology.” *Nature*

*and Culture* 15, no. 2 (2020): 199–223.

Surprise, Kevin, and JP Sapinski. 2023. “Whose Climate Intervention? Solar Geoengineering,

Fractions of Capital, and Hegemonic Strategy.” *Capital & Class* 47, no. 4 (2023): 539–

64.

Thompson, Michael J. “False Consciousness Reconsidered: A Theory of Defective Social

Cognition.” *Critical Sociology* 41, no. 3 (2014): 449–61.

United Nations Energy Programme. "Emissions Gap Report 2023."

https://www.unep.org/resources/emissions-gap-report-2023

Urbinati, Nadia. *Me the People: How Populism Transforms Democracy*. Cambridge: Harvard

University Press, 2019.

Vogel, Jefim, and Jason Hickel. “Is Green Growth Happening? An Empirical Analysis of

Achieved versus Paris-Compliant CO2–GDP Decoupling in High-Income Countries.” *Lancet Planetary Health* 7, no. 9 (2023): e759–69.

Vogel, Steven. “Marx and Alienation from Nature.” *Social Theory and Practice* 14, no. 3 (1988):

367–87.

Wendling, Amy E. *Karl Marx on Technology and Alienation*. London: Palgrave, 2009.

Xu, Chi, Timothy A. Kohler, Timothy M. Lenton, Jens-Christian Svenning, and Marten Scheffer.

“Future of the Human Climate Niche.” *Proceedings of the National Academy of Sciences* 117, no. 21 (2020): 11350–55.

1. Lynas, *Our Final Warning*, 271. [↑](#footnote-ref-1)
2. IPCC, “AR6 2023: Headline Statements.” [↑](#footnote-ref-2)
3. Lynas, *Our Final Warning*, 271. In “Assessing the Size and Uncertainty of Remaining Carbon Budgets,” Lamboll et al. conclude that the remaining carbon budget for keeping warming below 1.5°C is equal to around six years of present carbon emissions. [↑](#footnote-ref-3)
4. IPCC, “Climate Change 2018: Summary for Policymakers.” [↑](#footnote-ref-4)
5. Lynas, *Our Final Warning*, 281 and passim; Hébert et al., “An Observation-Based Scaling Model for Climate Sensitivity Estimates and Global Projections to 2100.” A survey of 380 leading climate scientists published in *The Guardian* (Carrington, “World’s Top Climate Scientists Expect Global Heating to Blast Past 1.5C Target”) found that nearly 80% expect warming to surpass 2.5°C by 2100, and almost half expect warming beyond 3°C. Four respondents predicted warming of 5°C or above. [↑](#footnote-ref-5)
6. Rekker et al., “Comparing Extraction Rates of Fossil Fuel Producers against Global Climate Goals.” [↑](#footnote-ref-6)
7. Derysh, “Joe Biden to Rich Donors: ‘Nothing Would Fundamentally Change’ If He’s Elected.” For an account of the Biden administration’s record on the climate front, see Battistoni and Mann, “Climate Bidenomics,” 67-74. [↑](#footnote-ref-7)
8. Spash, “This Changes Nothing.” [↑](#footnote-ref-8)
9. United Nations Energy Programme, “Emissions Gap Report 2023.” [↑](#footnote-ref-9)
10. Gills and Morgan, “Global Climate Emergency,” 885. For discussions of the existential risk posed by climate change, see Kempt et al., “Climate Endgame,” and Steel et al, “Climate Change and the Threat to Civilization.” [↑](#footnote-ref-10)
11. Marlon et al., “Yale Climate Opinion Maps 2023.” [↑](#footnote-ref-11)
12. Dunlap and McCright, “Challenging Climate Change,” 318-320. [↑](#footnote-ref-12)
13. See Dance, Kaplan, and Penney, “Scientists knew 2023’s heat would be historic—but not by this much.” [↑](#footnote-ref-13)
14. Hansson, “Dealing with Climate Science Denialism”; Pongiglione and Martini, “Climate Change and Culpable Ignorance.” [↑](#footnote-ref-14)
15. Jamieson, *Reason in a Dark Time*; Gardiner, *A Perfect Moral Storm*. [↑](#footnote-ref-15)
16. Jacques, “A General Theory of Climate Denial.” [↑](#footnote-ref-16)
17. Mason, “Climate Science Denial as Willful Hermeneutical Ignorance.” [↑](#footnote-ref-17)
18. Lockwood, “Right-wing Populism and the Climate Change Agenda.” [↑](#footnote-ref-18)
19. Gunderson, “Ideology Critique for the Environmental Social Sciences”; Gunderson et al., “Ideological Obstacles to Effective Climate Policy”; Stuart et al., “Overconsumption as Ideology”; Collomb, “The Ideology of Climate Change Denial in the United States”; Busk, “From the Epistemology of Ignorance to *Rassenwahn”*; Busk, *Democracy in Spite of the Demos*, 94-106. [↑](#footnote-ref-19)
20. Adorno, *Critical Models*, 115. For a recent rehabilitation of this concept, see Thompson, “False Consciousness Reconsidered.” [↑](#footnote-ref-20)
21. Christophers, *The Price is Wrong*; Longo et al., *The Tragedy of the Commodity*; Baer, *Global Capitalism and Climate Change*; Pirani, *Burning Up*; Malm, *Fossil Capital*; Buller, *The Value of a Whale*; Holleman, *Dust Bowls of Empire*; Parr, *The Wrath of Capital*; Spash, “The Economy as if People Mattered”; Foster et al., *The Ecological Rift*; Kovel, *The Enemy of Nature*; Aronoff, *Overheated*. [↑](#footnote-ref-21)
22. Hence the “double reality” described by Norgaard in *Living in Denial*, 5. [↑](#footnote-ref-22)
23. Feygina, Jost, and Goldsmith, System Justification, the Denial of Global Warming, and the Possibility of 'System Sanctioned Change'.” See also Jylhä and Akrami, “Social Dominance Orientation and Climate Change Denial”; Heath and Gifford, “Free-Market Ideology and Environmental Degradation”; Haas, “On the Links between Climate Scepticism and Right-wing Populism.” [↑](#footnote-ref-23)
24. Vogel, “Marx and Alienation from Nature.” [↑](#footnote-ref-24)
25. Norgaard, *Living in Denial*, 10-11. [↑](#footnote-ref-25)
26. Cf. Mann and Toles on the “spectrum of denialism” in *The Madhouse Effect*, 53-67. Their account is essentially still quantitative, whereas ours aims to be qualitative. In *Climate Obstruction*, Ekberg et al. also make a tripartite distinction between primary denial (literal), secondary denial (ideological/political), and tertiary denial (cultural/infrastructural). Our account aims to specify particular forms of secondary and tertiary denial while also highlighting how these forms appeal to versions of primary denial. [↑](#footnote-ref-26)
27. Jacobs, “Republican congressman explains sea-level rise: it's rocks falling into the sea.” [↑](#footnote-ref-27)
28. Norgaard, *Living in Denial*, 149. [↑](#footnote-ref-28)
29. As Aronowsky reveals in “Gas Guzzling Gaia,” the famous “Gaia hypothesis” was supported by the fossil fuel industry as an early version of climate denialism. [↑](#footnote-ref-29)
30. Scranton, *Learning to Die in the Anthropocene*; Franzen, “What If We Stopped Pretending?” [↑](#footnote-ref-30)
31. BBC News, “Branson Launches $25m Climate Bid.” [↑](#footnote-ref-31)
32. The “challenge” was discontinued in 2019 without ever being awarded. [↑](#footnote-ref-32)
33. Albert, *Navigating the Polycrisis*; Buck, *After Geoengineering*, 45-47; Klein, *This Changes Everything*, 256-290. [↑](#footnote-ref-33)
34. See Surprise and Sapinski, “Whose Climate Intervention?” [↑](#footnote-ref-34)
35. Persson and Savulescu, *Unfit for the Future*, 83, see also 76-79. [↑](#footnote-ref-35)
36. Ibid, 116. [↑](#footnote-ref-36)
37. For a fuller description of this tendency, see Huber, *Lifeblood*, 167. [↑](#footnote-ref-37)
38. Buck, *After Geoengineering*. For a strong caution that these limits may be so severe as to not be worth the risks, see Malm, “The Future is Termination Shock.” [↑](#footnote-ref-38)
39. See Lamb et al., “Discourses of Climate Delay.” [↑](#footnote-ref-39)
40. Richard, *Radical Ecological Economics and Accounting to Save the Planet*; Henderson, *Reimagining Capitalism in a World on Fire*. [↑](#footnote-ref-40)
41. Hickel and Kallis, “Is Green Growth Possible?”; Stuart et al., *The Degrowth Alternative*; Hickel, *Less is More*; Burton and Somerville, “Degrowth: a Defence”; Vogel and Hickel, “Is Green Growth Happening?” At this point, even articles in *Bioscience* are saying that “economic growth…is unlikely to allow us to achieve our social, climate, and biodiversity goals.” See Ripple et al., “The 2023 State of the Climate Report,” 7. [↑](#footnote-ref-41)
42. Nordhaus, “Climate Change: the Ultimate Challenge for Economics.” For another critique of Nordhaus, see Masini, “William Nordhaus: A Disputable Nobel [Prize]?” For a general account of how mainstream economics has been marshalled to support gradualist denialism, see Franta, “Weaponizing Economics.” [↑](#footnote-ref-42)
43. Keen, “The Appallingly Bad Neoclassical Economics of Climate Change,” 1152-53. [↑](#footnote-ref-43)
44. Sterman and Sweezy, “Understanding Public Complacency about Climate Change.” Cf. Buck: “even highly educated adults believe [‘wait and see’] is a reasonable approach, possibly because their mental models don’t properly apprehend stocks and flows.” *After Geoengineering*, 25. [↑](#footnote-ref-44)
45. Xu et al., “Future of the Human Climate Niche.” [↑](#footnote-ref-45)
46. Levin et al., “What Does "Net-Zero Emissions" Mean?” [↑](#footnote-ref-46)
47. Lynas, *Our Final Warning*, 67-117. [↑](#footnote-ref-47)
48. This is not the result of geographic misfortune, but of the legacies of colonial underdevelopment. See Parsons, *Carbon Colonialism*; Frame, *Ecological Imperialism, Development, and the Capitalist World System.* [↑](#footnote-ref-48)
49. Brulle, “Institutionalizing Delay,” 682. [↑](#footnote-ref-49)
50. Oreskes and Conway, *Merchants of Doubt*; Michaels, *Doubt is Their Product*; Dembicki, *The Petroleum Papers*. [↑](#footnote-ref-50)
51. Kramer, *Carbon Criminals, Climate Crimes*, 88-124. [↑](#footnote-ref-51)
52. Cann and Raymond, “Does Climate Denialism Still Matter?” [↑](#footnote-ref-52)
53. Antonio and Brulle, “The Unbearable Lightness of Politics.” For the same point framed in the nomenclature of Bourdieu, see Brulle and Norgaard, “Avoiding Cultural Trauma.” [↑](#footnote-ref-53)
54. Kochan, “There’s No Climate Exception to Free Speech.” [↑](#footnote-ref-54)
55. Boykoff and Boykoff, “Balance as Bias.” See also Painter et al., “Climate Delay Discourses Present in Global Mainstream Television Coverage of the IPCC’s 2021 Report.” [↑](#footnote-ref-55)
56. Urbinati, *Me the People*; Werner-Muller, *What is Populism?*; Mounk, *The People vs. Democracy*. [↑](#footnote-ref-56)
57. Mittiga, “Political Legitimacy, Authoritarianism, and Climate Change; Oksala, “Political Philosophy in the Era of Climate Change”; Shearman and Smith, *The Climate Change Challenge and the Failure of Democracy*. [↑](#footnote-ref-57)
58. Chaturvedi and Doyle, *Climate Terror*. See also Klare, *All Hell Breaking Loose*. [↑](#footnote-ref-58)
59. Mann and Wainwright, *Climate Leviathan*. [↑](#footnote-ref-59)
60. Henley, “Few Willing to Change Lifestyle to Save the Planet.” [↑](#footnote-ref-60)
61. Lafont, *Democracy without Shortcuts*, 125, 133-34. On the climate impact of animal agriculture, see Hayek et al., “The Carbon Opportunity-Cost of Animal Sourced Food Production on Land.” [↑](#footnote-ref-61)
62. *Philosophy and Social Criticism* volume 47, issue 1 (2021). [↑](#footnote-ref-62)
63. Harvey, *Justice, Nature, and the Geography of Difference*, 194. [↑](#footnote-ref-63)
64. Huber, *Climate Change as Class War*, 143-175. For some other recent skirmishes between degrowth theorists and Marxists, see Hornborg, “Why Ecological Economics Should Not Adopt Marxian Value Theory”; Schwartzman and Engel-Di Mauro, “A Response to Giorgios Kallis’ Notions of Socialism and Growth”; Kallis and Swyngedouw, “Do Bees Produce Value?” As Burkett (*Marxism and Ecological Economics*, 5) and Saito (*Marx in the Anthropocene*, 104) point out, Marxists’ aversion to the discourse of degrowth may stem from a deep-seeded reaction to Malthusian narratives of overpopulation. Given our ecological predicament, it is necessary to distinguish the necessity of degrowth from reactionary Malthusianism. At the same time, we can acknowledge with Kolin that “to propose degrowth without understanding the class struggle aspect of capitalism is politically naive” (*Irrationality of Capitalism and Climate Change*, 86). [↑](#footnote-ref-64)
65. LaVenia and Busk, “Degrowth or Class Struggle?” [↑](#footnote-ref-65)
66. One point of contention is the translation of *Entfremdung* itself, especially in relation to *Entäusserung*. The standard translation renders *Entfremdung* as “estrangement” and *Entäusserung* as “alienation.” Sayers (*Marx and Alienation*, ix) claims that Marx does not distinguish these terms and thus uses them interchangeably. We concur with Chitty (“Review of Sayers”) that despite the fact that Marx does not systematically distinguish them, they have undeniably different connotations: *Entäusserung* is better translated as “externalization” or “relinquishing,” while *Entfremdung* has the negative connotation associated with “alienation” in contemporary English vernacular. Dupré (“Hegel’s Concept of Alienation and Marx’s Reinterpretation of It”) confirms this interpretation by connecting Marx’s use of these terms to their development in Hegel’s philosophy. We have opted to translate *Entfremdung* as “alienation” for these reasons and because, as we will see below, the term is translated that way in *Capital* and in the *Grundrisse*. [↑](#footnote-ref-66)
67. Mészáros, *Marx’s Theory of Alienation*, 36. [↑](#footnote-ref-67)
68. Translated as “man’s essential nature” (*Economic and Philosophical Manuscripts*, 78). [↑](#footnote-ref-68)
69. We are not arguing that such other types of alienation are not important nor that they are not applicable to climate denial. Rather, we focus on alienation from species-being as the culmination of the other types. It is *through* our alienation from our life activity, the products of our labor, and other beings that we are alienated from our human nature. Because we are beings who must engage in labor with others to produce our means of subsistence, when such relations are alienated, we can be properly said to be alienated from our *Gattungswesen*. [↑](#footnote-ref-69)
70. Marx uses *der Mensch*, which is commonly but misleadingly translated as “Man.” We have removed the substantively gendered language, but retain the masculine pronouns to avoid the awkwardness (in English) of referring to the human being as “it,” and because Marx uses *er*. [↑](#footnote-ref-70)
71. Marx, *Economic and Philosophical Manuscripts*, 76. [↑](#footnote-ref-71)
72. Marx, *Grundrisse*, 146, 488. [↑](#footnote-ref-72)
73. Marx, *Capital Volume I*, 165. [↑](#footnote-ref-73)
74. “[The capitalist] ruthlessly forces the human race to produce for production’s sake.” Marx, *Capital Volume I*, 739. [↑](#footnote-ref-74)
75. Marx, *Capital Volume III*, 969. See also 358. Wendling reads “fetishism” as the later Marx’s expression of “alienation” (*Karl Marx on Technology and Alienation*, 49-55). As this passage from volume three indicates, *Entfremdung* itself does not disappear even after *Capital*. [↑](#footnote-ref-75)
76. Browne, “Reification and Passivity in the Face of Climate Change,” 442. See also Johnson, “The Reification of Nature”; Stoner and Melathopolous, *Freedom in the Anthropocene*. [↑](#footnote-ref-76)
77. Aronoff, *Overheated*, 59. [↑](#footnote-ref-77)
78. Bressler, “The Mortality Cost of Carbon.” [↑](#footnote-ref-78)
79. Lenton et al., “Quantifying the Human Cost of Global Warming.” See also Pearce and Parncutt, “Quantifying Global Greenhouse Gas Emissions in Human Deaths to Guide Energy Policy”; Rees, “The Human Ecology of Overshoot: Why a Major ‘Population Correction’ is Inevitable.” [↑](#footnote-ref-79)
80. Freddoso, “The Global Warming Cult Has Come for Your Coffee.” [↑](#footnote-ref-80)
81. Isaac, “Beyond Trump? A Critique of Nancy Fraser’s Call for a New Left Hegemony,” 1167. [↑](#footnote-ref-81)