

Fossil Fuel Divestment and the Limits to Capital

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"The categories we use to make sense of the world—including such basic concepts as ecology, economy and society—have all changed before. The twenty-first century belongs to whoever changes them next." - Timothy Shenk²

Abstract

This thesis engages critically with the fossil fuel divestment (FFD) movement gaining strength in Western countries, with the specific aim of filling a theorization gap in the small body of scholarly FFD literature. It develops a political ontology for the capitalist world-ecology described by Jason W. Moore (2015) via Wainwright and Mann's speculative architecture of global political responses to climate change (2013). It comes to the conclusion that the social movements of global 'climate X' should strive to accelerate the arrival of ecological limits to capital by pursuing anticapitalist solidarity across class and species divisions. The potential of university campus FFD as a vehicle for such a "transnatural" labor politics is examined, with special attention paid to the role of climate justice framing and practice in moving FFD towards this goal. The thesis concludes that achieving climate justice hegemony in the FFD movement could be a powerful step forward for an anticapitalist climate X, but that a route to a transnatural class politics is not yet clear.

1. Climate's demand

What does climate change demand from us? That is, what kinds of changes in human behavior does the phenomenon we call "climate change" make necessary? I would suggest the answer goes beyond - or rather, *before* - political questions. Politics (the exercise of power) is crucially important to the issue of climate change, but prior to politics must occur a change in thinking, and an evolution in the structure of that thought. Why? Because "climate change" isn't

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² Shenk 2014.

the whole problem, and if we continue to think like it is, then the exercise of power built on that incomplete knowledge will never match the changes truly before us. The Earth, and the life upon it, have entered a period of *systemic ecological crisis*, of which climate change is an important, but not the only, part. Climate change is just one face of an enormously complex mosaic of interrelated processes; it creates new forces as it unpredictably affects existing ones, and is in the same moment produced and changed by those forces. Moreover, climate change is bound up with long historical processes that have depended in key ways upon exploitative relations between and among humans and non-human nature, processes now taking unpredictable and perhaps unsustainable new turns. It therefore makes more sense to speak of a systemic ecological crisis, one which also encompasses structural economic crisis, than of simply "climate change." This systemic crisis poses a severe challenge for humanity, and is therefore already producing new global configurations of power and institutions designed to control the crisis - though 'control' is defined in many ways - while simultaneously advancing political and economic goals.

Perhaps at one time, not even very long ago, it was possible to stand aloof from big questions of political and economic change on the global scale - but the present (and future) world-ecologic crisis, and the connected structural crisis of the world's means of production and circulation of resources (capitalism), affect all humans in some way.³ Especially for that bulk of humanity living in precarious economic and environmental conditions, it will have effects in quite dramatic and important ways. Thus, we're all invested somehow in the shape of global political responses to these related and severe problems.

Following from this, pursuing creative new lines of thought and action about the crisis is an essential task for scholars, policymakers, and activists. In other words, the crisis, unprecedented in its complexity, scale, and threat, calls out for an expanded *epistemology*, a way of knowing and thinking about ecological upheaval, the relationship between capital and

³ Indeed, following Moore (2014a, 2014b, 2015), I argue later in this thesis that these crises are not simply "connected" but are in fact one and the same.

nature, and humanity's existential position in the near and far future. Ways of thinking about these issues, when we think about them at all, are too often depoliticized and ahistorical. Narrow discussions of scientific detail, technocratic fixes, and economic effects don't capture the centrality of power to a set of unpredictable global changes that are ultimately the product of human decisions, or the ways in which the crisis is the product of historical exploitation of human and non-human nature.

Why have we - people concerned about the state of the world, especially climate change - not found a way to expand our thinking about the crisis? Well, there is the understandable difficulty of confronting a civilization-scale emergency, one that poses serious existential questions (Scranton 2013, 2015). Simply put, there is a nonzero chance that unpredictable world-ecological crisis results, directly or otherwise, in the death of many or most humans. But humans have an extraordinary ability to carry on under the Sword of Damocles - it may not in fact be necessary to resolve these existential quandaries to formulate an effective knowledge project.⁴ The more fundamental problem may be something else: the tendency in modernity to draw an ontological distinction between 'Nature' and 'Society', as if humans and their creations could ever be meaningfully removed from the unified web of life and its myriad relationships and flows: the *world-ecology*. Denying this union comes easily - the Nature/Society binary is deeply embedded in Western culture and thought, and our language sometimes lacks the vocabulary to express alternative ideas about *what* our world is and *how* it is constructed (and, in turn, what and how it *constructs*). But denial only gets us farther down the world-ecological hole. If we truly want to save ourselves, and nature, we need to develop a radical and fearless new kind of politics, one which rejects the separation of "ourselves" and "nature" outright.⁵

⁴ Though I have argued the opposite position elsewhere (Purucker 2016).

⁵ And one which also recognizes the *material force* of this conceptual separation within modernity. In other words, the implicit separation of Society and Nature is not just an intellectual issue, but a constructive (and destructive) phenomenon in the world - it is a *real abstraction*. (Moore 2015, 21; Out of the Woods 2016; Toscano 2008).

For Left analysts in particular, a crucial and under-researched area of this knowledge project concerns the dynamics of social movements in the world-ecology. For those of us who read humanity's history as a story too often written with blood, describing oppression, hierarchy, and suffering, and who see in the teeth of structural crisis a chance to write a more just story, then theorizing and enacting new forms of progressive political action is vital. These revolutionary forms of thinking and acting in response to world-ecological crisis are already emergent; they always need to struggle, and are too often crushed, but they do exist and can plausibly be nurtured into something that truly rivals oppressive systemic power. One new form of such action is fossil fuel divestment (FFD) - the targeted divestiture of capital from firms involved in extracting, refining, and marketing the carbon-based energy resources long-identified as central drivers of geobiospheric⁶ change, most immediately the greenhouse effect. The FFD movement was born and has been physically embodied mainly at college campuses, where activists demand that university administrators divest endowments from fossil fuel companies (FFCs). Simultaneously, FFD-affiliated NGOs have targeted charitable foundations and other large institutional investors. The movement has grown rapidly in the five years since its emergence in 2011. A 2013 Oxford University study identified it as the fastest growing divestment movement in history, achieving in just two years a stage of political influence which took the South African apartheid divestment movement (beginning in the late 1960s and ending in 1990) at least a decade to achieve (Ansar et al. 2013).

FFD is so new that it has attracted little scholarly attention - my research uncovered just five published articles, two of which are non peer-reviewed undergraduate theses. There are also a number of 'grey literature' analyses and research reports concerning FFD.⁷ This thesis aims to

⁶ I use "geobiospheric" as a catch-all term to denote the spectrum of environmental systems on, in, and around the earth, including the climate system, the carbon cycle, weather patterns, biomes, etc.

⁷ The peer-reviewed articles are Ayling and Gunningham 2015, Bratman et al. 2016, and Grady-Benson and Sarathy 2015. The theses are Grady-Benson 2014 and Xu 2015. The most notable example of a grey literature report is Ansar et al. 2013 (which is in fact scholarly and rigorous but has not been formally published in a journal).

add to this small body of literature a needed degree of critical analysis, one which considers both the world-ecologic framework I have described and the connection of FFD to a climate justice framework that moves beyond conventional understandings of environmental crisis and towards a holistic and normative politics. I argue that the climate justice form of FFD holds potential as a strategy for building solidarity across class and species divisions - a "transnatural" labor politics. That labor politics can be a means to "make ecological catastrophe a crisis for capital, while preventing capitalism from taking the rest of the world down with it."⁸

2. Becoming the limits

The conventional way of thinking about world-ecological crisis has mainly focused on the scientific and discursive terrain of 'climate change' - atmospheric CO₂ accumulation, temperature increase, environmental feedback responses, and so on. We - people concerned about the environment, justice, and the future - can and should move past a singular focus on climate change, because it is only one part of a greater phenomenon: the world-ecologic crisis of capitalism. I will attempt to explain why in a moment. But first, we cannot disregard climate change: it is indeed very frightening and consequential, and any analysis of the world-ecologic crisis should probably begin here, where the nature and scale of the threat are well-understood. We can start by strongly affirming the material reality of anthropogenic (human-caused) climate change, which has been understood for well over a century (Arrhenius 1896), directly observed since the 1960s (Keeling 1960), and deeply researched in the natural sciences for over 25 years (IPCC 2014). Awareness and concern about climate change are now reasonably commonplace around the world (Lee et al. 2015)⁹, and climate policymakers have been holding international

⁸ Nelson 2016, paragraph 17.

⁹ Though Lee et al. show that this awareness is still strikingly uneven around the world, with basic education being the "single strongest predictor" for understanding of climate change (1). Disturbingly, awareness is weakest in those parts of the world (sub-Saharan Africa, India, Southeast Asia) which are most vulnerable to climatic shifts. One might make the argument, however, that people in these areas have a greater *lived* understanding of climate change, in the sense that they are directly experiencing its effects in their everyday lives.

summits under the United Nations Framework Convention on Climate Change (UNFCCC) since 1992. In December 2015, the UNFCCC members agreed upon a semi-binding climate treaty, the Paris Agreement. The Agreement, which has not yet come into force, seeks to lay the geopolitical groundwork for gradual international reduction of greenhouse gas emissions, enforced through a system of mutual monitoring at "stock-taking" gatherings of signatory countries (UNFCCC 2015, Item 20, 4). This Agreement is premised upon a shared recognition that a global temperature increase of 2° C. or more above preindustrial averages would signal the Earth's arrival into a truly dangerous geobiospheric state of affairs (UNFCCC 2015 Article 2, 22; Article 4, 22-23).

This is true enough, though there is now wide recognition that temperature increases below the 2° C. rise would also produce quite dangerous changes, and that the 2° magic number is in fact rather arbitrary and questionably effective as a guide to policy (CarbonBrief 2014, Evans 2014, Victor and Kennel 2014). In any case, the target is highly unlikely to be actually met - international political will to regulate emissions is weak, the Paris Agreement itself is a lackluster vehicle for directing that will, and much of the change is already 'baked-in' to the geobiosphere, meaning that even aggressive emissions mitigation efforts enacted immediately on a global scale would not be able to prevent major changes (Ball 2014, Le Page 2015). Indeed, projections for temperature increase routinely estimate a rise double or even triple the 2° benchmark (IPCC 2014). The expected disasters are by now familiar - rising sea levels, wildfires, drought, crop failure, conflict, displacement, propagation of vector-borne diseases, and mass extinction of non-human nature, to name just a few. There is also the threat of positive feedback mechanisms intensifying and accelerating geobiospheric changes - for example, thawing permafrost in northern latitudes may release massive quantities of previously sequestered carbon into the atmosphere, and melting ice reduces the Earth's albedo (its ability to reflect radiation), causing greater absorption of atmospheric energy and producing more ice-melt (NASA n.d.). Importantly, all of these changes have ceased being theoretical: climate crisis is

now firmly in the present tense. Alberta burns today, the Solomon Islands drown today, sub-Saharan Africa starves today, and we cannot continue to think and act as if they are not.¹⁰

But as I've suggested, this isn't the whole story. So far, I've referred to a "world-ecologic crisis" and criticized the dominance of climate change over the discourse about the human-nature relationship, and the future of that relationship. What do I mean by this? By "world-ecologic crisis", I mean to imply a systemic (structural) problem in the global regime which organizes (human and non-human) nature and economy: capitalism. Climate change is ultimately the product of capitalism, but it's not just an effect, an epiphenomenon: rather, it's a *symptom*, a sign of deep problems in the larger system. And it's not the only symptom. Alongside climate change, we can place phenomena like increasing bacterial resistance to antibiotic drugs (Tavernise et al. 2016), the accelerating herbicide/'super-weed' treadmill in industrial agriculture (Neuman and Pollack 2010), accumulating zones of environmental toxicity in developed regions (Moore 2015, 274), and the long-term stagnation of agricultural productivity under neoliberalism (Moore 2015, 255-56), along with a host of other things that might at first glance seem disconnected from one another. The through-line of these disparate processes - together composing the world-ecologic crisis - is capital, finally encountering terminal barriers to its peculiar method of incessant expansion. Capitalism is a logic that pervades the world (that is, it *creates* a world in its image - a *world-system*¹¹), and that logic is dependent on (1) a perpetual and accelerating rate of capital accumulation, and (2) exploitative and exhaustive relations of production with the thing we call *nature* - humans and non-humans, market and forest, city and biome. It stands to reason, then, that if the constituent parts of these relations enter into crisis (manifesting in many ways, but perhaps classifiable as *exhaustion* and *resistance*), then the relations themselves, the logic itself, will be in crisis, too - and this

¹⁰ See, respectively, Lukacs 2016; Lambie and Graham-Harrison 2016, Mathiesen 2016, and Reuters 2016; Cho 2016 and Tierney, Ummenhofer, and deMenocal 2015.

¹¹ Wallerstein 2004, 17.

condition of unpredictability will thus suffuse the entire world-system, provoking reactions social, economic, environmental, and biological in character (Moore 2015).

Isn't this overanalyzing our situation? Maybe climate change is an externality of capitalism, but we've controlled those kinds of things before, and capitalism is a dynamic system - can't we just trust it to figure out a way past the crisis? Perhaps I wish that were true, that people in positions of power could just focus on CO₂ and making solar panels and growing our way through this crisis. But a growing body of empirical evidence indicates that climate change (or more precisely, the greenhouse effect in the atmosphere) is in fact just one of many *structural limits* to capitalism - not surpassable obstacles, temporary bumps in the road, but the *end* of that road. The reason has to do with the precise way in which capitalism operates with regards to 'nature'.

My guide in this territory is Jason W. Moore, an environmental historian who in 2015 published a pathbreaking account of capitalism's historical relationship to nature, *Capitalism in the Web of Life*. It is from him that I take the term *world-ecology* and my understanding of capitalism as a "way of organizing nature" (2015, 2), instead of just a social or economic system that acts upon external nature. For Moore, capitalism and nature¹² are co-productive, dialectical - or even more than this, they are so bound up with each other that they can be considered one and the same. Viewed this way, those things we describe as human structures - the state, the market, the cultural landscape - are constituted as subjects through a manifold of unified relationships with nature "*all the way down and through*" (2015, 6-8). *Capitalism in the Web of Life* is an ambitious work, operating as both a richly detailed analysis of historical capitalism-and-nature (though Moore's preferred formulation is capitalism-*in*-nature) and a relational-

¹² 'Nature' was rightly described by Raymond Williams (1985) as "perhaps the most complex word in the language", connoting no fewer than three highly unstable areas of reference: "(i) the essential quantity and character of something; (ii) the inherent force which directs either the world or human beings or both; (iii) the material world itself, taken as including or not including human beings." Moore is relentlessly critical of the conceptual language about this idea, and tries to overcome what he sees as the otherness inherent in the word by using the Greek *oikeios* to describe the nature-capital life-making nexus (2015, 8). Still, he (and I) strain to escape 'nature'. I use the term freely here, but I am well aware of its latent Cartesian pitfalls.

ontological critique of the (for him) pernicious intellectual separation between 'Society' and 'Nature', what Moore calls the Cartesian binary.¹³ This second dimension of the book has come under critique for ignoring or misrepresenting important intellectual attacks on that binary¹⁴ and for overemphasizing its importance as a mainly scholarly conceit, instead of as a material force operating within capitalism (Nelson 2016, Out of the Woods 2016). For our purposes, it's enough to acknowledge the ontological irreality - but material and conceptual significance - of the Enlightenment Nature/Society binary, which has been subject to critical deconstruction for centuries.

Far more relevant to my argument at hand (concerning the necessity of moving beyond the narrow 'climate change' discourse of world-ecologic crisis) is Moore's empirical and theoretical analysis of the capital-nature relationship at a vast spatio-temporal (which we can call *world-historical*) scale. His contribution here is important. Sara Nelson summarizes it well in her excellent review (2016) of *Capitalism in the Web of Life*:

Moore undertakes a revision of Marxian value theory that holds much promise for scholarship in resource, agricultural, and animal geographies, and for critical engagements with “neoliberal natures”. In brief, Marx’s labor theory of value states that the substance of value is abstract labor, and its measure is (in David Harvey’s [2006] terms) socially-necessary labor-time (p.53). As Marxist-feminists have long argued, however, the privileged status accorded to wage labor in capitalism and in Marxian theory occludes the unpaid, gendered work that both reproduces labor-power and determines its value (e.g. Federici 2012; Fortunati 1996). Drawing on this tradition and taking up George Caffentzis’s (1992) concept of “work/energy”, Moore links the appropriation of unpaid reproductive labor with the appropriation of the unpaid work/energy of extra-human natures. That is, any increase in labor productivity is predicated on the production and appropriation of “Cheap Nature” as “a rising stream of low-cost food, labor-power, energy, and raw materials to the factory gates” (p.53). The law of value, Moore argues, is therefore “a law of Cheap Nature”.

In historical terms, this means that every new wave of accumulation that expands commodity relations is accompanied by a disproportionately large wave of appropriation of unpaid work/energy that underpins the increase in labor productivity. Abstract social labor thus depends on the production and appropriation of “abstract social nature”, a process that entails new scientific practices, measurement techniques, and representational forms alongside direct techniques of violence and dispossession. It is

¹³ From René Descartes' famous argument for an ontological separation between 'body' and 'mind' (Hatfield 2001).

¹⁴ For example, the work of Baruch Spinoza, whose notion of the immanent godliness of nature is foundational for this area of philosophy (Nelson 2016).

here that Moore marks a crucial distinction between capitalism as a historical project that must render nature external in order to ensure its appropriation, and capitalism as a historical process that involves the appropriation of both human and non-human nature. "Importantly," Moore writes, "capital's appropriation of unpaid work transcends the Cartesian divide, encompassing both human and extra-human work outside, but necessary to, the circuit of capital and the production of value" (p.55).¹⁵

Capitalism, then, has two essential techniques for the pursuit of capital accumulation: commodification (the transformation of things -including human wage-labor - into market-exchangeable products with monetary values) and appropriation ("those extra-economic processes that identify, secure, and channel unpaid work outside the commodity system into the circuit of capital" [Moore 2015, 17]). Historically, every increase in commodified labor productivity within the capitalist world-system is necessarily enabled by a large amount of unpaid work: by women, colonies, and - crucially - *nature*. Capital desires appropriated natures, because these are much cheaper than commodified spaces - cheaper for *capital*, that is. Appropriation certainly isn't 'cheap' for the natures in question. Why? Moore speaks of a tendency of the 'ecological surplus' ("the ratio of the system-wide mass of capital to the system-wide appropriation of unpaid work/energy" [2015, 95]) to fall over time, for reasons of entropy ("matter/energy move from more useful to less useful forms within the prevailing configuration of the *oikeios*"), the tendency of accumulated capital to rise faster than the new appropriation of unpaid work/energy ("Capital's bets on the future grow faster than the practical activity of locating new Cheap Natures"), the speedier reproduction time of capital (which requires *accelerated* accumulation at an acceptable rate of profit) versus the rest of nature, and the long-run increase in the wastefulness of capital accumulation (as manifested, for example, in "the colossal energy-inefficiency of industrial agriculture") (2015, 97-98).

Historically, the tendency of the ecological surplus to fall has been overcome by capitalism's relentless - and brutally violent - drive to discover new 'frontiers' of commodity

¹⁵ Nelson 2016, paragraphs 2-3. Nelson references, respectively, David Harvey's *The Limits to Capital* (2006), Silvia Federeci's *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle* (2012), Leopoldina Fortunati's *The Arcane of Reproduction: Housework, Prostitution, Labor and Capital* (1996), and George Caffentzis' essay "The Work/Energy Crisis in the Apocalypse" in *Midnight Oil: Work, Energy, War, 1973-1992* (1992).

appropriation - new forests, new mines, new human and nonhuman populations to do cheap work. Eventually the frontier-drive was able to appropriate the labor of ancient geobiospheric processes, in the form of fossil fuels. But increasingly capital's exploitative thrusts of commodification and appropriation are activating what Moore calls *negative-value* - "the emergence of historical natures that are increasingly hostile to capital accumulation, and which can be temporarily fixed (if at all) only through increasingly costly and toxic strategies." (98)

Negative value is less the product of exhaustion than of resistance, and akin to class struggle: "At some level, all life rebels against the value/monoculture nexus of modernity, from farm to factory. No one, no being, wants to do the same thing, all day, every day... Extra-human natures, too, resist the grim compulsions of economic equivalence..." (205). The frontiers close - productivity slows, superweeds triumph, and the climate becomes ever less favorable. Moore summarizes:

Capitalist technological advance not only produces a tendency for industrial production to run ahead of its raw materials supply - Marx's "general law" of underproduction. It also produces a *general law of overpollution*: the tendency to enclose and fill up waste frontiers faster than it can locate new ones. Thus the non-linear slope of the waste accumulation curve over the *longue durée*, with a series of sharp upticks after 1945, 1975, and 2008. As "resource quality" - a wretched term - declines, it is not only more costly to extract work/energy, *it becomes more toxic*. Thus the transition from placer to cyanide gold mining, or the rising share of strip mining in world coal production. The result today is a world in which every nook and cranny bears the impress of capital's toxification: from heavy metals in Arctic glaciers and children's blood, to the plastic "garbage patches" in the Atlantic and Pacific Oceans, to rising atmospheric concentrations of CO₂.

This unsavory convergence - of nature-as-tap and nature-as-sink - is rapidly undermining the possibility for "normal" capitalism to survive, over the medium run of the next 20-30 years. The contradictions of capitalism have always been escapable, until now, because there were escape hatches: peasantries to be proletarianized, new oil fields to exploit, new forests to convert to cash-crop agriculture. These processes continue, albeit under progressively more ruthless conditions. What merits our attention today - and what many Greens, unduly focused on what capitalism *does* to nature (the degradation question) rather than how nature *works for* capitalism (the work/energy question), have overlooked - is how capital is throwing up limits of an entirely new character.¹⁶

¹⁶ Moore 2015, 280 (emphasis in original). *Longue durée* (literally 'long duration', from the French) is a term used in critical historiography to designate an analysis which prioritizes slowly-evolving structures over transient events. Here Moore uses it to refer to the history of capitalism itself, from its earliest origins in the late 15th century.

Moore identifies two key negative-value forces operating in the capitalist world-ecology today. The first are the superweeds I've already mentioned, which pose a severe challenge to neoliberal efforts to enact a new food yield boom (to collapse food prices, expand the world proletariat, and thus enact a new structural cycle of accumulation). The biotech revolution of genetically modified organisms (GMOs) in global agriculture¹⁷ has been effective in redistributing income from farmers to core-country investors, but has produced only weak increases in yields. (270) What GMOs like Monsanto's RoundUp Ready *have* produced is a rapid proliferation of weed varieties resistant to herbicides: by the end of 2013, sixty million acres of the US soy crop - *one in every four row crop acres* - were found to be affected by superweeds, with similar patterns in the Brazilian and Argentinian soy industries (272-74). In response, farmers have returned to more expensive - and more toxic - herbicides like 2,4-D, long known as a potent carcinogen and ecological disruptor (Carson 2002 [1962]). This toxification threatens agricultural laborers, food consumers, and ecosystems, and the growing economic cost of suppressing superweeds hardly bodes well for an already-dubious Second Green Revolution (Christian Science Monitor 2008). In the absence of new easily accessible frontiers of appropriation, then, the rapid evolution and spread of superweeds indicates more than just a technical challenge for global agribusiness. Rather, Moore tells us:

The superweed effect marks a quantity-quality shift in the history of an enduring contradiction. Capitalism's long history of agro-ecological control regimes began with the monocultures and highly regimented work disciplines of early modern plantations. Today, it has crossed a world-historical threshold with molecular and other disciplinary projects. The functionality of abstract social nature is breaking down. This shift is a new era of extra-human nature's resistance, in which the short-run fixes not only become progressively shorter-run, but progressively more toxic.¹⁸

The second key negative-value process (though Moore argues there are others, including financialization in food commodity markets and epidemics of diseases like cancer) brings us back to where we began: climate change. Climate change's current and future effects pose a

¹⁷ "By 2011, GMO crops had grown from virtually nothing in 1996 to 10 percent of global cropland, cultivated by 16.7 million farmers in 29 countries." (Moore 2015, 270)

¹⁸ Moore 2015, 274.

severe threat to capital's ability to sustain cheap appropriation in the realm of global agriculture, which has already suffered significantly at the hands of drought, and will only be further harmed by global water shortages as aquifers are depleted and global precipitation patterns are altered (275). But the importance of climate change is much greater than this, argues Moore. When capitalism is understood as a world-ecology dependent on successive waves of cheap nature-appropriation, climate change represents *the* structural limit to capitalism:

Climate change is the paradigm moment of the transition to negative-value. There is no conceivable way that capitalism can address climate change in any meaningful way, because climate change poses a fundamental challenge to the old productivist model. That challenge has two major expressions. The first says that production systems must internalize waste costs, including of course greenhouse emissions. The second says that the internalization of waste costs cannot be offset through new Cheap Nature strategies that are themselves highly polluting. In other words, any effective response to climate change will have to go forward without the myth - and practice - of unpaid work and unpaid waste.

The paired, but spatially and temporally uneven, processes of appropriating unpaid work/energy and toxifying the biosphere have reached a breaking point. The accumulation of negative-value, immanent but latent from the origins of capitalism, is now issuing contradictions that can no longer be "fixed" by technical, organizational, or imperial restructuring. The ongoing closure of frontiers limits the capacity of capital and states to attenuate the rising costs of production and the geometrically rising volume of waste from the global determination of profitability. If capitalism is an "economy of unpaid costs",¹⁹ the bills are coming due.²⁰

The appropriation/toxification contradiction posed by climate change isn't the only structural problem at issue for capitalism. Indeed, says Moore, these awful "socio-ecological externalities" are important but only part of the really significant shift: the erosion, finally, of the basic logic of capital accumulation: "The combination of depletion and unpredictability - co-producing rising costs of production - is the hallmark of the ongoing transition from 'surplus' to 'negative' value. The core processes of capital accumulation are now generating increasingly direct and immediate barriers to the expanded reproduction of capital." (276).

But there's something missing here. Capitalism isn't an organism that makes independent decisions. Rather, it is a hegemonic logic shared by billions of human actors,

¹⁹ Quote from Kapp 1950.

²⁰ Moore 2015, 276.

enabled and limited by power, making superficially "economic" decisions which are actually, *always*, political decisions: capital as realized power. I think Moore comes too close to autonomizing capital, giving it its own capacity to respond to crisis and develop clever new means of appropriation - or to die, when its structural contradictions finally rend it apart. His analysis of climate change as foreclosing - more or less permanently - on capital's historic appropriative strategy makes theoretical sense and is supported by his deep empirical work.²¹ But does the expiration of the appropriative strategy really imply - *on its own* - the death of capitalism? Isn't a future of long-term capitalist stagnation more plausible? And even if the limits did herald the arrival of a new mode of accumulation, would that system be somehow better - would capitalists realize the need for a "relational holism" and stop trying to atomize, discipline, and conquer to continue accumulation (276)?

Here we encounter a weakness of *Capitalism in the Web of Life*. I think Moore underplays the role of political struggle in affecting the long-term trajectory of capitalism, especially in the long-term trajectory of *now*, as we sail the seas of world-ecologic crisis. His work gives us a sophisticated theory of capital's historical relationship with nature and presents a moderately strong (though preliminary, and certainly deserving of more research and theorization) case for the existence of ecological limits to our present mode of accumulation via "Cheap Nature" (53). But carrying these insights forward into *political* analysis and action remains the task of revolutionaries everywhere. In a sense, these world-historic contradictions are present (and not latent - they're very much active barriers, evolving and sparring with capital), but to really bring about a dramatic break with capital's logic, our political action needs to work in solidarity with these ecological limits and consciously energize them, accelerate them to make capital pay its debts sooner rather than later. This, broadly, is the emancipatory agenda for the declining world-ecology. In discussing Moore's analysis of superweeds, Sara Nelson remarks that "human and extra-human natures... occupy a continuous terrain of class struggle

²¹ Unfortunately, I don't have space to do justice to Moore's contributions in the domain of capitalist/environmental history, which are significant enough that the book could stand alone simply as a vast empirical survey.

linking 'environmental' issues to labor politics."²² And the Out of the Woods collective writes in its January 2016 review of *Capitalism in the Web of Life*:

...capitalism's current crisis can be reassessed as either developmental or epochal. To us, it will be epochal only to the extent to which we participate in making it so. Getting out of the ideology of Green Arithmetic requires much more than better thinking about or developing better language for the world we live in. It requires that we begin to operate as if nature were truly important to capitalism; and by nature, we mean us.

The political upshot of such a move is that our struggles against capital appear less symbolic, and more material; not as dialectical, but necessarily messy; not marginal, but crucial to capitalism's demise. We would need deeper and more coordinated global organization of ecological agitation; blockades by workers, scientists, indigenous peoples, farmers, and refugees. We would still need, that is to say, a struggle. While Moore rarely says as much, *the key for us is that we cannot wait for capitalism's epochal crisis nor think our way into another world; we must begin building it today.*²³

Our political project must revolve around these limits: recognizing their operation, seeing their struggle (of superweeds, of ancient carbon) as *our* struggle, and finding in the ecological - yes, the *natural* - resistance to capitalism a shared identity of conflict, a total class war for survival.

In other words, *we must become the ecological limits to capitalism.*

3. Undermining Leviathan

As should be clear by now, I don't think that the mainstream body of climate science, discourse, and policy - what we can call the hegemonic climate *episteme*²⁴ - offers much potential at all for grinding capital into its limits, let alone preserving a "recognizable socio-nature" (Bigger 2012). Instead, the UNFCCC/IPCC process and the discourse surrounding it seeks to find ways to make effective climate mitigation compatible with capital, despite the

²² Nelson 2016, paragraph 17.

²³ Out of the Woods 2016, paragraphs 26-27 (emphasis added).

²⁴ Foucault 1980: "I would define the episteme retrospectively as the strategic apparatus which permits of separating out from among all the statements which are possible those that will be acceptable within, I won't say a scientific theory, but a field of scientificity, and which it is possible to say are true or false. The episteme is the 'apparatus' which makes possible the separation, not of the true from the false, but of what may from what may not be characterised as scientific." (197)

structural impossibility of such a task. And we know that this episteme is too narrow, perceiving climate change not as intimately connected with capitalism in the world-ecologic crisis, but as a technical challenge to be solved, à la Slavoj Žižek's formulation of the conflict- (and ideology) averse "post-politics"²⁵ broadly characteristic of neoliberal governance strategies, especially at the international scale (Mazower 2013, 415-27). The climate episteme has recently seen moves to consider the human nature relationship in a deep historical fashion, with the proposed "Anthropocene" periodization of recent earth-history as dominated by humans (Waters et al. 2016). This is undoubtedly a positive development for mainstream thinking about the human-nature relationship. But if the Anthropocene narrative is a step forward for empirically historicizing this relationship, by substituting 'human nature' for capital, it remains superficial in its analysis of political economy (foreclosing on a proposed "Capitalocene" which would distribute historical responsibility for world-ecologic crisis much more fairly²⁶) and deeply unhelpful for those trying to construct a radical world-ecologic politics.

A useful way to work around this episteme is to zoom out, situating it critically as one of several formations emerging in response to the world-ecologic crisis. By doing this, we can situate our radical limits-to-capital politics in a world-historic frame, which is essential if we are to confront what is very much a global and long-term crisis. Here, we can speak of the mainstream climate episteme mainly in terms of its attached political project: the familiar UNFCCC/IPCC "regime complex", in Keohane and Victor's formulation (2011). But that regime complex isn't the only game in town for the ongoing world-ecologic *bouleversement*, as an important recent contribution from critical geography makes clear. Joel Wainwright and Geoff Mann (2013) theorize a basic architecture of macro-political responses to climate change along

²⁵ "In post-politics, the conflict of global ideological visions embodied in different parties which compete for power is replaced by the collaboration of enlightened technocrats (economists, public opinion specialists...) and liberal multiculturalists; via the process of negotiation of interests, a compromise is reached in the guise of a more or less universal consensus." (Žižek 1999, 198)

²⁶ See Malm and Hornborg 2014 and Moore 2014a, 2014b, and 2016.

two axes: relationship to capitalism, and attitude towards planetary sovereignty.²⁷ Following Carl Schmitt (and, in turn, Thomas Hobbes and the Book of Job), Wainwright and Mann refer to climate "Leviathan" (signifying total sovereignty) and "Behemoth" (the anti-sovereign), and then distinguish two sub-forms - capitalist or anti-capitalist - for each. Importantly, each of these forms is still either relatively young and undeveloped or not yet existing at all. The most important for this analysis is the non-capitalist, anti-planetary sovereign configuration. It will be helpful, however to explore the other political forms that Wainwright and Mann identify, because they stand to compete against a global anticapitalist movement. Doing so also helps us differentiate between the different possible ends to which the object of this analysis - fossil fuel divestment (FFD) - could be put. The most salient choice in this regard is between ecological anticapitalism and liberal-capitalist (but wrapped in a progressive or Green cloak) Leviathan.

The currently dominant configuration, and the most advanced, is climate Leviathan²⁸ composed of the climate change regime complex²⁹, of the UNFCCC and affiliated international organizations and NGOs. Leviathan drives towards the old dream of a global state, seizing the world-ecologic crisis as its *raison d'être*, the chance to form "a regulatory sovereign armed with

²⁷ Regarding the latter: "What we call 'climate Leviathan' exists to the precise extent that some sovereign exists who can decide on the exception, declare an emergency, and decide who may emit carbon and who cannot. This sovereign must be planetary in a dual sense: capable of acting at the scale of the Earth's atmosphere (since carbon sequestration presents itself as a massive collective action problem), but also because it must act in the name of planetary management - for the sake of *life on Earth*." (Wainwright and Mann 2013, 5; emphasis in original) The notion of the sovereign *exception* is from Agamben (2005).

²⁸ To clarify: Wainwright and Mann use "Leviathan" in a double sense. The broader conception is of a regime that asserts planetary sovereignty in the name of climate regulation (see footnote 30 above). This Leviathan includes "climate Mao", which I will discuss in a moment. The more specific form of 'Leviathan' that they use, and the one I will refer to, is of the capitalist, Western/Northern climate change regime complex and its affiliated episteme. The same construction goes for "Behemoth", which generally signifies anti-sovereign configurations, but in their specific use refers to *capitalist* anti-sovereignty. Also worth noting: Wainwright and Mann's theoretical framework concerns climate change, not the world-ecologic crisis that Moore and I refer to. But these ideas are compatible, as I will show.

²⁹ Which we can also think about as a particular wing of Chimni's (2004) capitalist super-state, one which will grow larger as other wings (e.g. the IMF, World Bank, and the International Criminal Court, as well as regional and security blocs like the EU and NATO) are drafted into Leviathan's service.

popular legitimacy, a panopticon-like capacity to monitor and discipline carbon production, consumption, and exchange, and binding technical authority on scientific issues" to successfully construct ecologic crisis as an opportunity for global capital (6). Leviathan treats capital (with, of course, some measure of state control) as the solution to world-ecologic crisis: "carbon emissions permits ('cap-and-trade'), judicious market assessments of 'tradeoffs', nuclear power, corporate leadership, carbon capture and storage, green finance, and ultimately, geoengineering: this is Leviathan's lifeblood." (6) To enforce its authority, Leviathan will annex and expand the existing securitization functions of global governance, possibly through established UN methods - peacekeeping, interventions, and international criminal tribunals, justified through human rights, good governance, and right-to-protect (R2P) discourses - but now imbued with a general imperative to "protect" the climate and life on Earth. One also imagines old tools of economic imperialism being deployed to ensure nations are meeting their emissions targets and shifting to (privately-owned) green energy and transportation infrastructures: Green structural adjustment. And of course there is always the possibility of powerful member states and blocs within Leviathan - the US, EU, NATO - fulfilling these same roles on their own, for the sake of Leviathan. So far, though, this is mostly speculative.³⁰ The Western liberal-capitalist vision of planetary Leviathan faces significant obstacles, most importantly the need to accommodate India and (nominally noncapitalist, and certainly not liberal) China in any binding carbon treaties. Furthermore, the tendency of capitalism to produce gaping inequalities, both intra- and inter-nationally, seriously complicates efforts at cross-class coalitions to reduce emissions (8). And finally there are the deep structural contradictions that climate change poses for capitalism as a world-ecology, which I have already described. For these reasons, Leviathan seems unlikely to achieve a "confident hegemony" - though it also won't "die a quiet death." (8)

³⁰ Though one could perhaps argue that Leviathan has already achieved some tangible, if ad-hoc and questionably effective, functions, like the policing of human consequences related to climate change (particularly mass refugee movements in the Mediterranean region).

Opposed explicitly to Leviathan is something more familiar to American observers: 'climate Behemoth', capitalist and opposed to global sovereignty (but quite amenable to militarized nationalism), emphasizing climate denial and withdrawal, and utilizing an ideological form disturbingly immune to reason. Currently this manifests in the populist forces propelling Donald Trump in the US presidential contest, though it is probably premature to ascribe to him a coherent political philosophy (the putative 'Trumpism' already starting to pop up in the discourse).³¹ Perhaps just as parlous are those seemingly reasonable strains of conservative or libertarian ideology that posit climate change as real but radically apolitical: climate change as a natural consequence of human nature and not something that merits political changes, which would compromise the holy (and illusory) free market. Here we can group thinkers like Bjørn Lomborg (2001), and more generally "the chorus of ridicule aimed at 'alarmists' who call for reorganizing political-economic life to address environmental change." (Wainwright and Mann 2013, 14) Despite the spin about the Obama administration's commitment to the Paris Agreement³², Behemoth currently prevents the United States from engaging in full participation in the Leviathan-building project spearheaded by other advanced capitalist states, dimming prospects for (neo-?) liberal capitalist global sovereignty, at least for the foreseeable future.³³ A similar situation may perhaps be discerned in Australia (Taylor 2015). Insofar as it resists a liberal-capitalist global sovereign (still the most likely hegemon in the world-ecologic political struggle, at least for a while), Behemoth is to be welcomed - but these reactionary proto-fascisms and their cynical intellectual defenders will continue to be a

³¹ For a particularly asinine example, see Lind 2016 (and its rebuttal in Naureckas 2016).

³² Which may have been compromised from the start by faulty measurements of methane leakage from the American fracking industry - see McKibben 2016.

³³ The question of neoliberalism (the hegemonic form of global capital since the 1990s) in this framework is an interesting one - does 'neoliberalism' persist, or has it now evolved into something qualitatively different? Unfortunately, pinpointing the neoliberal transition (or identifying a failed transition) will probably have to be a post hoc analysis. A phenomenon as complex and diffuse as neoliberalism engenders a Minerva's Owl problem - writing its eulogy (or naming its successor) will probably take some time (Gott 2016).

dangerous foe for Left movements, as they always have. And needless to say, capitalist Behemoth offers effectively no possibility of a just response to world-ecologic crisis.

Wainwright and Mann also propose two noncapitalist configurations. The first, 'climate Mao', is so far just a theoretical possibility, but does present an interesting line of speculation. Mao, true to its name, implies a noncapitalist construction of Leviathan characterized by the 'just terror' of the collective wielding an autocratic and very powerful sovereign against the capitalist fossil economy. The potential speed and scale of the changes that an illiberal sovereign like this could enact would indeed be sufficient for confronting (some dimensions of) the world-ecologic crisis, far more so than liberal capitalist Leviathan:

"If climate science is even half-right in its forecasts, the liberal model of democracy - even in its idealized Rawlsian or Habermasian formulations - is at best too slow, at worst a devastating distraction. Climate Mao reflects the demand for revolutionary, state-led transformation today." (Wainwright and Mann 2013, 9)

However, Wainwright and Mann are very clear that the realization of climate Mao would depend on mass revolutionary activity of the Chinese peasantry and proletariat to seize control of the state, a state which is already (though partially, and perhaps reluctantly) invested in building climate Leviathan.

The conditions ("massive and marginalized peasantries and proletariats, historical experience and ideology, existing state capacity, and skyrocketing carbon emissions") may indeed be present in China (and currently nowhere else, in their assessment) for such a transformation, but at least for the moment they are not coalescing into anything approaching a viable climate Mao (10).³⁴ This is especially true considering the high barrier to entry (state seizure) that climate Mao theoretically faces in those countries where it might arise. On a functional level climate Mao has seen a few limited demonstrations of effectiveness - witness the rapid clampdown on Beijing air pollution during the 2008 Olympics, or the Three-North Shelter Forest Program (the 'Great Green Wall' of forestation along 4800 km of Gobi Desert perimeter) (Wainwright and Mann 2013, 10). But these steps are being taken in a context of capitalist

³⁴ But see Hernández 2016.

Chinese state interest within the emerging climate Leviathan. In addition, Wainwright and Mann argue that Mao, operating as a united front of authoritarian (and militarized) state socialisms, would hardly be a just or peaceful system (9-13). Still, the speed and scale of action that climate Mao could undertake to mitigate world-ecologic crisis, and the political unity it offers to oppose the capitalist value-form, are intriguing and deserving of further research within this framework (Bigger 2012).

For a non-reactionary and post-sovereign counter to climate Leviathan, we need to look elsewhere, to what Wainwright and Mann, borrowing from Kojin Karatani, call 'climate X' (Karatani 2003; 2008). Building such a response - democratic (or counter-sovereign), noncapitalist, and effective against world-ecologic crisis - is a tall order, but a necessary project for the Left. In other words,

only in a world that is no longer organized by the value form, and only where sovereignty has become so deformed that the political can no longer be justified by the sovereign exception, is it possible to imagine a just response to climate change. (Wainwright and Mann 2013, 15)

This is revolutionary democracy opposed to the capital-state-labor triad and emerging from the ground up in the form of many independent movements, often manifesting in struggles against fossil fuel infrastructure and economic actors involved in toxification of local environments. Unlike climate Mao, climate X already seems to exist, though like Leviathan and Behemoth is it still young and unformed. It manifests today under the umbrellas of "climate justice" and (related, but still separate) "food sovereignty." This constellation of many local movements are connected with the support of a number of NGOs and thousands of collectives and cells, and rally around certain larger ideas articulated by movement writers and allied media outlets.³⁵

Climate X is highly diffuse and therefore difficult to define (hence Wainwright and Mann's 'X' moniker). Patrick Bigger (2012) accuses it of having "no scalar ontology", and indeed it essentially lacks a consistent identity, ideological basis, or organizational form. However, this definitional flexibility may be an asset, and in any case is probably an inevitable compromise for

³⁵ For a good snapshot of actually-existing climate X around the world, see Klein 2015.

a theory that takes in such a diverse set of rebellions. Perhaps the common denominator for these movements is the rejection - at least for a time - of the ability or desirability of state intervention to save them from the violence of capital and the chaos of world-ecologic crisis. In this vein, climate X can be taken to include any movement that "rejects both capital and the sovereign exclusion" (Wainwright and Mann 2013, 16). Minqi Li presents a possible outline of climate X in participatory terms:

Hopefully, people throughout the world will engage in a transparent, rational and democratic debate which is open not only to economic and political leaders and expert-intellectuals, but also to the broad masses of workers and peasants. Through such a global collective debate, a democratic consensus could emerge that would decide on a path of global social transformation that would in turn lead to climate stabilization... This may sound too idealistic. But can we really count on the world's existing elites to accomplish climate stabilization while meeting the world population's basic needs? Ultimately, *climate stabilization can only be achieved if the great majority of the world's population...understand the implications, relate these implications to their own lives, and actively... participate in the global effort of stabilization.*³⁶

In a response to a symposium³⁷ held on "Climate Leviathan", in which several critical geographers criticized the coherence of X and its feasibility as a political project, Wainwright and Mann defended the concept, finding in its ambiguity the very quality for its success:

We agree that our language regarding climate X is ambiguous.... Yet such ambiguities do not prevent us from conceptualizing X as a left political strategy or laboring to realize it as revolutionary practice. We see at least two possibilities for such expressions.... On one hand, there is the possibility represented best by the early Marx, both in his critique of Hegel's conception of sovereignty (1843-44) as well as in his refusal to define communism except as "the real movement which abolishes the present state of things" (1845). On the other hand there is the possibility represented by [Walter] Benjamin and his conception of the politically-resolute witness to crisis. That these thinkers produced these ambiguous positions is part of their greatness. They are the logical result of the impossible-yet-necessary structure of their political thought, a structure which demands the politicization of the present and an incessant questioning of the future - neither nostalgia for a lost past, nor utopian blueprints. We would like to think the same of climate X.³⁸

They go on:

³⁶ Quoted in Wainwright and Mann 2013, 16. Emphasis added.

³⁷ <https://antipodefoundation.org/2012/07/19/symposium-on-geoff-mann-and-joel-wainwrights-climate-leviathan/>.

³⁸ Wainwright and Mann 2012, paragraph 15. The Marx works they reference are *Critique of Hegel's Philosophy of Right* and *The German Ideology*, respectively.

We can only understand the present by coming to grips with those contingent historical dynamics that combine to make it necessarily what it is. Only then can we glance, tentatively, into the future. This history is not without hope, but our efforts to rally it to our current conjuncture are inevitably fraught. There is certainly no reason to expect X will ever consolidate at this or that scale, which means that even if it is to ultimately realize itself, it will almost certainly never be a unified phenomenon, such as a regime or mode of organization. We might expect it to emerge as a ragtag collection of the many. We cannot say. X, after all, is a variable.

To assert that climate X is constitutively incomplete, as we do, may seem like an elaborate means to hide the imprecision of our analysis. We prefer to see it as an intellectually responsible posture in radically uncertain times. *Our task, we might say, is not ultimately positive, but defined by the labor of negation; not to draw up blueprints of an emancipated world, but to reject Leviathan, Mao, and Behemoth.* What remains is all we have: an X to solve for, a world to win.³⁹

Framed this way, we see that climate X is not just politically, but *ontologically* opposed to Leviathan: a negative project constituted in the principled rejection of unacceptable alternatives.⁴⁰ This is the essential feature of X that makes it a powerful concept, and what could also make that concept a *real abstraction* with material force (Toscano 2008). I like conceptual climate X for this reason - it undermines Leviathan at a level beyond politics, challenging the foundation of what it *is* and can claim to *be*. But on a material level, I doubt that X can hope to defeat Leviathan without an energizing political force or analysis.⁴¹ Here I would like to put forward my earlier idea of an antisystemic praxis grounded in Moore's ecological limits to capitalism. On this subject, Sara Nelson notes the need for a "posthuman labor politics" that "might make ecological catastrophe a crisis for capital, while preventing capitalism from taking the rest of the world down with it."⁴² In essence, anticapitalist movements must act *as* ecological

³⁹ *ibid.* Paragraphs 23-24. Emphasis added.

⁴⁰ Here including climate Mao, though to what extent it is unclear (and will remain unclear if and until Mao actually arrives in the world-system).

⁴¹ Weber's notion of *substantive rationality* comes to mind here. Says Immanuel Wallerstein: "The concept of substantive rationality (Rationalität materiel) was put forth by Max Weber in contrast to formal rationality, in order to argue that formal rationality (the optimal means to given ends) was not the only form of rationality. Weber says of substantive rationality that it is 'full of ambiguities'. He uses it to mean the application of 'certain criteria of ultimate ends, whether they be ethical, political, utilitarian, hedonistic, feudal (ständisch), egalitarian, or whatever' in order to measure the consequences of economic action in terms of these values." (Wallerstein 2000; see also Weber 1968 [1922]).

⁴² Nelson 2015, paragraph 18.

limits to capital, organizing in solidarity with the appropriated (and deeply abused) cheap labor of historical natures - human and non-human. Taking this perspective into account - the posthuman (or transnatural) class war - enriches our understanding of X, giving it greater force, not so much as a political theory or organizing framework, but as part of an emerging political and ethical rationality counterpoised to that of the capitalist world-ecology.

Could this, then, be the germ of a *socialist* world-ecological episteme? Perhaps. It is beyond my ability to follow this line much further. Left unresolved is the question of climate Mao and its long-term interaction (conceptual and strategic) with those formations we can group under 'X'. Are revolutionary state seizure and abolition of capitalist relations feasible anywhere in the world-system, even in the context of accelerating crisis? And what about the middle path of democratic socialism, achieved through electoral means and opposed to Mao's 'Red Terror'? Given the present (though highly contingent) resurgence of an organized Left in several core countries (see Watkins 2016), isn't this a more relevant question? In any event, I am content to accept Wainwright and Mann's capital/sovereign schema as a workable frame for considering various current and future social movements, with the simple qualifier that I hope this perspective - especially the notion of climate X - is further theorized and debated on its merits, and that some of this theorization takes into account the emergent world-ecologic paradigm advanced by Moore and others.

Climate X has been characterized by exertions of grassroots political pressure and direct action to disrupt the fossil fuel industry and its state facilitators. However, there is an emerging sub-movement that uses a different core technique, and in a different setting: fossil fuel divestment (FFD), which demands that institutional investors, particularly universities, shift capital away from fossil fuel companies (FFCs). This movement, which first materialized in 2010⁴³, holds out the possibility of broadening the scope of political engagement around climate change and inflicting long-term political damage to the fossil fuel industry. Its most interesting

⁴³ Strictly speaking, this is not true: Greenpeace urged insurance companies to divest from fossil fuel companies during the 1990s, but the effort never gained traction (Ayling and Gunningham 2015; Leggett 1993; Paterson 2001).

dimension, however, is its engagement with the discourse and praxis of *climate justice*. FFD is far more than a means of attacking the drivers of world-ecologic crisis (and indeed it is quite limited in this capacity). Rather, I argue that FFD, in pursuit of climate justice, can be a class-transgressing movement for human-human *solidarity*, one which could perhaps also move X towards transnatural class politics.

4. Surveying FFD

FFD, like any large movement, is not a monolith - it is heterogeneous and evolving quickly. For the purposes of this analysis, we can identify various types of FFD by considering the framing strategies employed by individual campaigns - how campaigns understand FFD, how they identify their goals, and how they conceptualize their efforts as part of a broader struggle. I group these strategies into three general frames (here denoting, basically, 'strategy' or 'form'): moral, financial, and climate justice.⁴⁴ Which frame is present can tell us things about the relative depth of analysis and radicalization present in a given campaign, and whichever frame predominates in the global FFD movement will to a large extent determine FFD's world-historic significance. As I've already indicated, I think the adoption or rejection of climate justice framing and praxis is the key factor here, because climate justice entails building bridges of solidarity across classes, which pushes climate X further towards an anticapitalist rationality and helps X enact Moore's world-ecologic limits. However, the 'moral' strategy is also

⁴⁴ These are heuristic categories that break down rather easily under close examination. For instance, the distinctions I draw between the 'moral' and 'climate justice' frames are subtle - the main difference concerns direct solidarity-formation with crisis-affected groups, and the relative degree of activist radicalization. And of course, real-world FFD campaigns usually deploy a mixture of different arguments (for instance, focusing on the financial aspects of FFD when interacting with administrators but a moral or justice framing when communicating to students). However, these categories are useful for my purpose here: evaluating FFD's potential within climate X. This thesis does not undertake a close analysis of FFD in practice or its various ideological forms. Thankfully, these areas have been well-studied: I am indebted to Jessica Grady-Benson's excellent analysis (2014), as well as the article she co-authored with Brinda Sarathy (2015), and I rely on them here. I am limited, however, by the lack of recent empirical data on ideology in FFD campaigns - no analysis comparable to Grady-Benson and Sarathy's has since been conducted. In a fast-evolving movement like FFD, there is a clear need for continued empirical study.

qualitatively significant, as it rejects (to an extent) Žižek's 'post-politics' and is only a step or two removed from a full climate justice praxis. The financial frame is the weakest insofar as it employs what is essentially a capitalist rationality, and may actually endanger FFD's radical potential by exposing it to Leviathanic co-optation.

On its surface, fossil fuel divestment seeks to compel institutional investors to withdraw capital from FFCs, but the strategic goal of all forms of FFD is in fact *not* economic. The amount of capital that could potentially be divested by targeted investors is only a small amount of the market capitalization of FFCs⁴⁵, and moreover the market shares sold by divesting institutions will be purchased by other, less scrupulous, investors. The circulation of capital investment will continue to occur as long as FFCs have a viable business model. In addition, only a fraction of FFCs are actually exposed to the market: many of the largest oil companies in the world are nationalized, with stock that is not traded publicly. For these reasons and others related to the political economy of the fossil fuel industry, the goal of divestment is an indirect one - rather than making business hard in the short-run by devaluing stock, FFD (in principle) seeks to target the very viability of that business model over the long run. By creating an investment climate in which institutions are divesting en masse from FFCs (and risking public wrath if they don't), the FFD movement will have advanced a potentially powerful crisis of legitimacy for these companies (Ansar et al. 2013). That crisis would in turn bear negatively on FFC influence over the state and lead to stronger regulation of the industry.⁴⁶

⁴⁵ "Global university endowments, at \$450 billion, are a small drop in the bucket of the global financial market. Their portfolios are typically invested somewhere between 3 to 5 percent in fossil fuel accounts—tiny in comparison to the industry's \$4.5 trillion total." (Leber 2015; see also Ansar et al. 2013) For an excellent overview of the various economic implications of FFD, see Ansar et al. 2013, still probably the most cited analysis of FFD anywhere.

⁴⁶ For more information on the influence of the fossil fuel industry lobby over the American state, see Brulle 2014 and InfluenceMap 2016. Over Leviathan, see Sabido 2015 and InfluenceMap 2015. Also, one anonymous internet commenter suggests an additional consequence of FFD for the fossil fuel industry: strong campus movements which seek to delegitimize FFCs may have the effect of discouraging engineering and business students from pursuing jobs at those companies (semyorka [commenter], Carrington 2015).

Past divestment movements have only been effective in the degree to which they could inflict these kinds of powerful indirect blows. The anti-Apartheid divestment campaign (often cited as the premier example of divestment success) in fact had little or no financial effect on the South African economy (Teoh et al. 1999, Leber 2015). Rather, its consequences were indirect and political. One recent FFD analysis draws the correct conclusion from the anti-Apartheid comparison: "Fossil fuel divestment is meant to do to the carbon polluting industries like coal and oil what the South African divestment push did to the apartheid government—thrust their practices into the spotlight, focus attention on the actors that profit from the status quo, and force moral reevaluation, leading to shifts in political power," in this case the imposition of international sanctions against South Africa, beginning in 1986 (Bratman et al. 2016). The tobacco industry divestment movement also had few direct financial effects on tobacco companies: only around 80 funds ever actually divested from Big Tobacco, totaling about \$5 billion in capital outflow from a still-healthy industry with a market capitalization of \$500 billion in 2013 (Ansar et al. 2013). But the indirect effects of tobacco divestment (and the larger consumer and health-organization led movement of which it was a part) were powerful, leading in the long-run to increased taxes on tobacco products, age and space restrictions on smoking, and other public health controls on tobacco throughout the developed world.

FFD activists have focused their efforts on institutional investors with some moral valence, bodies associated with ethical decision-making, charitable activity, and sustainable investment.⁴⁷ However, for ideological and strategic reasons higher-education institutions have been the primary target for FFD activists. Universities are where society (ostensibly) builds the

⁴⁷ However, at least one environmental NGO - the Rainforest Action Network, or RAN - has been active in lobbying private financial institutions to divest. As of March 2016, Citigroup, Morgan Stanley, Goldman Sachs, Wells Fargo, and JPMorgan Chase have announced partial divestment from coal companies. For example, JPMorgan Chase will cease investment in new coal-fired power plants in the developed world (most new electricity generation expenditure is taking place in the developing world, especially in China). The influence of RAN, or the larger FFD movement, on these banks is probably minor. Rather, the choice to divest solely from coal (and in selective manner) illustrates the clear limits to expecting FFD from leading finance capital firms, who are merely reacting to a terminally-declining coal industry in advanced capitalist countries, a decline spurred along by the (belated) imposition of state sanction against coal in those countries (Loh 2016, Nussbaum 2015, Vaughan 2015).

future, by educating students, supporting research, and inculcating professional and intellectual norms. If universities everywhere are divesting from fossil fuels, the argument goes, then that is a clear sign that the future these institutions are building isn't one powered by coal, oil, and natural gas. Colleges and universities have also emerged as the key site for FFD struggle for the familiar strategic and geographical reasons that have always generated progressive campus struggle. Universities possess a ready pool of student activists, a wealth of expert knowledge among faculty, institutional governance structures that are usually somewhat accessible and transparent to stakeholder interests, a progressive or ethical institutional identity (often, but not always), and concentrate all of these factors together in a connected campus space that can be physically contested by activists.⁴⁸

The FFD movement first emerged in 2011 at Swarthmore College in Pennsylvania. There, FFD developed as a student-initiated response to mountaintop removal and fracking in the region (Grady-Benson and Sarathy 2015, 4). The same year, existing campaigns against coal-fired power plants operating on the campuses of the University of Illinois Urbana-Champaign and the University of North Carolina Chapel Hill began to demand endowment divestiture of coal company stocks (4). These two campaigns were provided messaging and organizational support by various anti-coal groups and coalitions, such as the Sierra Club's Campuses Beyond Coal campaign and the Divest Coal Coalition, an informal association of environmental NGOs like the Energy Action Coalition, Responsible Endowments Coalition, the Sustainable

⁴⁸ Though occasionally direct protests have occurred to pressure non-university institutional investors to divest (Howard 2015).

Endowments Institute, Green Corps, and As You Sow (Grady-Benson 2014).⁴⁹ Around the same time, Unity College, a small liberal arts institution in Maine, divested its endowment from FFCs, though this was a unilateral decision made by administrators, rather than a reaction to a student movement (Grady-Benson and Sarathy 2015, 9).

FFD received a major boost, and a coherent set of principles, when 350.org's "Do the Math Tour" visited 21 American cities in November 2012. The tour included a variety of left-liberal notables like Desmond Tutu, Van Jones, and Naomi Klein, but the marquee speaker was Bill McKibben, whose *Rolling Stone* article from July of that year brought FFD and the 'carbon bubble' argument into the mainstream.⁵⁰ Tour stops were well-attended, and the message was

⁴⁹ NGO involvement in FFD was thus present from the earliest stages of the movement, and has marked FFD ever since. Traditional conservation groups like the Sierra Club, research outfits like the Sustainable Endowments Institute, organizing hubs like 350.org and the Divestment Student Network, and various other organizations involved in training and shareholder advocacy have played an important, but rather unclear, role in the development of both the general FFD movement and campus FFD. A solid analysis of FFD's organizational architecture does not yet exist. One might speculate that such seemingly pervasive NGO influence on the movement constitutes co-optation by the environmental wing of the 'non-profit industrial complex' (INCITE! Women of Color Against Violence 2009) and thus makes FFD vulnerable to liberal institutionalization - but on the other hand, the particular bloc of NGOs involved in FFD is not ideologically or organizationally monolithic, and it could be argued that the support they've rendered to students could not have been created organically by divestment groups themselves. I'm more partial to this view, especially considering the critical role played by 350.org in developing and disseminating movement principles with the "Do the Math" tour and other efforts. In the US, at least, 350.org is also involved with funding state-level climate campaigns (MN350 2015). At any rate, my research uncovered no clear examples of attempts by FFD-affiliated NGOs to police the actions and ideological direction of the movement (besides the expected commitment to nonviolent forms of direct action), and in my personal experience with student FFD activists (at Northwestern University, Loyola University Chicago, the University of Illinois Urbana-Champaign, and the University of Chicago) I've never noticed any sort of fealty to supportive NGOs. I'm inclined to say that, in the realm of physical organizing, these NGOs have operated with a generally light touch, occupying an appropriate support role for activists on the front-lines. However, there is much more analysis to be done on the question of FFD ideology construction and regulation. Here, the role of NGOs seems likely to be more pronounced. It is worth noting that none of the FFD-affiliated NGOs articulate an explicitly anticapitalist politics (this includes 350.org, despite Naomi Klein's presence on its board of directors).

⁵⁰ McKibben argued in the *Rolling Stone* piece that "in order to have an 80% chance of keeping global warming below 2°C... we can only emit 565 gigatons of carbon dioxide (GtCO₂) between 2010 and 2050. By contrast, burning all the currently proven oil, gas and coal reserves of fossil fuel companies would release 2,795GtCO₂ into the atmosphere." To strand those assets, he called for an international fossil fuel divestment movement (summary quoted from Ansar et al. 2013; see also McKibben 2012 and Meinshausen et al. 2009).

targeted squarely at college activists. A "Do the Math" movie was released to coincide with the tour, along with various other multimedia content (350.org is distinct among the FFD-affiliated NGOs for its extensive social media and content-production efforts⁵¹). One FFD analysis summarizes the influence of McKibben's tour well: "Do The Math and 350.org packaged and popularized divestment by outlining the key figures and arguments in an easily digestible format, leading to its rapid mass diffusion to campuses and non-academic institutions internationally." (Grady-Benson 2015) FFD movements quickly proliferated following the tour - by October 2013 six colleges and universities had committed to divest, pressured by student movements, and movements existed at least a hundred other US colleges and universities (Ansar et al. 2013; Grady-Benson and Sarathy 2015; Maxmin 2016). A widely-cited Oxford University study from this period called FFD the fastest-growing divestment movement in history (Ansar et al. 2013). As of 2016, according to 350.org, 526 institutional investors have divested in some way from FFCs (350.org 2016b), and many more universities are currently grappling with FFD movements (Maxmin 2016). Non-university institutional investors which have undertaken partial or complete FFD include the Rockefeller Brothers Fund, the Bill and Melinda Gates Foundation, the sovereign wealth fund of Norway, the World Council of Churches, the United Church of Christ, two large public pension funds in California, and the cities of San Francisco, Oslo, Madison, and Seattle.⁵² Importantly, FFD is present almost exclusively in developed countries, with the majority of campaigns taking place in the United States (350.org 2016c).

The FFD struggle continues, and may continue to do so for a long time. FFD is still young, so few campus movements have reached a 'post-FFD' stage, where divestment has been achieved and movement leaders must make a decision about what to do next. Following the announcement of partial divestment at Syracuse University April 2015, the Divest SU organization declared its continuing commitment to social justice organizing on campus:

⁵¹ See, for example, 350.org 2015 and 2016a.

⁵² 350.org 2016b and Carrington 2016.

"Our work is far from over, and not just for fossil fuel divestment, which is a climate justice and social justice issue. Over the past year especially, we have been connecting the dots between global warming, racism, sexism and economic inequality.... Partial fossil fuel divestment is a first step down a long road toward social justice on this campus, one that we will continue to walk." (Divest SU 2015)

Divest SU's statement points towards the potential of FFD to educate young activists able to draw connections across a range of issues, to give those activists practical experience in organizing that they can carry with them after college, and to potentially create a durable base of political organizing at a university which may have lacked this before. The first and second possibilities are already coming true.⁵³ The third, as the Divest SU statement indicates, is bound up with the ability of campaigns to radicalize and adopt the climate-justice frame. Following FFD success at Pitzer College in April 2014, Claremont Climate Justice signaled ongoing commitment to solidarity organizing in a statement published on its website:

As we think about this victory, we know it is only the beginning. Pitzer's commitment is something to be celebrated, but we are deeply aware that a crisis of this magnitude will continue to demand bold action from all of us, especially those with disproportionate influence in society.

We see this decision as a jumping-off point for us to engage with local anti-extraction, health, and labor struggles in the surrounding Los Angeles region. Climate change affects all of us, but we recognize that it is other communities who are being hit the hardest and bearing the brunt of the impacts. These fights for justice are all interconnected, and we know there is a long way to go. As we stand on the brink of an uncertain future, we commit ourselves to this fight, and to working towards a common vision of sustainability, justice, and collective liberation.⁵⁴

These steely justice-oriented resolutions are examples of the most radical and advanced kind of FFD frame. At least by mid-2014, this form of FFD was only partially embraced on American college campuses; many campus FFD activists instead articulated an ambiguous mix of the moral and financial frame (Grady-Benson 2014, 62-90). The financial frame is the most

⁵³ For example, Jessica Grady-Benson, who was a leader in the successful Pitzer College FFD movement, is now the Director of Training at the Divestment Student Network (DSN), an FFD organization involved in promoting the climate justice framing among campus campaigns (<http://www.studentsdivest.org>). The original organizers of the ongoing Swarthmore fossil fuel divestment campaign helped found the DSN (Grady-Benson 2014, 71-72).

⁵⁴ Claremont Climate Justice 2014. The divestment movement at the Claremont colleges (Pomona, Scripps, Pitzer, Claremont McKenna, and Harvey Mudd) has been one of the most radical and effective proponents of climate justice FFD (see also Grady-Benson 2014).

basic, and least radical, form of campus FFD. To understand this strain of the movement, we have to go back to the 2° C. target first officially adopted by Leviathan at the 2009 Copenhagen summit of the UNFCCC.⁵⁵ Any firm temperature target for controlling the effects of climate change implies a "carbon budget" - the maximum amount of carbon dioxide that can be burned before the limit is reached. This is subject to the uncertainty endemic to any predictions about the geobiosphere, leading to highly variable estimates about the actual size of the budget.⁵⁶ Though it is impossible to precisely deduce a firm carbon budget, such a limit - *some* gigaton amount of CO₂ released into the atmosphere - must logically exist, and it's clear that humanity is rapidly burning its way there (CarbonBrief 2014a). Realistically, the world will not meet the 2° C. target, but if we purport to take that target seriously, then FFCs cannot burn a large fraction of their known reserves of coal, oil, and gas. In essence, most of the assets on FFC balance sheets will have to be written off, and thus FFCs are grossly overvalued. This is the crux of the financial argument - that over the long-term, investors in FFCs are setting themselves up to lose large amounts of capital when the market correction inevitably occurs and pops the 'carbon bubble'. Often this argument is paired with a call for divested funds to be reinvested in environmentally 'sustainable' investment vehicles, which were rare during the early years of FFD but have since proliferated (Fossil Free Indexes 2016). This particular strain of FFD is exemplified by the 'Divest-Invest' discourse and a network of tenuously movement-affiliated organizations (e.g. DivestInvest Philanthropy 2016). Some university FFD campaigns, like Divest-Invest Michigan, have explicitly adopted this sort of discourse (Divest-Invest Michigan 2015).

Probably hegemonic in FFD today is the moral strategy, by which activists mainly frame divestment as a principled ethical choice in response to the general threat of climate change. One of the earliest well-known arguments for FFD, Bill McKibben's "Global Warming's Terrifying New Math" essay in *Rolling Stone*, is a good example of this variety of FFD: "...pure

⁵⁵ The 2° C. number itself has a much longer history, however - it was first suggested in the 1970s (CarbonBrief 2014b).

⁵⁶ For one influential carbon budget analysis, see McKibben 2012 and Meinshausen et al. 2009.

self-interest probably won't spark a transformative challenge to fossil fuel. But moral outrage just might – and that's the real meaning of this new math."⁵⁷ This isn't an argument grounded in a radical understanding of power and injustice, but is a step up from traditional environmental organizing on college campuses (which conventionally emphasizes localized sustainability - energy efficiency, recycling, solar panels, etc.). Rather, this line of argument asserts the need for universities to change their role in a larger set of economic (but not primarily political or social) relations responsible for the production of systemic ecological crisis (Grady-Benson and Sarathy 2015). This is a middle-ground strategic and ideological form, one which recognizes the general risk posed by climate change to human survival and well-being around the world, and asserts the ethical indefensibility of the fossil fuel industry's actions. However, moral-frame FFD campaigns remain limited in their scope of political action in one key way: they do not pursue strategies of solidarity with communities directly affected by world-ecologic crisis. That is, even though they may engage with climate justice discourse (in their statements of principles, messaging strategies, etc.), they do not engage in a cross-class politics of justice.⁵⁸

But there's a third kind of FFD strategy, one which offers a potential path to our transnational labor politics: climate justice. Here we can turn to Jessica Grady-Benson, whose expansive 2014 survey of FFD's history, organizational characteristics, and ideological forms remains the key work in the small scholarly literature on this topic. Grady-Benson's most important contribution is her analysis and empirical investigation of climate justice within FFD. She identifies five basic principles for FFD climate justice: (1) an analysis of the unequal effects of climate change and local FFD toxification along geographic, racial, and class lines; (2) a critique of the post-political, technocratic climate episteme; (3) criticism of capitalism; (4) a holistic understanding "encompassing ecological and human effects of climate change as well as the intersectional systems of oppression perpetuating social injustice and environmental

⁵⁷ McKibben 2012, paragraph 43.

⁵⁸ "Based on my survey responses and interviews, the majority of [FFD] participants are not engaging in community-based partnerships." (Grady-Benson 2014, 79)

degradation"; and (5) coalition-building with communities directly exposed to climate injustice (67).⁵⁹ Grady-Benson conducted interviews with and gathered survey responses from student activists, volunteer and professional organizers in affiliated NGOs, and university decision-makers to investigate ideological and strategic currents in campus FFD. Her research identified significant variations among activists in their understandings of climate justice, with a cadre of highly involved and experienced "movement intellectuals" articulating radical understandings of the idea, while newly involved rank-and-file activists generally expressed immature or less-politicized interpretations (Grady-Benson 2014, 68-71).⁶⁰

Grady-Benson argues that there are three ways FFD operates to strengthen the cause of climate justice:

By diffusing this narrative [of climate justice], organizers contribute to a shift in the discourse on climate change. By mobilizing and radicalizing youth activists we are strengthening and transforming the Climate Movement. However, the most tangible way that divestment can contribute to CJ [climate justice] is as a solidarity tactic.... By building coalitions with the frontlines and local groups fighting for justice, we make our movement more inclusive, and lend our privilege and influence to serve as allies for related struggles. (76)

Here she makes a crucial point: authentic climate justice realization for FFD depends on direct political engagement with the people who truly *need* that justice. Climate justice FFD involves coalition building with frontline communities fighting for environmental justice.⁶¹ Grady-Benson notes that "Solidarity organizing is not a paternalistic act of assistance from privileged groups to the frontlines, but a mutually strategic coalition" (77). This is 'alignment', an idea

⁵⁹ She also argues that climate justice for FFD entails progress towards a 'just transition': "When institutions divest, it opens up the opportunity for just reinvestment. Reinvestment further leverages institutional wealth to support community-owned clean energy development. Through reinvestment we are providing opportunities to support a just transition into a more democratic clean energy economy." (75)

⁶⁰ Like me, Grady-Benson is a climate justice partisan. In her thesis she recommends "that the DSN and leaders within the movement develop creative methods for diffusing the Climate Justice narrative throughout the movement in order to further educate and radicalize student organizers. Developing a deep understanding of the Climate Justice framework among student FFD organizers is essential to maximizing the impact of the movement." (73)

⁶¹ Grady-Benson uses "frontline" to refer to communities directly affected by the exploitative and toxifying relations of FFD production, and also those most exposed to the effects of climate change (12-13).

Grady-Benson borrows from Hilary Moore and Joshua Kahn Russell, two authors and organizers involved in climate justice:

The process of 'alignment' is the painstaking work of organizing- taking into account strategy, power, privilege, access, impact, difference, similarity, trust – but it produces a movement in which we're not acting on behalf of one another; we can take meaningful action in an interlocking way.⁶²

Solidarity with people subject to climate injustice doesn't have to mean reaching out to faraway communities. FFD coalition-building, when it has occurred, has instead focused on local climate injustice. The premier example of climate-justice solidarity within FFD is Swarthmore Mountain Justice (the very first campus FFD movement), and it demonstrates some 'best practices' for solidarity organizing along these lines:

Swarthmore Mountain Justice (SMJ), developed their FFD campaign in solidarity with frontline communities in West Virginia who are leading the struggle against mountaintop removal coal mining (MTR): "We felt really strongly that peoples' awareness of mountaintop removal and the issues would be greatly enhanced if there was a struggle happening at our school and we could find a way to make it relevant to the policy at Swarthmore and the financial connections were a way to do that, so that's, that's why we decided to do divestment."⁶³ In order to build meaningful coalitions, students from SMJ dedicated significant time and resources to developing relationships with communities affected by MTR. Part of this process was the "divest coal frontlines listening tour," during which Will Lawrence, SMJ member at the time, and a few other students visited organizations in Appalachia involved in "mountain mobilization" direct action against MTR coal mining in West Virginia. On the tour, they sought to receive explicit statements of support and solidarity between students and organizations, but they realized what was more important was actually building meaningful relationships with individuals. This is an important lesson for campaigns seeking to build coalitions with local community groups: do not enter a community to request anything from them.⁶⁴

Grady-Benson goes on to describe some of the practical obstacles involved in this kind of organizing: organizational capacity, time, and fear of straying too far from a core FFD mission. For these reasons and others, solidarity organizing has not been widespread in FFD, even when campaigns rhetorically frame themselves in climate justice terms. However, Grady-Benson

⁶² Kahn Russell and Moore 2011.

⁶³ The student quoted here is Will Lawrence, the SMJ member who appears later in the paragraph.

⁶⁴ Grady-Benson 2014, 83-85.

expresses optimism that solidarity will become a core part of climate justice FFD, and that climate justice in general is moving towards hegemony within the movement:

Rooted in a vision for Climate Justice, students are beginning to leverage their privilege to engage in solidarity organizing through CJ messaging and by building coalitions with frontline communities. The spread of solidarity organizing, aligned with the principles of CJ, throughout the movement is contributing to a paradigm shift from individualized modes of activism to a transformative collective action approach. As more and more student organizers deepen their analysis of CJ through participation in the movement and at national divestment convergences, I predict that student campaigns will further align their organizing practices with the principles of Climate Justice through solidarity organizing. The diffusion of the Climate Justice narrative in the FFD Movement is essential to changing the discourse on climate change from a conversation of carbon concentrations to an understanding of the intersectional social and environmental injustices perpetuated by the climate crisis and the fossil fuel industry.⁶⁵

In the absence of any recent research on the ideological structure of campus FFD, I cannot speculate on whether or not the movement is genuinely becoming a vehicle of climate justice. But I agree with Grady-Benson's basic argument: FFD activists can use solidarity organizing to build ties with marginalized groups, advancing a political vision premised on justice, equity, and common humanity. This points us directly back to where we started this section: the project of constructing climate X for the world-ecology.

5. FFD/X

What are the implications of FFD for an anticapitalist climate X? Activists are generally clear that divestment will have little direct impact on fossil fuel companies, instead emphasizing the indirect and longer-term effects of delegitimization and devaluation as awareness of climate change and the carbon bubble spread, aided by divestment announcements at prominent universities and charitable foundations. But in truth, *neither* of these dimensions of FFD offer much promise for building climate X and confronting systemic ecological crisis. This is because divestment is fundamentally a capitalist technology, one of the master's tools. In other words,

⁶⁵ Grady-Benson 2014, 148-49. Importantly, solidarity organizing also has the effect of making the on-campus divestment struggle "real" to student activists - seeing the struggle where it is very tangible, where world-ecologic oppression is part of lived experience, can help further radicalize activists, producing a kind of virtuous political circle for a young movement still finding its ideological feet.

any form of divestment implies a politics compatible with the logic of commodification and the value-form - there are bad actors to target, like FFCs, but the relations which constitute those actors remain invisible or closed to criticism. FFD is simply a tactic, and not one inherently connected to justice or even politics. Divesting from fossil fuel companies doesn't deliver any sort of body-blow to the underlying logic of capital. Even achieving the ultimate goal of FFD (as it is understood by many) - total shutdown of the fossil fuel industry - wouldn't dismantle the basic relations of commodification and appropriation that have characterized the capitalist world-ecology for 500 years. If FFD continues to treat divestment as a goal in itself, the best it could hope for (via the destruction of the fossil fuel industry) is a significant qualitative change in those relations - still a considerable achievement, but one which falls far short of the movement's world-historic potential.

But what if we changed what FFD was fundamentally *about*? What if the goal was changed entirely - no longer pursuing divestment in itself, but rather focusing on the path to getting there, and, when it arrives, on the *reason* for doing it: divestment for justice and *only* justice. This is a divestment positioned less as crucial victory and much more as a the necessary goal to truly substantive means. Says Bill McKibben:

The fight is just as important as the win in a lot of ways. Sometimes you can win almost too quickly in some of these battles. Instead, when you have to spend a few years fighting, then every freshman and faculty member and parishioner will come to know the story of why it's so important.⁶⁶

I would go further. The win is not really that important at all. The problem is the capitalist project of organizing nature in ways that drive relentlessly towards their asymptote, endlessly accumulating value without ever paying the bills. Divestment doesn't attack these relations, but merely seeks to shift them around. What matters in FFD - what could give it world-historic importance - is the experience of being in the fight, failing, escalating, radicalizing. This is the process that trains our politics, develops the habits of thinking and acting that climate X needs.

⁶⁶ Quoted in Leber 2015, paragraph 16.

Viewed this way, the significance of FFD to climate X really concerns whether the movement can transcend itself and become a way to begin organizing durable and connected climate struggle - not only on college campuses, but spilling outwards into communities, onto city streets, and into other movements. I have argued that the only way this can happen is if a radical climate justice becomes the hegemonic politics of FFD. This may or may not occur, though like Jessica Grady-Benson I am optimistic: important coordinating NGOs like 350.org and (especially) the Divestment Student Network have actively supported a transformative climate justice approach, there are examples of successful student-community coalitions at Swarthmore, Claremont, the University of Chicago, and elsewhere, and Left politics on college campuses seems stronger than ever. All of these things point towards a more radical future for FFD.

How does this vision for FFD fit into Wainwright and Mann's capital/sovereignty architecture? FFD currently seems anti-sovereign more by default than by conscious ideological or political positioning. Tellingly, the movement targets fossil fuel companies, rather than states, even though Western states have historically been just as important in promoting global fossil fuel dependency and oil imperialism.⁶⁷ Its attitude towards the state *per se* is not clear, though we can accurately assert that there is little, if any, faith among activists in climate Leviathan's ability to substantially mitigate emissions, especially after the disappointing Paris Agreement. In terms of anticapitalism, the movement is further along. Climate justice lends itself naturally to a rejection of capitalism, both explicitly (see Grady-Benson's principles above) and in practice, because capitalism favors atomized social relations rooted in the maxim of competition, not a solidarity politics of justice. It seems plausible that FFD's ingrained skepticism of capitalism (even in the absence of a detailed analysis or explicit disavowal) could also immunize it somewhat from co-optation by Leviathan, which is very much a capitalist project. This is contingent, of course, upon the path that FFD as a movement follows - if apolitical financial FFD were to become the most common campaign praxis and rationale for divestment, then one could

⁶⁷ See, for example, Mitchell 2013, Muttitt 2012, and Priest 2012.

easily envision the UNFCCC giving its stamp of liberal-capitalist approval. This can be avoided so long as a radical climate justice continues to develop and steer FFD as a whole. We can be fairly certain that FFD is opposed to capitalist Behemoth, to which an emancipatory politics is anathema. And Mao? A post-FFD X vs. Mao confrontation could only plausibly arise in China, and FFD has no presence there (nor does Mao). I've already suggested that I think democratic socialism (anticapitalist, but with a liberal, not autocratic, sovereign - Climate Debs, not Mao) is at least plausible in Western states, and social democracy (Climate Bernie?) perhaps even likely. Speculating on the possible future interaction between any such sovereign and a mature climate X is difficult.

But what about the transnatural labor politics I find implicit in Moore? To be clear: I think that this is the most sophisticated form that climate X could possibly take. Lurking beyond any anticapitalist X must be the spirit of the world-ecology, the co-productive flow of flows relentlessly appropriated and exploited by capitalism. It seems to me that the disintegration of the capital-state-labor triad will fail unless the tertiary element is understood to include the appropriated (that is, *uncompensated*) work-energy of extra-human nature - of the whole geobiosphere. The cross-class bridge provided by climate justice (working through FFD and other modalities) is a step in the right direction, and seemingly a necessary precondition - but how can we make the leap to conscious ecological solidarity in our politics? How do we meet the imperative I identified earlier - of *becoming the ecological limits to capital*? I wish I could answer the question I've posed, but to me, the answer is not apparent. There may not be any effective way to integrate Moore's insight into our politics - maybe we can only hope to fight parallel to nature. Or perhaps it's really that spatial term - the suggestion of separation, of ontological duality - that holds us back. Like Sara Nelson and the Out of the Woods collective, I'm skeptical of Moore's focus on conceptually overcoming the Cartesian barrier - but maybe this really is where the answer lies.

5. Looking forward

In this thesis, I have tried to do three things. First, I explored the recent theoretical innovations of Jason Moore, who has convincingly described capitalism as a world-ecology dependent not only on commodification of human labor and appropriation of women and colonies, but also the appropriation of vast amounts of non-human work/energy. Inspired by his analysis of fundamental ecological limits to this strategy, I proposed (following closely from Sara Nelson's [2016] notion of a "posthuman labor politics") that social movements should seek to enact a "transnatural" class struggle, one which recognizes the crucial historical function of non-human natures for capitalism and which seeks to accelerate a post-capital transition by "becoming the limits". Second, I sought to position that principle of transnatural struggle with Wainwright and Mann's speculative architecture of political configurations for climate change (2013). Here, I identified 'climate X' (opposed to central sovereignty and capitalist relations) as the best path towards material realization of the transnatural class struggle against the efforts of capitalist climate Leviathan, though I conceded, like Patrick Bigger (2012), that the question of a powerful anticapitalist sovereign ('climate Mao') must also be reckoned with. Finally, I explored one present political current that could become part of climate X: fossil fuel divestment (FFD). I argued that the climate justice tendency within FFD could elevate the movement into a means of spanning class divisions, not via an explicit anticapitalism, but through a non-capitalist rationality premised upon equity and common humanity in the face of unequally-felt world-ecologic crisis. In turn, I suggested that this would be an important step towards a class politics which overcomes the Cartesian barrier separating humanity and non-human nature.

However, I could not find an answer to the basic question posed by this thesis: how can we realize that transnatural class politics? Likely, this means that I have come to the *wrong question*. If that's the case, then I am not too discouraged. I am persuaded by Moore's argument. I think it is an important breakthrough in the foundations of our understandings of capitalism,⁶⁸ one which can and should serve as the jumping-off point for new research - certainly more

⁶⁸ Though one that has built on the work of countless other scholars across centuries (Nelson 2016).

empirical-historical research, but also new ventures into the *political* implications of the capitalist world-ecology. Even if I haven't quite succeeded, this is what I have tried to do, and I hope sincerely that others follow this line of research and critique as well. Though I wasn't able to offer a satisfactory account of a transnatural class politics or how it could be achieved, I can conclude here with some last thoughts on the problem. First, the theoretical terrain Moore confronts in *Capitalism in the Web of Life* is complex and spans a vast body of empirical and historical scholarship. Though I think Moore does an excellent job of synthesizing this research and adding to it his own historical discoveries, there is undoubtedly more to learn.

Understanding the historic capital/nature conjuncture is a vital prerequisite for thinking through a world-ecologic politics, so the further development of research in and around this project is crucial. And second, the *justice* (not simply the moral) rationality of movements within climate X should be closely followed, as I feel it holds the seeds of a more radical climate politics, even (perhaps especially) for the young bourgeoisie in Western universities. With these things in mind, I am hopeful that Moore's world-ecologic analysis of the present and future crisis becomes an important contribution: not just for scholars, but also for people and nature fighting everyday against capital's unsustainable imperatives.

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⁶⁹ This response to Wainwright and Mann was published online in July 2012 as part of a symposium on "Climate Leviathan", which was first published online that same month (it was not physically published until January of the following year).

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