
REVIEW ESSAY

CLIMATE CHANGE AND CAPITALISM, CLIMATE DYSTOPIA, AND RADICAL CLIMATE FUTURES

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The number of climate change-related books published during the past fifteen years has skyrocketed to a point where it is virtually impossible to keep up. The literature is also written from many disciplinary perspectives, including climate science, economics, the social sciences, the humanities, and science fiction. In this essay, I review eight books, all with a political economic slant, published in 2021-2023. In the review's first section, I discuss three books that recognise a link between capitalism and climate change. In the second section, I turn to the prospect of climate dystopia, a scenario discussed in two other books. Given that the twenty-seven UN Conference of the Parties (COPs) have not managed to successfully reduce greenhouse gas emissions, many climate scientists are now predicting a four degree or warmer world by 2100 if drastic cuts to emissions do not occur soon. Various other voices, including the authors of the two books in the third section of my review, are considering radical future scenarios and calling for some form of post-capitalism that sets the stage for achieving a safer climate along with a more socially just world system. Last but not least, the review discusses a recently published book that brings together my three themes of climate change and capitalism, climate dystopia, and radical climate futures.

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Climate change and capitalism

In *The Climate of History in a Planetary Age*, Dipesh Chakrabarty (2021), an eminent post-colonial historian, asserts that the current COVID-19 pandemic, the rise of authoritarian, racist, and xenophobic regimes around the world, discussions about climate change, fossil fuels, renewable energy, water shortages, biodiversity loss, the Anthropocene, etc. ‘signal that something is amiss with our planet and that this may have to do with human actions’ (p. 1). Chakrabarty revisits his four theses first delineated in a widely circulated article, ‘The climate of history’, published in 2009:

- Thesis 1: Anthropocentric explanations of climate change spell the collapse of the humanist distinction between Natural History and Human History (p. 26).
- Thesis 2: the idea of Anthropocene, the new geological epoch when humans exist as a geological force, severely qualifies humanist histories of modernity/globalization (p. 31).
- Thesis 3: the geological hypothesis regarding the Anthropocene requires us to put global histories of capital in conversation with the species history of humans (p. 35).
- Thesis 4: the crosshatching of species history and the history of capital is a process of probing the limits of historical understanding (p. 43).

Chakrabarty asserts that anthropogenic global warming illustrates the collision of three histories, namely the history of Earth system; the history of living beings, including humans, on the planet; and the more recent history of industrial civilization or capitalism. While admitting that climate change raises serious moral and political issues, he argues that even a ‘more prosperous and just world made up of the same number of people as today’ could be one in which the ‘climate crisis could be worse’ (p. 57) This assertion appears to view the poor as collateral damage and overlooks that a more just world would inevitably have to be a post-capitalist one in which there would be a more even playing field in which there would be no large distinctions in access to resources among humans. Furthermore, it would be imperative that such a world would entail a radical decarbonisation agenda, in contrast to earlier socialist-oriented states, such as the Soviet Union and India under the post-colonialist Nehru government; and it would entail a weaning away from coal, petroleum, and natural gas in both the Global North and Global South as quickly as possible.

Chakrabarty says that the climate change literature ‘reconfigures an older debate on anthropocentrism and so-called nonanthropocentrism’: in other words ‘do we value the nonhuman for its own sake or because it is good for us?’ (p. 64). The climate crisis demonstrates the ‘planet’s otherness’ (p. 67) and that humans are latecomers to Earth who function in a ‘position of passing guests’ (p. 67) or as a mere blip in cosmic time.

Chakrabarty asserts that Earth Systems Sciences, a product of the Cold War and the race to space, entail the conjuncture of three histories: ‘the history of planet, the history of life on planet, and the history of a globe made by logics of empires, capital, and technology’ (p. 68). The Globe is a socio-historical construction and a by-product of globalization by which humans spread all over the globe, not only its land surface but also its skies and waters, a process which has resulted in anthropogenic global warming. Conversely, Chakrabarty reports that planetary science tells us that global warming has occurred on both Earth - in the distant past more due to natural causes - and on other planets. Many Earth scientists fear that anthropogenic global warming may spell the 6th Great Extinction.

For Chakrabarty, whereas the global is a human-centred process, the planetary ‘discloses vast processes of unhuman dimensions’ (p. 86). He argues that the planetary crisis has prompted important insights from both post-humanists who query the nature/culture dualism and some Marxists who want to refer to the Anthropocene as the Capitolocene. At any rate, he observes that the ‘climate crisis concerns the balance of all terrestrial life on planet’ (p. 128).

With climate denialism still rampant around the world, Chakrabarty identifies two principal approaches to mitigating climate change: (1) a green capitalism, entailing a rapid shift to renewable energy coupled with market mechanisms; and (2) some form of post-capitalism. In reality, the former is hegemonic, while the latter is marginal but appears to be on the ascendancy, at least in terms of advocacy. Chakrabarty asserts that climate change defies the ‘ontic certainty of earth that humans have enjoyed through Holocene epoch and perhaps for longer’ (p. 180). He maintains that the notion of the Anthropocene recognizes that humans have been interfering with processes that make the planet habitable for complex life forms, including themselves. However, the notion of the Anthropocene tends to downplay the fact that certain actors, such as rich and multinational corporations, have contributed much more to this

interference, something that Marx recognized in his assertion that capitalism is in a metabolic rift with nature (Foster 2000).

While Chakrabarty does not wish to take sides in the debate about the pros and cons of geoengineering as a viable climate mitigation strategy, he does observe that geoengineering champions ‘belong as a rule to sciences that are ahistorical in their analytical approach – such as physics and chemistry’ (p. 182). Ironically, in the postscript to his book titled ‘The global reveals the planetary’ he engages with Bruno Latour, the preeminent science and technology scholar who, prior to his recent death, was a fellow at the eco-modernist Breakthrough Institute, a staunch proponent of geoengineering.

Romain Felli (2021) in *The Great Adaptation* makes a more profound link between capitalism and climate change than does Chakrabarty. His short book focuses on how green capitalists who promote certain technologies, particularly renewable energy, have discovered that the *great adaptation* seeks to ‘answer the climate crisis not by reining in the market, but by expanding it’ (p. 10). Felli maintains that advanced capitalist countries claim to be providing a humanitarian deed by assisting the countries of the Global South to improve their capacities for climate adaptation. He maintains that US climate research by the end of the 1970s was at the cutting edge globally, with Jesse Ausubel, one of the pioneers of the economics of climate change, calling for the creation of a market in carbon pollution permits, a market mechanism that since then has become hegemonic in green capitalist thinking. Unfortunately, despite the creation of numerous emissions trading schemes around the globe - with the EU one being the leading example - none of them have significantly resulted in lower emissions. At the ‘Changing Atmosphere: Implications for Global Security’ conference in Toronto in 1988, the ecological thought of anthropologist Gregory Bateson ‘became an inevitable reference point for debates on adaptation’ (p. 72). As instances of catastrophic climate change, whether in the form of wildfires and torrential rains and floods, occur in increasingly rapidity around the globe, more and more of the climate change discourse has shifted from mitigation to adaptation to increasing temperatures and rising sea levels, often framed around the notion of *resilience*.

Felli argues that neoliberalism came to ‘infuse contemporary responses to the challenge of adapting to climate change’ (p. 7), a process demonstrated by the policies on climate change promoted by institutions such as the

World Bank and Munich Re, the world's largest reinsurance company that finances research programs, research grants, reports and conferences on how to manage climate risks. He provides a nuanced discussion on how climate migrants have been transformed from being regarded as a national security threat in advanced capitalist countries into a 'global market in human labour-power' (p. 140) whereby, for instance, nurses, cleaners, nannies, live-in carers, and homeworkers from the Global South provide the 'care work necessary for social production in the Northern countries' (p. 140). However, the glaring dilemma about a strategy of climate adaptation is that humanity cannot adapt *ad infinitum* as the planet warms. For this reason, Felli maintains that 'environmentalist, democratic socialism constitutes the best hope for reducing climate catastrophe and maintaining freedom within a nature – irreducibly both biophysical and social – which is so complex and divided' (p. 159). Unfortunately, he leaves readers with this parting thought, rather than engaging with the burgeoning literature that calls for some form of eco-socialism (Baer 2018; Brownhill *et al.* 2022).

Here in Australia, in the wake of the 2019-2020 mega-fire, many people, particularly those living in or near bushland, have been struggling how to adapt to the possibility of more bushfires in the future. Along with the United States, Australia is often depicted as one of the two leading climate laggards in terms of mitigation among advanced capitalist countries. In *Carbon Justice*, philosopher Jeremy Moss (2021) argues that Australia's 'dirty secret' is that, as the world's largest coal exporter, its exported emissions are double of those its entire domestic consumption, which includes emissions from coal-fired powered power plants. Furthermore, he highlights that the development of natural gas fields, such as in the North-West Shelf, has entailed huge investments by the carbon majors, with the intention of 'pushing hard to keep their operations going well into the future' (p. 40), regardless of whether a Coalition or an ALP government is at the political helm. Thus, while the development of renewable energy and divestment from coal by superfunds has slowed investment in coal, offshore gas development has proceeded apace, encountering resistance from the Greens and the climate movement but with hardly a peep of concern from the major parties.

Moss argues that it is the actions of governments at various levels that facilitate the export of large amounts of Australia's fossil fuels. He delineates four factors impacting upon the notion of climate justice: (1) the currency of justice or a commitment to mitigate greenhouse gas emissions;

(2) distributive principles, particularly historical responsibility and the ability to pay for emissions generated; (3) climate mitigation solutions that are global; and (4) the issue of which ‘states, communities, institutions, companies, groups of individuals should share the benefits and burdens of a transition away from fossil fuels?’ (p. 18).

Moss reports that the UN Framework Convention on Climate Change (FCCC) distinguishes between Scope 1 and 2 emissions - those produced within a country’s borders from transport, power generation, agriculture, etc. - and Scope 3 emissions, namely those emissions produced outside a country’s borders from products that a country exports. Whereas the UN Framework Convention on Climate Change holds countries responsible for the emissions that they generate domestically, it treats Scope 3 emissions as the responsibility of the consuming countries. This is a policy that Moss regards as unjust in that it leaves the carbon majors off the hook from their complicity in harms emanating from their products. In lieu of the conventional territorial model of assigning responsibility for climate change, he calls for a *contribution model* which ‘includes not just the act of emitting, but actions such as supplying fossil fuels, lobbying governments, funding anti-climate think tanks and public information campaigns’ (p. 45). Reportedly, the ‘emissions of the top ten Australian carbon majors combined are larger than all but seven nations’ (p. 51).

For Australia, Moss delineates the following items as necessary in responding to the climate crisis:

- implementing a national inventory of greenhouse house emissions and other causes of harm emanating from activities of carbon majors
- phasing out the extraction and production of fossil fuels
- phasing out carbon majors’ influence by banning their political donations to political parties and appointment of their executives to government positions
- requiring the carbon majors to address the harms to which they have contributed by their activities, along with any potential future harms
- preventing the carbon majors from leaving Australia without paying for their liabilities.

As part of achieving climate justice, Moss argues that Australia, along with other advanced capitalist countries such as the USA, Canada, and Norway, which have ‘made a disproportionately large contribution to climate change [have] a strong reason to address those harms where they are occurring,

instead of focusing exclusively on domestic emissions reduction' (p. 107). In order to achieve this, Australia and other advanced capitalist countries should carry out the following tasks:

- create a public research dividend to find solutions, such as renewable energy technologies, to climate-related problems
- ban the sale of fossil fuel assets because the carbon majors' claims of achieving net zero emissions constitute a form of greenwashing
- desist from claiming a 2050 net zero target while 'still advocating for the use, extraction, and subsidy of fossil fuels' (p. 118)
- implement an independent oversight of whether the carbon majors' emissions reductions 'are being achieved or even whether they are feasible' (p. 122)
- abstain from 'pollute now, pay later' practices such as spending 'small amounts on carbon reduction strategies while continuing to expand operations and lobby for fossil fuel' (p. 126).

While these proposals are commendable, albeit incomplete, they would require governments with the political will to implement them. In the current capitalist world system, the multinational corporations and their allies - such as the World Bank, the International Monetary Fund, and the World Trade Organization - are in the practice of making or breaking governments and politicians. In Australia, Woodside, Shell, Chevron, Exxon, and other fossil corporations pay little or no taxes, face weak climate policies, and have managed to capture both Coalition and ALP governments alike, making the notion of Australian democracy a sham.

To give him his due, Moss acknowledges the 'rise of right-wing politicians who respond to a backlash from those groups that believe that they are being asked to bear unfair costs' (p. 132) for climate action. He also suggests some room for political agency in challenging the carbon majors, although vaguely defined, arguing that: 'Establishing a national inventory would reveal just how large some of the carbon majors' climate liabilities really are and would allow proper scrutiny of them'; and that: 'Curtailing the impact of the carbon majors and their proxies on the democratic process could make decision-making simpler and more responsive to the electorate' (pp. 134-5).

This raises the issue of whether achieving climate justice will ultimately require deep systemic change, as suggested by climate justice activists, including transcending capitalism rather than merely tweaking it.

Climate dystopia

Despite pledges by governments and increasing numbers of multinational corporations to achieve zero emissions by 2050, the grim reality is that the emissions continue to rise along with increases in global temperature, heat waves, droughts, wildfires, cyclones, torrential rains and floods, melting glaciers and ice caps, etc. These features portend climate dystopias for increasing segments of humanity. In *White Skin, Black Fuel*, Andreas Malm and the Zetkin Collective (2021) refer to the possibility of one genre of climate dystopia that they term ‘fossil fascism’. They report that ‘all European far-right parties of political significance in the early 21st century expressed climate denial’ (p. 4). While some of them have backed off a bit from climate denialism, it looms in their background. Indeed, climate denialism marked the Trump presidency in 2017-2021 and remains embedded in the fabric of the Republican Party. Furthermore, it was part and parcel of successive Coalition governments in power in Australia and significant sectors of the Coalition parties out of power.

Malm and the Zetkin Collective assert that, while ‘white people have ascended the evolutionary ladder in height of comfort and affluence’ due to fossil fuels, black people ‘have stayed behind in the fossil-free bottom to break own backs’ (p. 20). While what they term ‘capitalist climate governance’ regards global warming as a fact with capital positioned as providing the solution out of the climate crisis, Malm and the Zetkin Collective posit that the far right ‘objectively worked as the defensive shield of fossil capital as a totality and primitive fossil capital in particular, even if – or, rather, precisely because – it was not set up or financed by them’ (p. 37-8). Climate denialism has come to be ‘driven deep into countries for decades perceived as the world’s prime paragons of climate mitigation’ (p. 53), such as Austria, Netherlands, Denmark, Sweden, and Germany. In the wake of the closure of the Swedish border in 2015 by a government of social democrats and greens, the far-right Sweden Democrats called for the remigration of refugees who had been admitted into the country previously.

Malm and the Zetkin Collective observe that, while the 2015 COP Paris Agreement pledged to hold global average temperature well below 2°C above preindustrial levels and attempt to limit the temperature increase to 1.5°C, it failed to mention a need to reduce fossil fuel utilisation. Moreover, while renewable energy has become a central plank of capitalist climate governance, far-right parties have been hostile to it and celebrate their commitment to fossil capitalism. Norway, a country of some 5 million inhabitants, is often viewed as a progressive nation on various counts, including environmental policies. However, as Malm and the Zetkin Collective point out, this is a chimera in that, as of 2016, Norway was the 14th largest producer of oil in the world and the 7th in natural gas, fossil fuels which ‘were under the control of the Ministry of Petroleum and Energy’ (p. 119), a body which was, between 2013 and 2020, headed by four leaders from the far-right Progress Party (FrP). They assert that Norway’s ability to juxtapose its purported environmentalism with fossil fuel extraction was developed in the 1990s by an ‘ideological state apparatus – here truly centred on the state – consisting of the Ministry of Finance, state-owned oil company Statoil, the social-democratic and conservative parties and a cohort of paid journalists, working in concert to inculcate in Norway trust in its fossil fuels’ (p. 121). This grim reality suggests that Norway constitutes an example of creeping fossil fascism.

Malm and the Zetkin Collective discuss how various right-wing leaders such as Marine Le Pen in France, along with the likes of Garrett Hardin (author of ‘The Tragedy of the Commons’, possibly the most cited text on environmental economics) and Paul Kingsnorth (author and one of the founders of the Dark Mountain Project), have come to embrace green nationalism which regards borders as ecological protection structures. While disavowing environmentalism in any form, Trump and Bolsonaro, former presidents of the USA and Brazil, were exemplars of fossil fascism. Unfortunately, as Malm and the Zetkin Collective observe, ‘It remains to be seen if the climate movement surging up in the late 2010s can develop into the revolutionary subject the situation cries out for’ (p. 292). This prompted Malm (2021) to suggest that the climate movement should resort to infrastructure property destruction as a route to revolutionary change.

Eve Darien-Smith (2022) in *Global Burning* continues the discussion of authoritarian patterns associated with the climate crisis, using the recent wildfires in Australia, Amazonia, and California as omens of ecological collapse. She regards *free-market authoritarianism* as the ‘collusion between political governance and corporate sectors in banking, energy,

agribusiness, technology, and pharmaceuticals’ (p. 25), underscoring the ‘common antidemocratic agenda of both opportunistic political leaders and the profit logic of corporate CEOs’ (p. 25). Her concept of free-market authoritarianism bears strong resemblance to the concept of *authoritarian neoliberalism* which, according to Bruff and Tansei (2019: 234), entails practices such as ‘repeated invocations of “the market” or “economic necessity” to justify a wide range of restructurings across various societal sites (e.g. states, households, workplaces, urban spaces), the growing tendency to prioritize constitutional and legal mechanisms rather than democratic debate and participation and other nodes of governance, the mobilization of state apparatuses for the repression of oppositional social forces at a range of scales, and the heightened pressures and responsibilities shifted onto households by repeated bouts of crisis and the restructuring of the state’s redistributive mechanisms’.

Darrien-Smith focuses on three specific instances of extractivism which she terms ‘fire as profit’ in which corporations call the shots in legislative settings. The first is Pacific Gas and Electric Company, a utility that provides natural gas and electricity in northern California which has been complicit in climate denial while exerting ‘enormous economic and political influence on California governance’ (p. 49). The second is the mining industry, another bastion of climate denial, which ‘played a direct and indirect role in creating the environmental conditions for Australia’s catastrophic bushfires of 2019 and 2020’ (p. 53). The third is Brazil’s agribusiness which found enormous support from Bolsonaro, a far-right business leader, during his presidency. While Scott Morrison as the Coalition prime minister and Bolsonaro as the Brazilian president were deposed in 2022, both Australian mining and Brazilian agribusiness continue to exert strong influence on political processes. This reality is borne out by the fact that the Australian Labor Party government under the leadership of Prime Minister Anthony Albanese continues to support the expansion of fossil fuel projects, despite its rhetoric of being stronger on climate action than the previous Coalition governments.

Regardless of where it occurs, Darien-Smith maintains that free-market authoritarianism that ‘connects neoliberal capitalism with antidemocratic processes’ (p. 67) exhibits three common features - ultranationalism, withdrawal from cooperative multilateralism, and anti-environmentalism. She argues that extractive capitalism and free-market authoritarianism combine to ‘contribute to climate change and the increasing number and catastrophic scale of wildfires’ (p. 95). She discusses three instances of

violent environmental racism or ‘fire as death’ – the impact of Australia’s bushfires on Indigenous people, the impact of Brazil’s deliberate burning of the Amazonian rainforest on Indigenous peoples in the region, and the impact of California’s wildfires on immigrant farmworkers, mostly from Mexico and Central America.

As Darien-Smith observes in her concluding chapter, the environmental justice movement, taking its cue from peoples in the Global South who are most adversely impacted by climate change, posed a challenge to free-market authoritarianism in numerous sites in late 2019 and early 2020. Unfortunately, the COVID-19 pandemic has created a lull in the movement, albeit not completely. Darien-Smith (2022: 136) observes that the ‘parallels between the catastrophic wildfires and the pandemic [...] emerge out of the same economic and political global conditions of gross inequality that have been shaping the world for the past fifty years.’

Overall, Malm and the Zetkin Collective’s notion of fossil fascism and Darien-Smith’s notion of free-market authoritarianism bear much structural similarity, although the former draws from evidence on the resurgence of European white ethno-nationalism and the latter from experience in the United States, Australia, and Brazil. Unfortunately, in all these regional or national settings, the corporate-based mass media and neo-liberal think tanks have a strong influence on governmental as well as EU climate policies.

Radical climate futures

As humanity proceeds further into the zone of catastrophic climate change and the capitalist climate governance regime fails to seriously mitigate climate change, humanity needs to entertain radical future scenarios that ultimately transcend capitalism. Over the course of the past four decades or so, various genres of ecological Marxism or ecosocialism have emerged to fill the void. Matthew Huber’s (2022) book *Climate Change as Class War* falls into the techno-optimist genre represented by Leigh Phillips’ 2015 work, *Austerity Ecology & the Collapse-Porn Addicts*. While there is much in Huber’s book I agree with, it is a book that ecosocialists, ecoanarchists and degrowth proponents should grapple with because it takes the notion of class struggle seriously – unlike large segments of the climate movement. Huber asserts that the climate movement is losing the battle to achieve meaningful climate action. He argues for a new ecological

Marxist perspective that identifies climate change as a class issue – one that defines the climate struggle by focusing on production rather than consumption and defines class in terms of people’s relationship to the means of production.

Huber argues that, at present, the climate movement is dominated by a professional class, which includes NGO staff, scientists, journalists, think tank analysts, academics and students. In the Global North, this class formation emerged in full force in the post-World War II era, along with mass deindustrialisation. In contrast to the traditional working class, the professional class engages in mental labour or knowledge work. Huber argues that, in contrast to this highly compromised stratum, only the working class has the capacity to defeat the entrenched power of the capitalist class and serve as the lynchpin of a mass popular climate movement that begins to take meaningful climate action. Huber argues that industrial capital – which includes mining, manufacturing, agriculture and construction – is responsible for the bulk of global greenhouse gas emissions. For example, in 2015, 54.8 percent of global consumption of energy occurred in the industrial sector, 7 percent in the commercial sector, 12.6 percent in the residential sector, and 25.6 percent in transport. Conversely, while the industrial sector in the United States consumed only 34 percent of energy, transport consumed 39 percent in a society based upon decentralized suburban housing, automobility, and long-distance trucking of consumer products. At a smaller scale, these characteristics apply to Australia too.

Huber argues that professional climate politics contains bourgeois and radical variants. The former consists largely of scientific communicators and technocrats who believe that climate science knowledge can spur climate action by policymakers. The radical variant calls for system change, not climate change, and by and large believes that small-scale alternatives and anti-consumerism will erode capitalism as the overarching driver of climate change. Huber takes issue with the degrowth movement which promotes reducing consumption and living simply – at least on the part of most people in the Global North. He maintains that some radical academics argue that the working class in the Global North have contributed to the ecological crisis through an ‘imperial mode of living’ that relies heavily on resources expropriated from the Global South.

In making these points, Huber fails to distinguish between those segments of the working class who are compensated for their alienated labour with

a wide array of consumer items and those who are deprived of the essentials necessary to maintain their sustenance and good health. Many of the latter are concentrated in the Global South but are also among racial/ethnic minorities and women in the Global South and North. He takes a swipe at fellow academics, such as eminent climate scientist Kevin Anderson, for choosing to fly less or not at all, on the grounds that they view altering consumption patterns as meaningful climate action. However, he admits that opting to fly less may stimulate discussions about the large-scale changes needed to address the climate change crisis. Indeed, airplanes serve as a key component of the capitalist world system, moving people and commodities around the world in the drive for profits. Huber calls for a *proletarian ecology* that seeks to ensure that the working class can access the basic needs of life: food, energy, housing, transport, and so forth. He points to the US Green New Deal (GND) as a worthwhile evolving program that seeks to restructure the power grid toward zero-carbon energy sources, investing in green public housing and expanding public transport. Huber argues that GND politics seeks to merge working class and ecological interests into the politics of life. In my view, a radical GND would need to go beyond existing GND schemes by requiring large-scale public investment, public ownership and stringent regulation of emissions.

Recognising that the electricity sector is one of the most unionised sectors in the world and in the US specifically, Huber argues that workers need to start building *ecological unionism* within this locus of struggle. For him, ecosocialism blends workers' power and massive electrification across the globe. He lowers his expectations by arguing that a targeted and sectoral union strategy is more realistic, given the immediacy of the climate crisis, instead of seeking to change everything all at once. He maintains that, because socialism is unlikely to be achieved any time soon, socialisation of the electricity sector is a more achievable endeavour. While Huber does touch upon the work of various ecosocialists, such as Michael Loewy and Ted Benton – largely dismissively – he focuses on degrowth advocates as exemplars of radical climate activism. He sides with Marxist techno-optimists, such as Phillips who has argued that we must promote a Good Anthropocene through economic growth and a wide array of technological innovations, such as new materials to replace steel and concrete, improved battery storage technologies and electric cars. However, this Promethean perspective fails to grapple with the limits to growth and so-called green

technologies reliant on resources in short supply that often require labour-intensive and polluting methods to extract.

In direct contrast to Huber's radical future vision is the book by Troy Vettese and Drew Pendergrass (2022) *Half-Earth Socialism*. Maintaining that environmentalists and socialists need a shorthand to regain political momentum, they draw upon E.O. Wilson's notion of *Half-Earth* which asserts that humanity needs to rewild half of the planet to stop the severe biodiversity loss that is presently under way. Vettese and Pendergrass also argue that the pursuit of global social equality must be part and parcel of Half-Earth socialism. While they cannot say how a 'Half-Earth socialist coalition might come to power', they argue that the dire future that current socio-ecological conditions presage makes 'it is all the more pressing to imagine utopian alternatives to motivate and mobilize the dispirited masses' (pp. 17-8). For them, Half-Earth socialism would entail a massive global planning system which would include the following dimensions:

- supplying 'everyone with the material foundation for a good life - sustenance, shelter, education, art, health - while protecting the biosphere from destabilization' (p. 96)
- setting 'half the earth aside for rewilding to limit the ecocide of the Sixth Extinction' (p. 101), a measure that would require shifting food production drastically away from livestock toward veganism
- the manufacture of solar panels, wind turbines, super-efficient insulation and railways
- massive investment in public transit and renewable energy, including a clean hydrogen industry
- an 'almost complete abolition of private vehicles' (p. 110)
- stabilizing global population at a maximum of 10 billion people
- retrofitting buildings to conserve energy and adapting private mansions and private headquarters to communal use
- rewilding private lawns and golf courses
- wide-ranging improvements to industrial processes to reduce pollution, fuel use, and waste water
- grappling with the 'failures of past socialist societies' (p. 130)
- a serious commitment to democracy and meaningful work.

Despite the numerous shortcomings of the Soviet Union, Vettese and Pendergras argue that it had been a ‘crucial player in the development of climate science’ (p. 126). Ultimately, they view their concept of Half-Earth socialism as a ‘starting point for a deeper discussion of how socialism should function in an age of ecological crisis’ (p. 133). While Vettese and Pendergras cite John Bellamy Foster and Paul Burkett’s (2016) *Marx and the Earth* and Kohei Saito’s (2017) *Karl Marx’s Ecosocialism* and, given some striking parallels between their concept of Half-Earth socialism and ecosocialism, I am quite surprised that they did not grapple more with the extensive literature on it. Ecosocialists, within whose ranks I include Vettese and Pendergras, need to go beyond listing the characteristics of an ecosocialist world to strategies for achieving it within specific nation-states and globally.

Linking climate change and capitalism, climate dystopia and radical climate futures

Organising Responses to Climate Change by Daniel Nyberg, Christopher Wright, and Vanessa Bowden (2023), all Australian academics, is a new book that engages with all three themes in this review essay.

Part I of the book, comprising two chapters, touches upon the politics of climate change and states that anthropogenic climate change constitutes the ‘most pressing issue facing human species’ (p. 3). The authors assert that global capitalism, which ‘relies on continued economic growth and fossil fuel consumption’ (p. 4), is the overall driver of the climate crisis, a position previously taken by various radical scholars (Koch 2012, Klein 2014, Weston 2014, Baer 2021). Importantly, the authors identify the key actors in the link between capitalism and climate change, namely multinational corporations, state-owned enterprises, allied governments and political parties, and supporting institutions such as think tanks and the mass media. They say that the ‘COVID-19 pandemic had toppled many of the assumptions of the global economy during the preceding two years’ (p. 5), albeit only briefly, but governments around the world continue to finance fossil fuel projects, a process that has been intensifying as a result of Russian invasion of Ukraine. Ironically, of the largest contingent of delegates at the 26th Conference of the Parties (COP) held in Glasgow in November was from the fossil fuel sector. While many governments and corporations in recent years have made ill-defined commitments to carbon

neutrality or achieving net zero emissions by 2050, the authors observe that capitalism continues to be addicted to fossil fuels in its drive for economic growth.

Continuing this theme, the authors maintain that the concept of *fossil fuel hegemony* ‘explains the historical process of political strategies leading to the long-standing impasse on climate change’ (p. 24). Drawing on Laclau and Mouffe’s (1985) reworking of Gramsci’s notion of hegemony, they argue that *difference* permits hegemonic projects to ‘connect heterogenic demands and interests in continuously changing formations’ (p. 28). In essence, the fossil fuel industry encompasses a wide array of rival companies that compete; with some of them, such as BP, engaging in renewable energy projects, albeit to a limited extent. In their framing of a commitment to achieving net-zero emissions by 2050, Nyberg, Wright, and Bowdon astutely observe that the prevailing corporate and government responses to the climate crisis prioritise ‘time over place’, thus in essence privileging the ‘rights of those living today over those of generations still to come’ (p. 37) and valuing the ‘wealth of Global North over the well-being of populations in Global South’ (p. 37).

In Part II of the book (‘The Politics of Climate Mitigation’), the authors assert that decarbonisation ‘will necessitate the reduction of emissions not only in energy production, but also in transportation, manufacturing, industrial processes, agriculture and food production’ (p. 42), along with terminating ‘deforestation and the destruction of other critical carbon sinks’ (p. 42) at a rapid speed. Instead, they argue that fossil fuel corporations have attempted to shape public opinion so that they are seen as responsible global citizens; slick marketing and advertising campaigns highlight the purported ‘benefits they provide impoverished and marginal communities’ (46). Around the globe, including in Australia, the fossil fuel industry and governments have sought to identify a shift from coal to gas extraction as a transitional emissions mitigation strategy. Also, while corporations of different types have come to recognise that climate impacts will impact their operations, many of them have the option of relocation.

Operating at the margins of climate politics, one finds a disparate climate movement that has existed globally since around 1989 (Camilleri and Falk 2010: 309). Nyberg, Wright, and Bowden argue that a second wave of the climate movement emerged in the wake of the 2015 COP Paris Agreement that sought to limit global warming to two degrees, preferably 1.5 degrees. Given the limitations of the Paris Agreement, it joined old stand-by actors,

such as 350.org and the World Wildlife Fund (WWF). The authors identify Extinction Rebellion and Fridays for Future as challenging the ‘everyday – an ineffective – politics of climate change’ (p. 76), thus in essence ‘reconstructing what is seen as the “middle ground” of climate politics by developing the radical flank’ (p. 76). Indeed, while both of these groups were highly effective in mobilising climate protests around the world, at least prior to the COVID 19 pandemic, they have tended to be rather vague in challenging capitalism directly, in contrast to earlier ‘direct action’ groups ‘such the Climate Camps in Europe, Australia and New Zealand, anti-airline protesters such as Plane Stupid; the Keystone XL pipeline blockades in the US and the German anti-coal movement *Ende Gelaende*’ that preceded them (p. 74). Unfortunately, Nyberg, Wright, and Bowdon fail to make a distinction between the climate movement that is focused on ecological modernisation, particularly replacing fossil fuels with renewable energy sources, and a smaller climate justice movement that calls for ‘system change, not climate change’, and which includes eco-socialists and eco-anarchists within its ranks (Baer 2021: 166-94).

In Part III of their book (‘The politics of climate adaption’), Nyberg, Wright and Bowden argue that corporations continue to exert an ‘outsized influence on the critical decisions society will make about how to best to address the challenges of increasingly hot, unstable and inhospitable planet’ (p. 88). They maintain that corporations function as the ‘key actors in how climate adaptation is framed and enacted’ (p. 95), a process facilitated by governments and the mass media. Their litany of corporate-friendly variants of adaptation includes the focus of engineering and consultancy industries in ‘building greater resilience in the world’s biggest cities’ (p. 101) and various forms of disaster capitalism. It also includes oil and gas companies’ activities in the Arctic, Russia’s positive framing of global warming as a means for opening the Siberian tundra for agricultural expansion, geo-engineering, and the ‘space race’ of Jeff Bezos and Elon Musk, two billionaires who - along with Bill Gates - have expressed their respective commitments to climate adaptation.

Nyberg, Wright and Bowden say that, whereas vulnerable communities are experiencing the impact of an ‘ecological unravelling’ (p. 109) in the form of intense storms, floods, hurricanes, wildfire, and droughts, the mass media tends to downplay the underlying role of climate change in its reportage of extreme weather events. They maintain that the ‘localised nature of adaptation initiatives’ leaves these communities ‘susceptible to a lack of resources, potential corruption, short-term preferences, and other

structural constraints' (p. 116). Whereas NGO civil society has served to expose injustices in their advocacy for the powerless, it has tended to focus on climate mitigation in the Global North and climate adaptation in the Global South.

Part IV of the book ('The politics of climate suffering') discusses how corporations have positioned themselves as forces for good in defending themselves against criticisms by NGOs and climate activists. Indeed, some NGOs have been co-opted by such corporate assertions, such as when WWF accepted a \$US100 million donation from Amazon founder Jeff Bezos. Nyberg, Wright, and Bowden examine how people adversely impacted by climate change and environmental devastation have challenged their characterisation as powerless victims by 'making it a potential driver for democratic mobilisation' (p. 149). Representatives from these communities have even utilised COP events as a platform for stating their case. In doing so, 'communities at the forefront of climate change impacts have brought to bear in unavoidable ways, the injustices and the implications of the outcomes for all of the fossil fuel hegemony continues unabated' (p. 157).

Finally, in Part V ('The politics of climate future'), Nyberg, Wright, and Bowden recognize that 'simply implementing renewable energy on a large scale does not necessarily break the links between environmental damage and the constructed foundations on which capitalism rests' (p. 171). They argue that, in contrast to the green capitalist objective of decoupling economic growth from pollution and emissions, 'degrowth calls for an altogether different kind of economy' (p. 174). While indeed some degrowth advocates, such as Jason Hickel (2020), make a case for a post-capitalist world system, others such as Serge Latouche, a pioneer of the degrowth movement, believe that degrowth is achievable within capitalist parameters (see Foster 2022: 367). Finally, in their call for a deeper democracy or what they term *energy democracy*, Nyberg, Wright, and Bowdon maintain there is a need for 'communities' direct involvement in energy governance and their increased participation in decisions on production and consumption' (p. 179).

As the authors observe, while the COVID-19 pandemic provided corporations and governments with an opportunity to 'push back against global climate activism' (p. 183), there are signs that it is being reactivated, although slowly. They delineate three trajectories that have emerged recently that reframe and grapple with the climate crisis, namely what they

term *transformismo*, Caesarism, and scission. Following Gramsci, *transformismo* entails incorporation of the population into a hegemonic regime, thus at least in Western societies constructing an ‘equivalence between a more “sustainable” growth economy and individual consumption’ (p. 186). In this process, corporations and governments try to convince people that ‘clean coal’ and natural gas serve as devices to reduce emissions while maintaining fossil fuel hegemony. Following Gramsci again, Caesarism refers to emergence of a great man who presents himself as offering solutions to an uncertain situation. Thus, like Mussolini, figures such as Donald Trump, Xi Jinping, Vladimir Putin, and Jair Bolsonaro are regarded by their supporters as the solution of the failings of democracy. The authors argue that, although ‘corporate leaders have generally been careful in their public endorsement of such populist leaders, the fact is that many traditional industries have benefitted greatly from the diminishing of environmental protections and the rejection of any form of emissions rejection’ (p. 188). Whereas *transformismo* and Caesarism are hegemonic processes, scission is a counter-hegemonic process such as manifested in the climate movement forming solidarity with the victims of the climate crisis, not only in the Global South but also in the Global North. Nyberg, Wright, and Bowdon argue that bodies such as left-wing government of Kerala, the Left-Green Movement in Iceland, and other regional entities ‘seek to connect climate politics with democratic struggles and aim to interlink on a global level to cooperatively negotiate and create climate democracy’ (p. 191). Of the three scenarios, the authors admit that it is difficult to say which will prevail over the long term, although their preference is for scission.

Conclusion

The eight books reviewed in this essay pose the challenge of determining how we can collectively address monumental political economic, social structural, demographic and ecological problems, while securing a healthy global community, made harder by the on-going COVID-19 pandemic. All these concerns require a safe climate. It is become clearer that capitalism is the overarching driver of climate change as well the larger socio-ecological crisis. In the short run, humanity faces climate dystopian scenarios, given that the various measures to mitigate climate change, ranging from COP declarations to carbon pricing and techno-fixes, are not

being successful in significantly reducing emissions. Although ecological modernisation and green capitalism presently constitute hegemonic mitigation agendas, more scholars and activists are envisioning radical climate future scenarios.

The creation of a healthy planet for humanity, non-human and plant life, and planetary ecosystems will require long-term transcendence of the existing capitalist world system and a movement towards a more equitable and ecologically responsible global order. Emergence of such a mitigation strategy is dependent on a vision for an alternative to the present global capitalist world order. Proposals such as global democracy and eco-socialism constitute long-term steps in the creation of a better world for both humanity and the health of its inhabitants and the planet. The application of these radical transitional reforms will require adaption to the varied political, economic, and sociocultural traditions and ecological conditions in both developed and developing societies.

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