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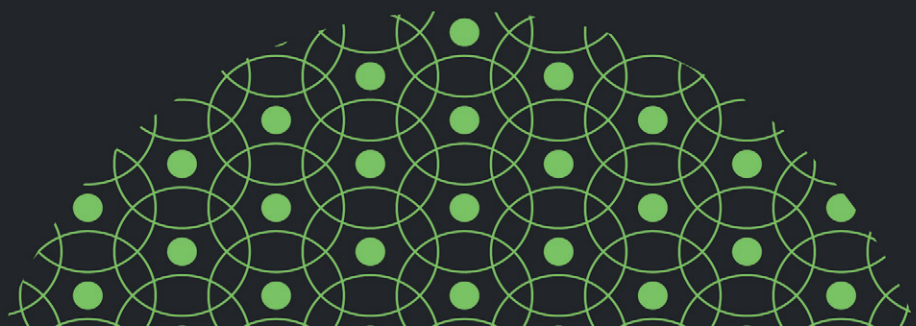
RADICAL ENVIRONMENTAL RESISTANCE

Love, Rage and Hope in an Era of Climate and Biodiversity Breakdown

HEATHER ALBERRO



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Love, Rage and Hope in an Era of Climate and Biodiversity Breakdown

BY

HEATHER ALBERRO

Nottingham Trent University, UK

emerald PUBLISHING

United Kingdom – North America – Japan – India
Malaysia – China

Emerald Publishing Limited
Emerald Publishing, Floor 5, Northspring, 21-23 Wellington Street, Leeds LS1 4DL

First edition 2024

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-83797-379-8 (Print)
ISBN: 978-1-83797-378-1 (Online)
ISBN: 978-1-83797-380-4 (Epub)

To my dearest family, friends and all terrestrials – human, feathered, with fur and scales – who I'm honoured to share this home with. You are the hope that can dispel the darkest horizons.

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INTRO

The Cambridge Dictionary defines an 'insurgent' as 'someone fighting against the government in their own country', and relatedly as a person or groups of people 'opposing political authority' (CUPA, 2023). Both of these understandings are closely associated with activists or activism as forms of (sometimes radical) opposition to the status quo, or hegemonic socio-economic and political systems and associated values, norms and behaviours. Socio-ecologically turbulent times are conducive to radical resistance against their perceived driving forces, which can be seen across the political spectrum. For instance, recent and worsening socio-economic downturn, cultural antagonisms and climate-related insecurities have seen the rise of the populist far-right parties and far-right extremism and ecofascistic ideologies surging across Europe, the United States and elsewhere (Georgiadou et al, 2018). However, left-mobilisations for greater equity, diversity, inclusiveness and climate justice have also proliferated in recent years, building on an expansive tradition of labour, anti-slavery, feminist, anti-imperial and ecological social movements, often in allyship with countless indigenous peoples today fighting against the (neo)colonial appropriation and annihilation of their lands and ways of life. Insurgency, in these latter instances, takes the form of a vehement refusal of an exploitative and profoundly unsustainable status quo, of a pervasive logic that sees value only in that which is deemed profitable. But beyond mere negation, these insurgent movements are also a vociferous, unrelenting affirmation of the enduring possibility of other, more sustainable and inclusive worlds. This recalls American activist Grace Lee Boggs' powerful aphorism 'Another world is necessary, another world is possible, another world is happening' (Boggs and Kurashige, 2012), which captures the essence and raison d'etre of social movements, from the Suffragettes to Black Lives Matter and Extinction Rebellion. This book offers some brief, critical insights into the latter strands, specifically radical environmental movements, as insurgent possibilities for multispecies-just futures.

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THE ERA OF 'GLOBAL BOILING'

As I write, the world has warmed over 1°C since the Industrial Revolution, one of the key watershed moments that altered the course of modern history in myriad and fundamental ways. The effects of this seemingly insignificant degree of excess heat in a system as complex as the climate are already painfully apparent. The recent catastrophic floods in Pakistan which displaced over 33 million people and destroyed millions of acres of agricultural land (UNICEF, 2023) are but the latest reminder that climate change is no threat looming on a distant horizon, but is already here, and indeed has been so for some time, especially for the world's most marginalized populations. In this rapidly warming world, with climatic changes that continue to outpace expert predictions, the decades ahead will see more violent storms, raging wildfires, prolonged droughts, rising food insecurity due to crop failures, millions of people – human and other-than-human – on the move in search of habitable dwelling places and intensified geopolitical conflicts. The first segment of the Intergovernmental Panel on Climate Change's (IPCC's) sixth assessment report (2022) warned that without 'rapid and deep' emissions reductions through fundamental transformations of everything from the housing sector to energy, transport and agriculture, 'GHG emissions are projected to rise beyond 2025, leading to a median global warming of 3.2 [2.2 to 3.5] °C by 2100' (p. 21). This is a frighteningly far cry from the upper limit of the Paris Agreement's objective of limiting warming to under 2 degrees by 2100. A 3-degree world would be nothing short of apocalyptic for much of life on earth. To put the situation into perspective, one recent international study of climate-related mortality suggests that up to an additional five million lives were lost annually between 2000 and 2019, a period which saw a 0.26°C rise per decade, due to extreme temperatures (Monash University, 2021). The World Health Organization predicts an additional 250,000 deaths *per year*

[emphasis added] between 2030 and 2050, at the conservative end, from health-related impacts of runaway climate change.

The final segment of the IPCC's sixth assessment report (2023), a compilation of eight years' worth of investigations of anthropogenic climate change, has issued a 'final warning', urging swift and radical action in order to stem irrevocable socio-ecological chaos. In addition to implementing radical transformations across multiple sectors, predominantly in industrial-capitalist societies, the report emphasizes that any new fossil fuel projects would be utterly incompatible with keeping warming below 2 degrees by 2100. It's important to highlight that the warming effects of rising greenhouse gas emissions are cumulative. Long-term and end-point targets such as reaching 'net zero by 2050' 'have no scientific basis. What governs future global temperatures and other adverse climate impacts are the emissions from yesterday, today and those released in the next few years' (Anderson and Bows, 2012, p. 639). In other words, pledging to reach carbon neutrality by 2030, 2050 and beyond amounts to far too little, too late. And yet, such long-term targets remain key pillars of global climate politics. And even by its own standards, the global community is falling abysmally short. According to the Climate Action Tracker, which ranks countries' climate mitigation plans (39 countries in addition to the European Union, covering 85% of global emissions) from '1.5°C Paris Agreement compatible' to 'critically insufficient', as of August 2023, most countries' pledges fell within the 'Highly insufficient' and 'Insufficient' categories (Climate Action Tracker, 2023a). None were compatible with the Paris Agreement's more ambitious target of limiting warming to 1.5°C. In an almost comical farce, the UAE, which is set to host COP28, still plans to increase fossil fuel production and consumption (Climate Action Tracker, 2023b). Such accumulated neglect has already been bearing fruits: in early July 2023, countries around the world recorded their hottest days ever – for four days in a row – with the Death Valley, California, purportedly reaching an unimaginable 56.7°C. The new global average temperature of 17.18°C also shattered previous records, with resulting wildfires and other heat-related casualties. July 2023 shattered precedents as the hottest month ever recorded in human history, prompting the UN Secretary General Antonio Guterres to herald the onset of the era of 'global boiling' (Niranjan, 2023a).

BIOLOGICAL ANNIHILATION

In May 2019, a landmark and unprecedentedly comprehensive report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem

Services (IPBES) uncovered the truly dire state of life on earth, with approximately 1,000,000 known animal and plant species threatened with extinction. In their recent analysis of current rates of species loss in comparison to those seen during previous mass extinction events on Earth,[1] Ceballos et al. (2020) note an 'extremely high degree of population decay' in countless vertebrate species that is at least hundreds to thousands of times higher than 'natural' background rates of extinction, offering irrefutable evidence of a sixth mass extinction. The World Wildlife Fund's (WWF's) 2022 Living Planet Report examines the 'double, interlinked emergencies of human-induced climate change and the loss of biodiversity' (p. 4) through an analysis of findings from such indices as the Living Planet Index (LPI). The latter tracks the global state of biodiversity and ecological health via an extensive compilation of data sources on thousands of vertebrate species (mammals, birds, fishes, amphibians, reptiles) across the globe (WWF, 2022). The report (WWF, 2022) denotes that due especially to land-use changes, especially for agricultural expansion, the earth has experienced a staggering 69% decline of relative abundance of monitored wildlife populations around the globe between 1970 and 2018. Its key assessment: A 'nature-positive future' needs 'transformative – game changing – shifts in how we produce, how we consume, how we govern and what we finance'. In other words, what's required are fundamental changes across every sector of high-consuming industrial-capitalist societies.

While comprehensive measures of the state of the world's invertebrates tend to be comparatively limited, a recent study documented 'catastrophic' declines in global entomofauna (insects), with nearly 40% threatened with extinction; particularly vulnerable are species in the Lepidoptera taxa, which includes butterflies and moths (Sánchez-Bayo and Wyckhuys, 2021). Many have pointed out that what makes the present era of so-called biological annihilation, also referred to as 'defaunation' (Dirzo et al., 2014), unique is that 'a preponderance of evidence' suggests that rather than resulting from some external threat or cataclysmic climatic event, this time a 'single species' – humanity – is the leading cause (Cafaro, 2015; Bar-On et al., 2018). Many emphasize that the most common threats to species include anthropogenic over-exploitation, habitat fragmentation and degradation, especially for agricultural intensification and expansion (WWF, 2022), pollution, toxification, climate change and related diseases, threats which often interact iteratively and reinforce each other in complex ways. The same is deemed to be the case with 'anthropogenic' climate change. As conservation scientist Gerardo Ceballos (2016) laments, 'we are in the midst of a massive assault on living things, causing the loss of millions of populations and thousands

1 Such as the devastating Permian–Triassic event around 250 million years ago, which wiped out 95% of all living species.

of species', species which are 'our companions in our travel across the universe' (p. 290; 1). Ceballos (2016) further muses that this is no mere existential crisis threatening the continuity of human life but, fundamentally, an ethical one implicating the steady erosion of intricate multispecies relations forged over vast swaths of space and time. But, who is this destabilizing 'anthropogenic' figure responsible for so much ecological damage?

THE AGE OF 'HUMANS'?

'Anthropogenic' climate change and ecological degradation have spurred debates about when the 'Anthropocene', or the novel era marked by a globally destabilizing 'human activity', commenced. As discussed above, a key watershed moment centres on the monumental transformations that followed the industrial revolution and the associated large-scale extraction of atmosphere-altering fossil fuels from the earth (Crutzen, 2006). This monumental historical development began to alter earth-system functioning and generate impacts *outside the range of natural variability* (Steffen et al., 2015) through, for instance, the appearance of notable stratigraphic signatures in ice and sediments (Waters et al., 2016). The now widely established periodization of the Anthropocene around 1800 (Steffen et al., 2011, p. 849) was initially made by the Dutch meteorologist Paul J. Crutzen (2006; Crutzen and Stoermer, 2021) when ice core data revealed considerable spikes in global concentrations of CO_2 and methane (CH_4) arising from the industrial-scale burning of fossil fuels. In 1850, atmospheric CO_2 concentrations were at 285 ppm (parts per million), at the upper reach of natural Holocene variability of 260–285 ppm. By 1900, this number had climbed to 296 ppm, denoting an 'unmistakable human imprint' (Steffen et al., 2011, p. 848–9) on the earth's atmosphere. From this moment onwards, humans seemingly developed the capacity to alter the very chemical composition of the earth's atmosphere (Steffen et al., 2011, p. 846). Of course, humans are not the first or primary Earth movers; As Donna Haraway (2015) observes, bacteria and their kin have always been and remain the primary terra-formers, as the COVID-19 pandemic demonstrated in full force.

Since the 1800-marker, a new periodization has taken centre stage: the post-1945 era of mounting socio-ecological upheavals known as the 'Great Acceleration' (Steffen et al., 2015). The Polish geologist Jan Zalasiewicz (2015) notably suggests that the world's first nuclear bomb explosion on 16 July 1945 at Alamogordo, New Mexico, marks the Holocene–Anthropocene

boundary. And this is rather fitting considering that from this period onwards, there appears an 'explosion' of the 'human' enterprise through near exponential increases – especially in the Global North – in consumptive and productive activities, and particularly after the late 1970s (Steffen et al., 2015) with an onset of neoliberal capitalist globalization. The post-war era of mass production and consumption in the form of soaring world trade and GDP has led to stratigraphic deposits that now contain novel materials such as plastics and concrete (Waters et al., 2016). Human bioturbation ('anthroturbation'), denoting significant disturbances of landscapes, soil morphology and earth sediments resulting from such activities as mining for mineral extraction and fracking, has far exceeded that of any other-than-human organisms while placing unprecedented pressures on keystone bioturbators such as earth worms (Zalasiewicz et al., 2014). It would appear that no place, not our food (Karami et al., 2017), our bodies (Anbumani and Kakkar, 2018) or even the earth's crust is devoid of the ubiquitous presence of industrial humanity. However, as discussed below, this emphasis on a homogenous and universal 'humanity' conceals and perpetuates a multiplicity of inequalities and injustices that underlie vastly unequal impacts on earth systems. Moreover, the politically fatalistic implication – and at times explicit assumption – that all of humanity is equally at fault leaves little room for effecting the fundamental societal transformations that are needed as a matter of urgency. If the current crises were the result of some innate and universal human tendencies, then we may as well throw in the towel. If, however, our socio-ecological woes are attributable to certain historical forces, socio-economic, political and value systems, then there is indeed scope for change.

THE CAPITALOCENE

Helpful as it has been in calling attention to unprecedented global socio-ecological transformations, the Anthropocene narrative has many serious pitfalls in its assumptions, as well as ethical and political implications. Thus, many (Malm and Hornborg, 2014; Moore, 2017) have problematized the totalizing 'we' implicated in dominant Anthropocene discourses, shedding much needed critical light on the structural roots of contemporary socio-ecological disintegration. For instance, Ferdinand (2021) refers instead to the 'plantationocene' (Haraway, 2015) marked by the plantation at the 'center of the colonial inhabitation of the world'; this violent, racist and patriarchal system radically overturned pre-1492 ecosystems (p. 38) by transforming the land from that which nourishes peoples who inhabit it

to something to be enclosed and heavily exploited largely for the enrichment of a few local colonists and overseas shareholders (pp. 38–40). So, the problem is not the rise of agriculture or the 'Neolithic Revolution' per se, but specifically of plantation, industrial,[2] commercial-style agriculture. This differs starkly from, for example, *conuco* agriculture practiced by pre-Columbian Amerindian groups like the Arawaks, wherein crops such as sweet potatoes and manioc root were cultivated together with care so as to prevent soil erosion (Ferdinand, 2021, p. 39). Jason Moore (2017) similarly locates the origins of our socio-ecological woes in capitalism's early modern period, beginning with Columbus' conquest of the Americas and the 'epochal transitions in landscape transformation after 1450' (p. 596). The year 1610, to be precise, saw the widescale reforestation of the American continent – and subsequent mass sequestration of CO_2 from the atmosphere – following the systematic extermination of the region's native populations (Lewis and Maslin, 2015). For Moore, the radical reshaping of global natures ushered in by capitalism and its violent dispossessions, and land grabs caused social and ecological havoc long before the invention of the steam engine (p. 596). Moore (2017) challenges the 'techno-determinist' and Eurocentric 'Anthropocene' discourse and instead opts for the more precise term 'Capitalocene' – the historical era shaped by the 'endless accumulation of capital' (p. 596). Colonialism and capitalism expanded their power in tandem from the 16th century as European colonial powers plundered distant peoples and places under the pretence of developing – or 'civilizing' – them (Jazeel, 2012). By 1914, Europe held sway over more than 85% of the rest of the globe (Morrell and Swart, 2005, p. 61). Colonialism as a system of *exploitation* required not merely the formal annexation of countries but their *economic subordination* to the reproduction of capital in dominant Western countries (Pradella, 2013, p. 122). The subsequent underdevelopment of regions peripheral to the West/Global North has been central to processes of capitalist development, with former colonies and developing countries providing continued access to cheap labour and raw materials (Ghosh, 2021).

More precise designations like 'Capitalocene' are important for drawing attention to the central role of power asymmetries in driving socio-ecological decline. In this vein, Amitav Ghosh (2021) refers to the 'Fog of numbers', namely the focus on per capita footprint in mainstream climate change debates, which can create a highly skewed picture of the major drivers of climate breakdown:

2 This aspect, of course, is not exclusive to colonial capitalism but also was a central pillar of the disastrous Soviet-style '5-year plan' (Solnit, 2021).

> *They invariably attribute the size of an American's per capita footprint to intensive consumption, in the form of gas-guzzling cars, wasteful usage of domestic energy, meat-heavy diets, and so on. In this framing, climate change becomes a matter of* individual responsibility *and consumer choice. What these graphs and charts exclude, of course, are* institutional emissions, *like those related to the US military and to the projection of American power. (p. 151)*

Ghosh goes on to highlight how, conveniently, military emissions were excluded from negotiations at the 1997 Kyoto protocol due to US pressure. Today, the Pentagon – the headquarters of the global US military juggernaut remains the largest consumer of energy in the United States. The top 'oil majors' (i.e. Shell, BP, ExxonMobil) continue to reap record profits while perpetuating a global fossil fuel economy that daily embeds another nail in the 'climate coffin'. Of course, this doesn't mean that those of us in wealthy countries should stop, where possible, trying to reduce our meat consumption and individual car use, especially that of SUVs, along with similarly ecologically destructive activities. It is indeed true that the carbon and ecological footprint of the average American or German, for example, is substantially higher than that of the average Burundian, itself a reflection of the wildly unequal global distribution of resources. Indeed, the average American lifestyle, let alone that of the wealthiest 1%, is utterly incompatible with a habitable planet and viable future. Moreover, such figures offer a vital counterpoint to deeply problematic neo-Malthusian discourses still rife within contemporary environmental debates (Population Matters, 2023) that blame human numbers, rather than rapacious consumption patterns fuelled by growth-oriented socio-economic systems, for contemporary ecological ills. However, the crucial point that Ghosh is making is that the climate crisis is the result of centuries of structurally embedded and iterative forms of exploitation and inequalities. Such a complex and multidimensional crisis ultimately requires concerted and targeted *political* action against the systems most responsible (i.e. colonial capitalism, patriarchy, anthropocentrism, racism, homophobia), in service of fundamental societal changes. In other words, structural problems require structural, not merely individual or technological, solutions; they require the mass disruption and destabilization of entrenched power structures. As we'll see throughout this book, many contemporary (radical) environmental movements seek to take on precisely such a Herculean task.

THE RADICALS

Anderson and Bows (2012) in their provocative article alluded to above note that in mainstream deliberations about the climate and biodiversity crisis, the 'Elephant in the room sits undisturbed' (p. 640) – i.e. a global capitalist system based on endless growth and material consumption, which is wholly incompatible with IPCC climate mitigation targets. Indeed, it is becoming increasingly apparent that decades of 'sustainable development', a Western paradigm predicated on a 'technocratic discourse' which frames the ecological crisis as 'an *apolitical* problem requiring techno-managerial fixes', have largely failed to meet even their own criteria of 'the good life'. The multiple externalities of this approach, which proclaims the commensurability of endless economic expansion (for an increasingly minute global elite) with socio-ecological integrity, continue to mount. Hence, the growing recognition that sustainable development as the main policy framework guiding supranational organizations like the United Nations, governments and businesses have 'proven incapable of guiding socio-ecological transformation taking capitalist consumer societies beyond their underlying logic of instrumentalization, domination and exploitation' (Blühdorn, 2022, p. 150). Similarly, in their meta-analysis of over 3,000 scientific studies on the Sustainable Development Goals (SDGs) published between 2016 and 2021, Biermann et al. (2022) conclude that the impact of the SDGs has been 'largely discursive, affecting the way actors understand and communicate about sustainable development. More *profound* normative and institutional impact, from legislative action to changing resource allocation, remains rare. . .scientific evidence suggests only *limited transformative political impact* [emphasis added] of the Sustainable Development Goals thus far'.

However, as others have rightly pointed out (Blühdorn, 2022), the sustainable development framework was never designed to challenge Western understandings of progress and development, nor consumer capitalism and its 'core principles' of endless growth and shareholder profitability. As Blühdorn (2022) observes, 'sustainability has never been a transformative project, but more than anything, a defensive project' (Blühdorn, 2022, p. 151). In the words of Algonquin ecologist Carol Crowe, 'This sustainable development sounds to me like they just want to be able to keep on taking like they always have. . .' (in Kimmerer, 2013, p. 53). Decades of 'sustainable development' have not only failed to ameliorate major development issues like extreme inequality, biodiversity and climate chaos, but rather in most cases have presided over their intensification (Stoddard et al., 2021). Enter radical environmental activists (henceforth REAs), actors who demand, and mobilize for, systemic and paradigmatic transformations to the wildly unsustainable and unjust status quo. The word 'radical'