Introduction
With or Without Us: Literature and the Anthropocene

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'Coming events cast their shadow before', wrote the poet Thomas Campbell in 'Lochiel's Warning' (1802). The Anthropocene is the proposal that we have entered a new geological epoch marked by humanity's indelible alteration of the Earth: its rock strata, ecosystems, atmosphere. This book is about how the Anthropocene presages an altered future for the Earth, animals, plants and humans, and how, if at all, literature might help us live in that future. I am writing now, though, under a different shadow – that cast by Covid-19 on health, everyday life and humanity's social, economic and cultural being.

The Anthropocene was initially proposed in 2000 by atmospheric chemist Paul Crutzen and marine ecologist Eugene Stoermer. At the time of writing it is yet to be ratified,[1] but it was debated at the International Geological Congress in 2016 and affirmed by a majority of 88 per cent when, in May 2019, the Anthropocene Working Group (AWG) met in Cape Town.[2] Both the start date of the Anthropocene and its Global Stratotype Section and Point (GSSP) or 'golden spike' – a 'distinct and measurable signal of human presence in the geological record'[3] that would confirm the new epoch – remain under debate. As highlighted in this book's timeline, perhaps the Anthropocene began 8,000 years ago with forest clearance, human settlement and early agriculture[4]; or corresponds to Modernity – the establishment of global trade links and rising CO_2 levels (from about 1610) or James Watt's invention of the steam engine in 1784[5]; or perhaps, as the AWG seems to have concluded, it began with the post-1945 'great acceleration' – parallel lines of population increase, gross domestic product (GDP), nuclear proliferation, energy, and water use and their seismic consequences: devastation of ecosystems; polluting of land, sea and air; climate change; the extinction of plants, animals, eventually, perhaps, humans. All potentially cataclysmic but nonetheless frequently overshadowed by superficially more significant events – the pandemic or the 2007–8 global financial crisis.

And yet, the configurations of Covid and the Anthropocene are near identical. Both appear to confound human understanding. Like climate change, Covid-19 fills global space but can only be seen in the abstract: maps, graphs, bar charts, spiky visualisations of the virus itself. Both, too, are intimate. Contemporary environmental ailments – asthma, heart failure, bronchitis, premature births – and nineteenth-century industrial diseases – tuberculosis or cholera – are, like Covid-19, incubated by air, overcrowded housing, poor hygiene and poverty. Covid likewise evidences a tension which, for historian Dipesh Chakrabarty, underlies the Anthropocene, between two conceptions of the human: the Latin *homo* and the Greek *anthropos*. *Homo*, the rational individual of humanism, acts purposefully, socially, with a sense of justice. *Anthropos*, the human as *species*, acts blindly, from self-interest and with often ruinous cumulative force.[6] Elements of the pandemic – stockpiling, the occasional flouting of social distancing, denial even – make all too visible the inability of *homo* to rein in *anthropos*. Our corresponding, even greater inability to stop flying, driving or buying needless consumer goods is why climate change, pollution or mass extinction may prove impossible to stop.

Arguably a more specific picture frames both Covid-19 and the Anthropocene: the 'Capitalocene'.[7] One interpretation is that it's not humans per se who have created 'this fragile Earth' but human activity under capitalism: imperialism and global trade; plantations and industrial-scale agriculture; factories and the carbon economy (what Andreas Malm calls 'fossil capital'); the twentieth century's acceleration of consumerism. In *The Mushroom at the End of the World*, Anna Lowenhaupt Tsing tracks the complex commodity chain of the valuable matsutake mushroom into capitalism's dark corners: jungle fighters, industrial forestry, corporate negligence about food sources.[8] If we practised the vigilance of Tsing to trace the origins of Covid, that vigilance would lead us into equivalent recesses: the factory farms and wet markets in which tightly crammed animals most likely incubated and passed on the virus; global merchant banks investing in Chinese poultry farms; the international business travel and holiday cruise ships that carried the virus around the world. Pursuing these correspondences, Covid-19 might highlight likely consequences of climate change too – soil erosion, droughts and floods, water pollution, insect loss. Contact tracing the virus might stop us pretending that the precariousness of food, farming and nature in elongated international supply chains is inconsequential.[9]

'I do not intend to conflate ecological with epidemiological calamities, though of course they can be intimately linked', wrote Anahid Nersessian

in 2013.[10] This is underlined in one final convergence. In Tsing's study the matsutake mushroom is both a survivor – of Hiroshima, of commercial logging – and an enabler of alternative lifestyles, for instance, for a community of pickers in Oregon living in coexistence with nature. Covid-19 has allowed us to glimpse hitherto marginal existences and the possibilities of a better life: azure vapourless skies, emptier roads, birdsong. In April 2020, the Centre for Research on Energy and Clean Air reported a 10 per cent monthly reduction in particulate matter pollution and, in Europe, an estimated 11,000 fewer air-pollution-related deaths.[11] Global CO_2 emissions decreased by 17 per cent.[12]

Yet atmospheric CO_2 keeps rising. So, how do we offset the danger 'that the clean air of early [Covid] lockdown will be but a footnote in the narrative of environmental catastrophe'?[13] The Anthropocene is unprecedented. Its future, our future, is unknown. Coupled with the likelihood of human activity having created an ungovernable, catastrophic planet, with earth system feedbacks such as methane release threatening changes where human populations would dwindle, collapse or die[14] – Alan Weisman's *The World without Us*[15] – there is considerable risk of epistemological paralysis. Yet Higgins and Somervell remind us in this volume (Chapter 10) of an alternative etymology, the Greek *katastrophē*: an 'overturning' or 'sudden turn' in individual or cultural consciousness. In that sense, the one upside of Covid-19 implies that the Anthropocene, too, could become the 'Cosmocene' imagined by geographer Jamie Lorimer:

> The Cosmoscene would begin when modern humans became aware of the impossibility of extricating themselves from the earth and started to take responsibility for the world in which they lived—turning to face the future, rather than running from the past, and acknowledging, building, and absenting from relations with all the risky, sustaining, and endearing dimensions of the planet. The Anthropocene would become a staging point, the threshold at which the planet tipped out of the Holocene before embarking upon a post-Natural epoch of multispecies flourishing with its own, perhaps less dramatic, stratigraphy.[16]

The opportunity, writes Kate Rigby, 'for deeper understanding and, potentially, new directions'[17] is why, even pending ratification, the *concept* of the Anthropocene has generated an explosion of interest in the social sciences, humanities and literature. As Hannes Bergthaller (Chapter 12) says in this book, how we think about, write about and 'characterize the Anthropocene and what we believe it to be will change what the Anthropocene *is*'.[18] Taking that opportunity will first require, as Chakrabarty says about history, 'probing the limits' of our discipline.[19]

Flailing

> Cemeteries give a more powerful push toward civilization in a single season of scarlet fever than all your dramas, diaries, poetry, pamphlets, orthographic reforms, and propensities do in a year.[20]

Crises engender what Lauren Berlant calls 'genre flailing', a 'mode of crisis management' that arises when long-standing practices, like literature or literary criticism, seem useless and become 'disturbed in a way that intrudes on one's confidence about how to move in it'. Trying not to despair, we 'improvise like crazy' where '"like crazy" is a little too non-metaphorical'. We throw 'language and gesture and policy and interpretations at a thing to make it slow or make it stop'.[21] Flailing can be iconoclastic – nullifying any sense of what literature can do – or defensive. It 'can be fabulously unimaginative, a litany of lists of things to do, to pay attention to, to say, to stop saying . . . in the pinch of a crisis we return to normal science or common sense—whatever offers relief in established clarity'.[22] As lovers of literature, we may, for example, prove reluctant to let go of established forms like (say) narrative fiction or lyric poetry. Yet, Berlant sees this 'ambivalence toward opening our objects to a transformation whose effects are not foreclosed'[23] as beneficial. It makes us better able to hold on to what remains valuable: 'whenever one is destroying some things in the object one is also trying to protect something else in it that matters, [and] that deserves a better world for its circulation'.[24] Together we flail; but together we defend and adapt our practices towards an 'aspirational co-being' better suited, one hopes, to altered circumstances.[25]

Underpinned by the chapters in this book, Berlant's advocacy of a practice that disturbs rather than destroys will be the template, in this introduction, for how literature can and has adapted to the proposed new epoch. To get there, however, we first have to confront the fact that the Anthropocene has eroded confidence in how, and even whether, literature can move in this new world.

'There's a Scale to This Shit That I Don't Think You're Getting'

Disturbed by the 'shock of the Anthropocene', literature and literary form have been flailing.[26] This is partly because of a paradox foregrounded in Richard Powers' multi-layered Anthropocene novel *The Overstory* (2018). An environmental activist suggests: 'The best arguments in the world won't change a person's mind. The only thing that can do that is a good

story.' Yet in another passage, describing a married couple reading their way through *The Hundred Greatest Novels of All Time*, it is remarked:

> To be human is to confuse a satisfying story with a meaningful one, and to mistake life for something huge with two legs. No: life is mobilized on a vastly larger scale, and the world is failing precisely because no novel can make the contest for the *world* seem as compelling as the struggles between a few lost people.[27]

This echoes key critiques concerning literature and the Anthropocene. In *The Great Derangement*, Amitav Ghosh argues that dominant literary forms evolved at about the same time as 'the accumulation of carbon in the atmosphere was rewriting the destiny of the earth'. Accordingly, an absence of climate crisis in (specifically) literary fiction implicates literature's 'practices and assumptions', especially those of the novel, in a 'deranged' collective evasion of climate change in social and cultural discourse.[28] Yet, nineteenth-century novels describing the ecological disturbance wrought by cities and industrialisation, post-colonial literature, in the twentieth century, documenting the impact of resource wars on environments and people, and an accelerating number of contemporary 'literary' treatments of ecological crisis all question the extent to which writers have evaded humanity's rising ecological impact.[29]

A more persuasive critique argues that literature is ill-equipped to address a requirement, in the Anthropocene, for human perspective to readjust to vast spatial, temporal and existential scales.[30] Literature is habitually structured to a human scale – households, workplaces, villages, towns or cities.[31] Narratives and perspectives centre on human drama (events happening to individuals, families or communities) and invariably reach humanly meaningful or rewarding conclusions with proportionately little account of environments, other animals or the Earth.[32] The Anthropocene begs fundamental questions, therefore, about literature: how can personal narrative or the notion of the autonomous individual, central to conventions ranging from the novelistic or dramatic protagonist to the essayist, nature writer, gamer or poetic 'I', really help us reflect on the overlapping geological, environmental and interspecies dimensions of humanity's impact on the Earth; or foster the collective ecological consciousness, and activism, required to address that impact?

Fundamental to this assessment has been the 'scale critique' developed by critics such as Timothy Clark and Derek Woods. The Anthropocene is propelled by vast 'Hyperobjects' – the global economy, the Earth system, climate. This might encompass the cumulative agency of *anthropos*,

although, as Woods argues, what is actually changing the Earth is not humans but, rather, 'large-scale' assemblages. Composed of 'horizontal patterns of relation among ontologically different entities' (which exist in 'discontinuous scale domains'), assemblages conglomerate human, non-human and technological agency.[33] If the task is to work out which 'mediators' might best capture the scale and complexity of hyperobjects or assemblages,[34] Clark, in particular, seems to have concluded that realities which are 'invisible at the normal levels of perception' and can 'only emerge as one changes the spatial or temporal scale at which the issues are framed'[35] demand non-literary forms of representation. An example might be the Spanish architect Nerea Calvillo's 'In the Air' project, which makes visible how microscopic agents (gases, particles, diseases) react upon cities.[36]

Perhaps, as Clark suggests, cumulative, global 'geological force', human or otherwise, can only be represented 'as a totality . . . in graphs, statistics and computer projections', not in the individualist mode of, for example, the realist novel.[37] Scale critique issues a challenge that any conception of

A 2009 'In the Air' example showing Santiago, http://intheair.es/santiago/.
Architect: Nerea Calvillo; Collaborators: Katha Caceres, Francisco Calvo, Christian Oyarzun and Ricardo Vega; Funding: Video and Media art biennale of Chile BVAM09 and the Spanish Agency of Cooperation and Development (AECID).

literature and the Anthropocene must answer. It is addressed throughout this *Companion* most notably by Sean Cubitt (Chapter 2), Mandy Bloomfield (Chapter 3), Astrid Bracke (Chapter 4), Sam Solnick (Chapter 13) and Pippa Marland (Chapter 17). These – and other, preceding studies – suggest avenues of engagement with scale critique which can lay the foundations for the adaptive, hybrid forms of literature that the Anthropocene will necessitate.

First, the human perspective is all we have. Writing about plastic waste, Richard Kerridge suggests that we seem to be able to 'encounter' things

> at the two extremes of perspective, the panoramic zoom out and the microscopic zoom in, but not, it would seem, in the middle range, the range available to human vision without technological assistance. Yet this middle perspective is the one we need in order to visualise the actions of human individuals or communities.[38]

The elegance of Calvillo's image of Santiago is that it brings invisible assembled agency into dialogue with a recognisably human dimension, the city. Literature must find similar ways to cross scale or assemble together larger 'patterns of relation'.

An analogy can be made with a corresponding preoccupation with scale in ecological science,[39] one motivated by ecology's own mismatch between its study of localised plant communities and the need to factor in large-scale dynamics: evolution, the Earth system science, climate change.[40] Woods argues that ecological science now presupposes differential scale domains,[41] yet, actually some ecologists have found, in scale, grounds for a 'unified ecology'.[42] Jérôme Chave proposes 'dispersal as the fundamental process that bridges across spatial scales'.[43] Nathan et al. define dispersal as 'the movement of individuals from their source location (e.g. birth or breeding site) to another location where they might establish and reproduce'.[44] Their study of the long-distance dispersal of plant seeds supports Chave's conceptualisation of dispersal as a process 'driven' by larger forces such as climate, ocean currents or human migration but which, itself, drives macro-level shifts via, for example, population spread or the colonisation or alteration of unoccupied or existing habitats. Stating that 'the attempt to synthesise timescales, and see how the players contribute to changing their theatre, is a result of foremost importance in ecology',[45] Chave resolves the tension between scale divergence and a unified ecology into a 'global change biology', an assemblage of species and physical processes, each percolating across porous scales and fluid ontological boundaries, to shape and reshape each other.

Correspondence with this 'global change biology' will not be possible where literature is overly solipsistic. Clark makes this point as he jumps from scale effects to scale framing.[46] Discussing the argument that empathy for literary characters – or landscape or animals – can transport us across time and space, Clark insists that it's futile to bring literary form, 'which privileges the realm of personal human experience as the basic reality', to bear on multidimensional scales or complexities that we cannot 'perceive with ordinary human faculties'.[47] Yet, he jumps too quickly in assuming that literature will (or can) only ever prioritise the human scale. For something analogous to scale unity does occur in literature that seeks to diminish or subject the narrative voice or poetic 'I' to (say) geological history. We see, for example, in Marland (Chapter 17), the visibility of deep time and global space in new nature writing. Correspondingly, Bloomfield describes the darting and convoluted syntax by which the poet Ed Roberson attempts to 'yoke together incommensurate scales'. And it is there in texts that unify scale by isolating a 'conjuncture of histories in a uniquely concrete moment', a device central, suggests Sean Cubitt (Chapter 2), to literary and cultural form.

Cubitt distinguishes between 'two regimes of truth'; abstraction and anecdote. The former culls a sense of large-scale dynamics from massive datasets (graphs or computer modelling) while anecdote – for example, storytelling – seizes on instances where historical or ecological forces are experienced by an individual person, family, community, etc. Thom van Dooren has demonstrated how his own photograph of a nesting albatross crystallises the matrix of relations through which we coexist with it: plastic and chemical pollution, habitat disruption, possible extinction.[48] Andreas Malm, in Chapter 14 of this *Companion*, cites Walter Benjamin's *The Arcades Project* to argue that works of art, or even fragments, can be read as an object – 'more precisely, a monad' – 'into which all the forces and interests of history enter on a reduced scale'.[49] Malm's example is Ghassan Kanafani's novella *Men in the Sun* (1962). As three Palestinian men seek new lives in Kuwait's booming oil economy, the forces and interests of the fossil economy (both forced political exile and global warming) converge in a reduced, dramatic scale, on an ultimately tragic journey: 'The lorry, a small world, black as night, made its way across the desert like a heavy drop of oil on a burning sheet of tin.'

Yet, suggests Cubitt (in Chapter 2) because we know that each moment exists in a continuum of other moments, we know too that things can be changed. The conjunctive can become subjunctive; it can signal (he writes) 'the possibility of becoming otherwise'. For example, van Dooren's

photograph also instils an ethical demand – it reminds us of 'the long history of life on this planet' (evidenced, too, in this *Companion*'s Chronology) and impresses upon us our accountability to past, present and future multispecies generations.[50] The *Men in the Sun* become, in Chapter 14 (Malm), a trigger for seeing Palestinian literature as a model of resistance to the accelerating, imperialising forces that underlie the Capitalocene.

There remains a danger of overstating the significance or influence of such moments. Possibly Clark's sharpest critique is that the Anthropocene debunks long-standing delusions about the ability of cultural modes – symbolism, imagination or narrative – to determine history and shape human affairs.[51] The lesson from Covid-19, however, arguably undermines both scale critique's scepticism about literature's ability to scale up (or down) and Clark's apparent dismissal of literary agency. As Bruno Latour has said: 'What the virus gets from banal droplets from coughing going from one mouth to another—the halting of the world economy—we can also begin to imagine via our little insignificant gestures put end to end.'[52] Covid shows, likewise, our mistake in thinking of 'the personal and the collective as two distinct levels'.[53] Nonetheless, just as ecology has pushed beyond its own threshold by integrating perspectives and methods from other disciplines,[54] I'd suggest, too, that the endeavour of engaging with the Anthropocene needs to be collective, that is individual acts of literature and literary scholarship should be put alongside ('end to end') equivalent insights, gestures or findings in other disciplines.

Writers in the 'new humanities' frequently argue that a dramatically changing, increasingly complex world – full of escalating risks and new possibilities – requires the innovative configurations of thought that come from converging disciplines.[55] Writing of environmental humanities, Emmett and Nye suggest: 'If one takes seriously this range of [ecological] concepts and the urgent problems that they address, it seems irresponsible to adopt the old-style humanities, working within a single discipline, content to focus on narrowly defined concerns.'[56] The very act of engaging with the Anthropocene, itself a concept grounded between geology and Earth system science, initiates interdisciplinary communion. The two chapters that bookend this *Companion* address, for example, how Emerson and Thoreau in the nineteenth century and British 'new nature writers' in the twenty-first have internalised and adapted to advancements in geology. What constitutes a genre or poem, a game, play or narrative pattern can fundamentally alter, as we shall see, in the light of the Anthropocene.

Nonetheless, even in crisis there are reasons for continuing to attend to discrete areas, modes or specialisms. Those reasons are both pragmatic and, as Berlant says, about retaining what deserves to be preserved in lieu of a 'better world'. Talking of local conservation, Carl Safina writes: 'You dodge despair not by taking the deluge of problems full bore. You focus on what can work, what can help, or what you can do, and you seize it, and then – you don't let go.'[57] Likewise, suggests McKenzie Wark, we prevent discussions and debates about a topic as complex as the Anthropocene becoming overwhelming by working out which knowledge and which practices might 'be useful in a particular domain'.[58]

If the Anthropocene has engendered an inquisition into the value of literature and literary criticism, it also offers an opportunity to reinvigorate both. In the remainder of this chapter, I will argue that literature *can* adapt its unique practices and distinctive facility to, as Ghosh puts it, 'approach the world in a subjunctive mode, to conceive of it, *as if* it were other than it is'.[59] Such adaptation could help effect a cumulative movement in *anthropos* towards an understanding that humans are embedded on the Earth. Supported by the chapters in this *Companion*, I will argue that literature can best do so by adapting and evolving its practice in two ways: by sharing divergent experiences (for different people, even species) of the Anthropocene; and by reconnecting human life with exponentially vaster scales: deep history, the planet Earth, the distant future. I will take each in turn because, as Wark indicates, the ability to develop an aesthetics for imagining and rewriting the Anthropocene rests first on working out which particular knowledges literature holds, and for whom.

State of Interdependence

It may pose a fundamental challenge to literature, yet, as Alexa Weik von Mossner points out,

> the very idea of the Anthropocene—regardless of whether it will become an official geological epoch or not—continues to be immensely productive for storytelling, inspiring artists to look for innovative and more adequate modes and media for conveying what it means—and what it can mean—when humans wield a geological force.[60]

How we write about the Anthropocene will be determined by our interpretation of it. Dating, defining, even naming the epoch matters: 'The event or date chosen as the inception of the Anthropocene will affect the stories people construct about the ongoing development of human