1 The 'Anthropocene'? Nature and Complexity

On 29 August 2016 appeared a long-anticipated headline, 'The Anthropocene epoch: Scientists declare dawn of human-influenced age'. At issue was the August report of the so-called Anthropocene Working Group, part of the Subdivision on Quaternary Stratigraphy, itself part of the International Union of Geological Sciences. In the newspaper's summary: 'Humanity's impact on the Earth is now so profound that a new geological epoch, "the Anthropocene", needs to be declared, according to an official expert group who presented the recommendation to the International Geological Congress in Cape Town on Monday.'[1]

An epoch is a period of deep time on the geological timescale distinct enough to have a designation of its own. Correspondingly, the 12,000 years epoch of the Holocene during which all human civilisation developed, with its relatively stable climate, would have to be acknowledged as ended. For geologists to designate a new epoch entails choosing and describing some 'golden spike' (or, strictly, 'Global Boundary Stratotype Section and Point'), an unambiguously identifiable boundary marker in the rock strata. For the Anthropocene, this entails debate about which markers will survive to be detectable in strata in the far future, a weirdly science fiction scenario incorporating into present debate the views of hypothetical far-future geologists. The article continued:

The new epoch should officially be seen to begin about 1950, the experts recommend, and it was likely to be defined [in future rock strata] by the radioactive elements dispersed across the planet by nuclear bomb tests, although an array of other signals, including

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plastic pollution, soot from power stations, concrete, and even the bones left by the global proliferation of the domestic chicken, were now under consideration.

Earlier claims have been for 'the invention of the steam engine' in 1784 as a birth date (meaning James Watt's patented improvement of the piston steam engine of Thomas Newcomen from 1712), or even the invention of agriculture.[2]

But some people are already sceptical and bored with the Anthropocene. 'Welcome to the Anthropocene' has already featured too often as a glib headline in various magazines and museum exhibits. It is already a cliché, the 'Bandwaggonocene', as I've heard it called. This sense of slight boredom also, however, exemplifies how the scale of awareness and engagement in human society cannot easily adapt to that of planetary geology. The geological term seems simultaneously overly technical, and far too big to conceive.

The significant issue would not be that humanity has become a species with global geological impact – it can't be the first such (consider, for instance, the ancient cyanobacteria that altered the oxygen content of the atmosphere, making oxygen-based complex life possible) – but that it is the first *knowingly* to be so. The question is what to do with such knowledge, and how it changes readings of contemporary human life and history.

The proposed Anthropocene is an unavoidably hybrid concept, involving the geological, historical and political. The thirty-five members of Anthropocene Working Group include an environmental historian (John McNeill) and a historian of science (Naomi Oreskes).[3] Oreskes is also the co-author with Erik Conway of the book *The Collapse of Western Civilization* (2014).[4]

The geologists advocating an 'Anthropocene' are themselves well aware of cultural and political implications in the term not usual to their discipline. A joint article by four of them reads:

The concept of the Anthropocene might ... become exploited, to a variety of ends. Some of these may be beneficial, some less so.

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The Anthropocene might be used as encouragement to slow carbon emissions and biodiversity loss, for instance; perhaps as evidence in legislation on conservation measures; or, in the assessment of compensation claims for environmental damage. It has the capacity to become the most politicized unit, by far, of the Geological Time Scales and therefore to take formal geological classification into uncharted waters.[5]

How could recognising some new epoch matter? In a podcast John McNeill (the environmental historian on the Anthropocene Working Group) says that its vast timescale is valuable as highlighting concrete realities and changes immediately at hand.[6] The new term helps us conceive the striking novelty of the world of the so-called great acceleration, post-1950, in energy and resource use, and waste.

Geologists themselves acknowledge that the concept of the Anthropocene 'takes formal geological classification into uncharted waters'.[7] Hence it is that ecocritics have already been adapting the notion of an Anthropocene in various speculative and interesting ways, less restricted by scientific method. Oddly, however, it is a book by a literary critic that stands out for anticipating official acceptance of an 'Anthropocene' in a strictly geological sense, in order to stress the revisionist force of the new term for work in the humanities. All the same, literary study barely figures in Jeremy Davies's *The Birth of the Anthropocene* (2016).[8]

Davies's is an argument on the force of keeping the Anthropocene as a strictly geological concept, against looser appropriations of the term now current. The understanding of geology at issue here is 'neocatastrophist': that is, whereas a former orthodoxy saw the basic conditions, topography and climate of the Earth as determined by the gradual, very long-term effects of slow processes still underway, a neocatastrophist history is also one of often unpredictable and relatively sudden shifts (at least on the geological scale) in the nature of the oceans, atmosphere or biosphere. Davies devotes a chapter to accounts of five previous mass extinctions, their varied causes and consequences, illustrating 'the play of haphazard coincidence that has

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formed Phanerozoic history' (118) over the past half a billion years. The Anthropocene in this sense does not support the popular image of humanity in the form of industrial modernity suddenly crashing into previously undisturbed natural harmonies. Instead, 'it makes the current suite of ecological changes the latest in an array of upheavals – some of them desperately harmful to the whole biosphere – that have emerged and reverberated within earth's systems' (30).

The Anthropocene for Davies is in part a tool of evaluation. The concept is a way of gauging and trying to convey the force and scale of changes now underway, relating them to the time and space scales of prehistory and geology ('a way of making current environmental change tangibly a part of this immense and circumstantial pageant' (28)). 'The birth of the Anthropocene is the death of the Holocene, and the problem of the twenty-first century is how to negotiate a way through the transition between these epochs' (148).

To insist on a strictly geological definition would underline how, for Davies, despite its name, the Anthropocene 'is not an anthropocentric concept' (76). The changes affecting the Earth may certainly be instigated to a significant degree by human activity, but many are the side effects of networks of material causation over which humans have no control and, probably, no oversight either. These are material effects that would continue long after the disappearance of humanity itself.

It remains the case that many geologists are very sceptical of the 'Anthropocene' term.[9] I have heard it described as nonsense and even as a case of academic grandstanding. To many professional geologists, there is also something mildly comical about the haste with which the term has been taken up, let alone the proliferation of all the other newly coined rival '-ocenes', jostling for attention. This includes Jason W. Moore's respected 'Capitalocene', highlighting the significant and arguably decisive factor of the colonial expansion of forms of capitalism over 500 years, but also the 'Thermatocene', 'Polemocene', 'Thanatocene' and even the 'Trumpocene'. P. De Wever and S. Finney describe the meeting of the International Geological Congress at Cape Town at which provisional findings of the Anthropocene Working Committee were given, and how journalists

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were announcing prejudged and simplified headlines before the relevant sessions had even been held.[10] De Wever and Finney object that the Anthropocene has mostly been proclaimed by scientists unaware of the strict conditions that must be met for officially announcing a new division of geological time, in terms of markers, records in the sediments, etc., and that the prospective 'Anthropocene' does not meet the strict criteria for defining a new 'epoch', or even a smaller division, an 'age' (as in the various 'ice ages' of the Pleistocene). Not only are properly validated scientific papers still lacking for an Anthropocene, but there is no consensus on when it could be said to start, or what marks it out. It is not a matter, for sceptics like De Wever and Finney, of denying the huge influence of humanity on the planet, but that, given the geologically minute timescales involved for human impacts, it would be prudent, at least for now, to use the term 'Anthropocene' to mark only a significant division of *human history*, like 'the Neolithic', or 'the Renaissance', non-geological terms with usefully variable senses. However, this reduced notion of an Anthropocene would need to acknowledge how deeply new forms of human historical self-understanding must also alter readings of the past.

It seems fair to conclude that the Anthropocene is effectively a *pseudo*-geological concept. It is a loose interdisciplinary translation, being used primarily to mark a threshold in human historical self-understanding, as I argued in an earlier study.[11] It takes projections of what the Earth's strata may look like in the hypothetical retrospect of a few million years' time, and it does so with the aim of forming a conceptual threshold in ways that we think the present. This renders it a scientifically sanctioned fiction, one that can even operate like a religious overview, in which geological deep time is almost personified as a kind of judgmental deity standing over human affairs and their fatal short-termism.

For all its fuzziness, contentiousness and frequent superficiality, the term 'Anthropocene' is clearly filling a need in the environmental humanities, whatever its status for geologists. Naming what is new or newly realised about the contemporary world, the term is easier to justify without strict reference to geology or to 'geological

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spikes' in hypothetical future strata. An alternative more plural scientific context for using a concept of the Anthropocene is that of work in Earth system science. Particularly relevant would be Johan Rockström's notion of nine planetary boundaries delineating what he calls a safe operating space for human life, the natural systems and processes once taken for granted in or as the Holocene.[12] The boundaries now under pressure concern stratospheric ozone depletion, rates of biodiversity loss, chemical pollution, ocean acidification, freshwater consumption, land-use change, nitrogen and phosphorus pollution, and air pollution or aerosol loading. Some boundaries are already drastically transgressed, as with the vast amounts of nitrogen from modern agriculture already overloading the biosphere (77–78), or the innumerable creatures being driven to extinction.

Such boundary thinking highlights the state of the planet directly in terms of immediate threats to the conditions that sustain current life. This may seem preferable to the strictly geological definition of an Anthropocene. Such environmental fragility is, after all, what is most crucial to everyone. Used in reference to various thresholds at which crucial Earth systems boundaries are crossed, the 'Anthropocene' is necessarily far hazier and more divided as a boundary term than the strictly geological concept, with its need for fairly precise dates and physical markers. The issue is that Earth system limits are being transgressed. For many this means that environmental priorities across the planet should be 'based on returning the Earth system to the Holocene domain, the environmental envelope within which contemporary civilization has developed and thrived' (Will Steffen et al.).[13]

One advantage of using 'Anthropocene' more loosely, in relation to the transgression of plural boundaries in the Earth system, is that this keeps in the foreground its plurality, and its contamination of natural systems with cultural and political questions. A multiplicity of blurry thresholds is also more appropriate to the kinds of moral and intellectual complexity now at issue. For the sake of clarity, future references to an Anthropocene in this book, if otherwise unattributed, will be to this more pragmatic understanding of it.

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THE 'ANTHROPOCENE' AND 'MODERNITY'

The Anthropocene sends us back to reconsider our notions of the 'modern' and 'modernity', understanding the latter in the following, dominant sense, as defined by Lawrence Cahoone:

> The positive self-image modern Western culture has often given to itself, a picture born in the eighteenth-century Enlightenment ... of a civilization founded on scientific knowledge of the world and rational knowledge of value, which places the highest premium on individual human life and freedom, and believes that such freedom and rationality will lead to social progress through virtuous self-controlled work, creating a better material, political and intellectual life for all.[14]

Most accounts of how society might engage with the Anthropocene remain committed to sustaining 'modernity' in this sense, even if needing to acknowledge the jolt now being felt to too simplistic an idea of the West as 'a civilization founded on scientific knowledge of the world and rational knowledge of value'. In addition, the mainstream 'official' view of the future is that modern systems of market economics are assumed to continue, with their veneer of supposedly progressivist programmes of human empowerment through material wealth, while environmental damage is to be acknowledged by tweaking economic accounting to include previous 'externalities' (through carbon taxes, for example). 'The environment', in almost all public and environmental contexts, still names a niche issue to be addressed by measures of minor reform and increased efficiency. The decreasing costs of solar and wind power are hoped to enable them gradually to supplant the place of fossil fuels within the continued expansion of market economies. Wildlife parks and conservation areas are seen to act as refuges for non-human life. Finally, even geoengineering is embraced as a longer-term possibility for 'stabilising' the climate.[15]

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In this context, the term 'Anthropocene' has risked bolstering a kind of post-neo-liberal fantasy, of an 'Age of Man' proclaiming human sovereignty and management of the Earth, a so-called good Anthropocene, presumably governed by a cadre of scientists and entrepreneurs. Against this, Clive Hamilton argues that the force of the Anthropocene concept, fully understood, is to cast 'modernity' anew as that epoch which deluded itself into the assumption that humanity makes its own history, its own narratives of progress, with the material Earth merely a backdrop.[16] For others, the Anthropocene is the becoming manifest of the dark underside of 'modernity', its destruction of the environment, its deep implication in imperialism, colonialism and neo-colonialism, as well as in modes of hierarchy and discrimination that condemn billions to poverty. All these injustices of 'modernity' become now newly virulent in an encroaching world of climate chaos and fleeing refugees and migrants, while hyper-rich elites consolidate heavily protected enclaves of luxury (the scenario now depicted in numerous dystopian novels and films).

Ecocritics certainly tend to read the Anthropocene this way, as the becoming ever more visible of the environmental violence and social injustice that underlie 'modernity'. It is a view that, for all its stress on non-human agency and references to 'geological' timescales, is using the term 'Anthropocene' primarily as a revisionist *historical*, and not a geological, concept. The salient point is that this is a concept of history which does not deny or marginalise non-human agency.

Nevertheless, ecocritics still work within another, more comfortable part of modernity's traditions of thought, that which 'places the highest premium on individual human life and freedom, and believes that such freedom and rationality will lead to social progress'. One reason that some people might prefer Moore's term 'Capitalocene' is that 'Anthropocene', as a name for a geological shift induced by humans, can give the misleading impression of referring to humanity as whole, crudely overlooking huge differences in wealth, impact and environmental responsibility between people across the

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world. Thus it is that debate about an Anthropocene also becomes an occasion for reaffirmations of ideals of group and individual liberation, for the spread of genuine democracy, and for critiques of economic and environmental injustice as being deeply linked. Ian Angus, for example, in a Marxist reading of the global crisis, argues for building a people's movement instilled with ecosocialist ideas.[17] His work expands on John Bellamy Foster's maxim that there 'can be no true ecological revolution which is not socialist; no true socialist revolution that is not ecological'.[18] Davies endorses 'the whole spectrum of initiatives already developed by environmental scholars and activists, from no-tilling farming to indigenous rights campaigns, and from distributed energy generation to participation in electoral politics' (201–202). Also, a 'so-called environmentalism of the poor might appropriately become the type of environmentalism most readily associated with the idea of the Anthropocene' (203). Christophe Bonneuil and Jean-Baptiste Fressoz, in *The Shock of the Anthropocene* (2016),[19] also see it as underlining the urgency of Enlightenment programmes of human liberation, of modernity's element of self-critique. In a multi-centred world where most nations become industrialised, agreement on measures to address a common environmental threat will most likely succeed if we free ourselves from 'alienating dominations and imaginaries' (291). In sum, the Anthropocene needs to be understood within the evolving frameworks of postcolonial and neo-colonial thinking and politics. It becomes the counter-term to a 'modernity' now dominated so viciously by the global accumulation regime of neo-liberal and neo-colonial capitalism.

This is no simple stance. Many of the countries of the so-called Global South now conceptualise themselves in terms of the need to 'catch up' with the more developed parts of the world, usually aspiring to develop their infrastructure through extraction industries and roadbuilding, with the seeming allure of more prosperous, even consumerist lifestyles, the supposed glamour of owning a car, etc., all aspirations and policies not easily compatible with responsible resource use or with engaging climate change.

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The dominant impetus in ecocriticism, of reconceptualising environmental problems into issues of social equity, also comes under strain here. Hamilton writes:

> Before the 2009 [climate] conference in Copenhagen, China's Premier Wen Jiabao was emphasizing the West's historical obligations, and China then sabotaged the negotiations. Six years later such a stance was no longer possible. Remember, China is now the world's biggest carbon-emitting country by a long way, and the average Chinese person is responsible for more greenhouse gas emissions than the average European. Emissions from the South will soon exceed those of the North.[20]

Thinkers on the Anthropocene in the environmental humanities may increasingly be divided between those who, like Bonneuil and Fressoz, Davies and Angus, see it as simply reinforcing the adequacy and importance of the progressive, liberatory project of modernity,[21] and others, such as Dipesh Chakrabarty, who acknowledge that it must complicate or even qualify this project in some ways, given that 'The mansion of modern freedoms stands on an ever-expanding base of fossil-fuel use.'[22]

There is already a darker side to Bonneuil and Fressoz's argument. They trace the way that environmentally destructive policies have been pursued over the past few centuries with a conscious understanding of their impact not that different from our understanding today. There is then no credence in the notion of the Anthropocene as some moment of harsh awakening. Instead 'our ancestors destabilized the Earth and its ecosystems despite knowing what they were doing' (291), so that 'everything leads us to fear that things will continue as they have up till now' (291).

A frightening contradiction looms in the scenario that Bonneuil and Fressoz depict. On the one hand, against the forces of environmental destruction, they make a classic post-Enlightenment argument for rationality and liberation from oppressive institutions. On the other hand, they acknowledge that what some are calling the

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Anthropocene has in fact been recognised for a long time, and that this knowledge has yet to make a difference.

A key, if often implicit, project for the ecocriticism of the past decade has been to sustain and consolidate its links to 'modern' progressive traditions in politics, while engaging increasingly with such complex and multifaceted issues as global warming. The commitment made is that, if problems such as pollution of the air and the oceans can be traced to causes in unjust forms of social and economic arrangements, then work to criticise or revise these human-to-human arrangements also sustains the faith that environmental degradation is an avoidable and even reversible thing. This view is now compromised to some degree by the recognition that even the immediate overthrow of currently dominant forms of power and economics across the planet, however desirable in so many ways, could not halt changes already underway or latent in the Earth's systems – centuries and millennia of rising sea levels, for instance, due to the fact that the melting of glaciers in western Antarctica has probably now passed a point of no return, committing the world to a sea level rise of 5 metres.[23] As a result, much future suffering will not be ascribable to any single or any immediate human cause, only a dispersed, relatively faceless and partly historical one. Dangerous environmental thresholds, where not already passed, may also be capricious and not fully understood: climate modelling is very sensitive, for instance, to vast uncertainties about future cloud cover and whether the soils will absorb or emit carbon.

A second factor may qualify ecocriticism's commitment to modern, liberatory politics as an environmental panacea: the extraordinarily complex topic of human overpopulation. This is an obviously destructive form of environmental pressure which is still markedly understated in ecocriticism, being often mentioned but almost never discussed. For while a notable factor in human overpopulation is the powerlessness of impoverished women (a clear issue of social and reproductive injustice), overpopulation also stems from factors not so easily amenable to an environmental justice/civil rights agenda, for instance, undeniable goods such as increased longevity and reduced infant mortality. Chakrabarty argues:

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> Population is often the elephant in the room in discussions of climate change. The 'problem' of population – while due surely in part to modern medicine, public health measures, eradication of epidemics, the use of artificial fertilizers, and so on – cannot be attributed in any straightforward way to a logic of a predatory and capitalist West, for neither China nor India pursued unbridled capitalism while their populations exploded.[24]

There are signs, however, that the relative evasion of the issue of overpopulation among ecocritics could be about to change, with several thinkers prominent in the field now calling attention to it (namely Greg Garrard, Lawrence Buell and Donna Haraway).[25]

Nevertheless, while ecocritical readings of literary texts have become possible over the last thirty years largely through taking up modes of politicised criticism already proven in concerns with civil rights issues or Marxist or feminist criticism, and then adapting their terms of reference to embrace questions of the environment and animal ethics, as yet no such intellectual transfer seems feasible that would enable new, consistent methods of reading literary texts in relation to the multiplicitous and contentious issue of overpopulation.

In sum, the term 'Anthropocene' seems set to resemble the terms 'postmodernity' or 'postmodern' of a generation ago: it is inherently uncertain, producing a great deal of pretentiousness, while drawing lines of conceptual demarcation that are both unsatisfactory and intellectually stimulating. Unlike a precise, strictly geological term, its very ambiguity and contentiousness is part of its catalytic intellectual work.

THE CHALLENGE TO INHERITED ENVIRONMENTALISM

For a few years after 2010 it looked as if literary studies were seeing the belated emergence of a distinct school of 'climate change criticism'. Special volumes of journals of literary and cultural theory

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appeared in this respect, 'Climate Change Criticism' (*Diacritics* 43.1 (2013)), 'Critical Climate' (*Syncope* 21 (2013)), a special issue of the *Oxford Literary Review*, 32.1 for 2010, and the 'Critical Climate Change' series from the Open Humanities Press. These projects set out to gauge the difficult shift in human self-understanding and values that must accompany acknowledgement of the reality of global warming, its challenge to many inherited modes of thought, including (perhaps surprisingly for some) many in the field of literary criticism and evaluation. After a few years, however, the wider term 'Anthropocene' effectively absorbed this emergent school, with its broader, if vaguer, frame of reference.

Unexpectedly perhaps, the concept of the Anthropocene can also produce problems for arguments in environmentalism. It must question notions of environmental activism as advocating the return of places and ecosystems to some supposed 'pristine' or 'natural' state by means of simply removing human interference. Remove the pesticides, abandon the fields, replace fossil fuels and prevent more plastic entering the oceans, it used to be argued, and, eventually, the natural world will return to some kind of pristine condition, before human influence. This argument is now severely qualified by the fact that the changes associated with the Anthropocene are almost certainly irreversible, at least on timescales that have meaning in human life.

To think of the Anthropocene can be to find anachronistic or just obvious many of the terms of earlier debate in environmental literary criticism. To read now green criticism from the early 1990s, with its solemn reminders that humans are 'part of nature', or that 'culture is embedded in nature', seems like listening to assertions of the obvious. This intellectual shift is not due to some influential new thinker or group of critics, the way, for instance, that literary deconstruction took off in emulation of Jacques Derrida's work. It is a matter of numerous varied responses to the realisation that the fundamental context for all intellectual work has changed, or must be recognised anew, as the ground beneath it becomes unstable.

The challenge of the Anthropocene cannot just be seen in terms of human survival. It heightens a sense of responsibility toward non-human creatures increasingly being driven to extinction. Some

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practicalities in nature conservation now risk being overwhelmed by the scale of the environmental crisis and biodiversity loss. Supposed boundaries between nature and culture become more blurred as it becomes increasingly the case that human interventions are required to keep some ecosystems functioning in what may once have seemed their 'natural state'. (In fact, this has long been the case with nature reserves in much of Europe, often committed to artificially sustaining natural/cultural ecosystems dependent on modes of land management that became obsolete with industrialised farming, such as coppicing, traditional forms of grazing, or retention of winter stubble.) Species may need to be translocated. New so-called keystone predators may need be introduced to replace those long extinct: there is even the proposal to use some African megafauna to take the place of long-extinct large mammals in North America.[26] The distinction between the wild animal and the captive animal becomes blurred. As creatures are forced more and more to interact with human settlements, or to exist in special reserves or parks, the distinction of the wild and domesticated begins to blur, and also the boundary between animal freedom and captivity. Even so-called rewilding is not a return to some idealised state of nature but is better conceived as a smaller-scale form of geoengineering. Conservation becomes plural and performative, attentive to the kind of 'nature' it hopes to help arise.

An extreme example here is that of the Panamanian golden frog, rescued from extinction in Panama as a victim of a species of chytrid fungus (*Batrachochytrium dendrobatidis*) currently devastating amphibians. American zoologists now keep the frog in 'an emergent ecosystem – a system of holding tanks, public displays, and revenue-generating visitor attractions'.[27] However, the original aim of reintroducing the creatures to the Panamanian wild currently seems too great a risk, both because the frogs' original environment is now being altered so quickly and because they could still be the bearers of disease.[28]

Carl Jones, a leading figure in the fight to the save the Mauritius kestrel by a program of captive breeding, writes, 'I am in favour of rewilding, but it will require more management, not less.'[29] Jamie Lorimer argues that conservationists should abandon any idea of a

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fixed 'Nature', object of a supposedly impartial science, in favour of plural projects of conservation that vary with their cultural contexts and in relation to the kinds of 'nature' they wish to cultivate.[30]

Rewilding can also happen in unexpected, contaminated ways that bring new challenges. As Western Europe becomes more urbanised, with fewer people in rural areas, once rare creatures such as the lynx, beaver and the wolf have been increasing in numbers once more. Yet the animals are now appearing in only semi-wild or even cultivated places. Foxes are now even a predominantly urban species in parts of Britain. Likewise, Martin Drenthen writes:

> Wolves are discovering how to live close to human civilization. Conversely, humans living in these cultural landscapes have to learn what it means to live in increasingly *hybrid* landscapes, in which wild and tame get intertwined.[31]

The Anthropocene might seem then in many ways to underline the status of humans as managers of nature. In others, however, it clearly questions any dogmatic assertion of the human/animal difference. For it raises questions such as how far human ecology on the global scale of vastly expanding populations and unsustainable environmental exploitation, rather than being the result of any sort of rational planning or intention, is fundamentally little different from the population and behavioural ecology of any other animal in the context of a sudden bonanza in resources – grain supplies in the case of proliferating house mice, fossil fuels in the case of human beings. This is the kind of uncomfortable but fundamental issue currently being largely sidestepped by the relative evasion in ecocriticism of questions of human overpopulation.

WHAT IS/WAS 'NATURE'?

These new questions for environmentalists have become part of a rethink about what used to be understood by 'Nature', in the West

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at least. It is not just that old notions of 'nature' as that which is unaffected by human activity have become questionable. It is also recognised that the notion of the 'natural' had long functioned, and still functions, in political and dubiously self-legitimating and suspect ways. For instance, the supposed dichotomy of nature and culture is frequently used to police lines of demarcation between 'the animal' and 'the human', with often fragile distinctions being made between action governed by mere (animal) instinct on the one hand as opposed to full (human) intention on the other.

The term 'natural' functions just as insidiously in other contexts. To say that some product or behaviour is 'natural' (as with the 'natural' ingredients of some food or drink) is often to expect no farther questioning of its validity: 'natural' works as a concept of that which is valuable *per se,* in itself. This relates to dubious sanctifications of so-called wilderness, a tendency especially strong in North America and strongly marking the first decade or so of ecocriticism. It is now widely recognised that what Edward Abbey and others called 'wilderness' was in fact land that had actually supported non-European inhabitants for a very long time, such as the American West, the Arctic, the Amazon forests or the African or Australian Bush.[32]

If certain ways of life, usually rural ones, have been praised as more 'natural' than others, then what systems of economics and forms of political authority are also being implicitly sanctioned? Is stating that certain sorts of human relationship are more 'natural' than others, heterosexuality, say, or the nuclear family, merely to deploy the seemingly self-legitimating force of the word to bolster what is actually convention or social prejudice?

Political thinkers have long been suspicious of the way the term 'natural' has functioned in social discourse.[33] In Western thinking, concepts of nature as the correlative of culture have often served a foundational role. 'Nature' functions deceptively as the essentially political notion of a condition supposedly prior to human politics. The appeal to nature forestalls genuine political debate and contestation. Nature is understood as a realm of facts that should not be disputed, separate from the messy, subjective

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world of politics, as a space beyond human affairs, whether consolingly or threateningly.

Yet even the observational science of natural history has been shown to be deeply affected by unwarranted social and cultural assumptions, often in the form of projecting onto non-human creatures what are clearly forms of human patriarchy, with use of terms like 'family' to designate some groups of animals. This has been especially the case in studies of non-human primates, as Donna Haraway has demonstrated,[34] but it is also found, for example, in relation to bottlenose dolphins,[35] or in R. M. Lockley's *The Private Life of the Rabbit* (1954).[36] This was used as an authority on rabbits by Richard Adams in his well-known novel *Watership Down* (1972),[37] which depicts rabbit societies in terms of male-dominated warrior castes.

Human social assumptions have also distorted the normality of kinds of same-sex sexual behaviours in non-human creatures.[38] 'Nature' has long been a term of suspicion for queer theorists, alert to the general normalisation of a supposedly 'natural' heterosexuality, and the institutions of the family it supports. Catriona Mortimer-Sandilands and Bruce Erickson write:

> What does it mean that ideas, spaces, and practices designated as 'nature' are often so vigorously defended against queers in a society in which that very nature is increasingly degraded and exploited? What do queer interrogations of science, politics, and desire then offer to environmental understanding?[39]

Thus, people who have experienced homophobia, or who find themselves vilified for not conforming to dominant lifestyles, may have a more immediate understanding of the fragility of notions of the 'natural' in human society.[40]

To turn to a specific instance of 'nature' in a literary context, how is A. E. Housman's well-known lyric 'Loveliest of trees' (1896) altered in reading by a new sense of the Anthropocene?[41] Housman had a sense of human life as a brief and impassioned futility, yet there

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always remained the seemingly secure background of the natural seasons, a self-evident and seemingly permanent element of growth, fruition and succession, an aspect of life that had always seemed outside any contamination by human stupidities.

> Loveliest of trees, the cherry now
> Is hung with bloom along the bough,
> And stands about the woodland ride
> Wearing white for Eastertide.
>
> Now, of my threescore years and ten,
> Twenty will not come again,
> And take from seventy springs a score,
> It only leaves me fifty more.
>
> And since to look at things in bloom
> Fifty springs are little room,
> About the woodlands I will go
> To see the cherry hung with snow.

The poem celebrates 'nature' as the assumed and unquestionable backdrop for human affairs, the cycle of the seasons, and the habitual forms of weather. These are the reassuring harmonies and repetitions of a kind of secular providence, even in a poem by an atheist like Housman. It is the 'ever returning Spring' of Walt Whitman's elegy for Abraham Lincoln, 'When Lilacs Last in the Dooryard Bloom'd';[42] or the 'word' of the song thrush in Edward Thomas's 'The Word', something remembered and recognised each spring when so many human or historical things are forgotten;[43] or Emily Dickinson's 'A Light Exists in Spring'.[44] Yet these cannot be read in the 2020s as they had before.

Housman's lyric exemplifies one powerful fantasy of what nature is, something beyond-the-human, homogenous and reliable, 'a pleasingly harmonious periodic cycling embodied in the cycle of the seasons, enabling regular anxiety-free prediction of the future' (Timothy Morton).[45] Housman's poem dramatises the quasi-religious

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comfort of this idea. One might also observe that the cherry trees in such a context may not even be the wild cherry (or 'gean'), but a cultivated form, planted to decorate a 'woodland ride' and celebrated for reliably chiming with a human festival ('Eastertide'). Municipal landscaping can help bolster a domesticating concept of natural cycles. For Morton, such a notion of 'nature' is inseparable from the mindset of agriculture or, as he coins it, 'agrilogistics' (38ff). He argues that the ancient practice of sedentary agriculture, in the contexts of the relatively stable climates of the Holocene, has fed into the now fragile idea of nature as a mostly reliable backdrop to human life, a consoling cycle of growth, decay and renewal. Morton even claims that 'the concept Nature isn't only untrue; it's responsible for global warming' (58). By this he means that the illusion of smooth predictability led to a sense of human reliance, of nature as the supremely taken for granted, as both loosely providential and something that could be exploited with impunity.

Oddly, there is a mild danger that environmental protest itself, by its very force of inculcating a sense of loss, may feed reductive and over-idealising images of the natural. Bruce Carroll engages with this question in his paper, 'A Role for Art in Ecological Thought'.[46] Carroll considers how some 'ecologically inclined' installation art may unwittingly project a false image of nature: his examples are Mary Mattingly's photo of a naked body lying under a wrapped ball of garbage,[47] or Cai Guo Qinang's *The Bund without Us*, a barge on the Shanghai waterfront full of human-size stuffed animals, or Maya Lin's installation website, 'What is Missing?', a memorial to lost species in the form of a map of the world marked with numerous clickable e-dots, each leading to texts and images of some now extinct species.[48] Each of these works makes a forceful point about human environmental violence, but with 'their shades of self-flagellation' they also project an image of what is lost which already has elements of fantasy, of 'an Edenic nature that is always in the past, "over there", impossibly other from ourselves'.[49] Such installations, and innumerable polemics in environmental rhetoric, 'appeal directly to our guilt over what we have done to a divinized, salvific conception of the natural'.[50]

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If appeals to 'nature' and 'the natural' have lost credibility as self-evident values this cannot but entail major questions for ecocriticism. A green critic can no longer, without qualification, argue that they are defending some natural state of things against human interference. The 'Anthropocene' entails also the realisation that older notions of 'nature' and 'the natural' have tended to fetishise 'harmonious man-and-nature origins',[51] and that environmentalism cannot, in a world of irreversible climatic shifts, remain viable if it is basically a kind of idealising nostalgia.

So *what state of things is it that ecocriticism is now defending, or aspiring to?* The implication of debate about an 'Anthropocene' is that humans must, in diverse ways, assume some sort of stewardship of the Earth, however limited, compromised or chastened that stewardship must be, especially if it is acknowledged that any return to Holocene conditions may be impossible. For on a planet where human activity impacts every area, even the choice to do nothing, or to let nature take its course, is already a decision that must actively be made. This fact becomes more apparent every year in the way that 'the environment' becomes a term increasingly entangled with all kinds of human statutes. Open any page, for example, of the natural history journal *British Wildlife*, and you will find it dominated by references to environmental statutes and regulations, 'targets' and ecosystem management schemes. Although ecocriticism likes to present itself as having a broadly liberatory caste, it is a depressing fact that most environmental measures entail increased regulation and even surveillance of some sort.

Ursula Heise suggests that the general frame for questions of environmental politics and activism in the future should be the aim of doing justice to the interests of human *and* non-human life together, even as it must be recognised that species have competing and even incompatible interests. Heise writes, in slightly US-centric terms:

the insights of animal welfare advocacy may become newly useful to environmental ethics as environmentalism shifts from

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its principal investment in wilderness as the ecological ideal [though this was never quite the ideal in Europe or elsewhere] to a view of nature as globally domesticated in the framework of the Anthropocene.[52]

Despite tensions, a broad consensus about the value of contemporary ecocriticism does exist. Ecocriticism's goal can provisionally be described as that of some state of human freedom and flourishing in which non-human life is fully recognised, no longer violently exploited nor its resources abused or exhausted. The implication of most concepts of an Anthropocene is that human communities should take fuller responsibility for the kinds of 'nature' and environment they wish to inhabit, whether this then entails a chastened withdrawal from human interference in ecosystems or a creative intervention in them. Environmental politics across the world seems likely to become increasingly a form of *casuistry*, in the strict sense of the making of judgements on a case-by-case basis, sensitive to local conditions, rather than the sweeping imposition of universal criteria. The accelerating internationalisation of ecocriticism itself, with work now appearing from all continents bar Antarctica, is set to be a crucial context for this pluralisation, both of 'natures' and of environmentalisms.

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