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Firing the climate canon—a literary critique of the genre of climate change

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ABSTRACT

This article makes the case for *more* climate change, where climate change refers to the prevailing ideologies and frameworks that inform our understanding of environmental change in the first place. It reviews the mainstream literature in popular science writing, fiction and poetry from the point of view of a political frame analysis of climate change, to demonstrate how a certain understanding of climate change maps onto conventions of literary genre. This understanding, and associated literature, is critiqued on the basis of their continued attachment to dualistic and teleological narratives of human mastery and progress, such as to make the case for a literature which offers something radically *other*. The current political context, not least Donald Trump's victory and Brexit, is cited as evidence of the contemporary importance of alternatives to the establishment approach to climate mitigation than either denial or scepticism—in both literature, and more broadly.

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Introduction

What if what is needed right now is not 'less climate change', as commonly assumed, but *more* of it, where climate is defined not conventionally as a statistical average of weather conditions, but instead refers to the prevailing ideologies and frameworks that have informed and concreted our understanding of environmental change in the first place? What if the ends-oriented *thinking* behind contemporary climate mitigation, and the associated climate of fear, have consequences that actually perpetuate the problem we seek to 'solve'? Eco-philosopher Timothy Morton has argued that, 'one thing that modernity has damaged, along with the environment, has been thinking' (Morton, 2010a, 'Ecology as Text', 1). And nowhere is the need for more thinking, and different thinking, more apparent.

Taking a parallel approach to Bruno Latour's call for a radical conceptual rethink of what is meant by the term 'political ecology' (2004), I propose that our understanding of 'climate change' is equally politically determined and needs revisiting. For when it comes to climate change, we discover that the majority of the thinking has already been done for us. When we are asked to 'act', what we are really being asked to do is to accept the framework already provided, which defines climate change instrumentally as

a problem needing to be solved ('less climate change'), and to act accordingly. The seriousness of its consequences, and the associated urgency of action, serve to short-circuit thinking, in an inverse of the logic which might suppose that more serious issues require more consideration before action, not less. In the process, our focus on the physical climate deflects attention from critiquing the ideologies informing this framework—a critique which might provide the climate for more radical actions and meaningful change. Furthermore, even in the literary context that is the focus of this article, where one might hope to find examples of the deeper level conceptual thinking I associate with 'more climate change', the emerging 'canon' continues reproducing versions of the established patterns of thought—in other words, more of the 'less climate change' same.

The dominant way of framing climate change as a problem, urgently needing to be solved (mitigated) for fear of catastrophe, has been repeated so often that this is what climate change has come to *mean*. The recent legally binding international agreement to limit global warming to below two degrees, reached at the 21st meeting of the UN Conference of the Parties to Climate Change in Paris (2015), marked this perspective's 'coming-of-age'. Yet while this agreement was undoubtedly momentous on its own terms, it does not mean that these 'terms' are themselves beyond criticism. As Gregory Bateson once argued: 'The frequency of validation of an idea is not the same as proof that the idea is either true or pragmatically useful over a long time.' (Bateson 2000, 510) The current political context, not least Donald Trump's climate denial and pledge to reverse the USA's commitment to the Paris agreement, provide a challenging context for my critique of the pragmatic and ideological grounds of the establishment climate mitigation agenda. However, perhaps now—more than ever—an analysis of how the climate mitigation agenda is propping-up as opposed to challenging the political and economic status quo is pressingly needed, in order to open up the possibilities for different ways of responding to climatic change than either mitigation or its sceptical alternative.

In this article, I draw on sociological frame analysis and genre theory to demonstrate the main components of what I define as the dominant frame of climate change, and show how it has become mapped onto a number of conventions of literary genre within the embryonic climate 'canon', thereby consolidating this framing yet further. Having critiqued the ideological foundations of the dominant frame, I will seek to light 'fire' under the associated literary conventions of the emerging 'canon' before they become any more entrenched. In 'What if: the literary case for more climate change' (Burnett, [forthcoming](#) 2018), I present a provocative manifesto of 'more climate change', which applies the 'what if' trope to proposing a range of alternative approaches than these generic mainstream norms. Together, these papers propose a key role for creative and critical literary practice in a world of 'more climate change': in opening up space for *new* ways of thinking, rather than operating persuasively to further close them down around the ideological drivers of the neo-liberal capitalist political establishment.

The dominant frame of climate change

The emergence of a climate change 'consensus' was captured by the Institute for Public Policy Research (IPPR), first in 2006 and then again in 2007. On each occasion they

considered over 600 articles about climate change from UK newspapers and magazines, TV and radio clips and adverts, press advertisements and websites; whereas in 2006 climate change discourse appeared 'chaotic' and 'confused', by 2007 a consensus had begun to manifest itself, grouped under seven headings:

It's happening
 It's happening now
 It's a bad thing
 It's significantly our fault
 It's everybody's problem
 It's the biggest issue
 We have to act (Segnit and Ereaud, 2007, 9)

The IPPR noted the predominantly catastrophic tenor in which this consensus is generally communicated. Climatologist Mike Hulme has similarly observed how, 'in recent years the risks associated with impending future climates have been increasingly communicated using the language of disaster, catastrophe and terror' (Hulme, 2009, 180), while a marketing company tasked with climate discourse research concluded that: 'the most common message on climate change is that we're all going to hell. That's what climate change looks like when you get down to it; rising seas, scorched earth, failing food supplies, billions of starving refugees tormented by wild weather' (Futerra, 2). Of course, there are many who might view this convergence of perspective (and rhetorical strategy) as a success story in what has been a notoriously difficult message to communicate. On the contrary, I propose that it is deeply problematic, both pragmatically and ideologically, as a process of frame analysis elucidates.

In 1974, Erving Goffman defined frames as 'schemata of interpretation' which enable individuals to 'locate, perceive, identify and label' events and situations, with frame analysis involving identifying how these frameworks of understanding structure and organise experience (Goffman, 1986, 21). Considering the above 'consensus' as a 'frame' transfers attention from observing a static (and questionable) sense of consensual *agreement* to an active analysis of *how* our understanding and responses are actively *shaped*. Breaking down what I propose as the 'dominant frame' of climate change into its component parts, using Benford and Snow's model of frame analysis (2000), demonstrates how, although it might initially gain legitimacy from factual observation ('It's happening', 'It's happening now'), it is otherwise an ideological *interpretation* of which we have been *persuaded*. And far from the evidence of the unprecedented impact we are having on environmental systems driving radical and far-reaching change, it has been harnessed to the service of deeply conservative and age-old notions of human mastery and progress.

Benford and Snow's tripartite methodology involves analysing how problems are diagnosed and prognosed, and how this affects the motivation towards action. Taking these in turn, I propose first that its diagnosis refers to the incontrovertible evidence of anthropogenic climate change, interpreted as a problem which we must therefore solve (including the recent Paris Agreement aim to limit global warming to less than two degrees). While at no point seeking to deny climate change, here or elsewhere, this interpretation is far from neutral, for it is an ideological methodological leap to assume that the evidence of climatic change requires or implies an instrumental response aimed

at 'solution'; indeed, even pragmatically, this manoeuvre is problematic. As Hulme observes in his seminal work *Why We Disagree About Climate Change*, far from being a discrete scientific and technical issue like the ozone hole, climate change has become more of an 'idea', of unprecedented complexity, that will be no more solved than politics or religion ever will be (Hulme, 2009, xxv-xxvi):

By constructing climate change as the 'mother of all problems'—the '[greatest/defining/most serious] long term [problem/challenge/threat] (square brackets quoted from author's original) facing humanity—perhaps we have outmanoeuvred ourselves. We have allowed climate change to accrete to itself more and more individual problems in our world—unsustainable energy, endemic poverty, climatic hazards, food security, structural adjustment, hyper-consumption, tropical deforestation, biodiversity loss—and woven them together using the narrative of climate change. We have created a political logjam of gigantic proportions, one that is not only insoluble, but one that is perhaps beyond our comprehension. (333)

Yet, advancing this argument one step further, even if we could solve climate change, is it right to try? Is seeking to manage the very atmosphere not the apotheosis of the human hubris which created this 'problem' in the first place, conducted in the name of a particularly instrumental notion of 'human progress'? If, for Jean Francois Lyotard (1984), modernity is the quest to subdue the world through modern technology, then the climate mitigation agenda represents the logical end to this project, simultaneously presuming an untenable separation of culture (humanity) from the nature (climate change) that we seek to 'manage', and a nebulous notion of a balanced climate to which we might return. Furthermore, asserting the moral rightness of this problem-solving course of action upon matters of 'fact' obscures both the instrumental ideological drivers at hand, as well as marginalising the space available for alternative perspectives.

In turn, the prognosis of climate change projects the diagnosis forward into a range of (predominantly catastrophic) futures, depending on a range of climate mitigation scenarios—an approach epitomised by the scientific research summaries of the Intergovernmental Panel on Climate Change. Yet, while both these climate futures and the associated mitigation strategies assert their authority upon the 'fact' of climate change, they in fact travel ever further from it. Again here, the supposition that 'solutions' are required flows from the application of a problem-solving methodology which assumes that climate change is something we *can* and *should* set out to 'solve'. Furthermore, choosing to communicate climate change through its catastrophic futures is an equally political decision, as a Lyotardian analysis again illustrates. Jean Francois Lyotard coined the term the 'unpresentable' to describe his interpretation of Kant's sublime, captured in the problem of 'how to make visible something which cannot be seen' (Lyotard, 1984, 78). And here we surely have its epitome in climate change's potential severity, intangibility, inaccessibility to the senses or direct scientific measurement, mind-boggling complexity, and vast geographical and temporal scales. This causes problems for a climate mitigation agenda based upon communicating climate change's 'reality'; hence, its unpresentable nature is side-stepped through projections of catastrophe that *can* be represented, as if 'reality' can be fast-forwarded into the future. On the contrary, we are now several further stages removed from 'reality', and instead viewing a firmly ideological perspective upon it.

Furthermore, two of the key strategies that have been used to motivate the public about the climate frame, are both ideologically and pragmatically compromised. In the case of information-deficit strategies, which suppose that if the public knew more about climate change they would be more likely to take action, the kind of information which is communicated is far from 'neutral'. Increasing interest has recently been dedicated in frame analysis to show how frames operate to legitimate some activities and de-legitimate others in the pursuit of such political and ideological objectives (Reese, Gandy and August, 2001; Snow & Benford 1988; Kuypers, 2009). This process of de-legitimation in the case of the dominant frame of climate change is graphically illustrated by the IPPR plotting its consensus against a number of 'outlying repertoires not part of the mainstream' (Segnit and Ereaut, 2007, 9). Furthermore, the kinds of 'narratives of fear' which seek to persuade people through the threat of climate change's catastrophic consequences have been shown to be among the least effective persuasive devices, as a number of climate communication research projects have shown (Moser and Dilling, 2007; Whitmarsh, O'Neill and Irene, 2011).

Yet the climate mitigation agenda perseveres with these as its key communicative strategies. Sociologist Erik Swyngedouw presents a persuasive account of why this might be. For Swyngedouw, far from operating as a radical, emancipatory politics, the framing of climate change debate actually dis-empowers the public in the interests of the neo-liberal, capitalist status quo, with the mobilisation of fear operating as a key control mechanism characteristic of the political fore-closure associated with the post-political landscape:

Our ecological predicament is sutured by millennial fears, sustained by an apocalyptic rhetoric and representational tactics, and by a series of performative gestures signalling an overwhelming, mind-boggling danger, one that threatens to undermine the very coordinates of our everyday lives and routines, and may shake up the foundations of all we took and take for granted. [...] I would argue that sustaining and nurturing apocalyptic imaginaries is an integral and vital part of the new cultural politics of capitalism for which the management of fear is a central leitmotif. (Swyngedouw, 2010, 218)

According to this argument, far from *mobilising* the public, consensus on climate change disavows and displaces social conflicts and antagonisms, relegating politics to choices between this techno-managerial approach and that, through the masquerade of controlling emissions of carbon dioxide (ibid). Linking this back to my own previous points, Enlightenment notions of progress and human advancement become consolidated in their most market-driven and de-regulated form.

Of course, all political agendas work *persuasively*. Of particular concern is how the above frame serves to close down debate around a phenomenon of such significance as climate change, rather than catalysing it. The climate mitigation agenda asserts its authority (and the moral high ground) on arguments which have travelled far from the original facts. Indeed, even in the case of progressive or radical grassroots climate change movements, motivated by progressive issues such as human rights, minority protection or social equality, I propose that to the extent they fail to critique instrumental notions of progress and human mastery and its capitalist expression, then they will by default help bolster such ideologies and the status quo (thus operating in self-defeating ways). In other words, the parameters of the dominant frame of climate

change, far from advancing radical grassroots progressivism and change, are in fact framed by an establishment climate mitigation agenda firmly rooted in Enlightenment ideologies which find contemporary voice through an instrumental and neo-liberal capitalist take on human 'progress'. Far from the evidence of climate change serving to interrogate this notion of progress and human mastery, instead, the dominant frame of climate change simply re-states it. For, without an underlying belief that humanity *can* and *should* prevail over climate change, is the entire mitigation agenda not groundless?

The literary genre of climate change

As recently as 2005, commentators on either side of the Atlantic bemoaned the lack of cultural response to climate change. American Bill McKibben presented what he called the 'climate paradox':

If the scientists are right, we're living through the biggest thing that's happened since civilisation emerged. One species, ours, has by itself in the course of a couple of generations managed to powerfully raise the temperature of an entire planet, to knock its most basic systems out of kilter. But oddly enough, though we know about it, we *don't* know about it. It hasn't registered in our gut; it isn't part of our culture. Where are the books? The poems? The plays? The goddam operas? (McKibben, 2005, online)

Later that year British nature writer Robert Macfarlane issued a similar rallying cry: 'Where is the literature of climate change? Where is the creative response to what Sir David King, the government's chief scientific adviser, has famously described as "the most severe problem faced by the world"?' (McFarlane, 2005, online) McKibben proceeds by calling for a literature to 'unsettle the audience' and keep events like the European heatwave of summer 2003 at the forefront of our minds through a combination of 'fear', 'guilt' and 'wistfulness' (McKibben, 2005, online). Macfarlane asks, 'what literature [...] might do for the politics of climate change?' His own answer involves writers providing 'an imaginative repertoire [...] by which the causes and consequences of climate change can be debated, sensed and communicated,' and 'inducing fear in readers' guts' (McFarlane, 2005, online). While they remain alert to the potential for didacticism, in the final analysis both conclude that the severity and urgency of climate change overrides aesthetics: the persuasive dynamics of closure I have associated with the dominant frame could barely find a clearer expression within a literary context. Furthermore, there is a clear paradox within what McFarlane and McKibben argue, for the expectations they lay at writers' doors must largely be responsible for the literary vacuum they simultaneously lament. As a number of recent cultural climate change research projects have illustrated, both literary and visual artists have been vocally resistant to subverting their aesthetics to the climate 'cause' (Butland et al., 2006; Payne, 2010; British Council 2010; Butler et al., 2011). Furthermore, mirroring the sociological analysis previously mentioned (Moser and Dilling, 2007; Whitmarsh, O'Neill and Irene, 2011), the link between consciousness raisings and 'saving the planet' is far from direct or inevitable (Clark 2015, 16–22)

However, despite this resistance, a genre analysis of the actual emerging canon shows that the generic conventions forming within the climate 'canon' in fact map directly from the main elements of the dominant frame, thus realising McFarlane

and McKibben's hopes and expectations and their consciousness-raising logic. On the one hand this is certainly surprising, considering the vehemence with which writers and artists have argued against a didactic art. But on the other hand it is not, for if frames are the cultural and communicative means of structuring and organising experience, then genre is its literary equivalent, negotiating the literary shaping of meaning, and operating equally ideologically as its sociological counterpart:

Genre, we might say, is a set of conventional and highly organised constraints on the production and interpretation of meaning. In using the word 'constraint' I don't mean to say that genre is simply a restriction. Rather, its structuring effects are productive of meaning; they shape and guide, in the way that a builder's form gives shape to a pour of concrete, or a sculptor's mould shapes and gives structure to its materials. Generic structure both enables and restricts meaning, and is a basic condition for meaning to take place. (Frow, 2005, 10)

In the following sections I utilise John Frow's breakdown of genre into the four main criteria of function, content, mode and form to demonstrate an inexact but instructive process of mapping from the dominant frame of climate change onto mainstream generic conventions across the forms of popular science literature, fiction and poetry. For my analysis, the function is understood to refer to the work's aims in relation to climate change (albeit a complex question in the literary context), the content refers to the subject matter, the mode to the literary *approach*, and the form to questions of *how* the work has been written, and what this might imply. My aim is not to enact a range of value judgements. Furthermore, I recognise that my process of analysis is partial, and its broad sweep will inevitably brush over many nuances and complexities. Instead, my aims are provocative: to draw out broad trends with a view to making the case (and space) for something radically 'other', which reaches well beyond the limitations of the dominant frame. In other words, by critiquing the conventions of 'less climate change', I seek to make the literary case for far 'more' of it: for work which reaches beyond the limitations of imaginative representations of the dominant frame and its consequences, and instead performs critiques of the ideologies from which such work stems.

i. Popular science literature

The correspondence between the kind of popular science book which has emerged around climate change over recent years—such as Al Gore's *An Inconvenient Truth* (2006), James Lovelock's *The Revenge of Gaia* (2007), Mark Lynas's *High Tide* (2005), Alistair McIntosh's *Hell or High Water* (2008) and George Monbiot's *Heat: How We Can Stop the Planet Burning* (2007b)—and the frame of climate change is so close as to represent a generic 'type'. Interpreted according to Frow's typology, the *function* of these books is unapologetically to persuade us of the dominant frame, which in turn provides both the *content* and a rhetorical *structure*, while the overarching *mode* is didactic. Gore, Lovelock, Lynas and Monbiot's books prove particularly 'generic', while McIntosh offers something slightly different.

All the first four writers listed above are explicit about their persuasive aims (*function*), as can be demonstrated in turn. In *Heat*, George Monbiot presents a 'manifesto' whose overarching aim is characteristic of the form: 'I have one purpose in writing this book: to persuade you that climate change is worth fighting' (xxix). Lynas concludes by noting how '*High Tide's* obvious task is to prove that global warming is real and already underway [in order] to challenge all of us to face up to the implications of this reality, myself included' (Lynas, 2005, 307). Having established the damage we are doing to 'Gaia', Lovelock argues that we are running out of time to do anything before it's too late: 'in our country we have to act now as if we were about to be attacked by a powerful enemy. We have first to make sure our defences are in place before the attack begins' (Lovelock, 2007, 17). Meanwhile, Gore characterises the purpose of his *An Inconvenient Truth* as telling the 'story' of climate change in 'a new kind of book with pictures and graphics to make the whole message easier to follow' (Gore, 2006, 9). Considered together, clearly what is at stake here is not an opening out of debate, but closure around some of the familiar themes of the dominant frame through a didactic *mode*. While narratives of fear are certainly mobilised, these books primarily work to fill a perceived 'information-deficit' (to provide us with the knowledge to enable us to take action). Yet the kind of information which is thereby communicated sticks firmly to the well-worn path of the dominant frame, and thus the actions associated with this.

Indeed, this frame actually provides both the *content* and *form* of Monbiot and Lovelock's books (with the diagnosis-prognosis-motivation model providing a ready-made structure). At times it even appears that what is at stake is no longer climate change, but the furtherance of the climate mitigation agenda itself, with Lovelock's mobilisation of military metaphors highlighting the instrumental, teleological nature of the endeavour. The content and form of Gore and Lynas's books are somewhat different to the extent that they focus on their own personal journeys with climate change. Yet the difference remains one of emphasis, relying on the very different but effective combinations of authority deriving from scientific research and personal experience. Lynas's wandering (and cumulative) account of the three years he spent travelling the globe 'searching for the fingerprints of global warming' is in the final instance undermined by a sense that he knew what he wanted to discover all along. Meanwhile, albeit understandably, the story Gore tells remains closely attached to the international climate mitigation agenda. Yet while Gore's connection to the political and economic establishment needs no explanation, even Monbiot overtly links his argument to the capitalist project, when setting out to 'show how a modern economy can be decarbonised while remaining a modern economy' (Monbiot, 2007b, xxii).

In contrast to the above, the hyperbolic, apocalyptic title of *Hell and High Water* is in fact a misrepresentation of Alistair McIntosh's approach to climate change. While writing in a similar mode of personal journalistic prose, and following a similar problem-crisis-resolution structure, the content and tone is very different, and the function appears more open-ended: to raise questions as opposed to persuading the reader of the truth of a particular message. Thus, while McIntosh does present a 'thesis' on climate change, it not only interrogates our behaviour but also the hubristic assumptions behind the frame of climate change:

The central thesis of this book is that climate change cannot be tackled by technical, economic and political measures alone. Those things are all important, but in addition and perhaps most important of all, we have to look at ourselves. We have to address not only the outer world of atmospheric science, economic imperatives, and realms of political possibility, but also the inner world of psychology and, I will suggest, spirituality. The bottom line and top priority is that we must get to grips with the roots of life and what gives it meaning. (McIntosh, 2008, 8)

McIntosh's claim to have taken a 'walk on the wild side' is undoubtedly undermined by his reliance on a problem-crisis-resolution structure, and his continued emphasis on communicating the evidence (information-deficit) and consequences (narratives of fear) of climate change as communicative strategies. Yet the key way in which he differs from the other popular science books referred to here, is that his aim of 'tackling' climate change is driven by viewing it as a fundamental *challenge* to the ideologically framed and teleological 'meaning' of the human project more broadly.

ii. *Climate change fiction*

Selecting a range of climate change fiction, published at the same time as the above non-fiction texts, and which has received particularly good coverage in the ecocritical literature,¹ the direct *functional* aim of persuasion is complicated by the fact that many writers believe that this is simply not what fiction is supposed to do, as the research into didactic climate 'art' clearly demonstrates (Butland et al., 2006; Payne, 2010; British Council 2010; Butler et al., 2011). In a literary context, novels might educate, certainly, but their functional benchmarks are far more likely to be notional assessments of literariness or entertainment value than didactic intent. However, taken as a whole, the fictional response to climate change in fact directly responds to Robert McFarlane's call for 'imaginative repertoire[s] [...] by which the causes and consequences of climate change can be debated, sensed and communicated' (2005, online). Where the popular science literature of the previous section *promulgated* catastrophic prognoses, the overarching fictional response *enacts* those narratives of fear which have previously been critiqued both on the basis of their lack of effectiveness even on their own terms (Moser and Dilling, 2007; Whitmarsh, O'Neill and Irene, 2011), and through Swyngedouw's association of such strategies with the fore-closure associated with post-politics and the neo-liberal agenda (Swyngedouw, 2010, 218). While few of the books considered here might set out to *persuade* on behalf of the dominant neo-liberal political establishment (not least in the case of the work of Kim Stanley Robinson, a committed Marxist), I do propose that to the extent that these novels mobilise and represent catastrophic climate change imaginaries, they will *function* persuasively on its behalf by communicative default. Furthermore, by seeking to *represent* these catastrophic climate imaginaries, they maintain the illusion that climate change *can* be represented—the dynamics of which are illustrated by the following quote from Kim Stanley Robinson:

As a novelist, it's obvious: you know, if something happens in three years, rather than five hundred years, you're better off in trying to figure out a story of how human beings are impacted and you can just frame the story better. And I've been interested in global warming for a long time, but I hadn't figured out a story to tell until I heard about abrupt climate change. (Robinson, 2006, online)

Extending my Lyotardian analysis in this context: if modernity is the quest to subdue the world through modern technology, then attempts to represent (the unrepresentable) in writing will be their literary equivalent.

Turning to Frow's four criteria, the two main *contents* of the climate 'canon' involve either imagining climate catastrophe or representing the current political climate change mitigation agenda and its machinations itself. In both cases, climate change is viewed as catastrophe waiting to happen, framed by a climate mitigation agenda intent on 'solving' the problem before it is too late (the present and future sides to the same scenario). Kim Stanley Robinson presents a world on the verge of abrupt climate change, while Will Self imagines a London made unrecognisable through climate change, and Liz Jensen's *Rapture* concludes with a climate tsunami hitting the UK coast. Frequently, these mobilise apocalyptic, end-of-the-world imaginaries. The far-future worlds of Atwood, Winterson and Self are dystopic, McCarthy and Hall's novels are post-apocalyptic while the near-future narratives of Glass and Jensen propel towards anticipated apocalypse. The majority of the above are set in near or distant futures; less common, but equally significant, are a number of novels (by Matthew Glass, Kim Stanley Robinson and Ian McEwan) which are set in the present day or near future and framed by the political machinations of a world confronting disaster.

Yet while apocalypticism is frequently drawn on as a literary *mode* (whether realised, or providing a frame for viewing the current day), this is far from a fatalistic literature. On the contrary, the dominance of speculative and science fiction lends the oeuvre a strange confidence, an over-riding belief in humanity and the human project more generally even in the face of adversity, as is particularly clearly shown by the blockbuster film *The Day After Tomorrow* (2004). Despite its realisation of abrupt and particularly dramatic climate change come true, the film concludes with the Vice President addressing the nation from exile, while astronauts look down from space upon an image (illusion) of a virginally pristine Earth. Even in the face of catastrophe, the film implies that in the final analysis humanity will win through, and does not question our implied mastery: in other words, it stages the climate mitigation agenda's undeterred confidence in the narrative of human progress. While the ending of *The Day After Tomorrow* is particularly striking in this regard, it is not alone. Kim Stanley Robinson's PhD supervisor Frederic Jameson described the trilogy of which *Sixty Days and Counting* is part, as a 'utopia in progress', where the utopian principles are manifest in humanity's on-going attempts to mitigate climatic change (Jameson, 2000, 231). Even in the case of Ian McEwan's *Solar*, the satire of a failing climate scientist does not lessen McEwan's adherence and belief in climate mitigation science, as an appendix of a speech from a renowned climate scientist demonstrates (Palsternacka, 281)

The former chair of the US branch of ASLE launched a stinging critique of the 'formulaic' structure of climate change literature in *Sense of Place and Sense of Planet* (Heise, 2008, 206). Heise picks out Michael Crichton's *State of Fear* (2005) (albeit a novel providing a sceptical perspective on climate change) for being, 'simplistic in its one-dimensional characters and far-fetched conspiracy plot, which end up turning different risk perceptions into a black-and-white confrontation between heroes and villains' (206). Cyberpunk novelist Bruce Sterling's *Heavy Weather* (1995), highly regarded in science fiction circles, hardly fares any better for what Heise sees as its failure to rise above a shallow and haphazard analysis of how personal relationships unfold during ecological

crisis. Turning to my own selection, the majority of the novels I discuss here are structured according to a traditional Aristotelian conflict-crisis-resolution narrative arc which so clearly maps out (re-presents) the structure of the dominant frame of climate change. In Matthew Glass's *Ultimatum*, the problem is a scenario of far more abrupt climate change than ever imagined, the crisis impending nuclear war with China, and the resolution the President's concluding remarks that a crisis of such severity is actually necessary to finally provoke people to act. In Liz Jensen's *Rapture*, an art therapist discovers that her psychotic teenage client, Bethany, has the power to predict climate disaster. This comes to a head as a tsunami approaches the coast of the UK, and concludes with apocalyptic redemption as Bethany sacrifices herself by throwing herself from a helicopter to save the lives of those on board. In Sarah Hall's *The Carhullan Army* the conflict between the radical feminist ideals of an outsider community during post-apocalyptic times reaches its climax during a 'battle' with the authorities which can only end in defeat.

Amongst the above novels there are certainly exceptions to the generic conventions. Atwood and Winterson's novels enact sustained critiques of notions of progress in a climate-changed world. Self avoids the moral overtones attendant on apocalypse or dystopia by the staging of a 'what-if' scenario: what if the demented ravings of a London cabbie called Dave were discovered by a far future society of London flooded beyond recognition and this became the basis upon which a new 'davinity' was established? Perhaps most significantly, meanwhile, Robinson's trilogy, of which *Sixty Days and Counting* is a part, is a hugely ambitious enquiry not only into the science and the politics of climate change, but also into its literary and spiritual implications. As Johns-Putra (2010) points out, the trilogy is self-reflexively experimental with the generic conventions of science fiction, combining a meticulous and detailed process of near-future world building, a strong cast of well-developed characters, and an experiment in processual-utopia. Yet, to conclude this mapping exercise, it's worth briefly considering an interesting anomaly which most clearly demonstrates the strength of the conventions I've outlined. George Monbiot's reading (2007a) of Cormac McCarthy's *The Road* as the best climate change novel ever written is surely disingenuous, since Cormac McCarthy goes to such lengths to avoid identifying the cause of his post-apocalyptic world. However, in light of the above analysis, it is understandable why it has been read as such. *The Road* mobilises the full range of representational and generic conventions of the climate change canon outlined above, thus making it impossible to read without climate change in mind.

iii. *Climate change poetry*

A comprehensive survey of climate change poetry proves challenging, since poetry exploring climate change forms a minor part of many poets' oeuvres, running the risk of making any generalisations so broad as to be meaningless. There are a number of notable exceptions of extended enquiries through full-length collections (Reading, 2005; Mara-Ann, 2009; Gross, 2009; Moody, 2010; sections of Lopez, 2012). However, four recent climate change and environmental crisis anthologies are helpful for drawing out general trends—*Earth Shattering* (Astley 2007), *Trees in the City* (Poet

in the City. (eds.), 2007), *Feeling the Pressure* (Munden, 2008) and *And This Global Warming* (Aman Awel Tawe, 2012)—both in terms of the poems and the editorial process itself.

An analysis of the editorial process is enabled by the four anthologies' introductions. Here, the question of the *function* of climate change poetry is brought to a head: what is poetry and what is polemic? In the introduction to *Earth Shattering*, Neil Astley is explicit of the anthology's aims to manipulate narratives of fear through its catastrophic *content*: 'there are poems here to alarm and alert anyone willing to read or listen,' alongside poems illuminating 'ecological balance' and exposing environmental destruction (Astley, 2007, 15). For Astley, ecopoems must 'take on' contemporary issues (15), with 'the power of [the] poetry in the detail, in the force of each individual poem, in every poem's effect on every reader' (20). Furthermore, Astley views the translation of catastrophic climate imaginaries (the making 'real' of future climate change) into action as direct and literal: 'anyone whose resolve is stirred will strengthen the collective call for change' (20). Paul Munden's introduction is more nuanced, describing *Feeling the Pressure* as a 'weather report' of our understanding of climate change at the end of 2007, lauding both the variety and obliqueness of responses to 'the most pressing issue of our time' (Munden, 2007, 3). Yet while its stated *function* is therefore more exploratory, its structural section headings might have been lifted straight from a popular science account of the diagnosis-prognosis-motivational dimensions of the dominant frame: 'Trends: Trends in observed and future climate'; 'Extremes: Extreme weather'; 'Impacts: Impacts on human health, ecosystems, urban and agricultural areas'; 'Actions: Adaptation and mitigation: what we can do?'; and 'Complicities: Beyond climate change'. The work itself becomes compromised by the reading experience being delimited through the lens of the dominant frame. Meanwhile, the association of the dominant frame with the neo-liberal capitalist agenda is brought into clear relief by *Trees in the City*, a short pamphlet collecting 'climate change poems' by John Burnside, Patience Agbabi and Matthew Hollis, funded by Lloyds Bank in partnership with the Poet in the City venture philanthropy project. In his introductory words, then Lloyds Chief Executive Richard Ward emphasises the risks which climate change poses to insurance premiums:

When we look back on 2007, we are likely to remember it as the year when the world finally accepted climate change as fact. How the year will develop in terms of weather-related losses we do not yet know, but natural catastrophes are now costing the insurance industry more than ever before. In 2005 this generated a record \$85 billion of losses, and despite a benign year for natural catastrophes in 2006, we can be sure that this trend will continue (Poet in the City. (eds.), 2007, 7).

Meanwhile for Director of Poet in the City, Graham Henderson, poetry's *function* involves conveying 'the message that climate change is a reality [...] It is an issue which increasingly preoccupies all of us, whether we are insurance brokers, business leaders or consumers' (15). Poetry's role is instrumental, firmly associated with the supposedly neutral representation of the 'reality' of climate change, while humanity has been reduced to the categories of 'insurance broker', 'business leader' or 'consumer'.

Of all the anthologies discussed here, the most nuanced introduction is provided by Emily Hinshelwood's *And This Global Warming*:

We are living in a changing world and we have to voice this in ways that help, rather than scare [...] This anthology demonstrates that there are as many ways of thinking about climate change as there are people. Poetry, and the arts in general, have the ability to imagine our worlds differently, and through the imagination we find ways to adapt, to change, to improvise. (Aman Awel Tawe, 2012, 11)

Yet conversely, turning attention to the actual poems, those collected in *And This Global Warming* prove most generic of all.

While the poetry in the above four anthologies is inevitably varied, overarching generic conventions can still be identified across the anthologies which I will then illustrate in more detail through a closer reading of *And This Global Warming*. Approaching the anthologies together, an interesting observation is that the poetry seems more overtly comfortable with *functioning* persuasively than its fictional equivalent, with a far greater incidence of direct persuasive pronouncement in the name of the climate mitigation 'message'. Furthermore, where the fictional oeuvre side-steps the question of representation through futuristic imaginaries, the poets collected here display greater confidence in their ability to stand back and look *at* it, through a combination of laments for the past, present perspectives on weather conditions and political debates, as well as future prognoses, thus staging a dualistic separation of us from climatic processes of change which in a political context we might 'solve', and in a poetic context analyse. Scientific language is uncritically incorporated into the poems, lending a sense of objectivity to portrayals which are both subjective, and ideologically framed.

In turn, the three predominant modes are didacticism, the elegy and satire, as is most clearly demonstrated by the *Trees in the City* anthology. Agbabi's background in performance poetry articulates itself in a poetry of far more direct pronouncement than is the case with either Burnside, whose poems elegise a lost past, or Hollis, who takes a satirical perspective on our failings regarding the climate mitigation agenda. However, each approach, and associated *content*, maps a communicative function on behalf of the dominant frame: didactic poems play the direct role of messenger, the satiric mode places the poet in an elevated position of commentary on our failings according to the terms of the frame itself, while the elegiac mode provides the mirror image of futuristic projections, relying on equally nebulous notions of harmony and balance. Finally, in common with the fiction of climate change, there is very little evidence of formal experimentation in response to the complexity of climate change, suggesting an uncomplicated stance on poetry's capacity to capture the evidence, the debate and the consequences of climatic change through language.

The poems collected in *And This Global Warming* are illustrative, and taken as a whole, appear surprisingly comfortable with communicating explicit 'messages'. The poets repeatedly sum up their meaning in the last few lines, as if aiming to find neat resolutions, which climate change itself does not offer. Tamsin Hopkins in 'The Umbrella Stand' concludes her dream-poem about an ice-bear paw used as an

umbrella stand, thus mobilising the narrative of climate fear in terms weighted with moral imperative:

And the nightmare is
we're probably going to need
more umbrella stands
soon. (27)

John Bilsborough's poem, 'No help at all,' is even more direct, with his message further emphasised through his concluding rhyming couplets:

There's nobody going to come and save us.
Nobody owes us any favours.
The way to stop the march of ruin
is just stop doing what we're doing. (21)

Considered in terms of generic *content*, the majority of the poems collected here imagine contemporary weather events in ways that presage future disaster. Certainly, many of the poets are self-reflexively aware of their mobilisation of climate change 'tropes', such as rising water and melting ice (themes which occur in over half of the poems). Take, for example, Caroline Zarlengo Sposto in 'Voicemail Received: 02:17':

from pseudo science socialists
who get off hugging trees
or using some emotional device
like pictures of a polar bear
that's running out of ice. (22)

Yet while demonstrating awareness of such clichés' limitations, familiar imaginaries continue to be relied upon as consciousness-raising devices; indeed, the sense of being unable to respond to climate change becomes a theme in its own right. Rex Harley's eponymous opening concludes with a young boy asking his grandmother narrator why she is worrying about climate change since she 'won't be here anyway'. The narrator responds, 'And if I had words I'd tell him' (13). This is all very well, communicating a powerlessness which no doubt many of us have experienced, but leaves the reader with absolutely nowhere to go in relation to climate change.

In *And This Global Warming*, the predominant mode is a didactic form of satire, as epitomised by the beginning and ending of Jon McGovern's poem 'Earth Summit, Geneva':

1. Angela Merkel proposes that all nations reduce their
carbon emissions by at least 60%

Objection from David Cameron: 'I'm starving'
Nods of agreement
Meeting adjourned for lunch break ...
[...]

5. Cameron expresses satisfaction at progress made so far
He is interrupted by a roar of thunder
Leaders flock to windows
Sky is on fire (16–17)

The ironic stance of such poems certainly take the failings of the current climate mitigation efforts as their satiric target, but do not question the rightness of the framing of this agenda itself. In fact, by positioning themselves above the action, the poets fail to recognise their *own* implication and responsibility for events. Nor do they offer alternative visions than the time-worn rounds of international negotiation they simultaneously critique (or indeed to propose that the contemporary post-political landscape could in fact be part of the problem in the first place). The other most common mode is elegy, which by idealising a lost past expresses the predominantly 'conservative' tenor of climate mitigation debate:

my memory's permafrost, but only just
this last year or two it has dawned on me
that in winter nowadays we simply

don't find them anymore (31)

And, certainly, there is little evidence of far-reaching experimentation or innovation in response to the huge representational challenges climate change poses writers. Most of the poems selected in *And This Global Warming* are written in the loose style of free verse characteristic of most contemporary British poetry, with variation a question of detail, not fundamentally challenging *how* we come to know through poetry. The most successful poems in the collection are those in which form and content are placed in dialogue. Ron Pretty's poem 'Desert Storm' is an unrhymed sonnet, whose sprung rhythm emphasises the incessant de-familiarisation of the desert (insect) storm scene:

Soon you're among them
like hail slanting towards you, rattling against
the windscreen, the grille, thwacking against the glass
so think you cannot see, you cannot think. (14)

Meanwhile, Em Strang's use of the conditional mode 'If ... then ...' in 'Riparian' (15) emphasises the uncertainty associated with the scenario of flooding she presents: 'If you can do this for me I will be grateful' and Tony Lucas's poem operates in constant dialogue and argument with its 'Antediluvian' title (37).

Conclusion

In the introduction I made the case for *more* climate change rather than *less* of it. In my own thinking, and associated creative practice, two particularly helpful starting points for moving forward differently with climate change have been Timothy Morton's concept of 'Sunday afternoon thinking', and the inviting conclusion to Mike Hulme's *Why We Disagree About Climate Change*. In *The Ecological Thought*, Morton makes the case for both *more* thinking, and also a less teleologically driven kind of thinking than that to which we are accustomed, as a means of *extending* thinking beyond the current status quo:

I've been accused of not wanting to help Katrina victims because I'm so busy theorising with my head in the clouds: 'your ideas are all very well for a lazy Sunday afternoon, but out here in the real world, what are we actually going to do?' Yet one thing we must precisely do is break down the distinction between Sunday afternoon and every other day, and in the

direction of putting a bit of Sunday afternoon into Monday morning, rather than making Sunday a workday (Morton, 2010b, Kindle Loc 1526).

Meanwhile, for Hulme, rather than pursuing (unachievable) solutions, we might more helpfully view climate change as an invitation to ask broader, more fundamental questions about the meaning of the human project on Earth: 'rather than catalysing disagreements about how, when and where to tackle climate change, the idea of climate change should be seen as an intellectual resource around which our collective and personal identities and projects take shape' (Hulme, 2009, 326).

To conclude this paper I propose that the evidence of climate change, far from requiring the application of traditional forms of human-centred, managerial and teleological problem-solving methods, instead demands a radical re-think of how we approach the world in the first place—a re-think which fundamentally challenges our view of the centrality of humanity, and our established notions of dualism and progress. And I propose that the role of literature within this is not to 'imagine' the potential consequences of climate change as a means of consciousness raising, but rather to operate at a deeper level of thinking: to perform an intellectual and ideological critique of Enlightenment notions of progress as manifested in the climate change and neo-liberal political moment.

These are ideas which are developed further in both my creative and other critical work. In *Through the Weather Glass* (2015), the hybrid novel through which I explore climate change, Icarus (the key protagonist) performs the realisation that climate change is more of a journey we re-negotiate and participate in every day, than a destination with solutions. Meanwhile, 'What if: a literary case for *more* climate change' (Burnett, forthcoming 2018) presents a provocative manifesto for how literary works might make space for *more* and *different* ways of thinking climatic change: through open-ended processes of improvisation and play, a performative account of realism, intra-formal/generic/textual experimentation and an unsettling of notions of endings (or progress) in either content or form.

During the above creative and critical research, I found myself drawn far more towards works of literature *outwith* the climate canon as points of reference. Not least, Lewis Carroll's *Through the Looking Glass* provided a model for how works of literature can perform alternatives to teleological notions of 'progress'. But this is not to say that within the climate literature there are not works which gesture towards the more radical kind of literary interrogation I propose. Returning to the four poetry anthologies I have previously critiqued (Aman Awel Tawe, 2012; Astley, 2007; Munden, 2008; Poet in the City. (eds.), 2007), it is those poets who demonstrate a keen awareness and precision of form in their re/cutting of how we come to understand climate change whose responses prove most convincing. In *Feeling the Pressure*, David Morley's 'The Waves' is written in two-line stanzas which enact shifting pairings between the landscape, us and language, thus enacting a sense that the poet is negotiating a mutable co-becoming of the world:

Language became a wave, a break,
an intricate flat world in its wake.

It flows and is broken.

It is made and unmade of our children. (Munden, 2008, 44)

Meanwhile, the refrain of Harriet Tarlo's 'we haven't had rain/we've had too much rain' (Munden, 2008, 48–49) captures a sense of language's Janus-faced implication in re/constructing the meaning of climate change. The repetitive and sometimes itinerarised use of language performs a sense of frustration with both its inadequacy in the face of climate change, while the informal tone and sketched prose poem form enact the struggle of expanding our quotidian patterns of thinking to include climate change. In turn, Tony Lopez and M. Mara-Ann's single-authored responses to climate change offer something radically different from the mainstream convention. Tony Lopez's extended 216-page, ten-part prose poem *Only More So* (2012) samples from a 25-page long list of sources in an attempt to capture the dynamic current 'moment' of global discourse. Where the climate change 'canon' narrows in upon consensus, Lopez's extended engagement with contemporary discourse explodes the underlying political complexities and ideological contradictions. Its final chapter, 'Global Signals', alludes to the changeable endlessness of this project in progress:

The regularities are abstracted from models that assume some kind of closure or boundedness from unanticipated influences for change. Real value has to be estimated and distinguished from nominal value. Increases of connectivity within the hippocampus could finally reflect autobiographic memories triggered by the scripts. A cross-check against catalogues of astronomical objects tells you that no known body in the Solar System should have those coordinates and drift. (Lopez, 2012, 225)

Lopez's poem almost becomes unreadable in its density, as unapproachable and overwhelming as the notion of a 'global moment' itself, an endlessly rewarding capture of the shifting moment of literary-physical encounter. M. Mara-Ann's *containment scenario* (2009), meanwhile, maps an (entangled) ecological structure on to climate discourse such as to 'cut, cut, cut, cut Cut!!' (151) space for new meanings surrounding climate change, in language reminiscent of the Karen Barad arguments which are so influential on 'What if: the literary case for more climate change.' (Burnett, forthcoming 2018). Instead of seeking to represent the climate, Mara-Ann places the 'oral histories and fundamental interpretations' of climate change in performative 'TENSION' (186).

To conclude, if this article has one overarching aim it has been to invite other writers and critics to join me in developing literary practice that reaches beyond *imagining* climate change according to the dominant frame; to issue a call for work that performs challenges to the ideologies informing this frame as a means not of persuasion (closure), but of opening up possibilities for new ways of framing our response to climate change (ie *more* climate change). This is not to deny the importance of action in response to climate change. Rather, I propose that in order for action to be effective, it is important to review the ideologies informing this in the first place, and to move forward on our journeys with climate change from there. In short, what is needed right now is *more* change, not the climate mitigation model of *less*.

Note

1. Cormac McCarthy's *The Road* (2006), Jeanette Winterson's *The Stone Gods* (2007), Will Self's *The Book of Dave* (2007), Sarah Hall's *The Carhullan Army* (2007), Kim Stanley Robinson's *Sixty Days and Counting* (2007), Liz Jensen's *The Rapture* (2009), Matthew Glass's *Ultimatum*

(2009), Margaret Atwood's *Year of the Flood* (2010), Ian McEwan's *Solar* (2010) and Roland Emmerich's *The Day After Tomorrow* (2004).

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