

BORROWING THE WORLD: CLIMATE CHANGE FICTION AND THE PROBLEM OF POSTERITY

- ADELINE JOHNS-PUTRA

Abstract

This essay considers the prevalence of the notion of posterity in popular climate change discourse; specifically, it scrutinises the ways in which this discourse deploys ideas of parenthood, and therefore appropriates the figure of the child. The essay argues that not just this preoccupation with posterity but the use of the child as a particularly emotive shorthand conceal a collective angst about the cumulative effect of human activity on the planet. In a time of widespread biospheric destruction, this anxiety is exacerbated by the intractable ethical dilemmas that underlie our obligations not just to future humans but to nonhuman species. In the final analysis, the climate change novel emerges as a space in which this angst is aired, shared, and—most importantly—queried, as countless such novels place parent-child relationships under emotional and intellectual scrutiny. This essay contends that the use many climate change novels make of apparently sentimental parent-child imagery is, paradoxically, part of a vital critique of the human exceptionalism that underwrites such imagery.

I speak of the life of a man who knows that the world is not given by this fathers, but borrowed from his children; who has undertaken to cherish it and do it no damage, not because he is duty-bound, but because he loves the world and loves his children.

Wendell Berry, *The Unforeseen Wilderness: An Essay on Kentucky's Red River Gorge*

In 1971, activist-author Wendell Berry, writing about the Red River Gorge in his beloved Kentucky, invoked the trope of a natural world not granted by our forebears but on loan from our descendants—the biosphere held in trust, as it were, for generations to come (*Unforeseen Wilderness* 26). The re-publication of part of Berry's work in *Audubon* magazine soon after (Berry, "One-Inch Journey" 4) led to a misattribution of it to John James Audubon, and, in 1973, when Dennis Hall, an official at Michigan's Office of Land Use, adapted it without citation, he was erroneously credited also. Similarly, Australian Environment Minister Moses Cass's use of it in a speech to the OECD in 1974 (qtd. in O'Toole) meant that the adage has sometimes been ascribed to him. From the 1980s onwards, the phrase was quoted in speeches and reprinted on book-jackets and in report by-lines—by, among others, representatives of the United Nations Environment Programme and the World Wildlife Fund (Talbot 495). Paul and Anne Ehrlich attributed it to the International Union for the Conservation of Nature (26) and an article in the *Christian Science Monitor* (Jones 23) assigned it to environmentalist Lester Brown of the Worldwatch Institute. The *Los Angeles Times* asserted that it was an Amish saying (Riley 5), United States Secretary of State James Baker named Ralph Waldo Emerson as its author

(qtd. in Keyes L10), and the United States Council on Environmental Quality claimed the source to be Chief Seattle (qtd. in Keyes L10).

I have described these mis-attributions in detail not simply to offer an object lesson in the portability of provenance, but to suggest that this pithy aphorism has been so durable, so willingly and wishfully assigned to a range of wise and venerable sources, because it strikes a deep and resonant chord. The idea that our relationship with the biosphere is automatically a matter of posterity is a powerful one, and this quotation in particular achieves several important rhetorical tricks. It collapses a web of obligations – the interspecial and the intergenerational – into a single immemorial and apparently unthinkable strand of time. We are not simply construed as guardians of the environment for the environment's sake; we are explicitly called on to steward it for this vastly distant future, while being reminded of our debt to those in the past. We are thus placed in a grand historical chain of obligations. This is a different version of posterity from John Passmore's "chain of love", which reads, rather, as a kind of pass-the-parcel conception of intergenerational concern:

Men do not love their grand-children's grand-children. They cannot love what they do not know. But in loving those grand-children – a love which already carries them a not inconsiderable distance into the future – they hope that those grand-children too will have grand-children to love. By this means there is established a chain of love and concern running throughout the remote future.
(88)

For Passmore, we "cannot love" what we "do not know", and thus future generations are cared for vicariously, since it is the receipt by a given generation of the love and care of immediately preceding generations that positions and motivates it to care for the next. Unlike the chain imagined by Passmore, the rhetoric of environmentalist posterity brings those future generations into the immediate purview of parental love. The call to stewardship *seems* to trail off into the reaches of time, but its use of synecdoche – the modelling of our attitude to future generations on our responsibilities to our offspring – replaces the terror of sublime infinity with the intimacy of parental caring, sheltering, and nurturing. From Berry's original expression of it through its many incarnations, the primal, emotional punchline is that the (every)man loves his children.

In this essay, I first consider the prevalence of the notion of posterity in popular climate change discourse, scrutinising its appeal to ideas of parenthood, which leads to a consideration of this discourse's appropriation of the figure of the child. I argue that not just this preoccupation with posterity but the use of the child as a particularly emotive shorthand conceal a collective angst about the cumulative effect of human activity on the planet. In a time of dire destruction of the biosphere at large, this anxiety is exacerbated by the intractable ethical dilemmas that underlie our obligations not just to future humans but to nonhuman species. In the final analysis, the climate change novel emerges as a space in which this angst is aired, shared, and – most importantly – queried, as countless such novels place parent-child relationships under emotional and intellectual scrutiny. Ultimately, I contend that the use many climate change novels make of apparently sentimental parent-child imagery is, paradoxically, part of a vital critique of the human exceptionalism that underwrites such imagery.

Posterity as Parenthood

The construction of environmentalist action as a matter of posterity (a word I use for its specific meaning of future human generations) and its additional framing

within the language of parenthood have become an abiding theme in the contemporary imaginary. The discourse of environmentalist crisis, particularly that complex of environmental concerns that fall under the rubric of 'anthropogenic climate change', is peppered with references to posterity as parenthood – images, tropes and heartfelt pleas that create a sense of transcendence and timelessness on the one hand and conjure up elemental feelings of care and love on the other.

It is, for example, what gives especial power to British poet Ruth Padel's haunting climate change poem "Slices of Toast", an effective piece of environmentalist poetry thanks to its evocation of the poet's child (31). The poem's lyrical description of environmental crisis is occasioned by a warm winter's day that is "almost too warm" (31); it begins with memories of the colder winters of childhood and ends with worries about the future world. Anxieties about disruptions in ocean flows, melting polar icecaps, and deadly weather events segue into the poet's memory of events at a public lecture by environmentalist James Lovelock: "A woman in the auditorium asks: *If all you say I is true, what should we be teaching our children?*", to which Lovelock's deflated and defeated response is simply "*I don't know. I really don't know*" (31; emphasis in original). All this then turns out to be addressed, along with a final, unanswerable plea, to the poet's daughter. For if, indeed, all Lovelock says is true, then, "the only answer is *commando skills. I Fight to the death for any high ground you're standing on / my darling*" (31; emphasis in original). Importantly (as shall subsequently become apparent), the poet acknowledges the small-mindedness of this "terrible readiness / to worry about your own family first"; yet, she cannot help, in the poem's poignant last lines, but "think *my daughter, my daughter, I how is she going to deal with this?*" (31; emphasis in original). The shift from planet to child may in rational terms be an abrupt one – it is "a question", after all, that Lovelock "hadn't faced before" (31) – but it flows, affectively speaking, with utter ease. The repetition of "*my daughter*" strikes a note with the reader because of everyone's "terrible readiness" to think of the environment in terms of posterity and parenthood.

As it turns out, the rhetoric is just as effective when turned to satirical use. Australian artist Michael Leunig enjoys a substantial following in his home country for his touching and ironic cartoons that offer insight into the human condition. Leunig cartoons are a mainstay of Melbourne and Sydney dailies; that of the 23rd of November 2012 in Melbourne's *The Age* newspaper was a pointed comment on humans' environmental hubris, its barb sharpened by the idea of posterity as parenthood:

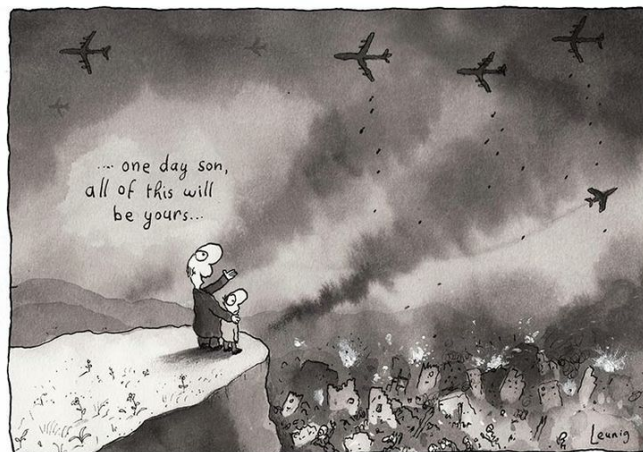


Figure 1: One Day Son, © Michael Leunig, 2012

The sentiment, “one day son, all of this will be yours”, is clichéd enough (in a nod to Disney’s *The Lion King*), but its banality is further emphasised by its reference to a world whose ecological systems have been trashed by pollution, carbon emissions, and over-urbanisation. What kind of legacy, Leunig’s cartoon asks sarcastically, is this? And why do we not look upon it with the kind of confusion and disappointment evident in the eyes of the child in the drawing, rather than as a distant and abstract obligation?

That same question, correlating damage done to the environment with a failed duty of care to children, is evident in many other popular calls to environmental action. Climate scientist James Hansen has titled his book on global warming *Storms of My Grandchildren* and includes photographs of those grandchildren at various points in the book. In his preface, beneath an image of his granddaughter at two, he writes, “I did not want my grandchildren, someday in the future, to look back and say ‘Opa understood what was happening, but he did not make it clear’” (xii). But we are not just talking about grandchildren: we are often called on to consider in parental terms our descendants *ad infinitum* (or perhaps one should say, *ad perditionem* – to destruction). The film *An Inconvenient Truth* ends with Al Gore’s affecting words to the audience: “Future generations may well have occasion to ask themselves, ‘What were our parents thinking? Why didn’t they wake up when they had a chance?’ We have to hear that question from them, now.” That is, “we” have a parental duty to not just one generation but countless many. For some, then, a position of parenthood may even be discernible, though never explicitly or plaintively phrased, in the Brundtland Commission’s definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 43). After all, that is what parents are supposed to do.

The affective appeal of posterity-as-parenthood, which gives a seeming common sense to environmentalist rhetoric (hence the certitude of Gore’s closing remarks, Hansen’s concerns, Padel’s pathos, Leunig’s satire, and the terse Brundtland definition) is a call to an abiding collective psychology. This appeal, then, necessitates a deeper exploration of the figure of the child. The figure of the child furnishes environmentalist discourse with a convenient signifier: as I have already indicated, it is a synecdochic representation of future generations and readily conjures up an impulse toward protection, shelter, and guardianship. It thus embodies the floating concerns and anxieties that surround environmental issues, or, more accurately, it functions as an imaginary object and recipient of such concerns. Moreover, the association of children with innocence and hence with the ‘natural’ allows additional slippage between children and the nonhuman, especially between children and charismatic animals. Examples abound, but I will restrict myself to one. To celebrate Earth Day 2013, which carried the theme, “Face of Climate Change”, the Earth Day Network invited the public to contribute photographs that spoke to the theme, and then highlighted the initiative on its website with its own montage.



Figure 2: The Face of Climate Change, © Earth Day Network, 2013

While the two central pictures are stereotypical images of drought and pollution, suggesting the effects and causes of climate change, the other photographs provide an affective frame for these. The (baby) orangutan and the young boy echo each other in several ways: visually, the dark eyes and intense gazes chime with each other, affectively, they link suggestively in terms of vulnerability, innocence, and thus the request for protection. It is worth considering here Emmanuel Levinas's proposition that our response to the Other is initially and always a response to a face: "You turn yourself toward the Other as toward an object when you see a nose, eyes, a forehead, a chin, and you can describe them." (85) Using the terms of Levinas's analysis, we could say that, in a climate-changing world, the face of the child emerges as the ubiquitous Other towards which we direct our ethical gestures.

The emergence of the child in environmentalist rhetoric as the recipient of concerted ethical effort cannot help but refer us to Lee Edelman's notorious critique of what he terms 'reproductive futurism' (2) – the equation of the future with posterity, with a special emphasis on parenthood. According to Edelman, the figure of the child is "the perpetual horizon of every acknowledged politics, the fantasmatic beneficiary of every political intervention" (3). Edelman is primarily concerned with critiquing heteronormative power and discourse; in his analysis, the child beguiles the individual – here, Edelman focuses on the queer individual – into both assuming a parental posture that is inherently heterosexist and investing in a political hegemony that serves higher socioeconomic and political interests. For Edelman, the figure of the child is the face of fallacy. While it is difficult to subscribe to the more radically nihilistic pronouncements that Edelman makes (most notably, the encouragement of an essentialist queer identity politics and his rejection of not just parenthood but the very idea of a future), his assessment is an important reminder of the narrowness of the parental obsessions that underlie environmentalist posterity. Nicole Seymour, applying some of Edelman's analysis directly to environmentalist rhetoric, writes of the "many environmental campaigns that use the image of the child" that their "sentimentalized rhetoric [...] suggests that concern for the future qua the planet *can only emerge, or emerges most effectively*, from white, heterosexual, familial reproductivity" (7). Seymour's socio-political critique echoes earlier analyses of how the heteronormative assumptions of this rhetoric align themselves readily with racist and sexist ones. Writing in 1999, Catriona Sandilands identifies an explicitly gendered version of this strain of parenthood imagery, which she terms "motherhood environmentalism" and which she describes as "a naturalized morality tale of private women embodying particularistic, nuclear-family-oriented, antifeminist, heterosexist, and ultimately apolitical interests" (xiii). In a similar vein, Noël Sturgeon's 2009 analysis describes how environmentalism has become "a new moral framework for children's popular culture" that operates on heterosexist and racist assumptions "about what constitutes 'natural' men and women, 'natural' families, 'natural' racial/ethnic identities, and 'natural' sexuality" (103). All this points to the need for a critical vigilance over what might be at stake in the use of the child as a mascot for the future.

The Ethics of Environmentalist Posterity

Certainly, the face of the child masks some awkward ethical paradoxes even as it smoothens over the anxieties that these bring about. The exhortation to think of posterity when we think of the environment might seem straightforward enough, but it is a call beset by logical inconsistencies and ethical conundrums. The elision of nonhuman environment with human posterity is not something to be taken lightly. For one thing, there are conflicting needs at stake: not just between the nonhu-

man biosphere at large (if such a thing can indeed be imagined) and the human species in its entirety, but amongst diverse nonhuman and human populations of the world. For another, even if these differences were somehow magically accounted for, there exists considerable difficulty in apprehending and measuring our obligations to fellow humans into the distant future, not to mention balancing present needs against these. Each of these questions, then, constitutes a knot of ethical dilemmas, which the posture of environmentalist posterity, particularly the alignment of posterity with parenthood and specifically the figure of the child, invites us to take for granted.

The first problem of environmentalist posterity concerns the offsetting of our ethical obligations to nonhuman others with humans of the future. At its most extreme, environmentalist posterity takes a utilitarian approach to the environment – that is, it assumes that the biosphere and its nonhuman inhabitants are worth preserving primarily for their potential usefulness to future humans. This is an ongoing argument, a quarrel – pivoted on the accusation of anthropocentrism – that has split environmental ethics since its inception in the 1970s (McShane 407-420). This is on the one hand a fight for the intrinsic value of the environment and on the other hand an acknowledgement that any such claims for intrinsic value will only always be humanly subjective and should be treated as such. It reproduces debates between the discourses of deep ecology and sustainable development. Deep ecologists, after Arne Næss (95-100), would have it that all nonhuman beings possess an inherent and inalienable worth far beyond the future utility and priorities of the human species. Meanwhile, advocates of sustainable development, particularly environmental economists inspired by the terms set by the Brundtland Commission, would suggest that any effort to protect the environment must be based on an attempt to measure it for the future: for economist David Pearce, for example, sustainable development is “sustainable utility” and is also definable as “non-depletion of capital” (Pearce et al. 2), where capital includes not just human but “natural capital” (Dresner 3). For those on the deep ecological side of the debate, such analyses with their cost-benefit implications are unacceptable. The result, as Simon Dresner has suggested, is an apparently intractable argument, marked by routine accusations that economists are “putting a price on the planet” (112).

Moreover, however one treats of the place of the nonhuman in formulating a position of environmentalist posterity, one faces another key problem – the inherent difficulty of imagining and justifying our responsibility to future generations, given their absence or, at least, their lack of immediacy to our current needs and wants. In this, standard economic assumptions are of little help. The economic notion of discount rates (the amount that a benefit declines in value each year into the future it extends) is often attended by the principle of future discounting, that is, the idea that we tend to discount future benefits relative to present benefits. But the challenge of finding a new way of accounting for the future is profound indeed, as demonstrated by one of the earliest systematic attempts to do so. In 1973, John Rawls introduced intergenerational justice and rights to economic and political philosophy in his seminal treatise, *A Theory of Justice*. Rawls's ideas centre on his “principle of just savings”, the principle that the current generation should at least save enough for future generations to live under just institutions. However, Rawls struggles with the temporal and moral dimensions of posterity thus theorised, and does not quite answer the question of what precisely our obligation to the distant future might look like, and thus what should be done to meet it. His theory is based entirely on contractual exchange, but he rejects the idea that a contract of intergenerational rights could include all human generations; says Rawls, such a “general assembly [...] stretch[es] fantasy too far” (*Theory of Justice* 139), and he limits the

view of the future to the viewpoint of the generation at “the present time of entry” (*Theory of Justice* 139). Moreover, Rawls refuses to be drawn on the motivations behind our intergenerational obligations in this work, and, in later work, simply ascribes the present generation’s concern for the future to an unspecified “motivational assumption” (*Justice as Fairness* 292). In the final analysis, Rawls’s thinking on intergenerational justice, particularly his principle of just savings, is, David Heyd argues, “not a principle of justice but only a statement about the *value* of justice and the duty to maintain or promote it” (172; emphasis in original). Tellingly, Heyd notes that the closest Rawls comes to providing a reason for the motivational assumption is to imply a parental concern, an interest in the welfare of one’s children and one’s children’s children (175). Thus, Rawls unwittingly contradicts the “mutually disinterested” positions of the contract model he had originally theorised, and takes refuge, briefly, in the motif of parental love by way of a partial explanation.

Some environmental ethicists have attempted to provide an alternative rationale for our obligations to a future we cannot know, specifically by counteracting the Rawlsian emphasis on exchange with frameworks based on shared visions or concerns. Even so, they shed little light on the uncertainty caused by the unknowability of posterity. Avner de-Shalit views intergenerational obligations in terms of communitarianism: according to de-Shalit, we should imagine present and future generations as constituting a “transgenerational community” (13-50). However, de-Shalit stipulates that these obligations fade for future generations remote in time because of “the fading-away of moral similarity” (58) – their needs barely resemble ours. Meanwhile, Christopher Groves has theorised an environmentalist attitude of care, reviving the feminist ethic of care first put forward by Carol Gilligan in the 1980s, which he explicitly presents as a counterweight to the rights-based thinking of Rawls. For Groves, such an outlook affirms the “connectedness” (98) rather than separatedness of individuals. But, to invoke Passmore, “Men cannot love what they do not know”. Groves concedes this unknowability, suggesting that at least it produces a “reflexive uncertainty” (15), that is, a critical awareness of the contingency of one’s relationship to the future. Thus, even in Groves’s optimistic account, the needs of the future must be the projection of present values and are subject to guesswork, no matter how concerned and selfless these constructions might aim to be.

While I do not purport in this essay to be able to explain the basis for deciding what and how to provide for the future, I do want to note that the emotional appeal of posterity as parenthood, and particularly the figure of the child, is not that it provides an answer to the question but that it allows us to bypass it. To discuss our obligations to future generations under the aegis of parenthood is to abandon notions of balancing priorities and rights in favour of an all-consuming attitude of care. When Groves suggests that environmental action be led by the feelings of attachment and the sense of obligation to provide emotional and physical security that characterise parenting, he foregoes – in a move akin to Rawls’ – the challenges of weighing up rights and priorities. In other words, the parental discourse of environmentalist posterity represents a collective concealment of a collective angst. As Ulrich Beck suggests, the modern culture of fear – as opposed to a premodern culture of superstition – is derived from the “manufactured uncertainty” (291-99) of risks such as climate change, that is, from the failure of institutions to deal with such dangers and the resulting affirmation of uncontrollability and legitimisation of danger that emerges. If one effect of environmental crisis and the idea of environmentalist posterity is the difficult encounter with its profound intractabilities and the manufacture of fear, then one of the appeals of the language of parenthood is that it soothes the difficulties of this encounter. It places these intractable conflicts of

priority and their ensuing anxieties within the rather comforting frame of affection, love, and responsibility.

The Climate Change Novel and the Problem of Posterity

We are most effectively interpellated as parents in such snippets of environmentalist discourse as the rhetorical and epigrammatic examples I have already quoted. However, in the considerably more capacious form of the novel, there is space for something more – not just the ideological use of the child but a reflexive and even critical contemplation of that use. In recent fiction that deals with the complex of environmental concerns signalled primarily by anthropocentric climate change – novels sometimes termed climate change fiction – the knotty problems of environmentalist posterity are unpacked, teased out, and considered, if never quite resolved. Yet at the same time, this fiction often presents quite stringent critiques of the too-easy recourse to parenthood as a way of glossing over these anxieties. It offers a place, in other words, in which the collective anxiety around the environmental crisis of climate change takes centre stage, rather than being bypassed or ignored. The figure of the child occurs in these novels, then, not as a rhetorical trick and not even as contested ground, but as a signal that more is at stake in environmental posterity than parenthood. Most importantly of all, the invocation of the child allows for a self-critical evaluation of the conservative and anthropocentric confines from which this image so often emerges.

Something more needs to be said here about the climate change novel as a literary form. It would seem that climate change fiction has arrived, its emergence as “cli-fi” widely reported in several newspapers in May 2013 (P. Clark; Glass). This may have been the first time the arrival of a literary genre actually made the news – a symptom, no doubt, of the ubiquity of climate change as a discursive phenomenon in the lives of the privileged, urbanised, globalised, educated, socially-networked classes of the world often described as ‘us.’ The cli-fi story made considerable footfall in print and digital media in 2013, not merely because of the perceived newsworthiness of climate change as a ‘real’ issue (it originated in a *Financial Times* article written by its environmental correspondent, P. Clark), but also because of the controversial nature of the term ‘cli-fi’ (it prompted a rash of claims about just who had been responsible for coining the neologism – an honour now definitively settled on Taiwan-based journalist Dan Bloom – as well as surprisingly vehement early criticism of the awkwardness of the coinage).

Whether or not climate change fiction constitutes a viable genre depends in part on how one defines the idea of genre – a preoccupation or topic that might be found in almost any kind of novel might be seen by some to be too much about theme and not enough about form to warrant the name of genre. At the very least it may be said that the idea of anthropogenic climate change increasingly dominates a large number of novels from the last decade of the twentieth century onwards, and that climate change fiction names an important new category of contemporary literature and a remarkable recent literary and publishing phenomenon. What was a minority interest in the 1980s and 1990s, primarily in science fiction, developed into a discernible trend in the early years of this century, involving ‘serious’ or highbrow authors, and now lays a reasonable claim to being a recognisable form of contemporary fiction. In his recent book on climate change fiction, Adam Trexler writes of conducting an archival search that eventually yielded about 150 titles, and acknowledges that that figure is now growing rapidly (7). Certainly, the work that Trexler describes (the interdisciplinary “From Climate to Landscape: Imagining the Future” project at the University of Exeter from 2009 to 2012) coincided with a staggering growth in climate-related contemporary novels. Trexler’s study offers a

useful discussion of a wide range of climate change fiction and a survey of its themes, as do reviews that he and I have conducted elsewhere (Trexler and Johns-Putra; Johns-Putra, "Climate Change in Literature and Literary Studies").

While climate change is put to a bewildering range of imaginative uses in climate change fiction, some important distinctions can be discerned. Sylvia Mayer usefully differentiates between climate change novels that are set in the future and those that are set in the present, characterising the former as catastrophic and the latter as anticipatory (21-37). For sure, climate change often occurs as part of a futuristic dystopian setting, in what is by far the most prevalent form of climate change fiction. This includes some of the earliest novels to deal with anthropogenic climate change, particularly in science fiction, such as Arthur Herzog's *Heat* (1976), George Turner's *The Sea and Summer* (1987), Robert Silverberg's *Hot Sky at Midnight* (1994), Bruce Sterling's *Heavy Weather* (1994), and Norman Spinrad's *Greenhouse Summer* (1999). One should consider, too, the more recent phenomenon of sf-inflected works by mainstream authors, such as Maggie Gee's *The Ice People* (1998), Margaret Atwood's MaddAdam trilogy (2003, 2009, 2013), Will Self's *The Book of Dave* (2006), Sarah Hall's *The Carhullan Army* (2007), and Jeanette Winterson's *The Stone Gods* (2007); meanwhile, Cormac McCarthy's *The Road* (2006) is also readable as a climate change dystopia in effect if not in intention. More recently, plenty of up-and-coming writers have attempted climate change narratives with a dystopian twist, for example, Steven Amsterdam's *Things We Didn't See Coming* (2009), James Miller's *Sunshine State* (2010), Robert Edric's *Salvage* (2010), Peter Heller's *The Dog Stars* (2012), Alexis Wright's *The Swan Book* (2013), Nathaniel Rich's *Odds against Tomorrow* (2013), Jane Rawson's *A Wrong Turn at the Office of Unmade Lists* (2013), and Edan Lepucki's *California* (2014); recent science fiction dealing with climate change includes William Gibson's *The Peripheral* (2014) and Paolo Bacigalupi's *The Windup Girl* (2010), *The Drowned Cities* (2012) and *The Water-Knife* (2015). On the other hand, as Mayer reminds us, there exist a smaller number of climate change novels with contemporary or near-future settings. In these, climate change emerges as a complex political and economic problem demanding just as complex solutions—for example, in Kim Stanley Robinson's "Science in the Capital" trilogy (2004, 2005, 2007), Clive Cussler's macho spy thriller, *Arctic Drift* (2005), and Matthew Glass's *Ultimatum* (2009). It presents a profoundly personal ethical dilemma for scientists and environmentalists in Rock Brynner's *The Doomsday Report* (1998), T. C. Boyle's *A Friend of the Earth* (2000), Ian McEwan's *Solar* (2010), J. M. Ledgard's *Submergence* (2011), and Barbara Kingsolver's *Flight Behavior* (2012), and is even a source of psychological delusion in John Wray's *Lowboy* (2009). There has emerged, too, a range of climate change novels outside the Anglophone world. While Trexler provides a list that includes Finnish, Norwegian and Dutch novels (10), it should be noted that many such novels are German, as Axel Goodbody's comprehensive research shows ("Frame Analysis" 15-33; "Melting Ice" 92-102).

Its frequency alone makes the conjunction of climate change and contemporary fiction a literary phenomenon worth exploring in depth, but there are other reasons. Climate change may be an increasingly popular topic for imaginative writers, yet, as a discursive object, it has often been said to present a profound challenge to the human imagination. The cognitive immeasurability of climate change is one of the issues most remarked upon in the emerging field of critical climate change, the name now being given to scholarship at the interface between critical theory and climate change (McKee 309). In Tom Cohen's work ("Climate Change" 167-91; "De Man vs. Deconstruction" 131-48), climate change constitutes a profound challenge to the very idea of humanity. Trexler, writing in this vein, argues that

the very form of the novel is being radically altered by its encounter with climate change (1-27). Certainly, in apprehending climate change as an object of enquiry and representation, one must account for its sheer physical scale. For Sheila Jasanoff, the hugely expanded temporal and spatial dimensions of climate change (eternity? the world?) are what enables it to drive "sharp wedges between society's fact-making and meaning-making faculties" (243); this hyper-presence, paradoxically, makes climate change seem invisible. For Timothy Clark, "[s]cale effects impose unprecedented difficulties of interpretation and imagination" ("Some Climate Change Ironies" 136). Clark therefore calls for a radical new mode of literary analysis to meet the interpretive demands of climate change literature (*Ecocriticism on the Edge*). Similarly, Timothy Morton has, somewhat infamously, dubbed climate change one of several "hyperobjects", which he defines as "things that are massively distributed in time and space relative to humans" (1).

Yet, to juxtapose such critical pronouncements – which I think of as the "discursive problematic" school of climate change criticism – against the now lengthy list of climate change novels is to come to a rather startling conclusion; to wit, the apparent unrepresentability of climate change has not hindered efforts to represent it. And, through all the critical analyses of climate change, little remark has passed on the dominant theme of posterity, its recourse to notions of parenthood, and its utilisation of the figure of the child, all of which constitute a key strategy by which the apparently incontestable notion of climate change might be contemplated.

It might be useful to contextualise the preoccupation with posterity and parenthood within the emerging critical ideas about the Anthropocene. The term was first suggested by geologists Paul Crutzen and Eugene Stoermer to suggest that human behaviour had affected the atmosphere to such an extent that it might be a discrete geological epoch (17). That said, and by Crutzen's own ready admission, it was not initially defined as an epoch in formal geological terms; its usefulness as a designation within the terms of the Geological Time Scale has only now become the subject of proper scrutiny by the International Union of Geological Sciences' subcommission on quaternary stratigraphy (Waters *et al.*). Its usefulness to the environmental humanities as a marker for a profound shift in human behaviour was signalled early on by historian Dipesh Chakrabarty: the "geologic now of the Anthropocene", writes Chakrabarty, "has become entangled with the now of human history" (212). The Anthropocene now indicates to many in the humanities not just that humans have become geological agents but that human destruction of both civilisation and environment has engendered an existentialist crisis and radically altered humans' sense of our place in time. For Claire Colebrook, for example, the time of climate change is part of "a broader thought-event where humans begin to imagine a deep time in which the human species emerges and withers away, and a finite space in which 'we' are now all joined in a tragedy of the commons" (10). That is, our sense of an ending to the human species has led to a new preoccupation with a shared future, at once kairotic and bounded. Put another way, and drawing on Louise Squire's perceptive analysis of the existential dimensions of environmental crisis, the human species has been complicit in its impending death, so that death has, as it were, rebounded on humanity in a grand hubristic irony. I contend that the Anthropocene angst that Colebrook and Squire describe is an ontological predicament that necessitates the environmentalist rhetoric of posterity-as-parenthood: humans are increasingly becoming responsible for their impending extinction, and this sense of fear for our species' demise is, for many, most obviously expressible as a concern for the welfare of their offspring.

The Climate Change Novel as an Affective Space

It goes without saying, then, not only that the climate change novel may be future-oriented and anticipatory but that this futurity is shaped in affective terms – it is bounded by fear and its Spinozan flip-side of hope. Climate change fiction's affective structures, so redolent of fear and angst, revolve around the figure of the child as the object of these anxieties. As I have shown, Edelman would have it that these are insidious manipulations of our desires for wholeness; I would argue, however, that such novels perform what could be considered a less egregious function: they provide what I would call an "affective space", and a critically aware one at that.

Such an argument rests on an understanding of the novel's affective dimensions. The notion that literature might achieve its greatest effects through emotional as much as intellectual appeal might seem axiomatic. However, despite an affective turn in the environmental humanities (Weik von Mossner; Ivakhiv; Davidson *et al.*), affect and emotion have not often been rigorously analysed as such in literary scholarship, which has tended to focus on a text's intellectual makeup and its use of formal devices or, in psychoanalytical discussions, on the way a text taps into collective psychological concerns, construed in narrow pseudo-clinical rather than emotional terms. An important exception is Jenefer Robinson's comprehensive study of literature and emotion, which argues that emotional response precedes and is necessary for an intellectual response. As Robinson puts it, "a plausible interpretation of a novel relies on prior emotional responses to it" (101); she describes how reader's sympathies with characters are accompanied by a belief that their "wants and feelings are at stake" in reading the book. This heightened sensibility sets off an "affective appraisal" (117), that is, a non-cognitive appraisal, of the text that she reads as not just psychological but deeply physiological, as capable of setting down "emotional memories" (117) for any intellectual engagement – that is, these appraisals originate at a barely cognitive level. For Robinson, an interpretation of the text requires engagement at both the non-cognitive and cognitive levels. Similarly to Robinson, I would suggest that the appeal of climate change fiction, with its use of the figure of the child and especially its critical awareness of the imaginative strengths and limitations of the trope of parental concern, lies in the space it provides for readers – to differing extents – to think as well as to feel their way around the notion of responsibility to the future (and its attendant anxieties).

Another way to put this is to consider that the figure of the child operates as both a trigger for emotional response and an object of critical reflection. The reader, of course, is invited to empathise with literary parents and children, and thus to care about them, but that care is circumscribed within the limits of narrative. That is, even as we are emotionally involved with a novel's characters, as Robinson would have it, we are confronted with a range of formal devices that serve as "coping mechanisms" (196), achieving what Edward Bullough long ago called "aesthetic distancing" (87-118). This is why, for example, tragic events are rendered cathartic rather than downright traumatic. Going further than Robinson's concern with distance as an opportunity for coping, I would argue that, in the climate change novel, the sense of distance also turns such events into opportunities for a stringent critique on the efficacy of parental care as a trope for posterity.

In other words, and as I have already begun to indicate, the child of climate change fiction has the potential to unmask itself and the interests it serves. Just what might emerge as a result of that unmasking? That is, what alternatives to posterity might be conjured up by a critique of sentimental, human-exceptionalist versions of posterity? It is worth returning, if briefly, to the sources of environmentalist anxiety that I have earlier discussed, and to consider possible resolutions to these. A bridging of the gap between deep ecological and sustainable views, and a proper

accommodation of nonhuman futures by human ones, have been attempted by some sustainability experts. These have proposed a more enlarged view of environmentalist posterity, in which the legacy that humans of the present pass to those of the future is one of ideological change rather than simply the earth as a resource – change towards an outlook premised on the ecological interdependence of human and nonhuman species. Thus, for example, economist Richard Norgaard advocated in the 1990s a concept of sustainable development predicated on developing a future of human and nonhuman co-existence, or what he calls “co-evolution” (23-31). Even the model of human intergenerational care put forward by Groves, which I discuss above, accommodates nonhuman interests in what is largely a humanist account of environmentalist posterity. Groves imagines a “collective enterprise” in which “the non-human world is implicated as [...] an objectively necessary ingredient of meaning and thereby of flourishing” (171). Such a need for an explicitly ecologically-inflected ethics of posterity has also been identified in recent discussions of climate change in the environmental humanities. Hence, Morton’s analysis of hyperobjects expresses a wish for an “ethics that can handle hyperobjects” (123), that is, an ethics that emerges “from the point at which we realize that we are not separate from the world” (124). And Timothy Clark’s diagnosis of the scale effects incited by climate change and the larger phenomenon of the Anthropocene includes not just a discussion of temporal or spatial dislocations but also interspecies ones; for Clark, we must now reconsider what the very word ‘human’ means in the face of profligate human destructiveness (*Ecocriticism on the Edge* 148-55). Such arguments begin to sketch out a version of posterity that is avowedly radical rather than sentimental. This, I argue, is also anticipated by climate change fiction in its critiques of conservative modes of posterity-as-parenthood.

Several recent climate change novels align our concerns for the planet with our obligations to children and thence to future generations, but primarily do so as a means of bringing this alignment into question. Because a detailed analysis of these novels is beyond the scope of this essay, I offer here an overview, accompanied by a brief consideration of Kingsolver’s novel. As I have suggested elsewhere, McCarthy’s *The Road*, hailed as “the first great masterpiece for the globally warmed generation” on the basis of its representation of parental care in a damaged world – and the reader’s empathy with this – ultimately undermines parental models of care in its enigmatic ending (“My Job is to Take Care of You”). Similarly, I have argued that Gee’s *The Ice People* mounts a sustained critique of parental care and its gender biases as an inadequate model for dealing with the planet (“Care, Gender, and the Climate-Changed Future”). Meanwhile, one could, additionally, read Winterson’s *The Stone Gods* and Hall’s environmental dystopia, *The Carhullan Army*, as interrogations of heterosexist assumptions of parental posterity, juxtaposing these against queer (particularly cyborgian) notions of futurity. The paradoxical threat – or one could say, the carbon legacy – posed by future generations of humans to present humans is explored in a very recent climate change dystopia, Lepucki’s *California*, whose narrative pivots on the anxieties called forth by extinction through overpopulation (where childlessness is, paradoxically, the cumulative effect of too many children). All these novels take their emotional appeal from the notion that there exist deep and complex bonds between parents and children, but at the same time interrogate the face value of parental care as a synecdochic stand-in for human and nonhuman posterity.

A consideration of Kingsolver’s *Flight Behavior* indicates the contours of such a critique. Kingsolver’s novel is interesting in this respect precisely because its conventionally realist tale of parenthood lulls its reader into a (false) sense of sentimental posterity. The novel demonstrates the impact of climate change not just on

millions of monarch butterflies but also, vicariously, on a struggling young mother named Dellarobia, who has lived a life of financial and intellectual poverty. The global meteorological dysfunction that brings the monarchs on to Dellarobia's in-laws' property also brings a group of scientists into her life, and thus the main arc of the novel is the trajectory of Dellarobia and her young son from ignorance to concern for the butterflies to a global ecological awareness. At the end of this apparent *Bildungsroman*, Dellarobia separates from her well-meaning but ineffectual husband, embarks on degree studies in science, and encourages her son to follow in her footsteps. Yet the final pages of the novel entirely upend this legacy of ecological understanding. A flood engulfs not just Dellarobia's home but the surrounding land as far as the eye can see; alone, Dellarobia climbs the hills to witness not merely this devastation but the flight of the butterflies after their winter dormancy – a miraculous survival for this remnant of the species. Certainly, commentators of the novel have been divided as to the meaning of this startling conclusion, particularly since Dellarobia responds to her impending death with a kind of fascinated calm. The ending, as Mayer notes, "can be ambiguously read: either as a sign of destruction, or as a sign of cleansing and renewal" (31). For Linda Wagner-Martin, bound by what Timothy Clark would identify as an entirely anthropocentric style of literary critique, Dellarobia's death can only be read as tragedy; Wagner-Martin is clearly annoyed by this "last irretrievable chapter" in which "Dellarobia, like the butterflies, has no more choices" (197). In the most curious commentary of all, however, Clark, whose mode of criticism would have the reader stay alert to any kind of scalar derangement, misreads the novel's conclusion as one in which Dellarobia survives. Clark complains that "a pointed *disjunction* between the individual character's story and the fate of the insects would have made the text more provocative as a climate change novel" (*Ecocriticism on the Edge* 178; emphasis in original). Yet, such a disjunction – in Dellarobia's death and the butterflies' awakening – is indeed what happens. As a result, the overwhelmingly conservative and conventional trope of posterity-as-parenthood collapses, giving way to a distinctly unconventional and radical kind of posterity that favours – and, importantly, celebrates – the survival of the monarchs over that of Dellarobia and her family.

The climate change imaginary is dominated by the desire for an intergenerational commons, but it is a desire that is riddled with tensions. Partly as a result of the seemingly intractable inconsistencies of environmentalist posterity, the very idea of climate change is defined by anxiety; unable to think our way through this dilemma, we respond with something like a collective angst. Little wonder, then, that climate change discourse so often foregrounds the figure of the child, who represents future generations but at the same time conveniently conceals all the knotty intractability of environmentalist posterity beneath an attitude of parental care and love. And yet, though the climate change novel might seem to be one more instance of our preoccupation with the child and the loving response it seems to require, many climate change novels interrogate our too-ready reliance on parent-child love and hence call into question this shallow resolution to the problem of climate change. In short, if the poster child of climate change is none other than the child, the climate change novel shows just what is at stake in our adoption of this charismatic environmentalist symbol.

Recommended citation:

Johns-Putra, Adeline. "Borrowing the World: Climate Change Fiction and the Problem of Posterity". *Metaphora. Journal for Literature Theory and Media*. EV 2: Climate Change, Complexity, Representation. Guest ed. Hannes Bergthaller. 2017. Web. [Date of access]. <<http://metaphora.univie.ac.at/volume2-johns-putra.pdf>>

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