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Is 'long term thinking' a trap?: Chronowashing, temporal narcissism and the time machines of racism

Abstract: In this provocation, I investigate the notion of long term thinking, as a notion of 'sustaining time', which identifies failures in dominant conceptions of time and proposes an alternative that is thought to be better suited for responding to current environmental crises. Drawing on close analyses of two examples, I argue for a deeper understanding of what we might call 'chronowashing'. Like the more familiar green-washing, where environmental issues are hidden by claims to be addressing the problem, I explore how these examples of long-term thinking distract from extractivism, racism and environmental injustice, making it harder to address the complexities involved. In particular, they can provide a veneer of environmental concern that enables a disconnect from the work of building more equitable forms of relation. As a contrast I ask what is lost when we diagnose a problem as arising due to 'short term thinking' and propose 'long term thinking' as the solution? Against chronowashed environmental time(s), I argue for more complex approaches that explicitly take into account the temporalities of inequality, political organisation, ethical responsibilities and much else. I engage with approaches to time that foreground the work needed to create time and move ethically with(in) it, including Charles W. Mills' 'white time' and Kyle Powys Whyte's kinship time. I suggest that a stronger emphasis on the temporality of community, solidarity and coalition - versus what Deborah Bird Rose and James Hatley have described as 'temporal narcissism' – can better foreground the kinds of work that needs to be done, particularly by those with privilege.

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In Kim Stanley Robinson's climate novel, *Ministry for the Future*,¹ a sweeping vision is offered of how the climate crisis will be addressed in this century. Perhaps surprisingly, the novel suggests that the key actors able to change the fate of humanity are bankers. Once they are convinced to back a new cryptocurrency — tied to the sequestration of carbon — an alternative path to the future is forged. Key to the currency's success is the support of central banks who tie it to one hundred year bonds. With more confidence in the long-term future corporations, countries, communities and individuals start the great drawdown.

A key suggestion of the novel, then, is that responding to the climate crisis is not only about reshaping the economy, but also the temporal framework that it operates within. The new currency addresses the practical problems of carbon emissions by shifting the balance of incentives, while also providing an answer to what Robinson calls, the "tragedy of the time horizon".² A successor to the tragedy of the commons, the suggestion is that a cycle of short-term thinking is destroying the basis of earthly life. One of the novel's central characters, AI expert Janus Athena, glosses this as; "what we do now creates damage that that hits decades later" and because we are not able to imagine the effects this will have on future peoples "nothing much gets done on their behalf".³ Thus the tragedy is that 'we' cannot motivate ourselves enough to stop the behaviour. Long-term thinking is proposed as the primary skill that will counteract this lack of motivation.

The claim that the long-term view is required for an effective response to climate breakdown has, of course, been taken up far beyond this particular novel, arguably becoming environmental common sense. It forms part of a set of temporal counter-narratives that I have previously written about as forms of 'sustaining times', that is, accounts that advocate for alternative conceptions of time that are thought to be better able to support more liveable futures.⁴ Alongside long-term thinking, four other models include: critiques of growth over time (here we could think of steady-state or degrowth); the various slow movements; efforts to foster cyclical temporalities (such as the circular economy); and rebalancing working hours (such as movements for a four day week or a universal basic income). However, when I visited a wide variety of grass-roots businesses aiming towards sustainability, as part of an

¹ Kim Stanley Robinson, *The Ministry for the Future* (London: Orbit, 2020).

² Ibid. [page]

³ Ibid. [173]

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empirically-focused field philosophy project, none of these conceptions of time were being used as key guideposts for their activities. Instead, for the people I visited, the work of retiming involved complex efforts to reconfigure both stories about time, and the ways we enact it, in order to support the values they wanted for their business.⁵ That is, a key mode for counteracting dominant temporalities within these innovative 'green niches'⁶ was not to extend time horizons chronologically, but to experiment with the ways time underpins forms of relationship across people, materials and environments.

In this provocation, I want to take this critique of sustaining times further and suggest that far from orienting us towards a solution, the logics of temporal counter-narratives can instead work to *reinforce* exclusionary, extractavist temporalities that underpin late capitalism. In particular, I introduce the idea of "chronowashing", as a temporal version of greenwashing, where green communication strategies aim to distract attention from an organisation's poor environmental performance.⁷ In this case, I will suggest that chronowashing involves a sleight of hand where a professed interest in changing time — as a vector for addressing unsustainable practices — actually obscures key aspects of the problem, the processes producing it, and the complicity of the actors calling for the change.⁸ Chronowashing thus supports forms of business-as-usual while applying a veneer of temporal concern, distracting from more complex engagements with the ways unequal social and environmental relations are managed via particular conceptions of time.

My focus will be on long-term thinking, where those promoting this approach to time champion its ability to counteract 'our' difficulties in recognising the negative effects of actions and acting on them accordingly. Arguably, talk of wider horizons, or the 'long view', directs 'us' to chronological aspects of time where the step that matters is moving from a small time chunk to a bigger one, such as from 1-5 year bonds to 100 year ones. My concern,

⁵ Details of the methods and case studies used in this project are discussed here [Author paper].

⁶ Seyfang, Gill, and Alex Haxeltine. "Growing Grassroots Innovations: Exploring the Role of Community-Based Initiatives in Governing Sustainable Energy Transitions." *Environment and Planning C: Government and Policy* 30, no. 3 (2012): 381-400.

⁷ Magali A. Delmas and Vanessa Cuerel Burbano, "The Drivers of Greenwashing," *California Management Review* 54, no. 1 (2011). 65

⁸ Here I note, as one of the reviewers of this article pointed out, that 'sustainability' itself has been critiqued as a form of greenwashing that sustains current extractive systems through mechanisms of deferral. While I do not deal with how problematic uses of long term thinking and 'sustainability' might be reinforcing in terms of temporal logics, this would certainly be very interesting to explore further. See for example Shiva, Vandana. "Recovering the Real Meaning of Sustainability." In *Environment in Question: Ethics and Global Issues*, edited by David E. Cooper and Joy A. Palmer, 195-201. London: Routledge, 2005.

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however, is the lack of engagement with the huge amount of critical work that argues for an understanding of social conceptions of time as integral to the power-dynamics of exploitation and de/legitimation. From this view, the central question is not about the scale of one's time-frame, but about what kinds of relations are afforded or not. In utilising scare quotes around 'our' and 'us', I point to a key issue in this paper around *who* cannot see or feel these impacts of short-term behaviours. But further, I will ask whether popular framings of long-termism actually misdirect us towards concepts of time that initially seem radical, but which fail to engage with the step that really matters, ie asking what kind of temporal framework would challenge the inequalities and injustices that extractive capitalism rests upon. In what follows I will unpack these claims with reference to two examples of long-term thinking firstly, the Clock of the Long Now project, a 10,000 year clock funded by Amazon-founder Jeff Bezos and secondly, returning to Robinson's tragedy of the time horizon in more detail.

In both cases, I argue that diagnosing a lack of long-term thinking chronowashes the problem, directing attention away from — rather than toward — the underlying problem of extractive relationships, where negative effects on others are of little to no concern. We must stop thinking of sustaining times in terms of a more correct pace or horizon to be widely adopted. Instead I argue that we should pay closer attention to how our reformulations of time could support context-specific reconfigurations of relationality. Drawing on this more complex approach to time, I offer two conceptual counterpoints to these configurations of the 'long-term', suggesting that Clock of the Long Now can be better read as a form of what James Hatley has called 'temporal narcissism'.⁹ I then put the 'tragedy of the time horizon' into conversation with work from Charles W. Mills, and read it as 'racism as time machine'. In both cases I argue that a 'long term' conceptualized in terms of horizons, while proposed as a means to make the effects of 'our' actions easier to see and act upon, in fact does the opposite. Thus, as an alternative, the final section of the paper foregrounds work from scholars critical of white approaches to environmental, intergenerational and Anthropocene times, and who argue for centering relational temporalities that foreground questions about responsibility, interdependence and solidarity.

⁹ Note that Stefan Skrimshire has already offered a critique of the long term view in the Clock of the Long Now, particularly in terms of its presentation of a 'false infinity'. My critique takes a somewhat different approach in focusing on the long view as a tactical distraction. See Skrimshire, Stefan. "Deep Time and Secular Time: A Critique of the Environmental 'Long View'." *Theory, Culture & Society* 36, no. 1 (2019): 63-81.

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Long-term thinking, or temporal narcissism?

The Clock of the Long Now is a project often referenced in discussions of long term thinking,¹⁰ and is presented as a provocation to deepen our sense of responsibility by considering the impacts of our actions across extensive periods of time.¹¹ As Stewart Brand, a member of the Long Now Foundation explains, the "ambition and folly of the Clock...is to reframe human endeavour, and to do so not with a thesis but with a thing".¹² For Brand, this reframing has been guided by two key questions: "How do we make long-term thinking automatic and common instead of difficult and rare? How do we make the taking of long-term responsibility inevitable?".¹³ First proposed by computer scientist and inventor Danny Hillis, The Clock of the Long Now does not mark seconds, minutes and hours, rather it aims to run for 10,000 years, shifting the clock's beat to years, centuries and millennia. In the planning stages a number of proposals and sites were explored, with building now under way inside a mountain in Texas owned by Amazon founder (and principle funder of the clock) Jeff Bezos.

The Clock of the Long Now is a massive building project, requiring significant excavation works to build the 61 metre high mechanism. It is also located in an area often described as remote and empty, complicating its construction (notably, however, without any reference to the history that might have contributed to the unpeopled landscape it now sits within). Many techniques are being invented specifically for the project, as well as work being conducted to identify suitable materials for the time-frame proposed. The construction process thus widely generates curiosity, excitement and awe. As Kevin Kelly, co-chair of the Board of Directors for the Long Now Foundation, and a co-founder of *Wired Magazine* writes;

There's a huge geek-out factor in the Clock because the engineering challenges are formidable. What do you build with that won't corrode in 100 centuries? How do you keep it accurate when no one is around? The Clock's technical solutions are often ingenious.¹⁴

¹⁰ eg Vincent Ialenti, *Deep Time Reckoning: How Future Thinking Can Help Earth Now* (Cambridge, Mass.: MIT Press, 2020). 116; Roman Krznaric, *The Good Ancestor: A Radical Prescription for Long-Term Thinking* (New York: The Experiment, 2020), 47-49.

¹¹ Stewart Brand, *The Clock of the Long Now: Time and Responsibility* (New York: Basic Books, 1999).

¹² ibid. 48

¹³ ibid. 2

¹⁴ Kevin Kelly, "Clock in the Mountain," The Long Now Foundation, http://longnow.org/clock/.

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As a result, the project is expensive and while earlier trials and iterations received a variety of forms of funding, the current clock is being built on Bezos' property with an initial budget of US\$42 million.¹⁵ Asked how he justifies spending such a large amount of money on a seemingly impractical project, Bezos told *Wired*'s Dylan Tweney that long-term thinking is just intrinsically worthwhile. Tellingly though, he further stated that: "no other billionaire is building a clock like this, for the sole purpose of changing humanity's relationship to time".¹⁶ Alongside Bezos' purported interest in encouraging long-term thinking then, we see a hope that the Clock will distinguish him from others in his set, and an unveiled hubris in claiming to be involved in no less than a temporal reconfiguration of humanity.

These more egotistical motivations are rarely, if ever, noted in the popular commentary on Bezos' relationship with Clock of the Long Now. Instead the collaboration is seen as a match made in heaven. Bezos has become considered throughout the tech and business industries as an important example of the long-term thinker. As his first letter to Amazon.com shareholders in 1997 sets out, his interest is in pursuing "long-term market leadership considerations rather than short-term profitability considerations".¹⁷ Elsewhere, Bezos claims that one of the three basic rules of Amazon is "patience. We are looking at the long term. We know how to wait for results".¹⁸ His early investment in ebook readers has been cited as a clear example of this priority of the long-term over the short,¹⁹ with a more recent example being his investment in space travel.²⁰

Considering the clock and its funder *together* is crucial for understanding why I suggest that we read the clock as a chronowashing project. Just as environmental activists have called out the greenwashing involved when fossil fuel corporations fund cultural institutions and even climate change exhibits,²¹ activists for alternative forms of temporal framing need to take a moment to look behind the curtain. The narrative of a match made in heaven looks very different when we read the Clock, not in isolation, but as nested and implicated within

 ¹⁵ Dylan Tweney, "How to Make a Clock Run for 10,000 Years," *Wired Magazine*, 23 June 2011 2011.
 ¹⁶ ibid.

¹⁷ Jeff Bezos, "Letter to Shareholders " (Amazon.com, 1997). 2

¹⁸ Bruno Ruffili, ""We Follow Our Instincts" - Amazon's Jeff Bezos Charts His Course," Worldcrunch.com, http://worldcrunch.com/business-finance/-quot-we-follow-our-instincts-quot-amazon-039-s-jeff-bezos-chartshis-course/bezos-amazon-kindle-ebooks-publishing/c2s9850/.

¹⁹ Steven Levy, "The Future of Reading," *Newsweek*, November 26 2007.

²⁰ Scott Miller, "Jeff Bezos' Planned Space Flight Shows How Long-Term Thinking Pays Off — as It Did with Amazon " *MarketWatch*, 6th January 2021.

²¹ BP or not BP, no date, https://bp-or-not-bp.org/does-the-arts-need-oil-sponsorship/.

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wider temporal infrastructures that Bezos helms. Indeed Bezos — the long-term thinker — has presided over the creation of a massive infrastructure that epitomises thinking only for the short-term. A 2021 exposé in the UK by itvNews, for example, discovered an Amazon warehouse destroying millions of items of new and unused stock,²² and suggested that this was common practice across the business. This obscene wastage is occurring because it is not profitable for third party sellers to pay to store their items, and so those that are not sold quickly become a liability. The company's charging system actually forces sellers to think in the short-term and magnifies cultures of waste and disposability that are decried by advocates for long-term thinking.

Amazon's active cultivation of short-term thinking extends to its users as well. While the Clock of the Long Now seeks to make long-term thinking automatic, the aim of Amazon is arguably to encourage expectations of speed and immediacy. New innovations — from One-Click Ordering, Amazon Prime, the Kindle and even the long-term cloud storage service Glacier, which forms part of Amazon's dominant position within the platform economy²³ — market themselves on their swiftness and ease of use. You do not need to think about all the externals because Amazon will manage those for you. Moreover, when we shift our lens from Amazon's customers to its employees, we are also led to consider the high-pressure experiences of order pickers and others working at the company's fulfilment centres who work at a very fast pace on short-term insecure contracts.²⁴ Given its extensive customer, worker and supplier bases, and indeed its dominance of online spaces, a serious commitment to 'changing humanity's relationship to time', as Bezos claims, is undermined by the global influence that a company like Amazon has. Borrowing from the language of greenwashing, what we see is a classic example of 'decoupling,' where a symbolic shiny veneer distracts attention from what is going on more substantially.²⁵

A core question here then, is can The Clock of the Long Now compete with what we might call "The Clock of Amazon" when it comes to embedding certain sensibilities around time? What meaning does the long term have for fulfilment centre workers with no security

²² Richard Pallot, "Amazon Destroying Millions of Items of Unsold Stock in One of Its Uk Warehouses Every Year, Itv News Investigation Finds," *itvNews*, 22nd June 2021.

²³ Srnicek, Nick. *Platform Capitalism*. Cambridge, UK: Polity Press, 2017.

²⁴ Birgitta Bergvall-Kåreborn and Debra Howcroft, "Amazon Mechanical Turk and the Commodification of Labour," *New Technology, Work and Employment* 29, no. 3 (2014).

²⁵ Sebastião Vieira de Freitas Netto et al., "Concepts and Forms of Greenwashing: A Systematic Review," *Environmental Sciences Europe* 32, no. 1 (2020). 6

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of contract, for example? What is to be done when the Clock of Amazon actively hinders consideration of the long term and encourages its customers to act on fleeting impulses rather than making more deliberate decisions? In allying its understanding of the long-term with Bezos', the risk for the Long Now Foundation is that much of its purported radical nature is lost. Like the BP-funded science and natural history museums, it loses credibility if it does not at least speak out against the temporal short-sightedness of its funder. Without challenging it, how sincere is the commitment to fostering opportunities for long-term thinking? Does this commitment extend to those Bezos is exploiting, or only to those with the time and inclination to attend its events and read up on its projects? More significantly perhaps, it becomes fundamentally unable to achieve the aims it has set itself, since the Clock of the Long Now has very little chance of competing with the more widespread material cultures of time that companies like Amazon are actively encouraging.

Thus unlike those who turn to the Long Now as inspiration for how to enact the longterm, I would argue that the temporal stakes of this project are better understood when we see it as a form of chronowashing, a project that distracts us from the exploitative infrastructures it is enfolded within. These infrastructures have enabled one individual to have a personal wealth so vast that they can donate US\$42 million to a pet project. While Vincent Ialenti has suggested this sum is not really significant in the scheme of things,²⁶ his comment betrays just how much our perspective has been skewed by the ultra-wealth accumulated by contemporary billionaires. A delivery driver for Amazon, by contrast, would need to work at least 1,346 years (without holidays) to earn that sum (based on a 40 hour work week at 2022 wages). This contrast matters because it directs us toward another interpretative path for reading the Clock which opens onto what philosopher James Hatley has called 'temporal narcissism'.

Hatley develops his concept of temporal narcissism in his book *Suffering Witness*, which also considers the problem of generational responsibility said to be key to the Clock of the Long Now. For him, temporal narcissism arises from the assumption that, "all the other times are resources for one's own".²⁷ Hatley's focus is on responsibility after the irreparable, specifically after the Holocaust, but his concept has also been taken up by anthropologist

²⁶ Vincent Ialenti, "Keeping Time into the Great Beyond," Noema, 5 April 2022.

²⁷ James Hatley, *Suffering Witness: The Quandry of Responsibility after the Irreparable* (Albany, NY: SUNY, 2000)., 63

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Deborah Bird Rose to think though contemporary extinction processes.²⁸ For our purposes, let us consider how it reframes the tech world's ambition to teach everyone else about the long-term. Think, for instance, of the already infamous comment Bezos made after returning from his 2021 space flight:

I also want to thank every Amazon employee and every Amazon customer 'cause you guys paid for all this. Seriously, for every Amazon customer out there and every Amazon employee, thank you from the bottom of my heart, very much.²⁹

Like the Clock of the Long Now, Bezos' space programme is hailed as another example signaling his commitment to long-term futures. But underpinning both, and as explicitly acknowledged by Bezos' himself in this quote, we see a massive funneling of time for the benefit of one man. This time is not just work hours, but life hours, the effort to make an Amazon job work somehow, the reproductive labour of all kinds required to supply the overturn in staff, the taxes not paid, the massive public subsidies provided to lure the fulfilment centres to areas that need jobs. All of these 'other times' become resources for one person's wish fulfilment. A warning from Bruno Latour seems particularly apt here: "one can be allowed to forget for a moment that smooth displacement in time and space is paid for somewhere else by other people, but not forever".³⁰ Indeed.

If we must turn to the projects of rarefied billionaires for examples of how 'we' might think about time, why not consider philanthropist Mackenzie Scott's approach instead? I'm proposing this direction, not as an endorsement, but because it provides a counter-intuitive contrast to the narrow conception of a sustaining time provided by the Long Now. Scott, who was previously married to Bezos, has pledged to give away at least half of her wealth in her lifetime. After donating over US\$ 2.7 billion in June 2021, she wrote that the motivations behind this tranche of giving were to provide unrestricted funds to organisations involved in education, anti-discrimination work and community-based arts and cultural activities.³¹ She writes that her and her team are:

attempting to give away a fortune that was enabled by systems in need of change. In this effort, we are governed by a humbling belief that it would be better if disproportionate

²⁸ Deborah Bird Rose, "Multispecies Knots of Ethical Time," *Environmental Philosophy* 9, no. 1 (2012).

²⁹ CNBC, "Jeff Bezos on Spaceflight: This Achievement Was a Team Effort," (2021).

³⁰ Bruno Latour, "Trains of Thought: The Fifth Dimension of Time and Its Fabrication," in *Thinking Time: A Multidisciplinary Perspective on Time*, ed. Anne Nelly Perret-Clermont (Bern: Hogrefe & Huber, 2005). 185
³¹ MacKenzie Scott to MacKenzie Scott 15 June, 2021, https://mackenzie-scott.medium.com/seeding-by-ceding-ea6de642bf.

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wealth were not concentrated in a small number of hands, and that the solutions are best designed and implemented by others.³²

It is a pointed critique of Bezos' approach to social change and his brand of long term thinking, which has concentrated unthinkable wealth in a small number of people's hands.³³

Indeed we could read Scott's approach as making its own kind of temporal interventions. One is the removal of standard forms of bureaucratic time for those funded, who are not asked to make applications, or to provide onerous ongoing reporting. But what is perhaps more interesting is her emphasis on the need to support more equitable relationships within communities in the present, if longer term goals are to be met. Indeed she notes that many benefiting from these funds have "spent years successfully advancing humanitarian aims, often without knowing whether there will be any money in their bank accounts in two months".³⁴ Freed from the short time horizons caused by insecure funding streams, she now imagines that grantees will:

Buy needed supplies. Find new creative ways to help. Hire a few extra team members they know they can pay for the next five years. Buy chairs for them. Stop having to work every weekend. Get some sleep.³⁵

What if we refused to be entranced by the technical achievements of a large clock in a billionaire's mountain, and instead considered whether long-term thinking might be better supported by something more obvious and yet more radical — security of income and redistribution of wealth? What if Scott's call to "stop having to work every weekend. Get some sleep" became our catch cry instead of the need for a context-free "Long Now"? To see this call as an alternative response to 'changing humanity's relationship to time', provokes us to consider whether a more liveable reorientation to time might in fact be about the quality and diversity of the relationships being built, rather than a time that is flattened out into a clock that ticks longer and is evacuated of content. Such a provocation would also push us to see some of the hypocrisy in Scott's own choices, given that this tranche of donations did not include organisations seeking to make billionaires obsolete, those fighting for reparations, or other challenges to the concentration of wealth.

³² ibid. n.p.

³³ A critique that may have partly prompted Bezos' January 2023 announcement to donate his wealth, that many have been skeptical of. See https://www.vox.com/recode/23553730/jeff-bezos-philanthropy-giving-pledge-charity

³⁴ ibid. n.p.

³⁵ ibid.

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The idea of the Long Now was first proposed by musician and producer Brian Eno. It was prompted after he found himself climbing over unhoused people on a building's steps in order to visit a glamorous Manhattan loft owned by a celebrity. Eno commented that for her, 'here' stopped at her front door and 'now' meant this week.³⁶ Struck by the compartmentalisation of these different times and spaces, he wrote that he wanted to live in a "Big Here and a Long Now". Ironically, in work aimed at producing a 'Long Now', the Big Here has disappeared from view, excised from discussion of the responsibilities of those interested in the long term. Its retrieval might prompt attention to the inequality not just on the doorstep, but inside the very buildings that make the fêted projects of the rich possible. What might get the conversation started is considering whether certain long-term projects might in fact be activities for chronowashing forms of temporal narcissism. Pushing us to think about how broader infrastructures of time shape what is possible in the present, even as 'projects to inspire humanity' rise and fall.

Is it Long-term thinking, or racism-as-time-machine?

In my second example, I want to return to the claim that "we" need the long-term in order to see the consequences of "our" actions. Indeed throughout the literature on long-term thinking, there is the assumption that there is a problem of vision, a problem of seeing into the future, of noticing the impacts that might still lie ahead. The Long Now Foundation suggests that we write years with a 0 in front of them, for example 02022, to remind ourselves to look more widely than the present. But in this section I propose that claims like this perform a broader form of chronowashing, one which hides the actual problem of racism and linked forms of colonialism and extractavism. Specifically, the claim that "we" cannot see what we are doing until it is too late, is invariably accompanied by the lament that "humans" just aren't very good at considering issues outside of the present. However, I will propose that this claim is better read as a rhetorical 'time machine' or what Gergan, Smith and Vasudevan describe as 'temporal trickery'.³⁷ That is, describing effects of current actions as only belatedly visible can work to conceptually shunt the effects of Western exploitation and dispossession into a nondescript future which then never seems to arrive. As geographer

³⁶ Brand. 28

³⁷ Gergan, M., S. Smith, and P. Vasudevan. "Earth Beyond Repair: Race and Apocalypse in Collective Imagination." *Environment and Planning D: Society and Space* 38, no. 1 (2020): 91–110, p102

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Andrew Baldwin has argued, understanding how "the future is invoked in articulations of white identity" is crucial to understand how these logics of exclusion operate.³⁸

I will unpack the dangers of seeing long-term thinking as a solution to the problem of vision by returning to Robinson's tragedy of the time horizon and drawing out two aspects of its temporal logic that we need to be much more cautious of. Here I want to note, as a reviewer of this paper pointed out, that I am shifting from a discussion of a project associated with one of the world's richest men, to an author well known for exploring alternatives to capitalist economic systems. My aim is, in part, to demonstrate the pervasive nature of flattened out conceptions of temporality, which operate outside of traditional political affiliations and bring with them logics about who counts as part of the 'we' that readily trap the unwary. As I have discussed elsewhere, in reference to the work of Carol Greenhouse, our use of time in social life is better understood when we view it as a mode of addressing problems of conflict and co-ordination rather than a way to designate intervals – however long or short these may be.³⁹

Let us first look at the longer passage in *Ministry for the Future* where AI expert Janus Athena explains the problem to the inner circle of the newly created Ministry. In their notes from the meeting Athena records themself as saying;

...we can't imagine the suffering of the people of the future, so nothing much gets done on their behalf. *What we do now creates damage that hits decades later*, so we don't charge ourselves for it, and the standard approach has been that future generations will be richer and stronger than us, and they'll find solutions to their problems. But by the time they get here, these problems will have become too big to solve. That's the tragedy of the time horizon, that *we don't look more than a few years ahead*, or even in many cases, as with high-speed trading, a few micro-seconds ahead.⁴⁰

Robinson has also discussed the significance of this tragedy in his non-fiction writing, and I will quote his discussion of the tragedy of time horizons from a 2020 *New Yorker* article at

 ³⁸ Andrew Baldwin, "Whiteness and Futurity: Towards a Research Agenda," *Progress in Human Geography* 36, no. 2 (2012). 172

³⁹ Author MS

⁴⁰ my emphasis, Robinson. [173]

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some length so that we can then analyse some of the underlying logics:

The tragedy is that we don't care enough about those future people, our descendants, who will have to fix, or just survive on, the planet we're now wrecking. We like to think that they'll be richer and smarter than we are and so able to handle their own problems in their own time. But we're creating problems that they'll be unable to solve. You can't fix extinctions, or ocean acidification, or melted permafrost, no matter how rich or smart you are. *The fact that these problems will occur in the future* lets us take a magical view of them. We go on exacerbating them, thinking—not that we think this, but the notion seems to underlie our thinking—that we will be dead before it gets too serious. The tragedy of the time horizon is often something we encounter, without knowing it, when we buy and sell. The market is wrong; the prices are too low. Our way of life has environmental costs that aren't included in what we pay, and *those costs will be borne by our descendents*. We are operating a multigenerational Ponzi scheme.⁴¹

First, I suggest we notice something so pervasive in these kind of discussions that we may be used to passing over it quickly. Robinson argues that damage from 'our' activities does not appear in the present, but is subject to a time delay so that we only realise it decades from now. Let's at least ask whether this claim is, in fact, true. Is it the case that no perceptible damage is occurring now (or in the past) from the activities gestured towards in these quotes? Second, we can also notice the work that the unmarked 'we', 'our' and 'us' are doing throughout these quotes. For example, who is the 'we' that does not experience 'damage' within a few years, and so needs to look ahead to notice it? Who exactly is holding a 'magical view' and what really is its cause? I will return to these questions in a moment.

Third, underlying this conception of the tragedy of the time horizon is a neoclassical economic view of humankind as self-interested and rational. We can see this in the gestures towards discount rates, where environmental costs are off-loaded to others since we are not charging ourselves for damage caused. Robinson's points can be usefully compared with former Bank of England Governor Mark Carney's 2015 comments, which appear to be an inspiration for this way of thinking. Carney suggests that:

⁴¹ emphasis added "The Coronavirus Is Rewriting Our Imaginations,"

https://www.newyorker.com/culture/annals-of-inquiry/the-coronavirus-and-our-future.np

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Climate change is the Tragedy of the Horizon. We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors – imposing a cost on future generations that the current generation has no direct incentive to fix.⁴²

With the nod to 'most actors' we can identify an implicit recognition that *some* actors will feel the catastrophic impacts sooner. However these actors are not included in the "current generation" that is without any incentive to fix things. Indeed later on in his speech, Carney describes action that starts now, and which might be beneficial to those currently experiencing the impacts of climate change, as "early". Highlighting these temporal claims, i.e. who counts as 'current' and for whom action is 'early', raises further questions of where and when this 'offloading' of costs is really occurring. In pointing the finger at an intrinsic failure in humanity's temporal capacities, are we not seeing a sleight of hand similar to the 'anthropos' of the Anthropocene, which has drawn sustained critique in the environmental humanities and elsewhere, and where global inequalities are concealed by a fatalistic and universalising gesture?

When we treat time as a flat chronology, statements about what is current, what is early, and what will only occur in the future, can appear as simple matters of fact. Yet when we understand that time is political, it becomes possible to see that talking about temporal concepts as if they were straightforward performs a particular kind of work. That is, not feeling that you need to explain what you mean by 'now', 'current', 'future', forms part of a rhetorical frame (whether conscious or unconscious), undergirded by widespread western views of time as objective and linear. This frame obscures the fact these seemingly unproblemeatic terms actually work to foreground the concerns of some and render invisible the concerns of others.

Why do I challenge the claims about future impact though? At least since *Silent Spring*,⁴³ and Rachel Carson's efforts to raise awareness of the cumulative effects of DDT, as well as similar processes for radiation, carbon and other inorganic chemicals, it has been the norm to talk about the unpredictable long-term effects of human action. By way of contrast, however, consider The Principles of Environmental Justice agreed by the Delegates to the First

⁴² Mark Carney, "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability," ed. Bank of England (London: Bank of England, 2015). 3

⁴³ Rachel Carson, *Silent Spring* (London: Penguin Classics, 2000).

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National People of Color Environmental Leadership Summit in 1991, close to three decades prior to the 'now' referred to by Robinson and Carney. The fourth principle argues that:

Environmental Justice calls for universal protection from nuclear testing, extraction, production and disposal of toxic/hazardous wastes and poisons and nuclear testing that threaten the fundamental right to clean air, land, water, and food.⁴⁴

Thus decades *earlier* to Robinson's publications many people had already been hit by the damage he alludes to. Nuclear weapons and testing, plastics, long-lived chemicals, carbon intensification in the atmosphere — all these 'long term issues' have *already* had visible impacts, have already caused damage to hit. Indeed these impacts have occurred many decades ago, and colonisation has impacted rights to clean air, land, water and food for many centuries.

By Robinson's own logic, the 2020 'now' of his book's publication should have been within the decadal horizon set for noticing and responding, but three decades on from the Principles of Justice, the damage still appears as occurring in the future. This is so even while recent research shows that pollution caused nine million premature deaths in 2019 or 1 in 6 deaths worldwide.⁴⁵ This is only one example, among countless others, where consequences of current and past actions *have* impacted, *have* been noticed and yet haven't been acted upon by the 'we' of Robinson and Carney. Describing what's going on here as an issue of short-term versus long-term thinking is a patent misdirection.

My point is that efforts to draw attention to long-term effects, such as Carson's focus on the long tail of pollutants, may be useful in specific contexts. However, when this problem is reimagined as some sort of time-related inadequacy, characteristic of a generalized 'humanity,' then I would argue it works as another form of chronowashing. This is because it suggests that the problem is about time *horizons*, when actually it is about fundamental *inequalities* that insulate some and expose others. The problem is that the damage that is happening right now, and in previous decades and centuries, just doesn't matter to this 'we', and doesn't figure in its 'now'. So while Robinson calls out a magical thinking about time,

⁴⁴ First National People of Color Leadership Summit, "Principles of Environmental Justice," (Washington, DC1991).

⁴⁵ Richard Fuller et al., "Pollution and Health: A Progress Update," *The Lancet Planetary Health* online first (2022).

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which he ties to the "fact that these problems will happen in the future", the real magical thinking is not seeing that this experience of the now as relatively free from these problems forms part of the "invisible knapsack of white privilege".⁴⁶ Indeed Gergan, Smith and Vasudevan have warned us to be particularly suspicious of narratives that include "temporal displacement of crisis into the future" describing this as part of a set of markers of white affect that repeat colonial violences.⁴⁷ Arguably the real 'fact' is that these problems happen to those who have been allocated to a place and time outside of the 'now' and of the 'we'. Honing in on the real temporal problem requires a step away from a particular orthodoxy of short-term and long-term thinking and instead identifying concepts that push the real stakes to the fore.

Of course, critiques of these kinds of western frameworks of time from scholars of colour are in no short supply.⁴⁸ One path for getting at the heart of the temporal maneuvering occurring within these types of discourses is to see the short-term vs long-term binary as a manifestation of what the political philosopher Charles W. Mills has identified as "white time".⁴⁹ Building on George Lipsitz's *How Racism Takes Place*,⁵⁰ which shows how space and place are not race-neutral, Mills unpacks a 'white temporal imaginary'. His particular interest is in challenging western political philosophy with its indebtedness to John Rawls. This approach harkens back to an imaginary state of human co-operation and equality as a starting point from which to theorise. In contrast, Mills argues that this imaginary helps to "constitute exclusionary gated moral communities protected by temporal, no less than spatial, walls".⁵¹ Crucial here is the way that narratives and histories centre white communities in order to produce a supposedly "(raceless) universal chronometer".⁵² Other times, which might trouble or displace the ability of white communities to shape time in terms of what will be remembered (or anticipated) are suppressed. As a result, Mills argues that white time

⁴⁶ McIntosh, Peggy. "White Privilege and Male Privilege: A Personal Account of Coming to See Correspondences through Work in Women's Studies." 1988.

⁴⁷ Gergan, Smith, Vasudevan. "Earth Beyond Repair" p102

⁴⁸ See for example Dillon, Grace, and Pedro Neves Marques. "Taking the Fiction out of Science Fiction: A Conversation About Indigenous Futurisms." *e-flux Journal* 120, no. September (2021); Keeling, Kara. *Queer Times, Black Futures.* New York: New York University Press, 2019. Love, Tyron, and Elspeth Tilley. "Temporal Discourse and the News Media Representation of Indigenous-Non-Indigenous Relations: A Case

Study from Aotearoa New Zealand." *Media International Australia* 149, no. 1 (2013): 174-88.

⁴⁹ Charles W. Mills, "White Time: The Chronic Injustice of Ideal Theory," *Du Bois Review: Social Science Research on Race* 11, no. 1 (2014).

⁵⁰ George Lipsitz, *How Racism Takes Place* (Philadelphia, PA: Temple University Press, 2011).

⁵¹ Mills., 29

⁵² ibid., 32

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excludes the non-white times that would make a normative priority of issues long neglected in western political theory such as remedying injustices.⁵³ He thus calls out this "illusory inclusiveness" and its dependence on a "hypothetical alternative time-track" that ignores continuing legacies of discrimination.⁵⁴ As such, any urgency that should rightly motivate moves to rectify ongoing injustices is neutralised.⁵⁵

While my concern in this paper is uses of the future, rather than framings of the past, Mills' account helps to illuminate our discussions of the short and long term. The seemingly straightforward uses of 'now', 'current', 'future' etc that I started to trouble above, can instead be read as manifestations of temporal walls that guard what Mills describes as an 'exclusionary gated moral community'. That is, the 'time horizons' of Robinson and Carney are not neutral and all-encompassing, but are in fact the very specific horizons of the white temporal imaginary. The illusion of inclusiveness provided when using temporal terms such as 'now' and 'will occur' belies the fact that only some are included in the moral concern of the discourse. The reliance on references to future peoples, and particularly "*our* future generations", as those being the ones affected by the consequences of 'our' actions, must be read without this illusory framing and called out for the exclusivity that is written into them.

If Mills traces the problem partly to a 'hypothetical alternative time-track', I would here propose that a multi-dimensional time-field is being made use of. As we saw with the ever-receding time-line for when damage 'hits', the horizons that form the tragedy of the time horizon are, in fact, highly mobile. They work to spirit away problems into a disembodied future that lets white, western peoples feel as if the real damage is always still to come. As Riyad Shahjahan and Kirsten Edwards argue "Whiteness' enduring capacity lies in its malleability, its ability to shape-shift in response to its present environment, to (re)construct its past and future".⁵⁶ The problem is thus not short-term versus long-term thinking, but the way that racism works as a time-machine that transports 'damage' and 'catastrophe' into another time period and blocking the capacity to consider them as a legitimate site of present action and responsibility. *This* is the time problem that needs to be addressed. Framed by a white imaginary, the emphasis on long-term thinking arguably acts as a front for ignoring the

⁵³ ibid., 33

⁵⁴ ibid., 37

⁵⁵ ibid., 39

⁵⁶ Riyad A. Shahjahan and Kirsten T. Edwards, "Whiteness as Futurity and Globalization of Higher Education," *Higher Education* 83, no. 4 (2022). 748

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way those that are being most affected by these processes in the past and present disproportionately those of people of colour and indigenous peoples. Only from a white temporal imaginary could action taken to address these injustices in the present be described as 'early' as Carney has. This is so even when, as Jason Allen-Paisant has pointed out, "black and brown people have been living the Anthropocene for centuries, long before it became a problem for the West".⁵⁷ Those calling for a long-term imaginary in order to confront the consequences of carbon, coal, concrete, plastics, pollution, thus fail to see that they are upholding the very temporal structure that allows these consequences to play out unimpeded, a structure I've here termed racism-as-time-machine. Indeed one may argue that they are implicitly confirming that only via a long term view that delivers images of a world where the ways of life 'we' benefit from are destroyed, will motivation seemingly be found.

Conclusion: From chronowashing to temporal responsibility

In this paper I have proposed readings that shift away from decontextualised affirmations of 'long term thinking' which risk acting as forms of chronowashing that obscure more relevant temporal issues. Instead I have advocated for producing more specific analytical tools that direct us to the temporal *relations* and inequalities at work in the specific instances where the long term is deployed. Temporal narcissism and racism-as-time-machine are, thus, just two examples of the kinds of temporal reworking which might shift attention to processes of chronowashing. I have suggested that chronowashing occurs when we pay insufficient attention to what time is; how it operates in, and is operated by, societies; and its role in strategies of legitimation, of social inclusion and exclusion, of coordination and organisation. When we reduce our conceptions of sustaining times to ones that focus on chronological elements like pace, how far forward or back we count, numbers of work hours and similar, we miss what is really crucial about re-storying time for more liveable worlds.

Because linear time has been naturalised for so long in western societies talking about time quantitatively can seem straightforward, even matter of fact, but it covers over the way time is first a mode of managing relationality.⁵⁸ It is a way of understanding how the

⁵⁷ Jason Allen-Paisant, "Animist Time and the White Anthropocene," *New Formations* 104, no. 104-105 (2021). 31

⁵⁸ Carol J. Greenhouse, *A Moment's Notice: Time Politics across Cultures* (Ithaca and London: Cornell University Press, 1996).

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'we' is *with* all those people, creatures and elements that make up its world as well as techniques for distancing itself from everything it others. As Raahsan Mahadeo has argued, "time is not race neutral. It remains a contested terrain that privileges some and exploits many others along the lines of race, gender, and class".⁵⁹ Similarly Allen-Paisant writes that "any concept of time is constituted metaphorically and metonymically – that is, relative to other concepts such as motion, space and events. Our conceptualisations of time therefore relate directly to our cosmological and ontological beliefs".⁶⁰ All forms of time select some rhythms, processes and changes that will be kept in view and coordinated with, and obscures others. In addition, our concepts of time also help to explain, justify or pave over the exclusions that are entailed. Concepts of the 'long term' do not escape these processes.

In conclusion then, I would propose that mainstream efforts to think through the contours of specific forms of sustaining time need to move away from the conceptualisation of time in terms of linear flows between past, present and future (in whatever direction, at whatever pace and across whatever scale), and to think instead about time as managing relations. Indeed as Christine Jill Winter has shown, key concepts in sustainability literatures like intergenerational justice become profoundly different when working from world views that more clearly foreground time as relational.⁶¹ Consider further, Kyle Powys Whyte's work, which has made significant interventions into the white, western conception of the apocalypse as ahead rather than having already happened.⁶² In a recent paper "Time as Kinship",⁶³ he further challenges the linear time of quantification and calculability, and instead draws on work from indigenous scholars who tell the time of climate change in terms of shifts in kinship relationships. As Whyte points out:

Kinship time, as opposed to linear time, reveals how today's climate change risks are caused by people not taking responsibility for one another's safety, well-being, and self-determination. Any solutions to climate change will be enacted within a state of

⁵⁹ Rahsaan Mahadeo, "Why Is the Time Always Right for White and Wrong for Us? How Racialized Youth Make Sense of Whiteness and Temporal Inequality," *Sociology of Race and Ethnicity* 5, no. 2 (2019)., 187
⁶⁰ Allen-Paisant. 42

⁶¹ Christine Jill Winter, "Does Time Colonise Intergenerational Environmental Justice Theory?," *Environmental Politics* 29, no. 2 (2020).

⁶² Kyle Powys Whyte, "Indigenous Science (Fiction) for the Anthropocene: Ancestral Dystopias and Fantasies of Climate Change Crises," *Environment and Planning E: Nature and Space* 1, no. 1-2 (2018).

⁶³ "Time as Kinship," in *The Cambridge Companion to Environmental Humanities*, ed. Jeffrey Cohen and Stephanie Foote (Cambridge: Cambridge University Press, 2021).

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affairs that's already rife with irresponsibility.⁶⁴

Opposing the 2019 IPCC reports which focus on the urgency needed within the next ten years (now six years), Whyte reminds us that from the perspective of kinship time, change cannot happen automatically due to the passing of time, but rather through well-constructed relationships of interdependence. In these accounts it is trust, justice and responsibility that underpin the temporalities of change, not the counting of moments. There is much more to be learned from Whyte's and others work, but to conclude here, I want to suggest that arguing that "long term thinking" is a good response to "short term thinking" is a trap. We need to diagnose both the problem and the solution differently, i.e. the problem is temporal processes that destroy responsibility/sovereignty/interdependency. Describing this through the short hand of short-term-thinking disappears all the layers of what is actually being done by those with privilege. Likewise the solution is coalition, solidarity, kinship, ie the specific everyday work of dismantling privilege, in an everyday shot through with long term processes and consequences yes, but an everyday that looks to who or what is being managed out of the timeframe, just as much as what it is expanding to include.

Bibliography

- Allen-Paisant, Jason. "Animist Time and the White Anthropocene." *New Formations* 104, no. 104-105 (// 2021): 30-49.
- Baldwin, Andrew. "Whiteness and Futurity:Towards a Research Agenda." *Progress in Human Geography* 36, no. 2 (2012): 172-87.
- Bergvall-Kåreborn, Birgitta, and Debra Howcroft. "Amazon Mechanical Turk and the Commodification of Labour." *New Technology, Work and Employment* 29, no. 3 (2014): 213-23.

Bezos, Jeff. "Letter to Shareholders ": Amazon.com, 1997.

BP or not BP. "Do the Arts Need Oil Sponsorship?", no date.

- Brand, Stewart. *The Clock of the Long Now: Time and Responsibility*. New York: Basic Books, 1999.
- Carney, Mark. "Breaking the Tragedy of the Horizon Climate Change and Financial Stability." edited by Bank of England. London: Bank of England, 2015.
- Carson, Rachel. Silent Spring. London: Penguin Classics, 2000. 1962.
- CNBC. "Jeff Bezos on Spaceflight: This Achievement Was a Team Effort." 2021.
- de Freitas Netto, Sebastião Vieira, Marcos Felipe Falcão Sobral, Ana Regina Bezerra Ribeiro, and Gleibson Robert da Luz Soares. "Concepts and Forms of Greenwashing: A Systematic Review." *Environmental Sciences Europe* 32, no. 1 (2020/02/11 2020):

⁶⁴ ibid., 40

DRAFT – PLEASE DO NOT CIRCULATE WITHOUT PERMISSION

19.

- Delmas, Magali A., and Vanessa Cuerel Burbano. "The Drivers of Greenwashing." *California Management Review* 54, no. 1 (2011/10/01 2011): 64-87.
- Dillon, Grace, and Pedro Neves Marques. "Taking the Fiction out of Science Fiction: A Conversation About Indigenous Futurisms." *e-flux Journal* 120, no. September (2021).
- First National People of Color Leadership Summit. "Principles of Environmental Justice." Washington, DC, 1991.
- Fuller, Richard, Philip J. Landrigan, Kalpana Balakrishnan, Glynda Bathan, Stephan Bose-O'Reilly, Michael Brauer, Jack Caravanos, et al. "Pollution and Health: A Progress Update." *The Lancet Planetary Health* online first (2022): 1-13.
- Gergan, M., S. Smith, and P. Vasudevan. "Earth Beyond Repair: Race and Apocalypse in Collective Imagination." *Environment and Planning D: Society and Space* 38, no. 1 (2020): 91–110.

Greenhouse, Carol J. *A Moment's Notice: Time Politics across Cultures*. Ithaca and London: Cornell University Press, 1996.

- Hatley, James. *Suffering Witness: The Quandry of Responsibility after the Irreparable.* Albany, NY: SUNY, 2000.
- Ialenti, Vincent. "Keeping Time into the Great Beyond." Noema, 5 April 2022.
- Ialenti, Vincent Deep Time Reckoning: How Future Thinking Can Help Earth Now. Cambridge, Mass.: MIT Press, 2020.
- Keeling, Kara. Queer Times, Black Futures. New York: New York University Press, 2019.
- Kelly, Kevin. "Clock in the Mountain." The Long Now Foundation, http://longnow.org/clock/.
- Krznaric, Roman. *The Good Ancestor: A Radical Prescription for Long-Term Thinking*. New York: The Experiment, 2020.
- Latour, Bruno. "Trains of Thought: The Fifth Dimension of Time and Its Fabrication." In *Thinking Time: A Multidisciplinary Perspective on Time*, edited by Anne Nelly Perret-Clermont, 173-87. Bern: Hogrefe & Huber, 2005.
- Levy, Steven. "The Future of Reading." Newsweek, November 26 2007, 57-64.
- Love, Tyron, and Elspeth Tilley. "Temporal Discourse and the News Media Representation of Indigenous-Non-Indigenous Relations: A Case Study from Aotearoa New Zealand." *Media International Australia* 149, no. 1 (2013): 174-88.
- Lipsitz, George. *How Racism Takes Place*. Philadelphia, PA: Temple University Press, 2011.
- Mahadeo, Rahsaan. "Why Is the Time Always Right for White and Wrong for Us? How Racialized Youth Make Sense of Whiteness and Temporal Inequality." *Sociology of Race and Ethnicity* 5, no. 2 (2019): 186-99.
- McIntosh, Peggy. "White Privilege and Male Privilege: A Personal Account of Coming to See Correspondences through Work in Women's Studies." 1988. Self published working paper.
- Miller, Scott. "Jeff Bezos' Planned Space Flight Shows How Long-Term Thinking Pays Off — as It Did with Amazon "*MarketWatch*, 6th January 2021.
- Mills, Charles W. "White Time: The Chronic Injustice of Ideal Theory." *Du Bois Review: Social Science Research on Race* 11, no. 1 (2014): 27-42.
- Pallot, Richard. "Amazon Destroying Millions of Items of Unsold Stock in One of Its Uk Warehouses Every Year, Itv News Investigation Finds." *itvNews*, 22nd June 2021.

DRAFT – PLEASE DO NOT CIRCULATE WITHOUT PERMISSION

- Robinson, Kim Stanley. "The Coronavirus Is Rewriting Our Imaginations." https://www.newyorker.com/culture/annals-of-inquiry/the-coronavirus-and-ourfuture.
 - *——. The Ministry for the Future.* London: Orbit, 2020.
- Rose, Deborah Bird. "Multispecies Knots of Ethical Time." *Environmental Philosophy* 9, no. 1 (2012): 127-40.
- Ruffili, Bruno. ""We Follow Our Instincts" Amazon's Jeff Bezos Charts His Course." Worldcrunch.com, http://worldcrunch.com/business-finance/-quot-we-follow-ourinstincts-quot-amazon-039-s-jeff-bezos-charts-his-course/bezos-amazon-kindleebooks-publishing/c2s9850/.
- Scott, MacKenzie. "Seeding by Ceding." In MacKenzie Scott Medium.com, 2021.
- Seyfang, Gill, and Alex Haxeltine. "Growing Grassroots Innovations: Exploring the Role of Community-Based Initiatives in Governing Sustainable Energy Transitions." *Environment and Planning C: Government and Policy* 30, no. 3 (2012): 381-400.
- Shahjahan, Riyad A., and Kirsten T. Edwards. "Whiteness as Futurity and Globalization of Higher Education." *Higher Education* 83, no. 4 (2022/04/01 2022): 747-64.
- Shiva, Vandana. "Recovering the Real Meaning of Sustainability." In *Environment in Question: Ethics and Global Issues*, edited by David E. Cooper and Joy A. Palmer, 195-201. London: Routledge, 2005.
- Skrimshire, Stefan. "Deep Time and Secular Time: A Critique of the Environmental 'Long View'." *Theory, Culture & Society* 36, no. 1 (2019): 63-81.
- Srnicek, Nick. Platform Capitalism. Cambridge, UK: Polity Press, 2017.
- Tweney, Dylan. "How to Make a Clock Run for 10,000 Years." *Wired Magazine*, 23 June 2011 2011.
- Whyte, Kyle Powys. "Indigenous Science (Fiction) for the Anthropocene: Ancestral Dystopias and Fantasies of Climate Change Crises." *Environment and Planning E: Nature and Space* 1, no. 1-2 (2018/03/01 2018): 224-42.
 - ———. "Time as Kinship." In *The Cambridge Companion to Environmental Humanities*, edited by Jeffrey Cohen and Stephanie Foote, 39-55. Cambridge: Cambridge University Press, 2021.
- Winter, Christine Jill. "Does Time Colonise Intergenerational Environmental Justice Theory?". *Environmental Politics* 29, no. 2 (2020/02/23 2020): 278-96.