

## The work after “It’s too late” (to prevent dangerous climate change)

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### Abstract

The fact that the question “Is it too late (to prevent dangerous climate change)?” is being debated in serious science circles constitutes a culturally significant moment. This article does not offer a simplistic answer to “is it too late – or not?” but explores the uncomfortable space of denying neither endings nor possibilities. In so doing, it asks readers to witness and engage with what appears like a serious psychological and cultural, now publicly visible, struggle within ourselves over what and how to confront endings, what kind of hope to sustain, and how to be and act in the face of these accumulating apocalyptic (i.e. revelatory) facts. The paper sketches the variety of endings being faced at this time and the psychological responses to them. It then outlines the political, policy and practical work as well as the deeper, underlying socio-cultural and psychological work that the paradoxical tension between endings and possibilities demands.

### Introduction

How might a reader come to the question “is it too late (to prevent dangerous climate change)?” Is there an unspoken hope maybe that the writer will suggest it is not? Or is there a hunger for advice on how to live then, if it is? Is there instead maybe a charged readiness to argue with the writer one way or another – that it is or is not too late? Or is there rather an inclination to debate what exactly is too late and what is not yet? Alternatively, is there a resigned sense of déjà-vu or even a deep exhaustion with the question itself? Is the fact that this special issue now exists and we deliberate the issue of threshold-crossings a sign of positive progress or a form of senseless bargaining with a reality that is in many ways too hard to take in? This special issue might offer all of the above. More important than offering definitive answers – at least to this author – is that it invites reflexivity.

To start, the IPCC’s *1.5°C of Global Warming* report (IPCC, 2018) makes one pause to reflect on its central scientific take-aways. It documents not only the benefits of limiting global warming to 1.5°C versus 2°C, but illustrates just how much momentum is built into the Earth system, and thus how

much the risks from climate change will grow even if emissions ceased immediately. Moreover, it shows how drastic in pace and scope the changes need to be to avoid overshooting the 1.5°C and even 2°C targets.

But to also understand the cultural significance of this report, it is important to look at the larger context. Consider, for example, the widely reported *Hothouse Earth* article on tipping points in the Earth system (Steffen et al., 2018); or the publication of the *Deep Adaptation* paper (Bendell, 2018) having gone viral in the UK. It infused further life into the kind of thinking introduced previously by the *Dark Mountain* project (Kingsnorth & Hine, 2009). In the US, the *Fourth US National Climate Assessment* documented and foretold in ever-grimmer terms the unfolding climate reality (USGCRP, 2018). Add to this recent science-based, but accessibly-written books (e.g., Ghosh, 2016; Jarmail, 2019; Stephenson, 2015; Wallace-Wells, 2019) which – while not all “popular” or reaching many millions<sup>i</sup> – nevertheless reflect a growing sense of un-ease emerging beyond scientific, environmentalist and deeply-informed policy circles.

At least since *Limits to Growth* (Meadows, Meadows, Randers, & Behrens, 1972), scientists have engaged in rich and often heated debates and serious research on where possibly future “limits”, “thresholds” and “tipping points” in the Earth and human systems might lie, how close we may be to them, and how one might avert these thresholds and their consequences (Lenton, 2011, 2013; Russill, 2015; Meadows, Randers, & Meadows, 2004). Clearly related and relevant but often explored in separate disciplines are studies of ecosystem and pre-historic societal collapse, often to warn against the possibility of, again, *future* collapse of nations or societies (Barnosky, Ehrlich, & Hadly, 2016; Butzer & Endfield, 2012; Kareiva & Carranza, 2018; Scheffer, 2016). It is a far more recent phenomenon that the *scientific* and *science-based* literature ventures into the territory beyond limits *as having been crossed already* or *as being about to be crossed without the possibility of reprieve*. Heretofore, that territory was largely reserved for science fiction in the secular realm (e.g., Feffer, 2016; Oreskes & Conway, 2014) and theology in the religious (Walls, 2008). What seems to be emerging prominently now is a kind of “scientific eschatology,” a science-based end times literature that is difficult to dismiss.

This article does not offer a simplistic answer to “is it too late – or not?” but rather launches from this premise of a culturally significant moment wherein a growing number of scientists and science-informed public intellectuals insist with considerable certainty that humanity has forced threshold crossings beyond which a step change in danger from climate change exists, including that of civilizational collapse. This emerging scientific chorus is met with equal force from others, equally certain, that society will go on unabated or that the evidence is unconvincing that any devastating thresholds have been crossed. And if they have, they argue, the implications can be handled with available or conceivable solutions (e.g., Asafu-Adjaye et al., 2015; MacMartin, Ricke & Keith, 2018).

In what follows, I build on Donna Haraway’s notion of “Staying with the Trouble” (Haraway, 2016), by which she means the challenge of humans and non-humans learning to live and die together on this damaged Earth and finding a way forward to livable futures. Similarly, I ask that we stay in the uncomfortable space of denying neither endings nor possibilities. I ask that we witness and engage with what appears like a serious psychological and cultural struggle within ourselves over what and how to confront endings, what kind of hope to sustain, and how to be and act in the face of these accumulating apocalyptic (i.e. revelatory) facts. What should or can we apply ourselves to at this

stage of human residency on Planet Earth? This article explores the matter at hand from this perspective.

## RECOGNIZING, ACKNOWLEDGING AND EMBRACING ENDINGS

### AT THE THRESHOLD

Culturally, in the secularized, developed, privileged West and, psychologically, for probably most individuals in that cultural context, final limits and endings are difficult to embrace (Foster, 2015; Wolfe & Tubi, 2019). The history of the past 300 years (at least) can be read as one of perpetual efforts by humans pushing back the physical limits of nature with science and technology, to the point of believing that there are none or at least no ultimate ones. These efforts were, and still are, supported by a cultural narrative that has enshrined progress, limitless growth and material betterment for humans as the only rational, enlightened and politically acceptable goals while making death and limits a cultural taboo.

Numerous writers have examined and criticized this evolution via different analytical and disciplinary pathways and have come to see this stance as the result of alienation from nature driven by existential fears of death and insignificance (Becker, 1973; Dickinson, 2009; Foster, 2015; Wuthnow, 2010). Many suggest that Western society (and maybe all of humanity) is currently approaching both symbolic and actual death and is either in its final decline (collapse) or – “if collapse is not to be mere catastrophe unredeemed” (Foster, 2015, p.117) – embarking on a profound transformative process. Such a transformation would end humanity’s life-destructive lifestyles and outdated underlying worldviews and associated values and come to adopt alternative habits of mind and behaviour that restore and support life (Berzonsky & Moser, 2017; Foster, 2015; Kingsnorth & Hine, 2009). This line of argument is vehemently contested by various schools of thought, which I will not engage deeply but ask, “what if it were so?”<sup>ii</sup>

### WHAT IF?

Regardless of whether the current moment is an ultimate or epochal ending, and regardless of how fast it may happen, such a transformative process would entail the end of many familiar and sometimes essential conditions for human flourishing or the life that many (though not nearly all) have enjoyed in recent decades and more (Table 1).

**Table 1: Current and Potential Modern-Day Endings**

Dimension	Description of Examples	Example References
Earth/climate system	End of relative climatic stability characterizing the Holocene, i.e., the conditions that gave rise to human civilization (e.g. slow-down or collapse of Atlantic Meridional Overturning Circulation; collapse of major polar ice sheets; instability of Monsoonal systems)	(Lenton et al., 2008; Rockström et al., 2009; Schellnhuber, 2009; Steffen et al., 2018)

<b>Specific Natural systems</b>	Die-back of globally significant biomes (e.g. Amazon rainforest, coral reefs and related marine ecosystems; insect collapse)	(Barnosky et al., 2016; Kareiva & Carranza, 2018; Schyns, Hoekstra, Booij, Hogeboom, & Mekonnen, 2019)
<b>Specific human-built systems</b>	Unravelling of social, economic, infrastructure, governance, food and health systems and geopolitical order/stability with severe consequences for society (e.g., for Pacific atoll island nations)	(Barnett, 2017; Benson & Craig, 2014; Butzer & Endfield, 2012; Hsiang & Meng, 2014; Turner, 2012)
<b>Capitalism</b>	Following the fate of state-controlled socialism, the end of this particular form and paradigm of economic activity and associated systems that depend on perpetual material growth and exploitation of Earth's resources and life forms	(Fergnani, 2019; Mason, 2015; Spash, 2015; Streeck, 2014)
<b>Modern civilization, including modernist values, beliefs, worldviews and identities, and the associated comfort and safety of the privileged</b>	End to the exceptionalism that current society could avoid the fate of past civilizations; that the wealthy will be spared inconvenience or danger; that modernist hopes can be fulfilled	(Blühdorn & Deflorian, 2019; Ehrlich & Ehrlich, 2013; Foster, 2015; Hamilton, 2010; Kingsnorth & Hine, 2009)
<b>Human species</b>	End to anthropocentrism and human exceptionalism which assumes that <i>homo sapiens</i> would not follow the fate of other species who either overshot the limits of their habitat or could not evolve with it fast enough	(Baker & McPherson, 2012; Lovelock, 2009)

Agreement is greater for “discontinuities” (as the sterile jargon goes) in geophysical systems than for any in human-made systems or for human civilization, much less the species, as a whole. Interestingly enough, however, those having concluded that civilization and even the species is at risk, have either left academia, fought attacks on their credibility, or are viewed as scientific outsiders.<sup>iii</sup> The measured habitus of academia does not permit anything but being careful with the weight of scientific credibility, and scientists have paid a heavy price if they expressed strong opinions or emotions.<sup>iv</sup> Regardless, if any of the above are currently unfolding, embedded are two further endings: that of the illusion of separation of humans from each other and from their earthly habitat common in modern Western culture (e.g., Pirages and Ehrlich, 1974; Kasser, 2009; Berzonsky

& Moser, 2017), and an end of innocence as none of us are spared that knowledge or its real-life manifestations.

### **PSYCHOLOGICAL RESPONSES TO ENDINGS**

Confrontation with impending actual or symbolic death can lead to intensified efforts to resist, contest and deny the facts, and often vitriolic arguments against the possibility of endings (for a recent review see Wolfe & Tubi [2019]). Eventually, and typically when there is no longer any other alternative, individuals may come to accept the approaching death and engage actively in efforts to bring unfinished aspects of their lives to a more satisfying closing. For many, this time offers opportunities to reckon, heal and come to peace with past failings, wounds and conflicts. It also often results in a heightened sense of aliveness and gratitude for life and its gifts (Kübler-Ross & Kessler, 2007; Weller, 2015).

In recent years, a growing scientific literature augmenting a much longer-existent activist literature is recognizing emotional responses to climate change as reflecting people fearing, recognizing or actually experiencing climate-related losses and endings. A variety of topics have become subject of serious research:

- “climate grief” (Cunsolo & Ellis, 2018; Cunsolo & Landman, 2017; Head, 2016; Marshall et al., 2019; Sale, 2011),
- “solastalgia” (Albrecht et al., 2010; Askland & Bunn, 2018; Hutchings, 2014),
- “anticipatory histories” as the work of mourning environmental losses (DeSilvey, 2012; DeSilvey, Naylor, & Sackett, 2011),
- “climate anxiety” or “eco-anxiety” (Findlater, Donner, Satterfield, & Kandlikar, 2018; Pihkala, 2018; Scott & Weems, 2013), and
- guilt, fear and profound grappling with the meaning of what scientists are saying (Cunsolo & Landman, 2017; Head & Harada, 2017; Randall, 2009; Willox et al., 2013).

In this context, climate denial has become viewed by some through the lens of Kübler-Ross’ “Stages of Grief” (Kübler-Ross & Kessler, 2007; Running, 2007; Wysham, 2012). Researchers take climate change seriously not just as an inconvenience, occasional disruption or threat to physical assets, ecosystems, livelihoods and lifestyles, but as an *existential* threat. This has opened the door to applications of trauma psychologies (Zhiwa, 2019) and existentialist psychologies (Langford, 2002; Wolfe & Tubi, 2019). Meanwhile, the scientific and philosophical literature on hope is witnessing a revival, in no small part because of the dire prospects that climate change puts before us (Foster, 2015; Myers, Nisbet, Maibach, & Leiserowitz, 2012; Ojala, 2012; Pihkala, 2017; Wrangel, 2014).<sup>v</sup>

### **THE WORK AFTER “TOO LATE”**

But what should we or can we hope for? Shouldn’t this paper now focus on “possibilities”, reassuring the reader that there are indeed desirable ones? Shouldn’t it give hope a shiny object to hold on to? Not only because of word limitations but on rhetorical and practical grounds, no such section is included here. Readers might argue that positive and utopian visions exist, while others might point to possible achievements and improvements even if they seem utterly too small and too specific (and thus too certain) to satisfy the transformational imperative of the situation. To stay true to a genuine transformation, the ultimate outcomes *cannot* be known, even though it is part of the

cultural work of this time to foster the individual and collective imagination and jointly explore what may be possible (Moser 2019, in press). More importantly, the unfolding of positive possibilities depends entirely on the transformational work that must be done in the midst of a rapidly changing Earth system (Berzonsky & Moser, 2017). Thus, the focus in the remainder of this paper is on that work.

### **POLITICS AND POLICY-MAKING AFTER “TOO LATE”**

The work cited above reveals that – at least in some publics – there is an awareness of unfolding or anticipated endings. Some are beginning to grapple with and/or experiencing psychological impacts on their perceived well-being. Associated emotions are processed largely in private (often in isolation), in the privacy of counseling rooms, in support groups, and when in public in shouting matches, blogosphere battles and political diatribes. In the US in particular, but likely elsewhere in the West/North and in countries attempting to rise from the shackles of colonialism and poverty, publicly embracing “too late” is culturally and politically unacceptable. Traditionally, winning political platforms are not built on lost opportunities, closing windows and abysmal outlooks.

Regarding day-to-day politics then, the work after “too late” in many ways is to constructively navigate this cultural taboo. Again, I relegate the various (and still-dominant) versions of avoidance of doing that work to a footnote and instead remain focused on those who are “staying with the trouble” that arises from accepting that some things are “too late” even if we don’t know what all that implies.<sup>vi</sup> True political leadership is to name the endings and frame the transformational imperative and arc (Moser, 2019, in press). Barnett (2017) warns, however, against pre-maturely declaring endings, thus calling on leaders to hold precisely that tension between paralyzing and demotivational certainties and grounded hope for unknown possible futures. Adequate leadership means not to offer easy answers to the question of possibilities but to inspire a search for them, explore them and create them together. Ultimately, it means risking one’s political life to help electorates come to embrace difficult choices.

### **MITIGATION AS IF EVERY DEGREE MATTERED**

The growing climate justice and youth movements pressing for comprehensive climate action (e.g., Extinction Rebellion, Greta Thunberg and the school strikes, 350.org and other local-but-globally-networked climate justice campaigns) point their fingers at the moral failure of “business-as-usual” avoidance responses (e.g., O’Brien, Selboe, & Hayward, 2018). With clear-eyed recognition of the late hour, for them it is a David-vs.-Goliath matter of engaged future-making, a refusal to give up on the possibility of life even now, and as such a moral choice in the face of great danger but also deep unknowability of exactly what will unfold.

This engaged future-making among those accepting a vastly curtailed possibility of ever having a future at all occurs mostly in the context of movement-building for radical policy initiatives. It involves voicing bold, blunt and creative wake-up calls, often perceived as offensive by traditional standards<sup>vii</sup>; broadening coalitions for change; engaging increasingly in civil disobedience; and investing in and fostering the conditions for innovation. Rather than engaging in black-and-white, all-or-nothing thinking, demands for mitigating greenhouse gas emissions are shifting to a notion of

“every degree matters,” which does not permit complacency at all as temperature and CO<sub>2</sub> concentration milestones are being passed and the temptation of despair grows larger.

### **RESILIENCE-BUILDING AND TRANSFORMATIONAL ADAPTATION**

With costly and deadly flooding in many countries, droughts expanding in time and space, wildfires consuming entire cities, and real-world adaptation limits increasingly recognized (IPCC, 2014), endings have become palpable. Calls for stepped-up resilience-building efforts and transformational adaptation are gaining in urgency because many adaptive efforts continue to be stalled by persistent barriers and most still aim at maintaining the status quo (Atteridge & Remling, 2018; IPCC, 2018; Juhola, Glaas, Linnér, & Neset, 2016; Moser, Coffee, & Seville, 2017). The work after “too late” requires serious grappling with what resilience actually means, conceptually and in practice (Moser, Meerow, Arnott, & Jack-Scott, 2019). It demands that meanings of resilience and desirable outcomes of resilience building are negotiated (Harris, Chu & Ziervogel, 2018; Ziervogel et al., 2017). It means that the deep drivers of vulnerability, social injustice and environmental destruction must be challenged (Gillard, Gouldson, Paavola, & Van Alstine, 2016; Moser et al., 2017; Patterson et al., 2018).

### **ENDING THE ANTHROPOCENE, ENDING SEPARATION**

Some also consider accelerated environmental restoration and safe-guarding of ecological refugia a matter of human survival (even if organized civilization may not), arguing that the most ambitious and worthy work now is for humans to keep the Anthropocene as short as possible and to make humans a non-dominant species once again (Sarrazin & Lecomte, 2016). Others insist on integrative solutions that address multiple environmental, health and societal problems at once – not as a matter of mere efficiency but as a matter of building the necessary political support for immediate action while remedying the long-standing siloing in operation, governance and finance as well as unhelpful and destructive separation of matters that are in reality deeply interlinked (Sawin, 2018).

To be truly transformational, however, this work must (re)visit the many questions about the ethics of human–nonhuman species and human–environment interactions (e.g., Schmidt, Brown, & Orr, 2016; Creed, 2017; Hamilton, 2017; Miles & Craddock, 2018). It must also address any sense of separation of humans from their habitat and of people from each other, and its implications for shared suffering, opportunity and responsibility. This means up-ending traditional power relationships beginning with authentic engagement across social, economic, geographic (including cross-national), racial, ethnic, religious and political divides. It also often requires the deep work of reconciliation around historical conflicts, deceit, exploitation and other forms of disrespect that have left legacies of distrust, demonization, and lack of empathy and understanding. In the US, such profound work occurs far from the limelight of mainstream politics, media and public attention (for some climate-related examples and discussion see Moser et al., [2017]).

### **INNER WORK**

Ultimately, the work after “too late” involves and cannot be done without focused attention on the internal. Berzonsky & Moser (2017) describe this inner work in greater detail than is possible here. Suffice it to say that recognizing and accepting endings implies reckoning with loss and the human failure to recognize and act on the problem at a time when it might have been still possible to avoid

certain warming thresholds and environmental losses (Baker & McPherson, 2012; Head, 2016; Cunsolo & Landman, 2017). The endings listed in Table 1 and their implications for one's own hopes and dreams, one's future, family, community, society, nation, the human and other species are – for lack of an adequate scientific term – heart-breaking. Reckoning with guilt and shame, moral failure, grief and despair thus becomes the necessary foundation for much of the other work described above. For many, that long-overdue inner work is about engaging the decline humbly and humanely while saving the heart of humanity, or what some call retrieving and cultivating soul (e.g., Berry, 1990; Foster, 2015; Plotkin, 2008; Sharma, 2017).

This inner work after “too late” is practically possible because what constitutes a geologically “abrupt” shift, even the ending of a cultural epoch, is not like immanent death, as when one is swept away by a flood or struck by cardiac arrest in sweltering heat. The cognitive dissonance between being confronted with an ending and yet being given another day is difficult to hold. But it is in holding that paradoxical tension rather than collapsing into denial or despair that writers see the opportunity for human redemption. It creates the possibility for reconciliation and atonement, learning profound lessons from the past, practicing our imagination of what is still – and maybe especially now – possible; finding or continually re-making meaning, and nourishing not false, but “radical” hope (Lear, 2006) (for an extended discussion, see Moser, 2019).

## CONCLUSIONS

It was tempting to entitle this article “the work *regardless of whether* it's too late.” Certainly, this work is already beginning even without a scientific consensus on endings. One might also argue that it is necessary regardless of such a consensus, because degrees of change and moral stances matter vis-à-vis future generations and other life forms. But in the end, “the work *after* it's too late” prevailed because most do not begin the hard and deep work described above until confronted with a hard limit. Cultural narratives and myths, psychology and historical evidence suggest as much (Berzonsky & Moser, 2017).

The phrase or experience of “2 degrees” warming after which “dangerous climate change” is alleged to occur<sup>viii</sup> is unlikely to serve as a prompt to action on a massive scale because that number constitutes an arbitrary conceptual, not a physical tipping point. Rather, climate changes are already and will at a faster pace, visibly and tangibly in more and more places cross historical experience. Such continual changes will force people to adjust, consciously or unconsciously, proactively and, in many more cases, reactively with attendant large and growing personal and collective, economic, ecological, social, psychological and psycho-spiritual consequences. These impacts will overpower those with lesser adaptive capacity sooner and more severely than those with greater capacity, causing material and intangible losses, direct and indirect harm, ill-health, loss of well-being, loss of life, loss of social cohesion and loss of civility. The uneven geographic and socioeconomic distribution of these outcomes across any one society and the globe are reflective of the variable ways in which climatic changes will manifest across space and how these changes will interact with current and future differential social and ecological vulnerability and adaptive capacity.

Thus, if the question of “is it too late to prevent dangerous climate change?” was really a question of whether it is too late to prevent human suffering, the answer is a clear “yes” and for all too many

people it has begun a long time ago. Society's attempts to buffer humans from the whims of nature have never fully succeeded and by the sheer numbers of people living in abject poverty, it has not even come close. Accelerating climate change will make this work even more difficult over time, placing before us profound moral, civilizational and existential questions. This is beginning to happen now. In certain circles, this is taking some toward hedonistic, others down survivalist pathways, and yet others in the direction of constructively engaging in the deep work outlined above. Writers and actors in the latter category describe that engagement as nourishing love, hope and gratitude for life, a new-found connection to nature, each other and the spiritual (Haraway, 2016; Jarmail, 2019; Meadows, Randers, & Meadows, 2004; Orr, 2011; Pihkala, 2018; Ryan, 2016; Stephenson, 2015). In the face of the darkening outlook science now puts before us, love, hope, gratitude and a connection to something beyond ourselves constitute the kind of light worth strengthening. Now more than ever.

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### **Notes**

<sup>i</sup> It is noteworthy, however, that the latest of these, *The Uninhabitable Earth*, has become a New York Times bestseller in less than a month since publication, possibly aided by the fact that excerpts of the full book, published in the *New York Times Magazine* in 2017, fostered not only critical debate about effective climate change communication, but also significant reader interest and anticipation.

<sup>ii</sup> For example, the ecomodernist branch in the Anthropocene discourse such as Asafu-Adjaye et al. (2015), continues to argue that seeming limits are sites of innovation and human ingenuity and thus not limits at all. Many have sharply criticized that stance (Caradonna et al., 2015; Collard, Dempsey, & Sundberg, 2015; Crist, 2015; Hamilton, 2016). Writers on post-capitalism and degrowth embrace limits, but paint a picture of a rather seamless non-disruptive transition (already underway) to a global post-capitalist economy within ecological limits (see review by Blühdorn [2017]). Criticizing all of these, and any discourse on transformations necessitated by limits, Blühdorn (2017, 2018) argues that despite all arguments for tipping points and collapse, society seems to persist in the face of "unsustainability," at least for now. It not only holds on to its destructive socioeconomic structures and growth/progress narratives but actively works to "sustain the unsustainable", the price being equality, justice, inclusion and a good life for all. Blühdorn sees this not as a case of denial at all, but as a kind of third modernity in which society adapts to and becomes resilient in the face of the degraded life-world of the Anthropocene as a way to "manage [its] inability and unwillingness to achieve the socio-ecological transformation that scientists and environmental activists say is urgently required" (Blühdorn & Deflorian, 2019, p.1), and calls it desirable.

<sup>iii</sup> James Lovelock may be the most prominent example. Many other defections from academia occur largely away from public visibility. Outspoken climate scientists who remain(ed) in academia are regularly criticized

for their popularizing public speaking and for getting involved in political affairs (e.g., James Hansen, Steve Schneider, Clive Hamilton). Jem Bendell's story itself speaks of the professional risk-taking that the standards and practices of academia such as peer review tend to discourage. Increasingly scientists resist being confined to traditional modes of behaviour in the face of the climate crisis. See, e.g.: <https://morethanscientists.org/> and <https://www.isthishowyoufeel.com/>.

<sup>iv</sup> One exposé of these tensions among academics over how to publicly communicate about this crucial threshold crossings is a widely shared story in *Esquire* in 2015 (Richardson, 2015).

<sup>v</sup> This paper does not offer the space to give this literature adequate justice. A separate review paper on this topic is currently in preparation.

<sup>vi</sup> In many circles, particularly privileged ones, endings can be pushed – at least cognitively – into the future. A sense of protection from the harsh consequences of threshold crossings prevails. The globally observed economic polarization of have's and have-not's (particularly acute in the US) leaves many more, however, far more exposed to the consequences of limits. Tuning out, numbing and psychological distancing are common responses (Acharibasam & Anuga, 2018; Leviston, Price, & Bishop, 2014; McDonald, Chai, & Newell, 2015). Money in politics, corruption and failing democracies – rather than merely a backdrop to the work of “now what?” – are integral ingredients of the hopeless outlook for many. This leads some to hedonistic pleasure-seeking and a turn away from climate news and politics while so-called “preppers” make survivalist preparations for the seemingly inevitable chaos soon to come and advocates of geoengineering advance their cause as a matter of “precaution” (Flegal & Gupta, 2018; Irvine et al., 2019; MacMartin, Ricke, & Keith, 2018).

<sup>vii</sup> A good example might be this TedX speech by Greta Thunberg in Stockholm (published December 12, 2018; see: <https://www.youtube.com/watch?v=EAmUIEsN9A&feature=youtu.be>).

<sup>viii</sup> As a reviewer rightly pointed out, the IPCC already established in its Fifth Assessment in that 1°C is unsafe for some groups and species already. The reference to 2°C is retained here as it is the main target of the Paris Accord (with the aspirational goal of 1.5°C) and was used in the scope for this special issue.

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