This civilization is finished: Time to build an ecological civilization

A terrible gamble is being taken that we can prevent or at least successfully mitigate lethal climate change and the extinction crisis. The likelihood of failure is high, so – despite widespread unwillingness to do so – we must face the alternatives presenting themselves without turning away. They span from a horrendous, completely irrecoverable collapse, on the one hand, to the rise of a successor civilization out of the wreckage on the other. We cannot keep avoiding the vast efforts required to adapt our communities to the rapidly changing world, and must engage in the transformational processes now necessary. We need, individually and collectively, to wake up to the dire reality of the ecological emergency, to think seriously about the successor civilization that will follow, and to rebuild community. We must also engage in forms of deep adaption, including holding actions to slow the damage as much as we can, and even non-violent direct action. Dramatically courageous things are now necessary.

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Collectively, we have failed to sound the alarm adequately, and thus failed to prevent the existential threat of the ecological emergency, beginning with climate breakdown.[1] Had we been willing to tackle this terrible danger, we would have done so at least a generation ago. Now the hegemonic civilization we all participate in is in its endgame. Metaphorically, we're in a real last chance saloon. Those who wanted to preserve 'business as usual' have already failed.

Paris: Expectations and reality

It is appropriate to start with the 2015 Paris Accord. It has been widely cited as evidence of progress and as signalling hope; it was indeed a remarkable diplomatic and political achievement. It would have been unrealistic to expect anything better than the Paris agreement – which, incredibly, every participating country signed. The agreed proposals were reasonably bold (by comparison to what had been done previously) for reining in greenhouse gas emissions, especially carbon dioxide.

The fact remains that what was agreed on was absolutely nowhere near enough. The Accord is now a few years old and, since then, matters mostly have gotten quite a bit worse. The world's weather systems appear to be spinning out of control. Evidence of new dangers has also emerged. For example, we have learned that a lot more excess heat is stored in the oceans than was previously recognized (Galey, 2018). This is a ticking time bomb in the global heating predicament that is not going to go away. It is heat in there for the long term, with surface, water and air temperatures poised to spike further.

Meanwhile, initial signs of compliance with the Paris Accord have faded – it is important to remember that it is merely a voluntary, not binding, agreement. The US has pulled out, and now the Brazilian president, Jair Bolsanaro, threatens to devastate the world's greatest green lung, Amazonia, which, along with its priceless biodiversity, stores immense amounts of carbon. Such developments reveal just how toothless the original Paris Accord really was.

Heat

In reality, the situation is worse. Consider the 2 degree 'realistic' target of Paris. Most scientists agree that, even if all the Accord's commitments were honoured, global temperatures would still rise by more

than 2 degrees over preindustrial levels. In other words, the science on which the Paris agreement was based – that of the IPCC assessments – is itself overly optimistic and unsafe (Greshko, 2017).

The main evidence base utilized in the IPCC reports is actually not solely the product of a scientific process. Rather, it's a scientific process that also builds into it a *political* process. IPCC summary documents – its most widely read outputs – are politically edited. And where such edits produce tensions with the underlying reports, there can even be pressure to alter the reports to harmonize. Like Paris itself, the IPCC typically achieves only a kind of lowest common denominator (Spratt and Dunlop, 2017). In other words, the Paris targets themselves, even if implemented, will not prevent a climate cataclysm.

> "The IPCC process seriously underestimates – typically by assigning them 'low confidence' – the danger we are exposed to by feedback loops."

But it's even worse than that: those wholly inadequate targets will themselves not be achieved. The actual commitments that countries have made regarding those Paris targets fall *well* short of what is required. If all those commitments are added up, they amount to considerably less than what Paris requires in order to work even on its own terms (let alone in terms of what would actually be needed to limit us to 2 degrees of overheating, let alone 1.5).

Growthmania

But our situation is more dire yet. Those (inadequate) commitments to meet those (inadequate) Paris targets stand in stark contradiction to what virtually every single government – with, possibly, the exception of Bhutan – is actually planning to do over at least the next decade. Virtually every country in the world plans to encourage further economic growth: more agro-industrial infrastructure (including the more intensive, climate-damaging meat industry), more plantation forestry replacing old-growth forests, more transport infrastructure (including expanded aviation), more industrial infrastructure (utilizing high-carbon products such as cement), more energy infrastructure (including climate-damaging fracking) and so on.

These trends add up to a biodiversity disaster and climate disaster in one. Furthermore, these planned infrastructures will have long 'half-lives'; committing humanity to ongoing high-carbon pathways at the very time when those pathways need to be radically transformed. Powerful forces are pushing for more and more economic growth – including large sections of the public, not just big corporations. Parties promising to curtail economic growth get few votes.

Feedback

There is another factor that makes this already very dangerous situation still worse. The IPCC process seriously underestimates – typically by assigning them 'low confidence' – the danger we are exposed to by feedback loops that could cause the climate system to spiral completely out of control. Indeed, these loops may help to explain the disastrous and chaotic weather experienced in recent years. Among those feedbacks is albedo loss. Owing to the melting of Arctic ice, for instance, less heat is reflected back out into space, and is instead absorbed by the dark blue water that replaces the ice.

Most dangerous of all is additional release of another greenhouse gas, methane, which is roughly 25 times more powerful than carbon dioxide and, in the short term, more like 85 times more powerful (Vaidyanathan, 2015). Methane is beginning to be released in significant quantities, especially from the permafrost region (Shimek, 2016). If such releases accelerate, they would lock us into a full blown and truly catastrophic climate breakdown – indeed, a runaway climate change, with further vicious feedback loops triggered. Recent indications suggest that this may already be happening.

Planet fixers

An additional awful point about the Paris Accord is its assumption about the practicability of 'geo-engineering' technologies, including 'Negative Emissions Technologies' (*cf.* Read and Paul, 2019). These technologies assume that humans can seize the 'tiller' and benignly engineer

the climate of the entire Earth. There are, however, two major problems with the Paris Accord's dependence on such technologies.

The first is that geo-engineering technologies themselves are not developed in any meaningful way. Most are merely fantasies created on paper. The few techniques that actually exist have not been tried at scale, and there is no robust evidence that they would work.

The second problem is that even if geo-engineering technologies were somehow made available, their use on a planet-wide scale would be profoundly reckless (Read and Paul, 2019). Such deployment would, in effect, be an experiment conducted on the entire globe, with enormous dangerous side effects all too likely. Mooted projects – such as huge space 'mirrors' or seeding the seas to generate enormous plankton blooms – are simply the most foolhardy gambling with the future of the Earth.

In reality, geo-engineering is an extreme manifestation of human hubris. We simply do not have the detailed knowledge of how complex ecosystems work and of all the interactions within them. Geo-engineering can be compared to trying to repair a watch by blindly shoving a screwdriver into its mechanisms. Given our collective track record to date, it would be foolish to believe that humanity has the wisdom to use geo-engineering with due care and responsibility.

A more 'down-to-earth' techno-fix is being widely touted, namely, 'bio energy with carbon capture and storage', or BECCS (Hickman, 2016). Essentially, this means growing lots of biomass which is then burned, with the resulting carbon sequestered and kept safe for hundreds (or preferably thousands) of years underground. To have any significant impact at all, this would have to be done on an enormous scale. Studies suggest that, "Such a feat would require growing bioenergy crops over an area at least as large as India and possibly as big as Australia – half as much land as humans already farm" (Rosen, 2018). Even if the process were to prove viable (which there is serious reason to doubt), it would devastate the Earth's ecosystems. Huge areas would have to be devoted to crop monocultures, all at the expense of remaining biodiversity and ecosystem integrity.

In other words, the brutal reality is that geo-engineering would be irredeemably reckless, and almost certainly practised at heavy expense to the Earth's remaining ecological integrity. We must not let the future of biodiversity – of life – be gambled away on a wildly irresponsible bet on this, the ultimate of techno-fixes.

Futures

The conclusion can only be that the Paris Accord is doomed. Its (inadequate) aims will not be achieved; indeed, they will almost certainly be missed by a long way. This means that unprecedentedly dangerous climate change is coming and it is going to get a lot worse for a long time to come, accelerating broader ecological degradation.

A small but growing number of people are calling on society to recognise just how desperate the situation is (*e.g.* Bendell, 2018). If that recognition became widespread, then something unprecedented might be done to change the destructive course (Read, 2017). But it would be completely unprecedented: such is the scale of the challenge.

There are three major possibilities ahead. *Possibility one* is that we manage to transform civilization into what the Chinese government, with hubris but also perhaps with the germ of a great idea, calls an 'ecological civilization'. Its creation would require the radical alternation of almost everything that we do – and in ways undreamt of by the philosophy of the Chinese government. The resulting shift would certainly involve much more than just a large-scale conversion to renewable energy. Equally certainly, it would also require the radical reduction of the sheer volume of goods and people transported around the world: a radical relocalization of economies (Scott-Cato, 2013). It would also entail an agricultural revolution, including radical reductions in the amount and kind of meat consumed. There would have to be many more such changes.

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We must be honest: it would be very risky to bet everything on what would be a completely unprecedented transformation. For it to have any chance of success, it would require the speedy overcoming of virtually all the vast vested interests as well as of ignorance, apathy and lethargy, amongst the other forces that stand in the way.

Possibility two is a 'successor' civilization after some kind of collapse. This appears more realistic than possibility one, and indeed is our best hope. Given the above climate–ecology scenarios, we need to think about what comes after the likely collapse of this civilization and plan accordingly. There are of course many sub-possibilities within this possible future, and some of them are very ugly. The successor civilization could, for instance, be largely a reign of brutal warlordism. We have to try to do what we can to prepare our descendants for survival and for one of the better sub-possibilities.

Possibility three is simply total collapse, which, again, could take different forms. It could mean eventual human extinction and extinction of most or all other mammalian life on Earth. It could even lead to the elimination of virtually all complex forms of life.

> "This civilization is finished thanks to global overheating along with many other forms of 'synergistic' ecological shifts."

After the fall

Let us focus on what I am suggesting has become the most likely scenario: some kind of successor civilization after collapse. To date, the dominant assumption is that we can save civilization by pursuing piecemeal reforms. Big hopes have been placed on the possibility of mitigating strategies and comparatively modest forms of adaptation.

Reform, however, is no longer a viable option. This civilization is finished thanks to global overheating along with many other forms of 'synergistic' ecological shifts. The real issue, then, is what comes afterwards. Is it going to be a transformed version of our current civilization? Is it going to be some kind of successor civilization? Or is it going to be nothing at all?

And critically: how can we citizens influence that choice, here and now? *What is to be done?*

1. We need, individually and collectively, to *wake up* to the dire emerging reality of the ecological emergency. In facing up to that reality, there is a danger of widespread despair, fear, sadness and indeed rage. Given the context, such responses are quite rational and could be a source of needed strength. As social critics such as Joanna Macy have argued, despair can be a great source of energy (Macy and Brown, 2014).
2. We need to *talk* about this. It is unhealthy to keep this state of unravelling in the confines of one's own mind. Instead of suppressing or holding despair at bay, we need to bring the issues to the light of day and work through them collectively. If we dare to face collapse together, then, amidst the unfolding horror, it might just become in a certain sense a liberating experience.
3. We must think seriously about the nature of a *successor civilization* – of what it might look like, and then to start to act accordingly (Read, 2018a).
4. We need to build 'lifeboats' to carry as many as possible of us through the coming storms. We have to (re-)build *community*, the relations which we have with each other, as it is very fragmented in our 'individuated' culture. Community network relations will be absolutely vital even if there is only some kind of partial collapse. The 'Transition Towns' movement, for example, is a good model to spread and build upon. We need to work on how to preserve things that will be vital during and after a collapse. Seed banks are an obvious example, but we have to think about how to preserve seeds through climatic change – the Svalbard seed vault partially melted in recent years, owing to 'freak' Arctic temperatures. Additionally, we must consider what kind of seeds are going to be useful in future climatic conditions. So we should, for example, be planting native species. But we should also be planting some non-native species that will cope with higher temperatures and the changes to precipitation levels that global heating will bring. We need to take adaptation

preparation seriously, as well as deepen and transform our concept of it. We need to shift far more resources of all kinds to it (while we still can). We need, in short, to rethink it radically.

Going deeper

The strategies sketched above are examples of *transformational adaptation*, which means adaptation that is not merely defensive, but also contributes directly to transforming our society in necessary and beneficial ways, and simultaneously prevents or mitigates further climate damage. However, the situation also demands what has been called *deep adaptation* (Bendell, 2018). Deep adaption is adaptation that is specifically premised on the thought that collapse is highly likely. The deep adaptation agenda says we need to be thinking and acting now in ways that take seriously into account the possibility that, in the future, we will not be able to undertake the kinds of interventions that we can do now.

Deep adaption would, for example, demand that we start preparing for sea-level rises now, rather than doing completely absurd things such as building nuclear power stations in coastal regions. In any case, if civilization does even partially collapse, how confident can we be that all the kinds of resources needed to keep those nuclear power plants (and the toxic wastes they produce) safe are going to remain intact? How, for example, can we keep the spent fuel rods from catching fire and burning if their cooling pools dry out? We've already seen at Fukushima a little bit of what can happen even in the middle of an intact civilization when something hits a nuclear power station hard. Remember that there are definitely going to be more and more such 'natural' disasters. Building nuclear power stations in the context of that is absurdly reckless.

5 We need to take *holding-actions*, ones that hold the damage at bay and slow it down. This includes everything from consumer boycotts and divestment campaigns, to lobbying and getting involved in electoral politics. Civilizational collapse in some form or another seems likely to happen but that certainly does not mean we should give up on these conventional methods. On the contrary: *they are absolutely vital right now*. It is just that they are not enough by themselves any more. That is why they are primarily holding-actions – holding back the deluge, the potential catastrophe – rather than actually being able to stop it completely or fully ameliorate its consequences.

6 We need to do something more: we must *rebel*. The central example thus far is Extinction Rebellion. Such groups are saying that this really is an emergency, but they are saying more than that: they are saying that governments have failed us, so we should no longer accept their authority. Consumer boycotts, voting and so forth is not enough – we must undertake non-violent direct action as well (*cf.* Read, 2018b). Small gestures of disobedience and defiance can create a spark that catches light and can ignite a much, much larger rebellion.

7 That brings me to the seventh and final action: stop. We need to slow right down and actually give ourselves a chance to take all of this in. And *really* think about it; *really* feel it. If we don't do that, then we won't wake up properly and we won't be in a good position to wake anyone else up. And only if we stop will we actually be able to undertake the dramatically courageous things that are now necessary.

Paul Kingsnorth (one of the founders of the 'Dark mountain' group) saw a lot of the way things were going some years ago; he argued that an abyss is opening up before us (Kingsnorth, 2018). We need to be brave enough *to look into that abyss*; and only if we do that will we then know what to do next... ■

"We need to take *holding-actions*, ones that hold the damage at bay and slow it down."

Notes

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References

Bendell J (2018) *Deep Adaptation: A map for navigating climate change tragedy* (Occasional Paper 2). Institute of Leadership and Sustainability, University of Cumbria, Lancaster, UK. Available at https://is.gd/7O86OP (accessed December 2019).

Galey P (2018) Oceans heating faster than previously thought: study. *Yahoo News*, 24 November. Available at https://is.gd/4GML8P (accessed December 2019).

Greshko M (2017) Current climate pledges aren't enough to stop severe warming. *National Geographic*, 31 October. Available at https://is.gd/HJyMtA (accessed December 2019).

Hickman L (2016) The history of BECCS. *Carbon Brief*, 13 April. Available at https://is.gd/5zokGP (accessed December 2019).

Kingsnorth P (2018) *Confessions of a Recovering Environmentalist*. Faber and Faber, London, UK.

Macy J and Brown M (2014) *Coming Back to Life*. New Society Publishers, Gabriola, BC, Canada.

Read R (2017) On preparing for the great gift of community that climate disasters can give us. *Global Discourse* **7**: 149–67.

Read R (2018a) Some thoughts on 'civilizational succession'. *Truth and Power*, 9 February. Available at https://is.gd/doxGgq (accessed December 2019).

Read R (2018b) Extinction Rebellion: I'm an academic embracing direct action to stop climate change. *The Conversation*, 16 November. Available at https://is.gd/go2fFV (accessed December 2019).

Read R (2018c) *This Civilization is Finished: So what is to be done?* (Occasional Paper 3). Institute of Leadership and Sustainability, University of Cumbria, Lancaster, UK. Available at https://is.gd/wo5njs (accessed December 2019).

Read R and Paul H (2019) Geoengineering vs. the precautionary principle. In: Foster J, ed. *Facing Up to Climate Reality: Honesty, disaster and hope*. London Publishing Partnership, London, UK.

Rosen J (2018) Vast bioenergy plantations could stave off climate change – and radically reshape the planet. *ScienceMag*, 15 February. Available at https://is.gd/0y39XK (accessed December 2019).

Scott-Cato M (2013) *The Bioregional Economy: Land, liberty and the pursuit of happiness*. Earthscan, New York, NY, USA.

Shimek R (2016) Is the warming Arctic incubating a methane monster that could unleash mass extinction on Earth? *Coral Magazine* 13. Available at https://is.gd/e33YrA (accessed December 2019).

Spratt D and Dunlop I (2017) What lies beneath? The scientific understatement of climate risks. *Climate Code Red*, 7 September. Available at https://is.gd/HBmlHD (accessed December 2019).

Vaidyanathan G (2015) How bad of a greenhouse gas is methane? *Scientific American*, 22 December. Available at https://is.gd/AZDvxD (accessed December 2019).

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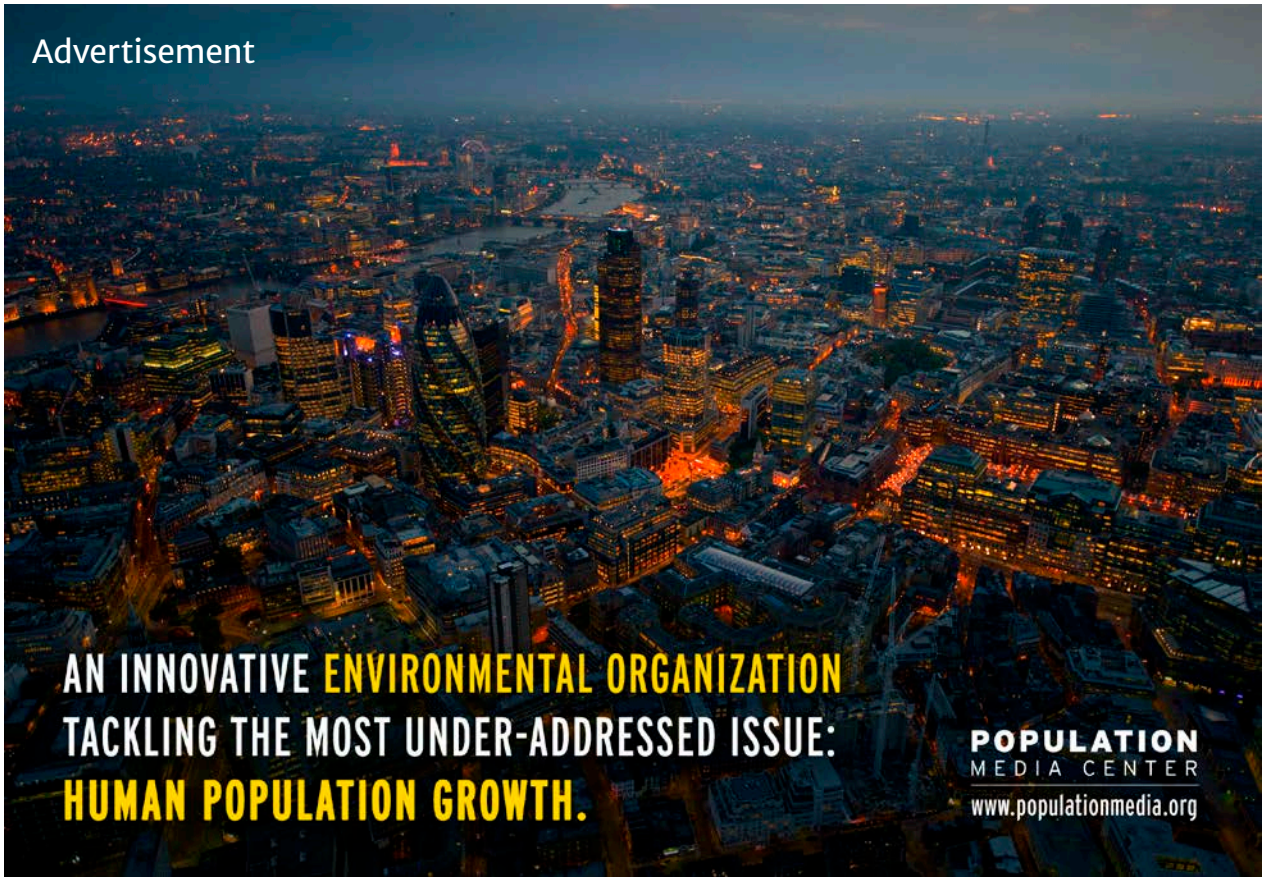

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