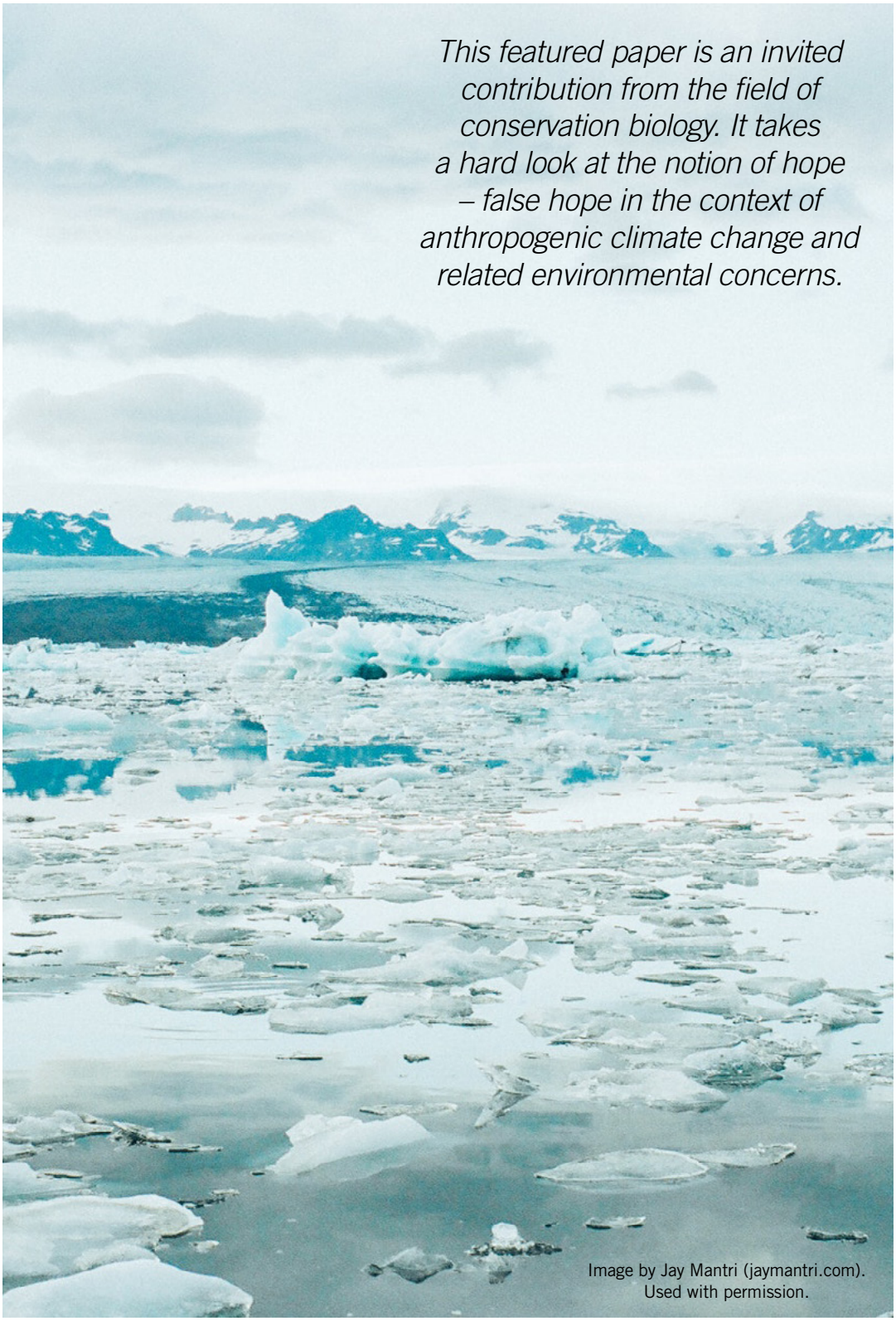
This featured paper is an invited contribution from the field of conservation biology. It takes a hard look at the notion of hope – false hope in the context of anthropogenic climate change and related environmental concerns.



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Featured article

Becoming hope-free: Parallels between death of individuals and extinction of homo sapiens

Guy R. McPherson

The belief in a positive future, or hope, is not useful when presenting a person with a terminal diagnosis. Wishful thinking is no route to recovery, and it might interfere with the ability of a person to complete relationships during their final days. Hospice is a particularly effective strategy for palliative, end-of-life care. Similarly, hospice is an obvious strategy to address the near-term demise of homo sapiens.

'The great enemy of grief is hope. Hope is the four-letter word for people who are unwilling to know things for what they are. Our time requires us to be hope-free. To burn through the false choice of being hopeful and hopeless. They are two sides of the same con job. Grief is required to proceed.' (Stephen Jenkinson)

CONSERVATION BIOLOGY is the multidisciplinary science that has developed in response to the loss of biological diversity. Said to be a 'mission-oriented crisis discipline' (Soulé, 1986), conservation biology has two primary goals: (i) to evaluate human impacts on biological diversity; and (ii) to develop practical approaches to prevent the extinction of species (Soulé, 1986; Wilson, 1992). Conservation biology arose when scientists began to realise that nearly all natural ecosystems have been damaged by what Diamond (1989) referred to as the 'Evil Quartet': habitat loss and fragmentation, overharvesting, introduced predators and competitors, and the indirect effects of these threats on ecological interactions. More recently, anthropogenic climate change has been recognised as a significant threat to species and the ecosystems that support them.

Since the Society for Conservation Biology came into existence in 1987, anthropogenic climate change has given away to abrupt, irreversible climate change as a major threat to conservation of biological diversity. Along with this shift in focus from gradual to exponential climate change, a few conservation biologists and climate scientists have begun to consider the impact of abrupt climate change on the ability of humans to adapt.

In response to the threat to our continued existence as a species, the notion of hope has entered the discussion. In this paper, I look to a subset of the clinical psychology literature for parallels (e.g. Rogers et al., 2017). Just as hope has been discussed in parts of the clinical psychology community, herein I contemplate the role of hope with respect to the concept of near-term human extinction.

Hope, hopeless, or hope-free?

The ongoing, seemingly endless cries for hope indicate we have entered desperate times. After all, hope is a mistake and a lie. Clinging to hope is a mistake, and promulgating hope is a lie.

How is hope a mistake? The dictionary-based definition indicates that hope is desire or a wish accompanied by the expectation of, or belief in, fulfilment. In other words, hope is wishful thinking that assumes a positive future without supporting evidence. Hope is merely a guess

about the unknown future, and it assumes others will fix whatever is broken. Hope additionally assumes the absence of agency.

Hope is not only a mistake, it is also a lie. Consistent with many of the lies we have been told within contemporary society, we have accepted the lie of hope for so long we no longer recognise it as a lie. As victims of industrial civilisation, we prefer the comfortable lie to the bitter truth. We love our comforts, and the lie of hope makes us better able to 'fit in' with the majority of other members within our dysfunctional society.

To hope is to believe in a favourable future. Hope is based on faith. Faith requires no evidence. Indeed, evidence generally interferes with faith: witness the spiritually religious. Belief in a favourable future (i.e. hope) presents significant impediments to a rational approach. Rogers et al. (2017) conclude that belief in a favourable future tends to negate action toward a positive future. This finding is consistent with a significant body of work on the topic pointing toward the same unwelcome outcome. In short, the evidence indicates hope, like fear, is a terrible idea.

Sadly, the idea of hope has been imposed on this culture as a necessity to our wellbeing. Hope has been deemed unimpeachably good. Perhaps this is because hope is imperative if the masses are to be kept in their corral.

As American writer Edward Abbey frequently wrote, 'Action is the antidote to despair.' Abbey influenced me during my college years, and he undoubtedly reinforced my preference for action over hope or fear. My own radical actions – including opting out of the monetary system by abandoning a privileged position as tenured full professor to create a permaculture-inspired, back-to-the land property, complete with gardens, orchards, greenhouses, root cellars, and the capacity to preserve and store abundant food – came too late to stop or slow abrupt climate change leading to the Sixth Mass Extinction. These actions might have mattered had they been pursued by many people decades before I naively started in 2007. That these actions were not taken long ago by the masses helps explain why we find homo sapiens embroiled within the Sixth Mass Extinction triggered by abrupt climate change.

The evidence regarding abrupt, irreversible climate change is clear. Unfortunately, there are no known actions that will slow or reverse the predicament of abrupt, irreversible climate change. Continuation of the industrial economy increases atmospheric concentrations of greenhouse gases, even as we are well beyond the self-reinforcing feedback loops described as 'tipping points' by politicians, scientists and governmental bodies. Cessation of industrial activity heats the planet even faster as a result of loss of the aerosol masking effect, or 'global dimming'.

Evidentiary overview

Already, the ability of vertebrates and mammals to adapt is being outstripped by ongoing, relatively gradual climate change (Quintero & Wiens 2013 and Davis et al., 2018, respectively). As one result, the vertebrate mammals known as humans are losing habitat throughout the globe (e.g. food and water shortages, refugee crises).

The aerosol masking effect is the masking, or blocking, of incoming sunlight that results from aerosols in Earth's upper atmosphere. These aerosols, primarily sulphates, result from burning fossil fuels and they prevent incoming sunlight from striking, thus heating, Earth. Without these aerosols, which fall continually from the atmosphere, Earth would be much hotter than it currently is. The 1.2°C (±0.2) cooling from these aerosols predicted by Hansen et al. (2011) was deemed too conservative by Rosenfeld et al. (2019). In other words, the aerosol masking effect presents us with a Catch-22 by which continuation of industrial activity heats the planet and ceasing industrial activity heats the planet even faster.

Within the scientific community, there is no doubt we are in the midst of the Sixth Mass Extinction of life on Earth (Ceballos et al., 2017). Invertebrates are leading the way (Sánchez-Bayo & Wyckhuys 2019). Earth could lose all life as a result of an abrupt rise in global-average temperature (Strona &

Bradshaw, 2018). Such an event could be triggered by the loss of Arctic sea ice, the abundant evidence for which was summarised by President Niinistö of Finland (2017): 'If we lose the Arctic, we lose the globe'. Arctic sea ice is projected to disappear in 2016 ±3 years (Maslowski et al. 2012).

Now what?

Ecologist Garrett Hardin, known to the public for his 1968 paper in *Science*, 'Tragedy of the commons', was perhaps best known among ecologists for his question: 'And then what?' With this question, Hardin asked us to pursue action only after evaluating the many likely outcomes to that action. In other words, Hardin was promoting the idea of thinking beyond the obvious and into the realm of complexity.

As indicated by Stephen Jenkinson, writer and speaker renowned for his work in what he calls 'the death trade', grief is required to proceed. The act of grieving acknowledges the irrecoverable loss of life on Earth while recognising that our species, too, will soon join the ever-growing list of extinct species. How, then, do we grieve, and to what end?

My favourite definition of grief comes from the Grief Recovery Institute: 'Wishing for a different past' (James & Friedman, 2009). Focusing on losses, including relationships lost through death or divorce, precludes moving forward in a healthy manner. Recovering from grief allows us to resolve and then move beyond our past, thereby living fully in the present. In their *Grief Recovery Handbook*, James and Friedman (2009) provide an excellent set of pragmatic exercises to enable the grief-recovery process.

Physicians, especially oncologists, used to lie regularly to their patients. Through the 1960s, lying was considered perfectly appropriate. After all, hope was viewed as unimpeachably good, and removing hope by presenting the facts was therefore undesirable.

More recently, and with much discussion among medical doctors and ethicists, it has become acceptable to tell the full truth to patients. Based on research conducted during the last few decades, hope is no longer viewed as a motivator for many patients (e.g. The et al., 2000; Hancock et al., 2007; Van Laarhoven et al., 2011; Kersten et al., 2012). In response, physicians tend to reveal the full truth to patients. It seems the medical community is 'catching up' with common sense. Fear is a powerful motivator and hope produces the opposite response. History indicates that a society forced to choose between hope and fear indicates which of the two is more likely to inspire rapid, radical action. The Manhattan Project during World War II serves as an excellent example, rooted in fear.

I am often asked for advice about how to live during these tenuous times. In response, I recommend living fully. I recommend living with intention. I recommend living urgently, with death in mind. I recommend the pursuit of excellence. I recommend the pursuit of love. In light of the short time remaining in your life, and my own, I recommend all of the above, louder than before. More fully than you can imagine. To the limits of this restrictive culture, and beyond. Live like you are dying, because you are.

The living planet is in the fourth and final stage of a terminal disease. Hope will not stave off the Sixth Mass Extinction. Hope will neither slow nor stop human extinction. It is long past time we admitted hospice is the appropriate way forward (McPherson 2019).

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