# Yawning at the Apocalypse

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# Yawning at the Apocalypse

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# Yawning at the apocalypse

Cameron Brick and Sander van der Linden on how psychologists can help solve the largest social dilemma in history.



*A pig ate his fill of acorns under an oak tree and then started to root around the tree. A crow remarked, 'You should not do this. If you lay bare the roots, the tree will wither and die.' 'Let it die,' said the pig. 'Who cares so long as there are acorns?'*
*(adapted from a [fable](#) by Andreyevich Krylov)*

In a *Washington Post* article in 2009, journalist David Fahrenthold wrote: 'If someone set out to draw a problem that people would not care about, it would look exactly like climate change.' Naomi Klein and others have argued that it's not that people don't care: it's just that the problem is so enormous and encompassing that people feel helpless and disempowered.

Either way, psychology is central to understanding how we perceive and respond to climate change. After decades of discussion, and several pieces in this very magazine, it could be argued that little practical progress has been made. Why is climate change proving to be such a stubborn problem?

**Trade-offs**

We make important trade-offs every day between what's good for ourselves and what's good for other people, society and the planet. These trade-offs reflect a fundamental social dilemma: do we choose the selfish option that comes with an immediate and high personal reward or do we go with the long-term socially cooperative choice that is in the best interest of society? The paradox of the health of our planet is that at a societal level, we would all be better off if everyone acted sustainably, but at an individual level, behaving *unsustainably* is typically the default, easier, less costly and psychologically more attractive choice.

Psychologists have been studying how to solve collective action problems for decades. And society has tackled similar issues in the past, such as the diffuse and long-term health problems of agricultural pesticides highlighted by Rachel Carson in her famous 1962 book *Silent Spring*, which inspired the modern environmental movement. Other examples include Elinor Ostrom's Nobel-prize-winning research on how small communities successfully manage shared commons. However, in comparison to most other environmental issues, climate change is unique in two important ways.

First, as an environmental problem climate change is exceptional because its enormous scale will lead to cascading problems across ecosystems, including on agriculture, biodiversity, international conflict and human health and thriving. Second, climate change is psychologically unprecedented as a social dilemma because of the unique cognitive and

social challenges it presents to people. For example, it is very difficult for humans to grasp threats that are sometimes perceived as invisible, gradual, distributed and long-term (Gifford, 2011; van der Linden et al., 2015). Humanity is seriously at risk of yawning towards one of the greatest existential risks of our time because abstract and invisible threats aren't terrifying to brains that evolved to solve local, experiential and imminent problems. This is complicated by the fact that although the Intergovernmental Panel on Climate Change has reaffirmed the high degree of confidence in the role of human activity in driving climate change, Kahneman and Tversky's famous work on biases has shown that when potential future losses are paired with uncertainty, people tend to become more risk-seeking.

Now that the physical science is clear, the fundamental problem of climate change is psychological. How will humans manage the largest social dilemma in history?

Decades of educational effort have resoundingly shown that although education remains effective and necessary for informed action, giving people (or politicians) facts is insufficient for behaviour change. Inaction on climate change is psychologically fascinating because the central facts about greenhouse gases are extremely well verified and documented, and assessable even by non-experts. Yet despite the overwhelming evidence, public engagement and policy lag far behind the consensus of expert recommendations. In a recent review of the literature van der Linden et al. (2015) distil key psychological principles to help explain this gap. Here, we integrate the central arguments into three overarching 'psychological challenges' for action on climate change, along with potential solutions.

**Climate change is not seen as a moral issue**

Polling data from the Yale Program on Climate Change Communication suggests that less than 35 per cent of people see climate change as a moral issue. In an important review,

Markowitz and Sharif (2012) provide compelling arguments to help explain why global warming does not generate strong moral intuitions.

One of the reasons Markowitz and Sharif touch on is especially key: the blamelessness of unintentional action. In the words of Harvard psychologist Dan Gilbert, 'If climate change was some type of nefarious plot visited upon us by very bad men with moustaches, then I guarantee you that our president would have us fighting a war on warming with or without Congressional approval.'

A clever 2003 experiment by Yale cognitive scientist Joshua Knobe reveals how important perceived intentionality is to people. When a CEO says that they don't care about the environment at all – just about increasing profits – and a new corporate programme ends up harming the environment as a by-product, 82 per cent of people will say that the CEO intentionally harmed the environment. However, in an identical scenario where the programme happened to help the environment, only 23 per cent of people agree that the CEO intentionally helped the environment! In short, we're careful in dishing out credit but are quick to assign blame.

So shouldn't that mean we're quick to point the finger at multinational corporations with poor environmental records? Well, perhaps one problem is that it's hard to care about invisible gases… in the absence of a clear potential villain, there's nobody to blame except ourselves, and this can trigger a range of defensive biases. Moral feelings evolved to respond to agentic, imminent threats. Climate change is a statistical abstraction, and this makes it very difficult to activate the cognitive architecture that evolved moral feelings to thwart threats. This is important because many theories of prosocial conduct conceptualise moral norms and perceived moral responsibility as a key driver of human cooperation and prosocial behaviour (Schwartz, 1977; Stern et al., 1999).

How then do we establish a moral imperative?

1. *Frame communications around the specific values of the audience.* Moral foundations theory suggests that different groups rely on different moral foundations (Graham et al., 2009). For example, environmental messages could focus less on harm to nature (think polar bears), which appeals primarily to liberals, and more on community cohesion, enhancing national security and preserving nature, which appeal more to conservatives (Feinberg & Willer, 2013; Wolsko et al., 2016).

2. *Highlight the villains.* An example is the systematic suppression of evidence and public deception by groups like Exxon Mobil (as discussed by Naomi Oreskes and Erik Conway in their 2010 book *Merchants of Doubt*). Heroes and villains are powerful tools to capture human imagination – climate change has both.

3. *Appeal to intrinsically valued long-term environmental goals.* It's tempting to use external rewards to motivate behaviour, but external rewards have two major problems. First, the desired behaviour often vanishes when the external reward is removed (van der Linden et al., 2015), and it is rarely feasible to continue the rewards indefinitely. Second, we know from Deci and Ryan's research that the presence of external rewards can undermine intrinsic motivation. Lasting behaviour change is more likely to result from connecting sustainable behaviour to morally desirable goals and being a good citizen (Taufik et al., 2015; van der Linden, 2018).

**There is little social kudos for action**

Humans evolved living in social groups, so we are naturally sensitive to the thoughts and behaviours of other people, especially our close friends, family and important others in our valued social groups. Group memberships help shape our social identities, and more often

than not we do what others around us are doing and pay attention to what others want us to do.

Importantly, Bob Cialdini's focus theory of normative conduct highlights that social norms only direct human behaviour when they are active and salient. For example, in the now infamous 'hotel towel' study, a simple message making the following norm salient – '75 per cent of guests who stay in this room reuse their towel' – increased towel reuse by a remarkable 50 per cent (Goldstein et al., 2008).

Unfortunately, sustainability norms, whether *descriptive* (information about what other people do) or *prescriptive* (what other people think you should be doing), are neither active nor salient in many places and contexts. In fact, sustainable behaviour, such as eating less meat, is often *counter*-normative (Sparkman & Walton, 2017). This is important because one of the most successful psychological solutions to social dilemma situations is to establish a norm of cooperation (Fehr & Fischbacher, 2004). However, such norms cannot be leveraged if they are not active and salient in the first place. Moreover, at present there is little social judgement associated with unsustainable consumption; that is, you won't be judged with disdain by your neighbours if you eat meat or fail to recycle. Therefore an important strategy is to signal the desirability of sustainable norms, communicate that others also value conservation behaviours and highlight situations in which people are acting sustainably.

Here's how we can promote social norms around sustainability:

1. *Leverage relevant social group norms.* Signal the desirability of sustainable norms by communicating what others are doing to help and tying those behaviours to valued groups, such as the local community or town. Because people are more attentive to norms that are relevant to their own group, it may help to expand definitions of the 'ingroup' by appealing to

larger collective identities; for example, joining together in the fight against climate change as 'UK citizens' or 'Europeans' (Markowitz & Sharif, 2012).

2. *Avoid pairing desired behaviours with unwanted identities* (Brick et al., 2017). A person with a conservative ideology might be in favour of conserving resources, but if they don't want to be seen as an environmentalist, they won't carry a reusable bag emblazoned with an image of Mother Earth.

3. *Support advocates across social, religious and political boundaries*. Speaking only with others similar to you makes it harder to simulate what diverse others are thinking. Facts are almost worthless if the audience sees the communicator as part of a rival outgroup. For example, Al Gore is so widely reviled among Republicans that even evidence-based messages associated with him could potentially be rejected out of hand. Instead of politicians, some research shows that scientists can be non-partisan mediators of consensus (van der Linden et al., 2018).

## Our brains intuitively underestimate climate change

Behavioural economist Dan Ariely once wrote that it is pretty difficult to predict what peanut butter tastes like based solely on reading the ingredients. The point is that the human brain strongly prefers experience over analysis. Mark Twain intuitively understood this when he joked: 'A man who carries a cat by the tail learns something he can learn in no other way.'

Unfortunately, climate change is an abstract statistical phenomenon that does not easily trigger our intuitive, associative and affective warning system, which is largely based on experience and evolved to map visible environmental cues into concrete threats (Marx et al., 2007). In addition, the 'psychological distance' of climate change (Spence et al., 2012) spans social, temporal and spatial dimensions so that people think climate change is more likely to

happen to other people in other places at some point in the distant future. Thus a host of familiar cognitive biases make climate change seem less important, including heavily discounting future risk and rewards, undue optimism bias about our ability to mitigate potential harms, justifying the status quo, and affective forecasting errors that lead us to assume that the future will generally resemble the present.

The research challenge is to help people grapple with a largely faceless enemy that strikes gradually. Van Lange and colleagues (2018) point out that we need to cross psychological borders of thought, space and time. For example, climate change is often portrayed in the media as a future, distant, global, nonpersonal and analytical risk, and seen more as a loss than an opportunity. Research suggests that there are benefits to reversing these associations. Emphasising present, local and personal harms and benefits will become increasingly easier as climate changes unfold.

To counteract these biases in human cognition, we should:

1. *Facilitate more affective and experiential engagement.* Make connections between people's lives and the environment, for example by highlighting increasing trends in the frequency and severity of extreme weather events or changes in local biodiversity and food production. Bring people to nature, as nature experiences can facilitate human cooperation (Zelenski et al., 2015) and help individuals form personal and affective experiences to supplement their abstract understanding of climate change.

2. *Reduce psychological distance.* Think global, act local. Emphasising concrete local impacts and local opportunities to help can be effective, but keep in mind that there is a trade-off between proximising the impacts of climate change and encouraging people to view climate change as an important global issue (Brügger et al., 2015).

3. *Frame policy solutions in terms of what can be gained from immediate action.* Nobody likes losing, but most people enjoy winning. Policy options should be framed in terms of expected benefits, for example to public health, rather than expected losses. This includes more than physical health and economic growth: for example, Bain et al. (2015) found that emphasising the interpersonal and social benefits of climate action appeared effective for communicating with the disengaged across 24 countries.

**A wicked truth**

The massive intergroup trade-offs of climate change are driving a renewed interest in the tragedy of the commons and governance of resources from local to international policy. These topics spill way beyond environmental psychology: they bridge findings and questions across social, cognitive and cultural psychology. Psychologists of all stripes can see opportunities in studying climate change in topics ranging from individual differences such as 'green personalities' (Brick & Lewis, 2016), mental health (projections and treatment plans), identity and intergroup processes such as polarisation and negotiation, and behaviour change at both the individual and political level. For example, a recent special issue in *Group Processes and Intergroup Relations* was dedicated to how climate change research can inform psychology and vice versa (Pearson & Schuldt, 2018). Work on climate change can also inform cross-cultural psychology: for example, the association between pro-environmental beliefs and behaviours varies wildly by country (Eom et al., 2016).

Finally, a robust science of how people respond to environmental issues should think of individuals as embedded within changing social structures. Some environmentalists argue that our power as individual consumers is extremely limited, with George Monbiot suggesting that beyond a reduction of air travel, meat consumption and car use very little is going to have an impact. Change is required at a corporate and national level.

Social movements have tipping points (van der Linden, 2017): think of how quickly opinions have shifted on same-sex marriage. A key opportunity is to study how and when people engage in collective action (Lubell et al., 2007; van Zomeren et al., 2008). The changing climate also offers a unique social context in which to test general models of attitudes, behaviours and social influence.

In short, climate change is an immensely wicked problem. But psychologists have a tremendous opportunity to serve society through telling the human story of how people come to perceive the world and why they behave the way they do.

**About the authors**

'I see climate change as the defining problem of our era. In graduate school I became aware that many barriers to sustainability are more social and psychological than technological, and I think a robust science of decision making and collective behaviour is necessary to overcome our challenges.'

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'Climate change is the ultimate psychological dilemma: it's abstract, depersonalised, long-term, there's intertemporal trade-offs, intergroup conflict, and a lack of social incentives. I came to realise that if we can understand the psychology of climate change, we can potentially solve many difficult puzzles about human behaviour and make a difference all at the same time.'

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