////Title: Decision-Making in a Global Crisis

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Despite overwhelming evidence calling for urgent action, climate change continues unabated. Understanding why society's leaders are failing to adequately respond to the climate emergency is vital if we are to achieve positive changes going forward. However, getting inside the minds of decision-makers is notoriously difficult. Dr Patrick Waeber (way-ber) and Dr Claude Garcia from the Swiss Federal Institute of Technology, together with colleagues from Canada, the US, Brazil, and Madagascar, have developed advanced theoretical models to help us untangle the complexities of climate change responses. Their framework could help foster the constructive dialogue needed for transformative change.

////Main text:

Over 30 years ago, scientists began warning of mounting evidence of an impending climate crisis – with human activities identified as the culprit driving the changes. After three decades of ignoring the problem or taking actions that ultimately failed, the consequences of climate change are no longer merely data points on a sheet.

Record-breaking temperatures are becoming a regular event. Floods, hurricanes, wildfires, and other extreme weather events are becoming devastating annual occurrences. Across the globe, wildlife suffers – corals are bleaching, polar bears are stranded, and over one million species are threatened with extinction.

The magnitude of changes we are experiencing suggests that the scientific predictions were conservative. We are on course towards a climate apocalypse far quicker than anticipated. Despite this, global carbon dioxide emissions were 3.3% higher in 2019 than in 2016, when the Paris Agreement on climate change mitigation was signed. And although 194 countries plus the European Union agreed to implement measures to limit global temperature increases to 1.5 degrees Celsius, governments globally are planning to produce 120% more fossil fuels than this limit would allow.

On the other side of the climate change coin, deforestation has continued to increase at an alarming rate. Global Forest Watch reported that the annual loss in tree-cover increased by 51% between 2015 and 2016. In 2018 alone, 12 million hectares of tropical forests were lost.

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Mounting failures due to ineffective actions has fostered frustration, mistrust, and an increasingly polarised and fraught debate. Unprecedented numbers of people took part in climate change marches and protests in 2019. Amidst this civil outcry, the United Nations Framework Convention on Climate Change failed to establish clear rules for the Paris Agreement before it was implemented in 2020.

It has become clear that decision-makers have been unable to respond efficiently to the threat of climate change. Dr Claude Garcia and Dr Patrick Waeber from the Institute of Terrestrial Ecosystems in Switzerland suggest that to avoid continually repeating past mistakes, we need to go to the root of the problem – the decision-making process itself.

Using concepts from artificial intelligence processing, behavioural and cognitive sciences, and advanced modelling techniques, they developed a framework for rethinking decision-making in the context of a global environmental crisis. Importantly, the team's framework is universally applicable to human behaviour – regardless of gender, culture, affluence, or belief system.

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How do we make sense of our collective inaction and ineffectiveness around the existential threat of climate change? The answer lies in the minds of the leaders who make decisions. As such, it is impossible to study through direct or indirect enquiry, because people may provide inaccurate answers either intentionally, or unintentionally due to cognitive biases. Instead, the framework explains and predicts behaviour by attributing it to mental states, beliefs, and desires.

Every person builds a set of beliefs about the world they inhabit based on their interactions and perceptions of other people and their environment – or a 'mental model'. This mental model that each of us possesses helps us make choices in daily life. Since all choices have consequences, we are under considerable evolutionary pressure to develop the cognitive capacities that help us form an accurate mental model of the world around us.

However, human beings have limitations. We do not possess the processing capabilities to account for the interactions, competing factors, and other complexities within an issue like climate change. Although our mental models may be good enough to make decisions in most situations, they consistently perform poorly in some circumstances.

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Dr Waeber and Dr Garcia incorporated the theories of mental models with artificial intelligence systems approaches when developing their framework. They suggest four mental archetypes suitably explain the mismatch between the perceived urgency of the climate crisis and lack of efficient decision-making.

The first, 'The Uninformed' archetype, deals with the awareness of the decision-maker. Have they heard about the climate emergency? Although technically possible, it is unlikely considering the extensive media coverage of the issue.

The second archetype, 'The Denier', does not accept the reality of climate change or the evidence provided by the scientific community. Chances are that these decision-makers will fight the narrative on climate change.

Thirdly, ‘The Occupied’ recognises the urgency of the climate crisis. However, many reasons could contribute to a decision-maker not prioritising the issue. With finite time and resources available to them, other matters may take precedence.

Finally, ‘The Concerned’ archetype knows about climate change, recognises the urgency, and wants to prioritise the issue. For this archetype, the root cause is not unwillingness, but an inability to respond effectively. They may not allocate enough resources to their actions, or may fail to identify strategies that achieve transformation.

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So far, the question of how to respond to the climate emergency has not been answered affirmatively on the global scale. Collectively we lack awareness, interest, agreement, common concern, and means. Consequently, we see a world that is increasingly acting in national interests only – a ‘fend for yourself’ approach that will frustrate any efforts towards climate change mitigation.

However, all hope is not lost. The team’s framework reveals the possibility of a fifth archetype: ‘The Architect’. This hypothetical decision-maker is aware, accepting, concerned, and crucially, has found the proper strategy and means to affect change at the global scale.

In reality, this is not one individual. No single decision-making ‘Architect’ could possess the power to achieve the magnitude of change required. The issue is one of collective action, and as such, multitudes of ‘Architects’ are required to develop effective alliances and catalyse change throughout society. ‘Architects’ will enable rather than force the transition to climate-friendly practices.

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With ‘Deniers’ and ‘Occupieds’ on one side and the ‘Concerneds’ on the other, we are currently stuck in a tug-of-war between potential outcomes for the environment and humanity. Only by rethinking the entire system can we move towards a win-win scenario. ‘Architects’ are crucial for this process. The researchers suggest that we start empowering more ‘Architects’ in our society through elections. Their framework provides a crucial first step towards understanding ourselves, our leaders, and our decision-making.

To prevent a climate apocalypse wrought by human activity, we need to change the way we make decisions. We need to become a global society of ‘Architects’.

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