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NewScientist

WEEKLY 11 July 2015

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The road to climate hell

Even people who have good intentions don't do enough about climate change. There are many reasons why we fail to act: 33 to be precise, says psychologist **Robert Gifford**

BY NOW, most reasonable people understand that they have been burning too much carbon. Most of these same people are still burning too much carbon. There is a big gap between our views on climate change and our actions to do something about it. Unfortunately, actions are what matter, not sentiments or good intentions.

Most of us have taken some steps in the right direction. However, we continue to produce greenhouse gases. Sometimes, we truly cannot do better. Not everyone can afford to buy solar panels, rural residents cannot commute by subway, and people who live in cold climates cannot go without heating. These are structural barriers, beyond an individual's control.

However, for those not restricted by such barriers, adopting more pro-climate choices and behaviours is quite feasible. Yet, so far, we are not taking enough action to decrease emissions of carbon dioxide and other greenhouse gases. Why is this? What is stopping us from doing at least the things we are capable of?

A few years ago I began researching this problem. Journalists would ask me the simple question: if so many people are concerned about the climate, why aren't more of them doing something about it? Often in conversations, people would express concern about climate change, and then say, "but..."

It quickly became apparent that many of the barriers to action are not structural, but psychological. They are what I call the Dragons of Inaction. In mythology, dragons take on a wide array of forms, and Asian dragons can even be benevolent. However, as a Westerner, I use dragons as a metaphor for these obstacles because Western dragons always seem to be blocking humans from some goal or aspiration. Perhaps another less obvious reason for this choice lies in the word itself: these barriers are a "drag on" progress.

Once one begins looking, a large number of dragons can be found. I have identified 33, classified into seven fearsome families.



SAM FALCONER



DRAGON FAMILY ONE LIMITED COGNITION

Humans are far less rational than once believed - which is also true when it comes to thinking about climate change. This family, the largest, includes 10 species of dragon.

1 Ancient brain

Our physical brain hasn't evolved much in 30,000 years. Back then, we were wandering around the savannah, concerned mainly with our immediate kith and kin, proximate dangers and quickly exploitable resources. Although we have learned to think (a bit!) about other people, distant threats and slowly exploitable resources, our ancient brain tends to fall back into the here and now, which is inconsistent with paying much heed to the gradual and often distant impacts of climate change. This makes us slow to act.

2 Ignorance

Ignorance is a barrier to action in three ways: not knowing that climate change exists, not knowing what to do about it once you become aware of the problem, and being told wrong information. The first problem is shrinking, although factual knowledge still lags severely: my team recently tested the climate change knowledge of a representative sample of Canadians. We found that, on average, they could only correctly answer 1.5 out of 6 questions.

Second comes a lack of knowledge about which actions to take, how to undertake those one is aware of, and the relative climate benefits of different actions. We are getting better at understanding the latter, and in broad terms we know what we should be doing. However, much remains to be learned, partly because the answers aren't always universal - a best practice in London may not be a best practice in Vancouver, for example. Also, they aren't always obvious - for instance, lamb raised in New Zealand and eaten in the UK has a smaller carbon footprint than lamb raised and eaten in the UK. And modern products are composed ➤



of many ingredients or component parts and have complex life cycles.

Third, ignorance also stems from disciplined and deliberate attempts by groups with a vested interest in the production and use of greenhouse gases to cast doubt on climate science.

3 Environmental numbness

This dragon comes in two subspecies. First, every environment is made up of more elements than we can wholly grasp, so we attend to them selectively. Sometimes we attend to salient elements at the expense of less salient but more dangerous ones, which is how accidents happen. Climate change is like that for many: a dangerous phenomenon that isn't salient because it isn't causing any immediate personal difficulties. This makes action unlikely.

The second form occurs at the other end of the stimulus spectrum. When people see the same advert many times, they get used to it and stop paying attention. Similarly, hearing about climate change too often, particularly if the message isn't varied, can lead to message numbness and the attenuation of behaviours that would help ameliorate the problem.

4 Uncertainty

Experiments show that uncertainty - both real and perceived - reduces the frequency of pro-environmental behaviour. For example, when asked how many fish they would harvest from a hypothetical ocean, the more uncertain the number of fish left, the more people said they would take. People tend to interpret any sign of uncertainty as sufficient reason to act in self-interest. This happens in the real world too. In its 2007 report, the Intergovernmental Panel on Climate Change expressed its level of confidence in its predictions very carefully, using phrases such as "likely" or "very likely". This led many to interpret the report as indicating a lower likelihood than the IPCC intended. Thus, we are left with a perplexing problem: how to present the likelihood of climate outcomes honestly without promoting underestimates of the problem, which of course help to justify inaction.

5 Discounting

One well-known psychological bias is our tendency to undervalue distant and future risks. This is also true of climate change. For example, my colleagues and I found

that citizens in 15 of 18 countries believe that environmental conditions are worse in other countries. Although conditions often are objectively worse elsewhere, this tendency occurs even in similar places, such as English villages a few kilometres apart. People also tend to discount environmental risks that will occur in the future. Both types of discounting are a barrier to action against climate change. If conditions are presumed to be worse elsewhere and in the future, people will be less motivated to act.

6 Optimism bias

Optimism is generally a healthy, desirable outlook that can produce useful personal outcomes. However, it can be overdone, to the detriment of well-being. For example, people are overly optimistic about their chances of having a happy marriage or avoiding illness. They are also overly optimistic about environmental risks.

7 Perceived lack of behavioural control

Because climate change is a diffuse and global problem, many people do nothing because they think that their behaviour has little or no impact on the outcome. Closely related to this is fatalism - the sense that nothing can be done, not only by oneself, but even by collective human action.

8 Confirmation bias

We like to be told that we are correct. Therefore, people tend to read and watch media that tells them they are on the right track. Those who have doubts about climate science prefer to read newspapers and watch broadcasts that reinforce their convictions. That, in turn, is a serious barrier to engaging in climate-positive behaviour.

9 Time is money

Studies show that when people view the time they have available in monetary terms, they tend to skip acting in environmentally positive ways. Money is the epitome of self-interest, and so when one's time becomes associated with it, the environment suffers.

10 Perceived inability

Many pro-climate actions require some extra knowledge, skill or ability. Some people are unable to act because of a physical disability, for example. However, many more are capable of, say, riding a bicycle or changing their diet, but claim to be unable to do so.

DRAGON FAMILY TWO IDEOLOGIES

This family includes four broad belief systems that inhibit climate-positive behaviour.

11 World views

World views are broad swathes of connected attitudes. Some of them include a special place for views on climate change. For example, support for free-enterprise capitalism is especially associated with disbelief in global warming. Capitalism has clearly produced comfortable lifestyles for millions, but some aspects of it, such as a belief in the freedom of the commons – that common resources should be exploitable by anyone – have also led to the devastation of fisheries, forests and landscapes around the world. Having a financial or emotional stake in capitalist organisations isn't compatible with adopting climate-positive behaviours.

12 Suprahuman powers

Some people take little or no action because they believe that a religious or secular deity will not forsake them, or will do what it wishes anyway. When researchers at the University of Melbourne in Australia interviewed people living on Tuvalu's main island, Funafuti, which is threatened by rising sea levels, they found that about half weren't worried, maintaining that God wouldn't break the biblical promise never to flood Earth again. More commonly, secular people believe Mother Nature will take a course that we mere mortals cannot influence. Climate inaction follows naturally from these beliefs.

13 Technosalvation

Technical innovation has a long and admirable history of improving our standard of living. Clearly, it can be a partner in mitigating climate change: witness the recent drop in the price of solar panels. However, some go further and believe that technology can solve all the problems associated with climate change. Such overconfidence can serve as another barrier to climate-mitigating behaviour.

14 System justification

This is the tendency to defend and justify the status quo. When people have a comfortable lifestyle, the tendency to not rock the boat grows and – more importantly – so does the desire not to let anyone alter the way things are. Climate change will require major adjustments; system justifiers normally won't adopt them, and will argue against them. On a positive note, if mitigation can be portrayed as part of the system, this can change.

“When people have a comfortable lifestyle, their tendency to not rock the boat grows”

DRAGON FAMILY THREE SOCIAL COMPARISON

Humans are social animals; comparing our own situation to that of others is a deeply ingrained tendency. This dragon family has three species.

15

Social comparison

People routinely compare their actions with those of others. When we compare ourselves to someone we admire, we gravitate toward their choices; if that someone happens to harbour anti-climate-science views, we are likely to decide that the climate isn't such a problem.

16

Social norms and networks

Norms are what we see as the proper courses of action. They can be a potent positive force for climate action, but they can also be regressive. Social networks create and informally enforce norms. If the network's sentiment is toward doubt, a dragon of inaction naturally reigns. But it works both ways. In one US neighbourhood, for example, dwelling proximity in the network helped explain why 16 per cent of householders installed photovoltaic panels, far higher than the national average of 1 per cent.

17

Perceived inequity

Perceived inequity is often heard as a reason for inaction: “Why should I change if they won't change?” Usually other nations or well-known figures are cited as not cooperating, which serves as a convenient justification for one's own inaction. This is backed up by experiments that show when any inequality, real or perceived, exists, cooperation tends to decline. ➤



DRAGON FAMILY FOUR SUNK COSTS

We like to buy things that will make our lives more comfortable and predictable. Some of these purchases can be climate-positive, but many are not. This dragon family has four species.



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18 Financial investments

Once we have invested in something, disinvesting in it for climate reasons becomes difficult. The cardinal example here is car ownership. If I have bought a car and am now paying for its insurance and upkeep, why should I sell this cosy portable living room or leave it on the driveway? Similarly, if someone has a financial stake or a job in a fossil fuel industry, believing that burning these fuels damages the environment can lead to cognitive dissonance. It's often easier to reduce this dissonance by changing your belief ("burning these fuels isn't causing a problem") than by changing your behaviour (disposing of the stake).

19 Habit

In 1890, pioneering psychologist William James called habit the "enormous flywheel of society" – that is, a powerful force for keeping things regular and ordered. In the context of climate change, habit can lead to the routine, mindless performance of damaging actions. Of course, climate-positive habits are a potential boon.

Habit isn't a glamorous dragon, but it is one of the most important because many repeated actions are highly resistant to permanent change – think of diet and transportation. Some people use the term "behavioural momentum" instead, because it aptly expresses this resistance to change. The use of cars, for example, has a great deal of behavioural momentum, and therefore is very difficult to change.

"If I have bought a car, why should I leave it on the driveway?"

20 Conflicting goals, values and aspirations

Everyone has multiple goals in life, and these aren't all compatible with climate change mitigation. The near-universal aspiration to "get ahead" often means engaging in actions that compete with the goal of reducing climate change, such as buying a larger house, taking exotic holidays or owning a new car.

That climate-related goals frequently take a back seat to others is revealed when people are asked to rank climate change against other problems or concerns: they usually assign it a low importance. Polls carried out by the Pew Research Center think tank reveal that 80 per cent of US respondents say climate change is an "important issue", yet it comes 20th out of 20 when ranked against other issues. Many people favour addressing the economic cost of climate change, as long as it doesn't come out of their own pockets.

21 Place attachment

Individuals are more likely to care for places they feel an attachment to. Weak attachment can therefore act as a barrier to climate-positive behaviour. However, so can strong place attachment, for example in Nimbyish opposition to nearby wind farms.

DRAGON FAMILY FIVE DISCREDENCE

When people think ill of others, they are unlikely to believe what they say or take direction from them. These negative views can take a range of forms.

22

Mistrust

Trust is essential for healthy relationships. When it is absent between citizens and scientists or government officials, resistance in one form or another follows. There is ample evidence that many people mistrust messages that come from scientists or government officials. When trust sours, the probability of positive behaviour change diminishes.

23

Perceived programme inadequacy

Policy-makers have implemented many programmes designed to encourage sustainable or climate-friendly behaviour. Most of these are voluntary, such as a rebate for buying loft insulation or energy-efficient appliances. Thus, people choose whether to accept the offer, and often they decide it isn't good enough for their participation.

24

Denial

Uncertainty, mistrust and sunk costs can easily lead to active denial of the problem. This may include denial that climate change is occurring at all or that it is caused by us – something believed by substantial minorities in most countries.

Those holding this view tend to be outspoken. One newspaper reader's comments on an article about research by environmental psychologists is typical of the emotional intensity felt by some deniers: "It figures that a bunch of psychologists need to mess with people's heads to get them to fall in line with this 'eco-friendly' nonsense."

25

Reactance

Mistrust and denial lead to what psychologists call reactance, the tendency to struggle against whatever appears to threaten one's freedom. Of course, some circumstances should promote reactance, but climate change isn't one of them. Reactance is especially problematic when it comes to climate because it may promote actions that go beyond inaction into destructive territory.

DRAGON FAMILY SIX PERCEIVED RISK

Changing one's behaviour is risky. What might those who consider adopting pro-climate behaviour be risking? In this case, there are six dragons of inaction.

26 *Functional risk*

Will it work? If one purchases, for example, an electric car, it may, as a new technology, have operational problems. The same could be said for many green technologies.

27 *Physical risk*

Some adaptations may have, or at least be perceived to have, some danger associated with them. Bicycles, for example, produce virtually no greenhouse gases after they are manufactured, but they result in quite a few visits to emergency rooms.

28 *Financial risk*

Many green solutions require capital outlays or premiums. How long is the payback? If the product becomes a fixed part of a residence, such as solar panels, will I recoup the installation costs or accrue enough energy savings before moving on? Is the premium for that electric car worth it?

29 *Social risk*

Other people notice many of our choices. This leaves us open to judgement, which could damage our reputation or ego. Will riding a bicycle make me look odd? What about becoming a vegan? Or keeping my old mobile phone?

30 *Psychological risk*

This risk, which closely follows social risk, is perhaps less likely for most people, but can occur. If we are teased, criticised or even bullied for engaging in climate-positive actions, we risk damage to our self-esteem and self-confidence.

31 *Temporal risk*

Another risk is the potential that the time I spend planning and adopting a climate-friendly course of action might fail to produce the desired results. Many people spend considerable time trying to decide whether to install solar panels, buy an electric car, become a vegetarian or cycle to a destination. Fear that the choice might not result in the desired benefits can lead to inaction: the time spent planning a change may be wasted.

DRAGON FAMILY SEVEN LIMITED BEHAVIOUR

Most of us engage in at least minimal action to help limit the emission of greenhouse gases. However, most of us could do more. This relatively benign dragon of inaction takes two major forms.

32 *Tokenism*

Some climate-related behaviours are easier to adopt than others, but have little or no impact on greenhouse gas emissions. One example is taking your own shopping bags to the supermarket. However, their ease of adoption means these tend to be chosen over higher-cost but more effective actions, such as commuting by bike or public transport, or switching to a vegetarian or vegan diet. Nevertheless, they might be considered a gateway to better things.

33 *The rebound effect*

Often, after some positive change is made, the gains are diminished or erased by subsequent actions. For example, people who buy a fuel-efficient car may drive further than when they owned a less efficient one. Like reactance, this dragon may go beyond cancelling out the benefits and produce overall negative consequences.

THE NEXT STEPS...

We've identified the 33 dragons of inaction – now can we slay them?

What can be done in the face of this fearsome army? First, structural barriers should be removed by forces such as legislation and urban renewal, but this isn't likely to be sufficient.

You can take some steps, though. Identify your own main dragons, which should help begin the process of slaying them. You can also look for opportunities to join and promote social networks that spread the adoption of climate-positive behaviour.

Other steps need to be taken by researchers from both the social and technical domains, often working together. We need to better understand how people can overcome their barriers. We need to create better measures of the carbon cost associated with various behaviours, so that people know where to put their efforts. We need to better reward those whom I affectionately call the mules: people who are carrying the load for the rest of us by already doing everything within their power. We also need to smile upon the others – I call them honeybees – who engage in climate-positive behaviour for non-climate reasons, such as the cyclist who rides for health or the person who chooses not to have children. Finally, we need to improve understanding of those who oppose policies and technologies for limiting climate change.

The dragons of inaction can be overcome, although it will take time and will never be complete. This must be done expeditiously: we may not have four or five decades to ease our profligate spewing of greenhouse gases and return to a balanced climate. n

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