

The rapid pace of technological development in AI and robotics is raising major ethical issues, not least concerning the development of autonomous weapons. Universities – like Edinburgh – which pursue military-funded research in these areas, without much stricter safeguards, risk helping to fuel an international arms race which will endanger us all.

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Jan Maskell, SGR, summarises the academic evidence on one of the key debates in climate communication.

According to the Climate Change Committee, 62% of future emissions reductions depend – at least in part – on behaviour change.¹ What makes for an effective message to encourage and enable the different practices and routines that are required to achieve those reductions? What is more effective, fear or hope?

When messaging works – and when it doesn't

Fear arises when individuals perceive themselves to be faced with imminent physical harm² and is thought to be a useful

motivational tool as its associated action tendency is to protect oneself from harm. Similar to fear, hope derives from the perception of an uncertain future, but unlike fear, it is associated with more positive future expectations. Hope is a feeling of “wishing and yearning for relief from a negative situation, or for the realization of a positive outcome when the odds do not greatly favor it”³ and its associated motivational function is to encourage goal pursuit.

Threatening message information tends to invoke fear – and the threat of climate change has been communicated often using the ‘deficit model’ of science communication,⁴ with the hope that more knowledge would lead to desired attitudinal and behavioural changes. There is significant evidence that information provision alone is a weak driver of behaviour.⁵ A key argument against the deficit model is that it presumes that most people process information according to a scientific model: that they engage in a considered and unbiased reflection

on the data, after which they reach a conclusion. According to the principle of motivated reasoning⁶ people often start with a conclusion, and then selectively attend to, critique, and remember information in a way that is designed to offer support for their original perspective. This application of confirmation bias can lead to cognitive dissonance,⁷ where actions or ideas are not psychologically consistent with each other. As discomfort is triggered by an existing belief clashing with new information, the individual tries to find a way to resolve the contradiction to reduce their discomfort. Motivated cognition is often something associated with climate change denial; that is, people are motivated to deny the science because the alternative is unattractive, inconvenient, or stressful.⁸

The evidence across multiple domains indicates that fear appeals are most effective when they contain a threat component and an efficacy or control component – with the latter leading to action.⁹ Like threat messages, efficacy appeals have the potential to evoke emotions that may be important to their ultimate success, most notably, hope. Optimistic messages feel good, but have the potential to create complacency, potentially leading people to ease off from making the required sacrifices, political choices, and lifestyle changes. Fear-based messages – so long as they are not exaggerated and are combined with concrete pathways for action – have the potential to maintain urgency, and there is little evidence that they drain efficacy.¹⁰

People are also much more likely to accept challenging information when it comes from one of their own (an ‘ingroup’ member) than when the same comments are made by an outgroup member. Threatening messages that come from an outgroup member are rejected more than the same message from an ingroup member, regardless of the objective quality of the argument.¹¹ Challenging climate change messages, therefore, should be channelled through people who are in the same social categories as the audience.

Not just hope versus fear

These principles are supported by the Behavioural Insights Team who propose key elements to a ‘successful narrative for Net Zero’.¹²

- Positive tends to out-perform negative. Environmental campaigns have often drawn on negative messaging (based on guilt, eco-anxiety, or admonishment), however, research shows that positive messaging (e.g. based on pride and future-optimism) increases engagement and adherence to pro-environmental messages.
- In order to mitigate helplessness or inertia, attaching narratives to clear asks is important. Making pro-environmental choices is often extremely complex with many trade-offs to make, and encouraging people to care, needs to be combined with a clear understanding of what they can do about it.
- A positive message can be created around co-benefits so these should be emphasised. Even when concern for the environment is high, it is often a ‘nice to have’ and self-interested motives for enjoyment, affordability, convenience, and health take precedence. Different frames will resonate with different groups depending upon their values – but overall, health framings, and positive messaging, regularly perform well.

Acknowledging that communications on their own tend to have a very modest impact on behaviour change, building a

compelling and positive narrative, with clear asks, can help to influence behaviour change. The issue is not as simple as whether a message of fear or hope is more effective. Messages need to create sufficient awareness of the issues avoiding admonishment, anxiety, or guilt framings. The required action needs to be simple and clear, include a positive and fair narrative which emphasises the co-benefits of climate action, and be delivered by the right messenger.

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