

Research suggests we are genetically programmed to care about climate change

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Humans may be programmed by evolution to care about the future of the environment, suggests research published today.

Dr Peter Sozou suggests that individuals may have an innate tendency to care about the long-term future of their communities, over timescales much longer than an individual's lifespan. This in turn may help to explain people's wish to take action over long-term environmental problems.

The findings are published in the [Proceedings of the Royal Society B](#), in a paper entitled Individual and social discounting in a viscous population.

Dr Sozou, of the University of Warwick's Medical School and the London School of Economics and Political Science, uses a [mathematical model](#) of a population of individuals living in communities with limited [migration](#) between them.

The study examines what weight individuals should attach to future benefits. It is shown that the answer depends on whether the future benefits are social benefits for their community or private benefits for themselves. Individuals should be expected to take a long-term view of benefits for their community, but a more short-term view of private benefits to themselves. Humans, like all creatures, generally value a reward today more highly than a reward tomorrow - in other words they discount future benefits. But the model shows that the discount rate is lower for social, rather than individual, benefits.

Dr Sozou said: 'This analysis shows that the social discount rate is generally lower than the private discount rate. An individual's valuation of a future benefit to herself is governed by the probability that she will still be alive in future. But she may value future benefits to her community over a timescale considerably longer than her own lifespan.'

'Evolution is driven by competition. Caring about the future of your community makes evolutionary sense to the extent that future members of your community are likely to be your relatives.'

However this evolutionary logic does not apply, at first glance, in the case of a global threat such as climate change where the 'community', the planet, is not in competition with other communities. 'In the absence of this competition', says Dr Sozou, 'there is no direct basis for [evolution](#) to select behaviours which benefit the planet as a whole, and therefore no evolutionary basis for directly determining a social discount rate for global welfare.'

In which case why do we care at all about the long-term future of humanity? The answer, Dr Sozou suggests, is that we have evolved to value social benefits because in our ancestral environment they tended to deliver local benefits - helping our kin to survive. However in the modern age, it is this biological preference for social good which gives us an interest in the future of the planet: 'In the modern, global environment, such preferences may cause people to care about global problems such as climate change.'

'This issue is particularly important for economics as it has a bearing on decisions about public investments and environmental protection measures - actions which typically involve paying a cost today in order to produce a public benefit tomorrow.'

Source: University of Warwick ([news](#) : [web](#))

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