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What is needed to overcome egoism?

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For decades, behavioral ecology has fought the misunderstanding that explanations are justifications [1]. Behavioral ecology can explain aggression and violence between the sexes, why animals cheat in social interactions, show infanticide, kill adult con-specifics, and how this can increase individual fitness [2]. The same approach has been used to explain such behaviors in humans, which can help us to understand why and when these behaviors are shown, possibly helping us to prevent them [3]. As such, I fully agree with the statement of Menzel et al. [4] that evolved egoistic behavior is no excuse for insufficient actions to reduce climate change.

I agree with Menzel et al that humans are not generally too egoistic for climate change mitigation (CCM). In fact, we do see climate change mitigation (CCM) at all levels, from individuals to communities to countries. But at the same time greenhouse gas emissions have been continuously increasing, climate change has been happening and will continue.

Adequate carbon pricing would be a good way to reduce CO₂ emission. Currently (November 2021), energy costs are increasing drastically, and there is pressure from the public (the voters)

29 to do something about it. The response of many countries (i.e. from their ruling politicians) has
30 been to subsidize these costs, such that everybody can afford to burn fossil fuels. This supports
31 my argument that cooperation in humans (public pressure on politicians) typically leads to
32 individual benefits via resource acquisition, which is typically associated with increased CO₂
33 emissions (see Box 2 in [5]). In agreement with this, Menzel et al cite one paper showing that
34 humans prefer to cooperate to achieve the greatest benefit for group-members over cooperation
35 to allocate resources to environmental conservation [6].

36 Menzel et al. correctly argue that reducing climate change would be positive for many people
37 living now and their children. However, it is a fallacy to believe that this would make CCM
38 adaptive: If a population of people accepts certain costs (for example carbon pricing) to make
39 CCM sufficient to reduce global warming to 1.5°C, egoistic individuals that benefit from these
40 actions without contributing to them would have an advantage. This is the well known tragedy
41 of the commons (see box 1 in [5]).

42 People in the western world see that CCM is of high importance [7] and they do feel good when
43 they show such behaviors [8]. However, it is important to note that showing behavior in
44 accordance with CCM is not sufficient to stop climate change. For example, rich people in rich
45 countries might invest into CCM by installing solar panels and buying electric cars. While they
46 are rich enough to afford this without reducing their current standard of living, their individual
47 CO₂ footprint is still several times higher than what would be needed on average to restrict
48 global warming to 1.5°C. Such behavior will improve their own prestige, an evolved
49 mechanism to increase fitness [9], but this is no indication that humans are cooperative enough
50 to restrict global warming.

51 I agree with Menzel et al that adaptation to a changing climate will not be sufficient. This is
52 why I proposed in my last paragraph that “we fight for a reduction in CO₂ emissions” [5].
53 Nevertheless, empirical evidence of how we behaved since The First World Climate
54 Conference in 1979 cannot be ignored: even though scientists have told us that we must reduce

55 greenhouse gas emissions for decades, we continuously increased them! I do not think that
 56 societies and politicians failed the last decades because behavioural ecologist argued that human
 57 behaviour is egoistic. The fact that we could have done better in the past cannot be used as an
 58 argument why we should not invest in technology that helps us to reduce greenhouse gas
 59 emissions in the future. For all three actions, i.e. immediate reduction, investment in
 60 technologies, and adaptation of our societies to a changing world [5], we need clear
 61 communication between scientists as well as between scientists and society.

62 Explaining the adaptive value of behavior that is detrimental for the society does not justify this
 63 behavior, but understanding the evolutionary mechanisms behind it could help to come to better
 64 mitigation strategies [3]. The Letter by Menzel et al. [4] provides little scientific insight into
 65 why we have failed and how we could change this. How have human societies fought egoistic
 66 behavior that is detrimental for the society in the past? Legislation and politics are the main
 67 mechanisms in human societies to cope with egoistic individual behaviour. While for Menzel
 68 et al. [4] my article “left the impression that evolutionary-adapted egoism could be used as an
 69 excuse for insufficient CCM”, I want it to be used as an argument to convince people to vote
 70 for a change in politics and legislation, as this is the main mechanism human societies have to
 71 fight against individual egoism.

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