Animals, mental time travel and the harm of death

Would it harm you if you were to die in the prime of life? And would the answer be different, if you were a non-human animal? Several philosophers have answered yes to both questions, arguing that while a premature death is among the most serious harms that can befall the average adult human, nonhuman animals are not harmed by death, or are harmed by it significantly less than we are. This is because humans and animals are alleged to differ with respect to their capacities for *mental time travel*. Mental time travel is the capacity to mentally project oneself backward and forward in time, to recall experiences from one's past (a type of memory called 'episodic memory') and to imagine experiences one might have in the future. Mental time travel looms large in the experience of the average adult human. However, according to these arguments, animals either lack mental time travel altogether, or their mental time travel capacities are less rich than ours. So, animals are not harmed, or are less harmed, by death.

For example, Belshaw (2015) proposes that death can only harm individuals who have desires about the future. Animals are unaware of their future existence, and hence lack such desires and are not harmed by death. Similarly, Singer (2011) argues that preference utilitarians should view death as harmful to the extent that it frustrates an individual's future-oriented preferences. Singer proposes that many animals exhibit mental time travel, and hence may have future-oriented preferences. However, Singer suggests that animals probably have fewer, weaker preferences relating to the future, and are therefore harmed less by death than humans. McMahan (2015) argues that death harms an individual to the extent that they have a 'time-relative interest' in continuing to live. Having such an interest requires being psychologically connected to one's future self. He proposes that the inferior mental time travel capacities of animals leave them substantially less psychologically connected than humans – and hence substantially less harmed by death. And Nussbaum (2023, 2013) argues that death is harmful when it interrupts one's temporally extended projects, rendering one's investments in those projects vain and futile – and that having such projects involves mental time travel. Like Singer, Nussbaum is liberal-minded about the distribution of mental time travel: she proposes that it's to be found in all mammals and birds, but is unlikely to be found in fish. So, death is harmful to the former, but not the latter.

In this talk, I offer two critiques of these arguments.

First, these arguments are hostage to empirical fortune, and their fortunes look unpromising. They rely on extremely controversial claims about animal cognition which do not survive contact with the empirical literature. The evidence about mental time travel in animals is subject to significant debate and uncertainty, to the extent that mental time travel cannot confidently be ruled in or out for any nonhuman animal – so, confident pronouncements the mental time travel capacities of any animal are misplaced. Whilst Singer and Nussbaum acknowledge some uncertainty and recommend precautionary reasoning – attributing mental time travel to animals whose possession of it is uncertain – I show that the application of precautionary reasoning to this question is vexed. This is because, if mental time travel is found in animals, we should expect it to exhibit interspecific variation (Boyle, 2022, 2024; Boyle & Brown,

2025; Schwartz & Boyle, 2025). That is, mental time travel is unlikely to behave in exactly the same ways, or perform all of the same roles, in nonhuman animals – and the more widely distributed it is in the animal kingdom, the more we should expect it to vary. The more interspecific variation it exhibits, the less confident we should be that it occupies the normatively important roles identified in these arguments – that is, underpinning desires about the future, the pursuit of long-term projects or psychological connectedness. So, whilst precautionary reasoning might point us toward a very liberal account of the distribution of mental time travel in nature, that liberal distribution would undercut the very motivations for adopting a precautionary stance in the first place.

Second, these arguments *anthropofabulate* (Buckner, 2013). That is, they tie the criteria for possessing certain cognitive traits, namely future-oriented desires, temporally extended projects and psychological connectedness, to an exaggerated account of what it is for humans to have those traits – in particular, exaggerating the role of mental time travel. As such, these traits might be realised in animals who lack mental time travel capacities. When we adopt a more expansive account of what future-oriented desires, extended projects and psychological connectedness might look like in nonhuman animals, we find sparse but suggestive evidence. On this basis, I argue that we should take seriously the possibility that many animals are harmed by a premature death.

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