

David Lewis — *Paradoxes of Time Travel*

- Lewis wants to defend the possibility of time travel against those who claim that various paradoxes show that time travel is impossible. That is: Lewis's target is the following line of thought:

P1 Time travel gives rise to paradoxes.

C1 If time travel were possible, then paradoxes would be possible.

P3 Paradoxes are not possible.

C2 Time travel is not possible.

- Lewis' goal is to demonstrate that *P1* is false — that time travel need not give rise to contradictions. He proceeds by considering each potential paradox and explaining why it is not really paradoxical.
- First, he considers this reason to think that time travel gives rise to contradictions: Suppose that Tim the time traveler leaves 1985 and arrives in 2025. If he's really a time traveler (in the interesting sense), then this journey took Tim less than 40 years. Say that the journey took Tim five minutes. But then, we've committed ourselves to an apparent contradiction:

P1 If time travel is possible, then the time separating Tim's departure from Tim's arrival is five minutes.

P2 If time travel is possible, then the time separating Tim's departure from Tim's arrival is 40 years.

P3 The time separating Tim's departure from Tim's arrival cannot both be five minutes and 40 years.

C2 Time travel is not possible.

- Lewis's response: we must distinguish *personal* time from *external* time. *Personal* time is the time that is measured by Tim's wristwatch. *External* time is real time. Even though, in reality, there are 40 years separating Tim's departure from his arrival, in Tim's *personal time*, only five minutes separate his departure from his arrival.
 - The difference between personal and external time is like the difference between distance along train tracks and distance as the crow flies.
 - * The distance between the first station and the second station is 20 miles as the crow flies. Nevertheless, the train has to travel 40 miles to get to the second station. There's no contradiction here, we just have to distinguish distance *along the track* from distance *as the crow flies*. Similarly in the case of time travel.

- Note that it can happen that five miles ahead, the train passes under a trestle; whereas, seven miles ahead, the train goes over a trestle. And this can be one and the same trestle. The train simply looped back around. Similarly, a time traveler might be in the year 1955 twice. They might even get into a conversation with themselves. Suppose that Tim gets into a conversation with his younger self, and tells him how to build a time machine. Tim learned this information when he was younger, from his older, time-traveling self. The information isn't available in any other way. But where did the information come from? Paradox!

P1 If time travel is possible, then there could be causal loops (and uncaused information, like how to build a time machine).

P2 There could not be causal loops.

C2 Time travel is not possible.

- Here, Lewis denies P2. He says that there *could* be closed causal loops. He insists that we should all have gotten used to *some* kind of uncaused and therefore unexplained stuff. Either the conditions of the Big Bang, or else the existence and nature of God, or else the infinite past of the universe will be uncaused and unexplained. Causal loops just give us one more instance of this kind of metaphysical oddity.
- But wait: suppose that Tim goes back in time to 1921, and decides to kill his own grandfather. Then, it would seem that Tim *could* kill his grandfather. He's got everything that it takes. However, Tim *couldn't* kill his grandfather; since, if he killed his grandfather, his father would not have been born, and *he* would not have been born, so he couldn't have traveled back in time to kill his grandfather, so his grandfather wouldn't have been killed; so his grandfather both would and wouldn't have been killed. Contradiction! So Tim can't kill his grandfather. Paradox!

P1 If time travel is possible, then Tim could kill his grandfather.

P2 If time travel is possible, then Tim could not kill his grandfather.

C2 Time travel is not possible.

- Lewis: the argument equivocates with 'could'. When we say that somebody 'could' do something, we mean that they have the capacity, *holding certain things fixed*. Which things we hold fixed will depend upon context. Lewis, unlike chimpanzees, can speak a language, like Finnish. So Lewis can speak Finnish. But don't take him as your translator when you go to Helsinki, 'cause Lewis can't speak Finnish. He never learned. When we say "Lewis can speak Finnish", we're only holding fixed his brain's linguistic potentialities — we're saying that he could learn it. When we say "Lewis can't speak Finnish", we're holding fixed his brain's extant linguistic capacities — we're saying that he doesn't *now* speak it.
- Similarly, *holding fixed the future*, Tim can't kill his grandfather. However, *holding fixed only the past*, Tim can kill his grandfather. There's no paradox. The argument simply equivocated with respect to 'could.'