

## TS3001 Essay: Is time-travel plausible?

Time travel is a concept that humans are drawn to, largely because of the perceived impossibilities within it. In this essay I argue that all the perceived problems are valid, but are not arguments against time travel.

One dimensional time travel is that by which actions in the past bring about events so that the future plays out the way that you remember it occurring. Two dimensional time travel is that which changes the past, taking a possible world and bringing it into existence, creating branching timelines. They are very distinct, in that one dimensional time travel does not involve disrupting the history as the time traveler knows it, whereas two dimensional time travel 'creates' a new alternate reality/timestream which can range anywhere from being almost identical to bearing little resemblance to the time traveler's remembered reality. In this respect, two dimensional time travel is less time travel in the traditional respect, and more space travel, and so this essay shall deal henceforth with one dimensional time travel.

I believe that one dimensional time travel is logically possible, because of the fact that there are no contradictions in our explanations of time travel, and because we can conceive of a coherent world where some of the people we interact with are time travelers from the future, and where we might in future go back to the past and interact there. However, at first glance there appear to be a number of conceptual impossibilities with one dimensional time travel, and here I will discuss and resolve these, explaining why they are not, as they first appear, an argument against time travel.

As David Lewis talks about in his "The Paradoxes of Time Travel" (Lewis, 1976) there are a few concepts with personal identity that can be hard to grasp; in particular the idea of having two of the same person in the one place. The problem there arises because of the lack of clarity surrounding personal identity. It's hard enough to come to terms with how we know a person, let us say Mary, is the same person when she wakes up each day as when she went to sleep. Adding time travel into the equation only increases the complexity, and hence the vanishing/appearance of Mary at different points in time – how do we know Mary in 1992 is the same person as Mary in 1301? At this point it seems sensible to define what we mean by 'person-stage'; the state of a person at a particular point in their personal time. For example, Joe at 5 years is a different 'person-stage' to Joe at 10 years. Assuming there is a causal dependency between them (i.e. something that links the two Mary's together, time travel, for instance) for us to consider this, the question becomes that of personal identity, and as Lewis concludes [1] can be resolved with the memory theory. Mary in 1992 is a person-stage, and Mary in 1301 is a slightly longer person-stage, but as long as Mary in 1301 remembers being Mary in 1992, they are both person-stages of Mary.

Many perceived paradoxes boil down to questions of cause and effect, split into seeming cause-effect relationships that violate the need for cause to precede effect, and causal loops. It is only when the effect and the cause are precisely linked (by which I mean the effect becomes the source of the cause which causes the effect and so on) that a causal loop seems to have been created. For example, say that I am digging a hole in my back garden, when I discover a glass slipper and a note that dates it as being placed there by none other than myself 30 years ago. I invent a time machine, and travel 30 years into the past to bury the shoe in the place I find it. This scenario begs the question, "where did the shoe come from?". Lewis' solution to this is to compare the inexplicable nature of the loop to the Big Bang Theory, and leave it at that (Lewis, 1976). Whilst this does validly

Good start with introduction but too brief

Good attempt at defining key words.

Needs a supporting reference

Evidence of own idea - creation.

Informal language

Nice example to illustrate concept.

Should be Harvard Ref style.

More detail needed

point out existing flaws within our understanding of the universe, it does not, in my mind, provide an actual resolution to this seeming paradox.

It is not strange to accept that one dimensional time travel means the past cannot be changed. It is strange however for there to be actions you cannot perform. To my mind, that's not a correct interpretation of the idea, as it conjures images of supernatural forces physically preventing you from acting, whereas the reality is much more straightforward; even as I in my own time can attempt actions without a guaranteed outcome, so too may a time traveler in the past attempt an action, certain of a favoured outcome, and be disappointed with the result.

Concluding, I have shown above that the difference between 1D and 2D time travel lies in the distinction between bringing about events, and changing events; that one dimensional time travel is logically possible, as there is no contradiction in the explanation of it; that whilst there are apparent conceptual impossibilities, none of them are arguments against the possibility of time travel.

#### References

Lewis, D., (1976). "The Paradoxes of Time Travel", *American Philosophical Quarterly*, 13(2): 145–152.

*Correct  
referencing  
style*