

A Note on the Grandfather Paradox

Brian Garrett

The Australian National University

Abstract

In this note, I am critical of some aspects of David Lewis's resolution of the Grandfather Paradox. In particular, I argue that Lewis gives the wrong explanation of Tim's inability to kill Grandfather, and that the correct explanation makes essential reference to the self-undermining character of Tim's grampicide.

Keywords: David Lewis, Time travel, Grandfather Paradox.

The philosophy of time travel is, in large part, an attempt to answer the exam question: To what extent, if any, do you disagree with the views defended by David Lewis in his eminently readable "The Paradoxes of Time Travel"? (Lewis 1976). One of the most interesting and influential parts of Lewis's article is his discussion of what a traveler to the past can and can't do. In particular, can such a traveler kill his own grandfather?

In Lewis's thought-experiment, we are asked to consider Tim, who evidently dislikes his grandfather, and has built a time machine in order to go back to 1920 and kill him, many years before Tim's father was conceived. Tim duly travels back to 1920, buys a rifle, and tracks the route of Grandfather's daily walk (Lewis 1976: 149).

According to Lewis, Tim can kill Grandfather. He has a high-powered rifle; he's a good shot; weather conditions are perfect, etc. On the other hand, Tim can't kill Grandfather. Grandfather died in his bed in 1957. Consistency demands, despite his best efforts, that Tim fail in his attempt to kill Grandfather, and fail for some commonplace reason (an errant seagull, a distracting noise, an observant policeman, etc.) (Lewis 1976: 150).

Since Lewis holds that Tim can and can't kill Grandfather, it might be thought that his position is contradictory. Lewis has a nice reply to this charge. There is no contradiction since 'can' is context-dependent. He writes:

To say that something can happen means that its happening is compossible with certain facts. Which facts? That is determined, but sometimes not determined well enough, by context. An ape can't speak a human language, say, Finnish, but I can. Facts about the anatomy and operation of the ape's larynx and nervous system are

not compossible with his speaking Finnish. The corresponding facts about my larynx and nervous system are compossible with my speaking Finnish. But don't take me along to Helsinki as your interpreter: I can't speak Finnish. My speaking Finnish is compossible with the facts considered so far, but not with further facts about my lack of training. What I can do, relative to one set of facts, I can't do, relative to another, more inclusive, set (Lewis 1976: 150).

According to Lewis, then, 'can'-judgements are context-dependent. Relative to one context 'A can do F' is true, relative to another it's not. In Lewis's example, given the facts about the structure of my larynx and nervous system, I can speak Finnish. But given a wider set of facts, including the fact that I have never learnt Finnish, I can't. Similarly, given one set of facts, e.g., facts about Tim's rifle, his shooting ability, the weather conditions, etc., Tim can kill Grandfather. But given another, more inclusive, set of facts, including, e.g., the fact that Grandfather wasn't killed in 1920, Tim can't kill Grandfather.

Let's concede to Lewis that there's a sense in which Tim can kill Grandfather. Relative to facts about Tim's means, motive and opportunity, Tim can kill Grandfather. Here I want to focus on the sense in which Tim can't kill Grandfather, and on what Lewis has to say about it. Lewis writes: "Tim cannot kill Grandfather. Grandfather lived, so to kill him would be to change the past" (Lewis 1976: 150). It is, as Lewis rightly notes, logically impossible to change the past (or the present or the future). No one can make it the case that some event which didn't happen did or that some event which did happen didn't.

Unfortunately, the second sentence in the quote from Lewis does not support its first sentence. The impossibility of changing the past implies only that, since Grandfather wasn't killed in 1920, Tim won't kill him then. It doesn't imply that Tim can't kill him then.¹ Indeed, Lewis seems to be endorsing the invalid inference pattern: $\sim \diamond(A \ \& \ \sim A)$; $\sim A$; so $\sim \diamond A$. That is: Tim can't both kill and not kill Grandfather; Tim doesn't kill Grandfather; so Tim can't kill Grandfather.

However, there is a sense in which Tim can't kill Grandfather, but its ground is not the impossibility of changing the past. Its ground is rather the fact that Tim's homicide is self-undermining. As Lewis observes: "No Grandfather, no Father; no Father, no Tim; no Tim, no killing" (Lewis 1976: 152). A self-undermining action is one which undermines a causally necessary condition for its agent's existence in the first place. (Suicide, of course, is not a self-undermining act in this sense.) Plainly, no agent can perform a self-undermining act. That is, no agent can make it the case that he never existed. Indeed, a self-undermining act, so defined, would seem to be logically impossible since its performance requires both that its agent exist and never existed.

In terms of Lewis's context-dependent theory, we can put the point as follows: relative to the fact that Tim's action is self-undermining, Tim can't kill Grandfather. Kadri Vihvelin also holds Tim can't kill Grandfather, on the grounds that no matter how often Tim tried to kill Grandfather, he would fail.

¹ Romy Jaster, in her contribution, also fails to vindicate any sense in which Tim can't kill Grandfather. According to her version of the context-dependent view of 'can'-judgements, Tim can't kill Grandfather because "[he] does not shoot [Grandfather] in a sufficient proportion of the possible situations in which he intends to shoot him *and the fact that he does not shoot him obtains*" (Jaster 2020: 104; italics in text). Since this sentence is trivially true it can hardly imply that Tim can't kill Grandfather (trivialities only implies trivialities).

(Vihvelin 1996; 2020) The account offered here is preferable since it explains why Vihvelin's conditional is true (*viz.*, no one can perform a self-undermining action).

Given the preceding discussion, we can see that Lewis is wrong to urge a complete parallel between Tim and Tom. Tom is a normal (non-time travelling) inhabitant of 1920. He wants to kill Grandfather's partner, who lives until 1960. Tom will of course fail in his attempt since we have stipulated that Partner die in 1960. Thus, Tim and Tom are alike to the extent that each will fail in their homicidal attempts. However, Lewis says that Tom can't kill Partner for the very same reason that Tim can't kill Grandfather: *viz.*, neither man was killed in that year, and no one can change the past, present or future (Lewis 1967: 151). As we have seen, this reasoning is flawed. Furthermore, since Tom's action, unlike Tim's, is not self-undermining, nothing stands in the way of Tom killing Partner in 1920 (given that he has the means, motive and opportunity). The whole truth about Tom's situation is: he can kill Partner, but he won't.

The same is true of non-self-undermining attempts to undo the past. Presumably, many actions that Tim can (but doesn't) perform in 1920 wouldn't undermine his own existence. In these cases, descriptions of the 'can but won't' (and not the 'can't') variety apply. For example, suppose that Tim never shook Grandfather's hand in 1920. Can Tim shake his hand then? Yes, he can, although he won't. Indeed, to think otherwise—to think that Tim can't shake Grandfather's hand because it wasn't shaken then—is to succumb to the fallacious reasoning identified above.

In sum, then, I am critical of Lewis's resolution of the Grandfather Paradox on three fronts. First, Lewis gives the wrong explanation of the sense in which Tim can't kill Grandfather. Second, Lewis fails to emphasise the right explanation: Tim can't kill Grandfather relative to the fact that his action is self-undermining. Third, since Tom killing Partner is not self-undermining, Lewis is wrong to press for a complete parallel between Tim and Tom. In Tom's case, there is no fact relative to which he can't kill Partner (assuming that he has the requisite means, motive and opportunity).²

References

- Jaster, R. 2020, "What Tim Can and Cannot Do: A Paradox of Time Travel Revisited", *Kriterion*, 34, 4, 93-110.
- Lewis, D. 1976, "The Paradoxes of Time Travel", *American Philosophical Quarterly*, 13, 1, 145-52.
- Vihvelin, K. 1996, "What Time Travelers Cannot Do", *Philosophical Studies*, 81, 315-30.
- Vihvelin, K. 2020, "Killing Time Again", *The Monist*, 103, 312-27.

² I am grateful to Alan Hájek, J.J. Joaquin, Daniel Stoljar, and an *Argumenta* referee, for useful feedback.