WAYS TO COMMIT AUTOINFanticide

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3/10/15

1. Introduction

The *locus classicus* for discussions of the autoinfanticide paradox is Kadri Vihvelin’s (1996) “What Time Travelers Cannot Do”:

Suppose that the time traveler, unhappy with her life, decides that it would have been better never to have lived it. She packs a gun and travels back through time, determined to kill her infant self. She picks a time when she knows that the baby will be alone. She checks carefully to make sure her gun is loaded. She fires. (1996: 330)

The paradox lies in the fact that, despite the time traveler’s seemingly can’t-miss position, it also seems her efforts must all fail, “for her survival is what makes possible the journey of the time traveler” (Vihvelin 1996: 330). Here I address whether it is metaphysically and/or physically possible for the time traveler to succeed.

It is not the aim of this paper to solve the autoinfanticide paradox, nor is it to address Vihvelin’s argument to the conclusion that the time traveler to the past can’t kill her younger self, an argument to which I am mostly sympathetic.¹ Nor is it to cull what is most interesting and important about the puzzle. The real interest of the autoinfanticide paradox is not about what is
metaphysical possible nor is it about what is physical possible. As I think Vihvelin would agree, the primary interest of the paradox is what it teaches us about plain-old possibility—what is expressed by natural language modals like ‘can’ and ‘can’t’. Still, there are interesting arguments in the literature (including ones from Vihvelin) regarding autoinfanticide that rely on judgments about physical or metaphysical possibility. This paper discusses and assesses some of these judgments.

We have to be especially careful with judgments about physical possibility of time travel and so also the physical possibility of autoinfanticide. These are in large part issues of theoretical physics. There is general agreement among theoretical physicists that time travel to the past is consistent with the general theory of relativity. There is also a similar agreement that the answer to the question about physical possibility awaits a theory that unifies quantum mechanics with the general theory of relativity. To sidestep the difficult physics, I do not address the physical possibility of autoinfanticide (simpliciter). Instead, I consider this issue on the assumption that time travel to the past is physically possible. If that assumption is wrong, then obviously autoinfanticide—the act of traveling back in time and killing your younger self—is physically impossible.

There is significant disagreement in the literature. For example, Peter Vranas (2009) thinks that autoinfanticide is metaphysically possible, but physically impossible partly based on his belief that resurrection is physically impossible. David Horacek (2005) believes that autoinfanticide has a non-zero chance of occurring and so is physically possible, but he also thinks that autoinfanticide is metaphysically impossible. Vihvelin holds that autoinfanticide is metaphysically possible (see her 1996: 315), but judges possible worlds with autoinfanticide to be ones “very different from our own” (1996: 321). To help sort out the disagreements, I present here six different ways of
committing autoinfanticide. All of these ways are arguably metaphysically and physically possible provided that time travel to the past is.

2. The Ways

a. Preliminaries

I use the two names, ‘Suzy’ and ‘Baby Suzy,’ which Vihvelin chose for the time traveler. These names allow the reader to keep better track of this person at two different spatiotemporal locations, with ‘Baby Suzy’ calling our attention to this person as she is at the spatiotemporal locations at which she hasn’t aged beyond infancy. ‘Suzy’ calls our attention to her as she is at the spatiotemporal locations at which she has.

Without any further ado, here is the list of metaphysically possible and, for all I know, also physically possible ways for one to kill one’s younger self.

b. Option 1: Ordinary Suicide

Suzy takes that trip to the past. If Suzy commits ordinary suicide (blows her adult head off, say), she kills Baby Suzy because she kills herself and she is Baby Suzy. I am not taking refuge in endurantism; the endurantist and the perdurantist agree that Baby Suzy is Suzy, that they are the same person—they only disagree on whether a person is a perduring thing (i.e., a temporally
extended spatiotemporal worm with temporal parts) or an enduring thing (i.e., a thing that may wholly exist at each of two times without having temporal parts).

c. **Option 2: Slow-Acting Poison**

Not satisfied? OK, let’s have Suzy bring some very, very slow, slow-acting poison back with her and let’s have her kill Baby Suzy with the poison. It’s so slow-acting that Baby Suzy doesn’t die until she has reached adulthood, travels back in time, and has given her younger self the slow-acting poison.

d. **Option 3: Resurrection/Resuscitation**

Is resurrection metaphysically possible? If resurrection requires an act of God, then, if God doesn’t exist and doesn’t exist as a matter of metaphysical necessity, then resurrection is metaphysically impossible; if it is metaphysically possible that God exist, then presumably resurrection is metaphysically possible too. In that case, it would be metaphysically possible for Suzy to kill Baby Suzy and then for Baby Suzy be resurrected to grow up to be her adult self. Parallel points could be made about the physical possibility of Suzy killing Baby Suzy conditional on whether it is physically possible that God exists. (For that matter, if God actually exists, then there is even that storied actual case of resurrection to take into consideration.)

Vihvelin says resurrection is metaphysically possible, and that it only takes place in worlds very different from the actual world. Vranas claims that resurrection is metaphysically possible, but physically impossible. Not much is said by either author in support of these claims. To avoid
the religious aspect of all this, I prefer to consider (mere) resuscitation from death. So no supernatural act is required. This manner of “resurrection” may well be both metaphysically and physically possible. Resuscitation from clinical death (i.e., cardiac arrest) is metaphysically and physically possible, because it is actual. Resuscitation from brain death (though not actual) is almost certainly metaphysically and physically possible. Such a resuscitation is merely a matter of chemical and biological rearrangement, returning certain cellular structures to their normal state. As difficult a practical matter as that is, it would not require a violation of a law of nature. If so, Suzy could go back in time, and cause the clinical or the brain death of Baby Suzy, who could then be resuscitated to grow up to be Suzy. So, especially regarding clinical death, it is hard see how Vihvelin might motivate the claim that Suzy’s killing Baby Suzy occurs only in worlds very different from our own. Similarly, Vranas has work to do in order to sustain the claim that autoinfanticide is physically impossible.

e. Option 4: Fission

Arguably, we could bilocate Baby Suzy through a suitable brain-fission (cf., Ehring 1987, Miller 2006, esp. 331-32, and Wright 2006). By a partial brain transplant, into new bodies, we could fission Baby Suzy into the bilocated Baby Suzy\textsubscript{1} and Baby Suzy\textsubscript{2}. We could then “twin paradox” Baby Suzy\textsubscript{1} and Baby Suzy\textsubscript{2}. That is, Baby Suzy\textsubscript{1} could be sent on a trip traveling very close to the speed of light relative to the frame of reference of Baby Suzy\textsubscript{2}. When Baby Suzy\textsubscript{1} returns home to visit her now younger self, the stay-at-home, Baby Suzy\textsubscript{2}, could be an adult while the high-speed traveler, Baby Suzy\textsubscript{1}, is still an infant. Even without a time travel trip to the past, Suzy\textsubscript{2}, an adult, can kill Suzy\textsubscript{1}, the infant.
f. Option 5: Schrödinger’s Baby

If Suzy puts Baby Suzy in a Schrödinger’s cat situation with a 50% chance she would thereby kill Baby Suzy, and an equal chance that Baby Suzy would live, then surely it was possible—even physically possible—that Suzy kill Baby Suzy. There was a 50% chance that she would, even though—as it turns out—she didn’t.

I take this example from David Horacek (2005: 423-24). Surprisingly, he argues that, though the auto-murderer has 50% chance of succeeding, the success itself is a metaphysical impossibility. This stance cannot be sustained. As I see it, if P is metaphysically or even just physically impossible, then the chance of P is zero.

That Horacek judges otherwise suggests that he has made a mistake. It is a little difficult to judge what the mistake is because he says little about why he thinks autoinfanticide is metaphysically impossible. Here is what he does say:

There is no possible world in which someone travels back in time and kills herself as a baby. All possible worlds are internally consistent; the one just described would not be. For this reason, autoinfanticide is metaphysically impossible (2005: 432).

So he thinks that the proposition that someone travels back in time and kills herself as a baby is inconsistent. Some of the considerations that I have raised earlier in this paper suggest that this is
not so obvious. Nevertheless, for the sake of argument, let’s grant that this proposition is inconsistent. How does Horacek manage to argue that this proposition has a non-zero chance of being true?

Here is the key juncture:

Does an autoinfanticide have a chance to succeed? There are two ways to disambiguate this question:

1. Given \( (L_w \& C_{tw}) \), what is the Chance\(_{tw}\) (baby dies & killer = baby)?

2. Given \( (L_w \& C_{tw} \& \text{killer=baby}) \) what is the Chance\(_{tw}\) (baby dies)?

I think (2) is the correct way to understand the question. It does not ask about the chance of a certain conjunction being true; it is a question about whether a certain special baby has a chance to die, given certain facts about the world (2005: 425).\(^5\)

\( (L_w \) stands for the laws of nature of world \( w \). \( C_{tw} \) stands for the initial conditions at time \( t \) in world \( w \).) What is important here is that in reporting the chance of autoinfanticide, Horacek is prepared to disambiguate ‘the chance of autoinfanticide’ in such a way that what he is really reporting is that, with certain facts in place, the chance that Baby Suzy dies is non-zero. So the
proposition within the chance operator is just *that Baby Suzy dies*, which is clearly *not* inconsistent. Yet, when the question at issue is the possibility of autoinfanticide, the proposition in question is one that Horacek thinks is inconsistent.

To see the problem, let us take a clearly inconsistent conjunction of propositions about Suzy: that Suzy sneezes at noon and that it is not the case that Suzy sneezes at noon. The chance at 11:00 AM (and at all other times) of this conjunction being true is zero, because this conjunction is inconsistent, and so is also metaphysically and physically impossible at 11:00 AM (and at all other times). But, with all that granted, it may still (a) be the case at 11:00 AM that it is not the case that Suzy sneezes at noon and (b) it is metaphysically and physically possible at 11:00 AM that she sneezes at noon. That she doesn’t sneeze doesn’t mean it is metaphysically impossible for her to do so. When Horacek is judging the *chance* of autoinfanticide, the proposition in question is something like *that baby dies*. What seems to be going wrong is that, when Horacek is judging the *possibility* of autoinfanticide, there is more to the proposition in question; it is something like *that baby dies & killer = baby*.

Now, as should be clear from the rest of my paper, I deny that baby dies & killer = baby is metaphysically impossible. But, I also admit the obvious—see my conclusion paragraph—that there are ways of building an inconsistency into what autoinfanticide amounts to, such that a successful autoinfanticide would be metaphysically and physically impossible. Think of this filled-in description as a conjunction of several propositions. It doesn’t matter which of these propositions are left as background facts and which are within the scope of the possibility operator and the chance operator; pick the same propositions to be within the scope of the chance operator and the possibility operator, pick the same facts to be background facts, and you’ll never have a case in which a metaphysical or physical impossibility has a non-zero chance: If P is
metaphysically or physically impossible, then the chance of P at all times is zero. Nothing warrants “scoping out” part of the inconsistency regarding the evaluation of the chance of autoinfanticide, but not “scoping out” the same parts of the inconsistency regarding the evaluation of the possibility of autoinfanticide. Thus, at times before noon, supposing noon is the time when Baby Suzy comes out of the box, there is a non-zero chance that Baby Suzy dies at noon. So, despite the fact that Baby Suzy does live, there was a genuine chance that Suzy commits autoinfanticide. Thus, Suzy committing autoinfanticide is both physically and metaphysically possible.

g. Option 6: Branching Time

There are a variety of models of time that permit a time traveler to change the past (e.g., Meiland 1974, Goddu 2003, and van Inwagen 2010). Suzy killing Baby Suzy fits as well with these models as do any other changes to the past. For all of these models, the very rough idea is that the arrival of the time traveler to the past begins a branch off of the departure time line. Along the branch, the past proceeds differently than it did along the departure line. So, Suzy grows to adulthood, builds her time machine, and goes back in time leading the rest of her life on the branch, along which she kills Baby Suzy. David Deutsch and Michael Lockwood (1994) take a similar approach to time-travel paradoxes by invoking the many-worlds interpretation of quantum mechanics—an interpretation Deutsch (1991, 1997) champions. If it turns out that time travel is physically possible, presumably Deutsch would be prepared to endorse that Suzy’s killing Baby Suzy is too.

Some have argued that branching time travel isn’t really time travel to the genuine past, denying that Baby Suzy exists along the branch line (e.g., Lewis 1976: 145, Arntzenius and Maudlin 2009). As for me, so long as the conditions for identity over time are in place between
Departing Suzy and Arriving Suzy and between Original-Line Baby Suzy and Branch Baby Suzy, it seems to me we have a case of time travel that fits plenty well with “the sort of time travel that is recounted in science fiction” (Lewis 1976: 145). Branching time is a common feature science fiction plots.

**h. Reflection on the Ways**

With option (1), ordinary suicide; you should feel that I am not taking the autoinfanticide paradox seriously. This option doesn’t reflect what, in the standard telling of the paradox, is fully intended by Suzy killing her younger self. What is intended is something like that Baby Suzy grows up from infancy to be an adult, then as an adult travels backwards in time, and once in the past does something to Baby Suzy as a baby that results in her death.

For some philosophers, options (2)-(6) may also not seem not to be in the spirit of the autoinfanticide paradox. These philosophers may accuse me of not being charitable to standard telling of the paradox. While that charge seems reasonable about option (1), it doesn’t seem at all reasonable about (2)-(6). About these options it seems to me that some of us lacked the modal insight needed to uncover and some of the ways to commit autoinfanticide.

**3. Conclusion**

We could build in some additional assumptions, like that time doesn’t branch (e.g., Kiourti 2008: 344, fn. 2), that no fission takes place, and that the world is deterministic. We should keep in mind,
though, that there surely are ways of setting up the example such that it is not metaphysically possible, and so also not physically possible, for Suzy to kill Baby Suzy. We may already have one way if we insist that Baby Suzy grows up to be Suzy, that Suzy commits the suicide in a manner that results in Baby Suzy’s permanent death as an infant, and that there is no branching, fission or indeterminism. If that is what Suzy’s committing autoinfanticide was really intended to amount to, then there would have to be a time along the one and only timeline at which Baby Suzy is alive, growing up to be Suzy, and was already permanently dead. So understood, autoinfanticide would be metaphysically impossible. Of course, once so much is filled in, that killing Baby Suzy is metaphysically impossible is not at all surprising; the contradiction has been built into the setup of the example.⁶
REFERENCES


ENDNOTES


2Vihvelin favors a kind of metalinguistic can’t-kill resolution to the autoinfanticide paradox. Her thesis is “that no time traveler can kill the baby that in fact is her younger self, given what we ordinarily mean by ‘can’” (1996: 316-17).


4Having covered clinical death and brain death, I’ll leave to the reader consideration of Miracle Max’s concept of “being mostly dead” from The Princess Bride (Reiner: 1987). The same goes for the munchkin coroner’s concept of “not only merely dead…really most sincerely dead” from The Wizard of Oz (Fleming: 1939).

5Employing a useful example from Sider (2002), Horacek (2005: 425) also goes on to provide discussion of the chance of a permanent bachelor getting married, which is perfectly parallel to his discussion of the chance of autoinfanticide.

6This paper is descended from a portion of a paper presented to the International Association for the Philosophy of Time’s Gargnano Conference in May 2014. Thanks to the conference participants for their comments and questions. Also, thanks to Ann Rives and an anonymous journal referee for comments on an earlier draft.