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ARTICLE

Time Travel, Foreknowledge, and Constitutive Constraints

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Abstract
Some time travelers would appear subject to invisible forces that limit their capacities in surprising ways. This article develops a new account of this phenomenon by connecting it to a long-standing issue in the philosophy of religion. More specifically, I consider a traditional worry for certain incompatibilists about freedom and foreknowledge, and I argue that a parallel problem arises for anyone who believes that time travelers are limited in ways that ordinary people are not. This analogy helps to clarify one of the central puzzles about time travel, while also pointing toward a novel solution.

Keywords: time travel; grandfather paradox; ability; foreknowledge; causation

A time traveler would appear unable to retroactively kill his grandfather, even if the conditions for killing were otherwise ideal. Many have found this idea perplexing: what could stop the time traveler from performing the act? "The forces of logic will not stay his hand!" (Lewis, 1976, 141).

While much has been written on the topic,[1] one of the central mysteries remains unsolved. The goal of this article is to articulate that problem and develop a solution. I begin (in Section 1) by reviewing David Lewis's classic treatment of the grandfather paradox. I then highlight a residual puzzle about time travelers' abilities (Section 2) and identify three potential replies (Section 3). After showing those proposals to be inadequate (Section 4), I develop an alternative account and discuss some of its consequences (Section 5). Along the way, we will have the opportunity to draw some instructive parallels between the paradoxes of time travel and traditional debates over theological fatalism.[2]

1. The Grandfather Paradox

David Lewis famously introduces the grandfather paradox with the following story:

> Consider Tim. He detests his grandfather, whose success in the munitions trade built the family fortune that paid for Tim's time machine. Tim would like nothing so much as to kill Grandfather, but alas he is too late. Grandfather died in his bed in 1957, while Tim was a young boy. But when Tim has built his time machine and traveled to 1920, suddenly he

[1]Overviews of the literature are given by Wasserman (2018, Chapters 3 and 4), Effingham (2020, Chapters 7 and following), and Smith (2024, section 2).

[2]I discuss the parallel issue in Wasserman (2026). However, as we'll see in Section 5, there are key differences between these cases.

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> realizes that he is not too late after all. He buys a rifle; he spends long hours in target practice… and there he lurks, one winter day in 1921, rifle loaded, hate in his heart, as Grandfather walks closer, closer, …. (1976, 149)

We may not know how this story turns out, but we do know that Tim will not kill Grandfather. That is because Lewis has stipulated that Grandfather died in 1957, rather than 1921. Still, it seems as if Tim has *the ability* to kill Grandfather. After all, conditions are perfect in every way: Tim has an easy shot, nothing stands in the way, and there are no outside forces—such as a time cop from the future—who will interfere should Tim try to shoot. In short, "Tim is as much able to kill Grandfather as anyone ever is to kill anyone" (ibid).

But there are equally good reasons for thinking that Tim *cannot* kill Grandfather. As Lewis himself points out, such an act would seem self-undermining: "No Grandfather, no Father; no Father, no Tim; no Tim, no killing" (ibid, 152). Thus, backward time travel appears to allow for the contradictory possibility of an agent who both can and cannot perform a given action.

Lewis's response to this challenge is well-known:

> To say that something can happen means that its happening is compossible with certain facts… Tim's killing Grandfather that day in 1921 is compossible with a fairly rich set of facts: the facts about his rifle, his skill and training… and so on… But his killing Grandfather is not compossible with another, more inclusive set of facts. There is the simple fact that Grandfather was not killed… You can reasonably choose the narrower delineation, and say that he can; or the wider delineation, and say that he can't. But choose. What you mustn't do is waver, say in the same breath that he both can and can't, and then claim that this contradiction proves that time travel is impossible. (ibid, 150–151)

Lewis is surely correct that "can" is context-sensitive, and that there are some contexts in which it would be correct to say that Tim can kill Grandfather. However, Lewis *also* suggests that Tim can kill Grandfather "by any ordinary standards of ability" (ibid, 150). This claim can and should be challenged.[3]

To begin, consider a typical case of deliberation.[4] When I think about how to spend my afternoon, I naturally assume that some things are options for me and others are not. It seems, for example, that I have the option of walking along the bay, but not the option of walking across the ocean or flying into the sky. It would therefore make no sense for me to include these things in my deliberations. It is noteworthy that options (in the intended sense) are not determined by an agent's epistemic or doxastic state. Walking on water is not an option for me, even if I believe on good evidence that I can. In that case, I might reasonably consider a stroll across the bay, but such deliberation would still be *pointless*—it is not something that I *can* do, in the relevant sense. Arguably, this reading is also relevant to our practices of evaluating agents on the basis of their behavior.[5] If I promised you that I would go for a walk this afternoon and did not, then you could justifiably hold me accountable.[6] But it would make no sense for you to blame me for not walking on water—even if I promised to—since that was never an option for me.[7] Given the centrality of deliberation and agent evaluation to our ordinary talk, I will refer to this as "the ordinary agential sense of 'can'" (or "agential sense," for short).[8]

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[3]Critics include Vihvelin (1996, 2011, 2020), Rea (2015), Wasserman (2018, Chapter 4), Fernandes (2020), and Loewenstein (2022).

[4]Here, I follow Vihvelin (1996).

[5]However, Spencer (2013) raises a challenge to this idea based on cases of backward time travel.

[6]What if I reasonably believed that I could go for a walk, when in fact an invisible force field stands in my way? In that case, you can't blame me for not going on a walk, but you *can* blame me for not trying.

[7]You might blame me for promising to do something that I knew to be impossible, but that is a different story.

[8]Unless otherwise noted, all subsequent uses of "can" and "able" are to be understood in this way.

There is room for disagreement about what this kind of ability amounts to. Incompatibilists about freedom and determinism, for example, will say that our options are limited by the past and the laws of nature, whereas compatibilists will demur. But there are also clear cases which everyone can agree on. No one thinks that I have the option to fly into the sky right now, since that would require my body or surroundings to be radically different from how they, in fact, are. I would have to possess a jetpack, for example, or have the anatomy of a bird, or be governed by laws of nature that allow someone with my actual, intrinsic features to soar into the sky. Nothing like that is remotely the case, which is why flying is not an option for me.

Returning to the case of time travel, let us suppose for the sake of argument that the essentiality of origins is correct, so that any possible world in which Tim exists is one in which he is descended from Grandfather by way of Father.[9] As many have pointed out,[10] this is consistent with thinking that there are metaphysically possible worlds in which Tim retroactively murders his ancestor. For example, there are worlds in which Tim travels back in time, kills his grandfather, and then uses a surgical device to extract Grandfather's genetic material so that Father—and eventually Tim—can still be born. There are also worlds in which Tim travels back in time and kills his ancestor, but where Grandfather miraculously rises from the grave to sire Father. Perhaps there are even worlds in which Grandfather undergoes personal fission, and where murdering one of the resulting individuals would count as "killing Grandfather," even if Tim is descended from the other branch.[11] These are fun possibilities to think about, but they are not relevant to our question. That is because we can stipulate that none of these things hold in the imagined scenario: Grandfather has not undergone fission, the laws do not allow for resurrection,[12] and neither Tim nor anyone else has the tools to extract Grandfather's genetic material, should he be killed. As a result, scenarios in which Tim carries out his plans are *drastically* different from the situation in which he finds himself.[13] In this respect, his killing Grandfather in 1921 would be like me walking across the ocean or flying into the air right now. Hence—contrary to what Lewis says—there is a perfectly ordinary sense in which Tim *cannot* kill Grandfather.

2. A Residual Puzzle

There are other reasons for thinking that Tim cannot kill Grandfather in the ordinary agential sense. We will consider some of these below. But first, I want to raise a puzzle for anyone—like me—who wishes to say that time travel is possible but doubts that Tim can kill Grandfather in the relevant sense. To motivate this puzzle, it will be helpful to consider a parallel issue that arises in the philosophy of religion.

The traditional argument for theological fatalism goes as follows: if God exists, then he knows everything about the future, including everything about what you and I will do. Since God's beliefs are infallible, our doing otherwise would require those past beliefs to be different than they actually

[9]This assumption helps to simplify the argument, but a similar line of reasoning can be given if we assume that Tim's failure is causally necessary (in the imagined circumstances) for his presence in the past.

[10]Vihvelin (1996), Carroll (2016), and Wasserman (2018).

[11]For a more detailed discussion of these and other possibilities, refer to Carroll (2016).

[12]Even if the laws *did* allow for the resurrection of the dead, that would not be enough to give Tim the ability to kill Grandfather. The laws of quantum mechanics are compatible with my mug tunneling through the nearby wall, should I throw it in that direction. But I only have the *option* of throwing my mug through the wall if I have some control over the relevant quantum processes.

[13]Vihvelin (1996, 321) takes these worlds to be irrelevant because she thinks that ability statements are linked to counterfactuals, and that such worlds are irrelevant to the evaluation of those conditionals. But we do not need to assume anything about counterfactuals to think that these worlds are extraneous. Situations in which Tim has the requisite surgical tools, for example, are straightforwardly irrelevant to the question of whether he can kill Grandfather in the actual world when those tools are absent (just as worlds in which I have a jetpack are irrelevant to the question of whether I can fly into the sky right now).

are. But no one can do anything that would require the past to be (intrinsically) different than it is. So, no one can do otherwise, if God exists. To take a particular example: suppose that Jones will mow his lawn on Saturday. If God exists, then he is omniscient and, therefore, believed 80 years ago that Jones would mow his lawn this coming weekend. That belief was already in place before Jones was born, so there is nothing that Jones can do about it now. Thus, anything that he does going forward will have to be compatible with the fact that God already has this belief. But God's beliefs are infallible, so Jones cannot do anything that would go against them. In other words, he cannot do otherwise than mow his lawn on Saturday. The same thing would apply to every human action.

This line of reasoning is often associated with Nelson Pike, who notes that

> The argument makes no mention of the *causes* of Jones's action. Say (for example, with St. Thomas) that God's foreknowledge of Jones's action was, itself, the cause of the action… Say, instead, that natural events or circumstances caused Jones to act. Even say that Jones's action had no cause at all. The argument outlined above remains unaffected. If eighty years prior to Saturday, God believed that Jones would mow his lawn at that time, it was not within Jones's power at the time of action to refrain from mowing his lawn. The reasoning that justifies this assertion makes no mention of a causal series preceding Jones's action. (1965, 35)

For this reason, some incompatibilists have concluded that God's foreknowledge would rob us of the ability to do otherwise, even if our actions are not causally determined by anything—including God's past beliefs.[14]

Some have suggested that this position leads to an intolerable mystery. Here is how William Lane Craig puts the worry:

> Theological fatalism is incoherent because actions which are causally contingent cannot be fated to occur; that is to say, apart from the influence of causes it is unintelligible to speak of an action's being constrained to occur one way… If an action is causally contingent, then what is this mysterious "fate" which necessitates that this action be performed rather than its opposite? (1990, 42)

Patrick Todd raises a similar concern:

> [S]uppose that Jones's action (say, a decision to sit) is completely causally undetermined… yet we're told that [divine foreknowledge], by itself, implies that Jones is unable to refrain from that action. But then: what prevents him from deciding not to sit? …Ex hypothesi, no causal force constrains Jones to decide in this way. Thus, some logical or perhaps metaphysical force constrains Jones to decide to sit. But what on earth are these logical or metaphysical "forces" which allegedly constrain Jones—robbing him of his power to do otherwise? (2022, 128)

The worry is that if something is to *limit* our options, it must *impact* us in some way—either in the actual world or in counterfactual scenarios where we try to do otherwise. For example, shackles limit a prisoner's movements by exerting a contrary force on her or by being such that they *would* exert such a force, should she try to move. However, God's past beliefs are not like that. They do not cause us to do what we do. Nor would they have interfered, had we tried to do something else. For that reason, it seems utterly mysterious how they could restrict our options. How could foreknowledge *make* us unfree without *doing* anything to us?[15]

[14]Fischer (2016, 41) is a prominent example. Following this kind of incompatibilist, I will assume that causal determinism requires more than logical entailment, since the existence of God's past beliefs would entail Jones's future actions without being a cause of them.

[15]One way to avoid these questions is to deny the presupposition that God's foreknowledge renders us unfree. Todd (2022), for example, suggests that the theological fatalist should endorse causal determinism and explain our inability to do otherwise by

A similar worry can be raised in the case of backward time travel. First, assume that the laws of nature are probabilistic so that Tim's actions—like Jones's—are causally contingent (in the sense that a complete intrinsic description of the world up until that point, together with an accurate statement of the laws, would not entail that Tim does not kill Grandfather). Second, note that the identity of Tim's target is no more causally efficacious than God's past beliefs—it is not as if the fact that the individual will grow up to be Grandfather would somehow *interfere* with Tim's plans. Finally, we can stipulate that there are no other forces—like a time cop from the future—which would have interfered, had Tim tried to fire the gun. That is to say: there is nothing to prevent Tim from killing Grandfather, either in the actual world or the counterfactual scenario. But, in that case, it seems utterly bizarre to think that he lacks the ability. If there are no constraints, what is holding him back?

One way to emphasize this point is to consider a final example from Lewis (ibid, 149). Suppose that Tom is an intrinsic duplicate of Tim in intrinsically identical surroundings, aiming a gun at an intrinsic duplicate of Grandfather. The only difference is that Tom is not a time traveler from the future (though someone has convinced him that he is). As Lewis notes, Tom *can* kill his target in any ordinary sense of the word. Moreover, Tom is just like Tim in all relevant respects. So, Tim should also be able to kill Grandfather in the ordinary agential sense.

For those of us who reject this conclusion, the contrast is puzzling. The only difference between Tim and Tom is that the former is ancestrally related to his target. So, that fact must explain Tim's inability to kill Grandfather. But how could this be so?[16] The fact that Tim is descended from Grandfather does not create a mental block for him, nor lead to a safety switch being in his gun, nor somehow bind his arm to his side. His relation to Grandfather does not *do* anything to him (either in the actual scenario or the counterfactual situation in which he tries to shoot). So how could it affect his ability?[17]

3. Three Proposals

As noted above, others have rejected Lewis's claim that Tim can kill Grandfather "by any ordinary standards." It might be thought that their accounts could help us understand his puzzling inability. Here, we explore this idea by considering three representative proposals.

The most famous argument against Lewis is given by Kadri Vihvelin. She begins with the premise that "someone can do something, in the relevant sense, only if it's true that if she tried to do it, she would or at least might succeed" (1996, 318). Vihvelin refers to this as "the counterfactual principle":

> **The counterfactual principle:** Necessarily, if someone would fail to do something, no matter how hard or how many times she tried, then she cannot do it. (2011)

Understood in terms of the ordinary, agential sense of "can," this idea is quite plausible. I would (or at least might) go for a walk by the bay, were I to try. But I would fail to walk across the ocean, no

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citing the deterministic causes of our action. God's foreknowledge, in that case, might be based on his understanding of current events and the laws, but it is those things (rather than God's beliefs) that render future agents unable to do otherwise.

[16] As in the case of foreknowledge, one could try to avoid these questions by insisting that any time travel scenario like Tim's would have to take place in a causally deterministic world. If the ordinary agential sense of "can" is incompatibilist, one would then have a straightforward explanation of Tim's inability to do otherwise. (For details on how this explanation would go, refer to Section 5 and the account of Tim's inability developed there.)

[17] It has sometimes been suggested to me that the laws of nature can limit an agent's abilities without impacting her, and that this might be a reasonable model for Tim incapacity. I disagree. The laws of nature might help explain why *other* things limit an agent, but, in ordinary cases, there are always particular factors at work. It would violate the laws of nature for me to accelerate past the speed of light, for example, but there are also specific causal explanations of my inability (the weakness of my muscles, the resistance of the air, etc.). There is nothing like that in the case of Tim, which is why his case remains puzzling.

matter how hard or how many times I tried. So, the counterfactual principle implies that I lack that ability.

The application of this to the case of time travel is, in one respect, straightforward: intuitively, Tim would fail to kill Grandfather, no matter how hard or how many times he tried. So, the counterfactual principle implies that he lacks this ability.

The more complete explanation is complicated and relies on some subtle points about the semantics of counterfactuals (Vihvelin, 2011). When assessing these conditionals, we normally "rewind" history to some point before the time of the antecedent and then make minimal changes to allow for the truth of that proposition.[18] We then let things unfold from there, in accordance with the actual laws of nature. The overall goal is to minimize law violations while preserving as much of the past as possible (consistent with the antecedent's being true). Importantly, talk about "the past" in this case is ambiguous, since it could refer to either the temporal past or the causal history of the antecedent event. For Vihvelin, the key is to use the second reading:

> The theory tells you to causally (not necessarily temporally) backtrack as far as you need to go until you reach the earliest small miracle that allows the antecedent event to occur. In time travel cases, this small miracle can lie in the external future. When we search for the causally closest small miracle that permits the event that is the time traveler's attempt to kill the [grandfather], we must causally backtrack through the time traveler's personal time in a way that ensures that she remains in a position to make the attempt, and the only way to do this while avoiding large miracles (popping into existence ex nihilo, resurrection from the dead, and so on)… is a jammed bullet or some other mundane event that prevents the time traveler's attempt from succeeding. (2011)

To fix ideas, suppose that the actual world is one in which Tim has a last-minute change of heart and does not try to kill Grandfather. We can then inquire as to what *would* have been the case, had he tried. Consider two alternatives. In Case 1, a few extra neurons fire in Tim's brain, causing him to try to kill Grandfather. However, a few extra bits of carbon also find their way into Tim's gun so that it jams. Grandfather's life is spared, and he goes on to sire Father, who sires Tim, who goes back to (try to) shoot Grandfather. In Case 2, a few extra neurons fire in Tim's brain, causing him to try to kill Grandfather. However, no extra bits of carbon appear (and no extra gust of wind comes along, etc.), so Tim successfully kills Grandfather. Later, Grandfather miraculously rises from the dead and goes on to sire Father, who sires Tim, who goes back to shoot Grandfather. Plausibly, the first scenario is "closer" to actuality than any situation like the second (in which Tim successfully kills Grandfather). That is why it is false that Tim *might* have succeeded, had he tried. Combined with the counterfactual principle, this implies that Tim is unable to kill Grandfather.

A second response to Lewis is put forward by Michael Rea (2015) who begins with the familiar idea that no one can do anything that would require the past to be (intrinsically) different than it is. As Peter van Inwagen puts it, "our freedom can only be the freedom to add to the actual past—for the past is unalterable; it is what we find ourselves with in any situation in which we are contemplating some course of action" (2008, 369). This "fixity principle" plays an important role in one traditional argument for the incompatibility of freedom and determinism. We also appealed to this idea earlier when giving the standard argument for theological fatalism. Rea notes that this principle has two different readings—one in terms of the temporal past and one in terms of causation. Like Vihvelin, he opts for a causal interpretation:

> **The fixity principle:** No one is able, at a time later than *t*, to perform an act of either of the following types: (a) refraining from an act that is already part of her causal history at *t*, or

[18]This is a simplification. For a more complete account, refer to Lewis (1986).

> (b) performing an act such that, for some event *e* in her causal history, necessarily, she performs the act only if *e* is not in her causal history. (ibid, 272)

Here, an event is a part of an agent's causal history, relative to *t*, just in case it stands in the ancestral of the causal relation to some event or state-of-affairs involving the agent at *t* (ibid, 271).

To illustrate, suppose that determinism is true and that all my actions are caused (in a deterministic fashion) by events in the distant temporal past. In that case, my doing otherwise would require either the past or the laws to be different from how they are. Since the laws are no more malleable than the past, it would follow that I cannot do otherwise than what I in fact do. This is the traditional incompatibilist view on freedom and determinism. Interestingly, the same line of reasoning applies in the case of Tim and Grandfather, and it does so whether the laws are deterministic or not. That is because, as things unfold, Grandfather's not being killed in 1921 is a cause (or a cause of a cause…) of Father's being born, which is a cause of Tim's being born, which is a cause of Tim's presence in the past. In that sense, Grandfather's not being killed in 1921 is a part of Tim's causal history when he stands there in 1921, preparing to take the shot. Since Grandfather's not being killed is obviously incompatible with Tim's killing him, the fixity principle would entail that Tim is unable to perform the task.

A third and final proposal is due to Romy Jaster (2020a). She begins with the Lewisian idea that "can"-claims are made in view of certain facts (facts which determine a "relevant" set of worlds). To this, she adds the intuitive idea that ability is linked with *success*. However, rather than formulating this point in terms of counterfactuals (like Vihvelin), Jaster frames things in terms of *proportionality*. Here is her suggestion:

> **The success principle:** An agent S has an ability to ϕ iff S ϕs in a sufficiently high proportion of the relevant possible situations in which S intends to ϕ. (ibid, 101)

The application of this principle involves three different steps. First, we limit our attention to those worlds (or situations) which are compatible with the background facts (relative to the context of discussion). Second, within that set, we consider the worlds where the agent both intends *and* succeeds in performing the action. Finally, we compare those worlds to the ones at which the agent intends to perform the action, whether or not she succeeds. If the former constitutes a sufficiently high proportion of the latter (according to the contextually determined standards for "sufficiently high"), then the agent can perform the act. If not, not.[19]

Jaster's principle is, in one respect, more informative than either the counterfactual thesis or the fixity idea since it provides both necessary *and* sufficient conditions for ability. In another respect, it is *less* informative since it does not (on its own) say anything about which worlds are relevant to the assessment of abilities in an ordinary, deliberative context. However, we can fill in the details so that Jaster's account aligns with the previous proposals. One option would be to follow Rea in saying that the relevant worlds are those with the same causal past (relative to the agent and time in question). In that case, Tim would not succeed in *any* of the (relevant) worlds where he intends to kill Grandfather. So, the intending-and-succeeding worlds would *not* constitute a sufficiently high proportion of the intending worlds. The success principle would then imply that Tim cannot kill Grandfather in the imagined scenario.

The preceding views are all distinct, but they share a common form: each puts forward a necessary condition on ability and then argues that Tim does not satisfy the condition when it comes to killing Grandfather. Moreover, each account (on our interpretation) appeals to the notion of causation in one way or another—Grandfather's not being killed is an essential part of the causal story for how Tim got to be there in the first place and must therefore be held fixed when assessing

[19]For further details, refer to Jaster (2020b).

his options going forward. In this way, one might think that we have been given what we wanted—namely, a causal explanation of Tim's inability to kill Grandfather.

Unfortunately, this is not the case.

4. A Common Mistake

To appreciate the problem, we should return, once more, to the case of divine foreknowledge.

The challenge for the incompatibilist was to explain how divine foreknowledge could render us unable to do otherwise without impacting us in any way. That kind of connection seems deeply mysterious, if not outright incoherent.

The most prominent response to this challenge comes from John Martin Fischer (2016, 2025) who bases his reply on a temporal version of the fixity principle:

> If Jones were to decide not to [mow his lawn on Saturday], God would not have held the belief he actually did in the past. But that's not the whole story. Part of it is that the past is *fixed* and out of our control in such a way that renders it true that no one has it in his power so to act that it (the total set of hard facts) would have been different from what it was. (2025, 7)

As Fischer points out, the temporal fixity principle would imply that Jones is unable to do otherwise than mow his lawn, given the past presence of God's infallible belief. Moreover, Fischer suggests that this fact gives the incompatibilist an explanation of Jones's inability, which would mirror the kind of explanation given in ordinary cases of causal constraints:

> If it is a necessary condition of an individual's standing that she not be in chains, though she in fact is, it follows that she cannot stand; this is because of the nature of the chains and the force they exert (in some intuitive sense). Similarly, if it is a necessary condition of a person's deciding not to [mow the lawn] that the past be other than what it was, it follows that she cannot so decide; this is because of the fixity of the past. (ibid)

However, this suggestion is incorrect.

To see why, imagine an intro chemistry student who wants to learn about water's limitations. In particular, she wants to understand why water is unable to mix with oil. Suppose that her chemistry teacher tells her two things. First, if water were to mix with oil, then one of God's past beliefs about water would have to have been different (where this counterfactual is partly grounded in the fact that God is necessarily omniscient). Second, the past is fixed in the sense that nothing (including water) can do something that would require the temporal past to be different than it is. Obviously, these two claims would *entail* that water cannot mix with oil, but they would not *answer* the student's query. It might be true that God believes the proposition in question, and it might be true that he would have to have believed something *else*, were it the case that water could mix with oil. But none of this tells us *why* water lacks that ability.

The same thing is true when it comes to Jones's inability to do otherwise. God might believe that Jones will mow his lawn, and it might be the case that God would have to have believed something *else*, were it the case that Jones was going to refrain. If the temporal fixity principle were correct, those things would *entail* that Jones cannot do otherwise. But they would not *explain* his inability. Hence, Fischer's appeal to fixity does not address the challenge.

The same thing is also true when it comes to the proposals from the previous section. Consider, for example, Rea's suggestion that the causal past is fixed. It is true that Grandfather's not being killed in 1921 is a part of Tim's causal history when he stands there in 1921, working on his plans to kill Grandfather. The fixity of the causal past therefore *entails* that Tim is unable to kill Grandfather at that time. But it does not *explain* why this is so. The point is obscured to some extent by the fact that Rea—unlike Fischer—appeals to causal features of the story while developing his argument.

But he does not appeal to the *right* features. Again, Grandfather's not being killed in 1921 may be a cause of Tim's being born, but it does not *make* him the kind of person he is or *influence* his deliberative process or *restrain* his bodily movements. Hence, the fact that Tim's target will grow up to be his grandfather does not constrain him in the way of shackles. We are therefore left with the question: what is holding him back?

The main problem with the fixity principle (whether understood in terms of causation or time) is that it only provides a *necessary* condition on ability. But necessary conditions do not, by themselves, explain anything. God's believing that grass is green is a necessary condition on its being so, but that does not tell us *why* grass is green. The same thing is true for sufficient conditions. In general, if-and-only-if statements merely *report* patterns; they do not *explain*. Since all the proposals of the previous section are couched in these terms, they are not adequate to the task.[20]

Fortunately, there is an alternative approach.

5. A Shared Solution

No one is puzzled by the fact that every bachelor is unmarried. Bachelors are, by definition, unwed. So too, there is no mystery about why every case of (propositional) knowledge is also a case of belief. That is because part of what it is to know a proposition is to believe it. In a similar way, divine command theorists would find it unremarkable that all and only good acts are loved by God—not because they understand God's character to incline him toward independently objective goods, but because they take moral goodness to be constituted by divine approval.

It is an interesting question whether all these examples involve the same kind of explanation. But it is clear that they do not concern ordinary (efficient) causation. Your belief that snow is white is not a cause of your knowledge in the way that someone's knee injury is a cause of their limp. Rather, your belief is partly constitutive of your knowledge because knowledge is, in general, partly constituted by belief. Lacking a better term, and wanting to remain as neutral as possible, I will refer to this as *constitutive explanation*.

Constitutive connections do not merely explain patterns. They can also account for inabilities. No one is able to know a proposition without it being true, for example, since truth is partly constitutive of knowledge. In the same way, the divine command theorist will insist that nobody can fail to do the right thing by following God's commands, since those commands are constitutive of our moral duty.

It is also possible for parts of partial constituents to figure into explanations of this kind. If intentional action is constituted, in part, by a prior intention, and having a prior intention is partly a matter of having a belief that one will (or at least might) succeed, then no one is capable of doing something intentionally without having a prior belief of that kind. Thus, if someone *lacks* the required confidence, this will prevent them from acting intentionally—not by causing them to stumble, but by being constitutively incompatible with intentional behavior.

I believe that cases of this kind provide a plausible model for understanding Tim's inability to kill Grandfather. To begin, recall the common incompatibilist idea that "our freedom is the freedom to add to the given past." Fischer and Rea formulate this thesis as a necessary condition on ability, but it seems to be much more than that. Incompatibilists are not simply observing patterns in modal space

[20]I have focused on Vihvelin and Rea's proposals since they explicitly refer to causation when accounting for Tim's inability. But the worry is a general one and applies to other views in the literature. For example, Alison Fernandes (2020) suggests an "ignorance" principle according to which "An agent can't reasonably deliberate on whether to ø if she is certain that she will ø or certain that she won't ø, and (in either case) this certainty does not arise from her making or inferring from her decision" (ibid, 93). She uses this principle to argue that Tim agency is compromised in the sense that he cannot reasonably deliberate about whether to kill Grandfather. A related point is made by Rennick (2015). However, the ignorance principle (like the fixity and counterfactual principles) only provides a necessary condition on ability. As a result, it can be used to *argue* for the conclusion that Tim is unable to kill Grandfather, but it cannot *explain* this fact.

—they are saying something about the nature of ability (and also freedom): part of *what it is* to be able to do something is for that action to be consistent with the given past. If we understand this claim in terms of causal histories, we arrive at the following (partial) analysis of ability:

> **The causal analysis:** Part of what it is for an agent to be able to perform an action at a time is for the performance of that action to be compatible with the agent's causal past, relative to that time.

This proposal could be refined in various ways.[21] We could also construct alternative accounts based on the earlier principles from Vihvelin and Jaster. For our purposes, the details are less important than the *structure* of the claim. Unlike the earlier proposals, this is a view about *what ability consists in.* As such, it is fit to play an explanatory role.[22] If the causal analysis is correct, then part of what it would be for Tim to be able to kill Grandfather would be for that action to be compatible with his causal past. But Tim's causal past is constituted, in part, by Grandfather's not being killed in 1921. That is how the absence of the event prevents Tim from killing his ancestor—not by shackling him to the wall, but by being a constituent of something which is constitutively incompatible with his success.

Here is an analogy: suppose that winning the game requires you to score more points than your opponent. And suppose that your opponent hits the last shot, giving her more points than you. In that case, her shot prevents you from winning. But it does not do so by interfering with your concentration or deflecting your own shot off course. Rather, her shot is a part of her scoring more points than you, and that is constitutively incompatible with your success.

If the causal analysis is correct, then something similar is true for Tim. His inability consists in a conflict between his success and his own causal history, where part of the reason those things conflict is that the causal history includes Tim's own failure. His not killing Grandfather does not impact him as he lurks in the shadows, waiting to take his shot. It does not interfere with his thinking or erect a physical barrier of any kind. Still, it *is* a part of something which is constitutively incompatible with his performing the act. That is how it explains his inability.

Interestingly, the same line of reasoning does *not* apply to the case of divine foreknowledge.[23] That is because incompatibilists like Fischer deny that God's foreknowledge is a part of our present causal histories. Hence, there is no constitutive conflict between that foreknowledge and (say) Jones's refraining from mowing his lawn on Saturday. For this reason, there is no constitutive explanation of Jones's inability to do otherwise. Of course, the incompatibilist might revert to a *non*-causal analysis of ability and say that part of what it is for an agent to be able to perform an action is for that performance to be compatible with the *temporal* past. But this move would seem both unmotivated and incorrect—*unmotivated*, because we have already accounted for whatever fixity intuition there is with the causal analysis of ability, and *incorrect*, because the fixity of the temporal past would be incompatible with what we want to say about many cases of time travel.[24] To take just one example: suppose that there was no one present in a particular isolated patch of desert at 3 pm on April 4th in the 5th year of the Common Era. Assuming that this absence is not part of some strange causal chain leading to Tim's birth, it seems as if he should be able to travel back to that time and place. Such a trip would be among his options, given that he owns a time machine. But that trip

[21]Law and Wasserman (2022) survey some of the options. There are also the options of focusing on the fixity of the *independent* past (Swenson, 2016)—or simply the fixity of the independent (Law, 2021)—rather than the fixity of the *causal* past. Again, the details matter less than the *structure* of the proposal.

[22]I should note that, while Vihvelin and Jaster formulate their views in terms of conditionals, they sometimes use explanatory language when applying those views. Vihvelin, for example, says that "I can swim and ride a bicycle *at least partly because* it's true that I would succeed at both of these activities if I tried to do them" (1996, 318, my emphasis). This suggests that her earlier counterfactual principle should be replaced by a partial *analysis* of ability in terms of counterfactuals.

[23]I raise the possibility of this kind of response (without endorsing it) in Wasserman (2026).

[24]Wasserman (2024). Refer also to the recent exchange between Cyr (2022) and Law (2023).

would *not* be compatible with the temporal past (relative to 1921), since there was in fact no one present at that location. Thus, given the possibility of time travel, ordinary agential ability is *not* constitutively limited by the temporal past. The upshot is that the parallel between backward time travel and divine foreknowledge only serves to make the (supposed) disabling power of God's beliefs more mysterious than ever.[25]

That is one interesting upshot of our discussion. Here is another. Going back to Lewis, the assumption has always been that abilities can be understood, somehow, in terms of possibility. That assumption is taken on by the causal analysis, since it claims that abilities are to be analyzed, in part, in terms of joint possibility. It is this analysis that allows us to give a constitutive explanation of Tim's inability. However, this approach runs contrary to the current trend of trying to reduce possibility to actual dispositions, abilities, and the like.[26] On this "powers first" approach, abilities are not to be analyzed in terms of possibility, in which case the current proposal would be a nonstarter.[27] The upshot is that we can have a satisfying account of Tim's inability, or we can have a powers-first approach to metaphysics, but we cannot have both.

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[25]This proposal fits nicely with the popular idea that God's past beliefs are determined, in part, by our actions, rather than the other way around. Proponents of the latter idea include Merricks (2009), Swenson (2016), Law (2020), Wasserman (2021), and Balaguer and Chan (2025).

[26]Vetter (2016).

[27]Giannini and Donati (2023) raise a version of this worry.

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