Passing Through: Why Intrinsic-to-a-Time Endurantism Should Not Persist

Daniel Giberman

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According to the traditional way of understanding debates in the metaphysics of persistence, perdurantists hold that persisting material objects have temporal proper parts while endurantists hold that they do not. Several theorists recently have suggested in opposition to this traditional picture that endurantism be understood as the thesis that the identity of a persisting object x is intrinsic to each of the times at which x is present. It is argued here that unless this non-traditional version of endurantism entails a certain haecceitist element, it is subject to counterexample from the metaphysical possibility that two qualitatively identical material objects “pass through” one another during some portion of their respective careers. It is argued further that the suggested version of endurantism does not mix well with haecceitism and that consequently it is best resisted.

1. Introduction

One way to formulate the debate between perdurantists and endurantists is in terms of temporal proper parts. The perdurantist holds that an arbitrary persisting material object has temporal proper parts that correspond to segments of its career. The endurantist denies this. For example, the perdurantist maintains, while the endurantist denies, that you have a temporal proper part that corresponds to yesterday morning between seven and seven-thirty. Call these the ‘traditional’ versions of perdurantism and endurantism.

Several theorists recently have argued (or suggested) that there is (or may be) a superior, non-traditional way to understand the debate that avoids triviality and best captures the intuitions that underlie disagreement about the ontology of persistence. Among these theorists are John Hawthorne (2006, 2008) and Thomas Hofweber and David Velleman (2011). On this suggestion, the debate is not about the existence of temporal proper parts but about whether a determinate answer to the question ‘which object is this?’ is furnished at each moment of a given object’s career. The endurantist holds that it is; the

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1 Hawthorne is neutral about the suggestion (indeed he mentions some potential worries for it). Hofweber and Velleman, by contrast, endorse it.
perdurantist does not. Call these the ‘intrinsic-to-a-time’ (IT) versions of endurance and perdurance.

It will be argued here that IT endurantism faces a dilemma: either it is subject to refutation by counterexample or else it requires commitment to haecceitism, the thesis that the world could have been just as it is qualitatively while containing different objects. It will be argued further that IT endurantism and haecceitism do not mix well and that, as a result, the dilemma is damning. Finally, it will be concluded that since endurantists who resist the IT formulation can accommodate the would-be counterexample without commitment to haecceitism, the IT way of framing the debate fails.

The counterexample involves the metaphysical possibility that two material objects “pass through” one another by being exactly spatially co-located for some portion of their respective careers. In such a case there will be a time \( t \) at which the two objects share all their qualitative properties (including relational ones) that are intrinsic to \( t \). But then, given certain modal assumptions, there will be other possible worlds with times that are qualitatively just like the passing through world at \( t \) that contain only one of the objects from the passing through world. The problem is that, unless haecceitism is true, the IT endurantist cannot allow that these other worlds are possible, for he has no way to account for their containing only one of the relevant objects instead of both.

The plan for the remainder of the essay is as follows. In section 2, the clearest version of IT endurantism is rehearsed. In section 3, the passing through thought experiment sketched in the previous paragraph is fleshed out. Section 4 contains an explicit argument from the thought experiment in section 3 to the falsity of non-
haecceitistic IT endurantism. Section 5 then raises and responds to objections. Among these objections are that passing through is metaphysically impossible; that IT endurantism is best thought of as contingent and thus immune to counterexample by merely possible thought experiments; and that haecceitism fits perfectly well with IT endurantism. The concluding section adapts the section 3 thought experiment to the case of persons and explains why passing through does not furnish a counterexample to traditional endurantism.

2. IT Endurantism

This section rehearses the most developed version of IT endurantism, due to Hofweber and Velleman (2011). Hofweber and Velleman deploy an intuitive notion of intrinsicality in order to define a needed technical notion, ‘locality’, in a non-circular way. They then use locality to define ‘intrinsic to a time’, use intrinsicality to a time to explicate the notorious endurantist expression ‘wholly present’, and use the clarified notion of being wholly present to define ‘endure’. Here are their definitions:

(LOC*) A property P is local to a region R just in case some thing O in R has P and O would still have P as long as everything in R had all the same intrinsic properties, even if some things outside R had different intrinsic properties

(IT) A property P is intrinsic to a time T just in case P is local to the maximal region that contains T but is temporally unextended
(WHO) An object O is *wholly present* at a time T just in case the identity of O is intrinsic to T

(ABI) An object O *endures* over an interval I just in case it is wholly present at each time in I.

There are aspects of these definitions over which one might quibble. For example, if proper parthood and spatiotemporal extension are conceptually linked as Hofweber and Velleman presuppose in their argument for the incoherence of traditional endurantism, then (IT) as it stands is not applicable at worlds where time is mereologically gunky\(^2\); for the presupposed link secures the absence of temporally unextended regions at temporally gunky worlds.\(^3\) Yet one’s formulation of endurantism ought to allow that temporal gunk and persistence are compossible. A second quibble is that it is not obvious how to connect the identity of arbitrary object O to some property or set of properties. Some such connection is required in order to make sense of how the identity of O could be intrinsic to a time as described in (WHO), given that (IT) is couched in terms of properties. Hofweber and Velleman invoke the property *being O*, which is the most straightforward way to forge the required connection; but some theorists may antecedently be sympathetic to the intuitions that motivate endurantism and yet skeptical of properties

\(^2\) Something is gunky just in case each of its parts has proper parts. The terminology comes from David Lewis (1991).

\(^3\) Strictly speaking, the claim Hofweber and Velleman presuppose is that being extended guarantees having proper parts, which is logically independent from the claim that not being extended guarantees lacking proper parts. However, their reason for holding the former claim, namely, that there is an intuitive conceptual connection between proper parthood and extension, is equally supportive of the latter claim.
like being \( O \) insofar as they are ‘non-qualitative’. Such theorists presumably would be dissatisfied with (WHO) and thus with (ABI) as they stand.

I will not explore the first quibble further. Perhaps (IT) could be reworded to allow for temporal gunk, though it is not clear to me how best to do so. The second quibble will resurface below. For now, however, the basic idea of Hofweber and Velleman’s proposal is clear enough: an object \( O \) endures over all and only the times \( t_1, \ldots, t_n \) such that at each time \( t_i \) in \( \{t_1, \ldots, t_n\} \), \( O \) is determined to be the object that it is independently of what may be the case intrinsically at any other time. Let us turn to the advertised thought experiment.

3. A Thought Experiment

Consider a possible world, \( w_1 \), at which a golfer at a driving range strikes a certain golf ball, \( Titleist \), at a certain time. At around the same time, a second golfer at the range strikes a numerically distinct but intrinsically qualitatively identical ball, \( Callaway \). The second golfer’s shot slices such that Callaway’s trajectory meets Titleist’s midair. At the actual world we would expect a collision between the two balls, but \( w_1 \) has non-actual laws of nature according to which Callaway and Titleist “pass through” each other in such a way that they are exactly co-located at a particular time \( t \). After \( t \), the balls continue on their prior trajectories as if they never crossed paths. Now consider a second possible world, \( w_2 \), at which the first golfer drives Titleist in just the same way as at \( w_1 \), sending it on a trajectory that places it at the same spatial region at \( t \) that it exactly occupies at \( w_1 \) at \( t \). In fact, \( w_2 \) at \( t \) is an intrinsic qualitative duplicate of \( w_1 \) at \( t \). However, unlike \( w_1 \), \( w_2 \) does not contain Callaway at all. Indeed no golf ball at \( w_2 \) ever crosses
trajectories with Titleist. Everything else about \( w_2 \) is as much like \( w_1 \) as is consistent with the two worlds being intrinsic qualitative duplicates at \( t \).

I take the following to be “data” from the thought experiment.

(i) Titleist and Callaway are two persisting golf balls at \( w_1 \).

(ii) Titleist and Callaway both exist at \( t \) at \( w_1 \).

(iii) There is no time at \( w_1 \) at which Titleist and Callaway are numerically identical.

Let us consider the plausibility of each putative “datum” in turn. Claim (i) is the least contentious since it follows directly from the exposition of the example and presents no relevantly controversial content. Claim (ii) is more controversial, but still plausible.

While the “passing through” phenomenon invoked in the thought experiment is in tension with actual physical laws (at least for macro objects like golf balls), and while its precise workings may suffer somewhat from under-description—much as Godly creation, fission machines, magic spells and the like may suffer in other philosophical thought experiments—it seems to be a legitimate metaphysical possibility. Its obtaining in the way described entails that both Titleist and Callaway exist at each moment as they “pass through” one another at \( w_1 \), including the moment at which they are exactly co-located. That moment is \( t \) at \( w_1 \); so both balls exist at that time. (Granted, there are other ways that the thought experiment could be described. The worry that the present description is not the most plausible will be considered and discharged in section 5 below.)

Claim (iii) is more controversial still, but what matters for present purposes is that the IT endurantist will have trouble denying (iii) so long as she accepts the uncontroversial (i). To see this, suppose for reductio that she were to accept (i) while maintaining that there is some time \( t^* \) at \( w_1 \) at which Titleist is numerically identical to
Callaway. It is a consequence of (i) that there are some times at \( w_1 \) at which Titleist and Callaway are numerically distinct, and it is safe to assume from the exposition of the example that at some of these times both Titleist and Callaway are present. Consider one such time, \( t^{**} \). Now, according to IT endurantism, the identity of Titleist is fully determined at every time at which Titleist exists. The same is true with respect to Callaway. So if the identity of Titleist just is the identity of Callaway at time \( t^* \), then it is fully determined at \( t^* \) that Titleist and Callaway have the same identity. But, given (i), the IT endurantist will hold that the identity of Titleist at \( t^* \) just is the identity of Titleist at \( t^{**} \). Again, the same holds for Callaway. Yet if Titleist at \( t^* \) is numerically identical to Titleist at \( t^{**} \) and to Callaway at \( t^* \), and if Callaway at \( t^* \) is numerically identical to Callaway at \( t^{**} \) then, by the transitivity of identity, Titleist at \( t^{**} \) is numerically identical to Callaway at \( t^{**} \). But this last identity claim contradicts the stipulation that \( t^{**} \) is a time at which Titleist and Callaway are present and distinct, which stipulation is justified by (i) and the exposition of the thought experiment: reductio concluded. So if (i) is true then the IT endurantist (who seeks to maintain the transitivity of identity) ought to accept (iii).

In addition to (i)-(iii), the example suggests a fourth claim that the IT endurantist will have trouble rejecting.

(iv)Unless a certain form of haecceitism is presupposed, \( w_1 \) at \( t \) is an intrinsic duplicate of \( w_2 \) at \( t \).

The qualifying clause in (iv) is needed because one might maintain that if Callaway exists at \( w_1 \) at \( t \) but does not exist at \( w_2 \)—as is stipulated in the example—then \( w_1 \) and \( w_2 \) cannot be intrinsic duplicates at \( t \) even though they are intrinsic qualitative duplicates at \( t \).
For the two worlds, by stipulation, differ in golf ball cardinality at $t$. Put differently, at $w_1$, but not $w_2$, the intrinsic (non-qualitative) property *being Callaway* will be instantiated at $t$. Since *being Callaway* is an intrinsic property, the two worlds differ in their distributions of intrinsic properties. But this way of looking at the example requires the IT endurantist to take properties of the form *being* $O$ (where ‘$O$’ is a name), and corresponding differences in cardinality of objects, in the direction of a controversial haecceitism. The need for haecceitism on the part of the IT endurantist who wishes to deny that $w_1$ at $t$ is an intrinsic duplicate of $w_2$ at $t$—and the lack of any such need in order to deny that $w_1$ at $t$ is an intrinsic duplicate of $w_2$ at $t$ by theorists who reject IT endurantism—will be explained presently.

The IT endurantist holds that facts about which objects exist at arbitrary time $t$ are fully determined by the intrinsic properties instantiated at $t$; no recourse to intrinsic properties instantiated at any other time is required. This means, for arbitrary distinct times $t_1$ and $t_2$, that a two-step process determines whether the objects that exist at $t_1$ are just the objects that exist at $t_2$. First, we consider which objects exist according to the distribution of intrinsic properties at $t_1$ and which objects exist according to the distribution of intrinsic properties at $t_2$. Second, we compare whether the former objects just are the latter objects. Our results will depend on whether we accept or reject the following thesis.

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Intrinsic duplicates are such that their respective proper parts correspond in a way that preserves distribution of fundamental properties and relations (Lewis 1986, 61). Depending on what one takes to be the fundamental properties and their bearers, this condition may not strictly require the correspondence to be one-to-one for higher level proper parts, for as a condition about parity of fundamental property distribution over spacetime points, say, it need not be understood as a condition about parity of cardinality of macro objects. Of course fundamental property distribution and cardinality coincide if one takes non-qualitative, cardinality-affecting properties of the form ‘being $O$’ (for object name ‘$O$’) to be fundamental (or at least independent of lower-level property distributions), which pertains to the inclusion in (iv) of the qualifying clause about haecceitism.
(Fix) If arbitrary times \( t_1 \) and \( t_2 \) are intrinsic *qualitative* duplicates then the set of objects that exist at \( t_1 \) just is the set of objects that exist at \( t_2 \).

For the persistence theorist who opposes IT endurantism, rejecting (Fix) need not amount to haecceitism, for such a theorist may hold that certain qualitative states of affairs that obtain during the intervening times preclude the survival of some object(s) across \( t_1 \) and \( t_2 \). For example, suppose the world were to decompose entirely and then regenerate between \( t_1 \) and \( t_2 \) in such a way that the distribution of intrinsic qualitative properties at \( t_1 \) is identical to the distribution of intrinsic qualitative properties at \( t_2 \); some tree that existed at \( t_1 \) would have withered away out of existence between \( t_1 \) and \( t_2 \) even though some qualitatively identical but numerically distinct tree would have generated back into existence by \( t_2 \). This pair of trees constitutes a counterexample to (Fix). But for the IT endurantist, the rejection of (Fix) cannot be justified by mere qualitative facts about intervening times, for IT endurantism entails that an object’s identity is a settled matter at any single time at which the object is present. So if the IT endurantist rejects (Fix) then, since there is no qualitative difference between \( t_1 \) and \( t_2 \), and since no factors at other times matter for the IT endurantist, she must hold that some non-qualitative factor present at \( t_1 \) and/or \( t_2 \) is required for determining which objects exist at \( t_1 \) and/or \( t_2 \). It is in this sense that haecceitism comes into play. Returning to the golf ball case, if the IT endurantist denies that \( w_1 \) at \( t \) is an intrinsic duplicate of \( w_2 \) at \( t \) then, since there is no qualitative difference between \( w_1 \) at \( t \) and \( w_2 \) at \( t \), and since no factors at other times matter for the IT endurantist, she must hold that some haecceitistic factor is at play.
We have seen that the rejection of (Fix) does not itself amount to haecceitism. Rather, haecceitism typically is characterized as the rejection of the following thesis.

(Qualitative Supervenience) If arbitrary worlds \( w \) and \( w' \) are intrinsic qualitative duplicates then the set of objects that exist at \( w \) just is the set of objects that exist at \( w' \).

But the path from the rejection of (Fix) to the rejection of (Qualitative Supervenience) is a short one for the IT endurantist, and it provides another route to the conclusion of the previous paragraph. In the case at hand, all that is needed is a modal recombinatory scheme according to which arbitrary spatiotemporal proper parts of worlds may be deleted without affecting the intrinsic nature of the remaining parts, which approach accords with the general flavor of IT endurantism. On this recombinatory scheme, there is some world \( w_3 \) that is left when we subtract every temporal part from \( w_1 \) other than the part present at \( t \), and some world \( w_4 \) that is left when we subtract every temporal part from \( w_2 \) other than the part present at \( t \). If the IT endurantist is to deny that \( w_1 \) at \( t \) is an intrinsic duplicate of \( w_2 \) at \( t \) as the result of her endorsing some difference in the instantiation of being Callaway then she must hold that being Callaway is instantiated at \( w_3 \) but not \( w_4 \), despite the fact that those two worlds are intrinsic qualitative duplicates. That is, she must be committed to holding that there is at least one pair of intrinsically qualitatively identical worlds that contain distinct sets of golf balls, which contravenes (Qualitative Supervenience). Notice, by contrast, that the theorist who rejects IT endurantism need not allow that \( w_3 \) contains a different set of golf balls than does \( w_4 \). She thus need not be committed to haecceitism in the wake of the thought experiment. For she
may well hold that the times from \( w_1 \) (or \( w_2 \)) that surround \( t \) and that have been deleted in order to yield \( w_3 \) (\( w_4 \)) are relevant for determining the identity of the objects present at \( t \). Accordingly, it may be that, for such a theorist, \( w_3 \) and \( w_4 \) are not distinct worlds. Rather, \( w_3/w_4 \) contains neither Titleist nor Callaway but rather some or other instantaneous golf ball that is qualitatively identical to each of Titleist and Callaway at \( w_1 \) at \( t \) and to Titleist at \( w_2 \) at \( t \).

It may be difficult to show that the brand of haecceitism that the IT theorist seems to require is untenable, but any request to do so would be tangential to the point at hand. The point is that it is prohibitively controversial to require that commitment to the best formulation of endurantism also commits one to haecceitism, even if haecceitism is tenable. Theorists who are sympathetic to the intuitions that motivate endurantism may well reject haecceitism without violating those intuitions. Moreover, if Hofweber and Velleman intend their endurantism to require haecceitism then one would expect some mention of this in their paper, which there is not.\(^5\) Perhaps, then, the most charitable reading of the IT endurantism outlined in (Hofweber and Velleman 2011) will deny that it requires haecceitism? I register uncertainty here.

At any rate, if haecceitism is set aside then there seems to be no reason available to the IT endurantist for denying that \( w_1 \) at \( t \) is an intrinsic duplicate of \( w_2 \) at \( t \). (The non-IT theorist, by contrast, can take recourse to the difference in qualitative facts surrounding \( t \) at the two worlds in order to allow for a difference in golf ball cardinality and thus deny intrinsic duplication.) What is needed in order for the duplication claim to

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\(^5\) Hofweber and Velleman refer readers to (Hofweber 2005) for more on properties of the form being \( O \). There Hofweber explicitly discusses haecceitism and appears not to endorse it: “…could God…create infinitely many worlds that are qualitatively identical and differ only in which objects exist in them? It seems not.” (p. 27) Now, it is not clear in this passage that Hofweber wishes to reject haecceitism; my point is simply that he resists endorsing it.
be true is (a) for the regions at which the respective golf balls are located at $t$ at the two worlds to contain identical distributions of intrinsic qualitative properties and (b) for none of the relations Callaway bears to other objects at $w_1$ to be such that those other objects have different intrinsic properties at $t$ at relevantly proximate worlds at which Callaway does not exist.

Consider condition (a) first. Are there any qualitative properties that may distinguish the region containing Titleist and Callaway at $w_1$ at $t$ from the region containing Titleist at $w_2$ at $t$? Perhaps there are further descriptions of the thought experiment according to which this would be the case. For example, if the thought experiment were supplemented with the claim that when qualitatively indiscernible material objects “pass through” each other in the intended sense and become temporarily co-located, their properties are additive. Perhaps the region containing the co-located objects comes to contain twice the mass, twice the charge, twice the brightness of white, etc., as either of the objects exemplified before the occurrence of “passing through.” On this claim, the states of affairs located at the region containing Titleist and Callaway at $t$ at $w_1$ will not be qualitatively identical to those located at the region containing only Titleist at $t$ at $w_2$. The former region, for example, will contain twice the mass of the latter. Perhaps this additive understanding of “passing through” corresponds to a metaphysical possibility. No matter. All that is needed to secure that condition (a) is not violated is the stipulation that $w_1$ is not a world in which passing through implies the exemplification of additive qualities. And this stipulation is perfectly plausible so long as additivity is not necessary for passing through. Since there is no reason to endorse this
necessity, there is no bar to satisfying condition (a) from worries about additive passing through.

A second worry about the satisfaction of condition (a) concerns dispositional properties. Won’t Callaway possess a dispositional property to continue on its unique trajectory at \( t \) at \( w_1 \)? And won’t this disposition be missing from the region containing only Titleist at \( t \) at \( w_2 \)? I am inclined to think not. On one plausible way of understanding dispositional properties, they supervene on qualitative categorical properties. Yet Titleist at \( t \) at \( w_1 \), Callaway at \( t \) at \( w_1 \), and Titleist at \( t \) at \( w_2 \) all have the same qualitative categorical properties. Moreover, even if we wish to deny the supervenience of dispositions on categorical properties, it is far from clear that either golf ball possesses a disposition to continue on any particular trajectory. It is more plausible to hold that they each have an equivalent disposition to remain in motion simpliciter, barring extrinsic factors like friction, wind, etc. Notice that this distinguishes the present case from the familiar lump/statue case of coincidence since the latter involves dispositions that only one of the coinciding objects seems to exemplify, such as ability to survive flattening.

The IT theorist who endorses irreducible dispositions (or ‘potentialities’) can use them to explain the modal differences between lump and statue at a given time (Hawthorne 2006). In the case of Titleist and Callaway, by contrast, there are no modal differences to be explained. There are simply differences in particular spatial location at times surrounding \( t \).

Let us move on, then, to condition (b). It is not difficult to imagine that the golfer who struck Callaway at \( w_1 \) is intrinsically qualitatively the same at \( t \) at both worlds, that the tee that supported Callaway before it was struck at \( w_1 \) is intrinsically qualitatively the
same at $t$ at both worlds, etc. Through sufficiently imaginative stipulation, we may even suppose without conceptual incoherence that the air movement in the wake of Callaway’s flight path preceding $t$ at $w_1$ and the air above the driving range at $t$ at $w_2$ are such that the duplication claim holds. In short, (b) is not prohibitively controversial.

If this much is correct then the IT endurantist is committed to (iv). If she is committed to (iv) but resistant to haecceitism, then the thought experiment provides her with another “datum”:

(v) $w_1$ at $t$ is an intrinsic duplicate of $w_2$ at $t$.

4. The Problem

So where does all this lead? What is the putative problem posed by the thought experiment and its corresponding “data”? The problem is that on IT endurantism understood non-haecceitistically, the intrinsic nature of $w_2$ at $t$ suffices for determining the identity of Callaway at $w_2$ despite the fact that Callaway does not exist at $w_2$. Two points make this clear. The first is that the IT endurantist is committed to holding that the full determination of both the identity of Titleist at $w_1$ at $t$ and the identity of Callaway at $w_1$ at $t$ follows from (i), (ii), (ABI), and (WHO). Here is the argument.

1. Titleist and Callaway both persist at $w_1$ ((i))
2. Titleist and Callaway both exist at $t$ at $w_1$ ((ii))
3. IT endurantism is true (assumption)
4. Titleist and Callaway both endure at $t$ at $w_1$ (1, 2, 3)
5. Titleist and Callaway are both wholly present at $t$ at $w_1$ ((ABI), 4)
6. Titleist and Callaway are both such that their identities are intrinsic to \( t \) at \( w_1 \) ((WHO), 5)

Lemma (derivable from section 4.4 of (Hofweber and Velleman 2011)): For all objects \( x \) and times \( t \): if \( x \)’s identity is intrinsic to \( t \) then \( x \)’s identity is fully determined at \( t \).

7. The identity of Titleist and the identity of Callaway are both fully determined at \( t \) at \( w_1 \) (6, Lemma)

So the full determination of the identity of each ball follows from the intrinsic nature of \( w_1 \) at \( t \) plus the details of IT endurance.

The second point is that a parallel argument, augmented with “datum” (v), can be run with respect to \( w_2 \) at \( t \). With haecceitism out of the picture, (v) secures that the respective identities of Titleist and Callaway are both fully determined at \( t \) at \( w_2 \) if they are so determined at \( t \) at \( w_1 \). But this result is unacceptable since Callaway is stipulated not to exist at \( w_2 \). No concrete object is such that its identity may be fully determined, in the relevant sense, if it does not exist.

5. Objections and Replies

Objection 1: Even if we grant (v) and set aside haecceitism, the intrinsic nature of \( w_2 \) at \( t \) is insufficient for committing the IT endurantist to the determination of Callaway’s identity at \( w_2 \) at \( t \). What is needed but not provided is for Callaway to persist during \( t \) at \( w_2 \). After all, datum (i) plays an important role in argument 1-7 for the determination of the identity of the golf balls at \( w_1 \). Since Callaway does not persist at \( w_2 \) there is no analog of (i) and the putatively parallel argument does not go through.
Reply: Even if this objection is sound as far as it goes, it does not go far enough to save IT endurantism. IT endurantism is sunk if it is committed to the mere existence of Callaway at \( w_2 \). And, continuing to set aside haecceitism, IT endurantism is so committed. Premise 6 and “datum” (\( v \)) jointly entail that the identity of Callaway is intrinsic to \( t \) at \( w_2 \), which secures that Callaway is wholly present at \( t \) at \( w_2 \), which contravenes the thought experiment’s stipulation that Callaway does not exist at \( w_2 \).

Moreover, it is unclear whether the objection is sound because it is unclear whether the notion of ‘interval’ at work in (ABI) requires that intervals be (temporally) extended. (ABI) does not strictly rule out arbitrarily small intervals that, at the limit, are unextended. If intervals may be unextended then Callaway counts as having endured at \( w_2 \) merely by having been wholly present at an unextended interval that includes \( t \).

Objection 2: The putative phenomenon described as ‘passing through’ is metaphysically impossible. So it is no worry for the IT endurantist that she cannot account for it.

Reply: The passing through described in the thought experiment involves qualitatively identical objects. As such, it is consistent with the thought that the objects pass through by temporarily overlapping. Material overlap is of course controversial, but it is not to be dismissed out of hand as metaphysically impossible. Moreover, its possibility is tolerated across party lines in the persistence debate. I suspect that those who hesitate to take passing through as a serious metaphysical possibility are really bothered by the thought of extending it to qualitatively distinct objects. But the thought experiment does not require any such extension.
Notice also that passing through for qualitatively distinct objects cannot be defended by recourse to temporary overlap. For example, in the (under-described) case wherein I walk through a brick wall by being co-located with some of its parts at different times, the worry may be raised that either my parts or its must “dominate” the relevant regions lest those regions contain instances of incompatible properties (like being brick and being fleshy). That worry does not arise in the case of Titleist and Callaway because any of their co-located parts will have all the same qualitative properties.

Nor does it help the cause of Objection 2 to re-describe the thought experiment such that one ball gradually “disappears” from spacetime as the other’s trajectory crosses it, gradually “re-appearing” bit by bit on the other side as the trajectories diverge. One problem with this re-description is that it carries the burden of explaining why it should be necessary that one ball continuously survives while the other momentarily disappears and re-appears at a disconnected region. The re-described case may well be possible, but (like the additive property suggestion) it is mysterious why it should be thought the necessarily superior description of the original thought experiment. A second problem is that the proposed re-description does not circumvent the need to invoke haecceitism.

Consider a time \( t^* \) during the flight of the balls when their trajectories have crossed but the disappearing ball (according to the re-description) has only partially disappeared. There will be a ball-shaped region of space at \( t^* \) that contains exactly the fusion of (i) an undetached proper part of the continuously surviving ball and (ii) whatever is left at \( t^* \) of the disappearing ball. (To fix on the region in question, think of a two-set Venn diagram with circles. The region in question is analogous to one of the circles.) Now consider an instantaneous world \( w \) that contains just that ball-shaped region as it is at \( t^* \) (that is, \( w \) has
just the distribution of intrinsic properties that the region contains at \( t^* \)). According to the IT endurantist who accepts the “disappearance” re-description of the thought experiment, \( w \) contains parts of two distinct golf balls.\(^6\) Yet there are other possible worlds that are qualitatively identical to \( w \) that contain only parts of one golf ball. The IT endurantist cannot account for these distinct possibilities without accepting haecceitism.

Objection 3: IT endurantism is best thought of as a contingent theory. So it is no worry for the IT endurantist that she cannot account for merely possible ‘passing through’.

Reply: Many philosophers involved in debates about persistence take the matter to be of metaphysical necessity, so it is a noteworthy limitation of the IT way of framing the debate if it must take the matter to be contingent. Moreover, even if persistence is best thought of as a contingent matter, it is prohibitively ad hoc to hold that material objects persist by enduring at just those worlds at which they never happen to pass through one another. Consider \( w_1 \) and \( w_2 \) one more time. \( w_1 \) and \( w_2 \) tell the same story about Titleist at every time other than the set of times at which the balls pass through at \( w_1 \). So why think that the correct theory of Titleist’s persistence in \( w_1 \) is not the correct theory of its persistence in \( w_2 \)? What makes it the case that at \( w_1 \) Titleist persists through flight in one way while at \( w_2 \) it persists through flight in quite another? It is a disservice to endurantism to require that it furnish explanatory answers to these questions.

\(^6\) A theorist who rejects IT endurantism, by contrast, would not be committed to the determined identity of either ball at any given isolated time.
Objection 4: Setting aside haecceitism is misguided. The IT endurantist is (or ought to be) happy to accept haecceitism and happy to require that the real debate about persistence necessarily involves the debate over haecceitism.

Reply: The marriage of IT endurantism and haecceitism is a bad one. The problem is that IT-endurantism-plus-haecceitism (hereafter ‘ITH’) lacks diachronic-sensitive qualitative constraints on identity, which leaves it vulnerable to implausible commitments about persistence.

To begin to see the problem, consider some person O, whose identity is determined by a qualitative-property-independent haecceity. Let us pick out O’s haecceity with the predicate ‘O*’. According to ITH, O persists just in case O* is exemplified at more than one time, independently of what the object that exemplifies O* may be like qualitatively at any of those times. For example, O persists from one moment (t) to the next (t′) in worlds where the body and mental life that O has at t are annihilated at t′ and O* comes to be exemplified at t′ by, say, a poached egg. That is, according to ITH, O survives as an inanimate poached egg merely in virtue of exemplification facts about the relevant haecceity. Two important points make clear that this unfortunate result is unique to ITH.

The first point is that the result does not come about on non-IT haecceitistic endurantism, for the haecceitistic endurantist who rejects IT endurantism can endorse some necessary qualitative conditions for the exemplification of O* by some object at
some time, conditions that are based on O* exemplification facts at nearby times.\textsuperscript{7} For example, the non-IT theorist can consistently hold that once O has certain qualities (say, characteristically human qualities) at \( t \), O* cannot be exemplified by a poached egg at any time in the temporal neighborhood of \( t \). But the IT theorist cannot endorse this constraint, lest the identity of O at certain times—in this case, the exemplification of O* by a person at \( t \)—be dependent on intrinsic exemplification facts at other times—in this case, the fact that O* is not exemplified by a poached egg at \( t' \). This dependence on temporally extrinsic exemplification facts precludes O’s being \textit{wholly present} at \( t \) as per (WHO)/(IT)/(LOC*). To see this, notice that if the IT theorist endorsed the proposed diachronic-sensitive qualitative constraint then, on the condition that the poached egg exemplifies O* at \( t' \), the person would not exemplify O* at \( t \). That is, if certain exemplification facts at times extrinsic to \( t \) were altered, then the person would not exemplify O* at \( t \). As a consequence, O* would not be local to \( t \), given (LOC*). So O* would not be intrinsic to \( t \), given (IT). So the person would not be wholly present at \( t \), given (WHO), and endurance is lost.

The second point is that the untoward result does not come about on IT endurantism that is non-haecceitistic. Whichever qualitative properties the non-haecceitistic IT theorist endorses as determining some characteristically human object’s identity (for example) are presumably going to be constrained in such a way as to exclude their being exemplified by inanimate poached eggs, even just considering the human as it exists at some one time \( t \). The (characteristic) human’s set of identity-determining

\textsuperscript{7} Note that, qua haecceitist, the non-IT haecceitistic endurantist would of course deny that the exemplification of O* is determined across worlds by qualitative facts. The point of present importance is that, qua non-IT theorist, she would be able to allow for intra-world diachronic qualitative constraints.
qualitative properties at arbitrary time $t$ will be such that no poached egg exemplifies all of them at any one time.

6. Conclusion

It is worth making clear that the problem posed by the passing through thought experiment does not arise for traditional endurantism. The traditional endurantist is not committed to the full determination of Callaway’s identity at $t$ (or any other time) at $w_2$. There is a sense in which she may be committed to the full determination of its identity at $t$ at $w_1$, for she will hold that the temporal “whole” of Callaway is in some sense present at $t$ at $w_1$, but it is dubious that this sense of being ‘wholly present’ at $t$ at $w_1$ entails anything about $w_2$ or about any other world that may happen at some time to be intrinsically qualitatively identical to $w_1$ at $t$. For example, the traditional endurantist who takes intrinsic qualitative properties to be relations between objects and times may hold that Callaway’s identity at $t$ at $w_1$ is determined by the relations it bears to $t$, given some additional facts about relations it bears to other times in the temporal neighborhood of $t$. Since $w_2$ lacks these additional facts, the traditional endurantist will deny that Callaway’s identity is determined there at $t$.

Hofweber and Velleman do note that the debate between their endurantist and their perdurantist is one of cases: IT perdurantism may be true for some kinds of persisting items while IT endurantism is true for others. A respondent on their behalf might thus suggest that the most the passing through thought experiment shows is that the IT endurantist ought not expect her view to cover the persistence of inanimate material objects like golf balls. But the problem runs deeper than this. The thought experiment can
be reworked to involve persons instead of golf balls. Imagine a world containing two
perfectly identical twins who “pass through” each other so as to be exactly co-located at
time $t$ (while jogging, say) and who simultaneously undergo qualitatively identical
experiences.\(^8\) Now consider a second world in which only one of them exists but goes on
a qualitatively identical jog and experiences the very same things, culminating at a time $t$

at which this second world is an intrinsic duplicate of the first. The case against IT
endurantism made via 1-7 plus (v) can be paralleled for this case, mutatis mutandis. The
identity of the second twin is supposed to be fully determined at any time that is
intrinsically like $t$ at the first world, yet $t$ at the second world fits this bill (still setting
aside haecceitism) despite the fact that the second twin does not exist there. Since persons
are the very example Hofweber and Velleman consider in motivating IT endurantism, the
fact that they suggest a methodology of cases does not discharge the force of the above
counterexample.

A final remark about what the present essay does not show is in order. It is not
grounds for endorsement of traditional endurantism, or even of the traditional way of
framing the debate. Its thesis is simply that IT endurantism is inadequate qua version of
endurantism. IT endurantism should not persist.

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\(^8\) We may suppose that at the moment of being exactly co-located, both twins are temporarily void of any
would-be distinguishing mental states (e.g. certain dispositional or memory states) that a physicalist, at
least, may suggest would preclude the possibility of precise co-location. This would require the twin in the
second world to enter an admittedly strange mental state at $t$ (see the next sentence of the main text), but
strangeness is no bar to metaphysical possibility.
References


