Presentist Counterpart Theory

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Abstract

Presentism is a view about ontology. According to the presentist, only present things exist. Temporal counterpart theory is a view about persistence. According to the temporal counterpart theorist, objects persist through time by having counterparts at future times. I argue that there can be a presentist-friendly temporal counterpart theory, and the presentists would do well to adopt it. I do this by raising two problems for presentism and then showing how to solve them with a presentist counterpart theory. The first problem: a revived version of the problem of temporary intrinsics. David Lewis, Berit Brogaard and others have argued that presentists should adopt a kind of tense operator known a span operator. Span operators allow presentists to talk about things that were true at different times under the scope of one operator. For example, 'in 1809' is a span operator, and would allow the presentist to say 'In 1809, both Lincoln and Darwin were born' without quantifying over past individuals like Lincoln and Darwin or a past year in which they were both born. Presentists need span operators because they are needed to say some true things that eternalists with quantification over times can say but that presentists without span operators cannot. But span operators revive the problem of temporary intrinsics. The second problem: many presentists still want to maintain the truth of singular propositions about past and future individuals. But I argue that the presentist has no explanation for why multiple singular propositions can be about the same individual, while the non-presentist has an easy one. After introducing the presentist-friendly counterpart theory, I show how it solves both problems and thereby recommends itself to the presentist.

1   Introduction

Presentists think that only those things which exist now exist simpliciter. Those past are no more, those future yet to be. This naturally leads to questions about what makes truths about the past or future true. Presentism stands in contrast to eternalism, which embraces the unqualified existence of all things past, present, or future. If eternalism is true, truths about the past and future are no more problematic than truths about the present. Just as it is presently true that Ginsberg is a justice of the United States Supreme Court because there exists such a person as Ginsberg and she occupies the office of Supreme Court Justice, it was true in the past that Marshall was a justice of the United States Supreme Court because at some earlier time there exists such a person as Marshall and he occupies the office of Supreme Court Justice. Likewise, in the future Ginsberg will still be a justice of the United States Supreme Court because at some time later than now there exists such a person as Ginsberg and she occupies the office of Supreme Court Justice. Unfortunately, this pleasingly symmetrical treatment of past, present, and future truths is unavailable to presentists. Presentism admits no concrete past or future times, and therefore no past or future people (Ginsberg, Marshall, or anyone else) to occupy offices at them.

This general problem for presentism is known as the grounding or truthmaker problem. Presentists have made various replies, but the one I am interested in here invokes primitive tensed facts. According to tense-primitive presentism, facts about the past and future are "grounded" in facts about what the world was and will be like. It is true that Marshall once was and Ginsberg will still be supreme court justices not because of some facts about them existing at other times and the properties they have, but because it is true now that they will/did exist and occupy their office(s).

I am going to raise two problems for the tense-primitive presentist. The first is an old one: the problem of temporary intrinsics, which emerges when one and the same thing has incompatible properties at different times, even though that thing at one time is identical to itself at the later time when it has the incompatible property. It is generally thought that presentism is a solution to the problem. But I will argue that, when presentism has solved a different problem having to do with what can be expressed in its signature tense logic, the problem re-emerges.

The second comes from having true singular propositions about entities that do not presently exist, but did or will persist across time. To use an example: even through Caesar no longer exists, it is true that Caesar crossed the Rubicon and that Caesar conquered Gaul. We can, in general, ask why it is that two different singular propositions are about the same thing. And a typical answer would be: because singular propositions have their subjects as constituents, two singular propositions are about the same thing if they have the same subject-constituent. Presentists can't say this about wholly past or wholly future entities, which they say don't exist. And there is no clear, uncontroversial alternative for the presentist to invoke to answer the question.

After raising these issues, I will argue that the tense-primitive presentist can solve both by adopting a counterpart-theoretic account of persistence through time. According to the counterpart theorist, the entities of ordinary language are instantaneous, time-bound entities (stages). It is still true that entities persist over time. But this is not because they are identical to entities that exist at other times. it is because they stand in counterpart relations to objects that exist at other times. David Lewis introduced the counterpart theory as a theory of *de re* modality in his realist system of concrete possible worlds, and Ted Sider has argued that the four-dimensionalist has an easier time with various philosophical puzzles about persistence through time when adopting it. By showing that the presentist also has tidy solutions to some difficult problems about persistence if she adopts a counterpart theory, I provide a similar argument for the presentist to adopt it.

A brief note on terminology. I will use an italicized *F* and *P* for the standard Priorean tense operators, meaning 'it was that' and 'it will that' respectively. I will use an italicized *S* as a generic span operator. When I mean to talk about, rather than assert, a proposition, I will place it in brackets ≺like this≻.

2   Temporary Intrinsics

The problem of temporary intrinsics (or of intrinsic change) arises from the common sense observation that things change their intrinsic properties.[1] Consider the following story:

> PAINTED EGG: there was an egg that someone painted blue. They named the egg Eggl, and Eggl was blue. Then along came someone else. They pained the egg red. When they painted the egg red, they renamed the egg Huevo. Then Huevo was red.

We can collect a few facts from the COLORED EGG story. We know that Eggl is blue, Huevo is red, and Eggl is identical to Huevo. We also know that nothing is both blue and red. Combining these facts with a standard principle governing the logic of identity - if x is identical to y, then every property of x is a property of y and *vice versa* - we get the following argument, which is an instance of the problem of temporary intrinsics.

1. Huevo is identical to Eggl

2. nothing is both Red and Blue

3. Huevo is red

4. Eggl is blue

5. If x is identical to y, then any property of x is a property of y

6. Eggl is Red and Eggl is Blue (likewise Huevo)

Presentists (and other theorists for whom merely past and future entities do not, in fact, have the properties that they did or will have) seem to have a neat way to avoid the problem. Because what is true, in an absolute and unrestricted sense, can change, they do not allow all of the premises to be true together. At first, when Eggl is Blue, it is not true that Huevo is Red. It *will* be true that Huevo is Red. But that is in the future, and things will be different then. What is true is: ≺Eggl is Blue≻ and *F* ≺Huevo is Red≻. But this is no contradiction, for ≺Huevo is Red≻ does not follow from *F* ≺Huevo is Red≻. Soon enough, time passes and now ≺Huevo is Red≻ is true, but ≺Eggl is Blue≻ no longer is. It is true that *P* ≺Eggl

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[1]Lewis [1986] first brought the problem to light.

is Blue≻, but ≺Eggl is Blue≻ does not follow from P ≺Eggl is Blue≻ and so what is true is now ≺Huevo is Red≻ and P ≺Eggl is Blue.≻ Since at no time are all of the premises true together, there is no contradiction.

This presentist solution is not available to eternalists or others for whom concrete future times and objects exist with the properties that they have at those times. For an eternalist, ≺Eggl is Blue≻ is not merely true at one time. It is true simpliciter. When we survey all of the things that exist (past, present, future), we find Eggl among the things that are Blue. Likewise, ≺Huevo is Red≻ is not merely true at one time. It is true simpliciter. Among all of the things that exist (past. present, future), we find Huevo among the Red things. And yet this cannot be, for none of the Red things are Blue things, yet Eggl = Huevo.

Unfortunately, this tidy solution doesn't hold up when presentism has been given the resources to solve other problems.

The presentist uses Priorean tense logic as her regimented language for talking about time. Her eternalist opponent uses a two-sorted first order quantificational logic, with quantification over both objects and times. It is well-known that quantified tense logic is expressively inferior to first order logic with quantification over times. There are things we can say by quantifying over times that we cannot say using quantified tense logic. This is even true if we restrict ourselves to models where time is linear, and allow the presentist not only the basic Priorean tense operators ('it was that,' usually synbolized P, and 'it will be that,' usually symbolized F, and their duals) but Hans Kamp's 'since' and 'until' operators, which make their language propositionally but not first-order expressively complete.[2]

There has been some confusion in recent literature over what it is exactly the presentist cannot say. David Lewis [2004] suggests that the issue comes from sentences like KINGS, or more generally from numerical quantification:

KINGS: there have been two Kings of England named Charles.

In order to formalize sentences like KINGS some presentists have opted for what are known as *span operators*.[3] The formal semantics of span operators can get tricky, but the basic function is fairly intuitive: span operators allow us to talk about 'chunks' of past times all together. In particular, they allow us to simulate the eternalist quantification over times in the relevant span. For example, suppose we wish to talk about the events of the first world war. We could introduce a span operator, 'during the war,' and use it to simulate eternalist quantification over 1914-18. Thus, if we wish to say 'There have been at least five battles at Ypres,' instead of iterating combinations of 'past' operators and quantifiers over and over, we can use our span operator 'during the war.' Span operators are a natural tool for the presentist. Like regular tense operators, Span operators block ontological commitment. Just as regular (slice) tense operators allow us to talk about past and future objects without committing to their existence, span operators let us talk about chunks of past and future time, and anything they did/will contain, without committing ourselves to any additional ontology.

However, KINGS is not actually inexpressible in a tense logic using only slice operators. As Lewis originally noted, it can be done using a combination of nested tense operators and quantifiers. But Lewis thought that giving the general case of 'there have been n many non-simultaeneous Fs,' and in particular the infinite case, would prove too great a challenge. But recent work has shown that it can be done.[4]

Nevertheless, Gabbay's theorems hold. Presentism does face an expressivity gap. The kinds of things that it cannot say, it turns out, are the sorts that happen when we need to assert the existence of identical first-order structures at different times. To use an example from Hodkinson and Reynolds:

COUPLES: Everyone married on one day is divorced on a different day

Here we find a sentence that presentists can't capture. But it looks like they should want to. The addition of span operators should allow them to capture it - we simply need a span operator that includes both times in question.

Unfortunately, span operators bring the problem of temporary intrinsics back. Under the scope of a span operator, we can truthfully discuss a thing existing at multiple times, including times at which it has inconsistent intrinsic properties. This resurrects the problem. We will use 'during S' as a generic span operator, and then restate the argument using it. For

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[2] Kamp's proof may be found in Kamp [1968]. The incompleteness proof may be found in Gabbay [1981], For further discussion and summary see Hodkinson and Reynolds [2006], pp. 693-6.

[3] Lewis [2004] suggests this course but raises some doubts for it, while Brogaard [2007] and Bourne [2007] embrace it.

[4] Tallent and Ingram [Forthcoming] work through this kind of example in detail.

instance, perhaps S is the span encompassing the year 2018, during which PAINTED EGG took place.

1* During S(Huevo is identical to Eggl)

2* During S(nothing is both Blue and Red)

3* During S(Huevo is Red)

4* During S(Eggl is Blue)

5* During S(If x is identical to y, then any property of x is a property of y)

6* During S(Eggl is Red and Eggl is Blue (likewise Huevo))

The presentist solution to the problem no longer works. Both Eggl and Huevo exist with their conflicting color properties during the span, and consequently both premises 2 and 3 are true together.

But wait. The conclusion is not obviously a contradiction. Consider another case, using our 'during the war' operator. The United States was neutral from 1914-1917, then joined the war for 1917-1918. So ≺during the war, the United States was neutral≻ is true, and ≺during the war, the United States was a combatant≻ is true. Hence: ≺during the war, the United States was neutral and a combatant≻ is also true. One is tempted to say: there is no contradiction here. Why? The United States was neutral 1914-1917, and it was a combatant 1917-1918. It was never neutral and a combatant during the war. This tempting response does not work. As David Lewis wrote, when introducing the original puzzle:

> It is not a solution to say just how commonplace and indubitable it is that we have different shapes at different times. To say that is only to insist - rightly - that it must be possible somehow.[5]

Likewise in the case of our span operator. Of course you can have different diplomatic statuses at different times during the war. The question is how. There is a domain of objects that exist during the war, and those objects have properties. We had better not say that one and the same object has incompatible properties, and we had better allow that during the war the United States was neutral and that during the war it was a combatant. And we cannot say, as presentists do in the original case, that it is because ≺the United States is neutral≻ is never true alongside ≺the United States is a combatant≻ During the war, they both are.

Whether or not 6* is a contradiction will depend on the resolution of an unsettled issue in the semantics of span operators. Without getting into the technical details, here's why I think it's a problem. One way of thinking about the sentences of a formal language is as instructions about how to build a model. Sentences like 'Fa' tell us to ensure that our model has something in its domain of discourse than answers to 'a' and goes into the extension of the predicate F. Sentences like '$\forall x Fx \rightarrow \neg Gx$' tell us to ensure that none of the objects that go into the extension of F should go into the extension of G. We can then say that a set of sentences is consistent iff they give us instructions that can in principle all be followed together.

So the sentences in $1^* - 6^*$ are instructions on how to build a model of the world during S, the span of times represented by the span operator. 2* tells us that the Fs and the Gs are disjoint. Then 3* tells us about an object, x, that is among the Fs while 4* tells us of an object, y, that is among the Gs. 1* tells us that they are identical, and 5* tells us that if they are identical, then they share their properties. These lead to 6*, which tells us that this object, named by both x and y, belongs in both the F and the G extensions. But that contradicts 2*. It doesn't seem like fact that they are under the scope of the span operator helps. Generally, a contradiction remains a contradiction when under the scope of a tense operator. So why should 6* be any different?

The presentist solution to the original problem doesn't work for the version using span operators. Lewis offers two other solutions to the problem. I will now argue that neither is satisfactory for our new problem. This leaves the presentist in a bind: she can solve the expressivity problem with span operators, but then she needs a solution to the new temporary intrinsics problem.

Lewis did not exhaust the space of solutions to his problem, so I will not claim that what follows is an exhaustive exploration of how presentists with span operators can solve the problem. But they are suggestive of the kinds of issues that will inevitably emerge, and that should be enough to motivate exploring a solution that I know will work. First, I will explain the solutions in brief. Then I will show how they cause trouble when combined with presentist span operators.

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[5]Lewis [1986], 205.

The first: temporal parts. Just as objects are extended in space, we can think of (persisting) objects as extended in time. In fact, temporal parts give us an entire theory of persistence. How is it that I persist from yesterday to today? By having a part located at yesterday, and another located at today. The entirety of me is not located at any one point on the timeline, but covers a whole chunk of times, stretching from my birth to my death. I can then change my properties from time to time by having parts at earlier times with some properties and at later times with others. So when I move from sitting to standing, what is really going on is this: the part of me at the first time was sitting, full stop; the part of me at the second time is standing, full stop. The whole of me is neither sitting nor standing, but has parts which do both. Again, thinking about the spatial case can be helpful. My desk changes shape from cylindrical to rectangular as you go up the legs to the workspace. How? By having some parts, the legs, that are cylinders and by having another part, the workspace, that is rectangular. The whole of the desk is neither a cylinder nor a rectangle, but has parts that are either. According to temporal parts theory, I change shape over time much as my desk changes shape going up. By having different parts with different properties.

The second: time-relative properties. Instead of having the simple, monadic, intrinsic properties we think they do, objects have more complicated properties that involve times. There are two ways to implement this strategy.

The first is to make monadic properties into relations to times.[6] Instead of being bent at the time I am sitting, where 'being bent' is a simple monadic property, I bear the 'bent-at' relation to the time at which I am sitting. Likewise, instead of having the simple, monadic property of being straight at the time at which I am standing, where ' being straight' is a simple, monadic property, I bear the 'straight-at' relation to the time at which I am standing. Changing shape is then a matter of having different shape relations to different times. But now there is nothing incomatible with my properties. Even when I am sitting, I bear the 'straight-at' relation to the later time at which I am standing, and even when I am standing, I bear the 'bent-at' relation to the earlier time at which I was sitting. having the 'bent-at' relation to t requires that I don't bear any incompatible shape relation to t. But it requires nothing about my shape relations to other times.

The second implementation leaves the properties as simple, monadic properties but changes the instantiation relation.[7] We normally think of instantiation as having two components: the object, and the property that it instantiates. But we could think of it as having an extra component - a time of instantiation. Thus, instead of simply instantiating 'being bent' when I am sitting, It is true at all times that I exist that I instantiate-at-t being bent. Likewise, instead of instantiating 'being straight' at the time I am standing, I instantiate-at-t' being straight at all times that I exist. To change shape on this view is to instatiate-at-t one shape property and to instantiate-at-t' a different shape property, where t' is later than t. This too solves the problem; instantiating-at-t being bent requires that I not instantiate-at-t any incompatible shape property, but says nothing about what I instantiate-at-t'.

Neither of these strategies is viable for the presentist with span operators, and for similar reasons: both involve quantification over times that may be innocent while under the scope of a span operator but causes a mash when combined with truths about the present. We will begin with temporal parts. Let's assume that our presentist is a full blown mereological universalist, so she believes in absolutely unrestricted composition. Thus, she would be fine with temporal parts if there were more than one time. Nevertheless, she believes that only one time exists. Consequently, there are no temporally extended objects. Enter the span operator. During the war, more than one time existed. Consequently, during the war there were temporally extended objects. But now our presentist has to say some very odd things, most notably:

ODD: There are no temporally extended objects, but during the war there were temporally extended objects.

It's not incoherent to say ODD. There are no artillery battles in eastern France, but during the war there were artillery battles in eastern France. But it is odd. It's not as if temporally extended objects, like artillery battles, ceased when the war ended. During the next year, there will be temporally extended objects. Nevertheless, no temporally extended objects exist. Again, this is not because we are in a weird moment populated by instantaneous objects. During the next year, I, who exist now, will be a temporally extended object.

The oddness is generated by the presentist's ontologically non-committal span operators. Because only present objects exist, and the present is not temporally extended, temporally extended objects can only be said to exist under the scope of existentially non-committal operators. They're strangers to the presentist ontology, and should be avoided if they can be.

Next we will discuss property-relativizing. The first way to relativize properties is to make them relations to times.

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[6]Lewis [1986] considers and rejects this implementation.

[7]van Inwagen [1990].

The problem here for presentists is fairly straightforward: there is only one time at a time. Consequently, on the plausible assumption that relations require relata, there can only be relations to one time at a time. This makes the first account of change fall apart. Recall that on this view, to change shape is to bear different shape relations to different times. But since, on presentism, there is only ever one concrete time (we'll think about abstract times later) to bear relations to at a time, there would never be any intrinsic change of any sort.

The second way to relativize properties is to relativize instantiation. On this view, instantiation does not merely relate an object to a property. It relates an object to a property and a time. Change is then instantiating-at-different-times different properties. The problem with this way again comes down to the lack of times in the presentist ontology. There is only ever one time, and so, on the plausible assumption that relations can only relate things that exist, instantiation-at-a-time can only relate objects and properties to the present time. Once again, we lose our account of change. At the present, I cannot be both bent-at-t and straight-at-t′. At most one of t and t′ exists, and so I can instantiate-at-a-time properties at at most one of them.

Some presentists may object here that they do allow non-present times into their ontology. They merely make them abstract, or non-concrete. But they exist, and are therefore perfectly eligible as relata in the triadic instantiation relation we are considering.

Unfortunately, this does not resolve all of the problems. Amongst the varieties of change recognized by the presentist there is a very important one that times undergo: change in their A-properties, the change from present to past and from future to present. This kind of change is poorly served by the three part instantiation relation.

To see the problem, begin with two times. A given time, t, is now present as I am writing. A different time, t′ is present when you are reading what I've written. In a normal presentist theory, what makes t present now is that it instantiates presentness (or whatever grounds presentness) *simpliciter*. What will make t′ present then is the same thing. But in the new theory, t can't instantiate presentness *simpliciter*. Even if our old dyadic instantiation relation can be defined in terms of triadic instantiation as instantiation-at-all-times, as van Inwagen suggests, t can't instantiate it. Each time is only present at itself, and so only instantiates-at-itself presentness. Instead, t must settle for instantiating-at-itself presentness, instantiating-at-earlier-times pastness, and instantiating-at-later-times futurity. Likewise for t′. This is all it is for t and t′ to change their A-properties.

But now there is no difference between which A properties t and t′ instantiate-at-a-time when they are present, past, or future. Right now, t instantiates-at-t presentness and instantiates-at-t′ pastness, while t′ instantiates-at-t futurity and instantiates-at-t′ presentness. When you read this passage, the situation will be the same. No time will instantiate-at-anything anything different. Every time will instantiate-at-itself presentness, will instantiate-at-later-times pastness, and will instantiate-at-earlier-times futurity. And since no time instantiates-at-all-times pastness, presentness, or futurity, there will be no instantiation *simpliciter* of any A-properties. The dynamism that an A-theory is supposed to have is gone.

Perhaps the presentist can try to preserve change in A-properties by retaining a primitive two place instantiation relation (e.g. not van Inwagen's one that is defined as instantiating-at-t for all t) alongside the 3-place one. There's a danger here of ideology bloat, but we'll ignore that for now. Keeping a primitive two-place instantiation relation will allow her to retain her old theory of change for A-properties, while analyzing change under the scope of a span operator using the three place instantiation relation. But there's still a problem. The presentist theories of change and of instantiation will now fit poorly together, similarly to how her ontology did when we considered a solution in terms of temporal parts. Under the scope of her span operators, she cannot use the two place instantiation relation for objects that change in their intrinsic properties. That's what the problem of temporary intrinsics is all about. So change under the scope of a span operator will have to be analyzed with the three-place instantiation relation. So she will be comitted to further odd sentences, such as:

ODDER: During the war, no times changed their A-properties. But now, times in the future will become present and the present will become past.

It sounds as if the nature of time itself changed on Armistice Day. But of course it didn't.

This leaves the presentist without a good response to the revived problem of temporary intrinsics. Before we venture a solution, we will see that presentism's woes don't end there. Next, we will explore a different problem for presentists arising from persistence of past or future objects.

3 Persistent Non-Existents

The second problem for presentism is generated by several other views in combination with presentism. The first we will call SERIOUS PRESENTISM. Like its modal analog SERIOUS ACTUALISM, SERIOUS PRESENTISM says that non-existent objects cannot bear properties or stand in relations. But while SERIOUS ACTUALISM targets only non-actual objects, SERIOUS PRESENTISM targets merely past and future objects. According to the serious presentist, only present objects bear properties or stand in relations.

Singular propositions are about things directly, not by way of descriptions that the things happen to fulfill or quantified sentences that they happen to witness. Two examples. First: ≺Caesar crossed the Rubicon≻. Second: ≺John (which we shall provisionally name the first pilot to complete a successful flight in the 23rd century) will take off≻. These contrast with nearby propositions, such as: ≺the first Roman emperor crossed the Rubicon≻, ≺someone or other crossed the Rubicon at a key moment in Roman history≻, ≺someone will complete a successful flight in the 23rd century≻, and ≺the first pilot to complete a successful flight in the 23rd century will take off≻. It's tricky to give a hard and fast definition of the difference between singular and non-singular facts, but the canonical statement of a singular fact involves a proper name as its subject, while the canonical statement of a non-singular fact does not.

It's a common view that singular propositions have their subjects as constituents. Serious presentists who accept that there are true singular propositions about merely past or future objects must dissent. I think the dissenters have a strong case,[8] and the problem I am interested in does not require singular propositions to have their subjects as constituents in order to arise, so I will grant them its falsity.

The problem I'm interested in comes about because there are true singular propositions about merely past and future objects at different times in their careers. Caesar not only crossed the Rubicon; he also conquered Gaul. John will not only take off, but he will land. But what makes the propositions ≺Caesar crossed the Rubicon≻ and ≺Caesar conquered Gaul≻ propositions about the same person? What makes the propositions ≺John will take off≻ and ≺John will land≻ propositions about the same person?

The usual explanation won't do. The usual explanation of why two singular propositions are about the same object is that they contain the same object as a constituent. But presentist-friendly singular propositions do not have the objects they are about as constituents, so it is not obvious that presentist-friendly singular propositions must have a constituent in common when they are about the same object.

Perhaps we could adapt the usual explanation to use presentist-friendly entities in place of the objects that singular propositions are about. We might, with Alvin Plantinga, help ourselves to individual essences[9], so that singular propositions about Caesar feature Caesar's essence as a constituent and singular propositions about John feature John's essence as a constituent.

In order for the strategy of replacing individuals as constituents of singular propositions about them with their essences to work, and so getting an explanation of why different singular propositions can be about the same individual, it must be true that every individual that ever has or will exist has an essence that always exists. Otherwise, the presentist will face all of the same problems that come from making individuals constituents of singular propositions all over again. The point of invoking essences is to invoke an entity that is (a) intimately associated with exactly one object, and (b) never passes into or out of existence.

Recall that a Plantingan essence is a property that a given object would have if it were to exist, and that no other object could possibly have. Following Robert Adams, we can recognize three kinds: thisnesses, qualitative essences, and α-relational essences.[10]

A thisness is the property of being (or of being identical to) a given individual. The thisness of Caesar is the property of being (identical to) Caesar. Whenever Caesar exists, Caesar instantiates this property, and if anything instantiates the property, it is Caesar. A qualitative essence, by contrast, is a property (or conjunction of properties) that are themselves qualitative (roughly: don't make reference to specific individuals in their canonical statement), but could only possibly by

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[8]Merricks [2011].

[9]Since there is now some dispute as to whether Plantingan essences capture the concept of essence, see Fine [1994], let it be known that I don't really care if Plantingan essences are proper essences or if they have been misnamed. I am more interested in the entities defined and explored in Plantinga [1974] than I am in something approaching a 'folk' concept of essence.

[10]Adams and Plantinga both mention a fourth: world-indexed properties. But as Adams [1979] notes, there is no reason to believe that there are world-indexed properties that are essences of things that don't exist without there being one of the other kinds as well.

possessed by one possible thing. Finally, an α-relational essence is the property of bearing R to $o_1...o_n...$, where $o_1...o_n...$ all exist and R is a qualitative relation. For example (assuming that origins essentialism is true), if we call the particular egg and sperm that combined to produce Caesar S and E, then *being the unique person produced by the union of S and E* is an a α-relational essence of Caesar.[11]

Of these three kinds of essence, two of them can exist uninstantiated. A purely qualitative essence and an α-relational essence. For example, had Caesar's parents never met, the α-relational essence of Caesar's we discussed still would have, so long as S and E still did. Plantinga is of the opinion that even a thisness could exist uninstantiated, but Adams [1981] disagrees. In this dispute I side with Adams. Those who insist on uninstantiated thisnesses can solve the problem, but at a price I deem too high.

Plantinga's main use of uninstantited essences was in giving the semantics for his quantified modal logic. Timothy Williamson has raised serious problems for Plantinga about this, although relitigating them would take us too far afield. As Williamson suggests, and Meghan Sullivan argues in more depth, Williamson's views about modality and modal logic can be smoothly transposed to be about time and tense logic. I side with Adams over Plantinga primarily for the reasons Williamson gives, transposed into the temporal case.[12]

Although essences that aren't thisnesses may exist uninstantiated, I will argue that they are not good enough to stand in for objects as constituents of singular propositions. Why? Because there is no guarantee that every object will at every time have an existing essence. And so there is no guarantee, if essences are constituents of singular propositions, that at every time all of the singular propositions that should exist do exist.

I will make this argument by constructing an example: a very simple world where there are times when some past or future objects do not have any existing essences. We begin with a homogenous iron sphere, which we shall name Julius. Next, we will consider a duplicate of Julius, this time named Marc. In our world, Julius and Marc are the only objects that exist. But they do not exist at the same time. Instead, Julius exists first, then is annihilated, and later Marc exists.

In our simple world w_1 we note three blocks of time: t_1, when Julius exists; t_2, when neither Marc nor Julius exists, and t_3, when Marc exists. Because Marc and Julius are qualitative duplicates, neither has a qualitative essence. Because Marc and Julius never exist at the same time as anything else, neither has an $\alpha - relational$ essence. So the only essences Marc and Julius have are thisnesses. But since thisnesses only exist when instantiated, neither Marc nor Julius has an essence that exists at everytime in their little world. Consequently, if singular propositions have the essences of the things they are about as constituents, the singular propositions about Marc and Julius only exist when Marc and Julius do. A presentist who wishes to have singular propositions exist even when the objects which they are about do not will thus find essences unacceptable as constituents of singular propositions. Consequently, the simple fix to the usual solution to the question of how different singular propositions can be about the same object is unsatisfactory.

Before we move on, we should address a few objections to the case by adding a few wrinkles. First wrinkle: what if Marc or Julius has an α-relational essence involving spacetime itself? So far, I have talked like a substantivalist about time and probably space. But we could do this with a relational spacetime, although we would have to make some modifications. Instead of talking about objects existing "before" or "after" each other, we describe the world thus: Marc exists, and Julius exists, and there is a spatiotemporal relation R between them, so that Rjm is the only true fundamental relational fact in our world. In a relational spacetime, this will not be enough to say whether Marc and Julius exist before, after, or at the same time as each other. But so long as R ensures that Marc and Julius do not overlap, it will then be consistent with all the fundamental facts at our world to say that Marc and Julius exist in different, non-overlapping blocks of time.[13] Second wrinkle: what if we can find α-relational essences for Marc and Julius by using relations to the world they inhabit, which is composed of Marc when Marc exists and Julius when Julius exists? It's a little tricky to find an appropriate relation, since any relation that makes reference to Marc or Julius won't fit the bill. But perhaps we can exploit the fact that Julius is first and Marc is second, with relations like: 'being a world and being composed by x, and never having been composed by anything other than x' to Julius, which the world never bears to Marc, and 'being a world and being composed by x only after being composed by a homogenous iron sphere that is distinct from x,' which the world bears to Marc and never to Julius.[14] In response, I will deny that there is some thing, 'the world,' over and above the iron sphere that exists and is composed by one

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[11] note that while the relation *being the unique person produced by the union of* is a qualitative relation, the property *bearing the relation of being the unique person produced by the union of S and E* is a non-qualitative property.

[12] See Sullivan [2012] and Williamson [201x], especially chapters 3-6.

[13] Thanks to Isaac Wilhelm for discussion on this point.

[14] Adjusting these relations for the relational case is an exercise for the bored and physics-inclined reader.

sphere at some times and at different times the other. The sphere is all there is; sometimes the one, sometimes the other.[15] So much for the usual explanation. Presentism requires something different.

4   A Presentist Counterpart Theory

According to stage theory, objects are timebound (a bit more carefully: the typical referents of names are timebound. A stage theorist is free to believe in temporally extended objects, but her theory of object-identity takes the referents of typical names in ordinary language to be the timebound instantaneous objects and proceeds to give a theory of persistence for them).[16] They each exist at only one instant. Nevertheless they persist through time, but not by being numerically identical to objects that exist at later times. Instead, they persist through time by having counterparts that exist at later times. There are various ways of spelling out the counterpart relation (things like causal and psychological continuity and objective similarity are important) depending on context, but it depends on qualitative properties. This is important. A goal of David Lewis's modal counterpart theory was to give an account of identity across worlds that did not invoke non-qualitative properties or relations. Likewise, what will make a temporal counterpart theory attractive to us as a solution to the problems I've raised for presentism is its ability to give a theory of persistence through time that does not invoke non-qualitative properties.

Already we can see presentist-friendly elements in the stage theory. It has no use for temporally extended objects, and it does not invoke non-qualitative properties. Likewise, the presentist's objects do not exist at more than one time, and she will have a hard time with non-qualitative properties for non-present objects. But we will need to tweak standard stage theories a bit to use it as presentists.

A typical stage theory says: object o_n which exists at t_n persists until t_m because it has as counterparts objects $o_n...o_m$, where at least one of $o_n...o_m$ exists at each time from t_n to t_m. Thus, while it does not invoke temporally extended objects, it does invoke multiple times and objects existing at different times. This is inconsistent with the presentist ontology. So a presentist stage theory had better find a way to do without them.

The natural presentist approach is to replace times with tense operators, and to confine discussion of existence at other times to sentences within the scope of tense operators. Thus, the presentist might say: object o_n which exists at t_n will exist in the future (did exist in the past) because it will have (has had) as counterparts future (past) objects $o_n...o_m$. This eliminates any reference to other times, but it still is committed to past and future objects. In order to remain presentist-friendly, we'll need to talk not of past and future objects, but of the kind of objects that will (did) exist: object o_n which exists at t_n will exist in the future (did exist in the past) because there will (did) exist objects $o_n...o_m$, and these objects will (did) fulfill the conditions of the counterpart relation to o_n.

Now we are only quantifying over non-present objects within the scope of tense operators. But we have talked about the "conditions of the counterpart relation," which bears further elaboration. David Lewis first introduced the counterpart relation as a way of reckoning sameness across (what he took to be concrete) possible worlds. As he says:

> Your counterparts resemble you closely in content and context in important respects. They resemble you more closely than do the other things in their worlds. But they are not really you. For each of them is in his own world, and only you are here in the actual world. Indeed we might say, speaking casually, that your counterparts are you in other worlds, that they and you are the same; but this sameness is no more a literal identity than the sameness between you today and you tomorrow...The counterpart relation is a relation of similarity...it is the resultant of similarities and dissimilarities in a multitude of respects, weighted by the importances of the various respects and by the degrees of the similarities.[17]

The basic idea is simple but very powerful. Sometimes we wish to reckon two items in a domain of quantification (what we might wish to call 'bearers of logical quantity' in order to avoid incorrectly referring to them as distinct objects) 'the same' even though they do not share all of their properties. When we do, our goals and context will determine a relation that holds only between items that are the same (in some contexts this will be an equivalence relation, but it need not be[18]; in some contexts this will be numerical identity, but it need not be). Lewis calls the genus of these relations 'counterpart.'

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[15] Thanks to Dean Zimmerman for discussion on this point.
[16] Sider [1996] and Hawley [2001] give in depth expositions.
[17] Lewis [1968].
[18] See Sider [2018].

Modality *de re* is not the only question in which counterpart relations have been invoked. Ted Sider has already defended a counterpart theory to explain persistence over time, which he calls a stage theory. Sider's stage theory is set within a four-dimensionalist ontology, which has both temporally extended objects and their temporal parts, along with the eternalist's ontologically egalitarian times. Sider argues that even if there are temporally extended objects available, some of the puzzles about persistence over time (such as Parfit's fission cases) are better explained by making the typical referents of names and objects of ordinary quantification be stages, with persistence across times explained by a counterpart theory. My argument is similar to Sider's: the problems I have introduced are best resolved by a counterpart theory. I will now show how adopting a counterpart theory solves the two problems for presentism I raised in §2 and §3.

4.1 Temporary Intrinsics Revisited

As I have argued, introducing span operators resurrects the problem of temporary intrinsics for presentists. But a counterpart theory makes it go away. The problem of temporary intrinsics depends on a version of Leibniz's Law: x=y iff (Fx iff Fy). If two items in the domain of quantification are the same thing, they have all the same properties. But counterpart theories are designed to provide a sameness relation that is not numerical identity, does not follow Leibniz's Law, and may not even be an equivalence class. Eternalist stage theorists will deny premise 1 in the temporary intrinsics problem (while accepting a replacement for 1 phrased in terms of sameness), while presentist stage theorists will deny premises 1 in the resurrected problem of temporary intrinsics (while accepting a replacement for 1 phrased in terms of sameness). A presentist stage theory solves the new problem of temporary intrinsics straightforwardly and unproblematically.

4.2 Persistent Non-Existents Revisted

The second problem we raised for presentism came from entities that do not presently exist, exist(ed) at more than one time, and have true singular facts about them. For simplicity, we will focus on one case: the case of ≺Caesar crossed the Rubicon≻ and ≺Caesar conquered Gaul≻. We wish for an explanation of how the fellow who crossed the Rubicon is the same guy who conquered Gaul. We can do this with the counterpart theory.

With each singular proposition we can associate a general one that, instead of using names, uses detailed descriptions of the thing named. Thus, we can pair ≺Caesar crossed the Rubicon≻ with ≺A person with such-and-such description crossed the Rubicon≻, where the such and such gives a complete qualitative description of Caesar at the crossing. Likewise, we can pair ≺Caesar conquered Gaul≻ with ≺A person of such-and-such description conquered Gaul≻, where the such and such gives a complete qualitative description of Caesar during the conquest. Our counterpart theory will then tell us if the person who conquered Gaul is also the person who crossed the Rubicon. If the pair of descriptions fits the requirements for describing counterparts - which are entirely qualitative - then we can say that they describe the same person. And since each is also a description of Caesar, they each describe Caesar.

This solves the problem. The guy who conquered Gaul is the same one who crossed the Rubicon because the qualitative past tense facts about them underwrite a counterpart relation between them. This solution invokes only presentist-friendly resources, and provides a second demonstration of the rewards counterpart theory has to offer the presentist.

One final note. I have offered a story about what facts in the world explain facts like 'The Caesar who conquered Gaul is the very same person as the Caesar who crossed the Rubicon.' I have not offered a story about the semantic content of ≺ Caesar conquered Gaul ≻ or ≺ Caesar crossed the Rubicon ≻. I have not, therefore, saddled myself with a descriptivist theory of reference, or with a theory where names are disguised descriptions. What I have said is compatible with different theories of reference. I have offered a theory of how, within a presentist-friendly ontology and ideology, using facts that the presentist already needs to take as fundamental, to ground facts that say when some singular propositions are about the same person. Even when that person does not exist, and so the usual explanation is unavailable.

5 Conclusion

To conclude: I have argued that presentism faces two hitherto unsolved problems. The first comes when combining its traditional solution to the problem of intrinsic change with the span operators required for it to answer the expressivity objection levelled against it. The second comes when we ask how it is to ground facts about cross-temporal reference for singular propositions about objects that do not at present exist. The solution to both, I argue, is stage theory. Stage theory

can be formulated in a way that is presentist-friendly, and used to dissolve both objections. This recommends it to the presentist.

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