Stage Names

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Abstract

Four-dimensionalist accounts of personal persistence according to which personal names are temporally rigid produce counterintuitive results in branching cases. I sketch a semantics for the stage theory according to which names refer indeterminately over reference classes of stages and, in branching cases, select different reference classes at different times. Where fission occurs there is one person before fission, afterwards two people each of whom 'were' that person, and no answer to the question of how many people there are 'all along'. This account produces a more intuitive reading of fission cases than standard purdurantist accounts in puzzle cases of fission. Arguably, in understanding personal persistence *if* you are a four-dimensionalist you should be a stage theorist rather than a worm theorist.

1. Referring to Stages

Persons, according purdurantist accounts, are four-dimensional aggregates of stages or 'worms' standing in a kind-specific unity relation for *person* and, on most accounts, personal names refer to the same person at every time[1].

According to the Present Stage View, in 'de re temporal predication', names refer to stages that exist at the time of utterance and express singular propositions about them.[2] This account poses a problem for understanding talk about individuals who have no current stages, for example, Socrates. There are *many* Socrates stages to talk about but absent a current stage it would be arbitrary to select any one of them as the referent. Sider, who endorses this account, suggests therefore that (1) should be understood as 'a *de dicto* temporal claim, the result of applying a sentential operator 'WAS' to the sentence 'Socrates is wise'.[3]

(1) Socrates was wise.

Prima facie (1) and (2) are of the same form but on this account, they are not in virtue of the extra-linguistic fact that Biden is alive but Socrates is dead.[4]

(2) Biden was elected.

Arguing that this result is unsatisfactory, Pablo Rychter, proposes that stages receiving Kripkean baptism can be non-arbitrarily selected for reference. According to his Baptized Stage View 'Biden' and 'Socrates' refer to past stages so

baptized. Not all individuals however have unique baptized stages. Rychter cites Julius, designated as the inventor of the zip.[5] 'Julius', he suggests, *vaguely refers to each of the inventors of the zip'.* noting that 'indeterminacy in singular reference is an already familiar phenomenon that can be treated with standard supervaluationist tools'.[6] *If however we have supervaluationist tools why bother with baptism?*

2. Indeterminate Reference

On my proposed account reference to persons gets treatment comparable to the supervaluationist response to the Problem of the Many.

There is just one cloud in the sky but many aggregates of water droplets overlapping the region it occupies. It is not clear which compose a cloud since many are eligible and it would be arbitrary to select one of them as *the* cloud.[7] Lewis declares that while we cannot deny arbitrariness 'we can deny that it is trouble…our unmade semantic decisions don't matter since what we want to say will be true under all different ways of making the unmade decision'.[8] Pointing skyward I say 'That is a cloud'. My demonstrative 'that' is vague and picks out different eligible aggregates of water droplets on different precisifications. But on every admissible precisification 'That is a cloud' is true. There is no determinate answer to the question of which aggregate of water droplets 'that' picks out, but my utterance, 'That is a cloud' is determinately true.

Sentences may be determinately true or false even when the reference of terms that figure in them is indeterminate, a result Lewis recommends we 'learn to live with it, as we do in other contexts. "I owe you a horse, but there is no particular horse such that I owe you that horse."'[9] On the current account, person's names refer to person-stages but there is no particular stage to which a personal name refers.

Names are assigned to stages at baptism and propagate to all stages that bear the kind-specific unity relation for *person*, the I-relation, to the baptized stage. At any time, t, 'N's stage at t' refers determinately to a person at t who is I-related to the baptized stage.[10] At any time, t, a personal name 'N' refers indeterminately over those stages that are I-related to N's stage at t—N's reference class at t A sentence ascribing a property to a person at a time, t, is true if the reference class of their name at a time of utterance, t', includes a stage at t that has that property.

(3) At t', N is F at t

In (3), t' determines the class of stages over which 'N' refers and t selects the stage in virtue of which N is F. (3) is true iff 'N's reference class at t' includes a stage at t that is F.

FOOTNOTE: "On this account, we have to distinguish two senses in which an object can have a property relative to a time (or world, or place). In the fundamental sense, property instantiation is a private affair between a stage and a property. No time or place or world is involved. To say that x is F at t simply means that x is located (wholly and entirely) at t, and that it is F. In the other, derivative sense, one can truly say that x is F at t even if x is not located at t, as long as x has a counterpart at t which is F (in the fundamental, non-relative sense). In the fundamental sense, the train that leaves Berlin does not exist at t2. In the derivative sense, it does. The ordinary sense is clearly the derivative sense." (Schwarz, 2014,

p. 1064)

At any time of utterance, '*N*' refers indeterminately over the set of stages that are I-related to a stage at the time of utterance that includes a stage baptized '*N*'. Both indefinite articles are of interest. A person-stage may be I-related to more than one baptized stage. People change their names and adopt pseudonyms. More interestingly, where fission occurs there are times at which more than one stage is I-related to the same baptized stage.
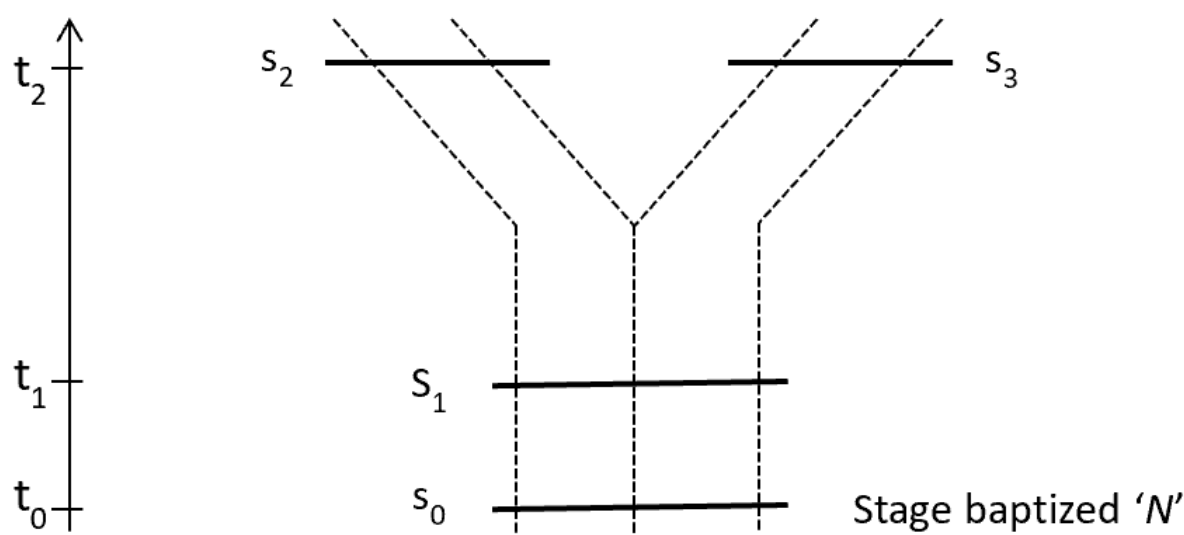
S_1 is N's stage at t_1. To determine the reference class of '*N*' at t_1, start at s_1 and trace the I-relation from there to earlier and later stages. The reference class of '*N*' at t_1 is represented by the Y-shaped structure. s_2 and s_3 are N's stages at t_2. To determine the reference classes of '*N*' at t_2 start with s_2 and s_3 and trace the paths of the I-relation to earlier and later stages. The I-relation is not transitive. s_2 and s_3 are each I-related to s_0 but not to one another, so the left and right branches represent two overlapping reference classes of '*N*' at t_2.[11] '*N*' is both synchronically and diachronically ambiguous: it selects different reference classes before and after fission; and after fission selects different reference classes at the same time.FOOTNOTE: But see

(Korman, 2019)

This account preserves what Rychter describes as 'two orthodox views about proper names: first, the view that proper names are not context sensitive…second, that the referent of a name is the individual originally baptized with it.'[12] Names do not determinately refer to different stages at different times as they do on the Present Stage View and in non-branching cases refer indeterminately over the same reference classes at every time. And the reference class(es) over which a name refers is determined by baptism and includes the baptized stage.

Unlike the Baptized Stage View it comports with our intuition that when we ascribe a property to a person we are referring to that person and not to some long-past stage. In (2) we are talking about *Biden*, referring indeterminately over a many person-stages, and saying that there is a current presidential stage amongst them rather than saying of a baby-stage in

Scranton 80 years ago that it is I-related to a current presidential stage.[13] And this account provides an intuitively correct reading of fission cases as well as ordinary cases.

3. Fission: Vagueness And Ambiguity

At t_1, Wholly is in a blue room about to undergo a double hemisphere transplantation. After the procedure, the left and right hemisphere recipients are baptized 'Lefty' and 'Righty' and, at t_2, occupy red and green rooms respectively. s_1, Wholly's stage at t_1, is I-related to s_0, a stage at t_0, who was baptized 'Wholly' and to post-fission stages s_2 and s_3, stages at t_2 of Lefty and Righty respectively. Before fission both (4) and (5) are true since Wholly's stage at t_1 is I-related to stages in the red room and in the green room.

(4) Wholly will be in the red room at t_2.[14]

(5) Wholly will be in the green room at t_2.

At this point the incredulous stare kicks in. How is it possible that, after fission, Wholly be both entirely in the red room and entirely in the green room? Adopting the first-person perspective, I cannot imagine being entirely in two different places. I can imagine my experience being partly of two places, of my visual field as a sort of split screen. But when I conjure up this picture there are spatial relations between the imagery on the two sides of my visual field: they are parts one experience. I cannot imagine being entirely in two places *at different times* either. There might be a what-it-is-like experience of states of affairs at different times for God, an atemporal being, but not for me.

But that is irrelevant. On the current account, while a person about to undergo fission is *going to be* in two different places there is no time at which any person *is* in two different places. Persons are instantaneous stages. Wholly at t_1 is not identical to either the person-stage in the red room at t_2 or the person-stage in the green room at t_2. There is no time at which Wholly present-tensedly *is* entirely in the red room and *is* entirely in the green room. Wholly's stage at t_1 is however I-related to stages in both those places: before fission Wholly can look forward to being in the red room and to being in the green room and, at t_1, that is true also of both Lefty and Righty.

Though the names 'Lefty' and 'Righty' will not be in use at t_1, unless Wholly has issued a pre-fission baptismal directive, they refer at t_1. Before fission, 'Lefty' and 'Righty' each select the same reference class as 'Wholly'. Begin with the post-fission stage baptized 'Lefty' and trace back the I-relation to Lefty's stage at t_1. That stage, s_1, defines the reference class of 'Lefty' at t_1, which includes all and only those person-stages that are I-related to it, represented by a Y-shaped structure which includes s_3 as well as s_1 and s_2. And that is the reference class of 'Wholly' at t_1. Beginning with the post-fission stage baptized 'Righty' produces the same result, so (6), (7) and (8) are true at t_1.

(6) Lefty = Wholly

(7) Righty = Wholly

(8) Lefty = Righty

At any time, t, an individual N is, was, or will be F at a time t' iff their reference class at t includes a stage at t' that is F. Since 'Lefty', 'Righty', and 'Wholly' select the same reference class at t_1, represented by the Y-shaped structure, they have all the same properties at t, including futural properties. That set of stages includes a post-fission stage in the red room at t_2 so both (9) and (10) are true at $t1$.

(9) Lefty will be in the red room at t_2.

(10) Righty will be in the red room at t_2.

That is only to be expected since (8) is true at t_1 and identity is an indiscernibility relation for all properties unrestrictedly, including historical and futural properties.

At t_2, however, (8), is not true—not because identity is 'occasional' but because reference is. At any time, t, an identity statement $N_1 = N_2$ is true iff the reference class of N_1 at t = the reference class of N_2 at t. that is, iff at t 'N_1' and 'N_2' refer indeterminately over the same set of person-stages. At fission, the reference of 'Lefty' and 'Righty' shifts to the left and right branches respectively. At t_2, 'Lefty' selects the set of all and only stages that are I-related to s_2, which includes s_1 but not s_3 and 'Righty' selects the set of stages that are I-related to s_3, which includes s_1 but not s_3. Since 'Lefty' and 'Righty' select different reference classes at t_2, (8) is false at t_2. And at t_2 (11) is also false.

(11) Righty is in the red room at t_2.

(10) is true but (11) is false because 'Righty's reference class at t_1 includes a stage at t_2 in the red room but its reference class at t_2 does not. 'Righty' is diachronically ambiguous. (6) and (7) are true at t_2, because after fission 'Wholly' is synchronically ambiguous, a phenomenon common for names outside of regimented formal languages.[15] There are two concurrent stages at t_2 that are I-related to the pre-fission stage baptized 'Wholly': s_2 and s_3. At t_2, 'Wholly' refers ambiguously over reference classes defined by s_2 and s_3, represented by the left and right branches respectively. On one disambiguation (6) is true at t_2; on the other (7) is true at t_2. There is however no post-fission stage that is I-related to both the stage baptized 'Lefty' and the stage baptized 'Righty' so at t_2 (8) is false.

Since (8) is true before fission but false afterwards there is one person before fission but two afterwards counting by identity. Synchronic counting is always by identity: at any time there are exactly the same number of persons as there are person-stages, hardly surprising since persons *are* stages. Diachronic counting however is *never* by identity since persons are instantaneous stages and stages the exist at different times are not identica. But there is no such thing as diachronic identity either as distinct from or as a restriction on identity simpliciter. There are just diachronic identity *statements*—statements in which individuals are identified by descriptions that are true of them at different times.

After fission both Lefty and Righty remember being in the blue room and that is where they were: (12) and (13) are true at t_2 since their reference classes at t_2 include a stage in the blue room at t_1.

(12) Lefty was in the blue room at t_1.

(13) Righty was in the blue room at t_1.

Lefty and Righty didn't come into existence at fission. They were somewhere at t_1, and where they were was the blue room. At t_1 however they weren't, so to speak, *they*: there was just one person in the blue room. And at t_2 there is just one person in the red room, namely Lefty, who was in the blue room at t_1. So (14), a diachronic identity statement, is true at t_2.

(14) The person in the red room was the person in the blue room at t_1.

The current account is elaborate but it produces more intuitive results than purdurantist alternatives according to which personal names refer to the same aggregates of stages at every time without taking on any additional metaphysical baggage.

4. Consider the (Perdurantist) Alternative

Perdurantists agree that persons are I-interrelated aggregates of person-stages, where the I-relation is the kind-specific unity relation for *person* but disagree about whether the I-relation may branch. On accounts that permit branching there are in fission cases two persons at every time who 'cohabit' before fission. Those that avoid branching by building non-branching requirements into the conditions for I-relatedness avoid cohabitation but preclude survival in fission cases. The current stage-theoretical account avoids both results, which can be negotiated but are nevertheless costly.

According to Lewis the I-relation is intransitive and in fission cases branches. On this account Lefty and Righty share stages before fission but are not identical. They are 'almost identical' because they overlap, and synchronic counting is by identity-at-a-time, an almost-identity relation. But almost-identity is not an indiscernibility relation for all properties.[16] (9) is true because Lefty includes a stage at t_2 in the red room amongst his temporal parts but (10) is false because Righty does not, even though her stage at t_1, is I-related to a stage in the red room at t_2. I-relatedness is not sufficient for the ascription of futural properties.

Considered from the first-person perspective this is highly unintuitive. Even if I am a worm I view my prospects from the time-bound perspective of a stage, as Lewis grants.[17] At t_1 I understand that my current stage is related to a stage in the green room in just the way that co-personal stages are related in ordinary cases—by some combination of psychological continuity and connectedness grounded in a causal relation on events that occur to stages at different times. But I only have a 50-50 chance of getting there. More poignantly, I recognize that my fission may be truncated. It may be that one hemisphere takes and its recipient lives long and prospers but the other sputters on for a few hours and then poops out. Before fission I cannot desire that it be I rather than my stage-sharing cohabitant who survives because my cohabitant and I token the same psychological states.[18]

Perdurantist accounts that incorporate a no-branching condition for the I-relation avoid cohabitation. On such accounts individuals who undergo fission do not survive. I-relatedness is sufficient for the ascription of futural properties but no pre-

fission stages are I-related to any post-fission stages. My stage at t_1 is related to post-fission stage in the green room in the way that co-personal stages are ordinarily related, whether by psychological continuity or something else. But I will not get there or anywhere else because I will cease to exist and be replaced by two newly-minted persons who q-remember my actions and experiences. They will more or less faithfully carry out my intentions—cold consolation because I will be dead. This account runs counter to our conviction that personal survival is intrinsically grounded, presumably in an imminent causal relation on states of a person at different times.

Like purdurantist accounts that prohibit branching, the stage-theoretical account sketched here avoids cohabitation. But on this account persons survive fission: survival is I-relatedness and the I-relation may branch. Survival is never identity—persons are stages—but the scheme for assigning properties to persons at times makes the correct diachronic identity statements come out true. It also makes the correct synchronic identity statements, both before and after fission, come out true. And at any time synchronic counting is by identity: at any time there are exactly as many persons as there are person-stages. Counting by identity there is one person before fission and two afterwards.

There is no answer to the question of how many persons there are all along—a feature not a bug. When it comes to persons there is no view from nowhen. The 'timeless' view of fission, as represented by the aerial view of roads overlapping at a concurrence, is misleading. We persons view ourselves and our prospects like motorists on the ground looking ahead, from the time-bound perspective of stages. The current stage-theoretical account respects the first-person perspective and makes the talk come out right.

Footnotes

1 Perry 1972 is a notable exception. On Perry's preferred account, the Lifetime Language, personal names select different person-histories at different times in cases of fission. It is not however clear that Perry is a purdurantist since he notes that he leaves open the question of whether person-histories, aggregates of stages that exist at different times, are persons. More recently Schwarz 2015 in response to fission cases provides an account according to which names are temporally flexible that is supposed to be compatible with both purdurantism and the stage theory and with exdurantism as well.

2 Sider, 1996, 2001

3 Sider, 1996: 450

4 Even when it comes to individuals with which we are more intimately connected, once they cease to exist *de re* rapport is lost: as soon as my parrot becomes an ex-parrot I cannot, strictly speaking, talk *about* her. The suggestion that we cannot talk *de re* about Socrates, or even recently-deceased companion animals, is highly unintuitive.

5 Rychter, 2012:377. This is really an unfortunate choice of example. There are many historical individuals who were baptized *ex post facto* for whom it is not plausible to suggest there was a unique stage that received baptism. Lucy, a primitive who roamed the savannah 3.2 million years ago, was only baptized in 1970 by paleoarcheologists who discovered her bones. Lucy's remains are not Lucy and it would be arbitrary to select any stage of Lucy as the referent of

her name. The Byzantine Empire was only baptized as such long after its demise, and there are no remains.

6 Rychter, 2012:377-378

7 Think of a cloud —just one cloud, and around it clear blue sky…The cloud is a swarm of water droplets. At the outskirts of the cloud the density of the droplets falls off. Eventually they are so few and far between that we may hesitate to say that the outlying droplets are still part of the cloud at all; perhaps we might better say only that they are near the cloud. But the transition is gradual. Many surfaces are equally good candidates to be the boundary of the cloud. Therefore, many aggregates of droplets, some more inclusive and some less inclusive (and some inclusive in different ways than others), are equally good candidates to be the cloud. Since they have equal claim, how can we say that the cloud is one of these aggregates rather than another? But if all of them count as clouds, then we have many clouds rather than one. (Lewis, 1993, p. 164)

8 Lewis, 1993: 172

9 Lewis, 1993: 173

10 Persons *are* stages on the stage-theoretical account and *N's stage at t* is just *N*, in the way that the City of Baltimore is just Baltimore, and not a part, feature, or property of Baltimore. '*N*'s stage at *t*' refers to a person but is not a *personal name*, a natural language expression that purports to refer to a person.

11 This is the way in which Lewis understands the I-relation—without any no-branching clause. The significant difference is that on this account the aggregates of stages that belong to reference classes are not persons so there is just one person, counting by identity, before fission.

12 Rychter, 2012, p. 374

13 To further accommodate our intuitions in this matter we could modify the account so that in some contexts 'Biden' referred indeterminately over a proper subset of its reference class--over those stages salient to the speaker, to those residing in the Whitehouse, to those existing within 11 years of the time of utterance, or whatever.

14 In this and subsequent numbered statements tense is ornamental. I might have used 'is' specified as timeless, or used an initial temporal index instead of specifying time of utterance. I'm making the case that the current account works for ordinary English.

15 'George Wilson' refers, ambiguously, to a Buffalo Bills botball player, a former chair of the Johns Hopkins philosophy department, and a fictional character in *The Great Gatsby* (if that counts); 'John Perry' refers to the Stanford philosopher who wrote 'Can the Self Divide?' and to a ship.

16 vide Lewis 1993

17 See also Parsons, 2015 who argues that this supports a 'phenomenological argument for stage theory'.

18 This may be fixable but I'm not counting on it. For a discussion of truncated fission see Ehring 2021.

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