

# Naming the Stages

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ABSTRACT. Standard lore has it that a proper name, or a definite description on its *de re* reading, is a temporally rigid designator. It picks out the same entity at every time at which it picks out an entity at all. If the entity in question is an enduring continuant (a 3D object that persists through time by being fully present at different times) then we know what this means, though we are also stuck with a host of metaphysical puzzles concerning endurance itself. If the entity in question is a perdurant (a 4D worm that persists through time by having different parts at different times) then the rigidity claim is trivial, though one is left wondering how it is that different speakers ever manage to pick out one and the same entity when a host of suitable, overlapping candidates are available. But what if the entity in question is neither a continuant nor a perdurant? What if the things we talk about in ordinary language are time-bound entities that cannot truly be said to persist through time, or stage sequences whose unity resides exclusively in our minds—like the “wave” at the stadium or the characters of a cartoon? In such cases the rigidity claim can’t be right and a counterpart-theoretic semantics seems required. Is that bad? I say it isn’t. And it had better not be, if that turns out to be the best metaphysical option we have.

## 1. Introduction

A proper name, or a definite description on its *de re* reading, is most naturally thought of as a rigid designator—as an expression that, in a speaker’s mouth, picks out the same entity at every time and in every world in which it picks out an entity at all. If the name ‘John Doe’ picks out the philosopher in front of me now, then it is natural to think that, in our mouths, it will pick out that person whenever we engage in tensed and modal talk.<sup>1</sup> This thesis, which has been famously and vigorously defended by Kripke<sup>2</sup>, is by now standard lore and I do not wish to dispute its semantic plausibility. I do, however, share the con-

<sup>1</sup> Henceforth I shall omit the qualification bearing on the speaker’s mouth, though it should always be implicitly assumed: obviously a name *could* have different referents in different worlds (someone else could have been baptized ‘John Doe’) and different speakers at different times may use it differently.

<sup>2</sup> See Kripke 1971.

cerns of those philosophers who worry the about notion of sameness (or identity) that the thesis itself appears to presuppose. Intuitively, we have an idea of what it is to pick out the same entity at different times or in different worlds. If I say that John Doe arrived yesterday we all know what I mean, even though the current referent of 'John Doe' might be slightly different from yesterday's—in fact, it is different, at least in terms of its material constitution. Ditto for the modal case, where we look for the referent of that name in other possible worlds. Those who know John all have a rough idea of what John could be or could have been like; for example, it is plausible to suppose that he could have been a singer rather than a philosopher, but not that he could have been a dog, or a table, or a prime number, or a tennis game. Such intuitions, however, must be backed up by a theory. Perhaps we need no formal theory to understand sameness beyond the triviality that each thing is itself and not another thing. But we do need a stronger theory in order for the notion of a rigid designator to be fully cashed out. And a good theory of sameness calls for a theory of the sort of entities about whose sameness the theory legislates.

On closer examination, for example, the informal intuitions that I have just mentioned seem to carry a commitment to some form of essentialism. John will or could be different from the way he actually is at present provided the difference does not involve any change in those properties of his that are somehow essential to his identity. So, if personhood is an essential property of his, then John could be a singer but could not cease to be a person, hence he could not be a dog, a table, etc. Kripke, for one, has been clear about this. His views about modal rigidity come with a substantive metaphysical doctrine involving the acceptance of a number of essentialist claims. And such a doctrine is implicit in most theories that share Kripke's account of modal and counterfactual talk, insofar as this involves the presupposition that one and the same object can be found in more than one world—i.e., that an object in a world  $w$  can be numerically identical to (albeit qualitatively different from) an object in another world,  $w'$ . Although formally we are free to set up any modal structure we like, with no constraint whatsoever on the intension of our non-logical predicates or on the accessibility relation that holds between a world and its possible alternatives, in actual philosophical practice we have to be more restrictive. Otherwise virtually any statement of the form 'Possibly  $p$ ' would come out true, and 'Necessarily  $p$ ' false, when  $p$  is atomic (except when  $p$  itself is an identity statement.) And how can we be restrictive without buying into some form of essentialism? How can we rule out a possible world in which John Doe is a table, if not by reference to the assumption that personhood and tablehood are metaphysically incompatible?

Perhaps there is nothing wrong with essentialism *per se*. But it would be unfortunate if a general thesis about the semantic behavior of proper names turned out to be inextricably committed to such a metaphysics. On the other hand, what are the alternatives? We may, of course, dispense with transworld identity altogether and provide a different account of our modal and counterfactual talk. David Lewis's counterpart theory is such an account.<sup>3</sup> On this theory, when we counterfactualize about John Doe we actually speculate about John's other-worldly counterparts. This means that the statement 'John Doe could have been a singer' would be true, not if there is a possible world in which *John* is a singer, but if there is a *counterpart* of John's, in some possible world, who is a singer. This alternative account can do away with essentialism, since counterparthood need not be given a strong metaphysical connotation. But the account has its own costs. For one thing, many philosophers believe that it doesn't bite at the right level. As Kripke himself put it, John Doe may speculate about whether—had he done such and such things—he would have gotten tenure, and surely such a speculation is about John himself. Why should he care about whether his counterparts got tenure in some other possible world, if they are not he?<sup>4</sup> In addition, and more to the point, counterpart theory appears to violate our initial intuition, according to which proper names and *de re* descriptions are modally rigid. For, clearly, insofar as it dispenses with transworld identity, counterpart theory implies that when we use such terms we pick out *different* referents in different worlds. In this world the name 'John Doe' picks out the person in front of me. In other worlds it does not pick out that person but its counterparts. And the counterpart relation falls short of identity.

There is in principle a third option besides accepting modal essentialism and rejecting modal rigidity. One could just dispense with *de re* modal talk in general, as Quine recommended.<sup>5</sup> I actually don't think that that is a feasible option, at least within the conceptual framework of standard quantified modal logic. (We know for a fact that no non-trivial system of quantified modal logic can express every *de re* modality in terms of an equivalent *de dicto* modality.<sup>6</sup>) But never mind that. It just seems to me that we cannot so easily do away with *temporal* modalities. We may be Quinean with respect to the meaningfulness of such modal statements as 'John Doe could have been a singer' or 'John Doe

<sup>3</sup> Lewis 1968.

<sup>4</sup> See Kripke 1972, p. 45. As will be clear in Section 5, I don't find this line of objection compelling, but for the moment I shall leave it unanswered.

<sup>5</sup> See Quine 1953.

<sup>6</sup> See Tichy 1973.

could not have been a table', but we do want to be able to say such things as 'John Doe was singing' or 'John Doe will soon go back to Boston'. We may be skeptical about the meaningfulness of statements of the form ' $x$  is  $P$  but it could have been  $Q$ ', yet we do want to make sense of at least some statements of the form ' $x$  is  $P$  but it was (or will be)  $Q$ '. And it's hard to see how we can make sense of such statements without taking *de re* temporal talk seriously.<sup>7</sup>

Indeed, it is remarkable that such worries have been raised mostly with regard to modality. Our temporal talk is in a way much more basic; and although our intuitions about identity across time are stronger and more entrenched than our intuitions about identity across worlds, both are problematic and there is no way we can cash out semantic rigidity for free. This semantic thesis calls for a substantive theory of diachronic sameness. And a substantive theory of diachronic sameness calls for a theory of the sort of entities that can be said to persist through time.

## 2. Semantic Rigidity and Temporal Persistence

Let us focus on time, then. Assuming that we cannot be deflationists about such matters, what notion of diachronic sameness can we rely on to cash out the temporal rigidity thesis? To cut a long story short, the options boil down to three.<sup>8</sup>

The first option corresponds to Kripke's modal intuitions, *mutatis mutandis*, which in this regard are part and parcel of common sense. On this view, the entities that we normally refer to when we use a proper name or a *de re* definite description are entities that exist at more than one time—in fact throughout a time interval—though their properties need not be constant. In other words, such things as persons, rocks, and tables are three-dimensional *continuants* that literally persist through time in spite of the many qualitative changes that they may undergo. Call this the *3D view*.

The second option is four-dimensionalism. On this view, ordinary objects such as persons, rocks, or tables are not continuants; they are *perdurants*. They have spatial as well as temporal parts, or stages, and to say of such objects that they persist through time is to say that they have different parts that

<sup>7</sup> In drawing a parallel between temporal and modal talk I do not mean to suggest the tenability of the analogy between tense and modal logic. Evans 1979 famously argued that the analogy is problematic, as treating truth-at-a-time in analogy with truth-at-a-world seems to yield relativism about truth. I don't think Evans's case is compelling (see e.g. Parsons 2003), but in any event it will soon be clear that I only take temporal talk to require an account of temporal predication, and the latter need not be analyzed in terms of tense-logic operators.

<sup>8</sup> References will be provided in the next sections.

exist at different times. So on this view the person in front of me now is not John Doe in his entirety. It is only a temporal part of John, just as I am not exposed to his whole life but only to its current stage. (In this sense, ordinary objects are not distinct from events, which also extend over time.) Let us call this the *4D view*.

It is clear that both of these options—the 3D view and the 4D view—can provide a suitable metaphysical back up to the rigidity thesis: the 3D view for reasons perfectly analogous to the modal case; the 4D view for the reason that time is no different from space in this regard—there is no difference between synchronic and diachronic identity. Just as the name ‘John Doe’ picks out one and only one spatially extended entity even though John’s spatial parts may be qualitatively different, it picks out one and only one temporally extended entity even though his temporal parts may be qualitatively different. So both a 3D and a 4D account of persistence can provide a suitable back up to the rigidity thesis. The question is whether such service comes at a good price, both with regard to the metaphysical implications of those views and with respect to their behavior *vis-à-vis* other semantic intuitions besides the rigidity of proper singular terms. If the answer to this question is in the affirmative, then you choose the theory you like best. If, by contrast, the answer is in the negative—if both views turn out to be excessively costly—then you may want to consider a third option. This third option has come to be known as the *stage view*, and may be regarded as the temporal analogue of counterpart theory.

On the stage view, things such as persons, rocks, or tables do not truly persist. They do not exist at different times (wholly or partially) just as they do not exist at different worlds. On this view all objects are time-bound, just as they are world-bound according to modal counterpart theory, and to speak of them as persisting through time is to speak loosely. Strictly speaking, when you say that the person who is now in front of you is the same entity as the person who was in front of you a minute ago, you are saying something false. What you should say is that the person who is now in front of you is the present counterpart—the current representative, if you like—of the person who was in front of you a minute ago. The relevant counterpart relation falls short of identity, as in the modal case. But of course this is not to deny that we often speak as though the two relations coincided. We speak of the “wave” at the stadium as something that moves around, even though strictly speaking there is only a sequence of different groups of people who jump up and down at successive times and places. We speak of the characters in a cartoon as of entities that survive all sorts of adventures, even though strictly speaking there is

nothing but a sequence of different drawings suitably related to one another. Likewise, on the stage view we ordinarily speak of persons and other objects as of entities that persist through time even though strictly speaking there is nothing but processions of time-bound entities following one another. And if things are so, then there is no need to worry about the sorts of metaphysical complications that come with the thought that a thing can preserve its numerical identity while undergoing qualitative changes. On this view, there is no identity through time. All the burden is placed on the counterpart relation, and this need not be metaphysically loaded, just as it is not metaphysically loaded in the modal case.

Of course, precisely as in the modal case, this also means that the stage view does not sit well with the intuition that names and *de re* descriptions are rigid designators. Not only that. It also involves a drastic, radical departure from common sense, for the intuition that persons, tables, and many other things indeed are such as to persist through time is deeply entrenched in our pre-analytical conception of the world. So the theory has its obvious costs. But that's precisely the question I want to focus on. The stage view is admittedly revisionary. The question is whether the costs involved in such revisions exceed the benefits that they deliver.

### *3. The Costs of Three-dimensionalism*

I do, in fact, think that the stage view is not as odd as it might seem, and that all things considered it may fare better than its competitors. By means of motivation, let me first review the main reasons why I think we should not just go ahead and buy into the standard 3D view, or into its 4D alternative. These reasons might leave some unmoved. Others might think that there are excellent ways of dealing with the underlying problems. Nonetheless it seems to me that such reasons must be brought into the picture in order to get clearer about the options.

Let's start with the 3D view. After all, this is the view that comes with common sense and there is an outstanding philosophical tradition, dating back to Aristotle,<sup>9</sup> devoted to articulating it in detail. To repeat: it is the view according to which ordinary objects are continuants—entities that persist through time by being fully present at different times, though some of their properties may change. (Some would restrict the view to natural entities like

<sup>9</sup> *Metaphysics* XII, 1069<sup>b</sup>. To be precise, the view goes back to Aristotle insofar as the entities in question are construed as substances (which may be denied in the case of artifacts such as tables).

persons and rocks, leaving out tables and other artifacts; others would restrict it exclusively to persons and other living organisms, treating inanimate entities such as rocks on a par with tables. I shall ignore such distinctions here.<sup>10</sup>)

On my reckoning, the main problem with this view lies precisely in its essentialist commitments. Just as in the modal case on a Kripkean account, the only way a three-dimensionalist can explain why a given object  $x$  can survive a change with respect to a certain property,  $P_1$ , but not with respect to a different property,  $P_2$ , is by making a claim to the effect that  $P_2$ , unlike  $P_1$ , is an essential property of  $x$ . And I side with those philosophers who find this sort of distinction problematic.<sup>11</sup> Besides, the explanation as such is plainly unsatisfactory, for it doesn't explain much. An essential property of  $x$  is, after all, one that  $x$  cannot afford to lose. So to say that  $x$  cannot survive the loss of  $P$  because  $P$  is essential to  $x$  is to go in a circle.

Perhaps one could try to stay away from the sands of metaphysical essentialism by speaking of concepts or predicates rather than properties. The claim that a continuant  $x$  can survive a change with respect to  $P_1$  but not with respect to  $P_2$  could be construed as a claim to the effect that our conception of  $x$  includes its being  $P_2$  but not its being  $P_1$ . But this is no cheap way out. For if the persistence conditions of a continuant are determined by our conception of it, then everything is up for grabs and one can hardly defend the 3D view by appeal to its adherence to common sense. After all, common sense has it that John's conditions of survival do not depend at all on what we think he is—or else John is not doing much work here.

In any event, these are not my only sources of concern with the 3D view. There are many other problems with this view besides its apparent commitment to essentialism. One is that it also involves a commitment to metaphysical vagueness, which I find independently problematic.<sup>12</sup> Take your object,  $x$ , and imagine a situation in which it undergoes a process of mereological decomposition: one by one, the  $n$  molecules constituting  $x$  are taken apart so that after  $n$  steps we are left with a bunch of widely scattered molecules. I don't know many people who are willing to bite the bullet and say that  $x$  does not survive the *first* step of the process, or that it survives *every* step of the process, for everything can be decomposed by a soritical process of this sort. So, if

<sup>10</sup> The list of philosophers who endorse the 3D view in some form or other is endless. Prominent recent entries include Strawson 1959, Wiggins 1980, van Inwagen 1990a, and Lowe 1999, but I will not attempt any detailed examination of their specific formulations.

<sup>11</sup> For a map of the issues see e.g. French *et al.* 1986.

<sup>12</sup> The argument from vagueness can be found in Noonan 1982 and Heller 1990, ch. 3. See also Sider 1997, § 3.3, and Le Poidevin 2000.

you are a three-dimensionalist, then you are stuck with the following two options. First, you can say that  $x$  survives *up to a certain point* in the process, after which  $x$  ceases to exist. This option, however, strikes me as absurd, unless we think that the problem of specifying the relevant cut-off point is purely epistemic. In some cases this may well be a reasonable thing to say, modulo our earlier concerns about essentialism. (For example, it may be reasonable when  $x$  is a living being, say John Doe, biology being the science that can tell us where the cut-off point lies.) But as a general account of what goes on with processes of this sort, where  $x$  can be an inanimate entity such as a rock, or an artifact such as a table, the epistemic explanation is itself a hard bullet to bite.<sup>13</sup> The second option is to say that  $x$  fades away gradually as it undergoes the process. This is really the only reasonable option. But to say that the  $x$  fades away gradually is to say that the existence of  $x$  is a vague matter—that there are times at which there is no determinate fact of the matter as to whether  $x$  exists, hence no determinate fact of the matter as to what there is. And this is the sort of metaphysical vagueness that I find utterly unpalatable.<sup>14</sup>

Of the other problems with the 3D view that I find compelling, I will mention only two, and only very briefly. One relates to the so-called problem of temporary intrinsics.<sup>15</sup> For a three-dimensionalist, in a statement of the form ‘John Doe at noon is sitting’ the temporal modifier ‘at noon’ cannot be analyzed as an adjective attaching to the name ‘John Doe’, for otherwise Leibniz’s law would immediately imply that John Doe at noon is numerically distinct from John Doe at midnight (who was not sitting). More generally, in a statement of the form

(1)  $x$  at  $t$  is  $P$

the temporal modifier ‘at  $t$ ’ cannot be analyzed as an adjectival modifier of the subject term, ‘ $x$ ’. It must be an adverbial modifier acting either on the whole atomic statement ‘ $x$  is  $P$ ’, or on the copula ‘is’, or on the predicate ‘ $P$ ’, or else we must reinterpret ‘ $P$ ’ as a relational predicate linking an object to a time. There is an extensive literature on these options, so you pick your favorite.<sup>16</sup> Personally I think that the only reasonable choice is the second, according to which it is the copula that gets modified by the temporal parameter. (The other

<sup>13</sup> The view has its defenders, though, most notably Sorensen 1988 and Williamson 1994.

<sup>14</sup> Some may be happy to pay the price, of course. See e.g. van Inwagen 1990a.

<sup>15</sup> The label comes from Lewis 1986, p. 202.

<sup>16</sup> To illustrate, the first option is defended by Forbes 1987, the second by Merricks 1994, the third by Johnston 1987, and the fourth by Mellor 1981. (For a more detailed taxonomy, see Bottani 2003.) Note that only the first of these options gives rise to the sort of worry mentioned in n. 7 above.



three options yield a host of complications.<sup>17</sup>) But even this way of dealing with the problem leaves me unhappy. As Lewis has recently argued, it is one thing to have a property, it is something else to bear a certain relation—the relation of *having at*—to it. “If a relation stands between you and your properties, you are alienated from them”.<sup>18</sup> One could protest that the copula *is*—itself—the unmodified *having*—is itself relational, so that the objection would prove too much to deserve belief. But this cannot be right, for otherwise we run into Bradley’s famous regress argument.<sup>19</sup> It is precisely to avoid the regress that a realist about properties must cash out predication in terms of a so-called “non-relational tie” between the object and the property being predicated.<sup>20</sup> Whatever that means, it must mean that the unmodified *having*—the copula simpliciter—is not relational. And this is enough for Lewis’s objection to deserve attention.

The last problem that I wish to mention briefly has something to do with materialism. Take the case of Tibbles, the cat.<sup>21</sup> At time  $t_1$  Tibbles is a regular cat, with a nice tail. (Let us bar the previous objection and assume we know how to provide a 3D semantics for a statement of this form.) At some point there is an accident and at time  $t_2$  Tibbles is a tailless cat. Let ‘Tib’ designate that entity that amounts to the proper part of Tibbles minus its tail at  $t_1$ . Surely at  $t_1$  Tib and Tibbles are distinct. But at  $t_2$  they coincide—they occupy exactly the same region of space and they are made up of exactly the same stuff. Since identity is a transitive relation, it must follow that the coincidence of Tib and Tibbles at  $t_2$  falls short of identity. Really there are two things there, not one. And this I find absurd. One may want to resist this conclusion by denying the assumption that Tib exists at  $t_1$  (only Tibbles exists before the accident), or one may want to resist it by denying that Tib exists at  $t_2$  (only Tibbles survives the accident). Both of these options strike me as utterly implausible,<sup>22</sup> so I think one had better accept the conclusion and try to make sense of the thought that two distinct continuants (indeed infinitely many continuants, by an obvious line of reasoning) can occupy exactly the same region of space and, for some period of time, be made up of exactly the same stuff. This is a tough line to take if you are a materialist, and I think I have good reasons for being one.

<sup>17</sup> I try to spell out such complications in Varzi 2003b.

<sup>18</sup> See Lewis 2002. The quote is from p. 5.

<sup>19</sup> See Bradley 1893, Book 1, ch. 2

<sup>20</sup> See Strawson 1959, p. 167.

<sup>21</sup> The puzzle has been introduced to contemporary philosophical discussion by Wiggins 1968, though versions of it go back at least to the Stoics (see Sedley 1982). For a sample of the literature on the topic, see Rea 1997.

<sup>22</sup> Though they have been defended: see e.g. van Inwagen 1981 and Burke 1996, respectively.

Anyway, perhaps some of these concerns can be taken care of within a 3D-theoretic framework; I am happy to concede that. But when the problems pile up like this, I think it's a good thing to start looking for alternative theories even if—or perhaps just because—you want to stay as close as possible to common sense. (Incidentally, the 3D view does not sit well with the scientific image of the world, either, particularly with relativity theory: if the notion of simultaneity is relative to a frame of reference, then it makes no sense to say of an object *tout court* that it is *entirely* present at every time at which it exists.<sup>23</sup>)

Let me just mention one variant of the 3D view that works a bit better than what I have suggested. It is a variant often associated with the work of Roderick Chisholm, though it really goes back to the *Logique de Port-Royal* and, independently, to such philosophers as Hume, Butler, and Reid.<sup>24</sup> On this view, the world is made up of 3D entities, except that these are not the ones we normally think of. The 3D entities in question are either metaphysical simples or mereological aggregates of simples. Consider this table. If it were mereologically constant, then it would be such an entity. But because its mereological composition does change through time (I have just cleaned the surface and, by doing so, I inadvertently scraped away some of its molecules), on this view the table does not belong to the furniture of the world. We can say that the table survives such changes in a loose manner of speaking, but strictly speaking we should say that different entities—different mereological aggregates at different times—*do duty for it*. Different entities at different times do duty for our table just as different players at different times do duty for our favorite soccer team. And when we say that the table that was here yesterday is the same as the table that is here today, or that the team we applauded last year is the same as the team we are booing this year, what we mean—on this view—is that something is still doing duty for a table or for a team with such and such properties.

Chisholm used the scholastic term *entia successiva* to designate this sort of sequences of mereological aggregates. And surely enough, if we go all the way and say that everything is either a mereologically constant aggregate or a sequence thereof (so: not only tables and soccer teams but also rocks, people, and other living organisms), then many of the problems that I have outlined with respect to the basic 3D view dissolve. We need not worry about essen-

<sup>23</sup> On this see Balashov 2000.

<sup>24</sup> See especially Chisholm 1976. For the precursors, cp. Arnauld and Nicole's *Logique ou l'art de penser* (2-xii), Hume *Treatise* (i.iv.6), Butler's *The Analogy of Reason* (first appendix), and Reid's *Essays on the Intellectual Powers of Man* (III.iii.ii).

tialism, unless we want to impose restrictions on the sort of properties that a mereological aggregate can enjoy. We need not worry about metaphysical vagueness, for we can always say that the vagueness applies to the concepts and predicates that we use to pick out the *entia successiva* that are most salient to our daily lives. We need not worry about Tibbles, for there is nothing wrong in saying that the aggregate doing duty for Tibbles before the accident is bigger than the aggregate doing duty for Tib, whereas after the accident we take one and the same aggregate to do duty for both. (The bigger aggregate survives as a scattered entity if the tail was neatly chopped off, or it no longer exists if the tail or parts thereof have been annihilated.) So, as long as we say that everything is either a mereologically constant aggregate or a (cognitively salient) sequence thereof, we can dispose of a number of puzzles that seem to affect the standard 3D view. We would still have the problem of temporary intrinsics, though, as that problem does not depend on *what* entities we take to be 3D continuants but only on the fact that we take some entities to be such. And, perhaps more significantly, we would have to go back to our starting point and reconsider the semantic thesis that names are rigid designators after all. If they were, they would pick out mereologically constant aggregates of simples (whatever we take these to be), and that would have disastrous consequences. For example, the name ‘John Doe’ would now pick out an awfully scattered collection of simples some of which you may still find in John’s home town while others are probably in Boston and yet others are by now all over the place. That is just not how semantic rigidity is supposed to work. So if one reason to try to save the 3D view is to do justice to semantic rigidity, the theory of *entia successiva* is hardly a viable option.

#### 4. Four-dimensionalism

Some philosophers take all this to provide evidence in favor of the 4D view. To repeat, on this view persisting objects are not continuants but perdurants. Whereas on the 3D view an object persists by *sweeping through* time, on the 4D view an object persists by *extending over* time. Whereas on the 3D view an object is entirely present at every time at which it exists, on the 4D view an object is made up of successive temporal parts, just like an event (and for some four-dimensionalists, such as Broad, Goodman, or Quine, there is no significant difference between objects and events: an object is just a long, monotonous event; an event is just an unstable object<sup>25</sup>). So, construed as a 4D worm, an object can change along the temporal dimension in the same sense in

<sup>25</sup> See Broad 1923, p. 393, Goodman 1951, p. 286, and Quine 1960, p. 171.

which it can change along any of its spatial dimensions. We say of a river that it is large here but not there insofar as this part of the river is large but that part isn't. Similarly, on the 4D view we say of an object  $x$  that it is  $P$  today but not yesterday insofar as today's temporal part of  $x$  is  $P$  but yesterday's part isn't. This view was once quite unpopular except among scientifically-minded philosophers, to the point of being sneered at as a "metaphysical quagmire" or a "crazy metaphysics".<sup>26</sup> Today it is getting much more credit, precisely as a reaction to the difficulties that face the rival 3D view.

Indeed, the four-dimensionalist conception of the world is basically immune from those difficulties. At least this is so if the conception is taken to include the Quinean assumption that there is one (and only one) entity, however heterogeneous, for any matter-filled region of space-time, however disconnected and gerrymandered—an assumption that virtually all 4D theorists make.<sup>27</sup> For if we make this assumption, then the metaphysical puzzles that afflict the 3D theory can be reconstrued as pertaining exclusively to the domain of semantics and cognition at large. Take essentialism. Will John Doe become a table? It depends on which 4D worm you identify with John. Presumably he is the sort of worm every temporal part of which falls within the extension of the predicate 'person'. And presumably the extension of this predicate, as determined by our linguistic practices, is disjoint from the extension of the predicate 'table'. So John's worm may very well be followed by a table worm, but because John doesn't extend that far we can safely say that he will not turn into a table. This is not to say that personhood is an essential property of his—just as the ordinary claim that the Ticino river does not extend as widely as to include the city of Pavia carries no commitment to the view that riverhood is an essential property of Ticino. It is just a claim that may help clarify the spatial boundaries of the referent of 'Ticino' as we normally use this name.

For the same reason, vagueness need not have ontological implications on the 4D view. When a table undergoes a process that results into its complete decomposition, we are confronted with a picture that involves a large number of mereologically nested 4D worms: a worm all temporal parts of which comprise exactly  $n$  molecules, a longer worm whose later temporal parts comprise  $n-1$  molecules, a longer worm whose later temporal parts comprise  $n-2$  molecules, and so on. Which of these worms we intend to pick out when we speak of *the table* may be indeterminate, and therefore there may be

<sup>26</sup> See Hacker 1982, p. 4, and Thomson 1983, p. 210.

<sup>27</sup> See e.g. Quine 1960, *cit.*, Heller 1990, pp. 49f, Hudson 2001, pp. 105ff, Sider 2001, pp. 121ff.

vagueness. But each such worm has precise spatial and temporal boundaries and therefore the vagueness in question can be treated as a purely semantic phenomenon. Ditto for the puzzle of Tibbles. There may be some indeterminacy as to which 4D worm we mean to pick out when we use the name ‘Tibbles’, and also when we use the name ‘Tib’ to pick out its tailless proper part. But the picture is clear enough. The earlier temporal parts of Tibbles are spatially larger than the corresponding temporal parts of Tib. Their later parts, those that follow the accident in which the tail gets detached, are identical. So Tib is properly included in Tibbles, just as Tic—that portion of Ticino that does not contain any Piedmontese bits—is a proper spatial part of Ticino. At  $t_2$ , after the accident, the thing meowing in front of us is a proper temporal part of both Tib and Tibbles just as in Vigevano, after the boundary of Piedmont, the thing flowing in front of us is a proper spatial part of both Tic and Ticino. In both cases it is just one part—one thing—not two.

As for the problem of temporary intrinsics, the four-dimensionalist has an obvious account to offer. In a statement of the form ‘ $x$  at  $t$  is  $P$ ’, the temporal modifier ‘at  $t$ ’ can be given exactly the interpretation that a 3D theorist cannot conceive—as an adjective attaching to the subject term. The noun phrase ‘ $x$  at  $t$ ’ picks out the  $t$ -part of  $x$ , and the truth conditions of a statement of the form ‘ $x$  at  $t$  is  $P$ ’ are just the truth conditions of any old atomic statement in subject-predicate form: the statement is true (*simpliciter*) if and only if the denotation of the subject term is in the extension of the predicate term—i.e., if and only if the  $t$ -part of the denotation of ‘ $x$ ’ is in the extension of ‘ $P$ ’ (where the copula ‘is’ is now understood tenselessly). It might be thought that this account is too simplistic, as much depends on what sort of predicate ‘ $P$ ’ is. It may be all right to say that ‘John Doe at noon is sitting’ is true if and only if the noon-part of John Doe is sitting. But what about ‘John Doe at noon is thinking of Susan’, or ‘John Doe at noon remembers everything that happened in the morning’? How can an instantaneous temporal part enjoy properties that require time?<sup>28</sup> The answer is that the 4D theorist need not assume that the different parts constituting a temporally extended entity are mutually independent of one another. An instantaneous temporal part can satisfy the properties in question by virtue of its having the right intrinsic properties and standing in the right relational ties to other temporal parts and to its environment. The worry would cut deep only if mental states and properties were

<sup>28</sup> Actually the 4D view is not committed to the existence of instantaneous parts: the 4D world could consist of temporally “atomless gunk”, in which case ‘John Doe at noon’ would have to be interpreted as denoting an arbitrarily brief (rather than instantaneous) time slice of John. Even so, the worry would still arise.

fully intrinsic, but that assumption is a sign of a 3D bias: as Katherine Hawley has put it, there is nothing inconsistent in the thought that John's present stage has certain memories, attitudes, and emotions partly because it is suitably related to other stages of John's, just as there is nothing wrong in the thought that the piece of wood in front of me has the property of being a table leg partly because it is suitably related to other pieces of wood.<sup>29</sup>

So what's wrong with this theory, if all the pieces fit together so nicely? (As I said earlier, the theory also vindicates the rigidity thesis, albeit in a somewhat trivial way.) I see two problems with it, apart from whatever other problems one might have with what I have just said on its behalf. The first is that the 4D theory owes us an account of how reference works; the second is that the 4D account of predication illustrated above appears to yield awkward results when combined with certain plausible assumptions concerning the semantics of the quantifiers.

Let's begin with reference. If the referents of proper names are temporally extended entities, how is it that different speakers ever manage to pick out one and the same entity when a host of suitable, overlapping candidates are available? I am not thinking here of the phenomenon of vagueness; as I said, this phenomenon can be handled naturally on the 4D view, at least to the extent that vagueness can be treated as a semantic phenomenon. I am thinking, rather, of the sort of mechanisms that go into the process whereby a precise designator gets attached to its referent. If the designator is a description, a standard account can be given. But what if the designator is a proper name? I point at this table and say: 'Let's call it George'. What exactly is this *it* that I am picking out?

I see only two options. The first is to say that I am picking out a four-dimensional table. If so, then I am establishing a tight link between the name 'George' and the sortal 'table'. I am not just using this sortal to fix the reference; I'm building a lot more into it. By identifying George with a four-dimensional table I am committing myself to the view that George is and *will always be* a table. I will never be able to kick away that sortal and say, for example, 'George, which was a table, is now a bookshelf'. And this runs against the view (often associated with the rigidity thesis, but independently motivated) that names, unlike descriptions, do not impose any constraint on their referents.

The second, more plausible option is to say that when I point at the table and declare 'Let's call it George', I am picking out an entity *whose present*

<sup>29</sup> Hawley 2001, p. 65.

*temporal part is a table* (or a temporal part of a table). Indeed, precisely because the 4D view treats space and time in the same fashion, it is natural to think that this is how reference should work: just as you can touch the table's top and truthfully say 'This is George' even though you are only touching a proper spatial part of George's, on the 4D view you can touch the present stage of George and say, truthfully, 'This is George' even though you are only touching a proper (spatial and) temporal part thereof. However, this leaves us in Quinean darkness. There are very many entities that include that temporal part, very many four-dimensional worms that overlap at the relevant region of space-time. Which one of them am I baptizing 'George'? How far does 'George' extend? What are its temporal boundaries? There simply is no answer to these questions on the 4D view. We may rely on a phase sortal in order to pick out the referent of a name if the referent is in front of us in its entirety, as the 3D theorists would have it (Kripke being one of them).<sup>30</sup> But if all we have in front of us is a proper temporal part of the intended referent, then it's hard to see how we can pick out such a referent. At least, it's hard to see how we can manage to communicate our baptismal intention to the other speakers of our community. (One is reminded here of a familiar problem that we seem to face in the case of events, understood as unrepeatably particular that extend through time. We seem to have no practical way of naming an event except through a noun phrase derived by nominalization, and as a matter of fact we usually do not have proper names for events.<sup>31</sup>)

I think this is a considerable problem for the 4D view, at least insofar as we are interested in using this theory to back up semantic intuitions that are independently motivated. But there is another problem.<sup>32</sup> Recall that the 4D view goes hand in hand with the assumption that the material content of any region of space-time is an object, never mind whether we are inclined to speak or think about it. Given this assumption—which a four-dimensionalist can hardly discharge on pain of resuscitating 4D analogues of the problems afflicting the 3D view—we run into troubles as soon as we try to explain the working of the quantifiers in ordinary language statements. If you say 'John Doe was a table', what you say is false—or so we may suppose. Assuming we

<sup>30</sup> I do not mean to say that the referent is physically present in its entirety; obviously that need not be the case, e.g., if the referent is far away, or too big for us to see in its entirety (see Kripke 1972, pp. 57–58). I mean to say that for the 3D theorists the referent is *metaphysically* present in its entirety: we can identify it and give it a name with the help of a phase sortal because it is there for us to name it that way.

<sup>31</sup> See Bennett 1988, p. 3. Hurricanes seem to be an exception, but then the sortal 'hurricane' is implicitly doing all the work.

<sup>32</sup> The argument that follows is detailed in Varzi 2003a. See also Sattig 2003 for a follow-up.

agree on the referent of ‘John Doe’, there is no past temporal part of John’s that falls into the extension of the predicate ‘table’. If you say ‘Saul Kripke was a table’, then again what you say is false—or so we may suppose. Pick any philosopher you like, if you say that he or she was a table you say something false. So far so good. But what about the statement ‘Some philosopher was a table’? Such a statement is true if and only if there is something that is at present a philosopher but whose past temporal parts include at least one that is a table. And sure enough, there are many such things. John Doe is not one of them; but the mereological fusion of his recent temporal parts (including the present one) and this table’s earlier parts is such a thing. It is a philosopher, and it was a table.

Something is wrong here. And of course it is something serious, for the problem metastasizes rapidly. If existential statements that are intuitively false come out true because of some unheard-of table-philosophers, then universal statements that are intuitively true will come out false—as with ‘Every philosopher was a child’. Ditto for any other kind of numerical statement, such as ‘There are now  $n$  philosophers’ or ‘At most  $n$  philosophers can sing’. In fact, every variable binder is going to behave wildly, including the definite descriptor. If it turned out that Kripke was once transformed, for a short period of time, into a table, then we might want to refer to him by the description ‘the philosopher who was a table’ or ‘the table-philosopher’. Yet these descriptions would certainly be inadequate, as Kripke would only be one table-philosopher among very many others (defined along the lines illustrated above).

There are various ways out one can consider here, based on the intuition that in cases such as these the predicate ‘philosopher’ is operating in more than just a predicative role. After all, being a philosopher requires more than just having a philosophical temporal part (just as it implies more than having a philosophical spatial part—consider the present mereological fusion of John Doe and this table). A philosopher must be a *person*, so the range of the quantifiers in our examples should be restricted to persons. The trouble is that it is hard to cash out this intuition. We could take the restriction to be a matter of logical form, reading a statement of the form

(2) Some  $P$  was  $Q$

(for example) as having the underlying form

(3) Some  $S$  that is  $P$  was  $Q$ .

But this would make the 4D view depend on the assumption that *every* predicate comes with a suitable sortal  $S$  to filter out the undesired four-dimensional



worms, and that assumption is unwarranted. Besides, there would be a difficulty in identifying a ground level of analysis; for the problem would crop up with the sortal predicates themselves (consider ‘Some person was a table’), giving rise to an obvious regress. Alternatively, if we take the restriction to be pragmatic, then we can hardly do justice to the existential import of ordinary quantified statements. It is all right to appeal to context when it comes to the semantics of names and predicates involving vagueness, ambiguity, or multiplicity of reference. It is all right to appeal to context also when it comes to some quantificational phrases, as when we say ‘There is no beer’, meaning no beer *in the refrigerator*. But it is odd that the logical business of variable binding should *always* require a similar treatment, and as a matter of necessity. And the oddness turns into embarrassment on account of the fact that quantification is the only tool we have to give expression to our views on what there is. Make that depend on context and everything is up for grabs again.

### 5. *The Stage View*

So much for my reasons for worrying about the notion of sameness that the temporal rigidity thesis presupposes, at least insofar as that notion is construed in terms of persistence through time by a continuant (the 3D view) or by a perdurant (the 4D alternative). At this point I would like to turn to the remaining option, the stage view. I am not planning to articulate this view in detail—not anymore than I have done with the other two views. I will simply consider its positive features *vis-à-vis* the problems that I have just reviewed, and then I will take a look at some *prima facie* unpalatable features of the theory, features that one might be inclined to regard with strong suspicion. As it turns out, I think such features can all be vindicated. And then I will draw my moral.

To repeat, the stage view holds that things such as persons, rocks, or tables do not—strictly speaking—persist. They do not exist at different times (wholly or partially) just as they do not exist at different worlds, and ordinary talk to the effect that they do is to be construed as loose talk. On the stage view, all objects of the garden variety are therefore like the “wave” at the stadium or like the characters of a cartoon—sequences of different, time-bound entities that follow one another in a cognitively salient way. So, in a way this view wears its costs on its sleeves. Metaphysically, it requires a radical revision of our preanalytical beliefs about ourselves and about the world around us. It requires that we give up on the very idea of diachronic identity and replace it with a weaker notion of temporal counterparthood, with all the corollaries that come with that. Semantically, it requires that we give up on the ri-

gidity thesis as it is normally understood. For, surely, if the job of a proper name is to pick out a certain entity, and if nothing exists at more than one time, then a proper name cannot be used to pick out the same entity at different times. The best we can say is that a proper name is a *quasi-rigid* designator, in that it allows us to pick out entities that are diachronically *quasi-identical*, or *genidentical*—entities that are tied to one another by the counterpart relation. Strictly speaking ‘John Doe’ denotes whatever stage was originally baptized that way, and if we use the name with reference to a different time we pick out, not John Doe, but whatever counts as John Doe’s counterpart at that time. The reference gets “upgraded” at each time, for we just can’t afford using a different name for each stage.

Note that if we are liberal enough about mereological composition we could make room for the mereological sums of all the stages, which would give us a full fledged four-dimensional ontology. However, it would be incorrect to infer from this that the stage view is just a variant of four-dimensionalism. The theories are different both semantically and metaphysically. Semantically, they differ with respect to the basic mechanisms of reference: on the 4D view an ordinary proper name picks out a 4D worm, not the stages that constitute it. Metaphysically, they differ with respect to the basic features of the world. The stage view is truly reductionist, in that all the work is done by the time-bound stages; their temporally extended aggregates, if such there be, add nothing. They are nothing over and above the stages, and their properties reduce to the properties of their stages. On the 4D view, by contrast, there is no commitment to such claims: there is no commitment to the primacy of the stages over their aggregates and, as a matter of fact, there is no commitment at all to the existence of instantaneous stages. The 4D world could consist of temporally atomless gunk. (On the other hand, if the gunk hypothesis is rejected, then the 4D view is committed to providing an explanation of how instantaneous things can make up a temporally extended sum, whereas the stage theorist can remain neutral here.<sup>33</sup>)

Now, it is not difficult to see how the stage view is immune from the many problems mentioned in the preceding sections. Essentialism and vagueness can be deflated away by placing the burden on the counterpart relation, which in turn need not be built into the ontology but rather treated as a theoretical device.<sup>34</sup> The problem of temporary intrinsics can equally be dealt with

<sup>33</sup> On this see again Hawley 2001, esp. p. 52.

<sup>34</sup> This means that on the stage view the phenomenon of vagueness affects the theoretical apparatus, not just the semantics of our names as on the 4D view. See Varzi 2001 for an articulation of this point, though with reference to the modal version of counterpart theory.

easily by interpreting a statement of the form ‘ $x$  at  $t$  is  $P$ ’ as meaning ‘The  $t$ -counterpart of  $x$  is  $P$ ’, which has a straightforward semantics if ‘ $x$ ’ is understood literally, i.e., as denoting the original bearer of this name. (If that entity has no counterparts at  $t$ , or if it has more than one, then ‘the  $t$ -counterpart of  $x$ ’ will fail to denote and our favorite theory of descriptions will tell us how to handle it.<sup>35</sup>) And the Tibbles puzzle can be dismissed, too, insofar as it also depends on taking persistence and rigid designation too strictly. Two things cannot become one, but they may nonetheless have a single future counterpart: the counterpart relation need not be one-to-one. So there is nothing paradoxical in saying that Tibbles and Tib are distinct at time  $t_1$ , before the accident, while their counterparts coincide at  $t_2$ , after the accident.<sup>36</sup>

As for the two problems that I mentioned in relation to the 4D view, they do not affect the stage view either. Because names refer to instantaneous stages, we can use a (phase) sortal to fix a referent,  $x$ , and then kick away the sortal when we talk about  $x$ ’s later stages. These stages need not be qualitatively identical to  $x$ , as they are not numerically identical, though all of them will stand in a suitable counterpart relation to  $x$ . Indeed, we can build into this relation all that is needed in order for the name to be used in a proper way, or rather we can say that the counterpart relation itself is meant to reflect precisely the sorts of features that appear to underlie our use of proper names (as described by the causal theory of reference, for instance), and in that sense the stage view does not entail a commitment to descriptivism. Likewise, the stage-theoretic account of quantified statements is straightforward. For example, there is no reason to suppose that the statement ‘Some philosopher was a table’ is true. For this statement says that among the present stages that qualify as philosophers there is one whose earlier counterparts include a stage that qualifies as a table, and there is no reason whatsoever to suppose that this is the case.

So, on the face of it, the stage view is immune from the many problems mentioned in the preceding sections with regard to the 3D and the 4D views. Is this enough to outweigh the metaphysical and semantic costs of the stage view? Really, I think the semantic cost of giving up rigidity in its customary form is no big deal. Kripke’s original arguments for the rigidity thesis were targeted against those semantic theories that fail to appreciate the difference

<sup>35</sup> Note that the stage view is not committed to presentism: at the level of logical form, a proper name denotes its original bearer whether or not that entity exists at the time of utterance.

<sup>36</sup> A detailed treatment of this puzzle may require positing multiple counterpart relations. See Sider 2001, § 5.8, for this line of development.

between *de re* and *de dicto* patterns of reference, particularly between proper names and definite descriptions. But these arguments still hold *mutatis mutandis* as a defense of the thesis that names are quasi-rigid designators. Acceptance of this thesis is sufficient to distinguish the semantic behavior of a name and that of a definite description in its *de dicto* reading; for the fact remains that the referents of a description *need not* be counterpart-related, whereas the referents of a proper name, or rather the referents of noun-phrases of the form ‘the *t*-counterpart of *x*’ where ‘*x*’ is a proper name, must be so related. Thus, rigidity fails all right. But quasi-rigidity is as good as it can possibly be if the ontology consists of stages, hence the cost may well be worth paying.

Of course, one may still wonder how this picture works in practice, when it comes to explaining our actual linguistic endeavors. How exactly does the ritual of baptism work on this view, given that any such ritual *takes time*? And how exactly do we manage to pick out an instantaneous stage and say something about it, given that relativity theory tells us that simultaneity is frame relative? These are important questions, but I don’t think they are inherently problematic. The second question, for instance, is bound to arise within a 3D or 4D framework, too. Suppose we say ‘John Doe is now sitting’. Regardless of what logical form we ascribe to this statement, there is a difficulty in figuring out its truth-value since its utterance takes time (whereas ‘now’ refers to a durationless instant, or to an arbitrarily short interval). My view is that the best account is supervenient: the statement is true (or false) if and only if it is true (false) no matter how we interpret ‘now’; otherwise it is indeterminate. But if a different account is favored, e.g., an epistemic account, I see no reason why that should not be applicable to the stage-theoretic reading of the statement if it is applicable to its competitors. Ditto for the frame relativity of simultaneity: suppose we pick a particular time instant *t* as the referent of ‘now’. If there is no unique way of slicing up the space-time manifold, then there is still indeterminacy as to what qualifies as the present temporal stage of John Doe, since John Doe is also extended in space. On the supervenient account that I favor this simply means that the truth-value of our statement, relative to *t*, is itself to be computed as the logical product of the statement’s truth-values relative to each admissible frame of reference that passes through *t*, i.e., relative to each admissible way of construing John Doe’s stage at *t*. If this truth-value does not change (as is often the case for ordinary statements) the supervenient will deliver that truth-value; otherwise the statement will be semantically indeterminate.<sup>37</sup> The first question—concerning the mechanics of

<sup>37</sup> This account works equally for the stage view and the 4D view, where John Doe’s stage at *t*

baptism—is indeed specific to the stage view. But a similar account can be given also in this regard. Perhaps it is indeterminate exactly which stage was baptized ‘John Doe’ when the name was first introduced. In that case, each singular term of the form ‘the  $t$ -counterpart of John Doe’, as it occurs in the logical form of the stage-theoretic reading of tensed statements, will inherit some indeterminacy. Yet this indeterminacy is in most cases innocuous as our statements will in most cases turn out to be true (or false) no matter how the indeterminacy is resolved. As long as we are willing to live with widespread indeterminacy—and we have already seen several independent reasons for doing so—none of these semantic issues strikes me as problematic.

Really, then, I think it is the metaphysical cost of the stage view that is at stake. So what exactly is this cost, apart from the fact that a stage-based ontology runs against common sense? What is it that makes the stage view metaphysically unpalatable, apart from the fact that it does not sit well with our pre-analytical intuitions? I think the answer can be split into three parts. First, there is the fact that the view seems to imply that the whole world and everything in it keeps constantly coming into existence *ex nihilo*. This is particularly striking when it comes to the constant coming into existence of things like us, for after all we do seem to have evidence (such as our experience of a unity of consciousness) to the effect that we are genuinely persisting things. Secondly, there is the fact that the stage view requires an appeal to counterpart theory, and one may have independent reasons for disliking *that* theory. Thirdly, there is the fact that the ontological reductionism involved in the stage view requires massive linguistic and epistemic revisionism. Let us see whether these three features of the stage view justify skepticism.

## 6. Refinements

Concerning the first feature—to the effect that new things keep popping into existence *ex nihilo*—it seems to me that its *prima facie* metaphysical extravagancy depends on a three-dimensional bias on the part of common sense. If we think of the world in terms of continuants—things that continue to exist—then there seems to be something magical in the temporal procession of stages postulated by the stage view. But put that bias on a side for a moment. Then there appears to be something equally magical in the existential inertia postulated by the 3D view. Why is it that continuants do not suddenly pop *out* of

is construed as his  $t$ -counterpart or as his  $t$ -part, respectively; I am not sure what to say on behalf of the 3D theorist, for we have already seen that the frame relativity of simultaneity appears to affect the metaphysical intelligibility of that view, not just its semantics.

existence? And how do they come into existence to begin with? With the possible exception of the version of three-dimensionalism that appeals to the theory of *entia successiva*, the metaphysical mystery that comes with the conception of a world that is not always populated by the same entities is a source of worry for the stage view and for the 3D view alike. If a 3D-theorist is allowed to put the burden of the explanation on God's inscrutable activity (as Descartes famously did<sup>38</sup>), then so is a stage-theorist. Alternatively, and more plausibly, the 3D-theorist may appeal to some sort of causal story to explain the mystery away. Every time a new continuant comes into or goes out of existence, it does so as a result of a causal impulse originated by some other, prior continuant. But, again, if this appeal to causation is acceptable for the 3D view, then it is also acceptable for the stage view.<sup>39</sup> An instantaneous stage need not be totally isolated from its temporal counterparts—from the stages that precede or follow it. It can be caused to exist by previous stages and it can be causally responsible for the existence of later stages. And this may well be a case of immanent causation. Each instantaneous stage might contain in itself, so to speak, the power to create the next, just as each 3D continuant may contain in itself the power to survive. (If time is continuous, or at least dense, it may be inaccurate to speak of the 'next' stage; but the stage-theorist need not put it that way. Each stage may contain in itself the power to generate a whole bunch of its successors, though to a degree that is inversely proportional to their temporal distance.)

Nor is the appeal to causation a necessary feature of the stage view. I am bringing it into the picture only for the purpose of highlighting this *tu quoque* line of argument.<sup>40</sup> I personally think that uncaused emergence *ex nihilo* is not by itself metaphysically extravagant, so that the counterpart relation could be left out of the picture in this regard. It may well be a brute fact that instantaneous things constantly come into and go out of existence just as it may be a brute fact that continuants, too, sometime come into and go out of existence, or that they extend through space. In fact, once the 3D bias is put aside, isn't there something magical also in the procession of spatial parts, which "begin" and "cease" to exist as we move about in space?

In the case of entities such as persons the picture is admittedly more complex, but then again the enormous literature devoted to the topic of personal identity shows that the 3D picture, too, is all but uncontroversial.

<sup>38</sup> Cp. *Meditations*, III.

<sup>39</sup> The causal account is defended e.g. in Heller 1990, §2.13, and Hawley 2001, §3.5. That it is a matter of immanent (as opposed to transuent) causation is defended in Williams 2002.

<sup>40</sup> The point is also made (and more thoroughly articulated) in Sider 2001, p. 217.

Granted, the stage-theorist must be puzzled by the unity of consciousness, as Kant already pointed out in his criticisms of Hume.<sup>41</sup> Yet the puzzle is disturbing only insofar as we assume that all stages are equally independent of each other. That need not be the case. If a stage's coming into existence is a matter of causal powers, for instance, then the experiencing of a unity of consciousness may be the result of powers of a peculiar sort—the causal powers of those peculiar stages that go under the name of 'person'. Indeed, from this perspective the stage-theorist could maintain that the familiar 3D and 4D accounts of personal identity get things the wrong way round. It is because person stages are what they are that their processions give rise to the unity of consciousness, not vice versa. Even if we endorse a radically conventionalist account of the counterpart relation needed to explain our ordinary talk and beliefs about temporal persistence, there is nothing inconsistent in the thought that some stages are more tightly connected to one another than other stages. There is no connection whatsoever between John Doe's present temporal stage and some past temporal stage of the table in front of me. But there are significant connections (including spatial continuity and qualitative similarity) between John's present temporal stage and his earlier stages. And it may well be a matter of contingent fact that such connections lead to John's present experiencing of a unity of consciousness.

One could protest that this account does not do justice to the fact that people typically instantiate properties that cannot—by their very nature—be instantiated by single, instantaneous stages. How can a person-stage be the bearer of reasons, entertain thoughts and beliefs, perform actions, and so on? Properties such as these require time and cannot therefore be satisfied by entities that do not persist.<sup>42</sup> But this objection is wrong-headed. We have already seen how the answer would go on a 4D account. And we have seen that the stage-theorist need not disagree with the 4D-theorist on this: there is no claim to the effect that all stages must exist in complete isolation from their temporal counterparts, so again one could reply that a person-stage can satisfy the properties in question by virtue of its having the right intrinsic properties and standing in the right relational ties to other stages and to its environment. The objection presumes that mental states and properties are fully intrinsic, and that is once again a sign of a 3D bias.

So much for the first part of the story, the mysteries of *ex nihilo* creation. Concerning the second part—to the effect that the stage view is metaphysi-

<sup>41</sup> See the Paralogisms in the first *Critique*.

<sup>42</sup> See e.g. Brink 1997 for this line of objection.

cally unpalatable insofar as it requires a crucial appeal to counterpart theory—it obviously depends on what we think of counterpart theory in general. Peter van Inwagen, for example, thinks the theory is bad and rejects the stage view on that ground.<sup>43</sup> I agree that one philosopher’s *modus ponens* may be another philosopher’s *modus tollens*. But what exactly is the problem with counterpart theory? In Section 1 I mentioned two main worries: that counterpart theory violates the rigidity thesis, and that it has counterintuitive consequences when it comes to first-person counterfactuals. The first worry has already been addressed, so it can now be set aside. What about the second? I agree with Kripke that it sounds strange to say that John Doe’s speculations about how he could have attained tenure are speculations about his modal counterparts. And I agree with Perry (for example) that it sounds strange to say that John’s present thoughts about the past and future events of his life are not about him but about his temporal counterparts.<sup>44</sup> But is this what counterpart theory forces us to say? Not quite. Modal counterpart theory says that it is because of what happens to John’s counterparts that John can truthfully entertain certain counterfactual thoughts about himself. That amounts to saying that someone other than John enters into the story of how it is that he might have attained tenure. But that doesn’t mean that John is out of the story. As Lewis put it, thanks to *his* tenured counterparts John has the requisite modal property to make it true that *he himself* might have attained tenure.<sup>45</sup> So unless the complaint is just that someone else gets into the act, the Kripkean objection misfires. It is not that modal counterpart theory fails to acknowledge the work of *de re* modal properties; it’s just that such properties are given a counterpart-theoretic analysis. And if things are so, then a perfectly similar response could be given to the analogous objection against temporal counterpart theory.

So what is the big deal? I think Ted Sider has it right when he says that perhaps the big deal is, paradoxically, the extreme flexibility afforded by counterpart theory.<sup>46</sup> You can build anything you like into the counterpart relation. You can load it with immanent causation and make it do heavy metaphysical work, or you can give it a cognitive bent and dismiss a host of philosophical puzzles concerning identity as pertaining exclusively to our cognitive and linguistic practices. Some may think that this is a negative feature of the theory insofar as it makes life too easy. But I’d rather think that this is a positive feature! One philosopher’s *modus tollens* is another philosopher’s

<sup>43</sup> See van Inwagen 1990b, §III.

<sup>44</sup> See Kripke 1972, p. 344, n. 13, and Perry 1972, p. 480.

<sup>45</sup> See Lewis 1986, p. 196.

<sup>46</sup> See Sider 2001, pp. 206–207.



*modus ponens*, I say, especially if the alternatives involve problems of their own. Particularly when it comes to issues of temporal persistence, it seems to me that the flexibility of the counterpart relation corresponds very closely to the sort of difficulty that philosophers and the folk alike have to face. We often find ourselves wondering about whether such-and-such things will survive such-and-such changes, and counterpart theory tells us that if we can't come up with a clear, univocal answer it is because our conception of the objects in question does not rest on a clear characterization of the relevant relation of temporal counterpart. This sounds just right to me. At least it sounds much more plausible than any account that rests on mysterious essentialist discriminations.

So much for counterpart theory. As for the last aspect of the stage view that might feel unpalatable—its extensive revisionary demands—I think the right thing to say is just that *every* metaphysical theory calls for a good deal of revisions. Surely we cannot hope to read off the furniture of the world directly from our commonsensical thoughts about it, let alone the things that we feel inclined to say about it. This is obviously true for ontology, as we know from the old debates about the king of France and the round square. And I think it is true for metaphysics at large. One obvious complaint one could raise against the stage view is that it appears to make time-bound stages analytically prior to the continuants of the folk view when, as a matter of fact, we cannot individuate stages without making reference to continuants. This is a legitimate complaint, familiar from Strawson's work in descriptive metaphysics.<sup>47</sup> But what does it entail? Our inability to individuate certain things can hardly be informative when it comes to questions concerning the existence of those things. I am rather good at individuating tables and persons but I am totally incapable of individuating subatomic particles. Surely that does not entitle me to say that such particles do not exist. Similarly, an obvious complaint against the stage view is that it appears to make the stage-theoretic vocabulary analytically prior to the vocabulary of the folk. But that is no reason to dismiss the thought that the world might be made up of time-bound stages. Science tells us that tables and persons are ultimately made up of subatomic particles, but that does not mean that we have to translate language about tables and persons into the language of subatomic particles. As long as we are clear about the truth-makers, we can keep speaking with the vulgar. For, of course, the sort of revisionism at issue has no hermeneutic pretense. It is genuine revisionism, the sort of revisionism with which we have to deal whenever we try to answer questions

<sup>47</sup> See especially Strawson 1959, ch. 1.

about what there is.<sup>48</sup> It took me a while to accept the fact that cartoons are just sequences of drawings, just as it took me a while to accept the fact that persons, rocks, and tables are just swarms of molecules. It took me a while to accept the fact that the “wave” at the stadium—that “wave” that I can track and name and talk about just as we track and name and talk about the characters of a cartoon—is just a sequence of ups and downs. It may take a while to accept the stage view, but that is hardly an argument against it.

## 7. Conclusion

I conclude that the metaphysical costs of the stage view are not as extraordinary as they might at first seem. At least, they are not extraordinary in any special way: the view has its drawbacks, but so do its competitors. Combined with the advantages that the theory offers in relation to the other questions discussed in the paper, I take this to provide sufficient motivation for giving the theory the theoretical status it deserves. Indeed, when all the arguments are in, the advantages of the stage view outweigh its costs. I take this to provide good evidence—the only sort of evidence that analytic philosophers can hope for—in favor of the picture that it delivers.<sup>49</sup>

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<sup>48</sup> For more on this point I refer to Varzi 2002.

<sup>49</sup> This paper was originally written for the *Fifth Meeting of the Italian Society of Analytic Philosophy*, held in Bergamo (Italy), October 4, 2002. A later version was presented at the *Fall Meeting of the New Jersey Regional Philosophical Association*, held in Lodi (New Jersey), November 16, 2002, with commentary by Ryan Wasserman. I am thankful to Ryan and to the participants in both events for helpful criticisms and discussion. Thanks also to Philipp Keller and to two anonymous referees of *Dialectica* for their detailed and penetrating comments on the immediate predecessor of the present version.

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