Four Dimensionalism—Reading group 6

In the previous two sessions, we looked at various arguments in favour of four-dimensionalism, starting with (what Sider considered to be) some bad ones, and ending with (in Sider's view) some better ones. This week, we'll consider one further argument in favour of four-dimensionalism: that is in the best position to offer solutions to the various *paradoxes of coincidence*.

Chapter 5: In favour of four-dimensionalism, part II: the best unified theory of the paradoxes of coincidence

Before beginning this chapter in earnest, Sider reminds us that, given perdurantism, there are two approaches to the semantics of everyday terms: the *worm view*, and the *stage view*:

Worm view: The referents of our everyday terms are four-dimensional spacetime worms.

Stage view: The referents of our everyday terms are momentary stages (which may be parts of various worms).

This distinction in hand, Sider turns to the paradoxes of coincidence.
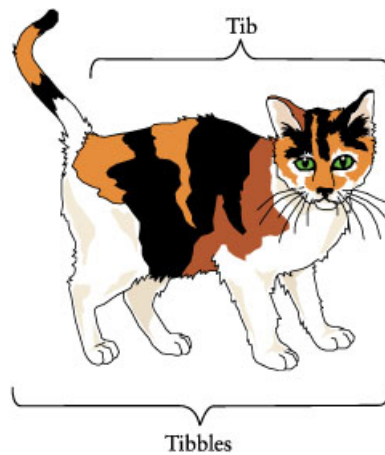
The threat of coincidence

In this subsection, Sider reminds us of a number of paradoxes of coincidence:

1. **Artificial and natural objects:** A lump of clay (a 'natural object') is sculpted into a statue (an 'artificial object'), which is later re-moulded into a lump of clay. The statue seems to have different identity conditions to the clay (it cannot survive re-moulding, but the clay can), in which case (by Leibniz' law) they seem to be numerically distinct. So, when the statue is formed, are there two numerically distinct objects which occupy the same spatiotemporal location?

2. **Undetached parts:** Consider Tibbles the cat, who has a certain proper part, Tib, which consists of all of Tibbles *sans* the tail. Tibbles and Tib are clearly numerically distinct.

But suppose that Tibbles loses her tail; it seems that Tibbles and Tib both survive, but are now spatiotemporally exactly coincident. So again, are there now two numerically distinct objects which occupy the same spatiotemporal location?
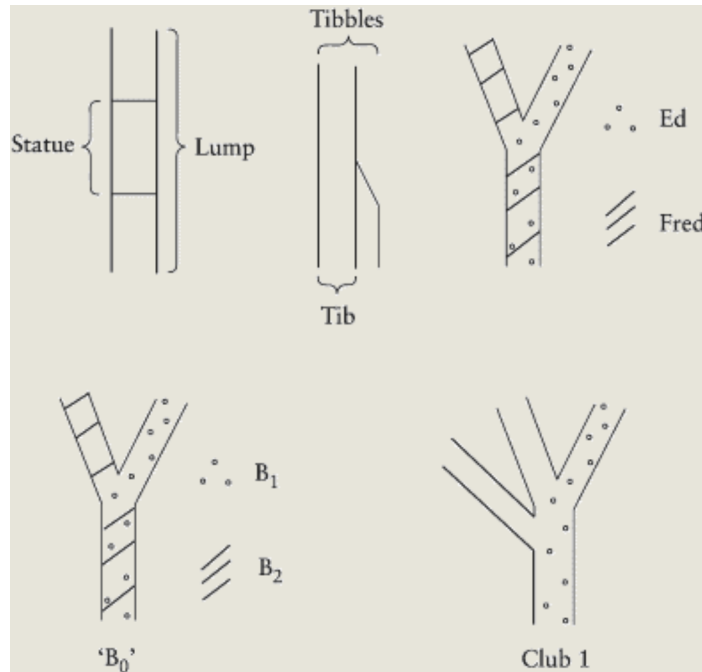
3. **Fission and fusion:** These are Parfit's classic cases, in which one spacetime worm splits into two (the ship of Theseus also falls into this category). Before the split, are there two spatiotemporally coincident but numerically distinct objects?

The worm theory and coincidence

The worm-theory perdurantist is then able to account for the paradoxes of coincidence with relative ease—as Sider writes (p. 153), "The worm theorist ... can accept the argument in favour of coincidence but go on to explain why coincidence is not objectionable—its occurrence is as mundane as roads that overlap."

Exercise: Think about how this works in the three above cases.

Eliminativism

In this subsection, Sider considers another response to the paradoxes of coincidences: *eliminativism*. Here's the warm-up to this view:

> *The paradoxs of coincidence are generated by reflection on the persistence conditions of ordinary material objects. If those objects did not exist, the paradoxes would not arise. A bury-one's-head-in-the-sand solution is to deny that certain of the objects involved in the paradoxes really exist.* (Sider p. 176)

There are, in fact, several different kinds of eliminativism:

1. Coincident objects don't exist.

2. Only mereological simples—objects with no proper parts—exist. ('Nihilism'.)

3. Only mereological simples exist, except *living things*. (Van Inwagen 1981).

On van Inwagen's view, Sider writes this:

> *I am unconvinced by van Inwagen's reasons for preferring his view to nihilism. He argues that we are certain of the existence of our own first-person thoughts, and also of the principle that 'thought requires a thinker'; he then argues that this thinker must be a composite entity. But the principle that thought requires a thinker—that is, that thinking cannot be a 'cooperative activity' of mereological simples, but rather requires a single entity having the thought—seems to me no more convincing than analogous principles that van Inwagen must reject, for example that what one would commonly describe as the striking of a baseball by a bat cannot arise simply from the multigrade relations between the involved simples, but rather requires a single bat striking a single baseball.* (Sider pp. 176-7)

On "immediate objection" which Sider considers to eliminativism in general is this:

> *... the eliminativist's existence denials are so implausible that any alleged theoretical advantages would be outweighed. Surely, the existence of statues, cats, and persons is more certain than any competing philosophical claim!* (Sider p. 178)

But is this an argument or just intuition-mongering? In any case, Sider anticipates the following response from van Inwagen:

> *An ordinary assertion of 'there is a chair here' is consistent with the non-existence of composite inanimate objects. What is ordinarily expressed by this sentence might be more perspicuously expressed as follows: 'there are some subatomic particles here arranged chair-wise'. Statements apparently about macroscopic objects, which do not exist, may be paraphrased as being plural statements about mereological simples, which do.* (Sider p. 178)

JR: I've never much liked externalism about meaning like this—it would seem to generate an epistemological challenge that we never really know what we're talking about (these issues also arises in philosophy of science discussions of reference across theory change). And again, is the above really an argument *for* eliminativism, or rather a proposal for a semantics which hides some of its odder aspects?

The stage view

In spite of all the merits of the worm view, Sider ultimately thinks that his stage view is superior. Here's what he writes:

> *'Coinciding objects are no more mysterious than overlapping roads.' In this way the worm theorist answers the metaphysical objection that coincidence is impossible. But a semantic objection lingers. Even if we knew that fission was about to occur, we would not say that there are two persons before us. It seems wrong to say that there are two statue-shaped objects before us, the statue and the lump; the more natural thing is to say that there is just one.* (Sider pp. 188-9)

Here's what Sider says about his "more natural" stage view:

> *Given unrestricted mereological composition, I grant the existence of all the worm theorist's worms. My ontology is therefore the same as the worm theorist's: four-dimensionalism. I therefore admit the existence of coinciding entities, for given unrestricted composition, spacetime worms that share temporal parts automatically follow. But I deny that these or any other spacetime worms are* continuants; *they are not ordinarily named or quantified over.* (Sider p. 191)

Note that the stage view is superior from the point of view of there potentially being *too many* worms (especially given unrestricted mereological composition)—recall again the 'problem of the many' (cf. Sider p. 192).

Temporal counterpart theory

To develop the stage theory further, Sider introduces *temporal counterpart theory*, by analogy with the counterpart theory familiar from discussions of *de re* modality in the context of Lewis' modal realism (I will explain this for those who are unfamiliar). The idea is that stages have temporal counterparts, and this allows one to make tensed property attributions to those stages. For example:

> *According to my temporal counterpart theory, the truth condition of an utterance of 'Ted*

> *was once a boy' is this: there exists some person stage x prior to the time of utterance, such that x is a boy, and x bears the temporal counterpart relation to Ted.* (Sider p. 193)

Here's how this works in the case of Tibbles the cat:

> *The identification of Tibbles with Tib after detachment of the tail seems precluded by the apparent truth of the following claims:*
>
> 1. *Tibbles once had a tail.*
>
> 2. *Tib never had a tail.*
>
> *The stage-theoretic solution is that the first sentence claims that Tibbles has* cat *counterparts with tails, whereas the second claims that Tib has no* torso *counterparts with tails.* (Sider p. 201)

What the appropriate counterparts are is determined contextually—there's no determinate metaphysical fact about the 'true' temporal counterparts of any particular stage. (In this respect also temporal counterpart theory is akin to modal counterpart theory.) It's worth noting that this counterpart theory is very *flexible*:

> *Perhaps these words of the counterpart theorist make life too easy. Perhaps one of our deeply held beliefs about modality and temporality is that there is always a* single, univocal, non-conventional *answer to the questions 'What will happen to this thing tomorrow?' 'What might have happened to this thing?' The counterpart theorist must admit that pretty much any answer to these questions could, in principle, be correct, given an appropriate choice of a counterpart relation.* (Sider p. 207)