

## *Reply to Stone on counterpart theory and four-dimensionalism*

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In a recent article, Jim Stone argues that counterpart theory and four-dimensionalism are incompatible (Stone 2005). His arguments carry no obvious weight against the stage view defended by Sider (2001). Nor do they undermine the more vulnerable combination of the worm view and counterpart theory – or so I shall argue.

Stone considers a space-time worm *A* which is a bronze statue of a unicorn throughout its entire existence, from  $t_1$  to  $t_{10}$  (scenario **I**). Since the bronze could survive being melted down while the statue could not, there is a (distinct) situation (scenario **II**), where *A* is melted down, and recast at  $t_{11}$ . Stone claims that in **II** *A* both does and does not have more temporal parts than it has in scenario **I**, in virtue of the bronze counterparts of *A* surviving but the statue-shaped counterparts of *A* failing to survive.

As it stands, this argument is invalid: if eternalism is true, the bronze in scenario **II** is not identical to *A*, since it is true throughout **II** that the

bronze *B* outlives the worm *A*. Dialectically, since eternalism is likely to be held for independent reasons by the four-dimensionalist, Stone's argument has no force.

Moreover, according to the counterpart theorist, *A* does not exist in **II**; at best, some counterpart of *A* exists in that scenario. Since *A* is a worldbound individual, only existing in **I**, it cannot have any temporal parts other than those it has in **I**. We may say that *A* could have had more temporal parts, but *only* when *A* is picked out by some description (like 'made of bronze') that makes some counterpart relation *R* salient, and when *A* has some *R*-counterpart *A*\* of greater temporal extent. If we do no more than use the name '*A*', and make no counterpart relation salient, we are unwilling to assent to '*A* could have had more temporal parts': there is no question of whether *A* itself survives any change in **II**, since *A* doesn't exist there.

Stone's characterisation of scenarios **I** and **II** reveals a significant confusion on this point. For example, he remarks that, in **II**, 'the bronze-stage at  $t_{11}$  is a stage of *A*' (Stone 2005: 331). Yet this is false according to counterpart theory. The bronze-stage at  $t_{11}$  is a stage of at least one of *A*'s counterparts; but even if the statue is identical with *A*, this entails only that the statue has *some* counterparts at  $t_{11}$ . Importantly, these are not *statue*-counterparts, but *bronze*-counterparts. While it is true that 'the statue, conceived of as the piece of bronze which composes it, can survive recasting', this claim is too odd to be saliently asserted, as it makes one counterpart relation salient and then immediately makes a contrasting counterpart relation salient. Though the claim is odd, it does not (despite what Stone thinks) entail that 'the statue does and does not exist at  $t_{11}$ ' (Stone 2005: 331).

Stone suggests that we can avoid contradiction 'if we can find good reason to deny that *A* survives  $t_{10}$  in **II**' (Stone 2005: 331). Counterpart theory provides very good reason to believe this, since *A* doesn't exist in **II** at all. Moreover, if we consider *A* as a space-time worm, it is extremely natural to regard *A* as modally inductile: it could not have more (or fewer) parts than it in fact has (van Inwagen 1990). Space-time worms are arguably purely extensional entities, individuated by the space-time region they occupy.<sup>1</sup> On the worm conception, not only does *A* not survive  $t_{10}$  in **II**, but *A*'s worm-counterparts do not survive  $t_{10}$  in **II**.

<sup>1</sup> Plausibly, space-time regions have exactly resembling counterparts in every world *w*. So there is in *w* a space-time region *S* that perfectly matches the region *A* occupies actually. If all of *S* is occupied, the object *A*\* that exactly fills *S* is a perfect worm-counterpart to *A* in *w*, better matched than any larger worm. (The argument for the claim that the worm *A* could not have fewer parts than it does is more complicated, depending on sameness of region being more important than sameness of occupation.)

By contrast with the space-time worms, statues and pieces of bronze are not purely extensional entities. For while they are nothing over and above their parts according to four-dimensionalism, the salient counterpart relations depend on how we conceive of those parts, whether as a statue, a piece of bronze, or some other way. While that conception is not itself a part of the bronze (and so we do not here accept anything like Fine's (1999) 'principle of unity' in addition to the parts of the statue), it does determine what we can truly say – what we may predicate – of the piece of bronze.

Stone's arguments rest on the idea that the modal properties of *A* must be relatively robust. Counterpart theory suggests that it is both possible (according to one counterpart relation) and not possible (according to a different counterpart relation) that *A* has more temporal parts. Stone concludes that *A* has inconsistent properties, and that this is a problem for the counterpart theorist. But putting matters in terms of properties is unnecessarily prejudicial to the counterpart theorist. As our remarks about conceptions emphasise, the important issue for the counterpart theorist is which modal *predications* are acceptable. In deciding this, 'the counterpart theorist will invoke different counterpart relations in different contexts of utterance' (Sider 2001: 223). Put in terms of acceptable utterances, it is easy to see how contextual factors, like which conception is adopted, can determine which counterpart relations are salient.

But this theory of modal predication cannot generate the contradictions Stone claims to find, for there may be no context-invariant modal properties that are inconsistent with one another:

The counterpart theorist must admit that pretty much any answer to [questions about modality and persistence] could, in principle, be correct, given an appropriate choice of counterpart relation ... [T]he counterpart theorist cannot accept the existence of 'deep' 'non-conventional' facts about *de re* persistence and modality ... But the non-existence of such facts is precisely the moral of the puzzles of persistence and their modal analogs. (Sider 2001: 207)

It is surely legitimate to worry whether this weak conception of *de re* modality is correct. But the only way to get a genuine inconsistency would be to insist, as perhaps Stone does, that each counterpart relation gives rise to an invariant modal property. The context sensitivity of counterpart theory would then give rise to incompatible modal properties. However, it is clear that no counterpart theorist would endorse the robust conception of modal facts this involves, and it is clearly inappropriate to criticize the counterpart theorist as inconsistent because they reject that robust account. I conclude that Stone's arguments fail: whatever incompatibility

between four-dimensionalism and counterpart theory that he finds, he imports.

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