

The temporal grounding problem in light of different notions of object

Let us focus our attention on the famous statue Goliath made out of the piece of clay Piece. Let us suppose that they are created simultaneously at t_1 , they coincide for a while and, at t_2 , we squash them and, therefore, Goliath gets out of existence. Piece is still there, but now it is not coincident with Goliath.

Two prominent theories about the relationship between ordinary middle-sized material objects and the pieces of matter out of which they are made are *endurantism* and *perdurantism*. Now, it has been argued that the phenomenon of temporal coincidence exemplified above gives rise to the so-called ‘temporal grounding problem’ which would be easily explained (or dissolved) by perdurantist theories, but that would be a real difficulty for endurantist theories. Briefly, this is the temporal grounding problem: Goliath and Piece are two different objects that, at the time of coincidence, share a lot of properties: their mass, shape, composition... properties that are thought to determine the properties that, alas, Goliath and Piece do not actually share such as their sortal properties. How can this be?

In this paper I would like to argue that the temporal grounding problem can be solved by both kinds of theories equally well but that they cannot do it in a parallel way, as the notions of object that the two theories presuppose are radically different.

First I will present a perdurantist answer based on these two ideas: 1) objects are just partially present at the different times at which they exist. This idea is understood as implying that, at a given time, central features of objects have to be determined taking into account whether the temporal parts present at that time are related to other temporal parts and how they are related to these other temporal parts. 2) Objects have temporal parts whenever they exist that can be shared with other objects.

Second, I will try to show that endurantists can also give a coherent account of the situation. Endurantists (as perdurantists do) claim that at the time of coincidence we have two different objects which share some of their properties but which differ in other properties that would not be determined by the properties they share. Now, I will argue that they can explain the situation in the following way. Endurantism is usually characterized as claiming that objects are *wholly present* whenever they exist. This would mean (at least partly) that, at every time they exist, their central features (for example, their sortal properties), are determined without appealing to their own futural properties. How this is accomplished depends on the kind of object under consideration. So, in our example, the situation would be one in which two sets of conditions obtain and therefore, from the very beginning it is determined that there is a statue and a piece of clay. Now, this idea can be combined with the idea that the sortal component of objects is of an excluding nature, that is to say, for example, that objects that are statues cannot be, for example, pieces of matter and the other way around. This would explain how it is that in our example we have a statue and a different object that is a piece of clay. Finally, endurantists claim that objects have a second kind of component, a material component, which can be shared by different objects. This would explain that the two objects share the properties that stem from this component.

In short, (if my paper were accepted) I would argue that there also is an endurantist notion of object that allows us to dissolve the temporal grounding problem. A notion of object in which objects have components of a dual, mutually irreducible nature, where the sortal component is already determined at the very beginning of the object’s life without appeal to its own futural properties and is of an excluding nature. Moreover, the material component is such that it can be shared with other objects.