

Comments on Problem Set 4

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1. *Let mereological essentialism be defined as the claim that whenever y is part of x at one time, y is part of x at every later time at which x exists. Is mereological essentialism consistent with “four dimensionalism” as defined by Sider? Is it consistent with “four dimensionalism” taken together with the claim that there are some things that last for more than an instant?*

Very few people answered this question correctly. Mereological Essentialism *is* consistent with Four Dimensionalism. That is, it is possible for them both to be true. Of course, if they were both true, the world would be a strange place: nothing would last more than an instant. (So Mereological Essentialism is *not* consistent with Four Dimensionalism taken together with the claim that some things last for more than an instant).

In answering this question there was no need to discuss the nature of change.

2. *Given an argument, along the same lines as Sider’s, for the following more general claim: at any time when a clay statue exists, there is a lump of clay such that (a) the statue is part of the lump of clay at that time, and (b) the lump of clay is part of the statue at that time.*

In answering this question there was no need to mention temporal parts. Some people argued that the statue and the clay were *temporal* parts of each other: but that is not what the question asked you to show.

5. *Draw and annotate a spacetime diagram of Heinlein’s story ‘--All You Zombies--’.*

There were a few common mistakes in these diagrams. For one thing, some drew the travelers taking continuous paths through space and time. But when they step into the time machine, they are transported instantly back (or forward) in time. So there should be gaps in the paths they trace out, corresponding to the moments they step into the time machine. Also, usually two people (or two stages of the same person) are traveling in the time machine together. So there should be two person-stages next to each other on some parts of the diagram. But some diagrams never showed two person-stages next to each other.