

Metaphysics: Problem set 4
February 14
due date: Wednesday, February 21

Answer any FOUR of the following five questions.
Type and staple your answer.

NB: Use your own words. No quotation, no paraphrase.

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? Explain.

2. On p. 85, in the course of arguing that a clay statue that existed for only an instant would be a temporal part of a lump of clay, Sider argues that a clay statue that existed for only an instant would be a *part* of a lump of clay at that instant. (This is clause (i) of the definition of ‘temporal part’.) Give 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. Is this argument convincing?

3. ‘Indeed, travel into the past necessarily involves reversed causation.’ (Lewis, p. 73). Explain Lewis’s argument for this claim.

4. ‘Even if time travel into the past is possible, and compatible with the laws of nature, still there is very good reason to suppose that human beings are never going to invent a convenient and reliable way to do it. If such a method is going to be invented, we should expect occasionally to meet time-travellers from the future. They might use their futuristic technology to benefit us, or use their knowledge of the future to warn us about impending calamities, or simply stand around wearing funny clothes and taking pictures. In fact we never come across such people; so it is very probable that time travel into the past will not be invented.’ Discuss.

5. In the clearest way you can, draw and annotate a spacetime diagram of Heinlein’s story ‘—All You Zombies—’. (Your diagram will need to represent the salient facts about how the temporal segments of the protagonist are ordered in his/her personal time: you might do this by writing ‘1’ on the segment of the protagonist that lasts from birth until his/her first episode of time travel; ‘2’ on the next segment (in personal time), and so on. You do not have to represent the many episodes of time travel in the protagonist’s career that are mentioned but not actually described in the story.)