Philosophy 395: Philosophical Paradoxes
Fall, 2015
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Suggested First Paper Topics

I will hand out suggested paper topics *four* times. You must do *two* papers; and you may do three and count your best two. These paper topics are just suggestions; you may write on a topic of your own choosing. Papers should be two to three pages, double-spaced. Papers from this first list are due Friday, Oct. 9 at 5:00 as an e-mail attachment (word file or pdf).

1. Consider a possible world (with continuous space and time) according to whose laws all objects are *eternal* (that is, nothing is either created or destroyed) and all motion is *continuous* (that is, if an object is at position x at time t, then it was arbitrarily close to x for times just before t). Call any thing or process an *infinity machine* if it can complete an infinite number of tasks in a finite amount of time. What sorts of infinity machines (if any) are *physically* possible in such a world? In particular, what about Black's Hal-Pal infinity machine? What about *staccato* Achilles? What about the super-accelerating Achilles who travels one mile in one minute, another mile in one-half minute, another mile in one-quarter minute, and so on? Would your answer change if we drop the assumption that objects are eternal? How?

2. Present Zeno's arrow paradox, and then explain how Russell's at-at theory of motion is supposed to respond to the paradox. Would an A-theorist about time accept Russell's solution? Explain. How might an A-theorist about time understand motion? (You may want to tie your discussion to McTaggart's argument that the B-series requires the A-series and the distinction drawn in class between "anemic" and "robust" change.)

3. I mentioned in class that Einstein's Theory of Relativity appears to be incompatible with an A-theory about time. Try to lay out, as clearly as you can, what the conflict is. Can you think of any responses that the A-theorist could make.

4. Consider the following time travel scenario (from the book *Travels in Four Dimensions*:

    Peter and Jane, both 20 years old, are out for a walk one day in 1999 when suddenly a time machine appears in front of them. Out steps a strangely familiar character who tells Jane that he has an important mission for her. She must step into the machine and travel forward to the year 2019, taking with her a diary that the stranger hands to her. In that diary she must make a record of her trip. Obligingly, she does as she is asked and, on arrival, meets Peter, now aged 40. She tells Peter to travel back to 1999, taking with him the

diary she now hands him, and recording his trip in it. On arrival in 1999, he meets two 20-year olds called Peter and Jane, out for a walk, and he tells Jane that he has an important mission for her. (pp. 180-1)

Consider the question: how many entries are there in the diary when Jane first steps into the machine? The book's author claims: "there does not appear to be a consistent answer". Roughly, this is because whatever number you say, it appears that there must be two more entries than that. Try to present the argument in more detail. Is the author correct that this case gives us reason to think that time travel to the past is logically impossible? Explain why or why not.