Philosophy 593S: Philosophy of Space and Time, Fall 2005
Handout 1

Two Debates:

1. **Relationalism about motion:** all motion is the relative motion of bodies. That is, 'x is moving' always means 'the distance between x and some other material body/bodies is changing.'

   Absolutism about motion: not all motion is the relative motion of bodies.

2. **Relationalism about ontology:** space and time do not exist.

   Substantivalism: space and time exist.

Relationalists about ontology and substantivalists usually subscribe to additional theses, not all of which are logically required by the view. Substantivalists usually also believe:

- Space is entirely made up of points that have no spatial extent; time is entirely made up of instants that have no temporal extent.
- In addition to space and time there are also material bodies (or fields, like the electromagnetic field): these things are wholly distinct from space and time. Each exists during some temporal interval and (at each time it exists) occupies some region of space.
- Spatiotemporal relations, like *the spatial distance between x and y is r meters* or *x happens 10 seconds after y,* primarily relate points of space and instants of time. The spatiotemporal relations material bodies stand in are derived from the spatiotemporal relations among the regions of space they occupy and the intervals of time they exist during. (So two bodies get to be ten feet apart only in virtue of occupying regions of space that are ten feet apart.)

Some substantivalists, though, deny one or all of these further propositions.

Relationalists about ontology almost always also believe:

- There are material bodies (or fields).
- Spatiotemporal relations primarily relate material bodies.

'Relationalists' usually accept both relationalism about ontology and relationalism about motion. But are these views equivalent?

An argument that relationalism about ontology entails relationalism about motion: if relationalism about motion is false, and so there is some state of motion that is not analyzed as motion relative to some other material reference body, then it must be analyzed as motion relative to something other than a material body; namely, space itself. (Earman (1989) argues for the converse, that relationalism about motion entails relationalism about ontology; but the argument is complicated.)