** Kepler** Johannes Kepler started from what Copernicus had done, indicating that the planets moved in circular orbits about the Sun as center. Before him it had been imagined that all revolved around the Earth.

We will not try to duplicat what Kepler did. Instead we will reimagine ourselves in his position and try to think using the same position he may have held.

Imagine thinking of motion, with a body as a point along a line. This fits with thinking of a point as dividing a line into two parts **P** *Past* and **F** *Future*.

Now imagine the point expanded to an line segment so we now have a **Ray** divided by the segment into 3 parts *before P* >segment PQ<*after Q*. This fits with the usual axiomatic thinking "a line is determined by two points", and the segment has all point between P and Q, and the ordering PQ or QP does not matter.

Now we are going to make a change, and think of a "path" beteween P and Q that might differ from a path between Q and P, thus turning the original "point" into a "loop". An appropriate axiom might be "pathPQ and path QP have only the points P and Q in common" (unlike the axiom for a segment there is no set of points in between. We could also then imagine that the additional portions "beforeP" and "afterQ" are disjoint, and we no longer have the additional axioms that *beforeP* is included in *beforeQ* and *afterQ* is included in *afterP*.