Movement, Direction, and Speed of Atoms - Do Atoms Fall "Down?" Is the "Swerve" Required To Bring Them Together Into Bodies?

Post by “Don” of December 19, 2020 at 7:02 AM

Thanks for those insights, Martin ! In light of what you said, I went back to Diogenes to see what the Letter to Herodotus said:

> Quote
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> 60] "Further, we must not assert `up' or `down' of that which is unlimited, as if there were a zenith or nadir. As to the space overhead, however, if it be possible to draw a line to infinity from the point where we stand, we know that never will this space --or, for that matter, the space below the supposed standpoint if produced to infinity-- appear to us to be at the same time `up' and `down' with reference to the same point ; for this is inconceivable. Hence it is possible to assume one direction of motion, which we conceive as extending upwards ad infinitum, and another downwards, even if it should happen ten thousand times that what moves from us to the spaces above our heads reaches the feet of those above us, or that which moves downwards from us the heads of those below us. None the less is it true that the whole of the motion in the respective cases is conceived as extending in opposite directions ad infinitum. [61] "When they are travelling through the void and meet with no resistance, the atoms must move with equal speed. Neither will heavy atoms travel more quickly than small and light ones, so long as nothing meets them, nor will small atoms travel more quickly than large ones, provided they always find a passage suitable to their size, and provided also that they meet with no obstruction. Nor will their upward or their lateral motion, which is due to collisions, nor again their downward motion, due to weight, affect their velocity. As long as either motion obtains, it must continue, quick as the speed of thought, provided there is no obstruction, whether due to external collision or to the atoms' own weight counteracting the force of the blow.

It seems a bit more nuanced than I remembered. He seems to say that atoms can move any direction but their downward motion is due to their "weight" which, in a manner of speaking, is correct! The fact that he also says that "Neither will heavy atoms travel more quickly than small and light ones," took me by surprise. I didn't remember that. And that's correct (in a vacuum), right? How or why would he intuit that? I think I need to revisit that Letter.