Episode One Hundred Sixteen - Letter to Herodotus 05 - More Fundamental Physics

Post by “Cassius” of April 3, 2022 at 5:12 AM

Welcome to Episode One Hundred Sixteen of Lucretius Today.

This is a podcast dedicated to the poet Lucretius, who wrote "On The Nature of Things," the only complete presentation of Epicurean philosophy left to us from the ancient world.

I am your host Cassius, and together with our panelists from the EpicureanFriends.com forum, we'll walk you through the ancient Epicurean texts, and we'll discuss how Epicurean philosophy can apply to you today. We encourage you to study Epicurus for yourself, and we suggest the best place to start is the book "Epicurus and His Philosophy" by Canadian professor Norman DeWitt.

If you find the Epicurean worldview attractive, we invite you to join us in the study of Epicurus at EpicureanFriends.com, where you will find a discussion thread for each of our podcast episodes and many other topics.

Today we continue our review of Epicurus' letter to Herodotus, and we move further into fundamental physics.

Now let's join Joshua reading today's text:

Bailey:

[41] And these latter are indivisible and unalterable (if, that is, all things are not to be destroyed into the non-existent, but something permanent is to remain behind at the dissolution of compounds): they are completely solid in nature, and can by no means be dissolved in any part. So it must needs be that the first beginnings are indivisible corporeal existences.

Moreover, the universe is boundless. For that which is bounded has an extreme point: and the extreme point is seen against something else. So that as it has no extreme point, it has no limit; and as it has no limit, it must be boundless and not bounded.

[42] Furthermore, the infinite is boundless both in the number of the bodies and in the extent of the void. For if on the one hand the void were boundless, and the bodies limited in number, the bodies could not stay anywhere, but would be carried about and scattered through the infinite void, not having other bodies to support them and keep them in place by means of collisions. But if, on the other hand, the void were limited, the infinite bodies would not have room

wherein to take their place.

Besides this the indivisible and solid bodies, out of which too the compounds are created and into which they are dissolved, have an incomprehensible number of varieties in shape: for it is not possible that such great varieties of things should arise from the same atomic shapes, if they are limited in number. And so in each shape the atoms are quite infinite in number, but their differences of shape are not quite infinite, but only incomprehensible in number.

[43] And the atoms move continuously for all time, some of them falling straight down, others swerving, and others recoiling from their collisions. And of the latter, some are borne on, separating to a long distance from one another, while others again recoil and recoil, whenever they chance to be checked by the interlacing with others, or else shut in by atoms interlaced around them.

[44] For on the one hand the nature of the void which separates each atom by itself brings this about, as it is not able to afford resistance, and on the other hand the hardness which belongs to the atoms makes them recoil after collision to as great a distance as the interlacing permits separation after the collision. And these motions have no beginning, since the atoms and the void are the cause.

[45] These brief sayings, if all these points are borne in mind, afford a sufficient outline for our understanding of the nature of existing things.

HICKS

[41] These elements are indivisible and unchangeable, and necessarily so, if things are not all to be destroyed and pass into non-existence, but are to be strong enough to endure when the composite bodies are broken up, because they possess a solid nature and are incapable of being anywhere or anyhow dissolved. It follows that the first beginnings must be indivisible, corporeal entities.

Again, the sum of things is infinite. For what is finite has an extremity, and the extremity of anything is discerned only by comparison with something else. (Now the sum of things is not discerned by comparison with anything else: hence, since it has no extremity, it has no limit; and, since it has no limit, it must be unlimited or infinite.

[42] Moreover, the sum of things is unlimited both by reason of the multitude of the atoms and the extent of the void. For if the void were infinite and bodies finite, the bodies would not have stayed anywhere but would have been dispersed in their course through the infinite void, not having any supports or counter-checks to send them back on their upward rebound. Again, if the void were finite, the infinity of bodies would not have anywhere to be.

Furthermore, the atoms, which have no void in them – out of which composite bodies arise and into which they are dissolved – vary indefinitely in their shapes; for so many varieties of things as we see could never have arisen out of a recurrence of a definite number of the same shapes. The like atoms of each shape are absolutely infinite; but the variety of shapes, though indefinitely large, is not absolutely infinite. For neither does the divisibility go on "ad infinitum," he says below; but he adds, since the qualities change, unless one is prepared to keep enlarging their magnitudes also simply "ad infinitum."

[43] The atoms are in continual motion through all eternity. Further, he says below, that the atoms move with equal speed, since the void makes way for the lightest and heaviest alike. Some of them rebound to a considerable distance from each other, while others merely oscillate in one place when they chance to have got entangled or to be enclosed by a mass of other atoms shaped for entangling.

[44] This is because each atom is separated from the rest by void, which is incapable of offering any resistance to the rebound; while it is the solidity of the atom which makes it rebound after a collision, however short the distance to which it rebounds, when it finds itself imprisoned in a mass of entangling atoms. Of all this there is no beginning, since both atoms and void exist from everlasting. He says below that atoms have no quality at all except shape, size, and weight. But that colour varies with the arrangement of the atoms he states in his "Twelve Rudiments"; further, that they are not of any and every size; at any rate no atom has ever been seen by our sense.

[45] The repetition at such length of all that we are now recalling to mind furnishes an adequate outline for our conception of the nature of things.

YONGE

[41] These elements are indivisible and unchangeable, and necessarily so, if things are not all to be destroyed and pass into non-existence, but are to be strong enough to endure when the composite bodies are broken up, because they possess a solid nature and are incapable of being anywhere or anyhow dissolved. It follows that the first beginnings must be indivisible, corporeal entities. "Again, the sum of things is infinite. For what is finite has an extremity, and the extremity of anything is discerned only by comparison with something else. (Now the sum of things is not discerned by comparison with anything else: hence, since it has no extremity, it has no limit; and, since it has no limit, it must be unlimited or infinite.

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