

# What Did the Ancient Epicureans Think Were The Upper And Lower Limits of Atomic Size?

Post by “Cassius” of September 6, 2024 at 10:58 AM

Here's a section in Book 1 of Lucretius describing the lower limit in size of atoms. Seems to me as noted before that this is not an assertion of a particular size, but that whatever the lower limit in size is, it must be sufficient to carry on these requirements.

## Quote

[551] Again, if nature had ordained no limit to the breaking of things, by now the bodies of matter would have been so far brought low by the breaking of ages past, that nothing could be conceived out of them within a fixed time, and pass on to the full measure of its life; for we see that anything you will is more easily broken up than put together again. Wherefore what the long limitless age of days, the age of all time that is gone by, had broken ere now, disordering and dissolving, could never be renewed in all time that remains. But as it is, a set limit to breaking has, we may be sure, been appointed, since we see each thing put together again, and at the same time fixed seasons ordained for all things after their kind, in the which they may be able to reach the flower of their life.

[565] There is this too that, though the first-bodies of matter are quite solid, yet we can give account of all the soft things that come to be, air, water, earth, fires, by what means they come to being, and by what force each goes on its way, when once void has been mingled in things. But on the other hand, if the first-beginnings of things were to be soft, it will not be possible to give account whence hard flints and iron can be created; for from the first all nature will lack a first-beginning of foundation. There are then bodies that prevail in their solid singleness, by whose more close-packed union all things can be riveted and reveal their stalwart strength.

[577] Moreover, if no limit has been appointed to the breaking of things, still it must needs be that all the bodies of things survive even now from time everlasting, such that they cannot yet have been assailed by any danger. But since they exist endowed with a frail nature, it is not in harmony with this that they have been able to abide for everlasting time harried through all the ages by countless blows.

[584] Once again, since there has been appointed for all things after their kind a limit of growing and of maintaining life, and inasmuch as it stands ordained what all things severally can do by the laws of nature, and what too they cannot, nor is anything so changed, but that all things stand so fast that the diverse birds all in their due order

show that the marks of their kind are on their body, they must also, we may be sure, have a body of unchanging substance. For if the first-beginnings of things could be vanquished in any way and changed, then, too, would it be doubtful what might come to being, what might not, yea, in what way each thing has its power limited and its deepset boundary-stone, nor could the tribes each after their kind so often recall the nature, habits, manner of life and movements of the parents.

[599] Then, further, since there are extreme points, one after another \[on bodies, which are the least things we can see, likewise, too, there must be a least point\] on that body, which our senses can no longer descry; that point, we may be sure, exists without parts and is endowed with the least nature, nor was it ever sundered apart by itself nor can it so be hereafter, since it is itself but a part of another and that the first single part: then other like parts and again others in order in close array make up the nature of the first body, and since they cannot exist by themselves, it must needs be that they stay fast there whence they cannot by any means be torn away. The first-beginnings then are of solid singleness; for they are a close dense mass of least parts, never put together out of a union of those parts, but rather prevailing in everlasting singleness; from them nature, keeping safe the seeds of things, suffers not anything to be torn away, nor ever to be removed.

[615] Moreover, if there be not a least thing, all the tiniest bodies will be composed of infinite parts, since indeed the half of a half will always have a half, nor will anything set a limit. What difference then will there be between the sum of things and the least of things? There will be no difference; for however completely the whole sum be infinite, yet things that are tiniest will be composed of infinite parts just the same. And since true reasoning cries out against this, and denies that the mind can believe it, you must be vanquished and confess that there are those things which consist of no parts at all and are of the least nature. And since these exist, those first-beginnings too you must needs own are solid and everlasting.

[628] And again, if nature, the creatress, had been used to constrain all things to be dissolved into their least parts, then she could not again renew aught of them, for the reason that things which are not enlarged by any parts, have not those powers which must belong to creative matter, the diverse fastenings, weights, blows, meetings, movements, by which all things are carried on.

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