

Episode Ten - The Void And Its Nature

Post by "Cassius" of March 9, 2020 at 11:11 PM

Welcome to Episode Ten of Lucretius Today. This is a podcast dedicated to the poet Lucretius, who lived in the age of Julius Caesar and 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 my panelists from the EpicureanFriends.com forum, we'll walk you through the six books of Lucretius' poem, and discuss how Epicurean philosophy can apply to you today. Be aware that none of us are professional philosophers, and everyone here is a self-taught Epicurean. 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.

Today's episode is the first of our episodes to be significantly impacted by the coronavirus episode, so we will be more brief than normal, in that Martin and I will be carrying the full show while we await several of our normal panelists to return hopefully next week.

For that reason Martin and I will begin the discussion of the void mainly by introducing the topic and its implications, and then in the next episode we'll dive more deeply into the details of the text.

So with that, Martin, please read the next section from Book One for us:

This is the text that will be covered in Episode Ten. The Latin version of Book One has this as beginning at approximately line 330 of the

[Munro Latin Edition here.](#)

[1743 Daniel Browne Edition \(click link for English and Latin\):](#)

And yet all beings are not formed of close and solid parts; in things there is a void, which in your searches into nature will be of use to know. This will preserve your wandering mind from doubt, prevent your constant toil by judging right of nature's laws, and make my words believed.

Wherefore there is a place we call a void, an empty space intangible, or else no bodies could be moved, or stir; the quality all bodies have to stop and to oppose does never fail, so that to move would be in vain to try, no body first by yielding would give way. But now we see before our eyes that things move various ways in seas, in Earth, and in the heaven above; but were there no void, they would not be deprived of that activity of motion only, but would not be at

all; for matter wedged and crowded close on every side had ever been at rest.

Besides, though things appear of solid parts composed, yet you will find them, in some measure, formed of bodies that are rare; the liquid moisture of the water sweats through rocks and stones, and all things weep with drops abundant; the food that every creature eats disperses through the body; the trees increase and grow and in due season shew their fruit; because the juice is from the low roots spread through the trunk, and over all the boughs. Sounds pass through strong partitions, and fly quick through walls of houses, and the piercing cold strikes through the very bones; but were no void, no empty space, that bodies ever should pass, you'd find a thing impossible to prove.

Again, why do we see some things exceed others in weight, though of equal size? For if as much of body went to form a ball of wool as made a ball of lead, their weight would be the same; for the quality of body is to press downward: but a perfect void by nature has no weight; so that a body of equal size, but lighter in its weight, proves it has more of empty space. So again, the heavier body has more of solid parts 'tis plain, and has within it less of void. And this is doubtless what with reason's searching eye we look for, mixed with things; we call it space.

But I am forced to step before, and answer what some pretend, lest you should be seduced from truth: They say the waters yield to fish making their way, and open their liquid paths; for when the fish have left a space, that instant thither the yielding waters circling flow. By the same rule, all beings may be moved among themselves, and change their former place, though all things should be full: but this, 'tis plain, is false throughout; for how could fish advance at all, unless the waters gave them way? And whither should the waves retire, if the fish did not move, and leave a space behind? So that all bodies must be deprived of motion, or you must say a void is mixed with every thing from whence each being first derives a power to move.

Lastly, if two broad bodies meet, and instantly are separated again, the air must needs fill up the void that is between; but this air, though it should hurry with its swiftest powers, it cannot all at once fill up the space these bodies will disclose at parting; first the nearest part will be filled up, and then the more remote, until the whole be full.

If one should say when these flat bodies meet the air is condensed, but when they part the air is rarefied, 'tis a mistake; for then here must be void where there was none before, and that void that was before must now be full; in such a case, the air can't be condensed; and if it could, it can't without a void contract itself, and so reduce its parts into a closer space. Wherefore, perplex the matter as you please, you must confess in things there is a void.

Munro:

[330] And yet all things are not on all sides jammed together and kept in by body: there is also void in things. To have learned this will be good for you on many accounts; it will not suffer you

to wander in doubt and be to seek in the sum of things and, distrustful of our words.

[335] If there were not void, things could not move at all; for that which is the property of body, to let and hinder, would be present to all things at all times; nothing therefore could go on, since no other thing would be the first to give way. But in fact throughout seas and lands and the heights of heaven we see before our eyes many things move in many ways for various reasons, which things, if there were no void, I need not say would lack and want restless motion: they never would have been begotten at all, since matter jammed on all sides would have been at rest.

[347] Again however solid things are thought to be, you may yet learn from this that they are of rare body: in rocks and caverns the moisture of water oozes through and all things weep with abundant drops; food distributes itself through the whole body of living things; trees grow and yield fruit in season, because food is diffused through the whole from the very roots over the stem and all the boughs. Voices pass through walls and fly through houses shut, stiffening frost pierces to the bones. Now if there are no void parts, by what way can the bodies severally pass? You would see it to be quite impossible.

[359] Once more, why do we see one thing surpass another in weight though not larger in size? For if there is just as much body in a ball of wool as there is in a lump of lead, it is natural it should weigh the same, since the property of body is to weigh all things downwards, while on the contrary the nature of void is ever without weight. Therefore when a thing is just as large, yet is found to be void in it; while on the other hand that which is lighter, it proves sure enough that it has more of 'heavier shows that there is in it more of body and that it contains within it much less of void. Therefore that which we are seeking with keen reason exists sure enough, mixed up in things; and we call it void.

[371] And herein I am obliged to forestall this point which some raise, lest it draw you away from the truth. The waters they say make way for the scaly creatures as they press on, and open liquid paths, because the fish leave room behind them, into which the yielding waters may stream; thus other things too may move and change place among themselves, although the whole sum be full. This you are to know has been taken up on grounds wholly false. For on what side I ask can the scaly creatures move forwards, unless the waters have first made room? Again on what side can the waters give place, so long as the fish are unable to go on? Therefore you must either strip all bodies of motion or admit that in things void is mixed up from which every thing gets its first start in moving.

[385] Lastly if two broad bodies after contact quickly spring asunder, the air must surely fill all the void which is formed between the bodies. Well however rapidly it stream together with swift-circling currents, yet the whole space will not be able to be filled up in one moment for it must occupy first one spot and then another, until the whole is taken up.

[391] But if haply any one supposes that, when the bodies have started asunder, that result follows because the air condenses, he is mistaken; for a void is then formed which was not

before, and a void also is filled which existed before; nor can the air condense in such a way, nor supposing it could, could it methinks without void draw into itself and bring its parts together. Wherefore however long you hold out by urging many objections, you must needs in the end admit that there is a void in things.

Bailey:

[330] And yet all things are not held close pressed on every side by the nature of body; for there is void in things. To have learnt this will be of profit to you in dealing with many things; it will save you from wandering in doubt and always questioning about the sum of things, and distrusting my words.

[335] There is then a void, mere space untouchable and empty. For if there were not, by no means could things move; for that which is the office of body, to offend and hinder, would at every moment be present to all things; nothing, therefore, could advance, since nothing could give the example of yielding place. But as it is, through seas and lands and the high tracts of heaven, we descry many things by many means moving in diverse ways before our eyes, which, if there were not void, would not so much be robbed and balked of restless motion, but rather could in no way have been born at all, since matter would on every side be in close-packed stillness.

[347] Again, however solid things may be thought to be, yet from this you can discern that they are of rare body. In rocky caverns the liquid moisture of water trickles through, and all weeps with copious dripping: food spreads itself this way and that into the body of every living thing: trees grow and thrust forth their fruit in due season, because the food is dispersed into every part of them from the lowest roots through the stems and all the branches. Noises creep through walls and fly through the shut places in the house, stiffening cold works its way to the bones: but were there no empty spaces, along which each of these bodies might pass, you would not see this come to pass by any means.

[359] Again, why do we see one thing surpass another in weight, when its size is no whit bigger? For if there is as much body in a bale of wool as in lead, it is natural it should weigh as much, since 'tis the office of body to press all things downwards, but on the other hand the nature of void remains without weight. So because it is just as big, yet seems lighter, it tells us, we may be sure, that it has more void; but on the other hand the heavier thing avows that there is more body in it and that it contains far less empty space within. Therefore, we may be sure, that which we are seeking with keen reasoning, does exist mingled in things—that which we call void.

[371] Herein lest that which some vainly imagine should avail to lead you astray from the truth, I am constrained to forestall it. They say that the waters give place to the scaly creatures as they press forward and open up a liquid path, because the fishes leave places behind, to which

the waters may flow together as they yield: and that even so other things too can move among themselves and change place, albeit the whole is solid. In very truth this is all believed on false reasoning. For whither, I ask, will the scaly creatures be able to move forward, unless the waters have left an empty space? again, whither will the waters be able to give place, when the fishes cannot go forward? either then we must deny motion to every body, or we must say that void is mixed with things, from which each thing can receive the first start of movement.

[385] Lastly, if two broad bodies leap asunder quickly from a meeting, surely it must needs be that air seizes upon all the void, which comes to be between the bodies. Still, however rapid the rush with which it streams together as its currents hasten round, yet in one instant the whole empty space cannot be filled: for it must needs be that it fills each place as it comes, and then at last all the room is taken up.

[391] But if by chance any one thinks that when bodies have leapt apart, then this comes to be because the air condenses, he goes astray; for in that case that becomes empty which was not so before, and again that is filled which was empty before, nor can air condense in such a way, nor, if indeed it could, could it, I trow, without void draw into itself and gather into one all its parts.

[401] Wherefore, however long you hang back with much objection, you must needs confess at last that there is void in things

Post by “Cassius” of March 15, 2020 at 8:06 AM

Issues Surrounding the Void - Inoculating Students of Epicurus Against Error.

The following notes are of relevance to Episode 10. and to future passages in Lucretius about the void:

Letter to Herodotus: "Moreover, the universe is bodies and space: for that bodies exist, sense itself witnesses in the experience of all men, and in accordance with the evidence of sense we must of necessity judge of the imperceptible by reasoning, as I have already said. **And if there were not that which we term void and place and intangible existence, bodies would have nowhere to exist and nothing through which to move, as they are seen to move. And besides these two, nothing can even be thought of either by conception or on the analogy of things conceivable such as could be grasped as whole existences and not spoken of as the accidents or properties of such existences .** ([Link to Bailey text](#) with Greek)

[Wikipedia Article on Void in Philosophy](#)

Quote

Western philosophers have discussed the existence and nature of void since [Parmenides](#) suggested it did not exist and used this to argue for the non-existence of change, motion, differentiation, among other things.[\[5\]](#) In response to Parmenides, [Democritus](#) described the universe as only being composed of atoms and void.[\[6\]](#)

[Aristotle](#), in Book IV of *Physics*, denied the existence of the Void ([Greek](#): κενόν) with his rejection of finite entities.[\[7\]](#)

The View of the Stoics: The Universe Consists of Matter and GOD

(quote below is from David Sedley's "Lucretius and the Transformation of Greek Wisdom" which quotes Diogenes of Oinoanda)

74

3. *Lucretius the fundamentalist*

734–5).⁵⁷ But although the four elements did indeed play an important role in Stoic cosmology, not even they were viewed by the Epicureans as the Stoics' candidate for the primary constituents of things, which were rather, quite correctly, taken to be the two principles 'matter and god'. Diogenes of Oenoanda goes through just the same list of targets as Lucretius (differing only in that he assigns names to the 'water' and 'air' monists, left anonymous at *DRN* I 707–9). But, significantly, he adds the Stoic principles at the end of it (6 I 10–11 9 Smith):

Heraclitus of Ephesus said that fire is the element, Thales of Miletus water, Diogenes of Apollonia and Anaximenes air, Empedocles of Acragas fire, air, water and earth, Anaxagoras of Clazomenae the 'homoeomeries' of each thing, and the Stoics matter and god.

Note however, this in the wikipedia article on Void quoted above, so the Stoics were slippery:

Quote

[Stoic philosophers](#) admitted the subsistence of four [incorporeals](#) among which they included void: "Outside of the world is diffused the infinite void, which is incorporeal. By incorporeal is meant that which, though capable of being occupied by body, is not so occupied. The world has no empty space within it, but forms one united whole. This is a necessary result of the sympathy and tension which binds together things in heaven and earth. [Chrysippus](#) discusses the void in his work *On Void* and in the first book of his *Physical Sciences*; so too [Apollophanes](#) in his *Physics*[\[8\]](#) , [Apollodorus](#)[\[9\]](#) , and [Posidonius](#) in his *Physical Discourse*, book ii."[\[10\]](#)

[Wikipedia Article on Eleatic Philosophers who denied the existence of void](#): bold emphasis added

Quote

The Eleatics **rejected the [epistemological](#) validity of [sense experience](#)**, and instead took **logical standards of clarity and necessity** to be the criteria of [truth](#). Of the members, Parmenides and Melissus built arguments starting from sound premises. Zeno, on the other hand, primarily employed the [reductio ad absurdum](#), attempting to destroy the arguments of others by showing that their premises led to contradictions ([Zeno's paradoxes](#)).^{[\[citation needed\]](#)}

The main doctrines of the Eleatics were evolved in **opposition to the theories of the early [physicalist](#) philosophers, who explained all existence in terms of primary [matter](#)**, and to the theory of [Heraclitus](#), which declared that all existence may be summed up as perpetual change. The Eleatics maintained that the **true explanation of things lies in the conception of a [universal unity of being](#)**. According to their doctrine, **the [senses](#) cannot cognize this unity**, because their reports are inconsistent; it is **by thought alone that we can pass beyond the false appearances of sense and arrive at the [knowledge of being](#)**, at the fundamental truth that the "**All is One**". Furthermore, there can be no [creation](#), for being cannot come from non-being, because a thing cannot arise from that which is different from it. They argued that errors on this point commonly arise from the ambiguous use of the verb to be, which may imply actual physical existence or be merely the linguistic [copula](#) which connects [subject](#) and [predicate](#).^{[\[2\]](#)}

Though the Eleatic school ended with [Melissus of Samos](#) (fl. c. 450 BC), and conclusions of the Eleatics were rejected by the later [Presocratics](#) and [Aristotle](#), their arguments were taken seriously, and they are generally credited with improving the standards of discourse and argument in their time. Their influence was likewise long-lasting; [Gorgias](#) , a [Sophist](#), argued in the style of the Eleatics in *On Nature or What Is Not*, and [Plato](#)

acknowledged them in the [Parmenides](#), the [Sophist](#) and the [Statesman](#). Furthermore, much of the later philosophy of the ancient period borrowed from the methods and principles of the Eleatics.^{[[citation needed](#)]}

[Wikipedia on Parmenides](#)

Quote

Parmenides claimed that there is no truth in the opinions of the mortals. Genesis-and-destruction, as Parmenides emphasizes, is a false opinion, because to be means to be completely, once and for all. What exists can in no way not exist.

"For this view, that That Which Is Not exists, can never predominate. You must debar your thought from this way of search, nor let ordinary experience in its variety force you along this way, (namely, that of allowing) the eye, sightless as it is, and the ear, full of sound, and the tongue, to rule; but (you must) judge by means of the Reason ([Logos](#)) the much-contested proof which is expounded by me. "(B 7.1-8.2)

...

The traditional interpretation of Parmenides' work is that he argued that the every-day [perception](#) of [reality](#) of the physical world (as described in *doxa*) is mistaken, and that the reality of the world is 'One Being' (as described in *aletheia* 😞) an unchanging, ungenerated, indestructible whole. Under the *Way of Opinion*, Parmenides set out a contrasting but more conventional view of the world, thereby becoming an early exponent of the [duality](#) of appearance and reality. For him and his pupils, the [phenomena](#) of movement and change are simply appearances of a changeless, [eternal](#) reality.

[Wikipedia on Zeno's Paradoxes:](#)

Quote

Zeno's paradoxes are a set of [philosophical](#) problems generally thought to have been devised by [Greek](#) philosopher [Zeno of Elea](#) (c. 490–430 BC) to support [Parmenides'](#) doctrine that **contrary to the evidence of one's senses, the belief in [plurality](#) and change is mistaken, and in particular that [motion](#) is nothing but an [illusion](#)**. It is usually assumed, based on [Plato's *Parmenides*](#) (128a–d), that Zeno took

on the project of creating these [paradoxes](#) because other philosophers had created paradoxes against Parmenides' view. Thus Plato has Zeno say the purpose of the paradoxes "is to show that their hypothesis that existences are many, if properly followed up, leads to still more absurd results than the hypothesis that they are one."[\[1\]](#) Plato has [Socrates](#) claim that Zeno and Parmenides were essentially arguing exactly the same point.[\[2\]](#)

Achilles and the Tortoise:

In a race, the quickest runner can never overtake the slowest, since the pursuer must first reach the point whence the pursued started, so that the slower must always hold a lead. — as recounted by Aristotle, Physics VI:9, 239b15

Arrow Paradox:

If everything when it occupies an equal space is at rest, and if that which is in locomotion is always occupying such a space at any moment, the flying arrow is therefore motionless.[\[15\]](#) — as recounted by Aristotle, Physics VI:9, 239b5

The Paradox of Place:

From Aristotle: If everything that exists has a place, place too will have a place, and so on ad infinitum.

The Paradox of a Grain of Millet:

Description of the paradox from the Routledge Dictionary of Philosophy: The argument is that a single grain of millet makes no sound upon falling, but a thousand grains make a sound. Hence a thousand nothings become something, an absurd conclusion.[\[19\]](#)

[Display More](#)

Post by “Cassius” of March 21, 2020 at 9:56 PM

Episode Ten is now released!

<https://www.spreaker.com/episode/24153667>

Post by “Paquin” of July 24, 2021 at 3:21 AM

I really enjoyed the discussion of the Zeno paradoxes in this episode and the extra context that the discussion of the ideas of Parmenides gave to the listener. The information about the ancient Greeks and calculus was brilliant. Also as a walker I love the phrase 'solvitur ambulando' (it is solved by walking) and I remembered I had read that it had been used to counter the paradox - 'Diogenes the Cynic is said to have have replied to Zeno's paradoxes on the unreality of motion by standing up and walking away' (from wiki entry on Solvitur ambulando). I like the idea that Diogenes just walked off in response.

I also appreciated the advice in the podcast for people who might be faced with logical paradoxes in the future, especially for the people who might not be able to marshal up enough logic of their own to counter them - it was like you guys were talking directly to me! I feel I am being prepared for a dangerous philosophical world out there, full of potential traps and false detours.

Post by “Cassius” of July 24, 2021 at 6:01 AM

[Quote from Paquin](#)

I feel I am being prepared for a dangerous philosophical world out there, full of potential traps and false detours

i am not sure that we in the podcast are able to do more than point this out, but I am sure that Epicurus is the best friend I have found in facing that!

[Quote from Paquin](#)

solvitur ambulando

i had never heard that phrase but I love Latin so thank you - that is very memorable.

Post by “Cassius” of July 31, 2021 at 9:13 AM

At this point in this thread Camotero added the post that I have now split off into this thread, given its importance:

Thread

[Analysis of Video By Sabine Hossenfelder \("You Don't Have Free Will But Don't Worry"\)](#)

One of the links on this thread: [Sabine Hossenfelder - Why the Multiverse Is Religion](#)

Took me to a website where Sabine H. wrote about why free will is inexistent. After the pleasant surprise we had with the other two videos @Cassius I thought it may have been an error but I did find out this video later on:

youtu.be/zpU_e3jh_FY

It seems to me that this "paradox" (because, of course, we perceive free will with our senses, but she states we're being fooled) falls a bit into what was talked...



Mathitis Kipouros

July 30, 2021 at 7:20 AM