

Episode One Hundred Seventeen - Letter to Herodotus 06 - The Doctrine of Infinity of Worlds And Its Implications

Post by "Cassius" of April 7, 2022 at 9:57 PM

Welcome to Episode One Hundred Seventeen 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 Martin reading today's text:

Bailey:

[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.

Furthermore, there are infinite worlds both like and unlike this world of ours. For the atoms being infinite in number, as was proved already, are borne on far out into space. For those atoms, which are of such nature that a world could be created out of them or made by them, have not been used up either on one world or on a limited number of worlds, nor again on all the worlds which are alike, or on those which are different from these. So that there nowhere exists an obstacle to the infinite number of the worlds.

[46] Moreover, there are images like in shape to the solid bodies, far surpassing perceptible things in their subtlety of texture. For it is not impossible that such emanations should be formed in that which surrounds the objects, nor that there should be opportunities for the

formation of such hollow and thin frames, nor that there should be effluences which preserve the respective position and order which they had before in the solid bodies: these images we call idols.

[47] Next, nothing among perceptible things contradicts the belief that the images have unsurpassable fineness of texture. And for this reason they have also unsurpassable speed of motion, since the movement of all their atoms is uniform, and besides nothing or very few things hinder their emission by collisions, whereas a body composed of many or infinite atoms is at once hindered by collisions.

[48] Besides this, nothing contradicts the belief that the creation of the idols takes place as quick as thought. For the flow of atoms from the surface of bodies is continuous, yet it cannot be detected by any lessening in the size of the object because of the constant filling up of what is lost. The flow of images preserves for a long time the position and order of the atoms in the solid body, though it is occasionally confused. Moreover, compound idols are quickly formed in the air around, because it is not necessary for their substance to be filled in deep inside: and besides there are certain other methods in which existences of this sort are produced. For not one of these beliefs is contradicted by our sensations, if one looks to see in what way sensation will bring us the clear visions from external objects, and in what way again the corresponding sequences of qualities and movements.

[49] Now we must suppose too that it is when something enters us from external objects that we not only see but think of their shapes. For external objects could not make on us an impression of the nature of their own colour and shape by means of the air which lies between us and them, nor again by means of the rays or effluences of any sort which pass from us to them — nearly so well as if models, similar in color and shape, leave the objects and enter according to their respective size either into our sight or into our mind; moving along swiftly, and so by this means reproducing the image of a single continuous thing and preserving the corresponding sequence of qualities and movements from the original object as the result of their uniform contact with us, kept up by the vibration of the atoms deep in the interior of the concrete body.

[50] And every image which we obtain by an act of apprehension on the part of the mind or of the sense-organs, whether of shape or of properties, this image is the shape or the properties of the concrete object, and is produced by the constant repetition of the image or the impression it has left. Now falsehood and error always lie in the addition of opinion with regard to what is waiting to be confirmed or not contradicted, and then is not confirmed or is contradicted.

[51] For the similarity between the things which exist, which we call real and the images received as a likeness of things and produced either in sleep or through some other acts of apprehension on the part of the mind or the other instruments of judgment, could never be, unless there were some effluences of this nature actually brought into contact with our senses.

And error would not exist unless another kind of movement too were produced inside ourselves, closely linked to the apprehension of images, but differing from it; and it is owing to this, supposing it is not confirmed, or is contradicted, that falsehood arises; but if it is confirmed or not contradicted, it is true.

[52] Therefore we must do our best to keep this doctrine in mind, in order that on the one hand the standards of judgment dependent on the clear visions may not be undermined, and on the other error may not be as firmly established as truth and so throw all into confusion.

HICKS

[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.

Moreover, there is an infinite number of worlds, some like this world, others unlike it. For the atoms being infinite in number, as has just been proved, are borne ever further in their course. For the atoms out of which a world might arise, or by which a world might be formed, have not all been expended on one world or a finite number of worlds, whether like or unlike this one. Hence there will be nothing to hinder an infinity of worlds.

[46] Again, there are outlines or films, which are of the same shape as solid bodies, but of a thinness far exceeding that of any object that we see. For it is not impossible that there should be found in the surrounding air combinations of this kind, materials adapted for expressing the hollowness and thinness of surfaces, and effluxes preserving the same relative position and motion which they had in the solid objects from which they come. To these films we give the name of 'images' or 'idols.'

[47] Furthermore, so long as nothing comes in the way to offer resistance, motion through the void accomplishes any imaginable distance in an inconceivably short time. For resistance encountered is the equivalent of slowness, its absence the equivalent of speed.

Not that, if we consider the minute times perceptible by reason alone, the moving body itself arrives at more than one place simultaneously (for this too is inconceivable), although in time perceptible to sense it does arrive simultaneously, however different the point of departure from that conceived by us. For if it changed its direction, that would be equivalent to its meeting with resistance, even if up to that point we allow nothing to impede the rate of its flight. This is an elementary fact which in itself is well worth bearing in mind. In the next place the exceeding thinness of the images is contradicted by none of the facts under our observation. Hence also their velocities are enormous, since they always find a void passage to fit them. Besides, their incessant effluence meets with no resistance, or very little, although many atoms, not to say an unlimited number, do at once encounter resistance.

[48] Besides this, remember that the production of the images is as quick as thought. For particles are continually streaming off from the surface of bodies, though no diminution of the bodies is observed, because other particles take their place. And those given off for a long time retain the position and arrangement which their atoms had when they formed part of the solid bodies, although occasionally they are thrown into confusion. Sometimes such films are formed very rapidly in the air, because they need not have any solid content; and there are other modes in which they may be formed. For there is nothing in all this which is contradicted by sensation, if we in some sort look at the clear evidence of sense, to which we should also refer the continuity of particles in the objects external to ourselves.

[49] We must also consider that it is by the entrance of something coming from external objects that we see their shapes and think of them. For external things would not stamp on us their own nature of colour and form through the medium of the air which is between them and us, or by means of rays of light or currents of any sort going from us to them, so well as by the entrance into our eyes or minds, to whichever their size is suitable, of certain films coming from the things themselves, these films or outlines being of the same colour and shape as the external things themselves. They move with rapid motion; and this again explains why they present the appearance of the single continuous object, and retain the mutual interconnexion which they had in the object, when they impinge upon the sense, such impact being due to the oscillation of the atoms in the interior of the solid object from which they come.

[50] And whatever presentation we derive by direct contact, whether it be with the mind or with the sense-organs, be it shape that is presented or other properties, this shape as presented is the shape of the solid thing, and it is due either to a close coherence of the image as a whole or to a mere remnant of its parts. Falsehood and error always depend upon the intrusion of opinion (when a fact awaits) confirmation or the absence of contradiction, which fact is afterwards frequently not confirmed (or even contradicted) following a certain movement in ourselves connected with, but distinct from, the mental picture presented - which is the cause of error.

[51] For the presentations which, e.g., are received in a picture or arise in dreams, or from any other form of apprehension by the mind or by the other criteria of truth, would never have resembled what we call the real and true things, had it not been for certain actual things of the kind with which we come in contact. Error would not have occurred, if we had not experienced some other movement in ourselves, conjoined with, but distinct from, the perception of what is presented. And from this movement, if it be not confirmed or be contradicted, falsehood results; while, if it be confirmed or not contradicted, truth results.

[52] And to this view we must closely adhere, if we are not to repudiate the criteria founded on the clear evidence of sense, nor again to throw all these things into confusion by maintaining falsehood as if it were truth.

YONGE

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Post by “Cassius” of April 7, 2022 at 10:01 PM

Just a note before we record this episode:

The next topic is "infinity of worlds" which is a great topic, but it is unfortunately very short here. Maybe we can look for the corresponding section in Lucretius.

But what follows that is a long discussion of "images" - which at this point in our discussions of Epicurus I think we see more as a discussion of epistemology and what goes on inside the brain than we do as a question of cosmic rays or the like. Unfortunately it's a long section so maybe what we can do is discuss it mostly in terms of "pattern matching" so we can get something more out of it, especially since the last thought of the section is:

"[52] Therefore we must do our best to keep this doctrine in mind, in order that on the one hand the standards of judgment dependent on the clear visions may not be undermined, and on the other error may not be as firmly established as truth and so throw all into confusion."

Post by "Joshua" of April 9, 2022 at 3:00 PM

Two other points to make by way of preface:

1.) Martin has been kind enough on a number of occasions to correct me when I use the phrase "many worlds". "Many-worlds" is an interpretation of modern quantum mechanics that is neither empirical nor falsifiable, and has nothing to do with Epicurean physics.

What we *will* be talking about is Cosmic Pluralism, which is simply the understanding that Earth, or the bodies of Solar System, are not the only celestial bodies in existence.

2.) The use of the word "idol" in 46 should not be construed to carry its religious connotations. Epicurus uses the Greek word εἶδωλον, *eidolon*, which is the root of the English word but means:

Noun Edit

εἶδωλον • (eídōlon) n (genitive εἰδώλου); second declension

1. phantom, ghost
2. shape, figure, image
3. image of the mind: idea, fancy
4. representation, statue, idol

We appear to be dealing with some combination of definitions 2 and 3.

Post by "Don" of April 9, 2022 at 3:23 PM

<https://www.epicureanfriends.com/thread/2453-episode-one-hundred-seventeen-letter-to-herodotus-06-the-doctrine-of-infinity-of/>

[Quote from Joshua](#)

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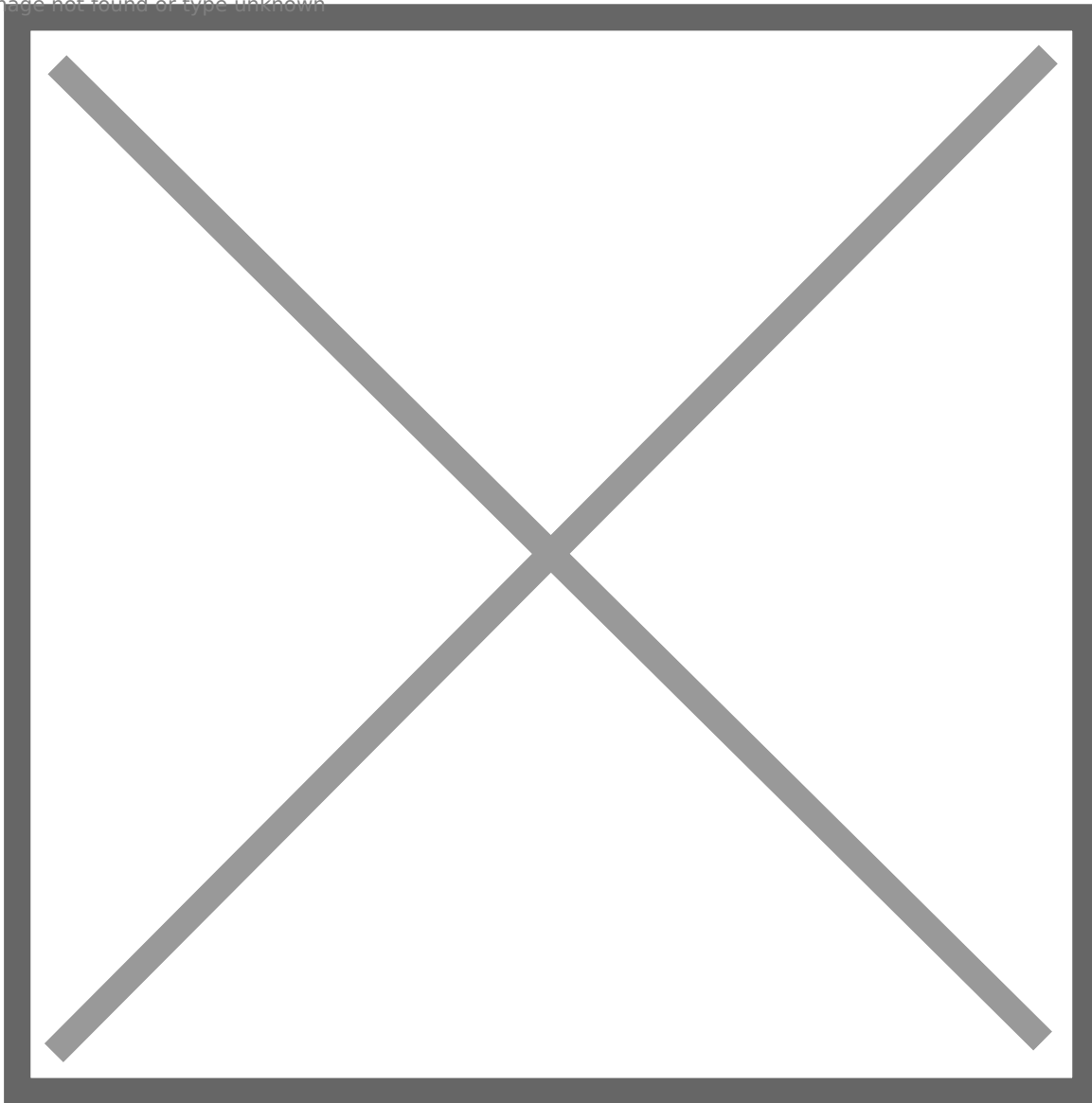
1. phantom, ghost
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Display More

Agreed, but I do find it interesting to remember that the literal definition of the (English) word "idol" is a "representation" of a god and stems directly from εἰδολών.

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[idol | Etymology, origin and meaning of idol by etymonline](#)

IDOL Meaning: "image of a deity as an object of (pagan) worship," from Old French idole "idol, graven image, pagan... See definitions of idol.

www.etymonline.com

Post by “Joshua” of April 9, 2022 at 4:00 PM

That's a good point, Don, and it raises an interesting problem in theology; while Christianity in the main stream has abandoned the injunction against 'making graven images', Islam still

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adheres to it. In the Charlie Hebdo case, this meant that western cartoonists were 'deserving of death' for their portraits of Mohammed. In one of the attacks against that magazine, twelve people were killed.

From a ban on physical images, it is but one more step to a ban on mental images:

Quote

"It is not permissible at all to imagine how the Entity of Allah or any of His Attributes is."

-The late Shaykh Ibn 'Uthaymeen, a prominent scholar of Islam

By way of contrast, we may look into Bernard Frischer's argument from *The Sculpted Word*: the early Epicureans were not only noted for their dedication toward portraits, but actually used them as a method for advocating the philosophy.

Post by "Don" of April 9, 2022 at 4:49 PM

That's an even better point, [Joshua](#) 😊 Thanks for that post!

Post by "Joshua" of April 10, 2022 at 10:32 AM

The Dawkins quote that I got somewhat wrong:

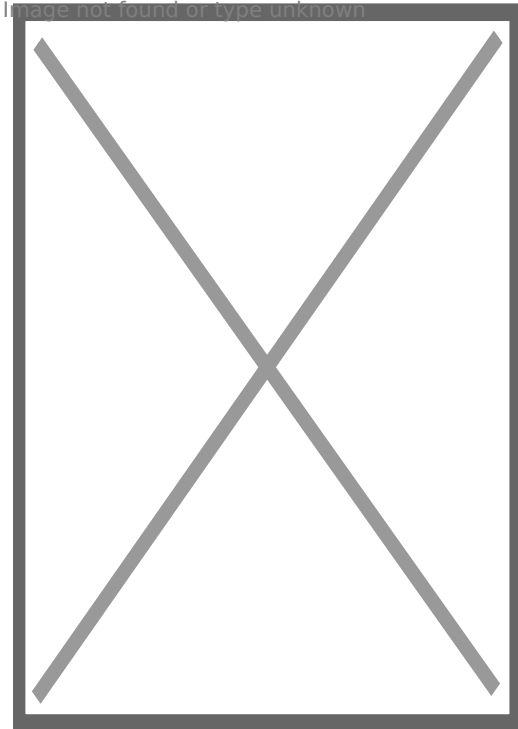
Quote

"We are going to die, and that makes us the lucky ones. Most people are never going to die because they are never going to be born. The potential people who could have been here in my place but who will in fact never see the light of day outnumber the sand grains of Arabia. Certainly those unborn ghosts include greater poets than Keats, scientists greater than Newton. We know this because the set of possible people allowed by our DNA so massively exceeds the set of actual people. In the teeth of these stupefying odds it is you and I, in our ordinariness, that are here. We privileged few, who won the lottery of birth against all odds, how dare we whine at our inevitable return to that prior state from which the vast majority have never stirred?"

Post by “Don” of April 10, 2022 at 10:52 AM

That's a good quote.

For anyone curious, it's the opening lines of Dawkins' Unweaving the Rainbow.



[Unweaving the Rainbow - Wikipedia](https://en.wikipedia.org)
en.wikipedia.org

Post by “Cassius” of April 10, 2022 at 11:09 AM

Ok having just completed the podcast recording I am "proud" to say that we have spent the ENTIRE episode on a single passage!

[Quote from Cassius](#)

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For those atoms, which are of such nature that a world could be created out of them or made by them, have not been used up either on one world or on a limited number of worlds, nor again on all the worlds which are alike, or on those which are different from these. So that there nowhere exists an obstacle to the infinite number of the worlds.

However even though we didn't move fast I think this is going to prove one of our more important and beneficial episodes, because we got into a lot of important issues about the implications of it.

Get ready for a discussion of nihilism, meaningfulness, and even "eternal recurrence!"

We'll move to "images" next week.

Post by “Cassius” of April 10, 2022 at 12:16 PM

On the issue of "meaningfulness" I happened to see a sentence in which the terms "meaningful" and "significant" were equated, in the context of measurement.

I think that's the right perspective - we have to have a context for the word to have any "meaning" to us, and all meaning must come through "significance" and for some reason it is easier for me to see that "significance" requires that whatever is under discussion needs to be "perceived" by us.

And what standard of perception is there to us other than feeling which to me broadly speaking includes the feeling of pain and pleasure?

In fact I wonder if [PD02](#) is not aimed at this larger sense of "feeling" rather than just at the five senses(?). [Don](#) ?

[PD02](#). [Death is nothing to us](#), for that which is dissolved is without sensation; and that which lacks sensation is nothing to us.

Post by “Don” of April 10, 2022 at 12:40 PM

As always, I'd also suggest people take a look at @Nate 's compilation of translations.

Here's the Greek:

Ὁ θάνατος οὐδὲν πρὸς ἡμᾶς· τὸ γὰρ διαλυθὲν ἀναισθητεῖ· τὸ δ' ἀναισθητοῦν οὐδὲν πρὸς ἡμᾶς.

Pertinent words for this discussion are:

ἀναισθητεῖ and ἀναισθητοῦν

Variants of the same word: ἀναισθητέω

[Henry George Liddell, Robert Scott, A Greek-English Lexicon, ἀναισθητέω](#)

Also

[Greek Word Study Tool](#)

Post by “Cassius” of April 10, 2022 at 3:36 PM

There are many points we are going to need to discuss for this podcast and I will probably move the "images" posts to that thread when it is set up.

For now I want to mark another topic which hits near the end of the episode: We were discussing something like: "To what extent was the "Nihilism" viewpoint (as we think of it today) represented in a school or segment or philosopher in the ancient world?"

I will probably set up a separate thread for that too over time but feel free to make comments on that here. We need to discuss what "nihilism" really means in order to unpack that too. Martin came up with the name of Russian philosopher (I will make no cultural cracks that he was Russian 😊 ; more seriously the problem is very deep across the entire modern world.) whose name I had never heard of as one of the earliest prominent names associated with nihilism - I will have to come back to add that here.

Post by “Martin” of April 11, 2022 at 9:44 AM

Ivan Sergeyevich Turgenev was a writer, not a philosopher. He popularized Nihilism with his novel Fathers and Sons, published in 1862.

<https://www.epicureanfriends.com/thread/2453-episode-one-hundred-seventeen-letter-to-herodotus-06-the-doctrine-of-infinity-of/>

Post by “Cassius” of April 11, 2022 at 11:24 AM

Thank you Martin that is totally new to me!

Post by “Cassius” of April 11, 2022 at 5:29 PM

I am happy to say that I have been successful in expediting the production of Episode 117 of the Lucretius Today Podcast - because it touches on many very profound issues that we are now discussing on the forum. Today we discuss one of the most important doctrines of Epicurus - one which has many significant implications: the Doctrine of Infinity of Worlds!

<https://www.spreaker.com/episode/49402948>

Post by “Don” of April 11, 2022 at 9:14 PM

Post

[RE: A Recap of Principles of Epicurean Physics](#)

@Martin , I have been wondering if you would agree that Epicurus' concept of a "World" is more-or-less compatible with the contemporary definition of the "Observable Universe". If so, is (as I understand it) the "whole Universe (beyond that which is "Observable") an appropriate candidate in which "Other Worlds" might be?

I know we often think of an Epicurean "World" as a Solar System, and "Other Worlds" as exoplanets, but I am considering the possibility that the "Observable Universe" better...

Eikadistes

March 30, 2022 at 12:23 PM

With the importance of the word "world" in this episode, I'd encourage people to check out the thread I've linked to above, starting with @Nate 's post on equating κόσμος kosmos with "observable universe." It's a good thread and it's directly relevant to the topics y'all discussed here.

<https://www.epicureanfriends.com/thread/2453-episode-one-hundred-seventeen-letter-to-herodotus-06-the-doctrine-of-infinity-of/>