

# A Recap of Principles of Epicurean Physics

Post by "Cassius" of October 11, 2016 at 1:36 PM

[Cassius Amicus](#)

[October 11, 2016](#)

There are many who lurk who don't get a chance to do much extra reading. For their benefit let me drop back to the most fundamental observations of Epicurus about the nature of the universe. These serve as the essential basis for every statement on how to live that Epicurus ever wrote, and without them what he wrote cannot be understood or properly applied. Anyone can say something like "don't fear death," but unless you understand "WHY NOT" then you're really wasting your time.

Here are the twelve fundamental observations about the nature of the universe taken from the core Epicurean texts as organized by Norman Dewitt. After each one I have noted at least one primary implication. Each one has \*many\* implications, so I hope in the comments readers will add others:

1. Matter is uncreatable. << Meaning that at NO point did any supernatural force create the universe. The universe operates by natural principles, and by natural principles alone.
2. Matter is indestructible. << Meaning that the universe as a whole is always going to be here, and it isn't going to mutate into "heaven" at the whim of any god. And nothing other than matter IS indestructible. There is no realm of "ideal forms" of which what we see around us is a poor reflection. What we see is what we get.
3. The universe consists of solid bodies and void. << Meaning that there is no supernatural spirit, no divine fire, no First Cause, no Prime Mover - just elemental matter that operates according to its own properties.
4. Solid bodies are either compounds or simple. << Meaning that what we see around us is a combination of elemental matter and void, and that the properties of what we see derive from those combinations, and not from the whim either of a supernatural god or some whim that we ourselves wish to see. Nature is king, queen, and all that there is.
5. The multitude of atoms is infinite. << Meaning that we here on Earth don't sit here at the center of the universe with everything revolving around us, and God nodding approvingly on the "outside." There is no "outside" the universe.
6. The void is infinite in extent. << Meaning that just as there is no limit to matter there is no limit to the void. The universe is limitless in extent and the Earth is not some playground of the

gods.

7. The atoms are always in motion. << Meaning that change is the only constant, and that only a fool who ignores nature would think that he or she can come to rest in the arms of God or in "heaven," or be punished in "hell." So long as we live motion is constant around us and in us, and it is up to us to manage our lives according to Nature; after that our consciousness comes to an end along with the other qualities of the atoms which combined to become our bodies and minds.

8. The speed of atomic motion is uniform. << Meaning that at the level of the ultimate essence of the universe everything is moving according to its own properties, whether we can see and observe it or not.

9. Motion is linear in space, vibratory in compounds. << Meaning again that regardless of what we can see with our eyes, at the atomic level motion is constant even in those combinations of matter that appear to us to be at rest.

10. Atoms are capable of swerving slightly at any point in space or time. << Meaning that our minds are not billiard balls where all our decisions and actions have been predetermined with mathematical precision and no alteration from the beginning of time, which the Determinists and the followers of Fate would have us believe; it is possible for human beings to have real effect on the course of their lives.

11. Atoms are characterized by three qualities: weight, shape and size. << Meaning that the atoms have properties which we can discover and on which we can rely to predict the nature of the atoms and the combinations they form, which means that we have the ability to explore nature through science and improve our lives with the knowledge we gain.

12. The number of the different shapes is not infinite, merely innumerable. << Meaning that there are limits to the properties of matter which gives rise to the combined bodies that exist in our own experience, and that as a result we can observe Nature and derive ideas about how Nature operates that will assist us in living - we are not faced with a chaotic and random universe in which no knowledge is possible, as alleged by the skeptics.

In this brief list about the NATURE of the universe we ought to be able to see the germ of all that Epicurus derived about HOW TO LIVE in the universe. If we keep these in mind then it is much less likely that we will fall prey to skepticism, stoicism, religion, and the other "isms" which call us away from reality and how to live in it.

[Like](#) *Show more reactions*

[Comment](#) [Share](#)

[12Neo Anderthal, Eric Reynolds and 10 others](#)

[1 share](#)

33 Comments

Comments

[Kieren Moore](#) or type unknown

**[Kieren Moore](#)** Re #10, this does not seem to imply that we can 'influence ourselves'/that we have 'free will' ... How would 'Random' swerves give us 'free will', exactly? And what determines the outcome of these 'random' events ... ??

[Like](#) · [Reply](#) · [October 11, 2016 at 10:21pm](#)

[Cassius Amicus](#) type unknown

**[Cassius Amicus](#)** Kieren there's no way to answer that "exactly." As I understand the point, it is a logical deduction that if all atoms do move mechanically and without exception, then free will is an impossibility. Many people want to dispute it, but many take the common sense position that we can choose among options in many aspects of life, and so there must be an exception to strict mechanical movement. The best analysis I have seen of this is in AA Long's "Chance and Natural Law in Epicureanism." The most detailed explanation left in the texts is in Lucretius Book 2 (Bailey): "Once again, if every motion is always linked on, and the new always arises from the old in order determined, nor by swerving do the first-beginnings make a certain start of movement to break through the decrees of fate, so that cause may not follow cause from infinite time; whence comes this free will for living things all over the earth, whence, I ask, is it wrested from fate, this will whereby we move forward, where pleasure leads each one of us, and swerve likewise in our motions neither at determined times nor in a determined direction of place, but just where our mind has carried us? For without doubt it is his own will which gives to each one a start for this movement, and from the will the motions pass flooding through the limbs. Do you not see too how, when the barriers are flung open, yet for an instant of time the eager might of the horses cannot burst out so suddenly as their mind itself desires? For the whole store of matter throughout the whole body must be roused to movement, that then aroused through every limb it may strain and follow the eager longing of the mind; so that you see a start of movement is brought to pass from the heart, and comes forth first of all from the will of the mind, and then afterwards is spread through all the body and limbs. Nor is it the same as when we move forward impelled by a blow from the strong might and strong constraint of another. For then it is clear to see that all the matter of the body moves and is hurried on against our will, until the will has reined it back throughout the limbs. Do you not then now see that, albeit a force outside pushes many men and constrains them often to go forward against their will and to be hurried away headlong, yet there is something in our breast, which can fight against it and withstand it? And at

its bidding too the store of matter is constrained now and then to turn throughout the limbs and members, and, when pushed forward, is reined back and comes to rest again. Wherefore in the seeds too you must needs allow likewise that there is another cause of motion besides blows and weights, whence comes this power born in us, since we see that nothing can come to pass from nothing. For weight prevents all things coming to pass by blows, as by some force without. But that the very mind feels not some necessity within in doing all things, and is not constrained like a conquered thing to bear and suffer, this is brought about by the tiny swerve of the first-beginnings in no determined direction of place and at no determined time."

[Like](#) · [Reply](#) · [1](#) · [October 12, 2016 at 7:10am](#)

Amrinder Singh Profile picture of Amrinder Singh type unknown

**Facebook User** We can also ask what we mean by free will in real practical terms. If it means freedom to choose our actions, behaviors and beliefs then we have it (Even though behavior/belief conditioning of most people might make it seem harder to achieve, the capacity is there nonetheless to challenge and remove those constraints) Free will will be constrained by the limits of human qualities/variables set by nature. We cannot exercise our free will to not eat food indefinitely for example if we want to stay alive. But using these examples outside the natural constrains to proclaim that we do not have free will will be linguistic trickery.

[Unlike](#) · [Reply](#) · [3](#) · [October 12, 2016 at 8:15am](#) · [Edited](#)

Cassius Amicus Profile picture of Cassius Amicus type unknown

**Cassius Amicus** Very well stated Amrinder Singh! This is exactly the proper response to the position taken by Kieren in the comment that follows. Just because some things are out of our control does not mean that ALL things are out of our control.

[Like](#) · [Reply](#) · [1](#) · [October 12, 2016 at 11:10am](#) · [Edited](#)

Cassius Amicus

*Write a reply...*

Kieren Moore

**Kieren Moore** I am a hard determinist ... It's not just strict mechanical movement, though that's part of it ... Your initial brain structure and early experiences were all determined by factors outside your control/choosing ... Your later 'choices' are a mere function of that brain, as shaped by influences/exposure to ideas beyond your control/choosing (early in life), are are therefore, arguably, not your choices either ... and the phrase "free will" is mere religious apologetic nonsense: "white noise" ...

[Like](#) · [Reply](#) · [October 12, 2016 at 11:21am](#) · [Edited](#)

[Ron Warrick](#) or type unknown

**[Ron Warrick](#)** Since there is no proof that free will does not exist, and people are happier believing in a limited free will rather than in pure determinism, I plan to stick with it. If that is religious nonsense, so be it.

[Like](#) · [Reply](#) · [February 20 at 11:21pm](#) · [Edited](#)

[Kieren Moore](#) or type unknown

**[Kieren Moore](#)** Since there is no proof that [Krishna] does not exist, and people are happier believing in [Krishna] rather than [not]{many would assert this, also}, I plan to stick with it. If that is religious nonsense, so be it.

**Fine. Free country.**

[Like](#) · [Reply](#) · [February 20 at 11:27pm](#)

Cassius Amicus

*Write a reply...*

[Cassius Amicus](#)

**[Cassius Amicus](#)** Understood Kieren, and while I disagree I certainly respect your position - many others hold it too. There's no way to resolve the dispute here, but it's important for the purposes of our group to be clear about Epicurus' position, such as here from the letter to Menoeceus:

"Fate, which some introduce as sovereign over all things, he [the wise man] scorns, affirming rather that some things happen of necessity, others by chance, others through our own agency. For he sees that necessity destroys responsibility and that chance is inconstant; whereas our own actions are autonomous, and it is to them that praise and blame naturally attach. It were better, indeed, to accept the legends of the gods than to bow beneath that yoke of destiny which the natural philosophers have imposed. The one holds out some faint hope that we may escape if we honor the gods, while the necessity of the naturalists is deaf to all entreaties. Nor does he hold chance to be a god, as the world in general does, for in the acts of a god there is no disorder; nor to be a cause, though an uncertain one, for he believes that no good or evil is dispensed by chance to men so as to make life blessed, though it supplies the starting-point of great good and great evil. He believes that the misfortune of the wise is better than the prosperity of the fool. It is better, in short, that what is well judged in action should not owe its successful issue to the aid of

chance."

[Like](#) · [Reply](#) · [2](#) · [October 12, 2016 at 11:01am](#) · [Edited](#)


Cassius Amicus

**[Cassius Amicus](#)** And in perhaps the other most clear statement on this topic from Epicurus: "VS40. He who asserts that everything happens by necessity can hardly find fault with one who denies that everything happens by necessity; by his own theory this very argument is voiced by necessity."


[Like](#) · [Reply](#) · [2](#) · [October 12, 2016 at 11:04am](#) · [Edited](#)

Kieren Moore

**[Kieren Moore](#)** I (and others) draw a distinction between fate, and determinism ...


And I certainly don't "fault" anyone with a different opinion, either ... In fact, one of the best consequences of finding hard determinism convincing, is the outward compassion that comes with it (in my experience) - even if I am reluctant to let myself 'off the hook', as easily/quickly ...  ?

I actually meant to add a question last time, along the lines of - does this disqualify me from being an Epicurean?!

Though, to answer my own question - there are things I take from Epicureanism, things I take from Stoicism, and lesser things from elsewhere ... As I've mentioned, I find more parallels between Stoicism and Epicureanism, than I do differences - and I consider them 'good friends/sparring partners', rather than 'opposing camps' ...  ?

[Like](#) · [Reply](#) · [October 12, 2016 at 11:28am](#)

Cassius Amicus

**[Cassius Amicus](#)** In as friendly a way as possible I think the answer is "yes" - You are not an Epicurean if you embrace hard determinism because clearly Epicurus took the opposite position. But that does not mean you are a bad person - it just means that Epicurus would say you are limiting the success you can have in achieving a pleasurable life if you decide that you are limited unnecessarily in the actions you can take to pursue pleasure and avoid pain. But since we would say you have free will over this decision then you are free to revise your opinion at any time  😊 this is a good example of a choice that Epicurus would say IS under

your control. 1f642.png



[Like](#) · [Reply](#) · [1](#) · [October 12, 2016 at 12:47pm](#) · [Edited](#)

Hiram Crespo or type unknown

**Hiram Crespo** In past years, similar discussions on here yielded the following blog:

<https://l.facebook.com/l.php?u=https%...itoZCYuD2OUgnHc>

[safe\\_image.php?d=AQGiK5O-as0IHZBf&w=90&h=90&url=https%3A%2F%2Fsecure.gravatar.com%9](#)

[Man is What He Makes of What Life Gives Him](#)

THEAUTARKIST.WORDPRESS.COM

[Unlike](#) · [Reply](#) · [Remove Preview](#) · [2](#) · [October 12, 2016 at 1:24pm](#)

Cassius Amicus

**Cassius Amicus** Clarification: I was in the middle of something else when I wrote that last post and I forgot to insert my standard disclaimer that neither I not anyone else in my view has the authority to say "who is an Epicurean" in the abstract. We can take positions on whether ideas or arguments are consistent with Epicurus or with the group purpose but this is not a membership organisation so my comment is oriented to whether determinism would be accepted by Epicurus and not whether a particular person would be..... If there were a membership organization with a litmus test then such questions would have to be answered, but that's not what this discussion group is about.

[Like](#) · [Reply](#) · [1](#) · [October 12, 2016 at 1:27pm](#) · [Edited](#)

Hiram Crespo

**Hiram Crespo** And as far as what Epicurus had to say on the view that humans have an initial constitution, his 25th book On nature deals with moral development:

[https://l.facebook.com/l.php?u=http%3...hXhz2ivEq5uO\\_9o](https://l.facebook.com/l.php?u=http%3...hXhz2ivEq5uO_9o)

[safe\\_image.php?d=AQBRnqB7Ij3z8MV&w=90&h=90&url=http%3A%2F%2Fsocietyofepicurus.com](#)

[Synopsis of Epicurus' "On Nature", Book 25: On Moral Development](#)

SOCIETYOFEPICURUS.COM

[Unlike](#) · [Reply](#) · [Remove Preview](#) · [2](#) · [October 12, 2016 at 1:30pm](#) · [Edited](#)

Chanelle Pingree or type unknown

**Chanelle Pingree** I'm glad this popped up in my search engine! Thank you for the reference. I needed it, as the book is starting out strong with the atom and void. This simplified reference is very useful for a newbie like me. I will be referring back

to it often. Thanks, [Cassius!](#)

[Unlike](#) · [Reply](#) · [3](#) · [February 20 at 6:04pm](#)

Cassius Amicus

[Cassius Amicus](#) You are welcome, Chanelle! Also, I think I can offer a little more:

**As you say, the book lays it on deep on atoms and void, and you may get even more confused when you get to the parts on 'images.'**

**Just remember that the purpose of the atom and void discussion is to show you how the universe can and does operate through natural principles, on its own, and without the creation or intervention of any supernatural gods. It also inoculates you against not only religion but also against "idealism" of the Platonic and Aristotelian varieties. By focusing on "nothing exists eternally except atoms and void" (and the "eternally" is key) it becomes nonsensical to postulate that "ideal forms" exist eternally somewhere out there (Plato) or that eternal "essences" exist within things which endow them with some mystical nature that we can label into categories (Aristotle). These are the key proponents of otherworldly arguments of all kinds (including the argument that there is an absolute "virtue"), and so the atom and void discussion, once understood and followed to its logical conclusion, makes those positions impossible to believe..**

**As for "images" I think even fewer people get through that part than the atoms and void. When you get there, remember that nothing else in the book matters if we can't establish with confidence that some things are true and some things are false. Lucretius does not spend much time formally discussing the three legs of the canon, but he does spend a lot of time on the five senses and how that leg of the canon is essential to determining anything with confidence. And in order to have confidence in the senses we must know how they operate, and that they do not operate magically directed by gods or ideals or by essences. Rather, they operate by contact with this up close (touching tasting) and further away (seeing, hearing, smelling) because there is flowing through the "air" around us atoms which move from them to us (and vice versa). Epicurus described the movement of these atoms as "images" carrying information about the things around us that our senses can then pick up and process.**

**It is important to consider how these images operate because we know that the**

information they carry (not a good way to say it, but shorthand) can get distorted as it travels toward us, and that's why things at a distance look blurry, smaller, etc. In other words, Epicurus knows the obvious truth that just because we perceive something in a certain way (color, size, etc) we don't know for sure at first glance that our conclusion about the thing is accurate. We have to account for distortions of space and intervening interference in order to process the sensations we receive and assemble them into a conclusion in which we can have confidence.

That's why the discussion about images (chapter 5 I think) is so important - we know mistakes are possible, so we have to be confident that we can study the senses and process the information properly so as to make good judgments and correct the errors that occur.

Many modern commentators seem to dismiss all this as quaint irrelevance and antiquated because they don't address why all this is important (and frequently they are total skeptics themselves and don't care to address with sympathy anyone who claims that knowledge is possible.)

So let us know if any questions.

[Like](#) · [Reply](#) · [4](#) · [February 20 at 9:42pm](#) · [Edited](#)

[Eric Reynolds](#) Image by user or type unknown

[Eric Reynolds](#) I'm late to this discussion but was fascinated by the free will question. I know it's a centuries old debate and I admit to not being fully versed in its nuances. So forgive this probably simplistic question.

I think of free will as the ability to make choices. I appreciate that the phrase "free will" is potentially loaded with religious overtones so I am just thinking of it in terms of the ability to assess information and make selections about it being correct, valuable, etc.

While I certainly see the logic of the view that if the universe is mechanical such that one thing determines another, and if we are products of that universe, then we must be determined and everything we do or think is therefore determined. It makes sense. But this is where I stumble.

If I am a scientist wanting to validate or invalidate a hypothesis, I have test it and assess the results of the experiment. If I have no free will, then whatever assessment I make is determined so I cannot actually know if it's correct. Since I had no choice in my conclusion, how can I know that conclusion is right? I suppose one can say that logical deduction itself is what tells be something is correct or not, but how do I know logic is correct. I'm still faced with the same problem.

I know there are whole books out there that refute the notion of free will. But I still get stuck on this point. How can I have any knowledge if I cannot make any choices about what is true or false?

[Unlike](#) · [Reply](#) · [2](#) · [February 21 at 7:48am](#) · [Edited](#)

[Cassius Amicus](#)

[Cassius Amicus](#) The texts are clear that Epicurus held that it was important to affirm that within natural limits we have the power to make choices that affect our futures. So of course what you are asking is "how do I know this to be true?"("if I am a scientist wanting to validate or invalidate a hypothesis.)

As you said there are tremendous numbers of arguments that can be employed on both sides, but here is the way I look at it - I first go back to the issue of knowledge, and to the Epicurean framework for determining truth based on the senses, anticipations, and pain and pleasure. Using those faculties, we observe that it appears to us that we (and other higher animals) can choose all sorts of things. This ability appears validated by the senses (and by the other legs too, I think) and so we have a starting point that we are observing something that is firmly established by all the sensory evidence available to us.

To me, the issue then goes back to one of the core issues that separates the Epicurean canon and the Platonic/Aristotelian worship of reason as above the senses. Sure it is possible to assert premises and theories that everything is just an illusion and we are just robots with all our thoughts predetermined. We can assert that with our "logic" but do we have any proof of it through the senses and through observation?

Whenever clear and firm evidence of the senses establishes something (and all human experience establishes that we have at least limited free will) then if we are devoted to "true reason" (reason which is based on evidence) it is a fallacy to

seriously entertain a logical theory which is not only based on no evidence, but contradicts all the firm evidence of our experience. To do so would be to "reject any single sensation" (actually it would be to reject multitudes of sensations) which is pointed out as fallacious in [PD24](#).

[PD24](#): "If you reject any single sensation and fail to distinguish between the conclusion of opinion as to the appearance awaiting confirmation and that which is actually given by the sensation or feeling, or each intuitive apprehension of the mind, you will confound all other sensations as well with the same groundless opinion, so that you will reject every standard of judgment. And if among the mental images created by your opinion you affirm both that which awaits confirmation and that which does not, you will not escape error, since you will have preserved the whole cause of doubt in every judgment between what is right and what is wrong."

Once we throw out the observations/sensations that we have at least limited free will, then we have committed the error of [PD24](#) because we are elevating abstract logic over the observable facts of reality. Logic without facts to support it is fantasy, but some people still insist on dignifying that sort of fantasy (elaborate constructs which are self-consistent but not verified by reality) with the name "logic."

This is a very complicated subject, and much more needs to be said on it, but in closing this post I would cite the following section from Lucretius Book 2, where you see Lucretius responding to the deterministic argument by deducing free will from his observation of the horse. The point is that he is meeting the argument by **OBSERVATION**, not by accepting the unverifiable premises of the deterministic argument:

"Once again, if every motion is always linked on, and the new always arises from the old in order determined, nor by swerving do the first-beginnings make a certain start of movement to break through the decrees of fate, so that cause may not follow cause from infinite time; whence comes this free will for living things all over the earth, whence, I ask, is it wrested from fate, this will whereby we move forward, where pleasure leads each one of us, and swerve likewise in our motions neither at determined times nor in a determined direction of place, but just where our mind has carried us? For without doubt it is his own will which gives to each one a start for this movement, and from the will the motions pass flooding through the limbs. Do you not see too how, when the barriers are flung open, yet for an instant of time

the eager might of the horses cannot burst out so suddenly as their mind itself desires?"

Also, as a final point, check this reference from Lucretius Book 1. The point here is that unless we have confidence in the clear evidence of our senses, it is useless to attempt to "reason":

"But now, to weave again at the web, which is the task of my discourse, all nature then, as it is of itself, is built of these two things: for there are bodies and the void, in which they are placed and where they move hither and thither. For that body exists is declared by the feeling which all share alike; and \*\*\*unless faith in this feeling be firmly grounded at once and prevail, there will be naught to which we can make appeal about things hidden, so as to prove aught by the reasoning of the mind\*\*\*. "

[Like](#) · [Reply](#) · [5](#) · [February 21 at 8:40am](#) · [Edited](#)

Neo Anderthal  
Image not found or type unknown

**[Neo Anderthal](#)** This comment would make an excellent article/separate post as it contains the core idea of Epicurus regarding observation of nature.

[Like](#) · [Reply](#) · [1](#) · [February 21 at 6:37pm](#)

Cassius Amicus

*Write a reply...*

[Kieren Moore](#)

**[Kieren Moore](#)** Psychology not only confirms how easily mislead/mistaken our senses/perceptions can be, it also lends much support to the deterministic web of genetics (nature), developmental (nurture), psychological, environmental, social and cultural influences that determine who we are ... though I suspect there is a placebo-like effect (a very real thing) to believing in a greater/lesser (ie at least some) notion of free will.

Of course - beliefs have very real effects upon our thoughts, and therefore our neural pathways and actions ... but none of that is to say that the belief is therefore true (untrue beliefs have just as much real effect in this way, as we know all-too-well ...)


[Like](#) · [Reply](#) · [February 21 at 9:49am](#)


Eric Reynolds

**[Eric Reynolds](#)** Thanks Kieren. I'm still stuck though. How can psychologists make that conclusion about sensory errors, or "lend support to the deterministic web" if they are not free to decide whether their evidence is correct?

[Like](#) · [Reply](#) · [February 21 at 9:58am](#)

Kieren Moore

**[Kieren Moore](#)** The scientific method is the best we have (at least, in my view and those of many, many others ...  ?). It's the best we can do, to mitigate against the sensory and perceptual biases/mistakes we are liable to making. Now, psychology is often referred to as something of a 'soft science', not least because the subject matter (human brains/CNS, and sometimes adjunct systems eg enteric, effectively) is anything but homogenous between individual subjects/'samples' (when compared with the matter studied by chemists, etc), the web of variables is difficult to control/influence (and in many cases, would be unethical to do so, even where/if we could - see eg the Stanford Prison Experiment, which would be unlikely to get ethics approval these days!).

We can only study/examine \*anything\* through the schema of human experience, though - so, whilst I take your (possibly mischievous  ?) point, and it is a valid one - we have no choice but to struggle to understand things from within our humanity ... .. the more we do so, however, the more 'tinted glasses' we find ourselves wearing, and can thereafter adjust for in our perception/thinking ... eg 'fundamental attribution error' and 'self-serving bias', not to even touch on biological, social, cultural, etc factors ...


[Like](#) · [Reply](#) · [February 21 at 10:14am](#)

Kieren Moore

**[Kieren Moore](#)** To perhaps answer that more directly, it is reason/logic that leads us to the scientific method, which leads us (in combination with the former) to other conclusions. Then, one should also remember that such scientific conclusions are tentative (always subject to falsification (Popper)), and that that goes for everything (even including scientific theories and facts; though these carry impressive amounts of supporting evidence, with no reliable evidence against them).

[Like](#) · [Reply](#) · [February 21 at 10:19am](#)

Kieren Moore

**[Kieren Moore](#)** Or, even more directly(?perhaps), you're not - whether you accept the scientific method (or something else, eg faith?!) will be determined by the myriad factors mentioned above (though I'd strongly suspect developmental/environmental/social/cultural influences to weigh heavily here ... though [fluid] intelligence ("gf"), which seems largely genetic/biological, may have a substantial influence (as may [crystallised] intelligence (gc), but that is effectively developmental/environmental/social/cultural again, as (relevantly) here, that would be your accumulated/comparative learning/knowledge of/about various epistemological alternatives, including the scientific method). There is much peer-reviewed evidence to support the idea that our first 7 years are sensitive (if not critical) periods for the development of many of our personality traits and schema for perceiving the world, and most of us have little say in what influences we are exposed to during those formative years (and the 'choices' 'we make' thereafter are heavily influenced - if not completely determined ... - by the effects of those influences on us [ie, our neural/CNS/associated biology ... (unless you want to hypothesise/assert "souls", or some such ...  ?]).

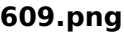
[Like](#) · [Reply](#) · [February 21 at 10:34am](#) · [Edited](#)


**[Eric Reynolds](#)**  or type unknown

**[Eric Reynolds](#)** I am not being mischievous. It's a sincere question and I apologize if I'm coming across as a smartass. I agree with everything you say about the value of the scientific method, the ability of the human mind to make mistakes, tentative conclusions etc. But the claim being made is that there is NO free will at all. This means we cannot know if our conclusions are correct since our assessments were determined. The same goes for reason/logic. How do we know it is correct? How do we distinguish true from false? There has to be some form of free will in order to assess whether logic is correct or not. Remember, I'm defining free will as the ability to make choices, in this case to make decisions about scientific evidence. Yes, we contend with a host of influences that lurk in the psyche. And no, I am not inserting the notion of a "soul". I do not actually understand how our free will came to be. But at this point, I personally accept that it's real.

[Like](#) · [Reply](#) · [February 21 at 10:58am](#)

[Kieren Moore](#)

**[Kieren Moore](#)** No, not at all - I was joking " ?"

How does whether our assessment was determined or not, affect (determine?  ?) whether that assessment is correct or not? Why would it need to be free (or not) to be (more/completely) correct?

[Like](#) · [Reply](#) · [February 21 at 11:10am](#)

Kieren Moore

[Kieren Moore](#) In questions/discussions such as yours/these, "choices" is a very loaded word ... 1f642.png ?

[Like](#) · [Reply](#) · [February 21 at 11:12am](#)

Kieren Moore

[Kieren Moore](#) That's fine - I'm not looking to 'convert' anyone; just (re)stating my view/reading on it, as best I can ... and, as discussed, it may well/arguably has (positive) utility, whether 'true'/an actual thing, or not ...


**But many phenomena with an up/light side, have a corollary down/dark side ...**

**Just as your belief in free will may somehow enable you to do things you otherwise couldn't/wouldn't have (?), does it not also mean you hold others at greater fault if they (don't) do something you think they should(n't) have ... ?**

**And which is more important to you - whether it's true, or whether it has utility for you (with or without some negative/associated trade-off re your perception/attitude towards others and their (in)actions ...)**

**Seems there may be some parallels there with the 'fundamental attribution error' and flip-side 'self-serving bias' I mentioned earlier ... .. in respect of which, note that these are (often unhealthy, in that they are based on false/exaggerated impressions/attributions) coping/defence mechanisms, which have utility for us (make us feel good/better about ourselves, and hence naturally appeal to us ... [which, in itself, is cause for suspicion! 1f609.png ?])**

[Like](#) · [Reply](#) · [February 21 at 11:23am](#)

[Jason Baker](#)  or type unknown

[Jason Baker](#) "Seems there may be some parallels there with the 'fundamental attribution error' and flip-side 'self-serving bias' I mentioned earlier ... .. in respect of which, note that these are (often unhealthy, in that they are based on false/exaggerated impressions/attributions) coping/defence mechanisms, which have

utility for us (make us feel good/better about ourselves, and hence naturally appeal to us ... [which, in itself, is cause for suspicion! 1f609.png ?])"

You're a big fan of trotting out fundamental attribution errors and the self-serving bias aren't you Kieren? 1f609.png 😊

The whole point of science is to feel good/better about ourselves. We study to understand nature in order to more accurately predict the future in order to build a bulwark against suffering, that is to say, to ensure our current and future pleasure. Why do you work out?

Everything is done for pleasure, there's nothing suspicious about it. When someone says pleasure isn't the aim, /that/ is suspicious. Your determinism seems like a zero-sum game, everyone is a winner or loser in the cosmic game of dice. O Fortuna!

I totally understand denigrating Libertarian Free Will, but it doesn't follow that strict determinism is the answer.

[Like](#) · [Reply](#) · [February 21 at 12:38pm](#) · [Edited](#)

Cassius Amicus

*Write a reply...*

[Cassius Amicus](#)

[Cassius Amicus](#) "Psychology not only confirms how easily mislead/mistaken our senses/perceptions can be..." << Do we need to psychology to tell us that we need glasses to read street signs while driving?

"...social and cultural influences that determine who we are.." <<Nobody denies that those things INFLUENCE "who we are" but nobody can tell me that those things REQUIRE me to get out of bed at 8:00 AM rather than 8:05 AM

"a placebo-like effect (a very real thing) to believing in a greater/lesser (ie at least some) notion of free will." <<< So it is good for us to study nature and live successfully because of a "placebo effect"? "Achieving pleasurable living" is a much less dismissive and more accurate description.

**"none of that is to say that the belief is therefore true" << And thus you are going to go down the road of saying that no truth and no knowledge is possible? Why did you bother to post if you thought that was the case? Are you going to say you HAD to post because you were predetermined to do so?**

**"He who asserts that everything happens by necessity can hardly find fault with one who denies that everything happens by necessity; by his own theory this very argument is voiced by necessity."**

[Like](#) · [Reply](#) · [2](#) · [February 21 at 11:02am](#)

[Elli Pensa](#)  
Image not found or type unknown


[Elli Pensa](#)

[Like](#) · [Reply](#) · [February 21 at 11:04am](#)

Cassius Amicus

*Write a reply...*

Cassius Amicus

[Cassius Amicus](#) "We can only study/examine *\*anything\** through the schema of human experience, though - so, whilst I take your (possibly mischievous  ?) point, and it is a valid one - we have no choice but to struggle to understand things from within our humanity ."

[K...See More](#)

[Like](#) · [Reply](#) · [2](#) · [February 21 at 11:05am](#)

Cassius Amicus

[Cassius Amicus](#) And let's not forget: "Necessity is an evil; but there is no necessity for continuing to live with necessity." Vatican Saying 9

[Like](#) · [Reply](#) · [2](#) · [February 21 at 11:08am](#) · [Edited](#)

[Elli Pensa](#)

[Elli Pensa](#)

[Like](#) · [Reply](#) · [February 21 at 11:20am](#)

[Elli Pensa](#)

**[Elli Pensa](#)** Wait a minute, what is going on here ? Psychiatry is a science of medicine that we the people think and demanding to heal the persons. Of what I read here from the comments by mister Moore it makes me sick. That is a good criterion to run away from any therapist saying to you that you are a well-tuned robot determined machine.

[Like](#) · [Reply](#) · [1](#) · [February 21 at 11:21am](#) · [Edited](#)

Kieren Moore

**[Kieren Moore](#)** I'm not really a fan of psychiatry - they don't really understand how/why many of the drugs that seem to work, actually 'work' ... for some people ... Though many perceive/attribute improvement in mood etc to them, so more power to them ...

[Like](#) · [Reply](#) · [February 21 at 11:40am](#)

**[Elli Pensa](#)**  
Image not found or type unknown

**[Elli Pensa](#)** You say I am not a fan of psychiatry, because they do not know how the drugs seem to work. And somewhere else you said that you trust the science. But how you trust the science if the science does not know this or does not understand that.? But really what exactly you do know or you do not know ?

All these arguments you make is to contradict them for the sake of the contradiction, just for taking seriously your first argument that the free will does not exist.? I think is better for you to admitt now that "one thing you know that you don't know anything".

hmm here you are, a Sceptic, the worse kind of a person for making any philosophical or other argument to draw any conclusion false or right on every issue.

Finally the only thing that I read from your comments is that you make the persons to not feel safe, tranquil and pleased never...thus, thanks for you participation.

[Like](#) · [Reply](#) · [February 21 at 12:33pm](#)

Cassius Amicus

*Write a reply...*

Cassius Amicus

**[Cassius Amicus](#)** **[Kieren Moore](#)** It appears I need to me more direct. What interest do you have in Epicurean philosophy? If you are simply looking for opportunities to contradict Epicurus and advocate hard determinism then there are plenty of places

on Facebook to do that. Please identify your interest before you proceed further as there people in this thread with a sincere interest in Epicurus and you are not going to hijack it for anti-Epicurean advocacy.

[Like](#) · [Reply](#) · [2](#) · [February 21 at 11:21am](#)

Kieren Moore

**[Kieren Moore](#)** Whoa ... I have interest in all philosophy. I'm only back on this particular post because I was tagged/replied to today on an earlier comment. I didn't decide to come here and advocate for anything, per se - just discussing the topic from another point of view, which happens to be a field of current further study for me. That's all. And responding to questions that were directed specifically to me (the answers to which obviously represent my own views only). That, and it's a most pleasurable topic to discuss, I think. But if you'd prefer it, I'll stop. I mostly lurk to learn more about the Epicurean perspective on whatever is brought up from time-to-time.

[Like](#) · [Reply](#) · [February 21 at 11:35am](#)

Cassius Amicus

**[Cassius Amicus](#)** Kieran I recognize that the thread was reactivated so your comment is understood and accepted. However please also understand that we have a group "purpose" that we need to enforce as well. Unfortunately life is short and resources are limited and if we are going to be successful in reaching goals we have to act to keep discussions in line with the goal....

[Like](#) · [Reply](#) · [2](#) · [February 21 at 12:30pm](#) · [Edited](#)

Cassius Amicus

*Write a reply...*

[Luciano Throne](#) type unknown

**[Luciano Throne](#)** On the stoic side "emotions and desires are to be suppressed".

Emotions should not be suppressed, nor the stoic individual should be unemotional. What Stoicism intends is to control PASSION, the degenerate form of EMOTIONS. The idea isn't not to feel, it is to maintain control on feelings to the point where these do not affect our power of choice and action, as you must act upon reason. For example I get slapped in the face. The passionate response would be to enter a wrathful state, and from that point striking back, under the controls of my feelings. On the other hand, the stoic approach would be to "feel" everything you ought to feel, and elaborate a response (either walk away or slap back, whatever it may be) under the

operation of reason.

[Like](#) · [Reply](#) · [February 21 at 9:31pm](#)

Elli Pensa

[Elli Pensa Luciano Throne](#) Yes, the emotions of the stoics are suppressed by the too much "reason". All your teachers are teaching the "apathy" and we know what this greek word denotes. In your example there is the evidence how much suppressed you felt to react on a slap in the face.

Because, according to your example there is no much need of reason to understand that to get slapped in the face provoked to you PAIN and your cheek was getting red. Usually a slap in the face was came from your parents, and it was an action of punishment (in which I do not agree with these parental actions of violence of course) to understand maybe that you were a naughty boy.

But in a situation of a danger in a street e.g. a thief that wants to steal you something, and he probably would give you a fist and not a slap in the face, in this situation also there is not much need of reason to realize that you should give to him whatever he wants, because he is like a "hungry beast". In another situation if you get slapped in the face by your wife, there is no need of reason too, because is better to change your wife and find someone else. So simple are the things, I suppose. 1f609.png 😊

[Like](#) · [Reply](#) · [February 22 at 2:38am](#)

Cassius Amicus

[Cassius Amicus Luciano Throne](#) "Emotions should not be suppressed nor should the stoic person be unemotional." Citation please?

[Like](#) · [Reply](#) · [1](#) · [February 22 at 3:05am](#)

Luciano Throne

[Luciano Throne Cassius Amicus Elli Pensa](#) "To be free of passion yet full of love", "To show intuitive sympathy for friends, tolerance to amateurs and sloppy thinkers" (both Meditations, 1.9). Also Stoics encouraged actively engaging on the matters of public affair and social matters, even tho I do not have a quote for that atm; all this and more clearly can't exist without emotion. It's an over-simplification and a reductive statement to say that "emotions should be suppressed/opressed/repressed" according to the Stoics. Just tryna make it clear since it's one of the biggest "complaints" of the stoic community, the biggest misleading fact about stoicism: that the individual should not feel.

[Like](#) · [Reply](#) · [February 22 at 8:08am](#)

Elli Pensa

**[Elli Pensa](#)** Luciano Throne "Sympathy", under the regime of your principles that are DUTY and FATE is not a FRANK sympathy. It is a forced sympathy. It is just a convenient sympathy to accept comforting all the reality of the world that you can't stand no way. Sy...[See More](#)

[Like](#) · [Reply](#) · [February 22 at 9:17am](#) · [Edited](#)

Cassius Amicus

*Write a reply...*

Cassius Amicus

**[Cassius Amicus](#)** Of course the first cite we get is a muddy statement from Marcus Aurelius..... "Passion" is not "love"? I suppose we're talking about "platonic love" ....

[Like](#) · [Reply](#) · [February 22 at 8:11am](#)

Luciano Throne

**[Luciano Throne](#)** Emotions are healthy and normal; but they turn into passions when they choose and act for you. When they possess you, it's time for you to take control back. Also I find it rude to propose an activity like this (asking proof of something anyone with minimum contact to stoic philosophy would know), and to disregard the evidence given in such a manner; so if you don't like Marcus Aurelius or the evidence presented is a whole other thing, stoics have something to address the "unemotion" thing. This is not me trying stoicism to overlap epicureanism or whatever. You asked us to contribute, I can do it from the stoic side as I've read much more than epicureanism but I really don't find your reaction constructive, sorry.

[Like](#) · [Reply](#) · [February 22 at 8:36am](#)

Luciano Throne

**[Luciano Throne](#)** Also it's pretty undeniable the fact that "emotions should be suppressed" it's an over-simplifying statement, sounds almost biased and trying to convince me. Even if it was true, it is never that simple, common guys its philosophy not math, what we today learn and absorb from these men are interpretations and constructions based on interpretations based on sources so.. chill u know

[Like](#) · [Reply](#) · [February 22 at 8:39am](#)

Hiram Crespo

**[Hiram Crespo Luciano Throne](#) i once read about a father who lost his son and reacted with complete indifference, being praised as a model of Stoic behavior. I forget his name. Is this not canon stoicism?**

**[Unlike](#) · [Reply](#) · [3](#) · [February 22 at 8:54am](#)**

**[Cassius Amicus](#)**

**[Cassius Amicus](#) Marcus Aurelius was a synthesizer and not a founder of the Stoic School. Chrysippus, Zeno, Epictetus, etc are the real authorities and there are many cites that Elli and others have provided showing the stoic war on emotion. This one cite is muddy at best and doesnt at all override the founders.**

**[Like](#) · [Reply](#) · [1](#) · [February 22 at 9:01am](#)**

**[Cassius Amicus](#)**

**[Cassius Amicus](#) *Where is the Stoic equivalent to Epicurus saying that the wise man "...will be more susceptible of emotion than other men: that will be no hindrance to his wisdom. "***

**[Like](#) · [Reply](#) · [2](#) · [February 22 at 9:03am](#)**

---

## **Post by “Eikadistes” of March 20, 2022 at 12:44 PM**

I find heavy similarities between each of the Twelve Propositions and contemporary scientific laws.

1. “Matter is uncreatable.” (Laws of Conservation of Mass/Energy, Momentum)
2. “Matter is indestructible.” (Laws of Conservation of Mass/Energy, Momentum)
3. “The universe consists of solid bodies and void.” (Atomic Theory; Quantum Field Theory)
4. “Solid bodies are either compounds or simple.” (Atomic Theory; Law of Definite Proportions)
5. “The multitude of atoms is infinite.” (Cosmological Principle)
6. “The void is infinite in extent.” (Hubble’s Law of Cosmic Expansion; Cosmic Inflation) (Cosmological Principle)
7. “The atoms are always in motion.” (Laws of Thermodynamics)
8. “The speed of atomic motion is uniform.” (Maxwell’s Equations; Special Relativity)

9. "Motion is linear in space, vibratory in compounds." (Newton's First and Second Laws of Motion)

10. "Atoms are capable of swerving slightly at any point in space or time." (Uncertainty Principle; Brownian motion)

11. "Atoms are characterized by three qualities, weight, shape and size." (Standard Model of Physics)

12. "The number of the different shapes is not infinite, merely innumerable." (Standard Model of Physics)

I might be forcing some mental gymnastics on 5 (infinite matter), and 11 (atoms identified by three variables) which is only *barely* similar to contemporary physics identifying subatomic particles by their *mass, spin, and charge*, but Epicurus' other propositions anticipate modern physics to the point of seeming prophetic.

---

### Post by "Martin" of March 21, 2022 at 9:37 AM

Thanks for the compilation.

I agree with about half of them as more or less strong analogies but the others are too much of a stretch:

1. Momentum does not fit in here because its law of conservation is independent from that for energy.

1. and 2. are only weak analogies because elementary particles can be created from kinetic energy and destroyed into other forms of energy (but not from nothing / into nothing as correctly stated by Epicurus in that context).

8. No (or I just do not see that one).

9. Farfetched because what Epicurus claims here is quite different from Newton's laws. Instead, the analogy with molecular and lattice vibrations is much stronger and really impressive/prophetic.

10. Brownian motion fits less well than the uncertainty principle.

11. OK with Nate's disclaimer.

12. Innumerable seems not to fit as of now.

---

**Post by “Pacatus” of March 22, 2022 at 4:40 PM**

I recall the responses when two people who shared the Nobel Prize for physics for the “standard model” of particle physics were asked about string theory (note that I am not a physicist). Sheldon Glashow replied to the effect that it was all philosophy at best, and not science, since it could never be tested. Steven Weinberg responded that he would be surprised if there were not something to it, in part because the mathematics were so elegant. [As best as I can remember the clip from Brian Greene’s Nova series.]

I don’t have the quote, but I recall Epicurus saying something to the effect that, given multiple causal theories (say, multiple “alternative hypotheses”), none of them should be rejected until actually disproved.

Epicurus’ physics, though astute, was nevertheless timebound. But I have often found an openness in Epicurus that is at least equal to even that of the Pyrrhonists in their epistemological agnosticism, despite Sextus Empiricus’ denunciation of him as a “dogmatist.” Surely, one can be an Epicurean whilst acknowledging various possible scientific explanations (and without entering the fray).

---

**Post by “Don” of March 22, 2022 at 5:53 PM**

I always come back to the definition of the ancient Greek "dogmatizō" meaning "to declare or take a position." I have come to see this word used to oppose the Epicureans to Skeptics especially in the use of the two words in the characteristic <https://sites.google.com/view/epicurean...oubt?authuser=0>

---

**Post by “Pacatus” of March 22, 2022 at 6:00 PM**

That's helpful. My reading of the Pyrrhonists is that they took that to mean something like an absolutist or certain position (positive or negative), which it seems you are pointing out, may be a mis-reading? So many of those schools of philosophy had their own jargon and interpretations of others' concepts (e.g., the Stoics *pathe* versus *eupathe*).

**Post by “Scott” of March 23, 2022 at 12:15 AM**

[Quote from Cassius](#)

There is on "outside" the universe.

[Cassius](#) I believe you will want to correct this sentence. Minor point but...

---

**Post by “Don” of March 23, 2022 at 6:20 AM**

[Quote from Scott](#)

[Quote from Cassius](#)

There is on "outside" the universe.

[Cassius](#) I believe you will want to correct this sentence. Minor point but...



My first thought was: There is no "outside light" on in the universe.

(Does anyone else use the phrase "outside light" or is that a regional thing?)

---

**Post by “Cassius” of March 23, 2022 at 8:31 AM**

You mean like a "yard light" or "There's a light on outside that darn window and I can't get to sleep"?

---

**Post by “Don” of March 23, 2022 at 8:37 AM**

[Quote from Cassius](#)

You mean like a "yard light" or "There's a light on outside that darn window and I can't get to sleep"?

Exactly. I forgot "yard light", but, yes, we used that too when I was growing up.

---

### **Post by “Eikadistes” of March 30, 2022 at 12:23 PM**

[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 fits Epicurus' description of a "World".

---

### **Post by “Don” of March 30, 2022 at 2:51 PM**

@Nate , yes, that's my take as well. A κόσμος kosmos includes the spherical Earth at its center surrounded by the vaults of the sky with the stars etc embedded in it.

Observable universe is a good modern analogy.

Then "The All" includes other kosmoi. The gods then would live somehow in that area(?) between kosmoi?

---

### **Post by “Martin” of March 31, 2022 at 8:38 AM**

Quote

Observable universe is a good modern analogy.

Solar system or galaxy seem to be a better modern analogy for cosmos. That would leave enough space for gods between solar systems or galaxies and would not put them completely out of reach to the point that we should rather tear off completely what Epicurus wrote about them.

---

## Post by “Don” of March 31, 2022 at 10:23 AM

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

With the change in the understanding of the universe over the past 2,000+ years, it's very difficult to come up with a 1:1 correspondence between κόσμος and our modern scientific "definition" of cosmos (Carl Sagan's and Neil de Grasse Tyson's TV series notwithstanding).

To the Greeks, κόσμος encompassed the Earth at the center with our sun orbiting around us with the stars embedded in or as holes in the surrounding sphere. So taking that route, κόσμος to us, is the visible universe. However, it would seem to be that, to the ancients, each planet (other Earths) would have its own sun. When Epicurus/Lucretius says there are other worlds, he's using κόσμοι (plural) which implies that arrangement. The "gods" supposedly live "between" kosmoi, so by definition, they don't seem to be "living" IN a world-system. They are said to live \*between\* world-systems. BUT each κόσμος has its own home planet at its center.

That LSJ definition includes:

Philos., world-order, universe, first in Pythag., acc.to Placit.2.1.1, D.L.8.48 (cf. [Philol.]21), or Parm., acc. to Thphr. ap. D.L.I.c.; “κόσμον τόνδε οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ’ ἦν ἀεὶ καὶ ἔστιν καὶ ἔσται πῦρ” Heraclit.30; “ὁ καλούμενος ὑπὸ τῶν σοφιστῶν κ.” X.Mem.1.1.11: freq. in Pl., Grg.508a, Ti.27a, al.; “ἡ τοῦ ὄλου σύστασις ἐστὶ κ. καὶ οὐρανός” Arist.Cael.280a21, cf. Epicur.Ep. 2p.37U., Chrysipp.Stoic.2.168, etc.; “ὁ κ. ζῶον ἔμψυχον καὶ λογικόν” Posidon. ap. D.L.7.139, cf. Pl.Ti.30b: sts. of the firmament, “γῆς ἀπάσης τῆς ὑπὸ τῷ κόσμῳ κειμένης” Isoc.4.179; “ὁ περὶ τὴν γῆν ὄλος κ.” Arist. Mete.339a20; μετελθεῖν εἰς τὸν ἀέναον κ., of death, OGI56.48 (Canopus, iii B. C.); but also, of earth, as opp. heaven, “ὁ ἐπιχθόνιος κ.” Herm. ap. Stob.1.49.44; or as opp. the underworld, “ὁ ἄνω κ.” Iamb.VP27.123; of any region of the universe, “ὁ μετάρσιος κ.” Herm. ap. Stob.1.49.44; of the sphere whose centre is the earth's centre and radius the straight line joining earth and sun, Archim.Aren.4; of the sphere containing the fixed stars, Pl.Epin.987b: in pl., worlds, coexistent or successive, Anaximand. et alii ap.Placit.2.1.3, cf. Epicur.I.c.; also, of stars, “Νῦξ μεγάλων κ. κτεάτειρα” A.Ag.356 (anap.), cf. Heraclid.et Pythagorei ap.Placit.2.13.15 (= Orph.Fr.22); οἱ ἑπτὰ κ. the Seven planets, Corp.Herm.11.7.

So, even that is a somewhat vague, wide-ranging definition.

So sum up, neither [Martin](#) nor @Nate are wrong in their modern analogies, but it could also be said that neither are quite correct either.

---

### **Post by “Cassius” of March 31, 2022 at 10:34 AM**

Would it be correct to say that the implication of a "world" is that it constitutes certain areas out of the totality of things (the universe) which in revolving (?) came together into one unit. If so, would there also be an implication that while the "universe" has no center, a "world" does have a center? Key to that question would be the "revolving" part. I don't see that here in Herodotus, and I can't recall if it is in Lucretius.

Letter to Herodotus:

#### Quote

And in addition to what we have already said we must believe that worlds, and indeed every limited compound body which continuously exhibits a similar appearance to the things we see, were created from the infinite, and that all such things, greater and less alike, were separated off from individual agglomerations of matter; and that all are again dissolved, some more quickly, some more slowly, some suffering from one set of causes, others from another.

[74] And further we must believe that these worlds were neither created all of necessity with one configuration nor yet with every kind of shape. Furthermore, we must believe that in all worlds there are living creatures and plants and other things we see in this world; for indeed no one could prove that in a world of one kind there might or might not have been included the kinds of seeds from which living things and plants and all the rest of the things we see are composed, and that in a world of another kind they could not have been.

---

### **Post by “Don” of March 31, 2022 at 11:18 AM**

#### [Quote from Cassius](#)

Would it be correct to say that the implication of a "world" is that it constitutes certain areas out of the totality of things (the universe)

I would say "yes" with the continued caveat that "world" does not equal "planet" in the modern sense. "World" seems to consistently translate κόσμος (kosmos) "world system" which sets it apart from - or makes it a subset of - το παν "the all."

I'm not sure if the significance you're ascribing to "revolving" or where that comes from.

---

### **Post by "SimonC" of March 31, 2022 at 12:25 PM**

In Lucian's "A True Story" there is a description of a battle with troops coming from various stars as well as the sun and moon. So it was possible for Lucian at least to think of stars as habitable places and not just "holes in a sphere".

(The list of troops from the sun and moon also implies that they are large, and not the size of a basketball)

---

### **Post by "Cassius" of March 31, 2022 at 12:41 PM**

[Quote from SimonC](#)

(The list of troops from the sun and moon also implies that they are large, and not the size of a basketball)

I haven't read the True Story in a while so I don't remember that, but it sounds like a good observation to keep in mind!

---

### **Post by "Don" of March 31, 2022 at 1:37 PM**

[Quote from SimonC](#)

In Lucian's "A True Story" there is a description of a battle with troops coming from various stars as well as the sun and moon. So it was possible for Lucian at least to think of stars as habitable places and not just "holes in a sphere".

(The list of troops from the sun and moon also implies that they are large, and not the size of a basketball)

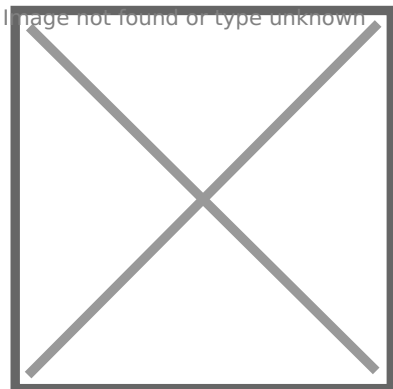
All good points! Thanks!

I'd be curious to look at the vocabulary Lucian uses in the Greek for any clues.

---

### Post by "Don" of April 12, 2022 at 7:51 AM

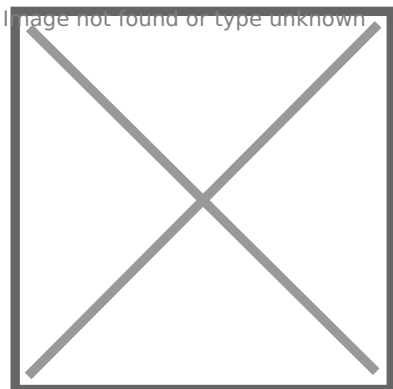
Of possible interest:



['When did Kosmos become the Kosmos?' In P. S. Horky, ed., \*Cosmos in the Ancient World\* \(Cambridge: Cambridge University Press, 2019\), pp. 22-41.](#)

This paper focuses on the perennial historical problem, inherited from ancient doxographers, concerning who was the first Greek to adapt the meaning of the...

[www.academia.edu](http://www.academia.edu)



[Cosmos in the Ancient World \(Cambridge University Press, 2019\), 'Table of Contents', 'An Historical Note on Κόσμος-Terminology', and 'Introduction'.](#)

Table of Contents, discussion of the history of the word κόσμος in English, and Introduction to the entire volume, including summary of chapters.

[www.academia.edu](http://www.academia.edu)