

# Is the 5th fundamental compatible with science?

Post by "Cassius" of December 20, 2022 at 12:00 AM

Martin can give you a better answer than I can, but I can give you one that I think is compatible with classical Epicureanism:

First of all, who is "research" and what would give "research" the ability to conclude that there is a limit to the size of the universe (and therefore the number of atoms that it contains)?

I expect the answer would be that you could name some number of names of scientists who take the position that the universe as a whole is finite in size, while I expect that there are others who did or do still maintain that the size of the universe is limitless.

How does one choose between them to decide that Epicurus was "wrong"? Do you have to have the same level of scientific research background yourself in order to judge? Can you hope to attain such experience in your lifetime? Can you count the number of atoms yourself? If not, you are basically placing your confidence in some number of men whose opinions differ from others in the past and from whom - if the past is any guide - others in the future will differ too.

So you can say "I just don't know" or "I choose to believe the majority of current "experts," and that may be a fine answer for you and cause you no doubts as to a possible supernatural origin of the universe or your ability to navigate within life.

Epicurus thought it was preferable (and better reasoning) to look at this and other questions based on analogies of what we have confidence of here on earth. He therefore constructed thought experiments such as throwing the javelin out through space, and others beyond which I can cite here (including the that a finite number of atoms in an infinite space would never come together to form what we see), which led him to conclude that there was good reason to believe that the universe is boundless in size. Logically he then concluded that if the universe is boundless in size then there is no bound to the number of atoms that constitute it. He thought this was both correct reasoning and a good way to inoculate people against believe in a supernatural dimension or a "true world" beyond this one on the order of Plato.

In the end we have another one of those questions to which we as individuals will never "know" the answer in terms of being able to count them ourselves, so we have to decide where to place our confidence. Likewise we will never "know" that there is any life after death by traveling there and finding out personally, and that ends up again being another question of how you weigh evidence and how much credit to give to speculation where direct evidence is lacking.

Call me a Luddite (or "anti-science" as the Epicureans were labeled) but the real issue as I see it

is not one of counting up the number of experts on each side, but of weighing evidence that is available to us and how to assess its credibility. That's an issue of canonicity. To me, Epicurus' argument was that we should not allow conclusions based on evidence we observe through our senses here on Earth to be overturned absent equally compelling sensory evidence. And even when new evidence is gathered that does not mean we discard the old evidence - all the evidence must be reconciled.

That argument seems sound to me, and I have seen no evidence that persuades me that he was wrong in thinking that this is the best course. Whatever new evidence is confidently gathered has to be included in any model in which we have confidence, but the devil is always in the detail of "do we have all the evidence we would like to have?" That's why this is not really an anti-science argument, because the "science" in the issue we are talking about is notoriously difficult to determine due to the known limits of our evidence. There is no reason to believe in life after death, but there is every reason to think that if we throw that javelin either something will stop it or it will travel on forever.

What I personally observe in my reading of these controversies in science discussions is that the arguments that seem to say that the universe is finite in size turn on what they claim to be the "observable" universe. It appears to me that when pressed these people will also seem to acknowledge that the data from our current telescopes and data are necessarily limited in degree, providing no information about what is "beyond" their observation. And to me personally, that is where I think Epicurus' reasonings as to the "universe as a whole" continue to make good sense.

That reasoning may not convince many particle physics experts, but I don't grant to those experts the right to force me to believe a particular experiment or data that they claim to be true over what appears to me to be good reasoning that is consistent with all the raw evidence that is available to me. I would not grant to any priest the right to tell me that I should be concerned about hell because a god revealed it to him, and I would not grant to "research" the right to overturn what appears to me to be a common sense conclusion without a lot more evidence than I am persuaded that "they" have.

Similar questions arise in the issue of whether particles are infinitely divisible or not, which is pretty much the same question as to whether there is a limit in the number of "atoms." There are similar questions such as whether the universe as a whole has existed and will always exist eternally in time.

You then get to the issue of whether "in order to be an Epicurean you have to believe XXX." Luckily that's not an issue that we have a right to decide, since Epicurus is no longer here. I know that some people are going to take the position that they are convinced by modern physics arguments and are no longer concerned whether the universe is infinite in size or eternal in time. In fact I think Frances Wright appears to have taken exactly that position.

Since no one gets to define what Epicurus would say were he here today, we each have to make the best we can of these questions. But I think it helps nobody to simply say "Epicurus

has been proved wrong by modern science" until we fully and completely grapple with what he was really arguing, and evaluate his method of reaching his conclusions.