Why Is Physics Important? To Refute Arguments such as these:

Post by “Cassius” of July 30, 2019 at 4:55 PM

Below are two clips sent to me by a friend. I personally believe questions about whether reality really exists rank in importance with gods, pleasure, and death. And if we remember that the twelve principles of physics come before the "ethical" conclusions, it is physics is more important.

Does reality exist? What should we think about it? It's not a topic that is omitted from the principal doctrines- it precedes the principal doctrines in development of Epicurean theory, just as the letters to Herodotus and Pythocles precede the letter to Menoeceus. If in fact the universe was created supernaturally, then none of the rest of Epicurean theory makes any sense at all.

And in response to "well maybe reality doesn't really exist - we can't be confident of it because the math and the physics point in all sorts of directions" ---

I think Epicurus confronted exactly the same type of question and fought against it hard -- which we also need to do today.

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https://www.youtube.com/watch?v=w0ztlIAYTCU&

Post by “Martin” of July 31, 2019 at 9:54 AM

I suggest that we do not use the oxymoron "speculative math". It is an obsolete term for pure math. The way I learned math from mathematicians, math is essentially built on logic, is not a science as often falsely stated and does not make any claim on reality although whole branches of math are inspired by the success of modelling reality with the assistance of math.

What you probably mean is "speculative physics", e.g. creating physical theories for which we have not yet any empirical base.

Post by “Cassius” of July 31, 2019 at 10:01 AM

Thanks Martin! This is a very complex subject and I hope we can find articles and other references to collect here on the topic of math and its relationship to reality. I presume geometry too probably fits the same category.

Post by “Martin” of July 31, 2019 at 11:38 AM

Yes, geometry is a part of math. The continuous extrapolation to infinitely small dimensions of geometric forms does not imply anything for reality.

Post by “Cassius” of July 31, 2019 at 12:08 PM

There must be books / articles / citations which help explain this point. Over time I would like to try to find some and this will be a good place to post them.

Post by “Joshua” of July 31, 2019 at 2:52 PM

I think to understand the rejection of geometry as a prerequisite of philosophy we really need to understand the sort of claims that were made for it. These claims have in fact never stopped being made, and find a fascinating expression in, of all people, Abraham Lincoln;

> Quote
>
> "He studied and nearly mastered the Six-books of Euclid (geometry) since he was a member of Congress. He began a course of rigid mental discipline with the intent to improve his faculties, especially his powers of logic and language. Hence his fondness for Euclid, which he carried with him on the circuit till he could demonstrate with ease all the propositions in the six books; often studying far into the night, with a candle

> near his pillow, while his fellow-lawyers, half a dozen in a room, filled the air with interminable snoring." Abraham Lincoln from Short Autobiography of 1860.

The assumption here is that if one understands how to prove a geometric theorem, one will equally know how to prove a philosophical one, as here;

https://m.youtube.com/watch?v=SPiw7bKwL2M

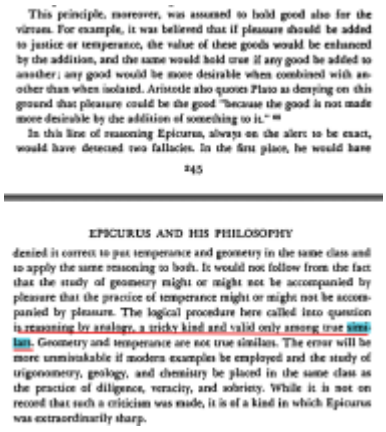
But this involves a logical sleight-of-hand; it employs an argument by analogy, but argument by analogy only works if things really ARE analogous. Epicurus would challenge Lincoln on this point. If he wants to argue an end to slavery, he needs to argue from a foundation of sensation, anticipations, or feelings--because people aren't triangles, they're people.

Simply put, geometry *as a foundation of philosophy* is an invitation to casuistry. Nevertheless, I will always enjoy a wonderful performance by Mr. Daniel Day-Lewis!

Post by “Cassius” of July 31, 2019 at 7:24 PM

Outstanding example, Joshua, thank you!!! And you are channeling DeWitt - who makes almost exactly this same point in his book:

"But this involves a logical sleight-of-hand; it employs an argument by analogy, **but argument by analogy only works if things really ARE analogous**."



This principle, moreover, was assumed to hold good also for the virtues. For example, it was believed that if pleasure should be added to justice or temperance, the value of these goods would be enhanced by the addition, and the same would hold true if any good be added to another; any good would be more desirable when combined with another than when isolated. Aristotle also quotes Plato as denying on this ground that pleasure could be the good "because the good is not made more desirable by the addition of something to it." [68]

In this line of reasoning Epicurus, always on the alert to be exact, would have detected two fallacies. In the first place, he would have

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denied it correct to put temperance and geometry in the same class and to apply the same reasoning to both. It would not follow from the fact that the study of geometry might or might not be accompanied by pleasure that the practice of temperance might or might not be accompanied by pleasure. The logical procedure here called into question is reasoning by analogy, a tricky kind and valid only among true similars. Geometry and temperance are not true similars. The error will be more unmistakable if modern examples be employed and the study of trigonometry, geology, and chemistry be placed in the same class as the practice of diligence, veracity, and sobriety. While it is not on record that such a criticism was made, it is of a kind in which Epicurus was extraordinarily sharp.

Post by “Joshua” of July 31, 2019 at 7:55 PM

Thanks Cassius! I thought DeWitt had made the same point but wouldn't have known where to grab the citation.

Post by “Cassius” of July 31, 2019 at 9:09 PM

Yep. That remark of his rang a bell with me from the moment I read it some years ago.