

# A Challenge To Epicurean Thinking Grounded in Epistemology and Physics

Post by "Cassius" of March 12, 2022 at 7:02 PM

Some quite interesting responses!

[Chaz Ajy:](#)

We do know the world is made of atoms. The contemporary thing where everything is non-existent or mind-made is just sensationalism. Think about it: if atoms are imaginary, then why does IBM have to go through such pains to make their little movies where they use just individual atoms then (see "A Boy and His Atom")? Shouldn't they just be able to imagine the movie into existence? If atoms don't exist when a human eye isn't observing them, then why doesn't the cat in Schrodinger's box observe them? Since atoms are too small to see with the eye anyway, how could we say that they must be observed by consciousness to exist? If they don't exist when not observed, then why would they interact and then make a wave pattern when observed again? If they make a wave pattern, doesn't that mean that they exist as a wave when unobserved? In reality, all of the fantastical interpretations of quantum mechanics that seem to harm our concrete understanding of the world are just that: interpretations.

And most of them stem from the fact that some of the early interpreters were really into Hinduism's Advaita Vedanta, which is a form of subjective idealism. People like the idea that things aren't just atoms, and that we can control our reality with our minds. But, nope, atoms exist, even though they spread out when isolated and super-cooled. And even then, they still follow rules that are not dependent on any observer. The macro world is made of atoms. This has been proven. One has to jump through hoops to get an atom into a wave state. See Rodney Brookes' "Fields of Color" book for a full explanation of quantum field theory. Here is a quote, where Brookes answers the question, "What is the most widely accepted solution of Schrödinger's cat thought experiment?": "The measurement problem is also solved by quantum collapse. There is no role of the observer. Quantum collapse happens whether or not someone is looking. In Schrödinger's cat experiment, if the radiated quantum collapses into an atom in the Geiger counter, the cat dies. If it doesn't, the cat lives.

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Is that all there is to it? Did I give too little space to discussing these "profound" paradoxes? Well, that's really all there is to it. In QFT everything is fields. They spread out, they collapse, and they do all this without requiring an observer. When I hear people complaining about the weirdness and inaccessibility of modern physics, I want to ask, "What part of Quantum Field Theory don't you understand?"

ALSO from Chaz:

See also, this paper abstract: Realist Analysis of Six Controversial Quantum Issues - Art Hobson

This paper presents a philosophically realistic analysis of quantization, field-particle duality, superposition, entanglement, nonlocality, and measurement. These are logically related: Realistically understanding measurement depends on realistically understanding superposition, entanglement, and nonlocality; understanding these three depends on understanding field-particle duality and quantization. This paper resolves all six, based on a realistic view of standard quantum physics. It concludes that, for these issues, standard quantum physics is consistent with scientific practice since Copernicus: Nature exists on its own and science's goal is to understand its operating principles, which are independent of humans. Quantum theory need not be regarded as merely the study of what humans can know about the microscopic world, but can instead view it as the study of real quanta such as electrons, photons, and atoms. This position has long been argued by Mario Bunge.

All this modern science means that there is no reason to question Epicurus's atomic theory into non existence. We may need to tweak it a little, but the core points are totally valid.

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Cassius:

Chaz I am not sufficiently well read to comment on the specifics of you posts, but I want to thank you for them and say how much I appreciate your contributing them. It looks like they give anyone wanting to explore these issues some excellent places to start!

Are those of us who don't have the training or time or ability to follow the details of these arguments ourselves to end up in the same position as "the masses" who we regard as having no choice but "trust in the experts" just like we are alleged to have to trust in those who teach divine revelation?

I don't think so. I think Epicurus' viewpoint offers a "common sense" approach that most anyone can grasp, and it makes sense for us to consider the burden of proof to be on those who seek to overturn the reality of the senses, and it makes sense that we should live life as nature tells us, regardless of theories that are beyond our ability to evaluate.

But since everyone has a different perspective and level of training and ability, it makes sense that some are going to want and to need more explanation of these theories than will others. It's very helpful to know that there are authorities such as those who you cite who evaluate the issues at highly technical levels and yet conclude that the basic take-home conclusions remain sound.

Again, I appreciate your contributions and those of others who are well read in this area very much!