To What Extent, If Any, Does Modern Physics Invalidate Epicurean Philosophy?

Post by “Cassius” of August 15, 2020 at 5:39 AM

This thread is for discussion of the FAQ here: https://www.epicureanfriends.com/wcf/index.php?faq/#entry-34

Stated another way, in an actual question, "What is the Epicurean physics view of energy? Instead of "matter and void", shouldn't it be "mass-energy and void"? How strongly do we hold to the idea that atoms are indestructible and immutable? What would Epicurus think if he knew about matter-antimatter annihilation?" [Edit: The following thread includes a dialog on the question as quoted here; the poster of that question asked that it be noted that he asked it that way, not in the more sweeping form of the title of the FAQ and this thread.]

This is frequently asked and we ought to discuss at length so here is a first reply, although I am sure others such as Martin can do much better.

But first, in my experience the general way this question is often asked comes down to something like this: "Don't we now know about subatomic particles and other phenomena smaller than atoms, and since Epicurus said atoms were indivisible then Epicurus was wrong, his philosophy fails, he can't be trusted, so shouldn't we just muse about how interesting it is to consider pleasure the goal of life, and how cute he was to talk about pleasure as "absence of pain?" Shouldn't we just discuss Epicurus for an hour while we have a beer and eat some exotic food and after that go back to studying Plato and the Stoics?"

And the general answer to that question is "No."

That's because the Epicurean view of nature was built on an approach to knowledge that is first and foremost geared toward adapting to and incorporating all observations that can reliably judged to be correct. The philosopher known for the viewpoint that "all sensations are true" (in the sense of honestly reported) is never going to ignore new observations in physics which are repeatedly and reliably observed. Read Lucretius and you will see the most detailed presentation of Epicurean physics left to us, and you will see that the physics is built on a step by step series of observations that remain persuasive today. No doubt some will want to argue about this, but the general starting points that (1) nothing ever truly comes from nothing, and (2) nothing ever truly goes to nothing remain persuasive today. Even more certainly, neither of those phenomena are ever observed to occur at the whim or will of any supernatural god. All of the rest of Epicurean physics are derivative conclusions intended to produce a working model of how this fundamental observation is most likely to be "explainable" given the knowledge that we have. And one part of Epicurus' working model was that at some point in nature we arrive at

an irreducible limit where things can no longer be divided further, and that this are of limit is where nature gets its stability and reliability and continuity that we see around us every day, which exists by nature and not because a supernatural god is watching it and willing it into existence.

It is therefore fundamental to observe that if new instrumentation gives us the ability to prove to our satisfaction the existence of "mass-energy" or anything else then that would be incorporated into the overall consistent world-view.

One also has to consider that the use of words varies between languages and over the centuries. When Epicurus was referring to "atoms" the Greek translates most generally into "things that are indivisible. What we refer to today as atoms made up of subatomic particles would easily be incorporated into Epicurean physics by observing that what Epicurus was really saying was that at SOME point you come to a level where existence is indivisible.

Various philosophers of Epicurus day and before had asserted that matter was theoretically infinitely divisible, and they carried those observations to ridiculous conclusions such as that movement is impossible. Epicurean physics is largely devoted to philosophical approach that prioritizes observation and practical experience over abstract theory, meaning for just one example that when we observe that motion is going on everywhere around us, we do not accept speculative abstractions which assert that motion does not exist. The entire issue of supernatural gods and supernatural realms is essentially on this same level - it is the assertion of the existence of profoundly important things that (if true) would lead to an entirely different set of ethics and moral values than is otherwise the case.

You could apply the same analysis to "mass-energy" or "matter-antimatter" or astrophysics or any other science. Epicurus was committed to living in the real world that we experience as human beings, and if a speculative theory led in his own time to a conclusion that contradicts human experience, as we experience it through our human faculties, then such theories are slated for rejection. That doesn't mean that we are ever wedded to the details of any one theory of physics, and in fact sometimes we have to "wait" in choosing between theories that seem consistent with the facts but for which we don't have enough facts to be sure which is correct.

This attitude showed Epicurus' commitment to using a reasonable approach to what we can be confident of and what we cannot, because Epicurus knew that if we don't consciously separate the things about which we are confident from those that we aren't then there is no essential difference between us and a fanatical religionist, because we would be accepting things on "Faith" rather than on rigorous commitment to following the evidence.

That's a start at the general answer but there's a lot more to say.