

«Embraced (Entangled) Forever and Ever» (Post By Elli At Facebook from Dimitri Liantinis - Excerpt From Gemma)

Post by “Cassius” of September 19, 2024 at 6:21 PM



[Original Post Link](#)

Quantum Entanglement is a phenomenon in quantum mechanics where two or more particles become interconnected in such a way that the state of one particle directly depends on the state of the other, regardless of the distance separating them.

<https://www.epicureanfriends.com/thread/4053-embraced-entangled-forever-and-ever-post-by-elli-at-facebook-from-dimitri-lianti/>

Key Characteristics of Quantum Entanglement:

1. **Non-locality:** Changes in the state of one particle directly affect the state of the other, even if they are far apart.

2. **Superposition of States:** Entangled particles are in a superposition, meaning they can be in multiple states simultaneously until measured. For example, if two photons are entangled and we measure the polarization of one, the polarization of the other will be immediately determined, regardless of the distance between them. This phenomenon has been experimentally confirmed and is one of the most impressive demonstrations of quantum mechanics.

Applications: Quantum entanglement is fundamental for the development of quantum computers, quantum communications, quantum cryptography etc.

From [Epicurus' Letter to Herodotus](#), Paragraph 47 we read : «... ὅτι τα εἰδῶλα ταις λεπτότησιν ανυπερβλήτοις κέχρηται [ατόμοις], **ουδέν αντιμαρτυρεῖ των φαινομένων**· ὅθεν και τάχη ανυπέβλητα ἔχει (ως άνω κινούονται ισοταχώς και κατά παρέγκλισιν) πάντα πόρον σύμμετρον ἔχοντα ...»

«**Nothing contradicts the phenomena** that the images (in the atoms) are extremely fine (which) move with unsurpassable speed (and as above said move at equal speed and by swerve), always maintaining every of their path symmetrical ...»

Artificial Intelligence said: "The idea of Epicurus described in the above excerpt can be paralleled to the concept of quantum entanglement to some extent. In quantum entanglement, two or more particles become interconnected in such a way that the state of one directly affects the state of the other, regardless of the distance separating them".

And of course, if Plato heard this, his face would turn green and Aristotle's hair would stand on end (see photo)... because only with their methodology of dialectics and endless verbosity, we Greeks would have become the laughingstock of the ecumene (as the Great Democritus says in the photo)!

Because nothing contradicts the phenomena that the Titan Epicurus, in his letter to Herodotus, was the first to conceive in a seminal/fruitful way (even before it was experimentally confirmed) the uniform-equal speed (of light) as well as the two most important principles of quantum theory, namely:

With the swerve of atoms is meant the superposition (see today Heisenberg's uncertainty principle) of which? The finest of atoms (see today photons) that are ALWAYS maintaining to each other a symmetrical path (see today the quantum entanglement).

"I recommend constant activity in the study of nature; and this way more than any other I enjoy calm to my life." (Epicurus letter to Herodotus)

[...Many years ago, I had the pleasure of a chance meeting with Werner Heisenberg. It was during an evening in the Beethoven-Saal in Bonn. July of 1972. In front of me stood an old man of 71 years. His eyes were light-coloured. They had a brilliance that was slightly suppressed by the rough weather, the tiredness and deep contemplation. An expression of treasured attentiveness.

Average in terms of height, attired in the subdued skin of the senior ages, yet standing straight, he emanated the impression of a forgotten cheerfulness. His movements were peaceful. His characteristics heavily set. In his expression you could almost perceive the reflection of a long victorious campaign in foreign lands. It was roosting there for all to see, like an evening owl. A feeling of serenity enveloped him. I approached, he held out his hand.

- "Oh! video hominem", I said.

- "Ὅρω τὸν ἄνδρα. Ja, ich verstehe das Lateinische und antworte griechisch" (Yes, I understand Latin and respond in Greek), he replied.

Among the millions of the Agora of my century I saw, for a single instant, a man - and I had no need for a lantern in midday like the ancient Diogenes. On my way out I was floating with eyes closed, like Karajan conducting Beethoven's Pastoral. Hovering somewhere in between the stormy weather on the one side, and a pastoral song of simplicity on the other. Between the Gewitter-Sturm and the Hirtengesang...]

(the above excerpt is by Dimitris Liantinis from his book "Gemma" - translated from Greek into English by our friend Yiannis Tsapras).

Post by "Cassius" of September 19, 2024 at 6:23 PM

Elli posted this link in the thread for this article at FB:

<https://www.youtube.com/watch?v=Vevi-RmoBiw>

Post by "Bryan" of September 19, 2024 at 11:33 PM

[Quote from Cassius](#)

From [Epicurus' Letter to Herodotus](#), Paragraph 47 we read : «... ότι τα είδωλα ταις λεπτότησιν ανυπερβλήτοις κέχρηται [ατόμοις], ουδέν αντιμαρτυρεί των φαινομένων· όθεν και τάχη ανυπερβλήτα έχει (ως άνω κινούνται ισοταχώς και κατά παρέγκλιση) πάντα πόρον σύμμετρον έχοντα ...»

Good to hear from Elli, thank you for sharing! Just so we are all on the same page, what is underlined ("**and as said above move at equal speed and by swerve**") is an addition in modern Greek. Paragraph 47 is the most difficult section of the entire letter, and I understand the need to add parenthetical explanations, but it can be a bit confusing when those explanations are also in Greek!

"...accordingly, nothing among visible things contradicts that films are endowed with unsurpassable thinness - from which [thinness, the films] also have unsurpassable speeds, having every proportionate passageway..."

Post by "Cassius" of September 20, 2024 at 7:07 AM

[Quote from Bryan](#)

but it can be a bit confusing when those explanations are also in Greek!

Very good point - thank you!

Post by "Don" of September 20, 2024 at 5:54 PM

I'm sorry. I cast an *extremely* skeptical eye on anything that tries to equate ancient Epicurean physics and modern quantum theory.

Epicurus was good, but he wasn't *that* good.

Granted, I say the same things about any Buddhist trying to pull the same trick btw (ex, *The Tao of Physics*)

Post by “Martin” of September 21, 2024 at 4:53 AM

We should read Elli's claims as analogies, and not as identical ideas to modern science. The text would be a lot more complicated and less impressive if it was formulated in every sentence as analogy. Similarly, scientists mostly refer to reality instead of models because it would make their papers even less intelligible if they would explicitly include the model character of their theories in every sentence.

Post by “Martin” of September 21, 2024 at 5:02 AM

Quote

that there is a *smallest unit of length*

A smallest unit of length has so far only been suggested but its existence is not proven. Epicurus did not claim the existence of a smallest unit of length either, possibly later Epicureans did that. A smallest unit of length (in terms of an exact number instead of something vague like quantum indeterminacy) would create big conceptual problems, both in Epicurus' metaphysics and in modern physics.

Post by “Bryan” of September 21, 2024 at 11:34 AM

[Quote from Martin](#)

Epicurus did not claim the existence of a smallest unit of length either

He seems to get very close to this topic at 58c:

"We observe visible minima in succession, beginning with the first, and do not observe them in the same space as another, nor do we observe them intertwining any parts with any other part. Rather, we observe the visible minima fully measuring size according to their particularity of being visibly indivisible: a greater amount of visible minima measures a greater-sized object, and a lesser amount measures a lesser-sized object. It is necessary to think that the minimum in the atom also follows this analogy – although clearly in minuteness it differs from what is

observed by sensation – but it follows the same analogy: since We have also fully indicated that the atom has size, according to the analogy from the immediate surroundings – by extending a small thing, only by a long way. Also, it is necessary to think of atomic minima as pure limits of length – providing from themselves as primary units the full measurement for the larger and for the smaller atoms – by our observation, through reasoning, of what is unseen."

Post by “Cassius” of September 21, 2024 at 12:10 PM

Yes this is an interesting question, even though detailed. It might be correct that he did not state what the "unit" was (in other words he didn't say it in feet or inches or millimeters or whatever) but he definitely, at least to me, appears to be saying that there is an indivisible limit - he just doesn't try to measure it or give it another name beyond indivisible.

Am I saying that correctly?

Post by “TauPhi” of September 21, 2024 at 2:15 PM

Looks to me that an indivisible limit applies only to matter but I never came across anything in Epicureanism touching on the smallest unit of length in void. As [Martin](#) pointed out, minima of length in void would lead to interesting problems like resolution of reality and atoms "teleporting" from one place to another.

Post by “Don” of September 21, 2024 at 3:42 PM

Coming from a position of ignorance:

Does this all have to do with Planck units?

[Planck units - Wikipedia](#)

Post by “Martin” of September 22, 2024 at 1:26 AM

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Quote

Does this all have to do with Planck units?

Yes, in particular with the Planck length.