THE SKEPTIC ARENA.COM

October 1, 2016

My Original Email to Ben Best

Ben Best wrote:

"*Energy (E) is regarded to be interconvertible with matter (mass, m) by Einstein's famous equation E = mc 2 , where c is the speed of light*."

I wrote:

From Dictionary.com, interconversion:

"*conversion of each of two things into the other; reciprocal conversion*."

Ben, can you provide evidence that matter has ever converted into energy ... or vice versa?

Your answer will, of course, require that you first define what you meant by "matter."

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Ben replies to my email

*Neo, it is rare for me to go as long as 3 months to reply to a message, so I apologize.*

Ben, no need to apologize.

I too, often take my time before responding to emails.

*I cannot see what you are criticizing in your comment,*

Ben, my email did not contain a criticism but a question:

"Can you provide evidence that matter has ever converted into energy ... or vice versa?"

Perhaps if you could have provided the evidence that I asked you for, you wouldn't have viewed the question as a criticism?

*unless it is my use of the words "matter" or "interconvertible"*

Ben, I asked you to define what you meant by "matter."

Nowhere in this email do I see any attempt by you, to do so.

I even provided a definition of "interconvertible" to assist you in the clarification process.

I don't know how to make it any clearer.

*The conversion of mass into energy is a fundamental process,*

Ben, that fundamental process exists only in your mind because mass cannot be converted into energy.

However, that has little to do with the question that I asked you in my email:

"Can you provide evidence that matter has ever converted into energy ... or vice versa?"

*so if you are not nit-picking about my use of words, I can't see what objections you can have.*

Ben, you wrote

"*Energy (E) is regarded to be interconvertible with matter (mass, m).* "

I thought my question was quite clear. I really don't know a more simple way of asking it. If you can't answer the question, or don't understand it, then we are done; and thank you for your time.

(btw, the end of your sentence "matter (mass, m)" is incoherent.

I strongly doubt anyone else on Earth could decipher that)

*If you want perfect conversion of matter into energy, combine the matter with anti-matter:*

Ben, I didn't ask you about "perfect conversion."

I asked you about your claim that matter and energy are interconvertible.

Ben provided the following link:

[https://en.wikipedia.org/wiki/Mass%E2%80%93energy\_equivalence#Efficiency](https://en.wikipedia.org/wiki/Mass%E2%80%93energy_equivalence%23Efficiency)

Ben, your own link begins with this sentence

"*Although mass cannot be converted to energy* "

Ben, why does it seem like you didn't even bother to read your own link?

(Ah ... but you did, didn't you Ben?

More about that at the end of this email)

*although you could say that "anti-matter" is not matter,*

Ben, and why would I say that?

What definition of "matter" are you applying now?

*which would be correct, but would be a quibble.*

*-- Ben*

Ben, we need to talk.

It now seems obvious that since you received my email 3 months ago, you have been desperately searching for verification for your misunderstanding about how reality works.

When you finally replied, it wasn't to report that you had learned something new, which would have indicated an open, rational mind. Instead, like so many people, you proved yourself to be filled with the pride that comes from the desire to feel superior to others, and hence, you could not bring yourself to admit that your understanding had been completely wrong.

Advice: Check that gigantic ego of yours at the door and leave it there. Open your mind and develop the ability to say "I was wrong." Until you do, you will remain ignorant and arrogant ...

not a combination to be proud of.

Defeating your ego is one of the most difficult tasks someone like you could possibly undertake; but the rewards for success are ... immeasurable.

Good luck Ben ... you're going to need it

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THE SCIENCE SEGMENT

Mammals almost wiped out with the dinosaurs

Scientists analysed the published fossil record from western North America from 2 million years before the asteroid strike, 66 million years ago, until 300,000 years after it hit. They compared species diversity before and after this extinction event to estimate the severity of the event and how quickly the mammals recovered.

The extinction rates were much higher than previous estimates which were based on more limited data sets. 93% of all mammal species were wiped out; significantly more than previously thought. But mammals also recovered far more quickly than previously thought.

As bad as things looked before, including more data shows the extinction was even more severe than previously believed.

This explains why the severity of the extinction event was previously underestimated. With more fossils included, the data includes more rare species that died out.

Following the asteroid hit, most of the plants and animals would have died, so the survivors probably fed on insects eating dead plants and animals. With so little food, only small species survived. The biggest animals to survive on land would have been no larger than a cat. The fact that that most mammals were small helps explain why they were able to survive.

Yet the researchers found that mammals also recovered more rapidly than previously thought, not only gaining back the lost diversity in species quickly, but soon doubling the number of species found before the extinction. The recovery took just 300,000 years, a short time in evolutionary terms.

Because mammals did so well after the extinction, scientists have tended to assume that it didn't hit them as hard. However this analysis shows that the mammals were hit harder than most groups of animals, such as lizards, turtles, and crocodilians, but they proved to be far more adaptable in the aftermath.

It wasn't low extinction rates, but the ability to recover and adapt in the aftermath that allowed mammals to take over. After this extinction event, there was an explosion of diversity, and it was driven by having different evolutionary experiments going on simultaneously in different locations.

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FAMOUS QUOTES

Carl Sagan

(no biography - previously quoted)

About astronomer Johannes Kepler ...

“When he found that his long cherished beliefs

did not agree with the most precise observations,

he accepted the uncomfortable facts.

He preferred the hard truth to his dearest delusions,

that is the heart of science.”