

## Essay

# Why the Total Energy of the Universe Is Zero

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### Abstract

If anything exists, if even a single speck of dust exists, then ultimately there would have to be something that would be neither in space nor in time. Ultimate reality can never be within any space and time. Ultimate reality is that reality beyond which there would be absolutely nothing.

**Keywords:** Universe, total energy, zero, ultimate reality.

In an earlier article ‘Is the total energy of the universe zero?’[1], I have already shown as to why the total energy of the universe would be zero. But there is one deep metaphysical reason that surpasses all the earlier reasons, as to why this total energy can never be other than zero.

In another article ‘Existence of anything can ultimately point to God’[2], I have also shown that if anything exists at all then ultimately there would have to be something that would be neither in space nor in time, as otherwise there would be an infinite regress.

So our starting point would be this: If anything exists, if even a single speck of dust exists, then ultimately there would have to be something that would be neither in space nor in time.

Here one may ask: why should we stop an infinite regress? There is one practical reason as to why we should stop it. If we decide that instead of stopping it we would rather go up to infinity, then we would never be able to reach this present moment from that infinite past moment, because infinite time is such that it can never be bridged. If infinite time can be bridged, then it is not an infinite time, rather a finite time only.

There is one more reason as to why there cannot be an infinite regress of any natural cause. A natural cause (A) that can bring the universe into existence through one step (cause and effect) only is more efficient than the natural cause (B) that would require at least two steps for doing the same. Conversely we can say that B is less efficient than A, because B requires two steps whereas in a similar situation A requires one step only. So a natural cause that would require infinite number of steps for bringing the universe into existence would be infinitely less efficient than A. A cause that is infinitely less efficient has practically zero efficiency, because inverse of infinity is zero. A cause that has zero efficiency cannot bring anything into existence, not to say a universe.

The truth that there can never be an infinite regress because no causal chain can extend up to infinity can be called “Truth of all truths”, because from this basic truth other truths can be derived.

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So our conclusion is this: Ultimate reality – whatever that ultimate reality may be - can never be within any space and time. Ultimate reality is that reality beyond which there would be absolutely nothing.

Ultimate reality will be thus spaceless and timeless. Being spaceless and timeless it cannot be material. This is as per GR. GR has shown that space, time and matter are interlinked. So either all the three of them would be there together or none of them would be there. As ultimate reality is not within any space and time so there would be only the ultimate reality and no space and time. As there would be no space and time, so the ultimate reality cannot be material.

Ultimate reality being thus immaterial its total energy would be zero. This is because matter and energy are equivalent and so, zero matter would mean zero energy.

As ultimate reality is the source from which everything has originated, so the total energy of the universe would also be zero, because universe cannot have more energy than the source from which it has originated.

However, the above does not give us the reason as to why the total energy of the universe should be zero; rather we have to find out merely by observation that its total energy is zero, because by observation only we can come to know that space, time and matter are interlinked. But if we assume that the universe has been created by a supernatural agent, then we will get that ultimate reason as to why its total energy cannot be other than zero. This has already been explained by me here [3]. However I will very briefly repeat my arguments here.

- 1) God being the creator would be prior to the creation of the universe;
- 2) Universe primarily means its space, time, matter and energy;
- 3) As God is prior to the creation of energy, so God cannot contain any energy;
- 4) So neither the universe can contain any energy, because universe cannot have more energy than the source from which it has originated.

I have already said it earlier [4] and again I am saying it here that only a created universe gives us at least one particular reason as to why its total energy cannot be other than zero. But an uncreated universe gives us absolutely no reason why its total energy should also be zero.

This also shows as to why space and time can neither be fundamental, because the source from which space and time have originated does not contain any space and time.

Now we can summarize the whole thing:

- 1) There can never be an infinite regress, because in that case ultimately nothing would exist;
- 2) But we know something exists;
- 3) So we must stop this infinite regress by any means whenever and wherever we will encounter such a regress;
- 4) But in order to stop this infinite regress we would have to posit the existence of a spaceless and timeless entity that would stop this regress;

- 5) Denying the existence of this spaceless and timeless entity would mean we are admitting there is an infinite regress;
- 6) That would further mean we are admitting nothing exists;
- 7) As it is contradictory to our experience that nothing exists, so we are ultimately compelled to admit that a spaceless and timeless entity also necessarily exists that stops the infinite regress;
- 8) This spaceless and timeless entity is the ultimate reason why anything exists;
- 9) Although it is the cause behind everything that exists, but itself it is not caused by anything;
- 10) Being the ultimate reality, it would be the end-point of all existence. So there would be absolutely nothing beyond it that could have been the cause of it.

Now this much is left for us to show as to whether this spaceless and timeless entity is also a conscious entity.

## Reference

1. <https://www.11prompt.com/?q=node/503>
2. <https://www.11prompt.com/?q=node/537>
3. <https://www.11prompt.com/?q=node/554>
4. <https://www.11prompt.com/?q=node/560>