

## The Problem with the Universe from Nothing

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### ABSTRACT

Some physicists say that the universe has originated from nothing and required no external agent for its creation. However, since time, space and gravitation cannot have any separate existence from matter, the total time, space and gravitation of the universe will also remain zero. Therefore, we can say that there is definitely some substance in this universe due to the presence of which the total space and the total time of the universe always remain zero. But what is this substance? Whence has it originated? What are its properties? These are the questions that need to be answered. I suggest that the substance should have light-like properties and be all pervading. Further, it should not be absorbed, repelled, attracted or deflected by any known particle of this universe.

**Key Words:** Universe, nothing, light, substance, space, time, energy, matter, gravity.

Some modern physicists maintain that the universe has actually originated from nothing, thus requiring no supernatural agency for its creation [1]. Here their logic is something like this: as they have found that the total energy of the universe is zero, so they have argued that no outside agent was at all necessary to provide the initial input energy for starting the universe; therefore, it can simply originate from nothing. If the total energy of the universe were having some very high non-zero value, then it would not have been possible for them to maintain that the universe had actually originated from nothing. Because in that case they would have to explain as to where all the energies of this universe had come from, because all those energies cannot simply come from nothing.

However, the total energy being zero, this problem no longer bothers them. Although the total energy of the universe is always zero, still there are lots of energies in this universe, all originating from nothing in the form of positive and negative energies, thus keeping the total energy of the universe always zero. The same thing can be said about matter also. As the total matter of the universe is zero, so they say that all the matter of the universe can simply come from nothing, because zero does not have to come from anything.

But what shall we have to say about space and time? Can nothing generate so much space and time that we find in this universe? Or, was there some supernatural agent that had actually provided space and time to our universe? Or, would they say the same thing about space and time also that as the total space as well as the total time of the universe is indeed zero, so space and time can simply come from nothing? Was it then that space had originated from nothing in the form of positive space and negative space, thus keeping the total space of the universe always

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zero? Was it the same case for time also? Can it also be said about time that it has originated from nothing in the form of positive time and negative time, thus keeping the total time of the universe always zero? If there are negative space and negative time, then where are they? Are they in this universe? If they are not, then how come that so much of space and so much of time have simply come from nothing?

Scientists believe that from nothing, nothing comes. The universe started with zero energy and zero matter, and its total energy and total matter always remain zero. Neither any extra energy nor any extra matter added to, or subtracted from, the initial zero value of them. So, from nothing, nothing has actually come. But if there is neither any negative space nor any negative time in our universe to counterbalance the positive energy and the positive time respectively, then there is a real problem here. This is because here nothing has given rise to something really positive.

To remove this imbalance in the quantity of space and time, scientist Victor J Stenger has proposed in an article [2] that there is another side of time, opposite to our time axis. As our universe goes on expanding from zero time to positive infinity, so in the other side of time there is another universe that goes on expanding from zero time to negative infinity. If in our universe space and time can be considered to be positive space and positive time, then in the universe located in the other side of time space and time can be considered to be negative space and negative time, thus keeping the total space and the total time always zero.

Two objections can be raised against this proposed solution. First of all, this can never be verified, and Stenger himself admitted that: "...this scenario cannot be proven, just presented as a possibility that provides a non-supernatural alternative to the theistic creation"[2]. This is tantamount to saying something like this: we suffer lots of injustice in our earthly life. All this will be properly compensated for in our heavenly after-life. Even if it is true, it can never be verified, and it will be purely an act of faith if we accept it as true and live accordingly. So, we cannot accept Stenger's proposal as a viable solution here, because it will also be an act of faith. Secondly, initially both energy and matter were zero, and the total energy and the total matter of the universe always remain zero in this very universe. We have not gone to the other side of time for seeking a solution to any possible imbalance that could have arisen in the totality of these two entities. So, why should we have to go to the other side of time for setting right the imbalance that is definitely there in case of space and time? Why cannot the total space and the total time of this universe always remain zero in this very universe itself? Perhaps there is some substance in this universe that helps keep the total space and the total time of the universe always zero.

At least Einstein's general theory of relativity suggests something like that. At one place Einstein has written about General Theory of Relativity: "When forced to summarize the general theory of relativity in one sentence: Time and space and gravitation have no separate existence from matter" [3]. If time and space and gravitation cannot have any separate existence from matter, then the total matter of the universe being always zero, the total time, the total space and the total gravitation of the universe will also always remain zero. Therefore, we can say that there is definitely some substance in this universe due to the presence of which the total space and the total time of the universe always remain zero. And so, we need not have to go to the other side of time at all for removing any imbalance that can be there either in case of space or in case of time.

Due to the presence of this substance we can say that the universe starting from nothing with zero space, zero time, zero matter and zero energy will always possess zero total space, zero total time, zero total matter and zero total energy, thus not showing any asymmetry or imbalance anywhere.

But what is this substance? Whence has it originated? What are its properties? These are the questions that are to be answered by scientists only. As a layperson, I can only suggest something here. This substance must have the properties of light and it must be able to be all-pervading. For this substance to be all-pervading no known forces of nature must have any slightest effect on this. It must never be absorbed, repelled, attracted or deflected by any known particle of this universe. Not even any super-massive black hole will be able to devour this substance. If these conditions are fulfilled, then it will pervade all of space, and having light-like properties it will always keep the universe in a spaceless and timeless condition. And then we can say the following:

- 1) From zero space, so much of space, the total space always remaining zero;
- 2) From zero time, so much of time, the total time always remaining zero;
- 3) From zero matter, so many forms of matter, the total matter always remaining zero; and
- 4) From zero energy, so many forms of energy, the total energy always remaining zero.

However, scientists may say here that like life, mind and consciousness, space and time are also emergent entities. For emergent entities scientists need not have to answer the question 'whence'. Rather it will be enough and sufficient if they can answer the question 'how' for them. But, are space and time really emergent?

## References

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