

The Nature of Space, Time and the Infinity in Physics or the Real World

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Abstract

This paper logically explains in details that space and time in physics or the real world is of 3 types: the absolute physical space, the relative physical space, the relative psychological space, the absolute physical time, the relative physical time and the relative psychological time and explains the distinct qualities and their interrelationship. We also prove that Consciousness or Pure Existence is the only infinity in physics or the real world from which the whole universe has sprung up and which is present everywhere all the time. We use logic rather than any metaphysics or belief to prove this because we believe that "what is the truth can never be illogical and what is illogical can never be the truth!"

1 The Nature of Space and Time in Physics or the Real World

We assume in this paper the Big Bang model of Cosmology as true which is sensible in light of "Heat Death Paradox" according to which a beginningless universe would have attained thermodynamic equilibrium after the passage of the infinite time by now and also because the Big Bang model is able to give explanation for the abundance of light elements, the cosmic microwave background (CMB) radiation, large-scale structure present in the universe and the Hubble's law. Since space began from the Big Bang singularity and the space boundaries have been expanding ever since, we will like to posit that it is the space boundaries that are expanding creating more and more space in the universe and that the space in itself is totally without movement because when everything exists inside the space, space which already exists cannot move because what will move it! Hence, the space in itself is absolute like Newton postulated. Let us call space in itself "Absolute Physical Space". Similarly the present moment or now is the absolute time. In the present moment or now, what we experience is the absolute space itself.

But measurements always happen in a reference frame of some material object which is moving. So, the measured space is the relative physical space and the measured time is the relative physical time. Let us consider an example of a moving train. A person sitting on the platform will see that the measured space or the relative physical space of the train is moving but that does not mean that the train moved the space in itself or the absolute physical space because the train itself exists and moves in the space in itself or the absolute physical space. So, Einstein's spacetime is for the measured space or the relative physical space only and the measured time or the relative physical time only and his Theory of Specific Relativity as well the Theory of General Relativity use this spacetime only and does not and cannot contradict in anyway the space in itself or the absolute physical space and the absolute physical time which is the present moment or now which cannot be measured and can be only experienced and is experienced all the time by all the observers in all reference frames in any part of this universe.

And then there is also the relative psychological space which is the measured space as felt by the observer and the relative psychological time which is the measured time as felt by the observer. For example, if a person is very happy, he will feel after traveling an actual distance of 100 metres in actual 2 minutes that he has traveled just say 70 metres or so in just 1 minutes or so. So, in positive emotional states the relative psychological space is less than the relative physical space and the relative psychological time is less than the relative physical time. And the relative psychological speed is more than the relative physical speed. If you are very happy doing some work including thinking or talking to someone, the relative psychological time is less than the relative physical time. For example, if a person is very unhappy, he will feel after traveling an actual distance of 100 metres in actual 2 minutes that he has traveled say 150 metres or so in say 4 minutes or so. So, in negative emotional states the relative psychological space is more than the relative physical space and the relative psychological time is more than the relative physical time. And the relative psychological speed is less than the relative physical speed. If you are very unhappy doing some work including negative thinking or talking to someone, the relative psychological time is more than the relative physical time. In case of dreamless sleep, the relative psychological time is one moment (meaning an infinitesimal time period) whereas the relative physical time is many hours.

When Einstein was asked if he could explain relativity to ordinary people, he replied (jokingly): "Put your hand on a hot stove for a minute, and it seems like an hour. Sit with a pretty girl for an hour, and it seems like a minute." (Source: New York Times, March 15, p. 3, column 3 (1929))

But, Einstein accepted only the relative physical space, the relative psychological space, the relative physical time and the relative psychological time and did not understand and, hence, did not accept the concepts of the absolute physical space and the absolute physical time.

But, we have logically proved that space is of 3 types: the absolute physical space, the relative physical space and the relative psychological space and time is of 3 types: the absolute physical time, the relative physical time and the relative psychological time. This is the complete understanding of the nature of space and time.

2 Space in Physics or the Real World is 3-dimensional

From the discussion in the above section, it follows that the absolute physical space is 3-dimensional and hence so are the relative physical space and the relative psychological space. Hence, string theory's assertion that space has more than 3 dimensions which we do not perceive because they are so small that they get compactified is wrong because space in itself is absolute/non-moving.

Also various analogies of compactification that the string theory produces are also wrong because in the real world, everything is always 3-dimensional and so a doughnut cannot be made into a circle nor a cylinder be made into a line segment in the real 3-dimensional world. Compactification is a mathematical truth which has no relationship with the physical world inhabited by us which we all know to be 3-dimensional. Also the analogy of not seeing oxygen in the air from the eyes does not make sense because all our senses have their lower and upper range but the space experienced by all our senses and physical movements is always 3-dimensional. Also in physics the observer is the most important thing for deducing any physical truth. And the physical truth experienced by all observers is that the space is 3-dimensional and, hence, just to develop some mathematical theory, the common observations by all observers cannot be logically rejected and also any claim of space being more than 3 dimensional cannot be measured by any instruments also because all instruments will measure only 3-dimensional space. Thus, we prove that space in physics or the real world is 3-dimensional and all theories contradicting it are illogical and, hence, wrong!

3 The Nature of the Infinity in Physics or the Real World

The infinity in physics or the real world can be only one unlike mathematics in which there are an infinite number of infinities such as the set of the natural numbers and all sets of the multiples of a natural number greater than 1 such as 2, 3, 4, ... and so on so forth. This is because if there are more than one infinity in physics or the real world, we will need boundaries to separate one infinity from the other infinity which contradicts the very definition of the infinity being one without the boundary. Also if there is an infinity in physics or the real world, it cannot be created by any event because all events exist in finite space and finite time. Hence the infinity must pre-exist all events including the creation of the universe itself. One can argue that the whole universe sprang up from nothing but that is obviously illogical because from nothing only nothing will come out and not something like an universe. Existence cannot originate from non-existence. Also from such an infinity only finite physical reality can be created (because there can be only one infinity in physics or the real world as already proved). Hence, space, time and the quantity of matter and energies of all types in this universe have been, is and will always remain finite. Also since the finite effects cannot completely separate from their infinity cause, hence, the infinity must pervade the whole universe after creation.

We now prove that Consciousness or Pure Existence has zero dimension and is experienced by every observer/soul/awareness all the time in the waking, the dream as well as the dreamless sleep. Hence, Consciousness alone is the infinity in physics or the real world. Consciousness or Pure Existence means Existence in itself. Just like 1, 2, 3, 4, ..., etc. all are the natural numbers,

the common essence of anything that exists in physics or the real world is Consciousness or Pure Existence. Consciousness or Pure Existence is obviously present during the waking and the dream states. It is present even in the dreamless sleep. That's why we all say after coming out of the dreamless sleep that I enjoyed the dreamless sleep a lot and that there was no space, no time, no world, no thought and no emotion during dreamless sleep and I enjoyed pure rest. This very claim of there being joy, rest, no space, no time, no world, no thought and no emotion during dreamless sleep as claimed by all of us proves that there indeed is the Existence of joy and rest and even an infinitesimal awareness and an infinitesimal mind for us to make this claim and for the memory formation of joy, rest, no space, no time, no world, no thought and no emotion after coming out of the dreamless sleep. Thus, Consciousness or Pure Existence is present even in the dreamless sleep. Since Consciousness or Pure Existence is present all the time for us, it is logically present everywhere also for us become the experience in space happens in time only.

Let us prove now that Consciousness or Pure Existence has zero dimension thereby proving that it is infinity. Let us close our eyes and focus on a small region of space inside any part of our body - let us say inside our head. We surely feel Consciousness or Pure Existence in this region of space. Now let us shrink this region of space as much as we can and let us keep doing so. However much we shrink this region of space focused by us, we will keep feeling Consciousness or Pure Existence in it including even if this region of space becomes the smallest possible region of space, meaning, a sphere with an infinitesimal radius. Since even in a region of space which is merely a sphere with an infinitesimal radius, we experience Consciousness or Pure Existence, this proves that Consciousness or Pure Existence has zero dimension, meaning, it has neither length, nor breadth nor height. If something has finite dimensions, it cannot be infinity because the finitude of its dimensions will create its boundary like the finitude of the dimensions of our body makes it finite rather than the infinity. Hence, only if something has zero dimension, it is infinity. And as we proved that Consciousness or Pure Existence has zero dimension, hence, Consciousness or Pure Existence alone is the infinity in physics or the real world from which the universe and everything in the universe has got manifested. Hence, we can also call Consciousness or Pure Existence as the Infinite Field of Pure Potentiality. Intuition manifests from Consciousness or Pure Existence only and all the mathematical and other abstract logical truths exist in Consciousness or Pure Existence only in abstraction or potential state which we discover and then manifest in the real world.

Since Consciousness is infinity and has zero dimension, it is everywhere and hence it is totally still because what will move the infinity and where will infinity move when it is already everywhere - the very word "movement" is for a thing which is present at the source but absent at the destination. Consciousness or the infinity being everywhere, it cannot have any movement. Hence, Consciousness or Pure Existence is totally still. When we move from

one place to another place, we do not drag Consciousness or Pure Existence with us from one place to another place - rather we move in the perfectly still and infinite Consciousness or Pure Existence. So, if two persons sitting on two chairs swap their chairs by moving to the other chair, they both experience now the still Consciousness in the other chair which was previously experienced by the person sitting earlier there. So, Consciousness in the source place is left there totally still as is Consciousness in every region of space traversed by us left there totally still and when we reach the destination place, we experience the still Consciousness which is already present there.

Also, Consciousness or Pure Existence is not a person because a person means someone who has a personality which means a bounded Existence - bounded by various aspects of the personality. A person or awareness or experiencer is only finite as we all know by our own experience. Just like from a window we see only a small part of the vast sky, similarly, from the reference frame of our finite awareness, we experience only a finite part of the infinite Consciousness or Pure Existence. Hence, we experience Consciousness or Pure Existence but we cannot expect any personal behavior from Consciousness - we can just bow to it as our Source and the Source of everything! It is the common life of all souls. It is the one Infinite Life behind the limited lives of all souls/awarenesses. Hence, it is oneness amidst diversity!