

"CONCEPT OF TIME" - MYSTICISM OR SCIENTIFIC TRUTH

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Abstract— Nature has many hidden secrets in its store. On some occasion it enigmatically reveals itself to some extraordinary individuals who possess the ability to understand it. The concept of time undoubtedly tops the list of such unresolved puzzles of the universe. Both scientist and religious leaders have researched in depth regarding the history of time. The origin of time, its implications and influences on other physical entities are discussed elaborately by eminent personalities of both the fields. The world's number one celebrity scientist Stephen Hawking had shared his insights on time concept. He explained how time started at the Big-Bang, whether time can be reversed and is time travel possible in the future. Vethathiri Maharishi, a famous south Indian philosopher and mystic shared his views on concept of time in his theory of self transformation process of eternal space. His views are revolutionary, unique and acceptable to common people understanding and also to the scientific community. Many ancient traditions and cultures have enquired into this subject and given their opinion on this matter of discussion. Time has a flavor of mysticism to it, it seems to flow from eternity and again flow towards eternity. We ordinary mortals wonder the magical effect of time in erasing all our sufferings and pain.

Key words : Imaginary Time - Space -time - Vacuum energy - Virtual particles - Quantum fluctuations - Absolute space - Plenum - Consciousness - Kinematic quivering - Kairos - Lord Krishna.

I.INTRODUCTION

The definition of time had changed drastically from the Newtonian Era to the current Era. In the Galilean and Newtonian physics time entity was considered as an Absolute phenomenon. Time was thought and assumed to be the same for all the observers. It was assumed to flow continuously forever eternally. But the dawn of the modern physics which was marked by Sir Albert Einstein's famous special theory of relativity and general theory of relativity brought an abrupt end to the established notion of time concept by Galileo and Sir Isaac Newton. It was believed that time flowed universally for all its observer and it has no dependence on the motion or speed of the observer.

But after the paper published by Albert Einstein in the year 1905 when he was working in the patent office as a clerk, which stated that time was not an universal concept but it was a relative concept. Einstein theory of relativity proved that time was different for different observers and it depends on the motion of the observer. Moreover he also proved that space which was also considered as Absolute phenomenon was not absolute but a relative phenomenon. Then space and time are not separate concepts but they are intertwined together and they are termed as space-time.

The discovery of the microwave background radiation by the scientists and astronomers in addition to the discovery of Edwin Hubble that the universe is expanding at an accelerating speed made the cosmologist and theoretical physicist to postulate a new theory. The Big Bang theory was the name given to the new theory and it predicted that the universe began some thirteen to fourteen billion years approximately. Stephen Hawking gave major contribution to this Big Bang theory with his singularity theorems, in his theorems he described the event of Big Bang as a place of singularity and the centre of the Black hole also as a singularity. Both these events are the product of the Albert Einstein's General theory of relativity's field equations. Stephen Hawking declares that the entity of time started only at the event of Big-Bang as a place of singularity and the centre of the Black hole also as a singularity. Not only matter and energy were created at the Big-Bang but also the very existence of space and time were created at that moment of exponential explosion. And from that instant space seems to be expanding with accelerating speed with galaxies moving away from each other. Stephen Hawking also predicted that the direction of time was not one way but it was flowing in two ways. He suggests that at the

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singularity point the gravity was so great and immense that it tends to warp and distort the space time fabric extremely and all known laws of physics are violated at that extreme conditions. So this gives the prospect of time travel to be possible. We have read the event of travelling backward in time only in the science fiction books and television science serials, which depict that time flow was not one way but it was flowing in two ways. The serial show the hero to travel backward in time and change his past altogether differently. But Stephen Hawking claims that travelling backward in time might be possible if we have the appropriate technology to construct the space ship which can withstand the extreme conditions found in the inter-galactic travel. He suggested that at the singularity point space time are distorted beyond imaginations and all these events happening inside the singularity is completely hidden from the external observer. This is called as the cosmic censorship hypothesis. So every point of singularity will definitely be concealed behind a area called as the event horizon. Beyond this event horizon nothing can be known about the Black hole. Apart from explaining the backward flow of time, Stephen Hawking also introduced a new concept of imaginary time in the field of Black hole dynamics and Black hole thermodynamics.

The flow of time or the arrow of time are defined as the duration of time between events we are measuring. There are three arrows of time as explained by Stephen Hawking in his lectures and seminars. They are the cosmological arrow of time which denotes and expresses the time taken for the expansion of the universe on the whole, the second flow or arrow of time is explained in the second law of thermodynamics which states the entropy of an isolated system and the measure of increase of entropy of the system. And third is the psychological arrow of time which depends on the perception of an individual. Stephen Hawking aimed to formulate a theory unifying the General theory of Relativity and the Quantum mechanics and form Quantum gravity, which works on Quantising gravity, but in vain he could not finish his project in his life time. He had stated that the most suitable candidate for the Quantum gravity would be the M-theory which is the combination of

different theories in string theory. The M-theory assumes that there are all together eleven dimensions in reality, we are only able to perceive the four dimensions and the rest of the seven dimensions are curled or compactified to infinitesimal size of the Planck scale. If those dimensions are accessed then we might know the true nature of time scientifically.

II. PHILOSOPHER'S VIEW ON TIME CONCEPT

Vethathiri Maharishi was a philosopher meant for laypersons, his easy and elegant narration of the reality around us makes even a scientifically uneducated person to understand the secrets of the cosmos. The theory which he formulated to explain the origin of everything in the universe, was very unique and acceptable by both the scientist community and ordinary individuals without science background. He explained that the eternal space self transformed itself into every animate and inanimate objects that we observe in our universe. Swamiji Vethathiri Maharishi states that the space has four intrinsic qualities in it they are plenum, force, consciousness and Time. Plenum means bountiful, unlimited and limitless, in Sanskrit it is called as pooranam. It means a eternal source of matter which does not deplete how much ever we take from it. The second quality which is present intrinsic in space is force, in Tamil it is called as perattral which means it contains immense force or energy in it. The third quality which is present in the space is the consciousness which swamiji defines as order of function in energy object. It is all pervading. The fourth quality present intrinsic in the space is the time. Swamiji explains this as the kinematic quivering and interval between two vibrational quivering.

Swamiji defines space as a self compressive surrounding pressure force. This surrounding force is responsible for the formation of formative dust particle. The combination of these formative dust particles give rise to the subatomic particles like electron, proton and neutron depending upon their time interval between their vibration or kinematic quivering. Later the sub atomic particles combine and form atoms, molecules and elements etc. The

formation of every new particle is due to the variation in their time interval between two vibrational waves. Swamiji explains that formative dust particles pop up into existence due to the surrounding pressure force of space. This idea of dust particles appearing in space is similar with the concept of Quantum mechanics which states that virtual particles come into existence from space and later they come together and annihilate into each other. The virtual particles which are produced spontaneously in the space have different or opposite charges and so finally they are annihilated. This is termed as Quantum fluctuation and they give energy to empty space and this is called as Vacuum energy. Swamiji in the theory of transformation had stated that space has inheriant energy or force in it. So this is also similar and in accordance with the principle and concepts of Quantum physics.

In Swamiji's theory time plays the major role in the creation of all observable objects in the universe. The formation of Panboothas or five basic elements namely land, water, fire, air and Akash are because of the time interval taken by each of the subatomic particle to be created. The phenomenon of kinematic quivering and its time interval between one quivering and other quivering brings about the variation in the sub atomic particles and this results in formation of the variety of elements which are found in the periodic table. Each and every substance of the cosmic manifestation is nothing but the fruit of this basic entity time. The philosopher's explanation on the concept of time varies from the explanation given by the scientists. The ideas expressed by Vethathiri Maharishi were purely intuitional and they are not proved in any laboratory. The mind which in its subtler frequencies is capable of transcending all physical barriers and travel far beyond the observable universe and understands the secrets of the cosmos. So these facts were explained only after deep and prolonged meditation and focus, if we want to test the validity of these ideas we have to go to that frequency level which is below seven cycles per second and only then we can know it.

III. DIFFERENT VIEWS PERTAINING TO TIME CONCEPT

Let us see what other eminent personalities say about time. The philosopher Aristotle states that time is an numerical and counting tool. Some scientist like Carlo Rovelli state time as an illusion and it does not exist in reality. The complex networks of events which take place in reality are projected as past, present and future by us. Carlo Rovelli is an famous loop Quantum Gravity physicist who tries to combine the Quantum principle with the principles of General theory of relativity. The measurement of time by clock is not the time which we speak in this article, it is something far deeper than this time shown by clocks. The measurement of time was invented by early Egyptians some where in the 1500 B.C. Sir Isaac Newton defined time to be Absolute and same for all the observers irrespective of time. Sir Albert Einstein said just the opposite of it he said time was relative term and it was not same for all the observers and it varied according to their speed and motion in space. In the Indian scriptures time is referred as a eternal phenomenon and God has the control over time and God is beyond the concept of time and it has no power over Him. The word Kala refers to time and in Hindu mythology the God of death is termed as Kalan. The divine entity is assumed to have gone beyond the clutches of time, and there is no past, present and future for the divine.

IV. CONCLUSION

The great Indian Scripture Bhagvath Geetha explains many aspects about time. The Lord Krishna has stated that he himself is Time and Time is not different from him. The celestial phenomenon time can never be countered by humans. Lord Krishna states that Time is the force which annihilates and destroys all worlds, hence time cannot be stopped by our human efforts. The Christianity states that things which are seen by normal eyes are temporal and things which are not seen by normal eyes are eternal. According to Christian theology "Kairos" means the time when God acts. In Islamic religion time is viewed as a

eternal power responsible for both sorrow and happiness of human kind. Time cannot control the supreme according to Islamic religion. Time was created by God and he operates time according to his wish. The Buddhism claims time to be the artifact of the mind and there exist no past or future and the only time available is present. In the spiritual domain the concept of time is seen as a instrument in the hands of God. But in the scientific domain the concept of time and the question of its illusion remains unresolved. We can conclude this article by stating that Swamiji Vethathiri Maharishi concept on Time seems to be more adaptable and acceptable by both scientists and philosophers.

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