

Exploration

The Oscillating Universe

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Abstract

The big bang is an onetime orderly event that occurred due to the annihilation of the matter / antimatter in total symmetry & compatibility in the absolute – the cosmic egg in effulgence for projecting the evolution vitality & energy for cosmic activities. The big bounce is the orderly event caused by the annihilation of matter/antimatter in total symmetry during the involution cycle starting from CP asymmetry in favour antimatter at the end, i.e., to end the period of inactivity & initiate evolution.

Keywords: Oscillating universe, matter, antimatter, big bang, big bounce, big crunch.

Matter & consciousness are the primal dual pairs as per Upanishads. Mysticism can experience consciousness but does not have realistic proofs as needed by science. That is why life & its existence is still a mystery.

Science is able to detect antimatter (consciousness) only during their separation from matter in particle accelerator & collider experiments etc. Otherwise, they are unmanifest to their naked eye. So much so science does not have realistic knowledge on either consciousness or antimatter – the passive forces in operation in the universe - except through inferences that find no room in their realistic logics.

The big bang is not a random explosion but an orderly onetime event that sustains the complementarities & time symmetry in the universal cycle, i.e., the oscillating ‘big crunch - big bounce’ cycle. This cycle carries on by its own momentum eternally. A big bounce inevitably has to culminate in an orderly big crunch, its complementary version, with its progressively depleting evolution vitality when ultimately the matter/antimatter parity which was in total symmetry at big bounce will have to cease completely at involution in favour of matter. This charge parity asymmetry only leads to the initiation of either the big bounce or the big crunch.

However the proposed “charge/parity/time symmetry theorem” gives more insight into the operation of the universe.

C symmetry - matter/antimatter equality

P symmetry - mirror image parity

T symmetry - symmetry in time reversal

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CPT symmetry means that the simultaneous application of all these variances must be in symmetry. According to the same, T_0 is the time of occurrence of big bounce. T is the time duration of evolution or involution which is equal as per the “charge/parity/time symmetry theory, at minus T , the time of occurrence of big crunch, the CP symmetry is in violation with, parity totally in favour of antimatter when the available energy is zero during involution period. The matter & antimatter stay as complementary pairs in vibrations caused by the impact of universal mass with the singularity due to cosmic attraction.

The vitality of these vibrations progressively depletes increasing the antimatter/matter parity gradually more in favour of matter. When these vibrations cease to exist at the end of involution i.e. at time T_0 the complementary pairs unfold & the matter/antimatter parity is in total symmetry. Their annihilation takes place as big bounce with the release of maximum available energy as evolution energy. This complementary pair parity progressively increases in favour of matter as the evolution vitality vibrations gradually deplete. At the end of evolution, i.e., start of involution i.e. at time plus T , the parity becomes totally in favour of matter & the available energy is again zero at involution – big crunch.

The big bang is an onetime orderly event that occurred due to the annihilation of the matter / antimatter in total symmetry & compatibility in the absolute – the cosmic egg in effulgence for projecting the evolution vitality & energy for cosmic activities.

The big crunch is the orderly event caused by the cosmic attraction of the universal matter at the end of evolution by the singularity to sustain the evolution cycle, i.e, during the evolution cycle, the period of activity starting with CP asymmetry in favour of matter from 0.5 to 1 at the end.

The big bounce is the orderly event caused by the annihilation of matter/antimatter in total symmetry during the involution cycle starting from CP asymmetry in favour antimatter at the end, i.e., to end the period of inactivity & initiate evolution.

It is to be noted that as long as the complementary pairs are in vitality vibrations either during evolution or involution, the pair elements cannot unfold from their pairs to involve themselves either in annihilation of the big bounce or attraction of the big crunch. This cycle repeats eternally keeping pace with time symmetry. This implies the condition that the duration of evolution & involution has to be equal.

The same idea is discussed in Brahmanda Purana, the Indian epic on the cosmic egg giving detailed account of various time intervals during evolution. The evolution period is considered as the day of Brahman & involution as the night of Brahman with equal duration.

Supersymmetry is the essence of creation & everything in the universe can be explained easily with this knowledge.

Even though it is established that there was total CP symmetry - (charge & parity symmetry) - between the matter/antimatter at big bang, the scientists claim that there is no clue as to what happened to all the released antimatter. They are also confirming the existence of charge parity violation now in favor of matter as compared to antimatter. At the same time they postulate the

'charge/parity/time symmetry' theorem. According to this that at time T_0 the start of big bounce, the matter/antimatter should be in total symmetry & at time plus T, the end of evolution the parity should be in favour of matter totally. That means antimatter/consciousness/ vitality/energy should be in saturation at big bang & in total depletion at involution. If the present state of charge/parity violation is calculated we should be able to arrive at the value of T, the time duration of the evolution process. This will solve all the issues around the 'Oscillating universe' model by filling up all the gaps that exist in the scientific research now.

It is also to be understood that during the evolution process the matter/consciousness (antimatter) have to exist only in a complementary pair mode in effulgent vibrations. In the absence of these vitality vibrations, they will either undergo cosmic annihilation or be drawn into cosmic attraction. Only during transformations the complementary pairs unfold themselves releasing the needed energy & fold back again as new compatible pairs after transformations.

According to Brahmanda Purana also, Indian epic of the Cosmic egg, the evolution, began with energy saturation in duality & culminated in energy depletion with the absence of duality in the universe.

The vedic philosophy enumerates the origin of the universe commencing with the desire of the Absolute to be in many to savour the diversity, the ways & means to achieve the same through Dharma shastras & also the ultimate dissolution, big crunch, big bounce etc. This process carries on in eternal cycles. This cosmic process is a destined phenomenon that provides unlimited scope for diversities. We as human beings who are the closest manifestation of the Super man have to realise this truth to experience the real meanings for life & its existence.

Mysticism has done its duties but is ridden with delusions. Science intends to safeguard the society from delusions but its knowledge is about the manifest universe which is only 25% of the totality. The recent developments of matter/antimatter researches have established charge/parity violation but at the same time have postulated "charge/parity/Time Symmetry". This subscribes to the 'oscillating universe model' thus. T_0 is the time of the big bang. At minus T the CP symmetry is violated with with parity totally in favour of antimatter when the available energy is zero. This antimatter/matter parity progressively increases in favour of matter. At the end of involution i.e. at big bang i.e. at T_0 , the available evolution energy is at its maximum with total symmetry in matter/antimatter parity This parity progressively increases in favour of matter when at the end of evolution i.e. involution the parity becomes totally in favour of matter & the available energy is again zero at involution--big crunch. This cycle repeats eternally because of time symmetry.

This involves a condition that the duration of evolution & involution have to be equal. The same idea is discussed in Brahmanda Purana, the Indian epic on the cosmic egg giving detailed account of various time intervals during evolution. The evolution is considered as the day of Brahman & involution as the night of Brahman with equal duration. Supersymmetry is the essence of creation & everything in the universe can be explained easily with this knowledge.

It is quite relevant to go through the famous conversation between Rabindranath Tagore & Einstein in 1930 - A remarkable meeting of minds on the edge of science & spirituality:

EINSTEIN: Do you believe in the Divine as isolated from the world?

TAGORE: Not isolated. The infinite personality of Man comprehends the Universe. There cannot be anything that cannot be subsumed by the human personality, and this proves that the Truth of the Universe is human Truth.

I have taken a scientific fact to explain this - Matter is composed of protons and electrons, with gaps between them; but matter may seem to be solid. Similarly, humanity is composed of individuals, yet they have their interconnection of human relationship, which gives living unity to man's world. The entire universe is linked up with us in a similar manner, it is a human universe. I have pursued this thought through art, literature and the religious consciousness of man.

EINSTEIN: There are two different conceptions about the nature of the universe: (1) The world as a unity dependent on humanity. (2) The world as a reality independent of the human factor.

TAGORE: When our universe is in harmony with Man, the eternal, we know it as Truth, we feel it as beauty.

EINSTEIN: This is the purely human conception of the universe.

TAGORE: There can be no other conception. This world is a human world – the scientific view of it is also that of the scientific man. There is some standard of reason and enjoyment which gives it Truth, the standard of the Eternal Man whose experiences are through our experiences.

EINSTEIN: This is a realization of the human entity.

TAGORE: Yes, one eternal entity. We have to realize it through our emotions and activities. We realized the Supreme Man who has no individual limitations through our limitations. Science is concerned with that which is not confined to individuals; it is the impersonal human world of Truths. Religion realizes these Truths and links them up with our deeper needs; our individual consciousness of Truth gains universal significance. Religion applies values to Truth, and we know this Truth as good through our own harmony with it.

EINSTEIN: Truth, then, or Beauty is not independent of Man?

TAGORE: No.

EINSTEIN: If there would be no human beings any more, the Apollo of Belvedere would No longer be beautiful.

TAGORE: No.

EINSTEIN: I agree with regard to this conception of Beauty, but not with regard to Truth.

TAGORE: Why not? Truth is realized through man.

EINSTEIN: I cannot prove that my conception is right, but that is my religion.

TAGORE: Beauty is in the ideal of perfect harmony which is in the Universal Being; Truth the perfect comprehension of the Universal Mind. We individuals approach it through our own mistakes and blunders, through our accumulated experiences, through our illumined consciousness - how, otherwise, can we know Truth?

EINSTEIN: I cannot prove scientifically that Truth must be conceived as a Truth that is valid independent of humanity; but I believe it firmly. I believe, for instance, that the Pythagorean theorem in geometry states something that is approximately true, independent of the existence of man. Anyway, if there is a reality independent of man, there is also a Truth relative to this reality; and in the same way the negation of the first engenders a negation of the existence of the latter.

TAGORE: Truth, which is one with the Universal Being, must essentially be human, otherwise whatever we individuals realize as true can never be called truth – at least the Truth which is described as scientific and which only can be reached through the process of logic, in other words, by an organ of thoughts which is human. According to Indian Philosophy there is Brahman, the absolute Truth, which cannot be conceived by the isolation of the individual mind or described by words but can only be realized by completely merging the individual in its infinity. But such a Truth cannot belong to Science. The nature of Truth which we are discussing is an appearance – that is to say, what appears to be true to the human mind and therefore is human, and may be called maya or illusion.

EINSTEIN: So according to your conception, which may be the Indian conception, it is not the illusion of the individual, but of humanity as a whole.

TAGORE: The species also belongs to a unity, to humanity. Therefore the entire human mind realizes Truth; the Indian or the European mind meet in a common realization.

EINSTEIN: The word species is used in German for all human beings, as a matter of fact, even the apes and the frogs would belong to it.

TAGORE: In science we go through the discipline of eliminating the personal limitations of our individual minds and thus reach that comprehension of Truth which is in the mind of the Universal Man.

EINSTEIN: The problem begins whether Truth is independent of our consciousness.

TAGORE: What we call truth lies in the rational harmony between the subjective and objective aspects of reality, both of which belong to the super-personal man.

EINSTEIN: Even in our everyday life we feel compelled to ascribe a reality independent of man to the objects we use. We do this to connect the experiences of our senses in a reasonable way. For instance, if nobody is in this house, yet that table remains where it is.

TAGORE: Yes, it remains outside the individual mind, but not the universal mind. The table which I perceive is perceptible by the same kind of consciousness which I possess.

EINSTEIN: If nobody would be in the house the table would exist all the same – but this is already illegitimate from your point of view - because we cannot explain what it means that the table is there, independently of us.

Our natural point of view in regard to the existence of truth apart from humanity cannot be explained or proved, but it is a belief which nobody can lack - no primitive beings even. We attribute to Truth a super-human objectivity; it is indispensable for us, this reality which is independent of our existence and our experience and our mind - though we cannot say what it means.

TAGORE: Science has proved that the table as a solid object is an appearance and therefore that which the human mind perceives as a table would not exist if that mind were naught. At the same time it must be admitted that the fact, that the ultimate physical reality is nothing but a multitude of separate revolving centres of electric force, also belongs to the human mind.

In the apprehension of Truth there is an eternal conflict between the universal human mind and the same mind confined in the individual. The perpetual process of reconciliation is being carried on in our science, philosophy, in our ethics. In any case, if there be any Truth absolutely unrelated to humanity then for us it is absolutely non-existing.

It is not difficult to imagine a mind to which the sequence of things happens not in space but only in time like the sequence of notes in music. For such a mind such conception of reality is akin to the musical reality in which Pythagorean geometry can have no meaning. There is the reality of paper, infinitely different from the reality of literature. For the kind of mind possessed by the moth which eats that paper literature is absolutely non-existent, yet for Man's mind literature has a greater value of Truth than the paper itself. In a similar manner if there be some Truth which has no sensuous or rational relation to the human mind, it will ever remain as nothing so long as we remain human beings.

EINSTEIN: Then I am more religious than you are!

TAGORE: My religion is in the reconciliation of the Super-personal Man, the universal human spirit, in my own individual being.

Graviton

These manifest universal matter/consciousness (antimatter) pairs, as the aberrations in the evolution mode, naturally have to lose their manifesting vitality & merge with the singularity in converging attraction at involution --big crunch - the duality aspect of big bang. The parity symmetry between matter & antimatter at the time of the merger will be nil with the total loss of vitality & energy. Hence there is a period of inactivity during involution when the impact vibrations & the effulgence caused by the big crunch progressively lose their vitality along with the increase of its matter/antimatter pair symmetry. At the end of the impact vibrations cease to exist, unfolding of the pair elements with this pair symmetry leading to their imminent annihilation with maximum energy as the big bounce. This self-sustaining cycle is eternal in nature.

The singularity is a monolithic radiant mass less entity - dark matter - complementary pair of black hole & white hole ---that exists with absorbing - attracting – radiations accounting for the 3/4th of the totality of the cosmic energy as dark energy – that sustains the universal order. This monolithic nature of singularity contributes to its radiant flow of high intensive energy with little

mass density. Incidentally the quantum cosmic speed is about 10,000 times the speed of light we know of. This accounts for the infinite radiant energy from this mass less source. This will answer many doubts about the nature of "graviton".

Supersymmetry (vedic perception)

This supersymmetry phenomenon emanates from the duality & complementarity traits of the cosmic nucleus itself that sustains the static & dynamic stability of the totality as a primal complementary pair of the universe & singularity. Supersymmetry is the essence of nature that sustains the basic order & harmony in the in the creation. Life & its existence can be can be explained easily with this knowledge.

The supersymmetry phenomenon envisages that the combination of all the symmetries of all aspects of creation including the evolution vitality & its available energy in the universe as well as the singularity, the dark energy should also be in symmetry with respect to time T_0 the time of origin. The universe appears to be operating under the influence of its own matter & energy. But a major contribution is from the dark matter & its energy. Problems arise during the course of scientific investigation when it encounters the overlapping forces of the universe & singularity that are complementary to each other. The universe is made up of the aberrations of the cosmic nucleus whose masses contain gaps of space within & they dissipate their energy in vibrations whereas the singularity is a monolithic radiant mass emitting absorbing radiations. At the same time the universe & the singularity are complementary to each other. Once we are able segregate these complementary forces each having symmetries of its own, the science will be able to establish the unification of all laws of nature & also super symmetry.

At time T_0 the symmetry was maximum in all aspects. As the evolution time progresses the combined symmetry of all the variances decreases gradually leading to involution. The shape of this combined symmetry/time curve follows a parabola according to the probability theories. This super symmetry logic obviously encompasses the time duration from minus T to plus T , i.e., start of involution to evolution the end of evolution when the combined symmetry is distorted totally. The forces of evolution & involution are in balance.

According to Brahmanda Purana also, Indian epic of the Cosmic egg, the evolution, began with energy saturation in duality & culminated with energy depletion with the absence of duality in involution, a period of inactivity.

This duality/complementarity phenomenon is nurtured by nature right through the cosmic cycle by maintaining compatibility in their pair elements even with the gradual depletion in the available energy. Only during the disturbances due to natural causes in the non-sentient entities & also desire undulations in the case of sentient entities, the pair opens out releasing the energy for sustaining the 'cause & effect' & 'desire fulfillment' energy dissipations that end up instantly in compatible recombination after transformation. The totality of these energy dissipations instant after instant depletes gradually till the end of evolution but the compatibility in the complementary pairs is maintained after each transformation.

The supersymmetry logic implies that the big bang shall naturally culminate in big crunch, Likewise the evolution shall end in involution, implying progressive depletion in the evolution vitality. This also implies that the totality of the energy available for dissipations instant after instant is progressively depleting from big bang, when the released energy was at its maximum with total symmetry in pair parity. This depleting vitality is the reason for the existence of disparity in the CP symmetry between matter & antimatter & also the depletion in the available evolution energy. Ultimately at the start of involution when the evolution vitality ceases to exist, the complementary pairs unfold their pair elements matter/antimatter that merge in cosmic attraction with the singularity leading to big crunch & a period of no activity. At the end of involution when the cosmic impact effulgence subsides in the singularity, the matter/antimatter elements unfold from the pairs with parity symmetry, annihilate in big bounce, releasing the energy to start a new cycle.

This close-ended cycle assures the basic order even during cyclic energy depletion routine of the cosmic process only reflecting the nature's true perspective.