

Exploration

The Oscillating Universe

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Abstract

The cyclic existence of the creation in nature owes its character due to the progressive change in the matter/antimatter parity & the progressive reduction in the matter/antimatter annihilation with lesser & lesser available energy.

Keywords: Oscillating Universe, cyclic existence, matter, antimatter, Consciousness, Creator.

Matter & consciousness are the primal dual pairs according to 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.

The evolution is sustaining on the energy of the Big Bang caused by the annihilation of matter/consciousness (antimatter) released in symmetry & parity from the cosmic foam by cosmic undulation (desire). The cyclic existence of the creation in nature owes its character due to the progressive change in the matter/antimatter parity & the progressive reduction in the matter/antimatter annihilation with lesser & lesser available energy. Mass (matter/antimatter) is its total energy equivalent, only when its pairing elements matter & antimatter are in parity. When this parity changes their annihilation energy comes down. Hence $\text{Energy} = \text{Mass} \times \text{square of } C$ holds good conditionally.

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

We perceive an entity as matter, whereas in reality it is a complementary pair of matter/antimatter., A complementary pair existence is a necessity for stability. Hence all its synonymous aspects of antimatter, such as vitality/consciousness/energy/ etc. are passive in nature. All these entities undergo gradual depletion in vitality. This knowledge helps one to understand nature.

Eternal cycles - The only thing that is permanent in nature is "change"

The Big Bang theory is the commonly accepted cosmological event. Presently the expanding universe proposal gains momentum because of its conformation by various observations by modern telescopes. We are certain about the universe & its associated forces. Our knowledge

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about dark matter, dark energy, singularity *etc* that control the universe is still vague. Probably with a clear knowledge of the un-manifest forces we may come to a better conclusion. This & other proposals like constant universe, contracting universe *etc* even though raising general curiosity, do not give a satisfying feeling for a common man who observes & experiences all aspects of nature in cyclic routines although not with perfect precision. We can be comfortable with the postulations of the CPT theorem that establishes the existence of an overall symmetry in the simultaneous application of all asymmetries with respect to a time cycle. This proposal very much fits in the "oscillating universe model" which the Vedic scriptures have dealt with elaborately. Now with the needed scientific validations it is time that the scientific community approves the "oscillating Universe model. A bell curve is a classical example. It is a probability curve. Still it is universally accepted. This will pave the way for an optimistic outlook in the society in the remaining period of evolution.

Parabrahmam the absolute is the personification of CP symmetry & in its manifestation as Brahman in diversities of symmetries, the epochs, its time cycles are its days & nights. Matter & consciousness make the primal dual pair a per Upanishads. The almighty derived the evolution energy through the annihilation of its primal pairing elements. The cosmic desire / undulation regulates the vitality & the harmony after initiating the cosmic cycles. The diversity is savoured by the almighty through these dual pairs manifesting as its aberrations in the universe, while its dual partner the un-manifest singularity remains in effulgent attraction of these dual elements controlling 3/4th of the totality of the cosmic energy. The complementary mode functioning of the universal & singularity's forces only sustains the cyclic nature of the cosmic nucleus, the origin. The almighty being invincible, we tend to consider its forces as eternal entities. What is eternal is actually the cosmic cycles in which the universe & singularity function as complementary pairs. Not even the almighty has remained eternal. Once it had initiated the cosmic process, the repetitive cycles carry on due to their own momentum. Ironically both mysticism & science that have evaluated the life of the universe which had been in existence in a stable order, for as much as more than billions of years, use the word eternal while referring to super natural aspects of nature we come across in day to day life, whereas they are actually not so. Only the cycles are eternal & not the cosmos.

Science can analyze the known aspects of creation namely matter, with realistic logic & declares their findings as eternal truth & without delusions. Mysticism can experience consciousness but does not have realistic proofs as needed by science. That is why life & its existence is still a mystery.

The evolution has to be viewed as an orderly event initiated by the Big Bang, releasing energy of the annihilation of matter/consciousness (antimatter) of the cosmic nucleus. That energy accounts for the total maximum possible energy because total parity between matter/antimatter prevailed at Big Bang. Then onwards the evolution is in eternal transformations of that released energy which undergoes progressive depletion as per the cyclic routine of the cosmic process. The cyclic existence of the creations of nature owes its ever changing character to the basic virtue of the absolute to exist with life in cyclic effulgence. This depletion in the evolution vitality & the associated variation in matter/antimatter parity along with reduction in their annihilations, end up in lesser & lesser available evolution energy. The cosmic desire /undulation guides the symmetry & compatibility in the pairs during a time cycle..

All entities exist as complementary pair of matter/antimatter in stable condition. Energy is available for useful work only when the complementary pair of an entity breaks down into its pairing elements releasing their annihilation energy. This available Energy is its total Mass equivalent, only when the pairing elements, matter & antimatter, are in symmetry & parity. Any change to this condition will lead to reduction in their annihilation & hence the energy. The cosmic energy is a function of symmetry between the dual pair elements.

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

A complementary pair existence is a necessary condition for stability

We perceive an entity as matter, whereas in reality it is a complementary pair of matter/antimatter., Hence all the synonymous aspects of antimatter, such as vitality /consciousness/energy/ etc. exist as passive forces in nature. All the entities undergo gradual depletion in vitality & corresponding change in charge/parity symmetry during a time cycle. This knowledge helps one to understand nature.

The primordial Big Bang is not a random explosion but an orderly onetime event projected by the Parabrahmam the only source of origin, that sustains the complementarities & time symmetries in all its aspects during the cosmic cycles i.e. the repetitive oscillating 'big crunch /big bounce' cycles with equal time during in involution/evolution. These cycles carry on by the eternal momentum left by the primordial Big Bang.

The Vedic scriptures talk even about the phenomenon of multiverses, multi epochs etc. while vividly dealing with the 'Oscillating universe' concept. The Big Bang is a onetime orderly event initiated by the cosmic desire, due to annihilation of the matter / antimatter of the Absolute in total symmetry & compatibility, that goes on in 'big crunch/big bounce' cycles with its own momentum

The Big Crunch is the orderly event caused by the cosmic attraction of the universal matter with the singularity at the end of evolution leading to involution, an equal period of inactivity. When the effulgence of attraction dies down, the pairing elements with parity symmetry unfold themselves & annihilate with a big bounce..

The Big Bounce is the orderly event caused by the annihilation of matter /antimatter in total symmetry at the end of involution. At the end of this period the evolution vibrations cease to exist unfolding the pairing elements without symmetry & energy. These matter/antimatter elements merge with the absorbing radiations of the singularity in cosmic attraction as a n effulgent pair., starting a period of inactivity.

It is to be noted that as long as the complementary pairs are in vitality effulgence either during evolution or involution, the pair elements cannot unfold from their pairs to involve themselves either in their annihilation of the big bounce or in their attraction of the big crunch. This evolution / involution cycles repeat eternally keeping symmetry on all aspects to sustain harmony during a time cycle. This implies the condition that the duration of evolution & involution has to be equal for overall balancing of the cosmic forces for harmony.

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.

The "charge / parity/ time theorem" and cyclic nature

C symmetry - matter/antimatter equality. When matter & anti matter are equal available energy is maximum in a complementary pair during their annihilation.

Likewise when the body/consciousness (awareness) is in parity a being exists with maximum vitality.

P symmetry - mirror image parity. The available energy in a complementary pair is more as compared with less symmetry in their active & passive components.

Likewise total loss of complementarity will bring the life cycle / the cosmic cycle to a stop.

T symmetry - symmetry in time reversal i.e. during time cycle.

CPT symmetry means, simultaneous application of all these variances must also be in symmetry.

Philosophically, super symmetry is a concept that can exist in total inaction. The universal activities imply only an existence of nominal symmetry about the time axis by the periodical balancing cosmic undulations during one cosmic cycle for overall stability. Likewise all the variations in other symmetries are also in eternal balance during a time cycle. This means, even though the evolution & involution vitalities may gradually deplete to sustain the cyclic functioning of the cosmos, it happens so, not at the cost of basic symmetry during the whole of the cosmic cycle.

Assuming we are now in a later cosmic cycle involving big bounce, T_0 is the time of occurrence of the big bounce. Duration T_0 to plus T is the evolution duration. Duration minus T to T_0 is the involution duration. As per the "charge/parity/time symmetry theorem", at minus T , the time of occurrence of the preceding big crunch, the CP symmetry would be in total violation & also in favour of antimatter (quite opposite to the condition at time plus T , when the parity would be totally in favour of matter). With no parity symmetry & loss of energy at time minus T , all the pair elements namely matter & antimatter of the universe & the singularity would have merged in cosmic attraction-- big crunch-- followed by a period of inactivity. During this period the complementary pairs would remain in effulgence caused by the big crunch impact. With the

gradual loss & cessation of effulgence at the end of involution i.e. at time T_0 , the matter / antimatter elements would have unfolded with symmetry causing their annihilation as big bounce with the release of maximum evolution energy in the universe & effulgent absorbing radiations in the singularity. This vitality will gradually deplete & at the end of evolution, at time plus T , the unfolding elements without pair symmetry At time plus T , i.e. at the end of evolution these unfolded pair elements will lose their vitality & merge in the cosmic attraction with singularity -- big crunch - thus closing a cosmic time cycle with basic symmetry throughout the duration.

It is the nature of the Absolute to evolve & dissolve in cycles with these dual traits

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.

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 for stability. In the absence of these vitality vibrations they will either undergo cosmic annihilation or be drawn into cosmic attraction with the singularity Only during transformations caused by the cause/effect considerations or desire undulations, the complementary pairs unfold themselves releasing the needed energy & fold back again as new compatible pairs after the completion of action. Every entity derives its transformation energy from the annihilation of the pairing elements, matter/antimatter, of its complementary pairs. This energy progressively reduces because of variation in charge/parity symmetry, that means the number of matter & antimatter taking part in the annihilation process instant by instant gradually reduces.

If we have a record of the values of matter/antimatter symmetry & their trends over a period of time we should be able to extend the symmetry/ time curve beginning with maximum symmetry at T_0 & nil at plus T & minus T . According to the probability theories this will be a nominal distribution curve, a parabola. Apart from quantifying the value of T the time duration of evolution/involution of the current cosmic cycle, this curve is a realistic presentation of the 'Oscillating universe' model by filling up many gaps that exist now in the scientific research in this field

Super-Symmetry (Vedic perception)

This super symmetry 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. Super symmetry is the essence of nature that sustains the basic order & harmony in the in the creation. Life & its existence can be explained easily with this knowledge.

The super symmetry phenomenon envisages that the combination of all the symmetries of all aspects of creation including the evolution vitality of the universe as well as that of the singularity should follow a basic symmetry during a time cycle. The universe appears to be operating under the influence of its own matter & energy. But a major contribution to it is from

singularity, the 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 dual & 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 with absorbing radiations contributing energy to the totality.. Once we are able view these complementary forces as those having symmetries of their own, the science will be able to establish the unification of all laws of nature & also super symmetry during a time cycle.

This super symmetry logic encompasses the forces of involution & evolution kept in a delicate balance to ensure a basic order throughout the time cycles, the days & nights of parabrahmam, the divine complementary pair of evolution/involution

Graviton & super-symmetry

The cosmic energy in the universe is dissipated as vibrations because, its aberrations exist with gaps of space within their masses caused by the disintegrations at their origin & also as effulgent radiations of the singularity due to the monolithic & coherent nature of its mass.

At the end of the involution period, the cosmic night of Brahman, the big bounce projected 1/4th part of the energy of its nucleus - the merged mass of the universe & the singularity after the big crunch - as the energy of the universe & the rest 3/4th remained with the singularity. The manifest aberrations of the universe having space gaps within their dissipated masses exist as duality & complementary pairs in vibrations with intrinsic static & dynamic stability, but with the gradually depleting evolution vitality till the end. This depletion is due to the cyclic nature of the cosmic process. These released aberrations exist as the harmonics of the universal rhythm growing into the cosmic tree – universe -in growth/dissolution cycles in the evolution mode.

This manifest universe functions as the dual opposing pair of the un-manifest singularity, --black hole/white hole pair - that stabilizes the cosmic process. During the evolution mode, the universe & the singularity, naturally have to lose their manifesting vitality & culminate in their converging attraction at involution --big crunch –when the parity symmetry between matter & antimatter will be nil with the total loss of vitality & energy ending in a period of inactivity during involution period. The impact vibrations & the effulgence caused by the big crunch progressively have to lose their vitality along with the increase of its matter/antimatter pair symmetry & at the end will unfold the pair elements with total symmetry between them 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–radiation accounting for the 3/4th of the totality of the cosmic energy as dark energy – that also sustains the universal order. This singularity & the matter of the universe form the elements of the dual opposing pair of the creation process to maintain static stability. Unlike the universe with disintegrated masses the monolithic gapless singularity the cosmic speed is about 10,000times the speed of light we know of in the universe. The absorbing radiations & high intensive energy of the singularity can be

transferred at such speeds only through mass less particles such as Gravitons of singularity. . This understanding of "graviton" as the energy carrier of forces of singularity the dual partner of the universe, can enable the Grand unification of all the forces of the cosmos. With this concept it becomes easy to visualize super symmetry functioning even under the conditions a depleting vitalities of the big bounce or the big crunch in the cosmic cycles

According to Brahmanda Purana, Indian epic of the Cosmic egg, the evolution, began with energy saturation in duality/complementarity & culminated with energy depletion with the absence of duality/complementarity at 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 during the gradually depleting evolution energy.. Only during the disturbances due to natural causes in the non-sentient entities & also desire undulations in the case of autonomous sentient entities, the pair opens out releasing their annihilation energy for carrying out the 'cause & effect' & 'desire fulfillment' actions, that end up instantly in compatible recombination after transformations. (The pair elements have to necessarily exist in pairs in vibrating effulgence otherwise they will annihilate & merge with the singularity in cosmic attraction). 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 super symmetry logic implies that the big bounce 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 bounce, 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 in eternal replication assures the basic order even during the energy depletion periods of the cosmic process, thereby reflecting the nature' in its true perspective.

Super-symmetry - philosophical perspective

The primordial Almighty remained as sat chit ananda - (true existence in Blissful harmony) - as a personification of super symmetry before manifestation. What we experience around us now is the existence of infinite variations of that perfection in diversity, as its creations that came to being due to its cosmic desire "let me be many" & savour the diversities. True bliss is super symmetry in inaction. This implies that the universe an environment of depleting vitality & transformations has to constantly sustain violations of that symmetry in day to day life as part of nature's diverse panorama meant for common delight. The various cosmic forces act according to the self-correcting 'cause & effect' routines for maintaining a combined symmetry namely a basic order & harmony irrespective of local violations to that symmetries in the cosmos from time to time. As the time progresses the vitality to react promptly for corrective actions also goes down

making it difficult for the sustenance of timely symmetry in the cause & effect phenomenon also. Hence it is prudent to be optimistic while experiencing various violations of these symmetries during mystic & scientific enquiries about life & its existence.

"For the Brahmaloaka and the realms outside the Universe, a day of Brahma is equal to the 4 yugas multiplied by a 1,000. His night is of equal duration. Creation starts at Brahma's waking and continues for the entire duration of his day. When he approaches his (Brahma's) night, he stops all activities, dissolves everything in himself and sleeps..."

A short summary of the concept of macro-time as envisaged in the Vedas and ex The grand concept of Time. Yugas, Kalpas, Manvantaras, days & nights of Branmam, Parabrahmam the primordial nucleus originated the cosmic cycle with the Big Bang. Further on the big bounce/ big crunch cycles carry on as the days & nights of Brahmam. The sheer grandeur with which the concept of "TIME" in its macro sense is discussed in the Vedas boggles the mind.

The more important point is to wonder at the conceptual brilliance of the minds that could think at such a cosmic level and come up with numbers that run into Trillions without the help of telescopes, satellites etc of modern astronomy That their numbers are so close to what modern science says is testimony to the greatness of those seers and vedantins.

In the Srimad Bhagavata (Skandha-III; Chapter-11; Verses 21-23) it is said:

There are 4 yugas and each yuga consists of a fixed number of years. Note that the number of years in each Yuga is in the descending ratio of 4, 3, 2, 1 , the vitality in each yuga depleting by a quarter:

Satya Yuga: 17,28,000 years (1.728 million years)

Treta Yuga: 12,96,000 years (1.296 million years)

Dvapara Yuga: 8,64,000 years (0.864 million years)

Kali Yuga: 4,32,000 years (0.432 million years)

1. This 4-3-2-1- ratio decides the shape of the vitality / time curve which is a nominal distribution curve of modern science.
2. The 4 Yugas together constitute 1 Maha Yuga (Chatur Yuga) = 43,20,000 years (4.32 million years)
3. 1,000 such Maha Yugas (i.e 4.32 million years X 1,000) = 43,20,000,000 years (4.32 billion years) makes 1 KALPA or "1 day of Brahma"
4. Each Kalpa is divided into 14 Manvantaras with each Manvantara headed by a Manu. In other words each Manvantara consists of 71.4 Chatur Yugas. 14 such Manvantara cycles adds up to 1 Kalpa. We are believed to be in the reign of the 7th Manu – Vaivasvata

(which is what we say in the Sankalpa mantra "Vaivasvata Manvantare") and within this Vaivasvata Manvantara we are in the 28th Chaturyuga (again we say this in the Sankalpa mantra "Ashta-vim-shatatitame")

5. A similar 4.32 billion years constitutes the "night of Brahma" adding up to a total of 8.64 billion years (which is very close to the modern scientific belief that the earth will not be inhabitable when it reaches the age of 7.5 to 8 billion years and is also the accepted period spanning creation through dissolution)
6. From now the numbers are so mind boggling they take one's breath away: As we have seen 8.64 billion years is the one full day of Brahma. 365 such days constitute 1 year of Brahma! and on this basis his lifespan is a 100 years!! 311 to 315.36 Trillion years!!!

Carl Sagan: "The Hindu religion is the only one of the world's great faiths dedicated to the idea that the Cosmos itself undergoes an immense, indeed an infinite, number of deaths and rebirths. It is the only religion in which time scales correspond to those of modern scientific cosmology. Its cycles run from our ordinary day and night to a day and night of Brahma, 8.64 billion years long, longer than the age of the Earth or the Sun and about half the time since the Big Bang."

Evolution

The Absolute in empty space was a dual complementary pair with the capability to evolve its own energy from the annihilation of its pairing elements –matter/consciousness - Hot fission-- . The symmetry in its duality & the pair compatibility accounted for the instantaneous release of immense energy as radiations at Big Bang. These radiations settled down as stable complementary pairs undergoing transformations in the expanding space of the universe. Likewise in the singularity the radiations settled down as the stable complementary pair of black hole/white hole. The black hole accounts for the attracting effulgence of matter & the white hole, the attracting effulgence of antimatter. in radiant effulgence. They remain stable because of their effulgence even though they are charged with vitality. cosmic desire governs the compatibility, namely the symmetry in all the complementary pairs & consequently their vitality & energy. This vitality/symmetry/effulgence gradually comes down during the evolution period paving the way for big crunch, cosmic attraction of the matter/antimatter of the universe & singularity at the end with impact - cold fusion--.

Evolution is about the expansion of cosmic space with decreasing vitality.

Involution

The complementary pairs of the universe & the singularity at the end of evolution release matter/antimatter without vitality that merge in an instantaneous big crunch with effulgence & settle down in a contracting phase as complementary pairs in inactivity - involution-- . As the impact effulgence dies down the matter/antimatter get released with the increase of pair symmetry & vitality vitality, ending in their annihilation & big bounce. Cosmic desire – as maya sakthi, governs the cosmic cycles in super symmetry mode in total dispassion. Involution is about the contraction of cosmic space with increasing vitality.

Science looks at Big Bang as an act of a non-sentient entity, as the annihilation of matter & antimatter of the quantum foam, released due to the quantum fluctuation a random occurrence.. They have established charge neutrality & parity symmetry of the complementary pairs at the time of Big Bang. Had they recognized consciousness / matter / cosmic desire attributing valid meanings, the whole scientific process would have offered more meaningful contribution to the humanity as a whole.

Point to ponder

The cyclic routine of the cosmic process can be attributed to the fact that the universe & singularity even though they act as complementary pair they are not equal partners. Singularity contributes 3/4th of the cosmic energy & controls the totality. Had the universe & the singularity been equal partners the cosmos might exist with constant vitality meaning a flat universe. Or with depleting vitality as at present the cosmos will contract. This behavior of the cosmic scheme affirms the functioning of the cosmic intelligence. We have to wait in wonder, if this will repeat in future cycles!