

Review

Sri Aurobindo's Yogic Vision of 'Electron' as a Form of Consciousness and the 'Probability Wave' of the Quantum Theory

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Received 27 August, 2023; Accepted 13 October, 2023

On a very high plane of yogic consciousness, Sri Aurobindo has discovered consciousness to be the 'fundamental thing in existence'. It is the consciousness which arranges itself to come into the forms of 'electron, atom, and material existence'. Such yogic discovery comes into the vision of the scientific mind when the scientists working on the Quantum Theory discover a wave which is not three-dimensional in nature, the 'Probability Wave' they term it. The present paper is an in-depth investigation of the phenomenon of the formation of the probability wave which comes to be the consequent effect of the change of thought in the mind of the experimenter revealing the truth that the transcendent Divine Consciousness is at the pinnacle of the existence and all the terrestrial phenomena are its manifestations.

Key words: Electron, Consciousness, Probability Wave.

INTRODUCTION

Consciousness is a fundamental thing, the fundamental thing in existence- is the energy, the motion, and the movement of consciousness that creates the universe and all that is in it-not only the macrocosm but the microcosm is nothing but consciousness arranging itself. For instance, when consciousness in its movement or rather a certain stress of movement forgets itself in the action it becomes an apparently "unconscious" energy; when it forgets itself in the form it becomes the electron, the atom, the material object. In reality it is still consciousness that works in the energy and determines the form and the evolution of form (Sri Aurobindo, 1979).

Modern physics in its quantum theory has taken a decisive turn towards the realisation of such a discovery of Sri Aurobindo, the discovery which he made on a very high plane of yogic consciousness. Nay, the very realisation has begun to take place in the mind of the Modern Physics with the discovery of the existence of, what the noted British physicist A. S. Eddington calls, *mind-stuff* (Eddington, 1929) at the base of the dualism of wave and particle in the sub-atomic plane of matter. The scientific developments which have further taken place in this direction are indebted to him as he has discovered this scientific truth.

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The very discovery of, what the world of Modern Physics terms, *Probability Wave* by Niels Bohr, Kramers and Slater who worked on the Quantum Theory in the realm of Modern Physics, -the wave which is the creation of the said 'mind-stuff', is an evolutionary breakthrough for the scientific world. It is, in fact, a pulley to lift the scientific world to a higher plane of mental consciousness for the realisation of Sri Aurobindo's discovery that atom, electron, etc., are the different forms of consciousness. It is for the reason that the probability wave discovered in the sub-atomic world of Matter by the Quantum Theory is not a 'real' three-dimensional wave like the sound-wave, the water-wave, etc. (Capra, 1991), and therefore, takes us into the supraphysical world, to be more specific, into the world of 'mind-stuff' from the physical world of particle. The journey of the mind of Science, to be more specific, of Physics from the physical plane of existence to the supraphysical begins to take place when it discovers the conversion of particle into the aforesaid wave, the wave which comes back to its previous state of particle responding to the change of the mental state of the experimenter. To be precise, such phenomenon of the conversion and the reconversion is the consequent effect of the change of the mental states of the experimenter. The wave is, in fact, a 'mathematical abstraction' in the world of Science, revealing the truth that it is a thing to be visualised by the mental consciousness alone. Capra (1991) says:

The information about the probabilities for a particle is contained in a quantity called the probability function, and the mathematical form of quantity is that of a wave, that is to say, it is similar to the forms used for the description of other types of waves. The waves associated with particles, however, are not 'real' three-dimensional waves, like water waves or sound waves, but are 'probability waves', abstract mathematical quantities which are related to the probabilities of finding the particles in various places and with various properties.

The mathematical 'abstraction', or to say, 'structure' of some truth, whether it be the probability wave as mathematically explained by Born or the four-dimensional plane of existence discovered by the most celebrated scientist Albert Einstein, which cannot be visualised on the physical plane of existence, shows that such scientific truths are the truths of the plane of existence which exists beyond the three dimensionality of the physical existence. In other words, there is the existence of the plane of a higher dimension in the hierarchy of existence which has its own reality, and the realities like probability wave and the four-dimensional plane of existence exist there. The individual mind of a scientist which is free from the gravitational pull of the three-dimensional plane of existence is alone capable of visualising such realities. Such truth reveals that human mind is not permanently imprisoned in the three-dimensionality of the material

existence, revealing simultaneously a deeper truth of the evolution of consciousness to its higher planes. A hierarchy of the planes of consciousness is, therefore, also found to be existing in the universe, the planes to which the consciousness is evolving. Such an evolutionary truth of mental consciousness which reveals the hierarchy of consciousness categorically shows the existence of a higher plane of mental consciousness, the manifestations of which, in the world of Science, are, for the first time, found in the mathematical structures of the probability wave and the four-dimensional plane of existence. Such a mental plane is the aforesaid higher dimension in the hierarchy of existence. Now, there is no room to deny a higher step in the human logic that there exists a plane of transcendent consciousness which is able to arrange itself in the forms of 'electron, atom and the material object'.

Further, on an examination, it is found that such transcendent plane of consciousness, which is not of the three-dimensional nature, is responsible for the human mind to come out evolutionarily of the gravitational pull of matter, the pull which is operative on the three-dimensional plane of existence. The evolutionary release of human mind from the gravitational pull of matter takes place for the reason that evolution begins as a result of the 'unceasing pressure' (Sri Aurobindo, 1990) of the involution 'of the supra-material planes on the material'. It is to be noted here that the involution precedes evolution. It is an inverse phenomenon of evolution as discovered by Sri Aurobindo. The involution is the phenomenon of the consciousness which comes to be electron, etc., on the physical plane of existence after assuming the forms of the aforesaid plane of mental consciousness which is free from the gravitational pull of the three-dimensionality of mind. The aforesaid 'supra-material planes' are in existence as a result of the involutory phenomenon, the discussion of which in detail will be taken up later on in the present paper to reveal the involution-evolution phenomenon as a result of which creation has come into existence. Having studied in the light of Sri Aurobindo's earlier discovery, the plane of mind which is not of the nature of the three-dimensional plane existing in the creation is one of the said supra-material planes in the hierarchy of existence where the realities of the probability wave and Einstein's four-dimensional plane of existence have come into existence as a result of involution. The realities of the supra-material planes are to manifest further on the three-dimensional plane of existence when evolution takes place later on. Here, evolution comes to be seen as the gradual manifestation of the supra-material planes, the truth which transcends the vision of Jean-Baptiste Lamarck and Charles Darwin as found in Sri Aurobindo's vision of evolution. It is due to this fact of the gradual manifestations of the supra-material planes of creation that the universe is expanding.

Further, the conclusive discovery of mass as a condensed form of energy in the famous mathematical

equation: $E=mc^2$ of Einstein in his Special Theory of Relativity which reveals that materiality loses its sovereignty on the higher planes in the hierarchy of existence gives scientific support to the yogic vision of Sri Aurobindo of the evolution as the gradual manifestation of the supra-material planes as well as of *a priori* existence of a transcendent plane of consciousness which assumes the forms of electron, atom, etc., as noted earlier at the outset of the paper. Such transcendent consciousness is at the apex of material existence, and to other supra-material planes also, existing below it, which are free from the three-dimensionality of the plane of Matter in the hierarchy of existence. In a deeper vision, it is found that Einstein's said equation which is also the manifestation of one of the supra-material planes of existence makes these higher truths of the supra-material planes intelligible to the three-dimensional matter-oriented mind of man. In other words, it comes to be the impetus to the evolution of this matter-oriented mind. The origin of such impetus lies in the aforesaid transcendent consciousness which comes to exist in the forms of electron, etc., as a result of involution.

The truth of the transcendent consciousness explains as to why 'electrons move to more favorable energy levels'. On an examination, it is found that electrons move to more favourable energy levels as a result of the command of the consciousness latent in the energy for the evolutionary ascent, the command under which the pressure from the supra-material planes generates for evolution. Such command we go to witness in the vision of the One Divine in the yogic consciousness of the Vedic Rishis which they expressed very poetically, 'Eko-Ham, Bahu-Syam, Praja-Eyam', 'I am One, become Many, yet remain the Same'. It is the Divine Will of the One under which the 'Many' in the form of creation has come into existence, and does not lose Its Sovereign Oneness on its sovereign plane of the One and within the 'Many'. Having seen from the perspective of evolution, the movement of electrons to 'more favourable energy levels' comes to be an ascent to a higher plane of existence where the intensity of the separative principle of existence is diminished, the principle which comes into existence under the Divine Will to be 'Many'. It is due to this diminished state of the separative principle of existence that the electrons get favourable energy levels.

This goes to reveal one more inner truth at the base of DNA which 'defines our genetic code' (122) giving credence to the yogic and spiritual discoveries of rebirth and the existence of the plane of death-birth continuum wherein lie the higher factors working in the formation of man's personality in his rebirth. Sri Aurobindo has found that every rebirth of an individual is a higher step towards the evolution of his consciousness whether he is a man or some other creature. The biological factors lose their sovereign role in developing his physical, vital and mental features. In fact, they lost their sovereignty with the very discovery of mass as a form of energy. And, further, the

Biological Sciences are, now, compelled to rise in their vision of evolution to visualise the truth of involution which precedes evolution as noted earlier. In such rise, not only the involution-evolution phenomenon comes into the vision, but consciousness and its evolution are also found to be at the base of the biological evolution of species, the phenomenon which is the result of the aforesaid Divine Will of which the Vedic Rishis speak. There emerges a new picture in which evolution comes to be the gradual emergence of consciousness. Such gradual emergence we witness on the surface too very clearly when we study and compare the plane of the consciousness of man with the planes of the consciousness of other creatures of the earth. On a further analysis, it is also found that the evolution of consciousness determines the evolution of species. It has been yogically discovered that when evolution of species fails to keep pace with the evolution of consciousness, death of the individual creature occurs, and in the next birth the evolution of species takes place further in accordance with the degree of the evolution of his consciousness which he achieved in his previous birth. Evolved species come to be the pedestal of the higher planes of consciousness. It is to be noted here that death is the death of the species or forms, not of the consciousness therein. Such truth has been very categorically stated in some of the letters on yoga of Sri Aurobindo. It emerges in the formations of electron, photon, etc., also.

PROBABILITY WAVE AND ITS FORMATION

In order to enter into the inner world of the probability wave we have to note first Einstein's discovery that 'particles and waves' were not entirely separate phenomena (Piccioni RL (2010)). On the basis of such a discovery of Einstein, the noted French physicist Louis de Broglie discovers further that particles have wave properties. On the sub-atomic plane of matter, particles are, therefore, discovered to be converting into wave and wave into particle. Since such conversion evades all scientific logic, the other noted scientist Werner Heisenberg working on the Quantum Theory speaks of, what is termed, *Uncertainty Principle* refusing to yield to the demands of the higher scientific logic as placed by Einstein, Eddington and others. Heisenberg asserts that uncertainty exists at the base of the conversion and the reconversion of wave and particle into each other. He says that uncertainty is the fundamental reality existing in the very fabric of the constitution of the material creation. In such assertion he commits blunder since he is applying the three-dimensional scientific laws to ascertain the scientific truth in the phenomenon of the conversion and reconversion of wave which is, admittedly, not a three-dimensional wave. He fails to keep in his mind that it is a unique phenomenon in which a particle which is three-dimensional converts into a wave which is not three-

dimensional. Such phenomenon has never come into the vision of Science. The three-dimensional laws are not applicable here. He is required to search some higher principle. Einstein rejects his assertion of the Uncertainty Principle saying that 'God does not play with dice'. He says that there lies a higher truth beyond such uncertainty. The scientific world, however, rejects his scientific vision. On an analysis, it is found that in such rejection the scientific world contradicts itself as it admits his mathematical discovery which he makes in his *Special Theory of Relativity* that the three-dimensional world is a projection of the four-dimensional world like a shadow which is a two-dimensional projection of a three-dimensional object Smilga V (1970). The three-dimensional plane of existence, too, comes to be a 'shadow' which was earlier pointed out in the realm of Literature by Shakespeare in the Act V of his famous drama *Macbeth* when he called Life to be a 'walking shadow'. Very obviously he is pointing towards something transcendent, of which this 'Life' is a shadow. The same was discovered by the ancient Vedic Rishis, too, in the Rig Veda when they said that the roots of this world lie in the higher world (Sri Aurobindo, 1991). The alleged uncertainty phenomenon at the base of the three-dimensional plane of existence is, then, found to be the *projection* of a higher truth which exists in the four-dimensional world. No scientist prefers to look into the uncertainty phenomenon on the basis of the four-dimensional vision to discover the existence of some higher truth, of which Einstein emphatically speaks. In the discovery of the higher truth as a result of investigation in the perspective of the four-dimensional vision, the uncertainty will no more be uncertainty. The vision of uncertainty crops up since the hidden higher reality on the four-dimensional plane of existence is not visible to Heisenberg and others. The scientific world cannot deny the fact that it is contradicting itself in its rejection of Einstein's vision of some higher truth in view of its discovery of the probability wave also, the wave which demands a transcendent perspective on account of being transcendent to the three-dimensional plane of existence. In his complementarity principle behind the conversion and the reconversion of wave into particle and particle into wave, Niels Bohr, too, fails to rise above where it exits the integral vision of Eddington of 'mind-stuff'. He, too, keeps himself imprisoned in such dualism. One cannot deny the possibility that Einstein, too, has the vision of 'mind-stuff' as a higher truth. It is for the reason that he did not reject the vision of the 'mind-stuff' of Eddington. It is all the more probable in view of the fact that he has a much deeper faith in the existence of God, God the Consciousness. In fact, the mystery of the uncertainty phenomenon comes to its end when Sri Aurobindo says that on the higher evolutionary planes such as Life, etc., plasticity emerges and consequently it comes to be difficult to predict some physical reality which does not obey a rigid law. Plasticity further

increases with the emergence and evolution of Mind. He states in some other letter on yoga:

As Life emerges, a certain plasticity sets in, so that it is difficult to predict anything exactly as one predicts material things that obey a rigid law. The plasticity increases with the growth of Mind (1979:474)

It is due to a very high level of the intensity of plasticity that the phenomenon of uncertainty is visualised on the plane of Matter. It is to be noted here that plasticity does not lead to uncertainty. It requires a subtle vision to know the deeper truth.

The probability wave comes into vision in course of a scientific experiment when a tendency is unmistakably found towards the formation of photon or electron. Such 'tendency' is recognised as the 'probability wave' by Bohr, Kramers and Slater in a paper (Heisenberg, 2000). The probability wave, therefore, is found to be existing as *pre-photon or pre-electron* (Lanza, 2016) state of existence.

A probability wave (which no one can really visualize) can be imagined as a precursor or tendency toward the actual existence of a photon or electron, which never achieves any reality as such entities unless observed.

It is, thus, a *precursor* of the electron or photon, or to say, Matter itself. Probability wave is further found to be congealing 'into actual entities making impacts' in the formation of photon or electron.

Further, very importantly, nay, most importantly, it is simultaneously discovered that the probability wave comes into existence only *after being observed* by the experimenter. It goes to transform the very character of the world of Science, the world which has so far remained arrested in the sovereignty of the materiality of existence. It is crystal clear that it is the consciousness in the mind of the observer within the phenomenon of '*being observed*' which is at the base, working independently and sovereignly at the root of the aforesaid scientific phenomenon of the formation of the probability wave. Consciousness emerges as something sovereign. It is due to this fact that Eddington arrives at the conclusion of 'mind-stuff' at the base of the dualism of wave and particle. Dualism is no more dualism. Wave and photon or electron, now, emerge as the successive stages of the coming of the material creation into existence.

Conclusively speaking, consciousness gives birth to the probability wave which further congeals into photon or electron, the congealment which finally forms the world of atom, and thus, Matter. In other words, electron, proton, atom, nay, Matter finally emerge as the forms of consciousness. Consciousness is, here, discovered to be existing 'transcendent' to the world of physical, or to say, material creation. Consciousness is no more subordinate to Matter. It was earlier viewed as sub-ordinate to Matter in the realm of Science, especially in the Classical Physics and in the evolution of species in the realm of Biological Sciences.

The higher species which the Biological Sciences discover to have come into existence as a result of evolution are, now, the different higher manifestations of consciousness in the material creation as the scientific truth of the formations of the probability wave, the electron, etc., lies in the cells of the creatures, the consciousness which never loses its existence even after the dissolution of the forms. The immortality of consciousness can be witnessed by the world of Science in the very successive formations of the probability wave, electron, etc. The Rishis could discover the truth of rebirth on account of the immortality of consciousness. They also found electron, etc., as the forms of consciousness. One can very well view death as the conversion of particle into wave, and further into consciousness which, again, further comes into material creation with the formation of the probability wave assuming the forms of electron, etc., thus, a new birth or rebirth of the individual, not only of electrons, but also of the cells on the biological plane also. The existence of the plane of death-birth continuum comes here into vision in between the conversion and the reconversion. It goes to affirm further the vision of Sri Aurobindo's yogic discovery that the evolution is the gradual unfoldment of what is already latent in Matter. That which is latent in Matter is Consciousness which causes the biological evolution on the earth. The DNA loses its upper hand in defining the genetic code of man. Consciousness is found to be existing at the base of DNA also.

Such an unmistakable discovery of the sovereignty of consciousness which is purely based on the aforesaid scientific discovery in the realm of Modern Physics gives no room for the rejection of Sri Aurobindo's discovery of consciousness as a fundamental thing in the existence, the consciousness which has arranged itself to come into the forms of electron, atom and, further, Matter as stated at the outset of the paper.

SUPRAMENTAL CONSCIOUSNESS AT THE BASE OF THE PROBABILITY WAVE

Now, we are required to investigate the basic nature of consciousness which exists at the base of Matter. In order to explore the deeper realms of consciousness we have to take notice of Sri Aurobindo's yogic discovery of the transcendent existence of, what he terms, the Supramental Consciousness which he finds to be existing at the base of Matter. Sri Aurobindo who is acclaimed as a yogi of the plane of, to use his own terminology, the Supramental Consciousness on account of its manifestation in his works like *The Life Divine*, the epic *Savitri*, *The Synthesis of Yoga*, *Letters on Yoga*, etc., says while speaking of sound which is essentially found to be a vibration of audible wave in the realm of Physics: Matter is only, in the ancient view, the lowest of the planes of existence. Let us realise then that a vibration of sound on the material plane presupposes a corresponding

vibration on the vital without which it could not have come into play; that again presupposes a corresponding originative vibration on the mental; the mental presupposes a corresponding originative vibration on the supramental at the very root of things (Sri Aurobindo, 1988).

He further points out: But a mental vibration implies thought and perception and a supramental vibration implies a supreme vision and discernment. All vibration of sound on that higher plane is, then, instinct with and expressive of this supreme discernment of a truth in things and is at the same time creative, instinct with a supreme power which casts into forms the truth discerned and eventually, descending from plane to plane, reproduces it in the physical form or object created in Matter by etheric sound.

The aforesaid vision of Sri Aurobindo of the vibration of sound on the plane of Matter as the creation of the 'vibration on the vital' gets a scientific support by Einstein in his Theory of Special Relativity (Stannard R 2008). It gets such support when the latter establishes the scientific truth that mass is the condensed form of energy in his famous mathematical equation: $E=mc^2$, hence Matter a form of Energy, the equation quoted earlier in some other context in the present paper. Such 'vital' is the Energy, which, according to Sri Aurobindo also, creates Matter 'in movement' (Sri Aurobindo, 1990). A hierarchy of existence is, then, found to be existing in which Energy is discovered to be a higher plane of existence than the plane of Matter. Energy, in fact, is transcendent to Matter. Such a scientific truth reveals that the root of mass exists on the plane of Energy. Hence, it affirms the aforesaid vision of Sri Aurobindo that the vibration on this plane of Energy or vital creates the vibration on the plane of Matter, the vibration which is recognised as 'sound'.

Further, in view of the earlier stated discovery of the formation of the probability wave, the wave which is a precursor of the electron or photon, sound as a vibration of audible wave of the plane of Matter comes to be something more than a thing of materiality. Since the formation of the probability wave takes place as a result of the *observation* of the experimenter, the observation which is a function of mind itself, sound further comes to be a thing of mental consciousness. In other words, it is, now, essentially 'mental vibration'. The very concept of 'sound' emerges 'evolved' in the realm of Physics consequently, and is no more limited to the physically audible vibration. Conclusively speaking, sound is a vibration of mind. Or, sound on the plane of Matter can be defined as the 'result' or the 'manifestation' of the mental vibration.

Now, in the hierarchy of existence, we discover the plane of mind to be existing above that of Energy or Vital. Thus, the very vision of Sri Aurobindo that the vibration on the plane of 'vital' or energy is the creation of the

mental vibration gets scientific support once again. As noted earlier, Eddington, too, finds mind at the base of material creation. In such hierarchy of existence there is no opportunity at all for the denial of the further higher existence of the plane of supramental consciousnesses, the vibration which Sri Aurobindo finds at the base of the vibration on the plane of Matter as said earlier.

Sri Aurobindo makes a scientific explanation of his aforesaid vision of the Supramental at the apex:

We speak of the evolution of Life in Matter, the evolution of Mind in Matter; but evolution is a word which merely states the phenomenon without explaining it. For there seems to be no reason why Life should evolve out of material elements or Mind out of living form, unless we accept the Vedantic solution that Life is already involved in Matter and Mind in Life because in essence Matter is a form of veiled Life, Life a form of veiled Consciousness. And then there seems to be little objection to a farther step in the series and admission that mental consciousness may itself be only a form and a veil of higher states which are beyond Mind.

Showing the involved state of Life, Mind and its higher planes in Matter, he speaks of a phenomenon which takes place prior to the beginning of the phenomenon of evolution. He terms it 'involution'. He says:

Evolution is an inverse action of the involution: what is an ultimate and last derivation in the involution is the first to appear in the evolution; what was original and primal in the involution is in evolution the last and supreme emergence.

Thus, we witness the existence of the planes of Matter, Life and Mind as ascending planes of existence in the evolutionary phenomenon. It is obvious further that the Supramental is at the root of the Matter since it is higher than and transcendent to the planes of Mind, Life and Matter. Therefore, the consciousness which is found to be existing at the base of the probability wave is the Supramental Consciousness. It is all the more clear when we go to note further the difference between the mental consciousness and the supramental consciousness.

SUPRAMENTAL CONSCIOUSNESS AND MENTAL CONSCIOUSNESS

Now, we are required to notice the difference between the mental consciousness and the supramental consciousness which Sri Aurobindo has discovered in his yogic state of consciousness. Such difference reveals the transcendent existence of the supramental consciousness in the hierarchy of consciousness. He finds the supramental consciousness to be an integral consciousness, the consciousness of the One. The mental he finds to be the divided consciousness, the

consciousness of the Many, or to say, the divisive principle of Consciousness. Mental consciousness is the consciousness of the finite on account of being the divisive principle of Consciousness. It comes to be 'Many' as a result of the Divine Will of the One, of which, as noted earlier, the Vedic Rishis speak. Its origin lies in the supramental consciousness since the supramental, as stated earlier, is the integral consciousness. It is for this reason that the knowledge we acquire as a result of the growth of our mental consciousness can be viewed as a movement from the plane of Ignorance towards that of Knowledge which is the transcendent plane of the integral consciousness. He says:

Mental nature and mental thought are based on a consciousness of the finite; supramental nature is in its very nature a consciousness and power of the Infinite. Supramental nature sees everything from the standpoint of oneness and regards all things, even the greatest multiplicity and diversity, even what are to the mind the strongest contradictions, in the light of that oneness; its will, ideas, feelings, and sense are made of the stuff of oneness, its actions proceed upon that basis. Mental nature, on the contrary, thinks, sees, wills, feels, senses with division as a starting-point and has only a constructed understanding of unity; even when it experiences oneness, it has to act from the oneness on a basis of limitation and difference. But the supramental, the divine life is a life of essential, spontaneous and inherent unity.

He further says:

...the mind acts by intellectual rule or device or by reasoned choice of will or by mental impulse or in obedience to life-impulse; but supramental nature does not act by mental idea or rule or in subjection to any inferior impulse: each of its step is dictated by an innate spiritual vision, a comprehensive and exact penetration into the truth of all and the truth of each thing; it acts always according to inherent reality, not by the mental idea, not according to an imposed law of conduct or a constructive thought or perceptive contrivance. Its movement is calm, self-possessed, spontaneous, plastic; it arises naturally and inevitably out of a harmonic identity of the truth which is felt in the very substance of the conscious being, a spiritual substance which is universal and therefore intimately one with all that is included in its cognition of existence.

It is relevant to point out here that it is under the 'intellectual rule' or 'by reasoned choice', as noted earlier, that in course of the scientific discovery of the formation of the probability wave the experimenter sometimes shifts his consciousness alternatively to the pole of particle and sometimes to the pole of wave causing the conversion and the reconversion of wave and particle into each other. Further, in such shifting of consciousness there

exists, very subtly, an element of forgetfulness, of which Sri Aurobindo speaks in the letter quoted at the very outset of the paper. Such forgetfulness or the shifting of the consciousness from one pole of particle to the other pole of wave is the result of the subjection of the intellectual mind to the separativity of consciousness or of the 'division' (965) in the mind.

Therefore, at the first stage we discover the separative consciousness which we cognise as 'mind' at the base of the formation of the probability wave when the experimenter observes. One may view it 'mind-stuff' also as Eddington does.

It is, in fact, the division in mind, of which Sri Aurobindo speaks, prevents Heisenberg and others from realising Einstein's vision of a higher reality existing beyond the uncertainty, the reality which is destined to be discovered in the light of the four-dimensional plane of existence, of which, as stated earlier the three-dimensional plane is admittedly a projection.

Since the supramental consciousness is the integral consciousness, the consciousness of the One, it is the Truth-Consciousness, the Divine Consciousness having its own sovereign plane of existence. It sustains and nourishes the Creation within which exist the planes of Mind, Life and Matter. The creation, which is the result of the separative principle of consciousness and remains under its rule on the present stage of evolution, has to evolve to the supramental plane for its consequent supramental transformation. In such consequent transformation, the creation comes under the rule of the supramental consciousness, the Consciousness of the One. Nay, the new transformed creation comes to be the manifestation of the supramental consciousness. In his aforesaid letter on yoga mentioned at the very outset of the paper, Sri Aurobindo (2012) says further while pointing out the truth of electron etc. as a form of consciousness:

In reality it is still consciousness that works in the energy and determines the form and the evolution of form. When it wants to liberate itself, slowly, evolutionarily, out of Matter, but still in the form, it emerges as life, as animal, as man and it can go on evolving itself farther out of its involution and become something more than mere man. If you can grasp that, then it ought not to be difficult to see further that it can subjectively formulate itself as a physical, a vital, a mental, a psychic consciousness—all these are present in man, but as they are all mixed up together in the external consciousness with their real status behind in the inner being, one can only become fully aware of them by releasing the original limiting stress of the consciousness which makes us live in our external being and become awake and centred within in the inner being. As the consciousness in us, by its external concentration or stress, has to put all these things behind—behind a wall or veil, it has to break down the wall or veil and get back in we call living within; then our external being seems to us something small and

superficial, we are or can become aware of the large and rich and inexhaustible kingdom within. So also consciousness in us has drawn a lid or covering or whatever one likes to call it between the lower planes of mind, life, body supported by the psychic and the higher planes which contain the spiritual kingdoms where the self is always free and limitless, and it can break or open the lid or covering and ascend there and become the Self free and wide and luminous or else bring down the influence, reflection, finally even the presence and power of the higher consciousness into the lower nature.

On such a higher plane where the Self is 'free and wide and luminous' as pointed out earlier, one is able to visualise the plane of death-birth continuum once again, the plane which was initially discussed earlier while speaking of truth of rebirth and also in the present paper in which the formation of the probability wave has been discussed.

Sri Aurobindo makes a beautiful poetic expression of electron:

“The electron on which forms and worlds are built,
Leaped into being, a particle of God.
A spark from the eternal Energy
spilt, It is the Infinite's blind minute
abode.
In that small flaming chariot Shiva
rides. The One devised innumerable
to be; His oneness in invisible forms he
hides, Time's tiny temples to
eternity.
Atom and molecule in their unseen
plan Buttress an edifice of strange
oneness,
Crystal and plant, insect and beast and man,—
Man on whom the World-Unity shall seize,
Widening his soul-spark to an
epiphany Of the timeless vastness of
Infinity.”

Thus, it is, finally supramental consciousness which is at the base of the probability wave. It is fundamental in existence as discovered earlier by Sri Aurobindo. It makes Matter destined to undergo supramental transformation to have Divine Life, the Supramental Life and, for that reason, earth too, as discovered by him. The earth comes first to have the Divine, the Supramental Life in the Creation in course of evolution as visualised by the ancient Rishis.

FORGETFULNESS OF CONSCIOUSNESS AND FORMATION OF 'ENERGY' AND 'ELECTRON'

In view of Sri Aurobindo (1979)'s discovery of involution which precedes evolution, as discussed earlier, the creation comes to be the result of the involution-evolution

phenomenon. Since we have found that the mental consciousness which is the separative principle of consciousness has its origin in the Supramental Consciousness, the consciousness of the One, or what the Rig Veda says 'Eko-Ham' of its poetic expression of the truth of the creation, 'Eko-Ham Bahu-Syam, Praja-Eyam', 'I am One, become Many, yet remain the Same', as noted earlier, it is further found that the supramental is in involution bringing its separative principle into operation in the involution. In other words, involution is the operation of the separative principle of the Supramental Consciousness. In course of its involution, the planes of mind, life and finally of matter are created. In their creation, separativity of the consciousness increases in them according to their places in the hierarchy of creation. Consequent upon such increase, forgetfulness crops up, and it forgets itself in action and becomes 'an apparently' "unconscious" energy' as Sri Aurobindo states earlier at the outset of the paper, and further 'electron' when it forgets itself in form on the lowest plane of involution with the increasing intensity of its separativity. In other words, the 'original limiting stress of consciousness' makes it forgetful in its 'movement' and resultantly 'unconscious energy'. Such stress makes it forget all the more in the form to become 'the electron, the atom', etc. In fact, forgetfulness is the loss of memory, or to say, of the awareness of some truth which occurs as a result of the increasing intensity of the separativity of consciousness. Matter, life and the lower planes of Mind existing below the plane of the spiritual mind-consciousness are separative in their consciousnesses. Hence, they are not aware of their oneness in their One Divine Origin on the plane of the Supramental Consciousness.

In fact, forgetfulness of consciousness begins to crop up at the very moment when consciousness comes into involution in which its separative principle begins to come into operation as a result of which creation comes into existence. Creation comes into existence, first, with the formation of Mind, the mind which is essentially spiritual in nature as it has the knowledge and realisation of the One Divine, the Supramental on its sovereign plane of existence. Sri Aurobindo calls such spiritual mind 'Overmind Consciousness'. But, owing to be the manifestation of the separative principle of consciousness, he further discovers, it loses, resultantly, the very consciousness of the Supramental, and forgets the truth that there exist the higher planes in the world of the transcendent supramental order of existence, at the apex of which is the Supreme Divine, and forgets the truth that for the attainment and realisation of the Supreme Divine it has to continue its higher ascents in the realm of the Supramental. He says that we move from Knowledge to higher Knowledge in such ascents in the world of the Supramental. The highest plane of the spiritual consciousness on the plane of Mind, the 'Overmind Consciousness', as noted earlier, has, in fact, only a glimpse of the Supramental as a result of the

operation of the separativity of consciousness. Hence, it has no knowledge of the existence of the said higher planes of the Supramental. Such absence of knowledge is, in fact, the forgetfulness, and, consequently, it has only a glimpse of the Supramental. On this very pattern, owing to the increase of the intensity of its separative principle as a result of the phenomenon of involution, consciousness continues to forget itself gradually on its lower planes, -the planes of Mind, and further on the planes and different forms of Life and Matter.

NATURE OF THE PROBABILITY WAVE

The probability wave is obviously a thing of the plane of existence which exists beyond the plane of Matter since it has been found to be a creation of mental consciousness in the aforesaid scientific experiments, -the mental consciousness, the root of which lies beyond it in the Supramental Consciousness. It is no more found to be a creation of Matter in these scientific experiments as discussed earlier. It is transcendent to Matter and exists *a priori*. Such scientific truth, it is reiterated, comes into the vision of the yogic consciousness of man in as much as we see in Sri Aurobindo and the ancient Vedic Rishis also. Since the probability wave has been found by the scientists to be the precursor of the electron, it comes to be the plane of existence which exists in between the supraphysical and the physical, and works as the bridge between the two. It can be viewed as a transition phase in the manifestation of the supraphysical or in the evolution of the physical into the supraphysical. In fact, it comes to be a force of consciousness through which consciousness becomes a thing of Matter, that is, electron, etc. It is now a phenomenon of the supraphysical coming to be the physical. It reminds us of the earlier mentioned Vedic Primordial Resolve, *Eko-Ham Bahu-Syam, Praja-Eyam*, 'I am One, become Many, yet remain the Same'. As stated earlier, the said Vedic Mantra speaks of the One Divine, and His Will as a result of which the Creation, the Many has come into existence. On a deeper analysis, the creation comes to be the manifestation of the One Divine. Therefore, the probability wave comes to be found to be existing within the Will of the Divine. It is under the Divine Will that supraphysical comes to be physical.

In view of the aforementioned, its nature is both physical and supraphysical. Nay, it is essentially supraphysical in nature giving birth to the physical. It is having the nature of a teacher who reveals the higher truth to the evolving mind of a student. That is why, light is found to be the streams of particles and wave both.

ROLE OF PROBABILITY WAVE IN POETRY

In view of the existence of such nature of the probability wave in Matter, 'word' which is a form of sound, 'a particular application of the principle of sound' (Sri

Aurobindo, 1986), undergoes a sea-change. In its deeper recesses, it is scientifically found to be under supramental vibration. To be more precise, the phoneme, the unit of linguistic sound, is supramentally vibrant as a result of which it is receptive to the poetry which is written from the higher planes of spiritual consciousness. It is receptive to the planes of consciousness wherefrom, what Sri Aurobindo calls, 'Mantra', is written. The Vedic Rishis have earlier found the Mantra, in their yogic consciousness, to be the revealed poetry. The planes of Mantra are highly vibrant with the Divine Consciousness as they are the two uppermost planes of spiritual consciousness, 'Intuitive Mind Consciousness' and 'Overmind Consciousness, as Sri Aurobindo terms them, on the plane of Mind beyond which the supramental plane of Consciousness exists. Consequent upon the divine vibration on these planes, Mantra comes to be the revelatory poetry. The Vedas, the Upanishads and the Gita are the Overmind poetry as Sri Aurobindo discovers. The linguistic sign now comes to be evolved to be revelatory and creative on these two spiritual planes of consciousness. It is no more arbitrary. It is to be noted here that since the linguistic world of the modern day is yet to realise and recognise the existence of Mantra, the linguistic sign is presently considered to be essentially arbitrary in nature. Since it is basically not arbitrary in view of *a priori* existence of the supra-material planes of existence, it could be possible for the 'word' to be revelatory of the spiritual truth. Poetry is, now, revelatory of the Divine Truth existing on the transcendent plane of the Divine Supramental Consciousness in these ancient poetic works. It comes to be creative on account of the divine vibration in it. And, further, poetry is now seen to be written from the plane of the supramental consciousness as we see in the case of his epic *Savitri* and his other poetic works. The probability wave, existing within the linguistic sound, comes to be the pedestal which alone receives the Mantric poetry coming down from the higher planes of the Intuitive Mind Consciousness and the plane of the Overmind Consciousness, and finally of the Supramental Consciousness and lets it go down to the plane of Matter facilitating the arrangement of the metrical system in the poetic speech accordingly. In other words, the supramental vibration percolates through the probability wave in the composition of the supramental poetry and music arises therein consequently. Music is obviously of the transcendent nature in the supramental poetry. It plays a decisive role in the supramental transformation of the earth in particular and Matter in general.

THE SUMMIT VIEW

In view of the aforementioned scientific truths, the realm of Physics is destined to evolve to the planes of the spiritual consciousness and, finally, to the supramental consciousness. In such destiny physicists have to be the men of spiritual consciousness, and Physics has to be a spiritual poetry for expressing higher truths on the plane of material existence. A beauty, for which they have been craving, since long, in their discoveries, will emerge in the world of Physics. The spiritual realisation is evident in the world of Physics when Eddington finds a spiritual phenomenon at the base of the material creation. He says that the 'main significances of our environment are of a more spiritual character' (Eddington, 1929). Such realisation will continue to take place eventually in other scientists too who are working on the Quantum Theory, and subsequently and eventually in the mind of the common man also. It will lead to the establishment of the reign of the Divine Consciousness in the terrestrial existence as yogically discovered and stated by Sri Aurobindo in his monumental works like *The Life Divine*, *Savitri*, etc.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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