Review

Culmination of the Quantum theory in Sri Aurobindo's poetic consciousness

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The Quantum theory visualizes that uncertainty is the ultimate truth behind the dualism of wave and particle at the sub-atomic plane of Matter. It does not find any physical law capable of explaining the physical state in which the conversion of wave into particle and vice-versa takes place at the sub-atomic plane of Matter. In fact, the conversion evades all the physical laws on account of which Werner Heisenberg propounds his 'Uncertainty Principle'. Though, the scientific world rejects Albert Einstein's scientific solution in which he seeks to establish that uncertainty is not the truth, Sri Aurobindo's vision of wave and particle as the forms of the 'electric Energy' in his epic poem '*Savitri*', and "*The Life Divine*" proves Heisenberg's vision of uncertainty to be untrue. The present paper seeks to establish the aforesaid vision of Sri Aurobindo in a scientific and logical manner. It goes on to further explain his higher vision that consciousness becomes 'the electron, the atom and the material object', the vision which comes into his being on a very high plane of yogic consciousness.

Key words: Quantum theory, theory of relativity, spiritual consciousness, supramental consciousness.

INTRODUCTION

"The frank realisation that physical science is concerned with a world of shadows is one of the most significant of recent advances". This is what Eddington, one of the most eminent scientists of the twentieth century, admits. Such a realisation dawns upon the mind of Physics while penetrating into the deeper depths of Matter to solve the mystery of wave-particle duality with which the Quantum Theory is occupied. Physics which is at the root of all the branches of Science is passing through the phase of transition. It is on the verge of transformation. The supraphysical reality starts coming into the tangible experience of the scientific mind when it enters into the sub-atomic plane of Matter to solve the mystery of the dualism of wave and particle existing therein. The wave which is found therein is not a three-dimensional one. It is

discovered to be obeying the dictates of the human mind which is beyond the physicality of the three-dimensional plane of existence. In such an obedience it transcends the three-dimensional physical plane. At the command of the human mind it comes to be particle and further changes the state to be wave. In order to discover the ultimate truth behind the mystery of the duality of wave and particle, Physics has to welcome the vision of the consciousness which exists beyond the plane of the intellectual mind-consciousness. If it refuses to hear what the consciousness, which we find to be 'spiritual', existing beyond the plane of the intellectual mind-consciousness, says, it will bring itself down to the fanaticism of the fundamentalists of the religions of the world, and will continue to remain trapped in the dualism of wave and

particle. In all wisdom Science has to accept the soul-vision of Shakespeare¹, the vision in which life comes to be a 'shadow' (Shakespeare: Macbeth, Act V, Scene V). Man will certainly go into depression and commit suicide when he stretches his hands to 'grasp the shadow' (Eddington, 1929: XV), taking it to be the real substance and ultimately fails in his mission. He must transcend his intellectual mind-consciousness to arrive at the transcendent of which life is a 'shadow'. Else, life will continue to be 'a tale/Told by an idiot, full of sound and fury/Signifying nothing' (Shakespeare: Macbeth, Act V, Scene V, 25-27).

DUALISM OF WAVE AND PARTICLE AND APPEARANCE OF ENERGY FROM 'NOTHING'

The story of the realisation of the world as 'shadow' in the scientific world begins in Einstein's vision of the wave-particle duality. The vision of the wave-particle duality comes into his being in course of discovering the nature of light. He discovers such a duality when he finds particles having the properties of wave. On account of such a scientific discovery he further finds that 'particles and waves were not entirely separate phenomena' (Robert, 2010:111). The French physicist Louis de Broglie, one of the contributors to the Quantum Theory adds that if 'particles' are having the properties of 'waves', waves, too, likewise are having the properties of particles. The scientists working on the Quantum Theory find such a dualism of wave and particle at the sub-atomic level of matter. They find a strange behaviour of wave and particle at this sub-atomic level of Matter. It is incredible to their eyes when they find in the sub-atomic world that wave comes to be particle, particle wave, wave and particle which are incompatible to each other. They attribute the reason of such a strange behaviour to the newly discovered scientific fact that both are having the properties of each other. This strange behaviour leads Werner Heisenberg, whose finding is accepted by the majority of scientists in spite of Niels Bohr's finding of the principle of complementarity in this dualism, to conclude that there is uncertainty at the base of wave-particle duality. It is the uncertainty about the physical principle or condition for the conversion of wave into particle and vice-versa. Under the grip of such an uncertainty one fails to discover the ultimate existence behind the wave-particle duality. Heisenberg comes to the conclusion of the uncertainty at the base of Matter for the reason that the very conversion evades all physical laws. In other words, no physical law is capable of explaining the physical state in which the conversion of wave into particle and vice-versa takes place, resulting in the emergence of the 'Uncertainty Principle' of Heisenberg.

This uncertainty which he discovers is not on account of the inadequacy of the scientific instruments which were used to solve the mystery of the dualism, but it is uncertainty itself which is, there as something absolute.

"Werner Heisenberg was certain about this uncertainty and made it a principle (guess what it's called). He said there are inherent uncertainties in the properties of particles in the micro-world, not because our instruments are inadequate, but because the uncertainties are fundamental to the wave nature of particles" (Robert, 2010:114-115).

Heisenberg formulates his 'Uncertainty Principle' thus:

$$\Delta t \times \Delta E > h/2\pi$$

In such a mathematical formulation ' Δt ' stands for 'the measurement time' whereas ' ΔE ' for the energy uncertainty, and ' h ' for Planck's constant, being 'the illustrious logo of the microscopic realm of material reality' (Deshpande, 2006:112). Further, it is also viewed by the scientific world that a small amount of energy ΔE appears spontaneously from 'nothing' (Robert, 2010:129) if it disappears within a time Δt , 'provided that $\Delta t \times \Delta E < h/2\pi$ ' (Robert, 2010:129). The 'nothing' or 'absolutely nothing' is found to be uncertain by the scientific mind. The 'nothing' is truly nothing on account of being uncertain.

Heisenberg finds the uncertainty as the absolute truth in the same manner in which Lord Buddha in his spiritual consciousness finds the 'Shunya' or 'Nirvana' or 'Negation' as the absolute spiritual truth, Lord Buddha who in scaling the eternal heights of the existence trails behind the Vedic Rishis, and Sri Aurobindo, a yogi of India who comes to us from the unknown eternal heights in an era of 1872-1950. Such an 'Uncertainty Principle' Einstein vigorously rejects, and asserts that the Quantum Theory is a path to a higher theory. In fact, on a closer examination he is found to have an intuitive vision of a greater harmony in this existence in his assertion that the Quantum Theory is a path to a higher theory. Such an intuitive vision is found to be all the more visible in his unparalleled scientific mind in which he discovered the four-dimensional plane of existence of which the three-dimensional world is a projection. It is the truth which he establishes in his Theory of Special Relativity. The Vedic Rishis and Sri Aurobindo, too, have the vision of the planes of the existence higher than the plane of the 'Shunya' or 'Nirvana'. The Vedic Rishis have the vision of the One Transcendent. It is transcendent to the dimensionality of all the physical and the supraphysical planes of the universe. Going ahead of the Vedic Rishis Sri Aurobindo visualises not only the One Divine Transcendent, but also the descent of the One Transcendent Divine Consciousness into the terrestrial existence. The consequent divine transformation of the earthly existence, too, comes into the vision of his yogic

¹The soul-consciousness in Shakespeare makes him a Seer of Life as Sri Aurobindo says in *The Future Poetry*. Such a soul-consciousness makes him transcend the plane of intellectual mind-consciousness.

Figure 1. Quantum mechanics and its uncertainty.

consciousness.

"Einstein believed nature knew what would happen, even if, quantum mechanics did not. He believed, therefore, that Quantum Mechanics was only an interim step on the path to a better theory, one without uncertainty" (Robert, 2010: 116).

Such a belief of Einstein unmistakably shows that he was inwardly aware of the existence of 'something' behind the duality of wave and particle which eludes all physical laws. He gives a scientific expression to it.

"Einstein conceived many thought experiments challenging Quantum Mechanics and its uncertainty; one is shown in Figure 1*. Here a clock mechanism opens a shutter S for a brief instant dt . The box contains a photon bouncing between mirrors, and during dt the photon exits the box through the open shutter. The photon's energy E is determined by the decrease in the clock box's mass, as measured on the scale W - its departure reduces the box's mass by E/c^2 . Einstein said the box could be weighed very accurately, after the photon escaped, allowing the

uncertainty in its energy dE to be extremely small. He said dt could also be extremely small. In fact, he said, there was no limit to how small either could be. Therefore $dt \times dE$ could be less than Heisenberg allowed. This, Einstein claimed, proved that Quantum Mechanics was wrong!" (Robert, 2010: 116).

However, such a solution put forward by Einstein could not be accepted by the scientific community as it is alleged to have violated his own theory of general Relativity. His very refusal of the vision of 'uncertainty' in spite of the rejection of his solution by the scientists speaks emphatically of the truth that he had an unshaken vision of the higher truth which the Quantum Theory fails to visualise. Such a higher truth is the truth of the plane of supraphysical existence. As he has discovered the truth of the four-dimensional plane of existence which is transcendent to the three-dimensional plane of existence and is yet to be visualised physically one cannot deny that Einstein had the vision of the supraphysical truth behind the wave-particle duality, and tried to express and establish it scientifically on the physical plane in his solution. It matters little whether the scientific community agreed with his scientific solution or not. For, as Sri Aurobindo says:

"It is true that the glimpse of supraphysical realities acquired by methodical research has been imperfect and is yet ill-affirmed; for the methods used are still crude and defective" (Sri Aurobindo, 1990: 18).

Einstein's supraphysical consciousness at the base of his scientific mind manifests when he categorically says:

"When I read the Bhagvad-Gita and reflect about how God created this universe everything else seems so superfluous" (Ajoy, 2011:50).

In fact the physical parameters owing to their three-dimensionality are not able to discern the 'something' of which he had an intuitive vision, the intuition which essentially guides the scientific mind of the world at every step in its scientific investigations to evolve to the higher planes since time immemorial. Conclusively, this 'something', now, transcends the physicality in human vision. In other words, human mind has to recognise the 'something' as transcendent to the three-dimensionality. The scientific vision that the wave in the sub-atomic world of Matter is not three-dimensional takes us all the more logically to the transcendent plane of existence. Such a transcendent is, what we have earlier called, supraphysical. The wave has, therefore, to be viewed as transcendent wave which reveals the intention or will of the supraphysical to manifest itself on the physical plane when the wave comes to be particle. The wave can also be viewed as giving birth to particle when we view its conversion into particle. The ultimate destiny of the

* In this paper it is figure x

particle lies in its merging into its originator, the transcendent wave when we view it going back into the transcendent wave again. In view of this one cannot dismiss the validity of Einstein's vision of a higher theory, a higher truth, 'one without uncertainty'. Because he saw a higher truth he said that "God does not play with dice" (Robert, 2010: 117) In fact, Niels Bohr was ridiculous in his reply to Einstein when he commanded the latter not to command God 'what to do with His dice' (Robert, 2010:118). "Do not tell God what to do with His dice" (Robert, 2010:118). The scientific mind which is under the gravitational pull of Matter, or to say, of the three-dimensional world cannot visualise what is transcendent to it. It is to be noted that since energy is found by the Quantum Mechanics to be coming out of the 'absolutely nothing', this 'absolutely nothing' has to be recognised as something transcendent. It was not to be dismissed as something non-existent. Such a scientific mind is required to experience this transcendent. In other words, the three-dimensional scientific mind is in need to evolve to the higher planes of consciousness. It has to evolve to the plane of supraphysical to view the plane of 'absolutely nothing'. In ancient times such an 'absolutely nothing' came into the vision of the Rishis who were the Seers of the Truth. The Upanishad, the ancient Scripture of India says that out of Non-Being Being appears. Taittiriya Upanishad says that "In the beginning all this was the Non-Being. It was thence that Being was born." II.7. (Translation by Sri, 1990:27) Drawing our attention to it, Sri Aurobindo says that in view of this truth, "into the Non-Being it must surely sink again" (Sri Aurobindo, 1990: 27) Such a phenomenon of creation out of Non-Being and of sinking back into the Non-Being the Quantum Theory visualises and formulates mathematically, as noted earlier, saying 'the energy which appears from 'nothing' disappears into it 'within a time dt provided $dt \times dE < h/2\pi$ '. Sri Aurobindo finds the Non-Being as the 'primal state and sole constant reality' (Robert, 1990:27). He says:

"We really mean by this 'Nothing' something beyond the last term to which we can reduce our purest conception and our most abstract or subtle experience of actual being as we know or conceive it while in this universe. This Nothing then is merely a something beyond positive conception" (Sri Aurobindo, 1990:28).

He further says:

"We give the name of Non-Being to a contrary affirmation of its freedom from all cosmic existence, freedom, that is to say, from all positive terms of actual existence which consciousness in the universe can formulate to itself, even from the most abstract, even from the most transcendent. It does not deny them as a real expression of Itself, but it denies its limitation by all expression or any expression whatsoever. The Non-Being permits the

'Being', even as the Silence permits the Activity. By this simultaneous negation and affirmation, not mutually destructive, but complementary to each other like all contraries, the simultaneous awareness of conscious Self-being as a reality and the Unknowable beyond as the same Reality becomes realisable to the awakened human soul. Thus was it possible for the Buddha to attain the state of Nirvana and yet act puissantly in the world, impersonal in his inner consciousness, in his action the most powerful personality that we know of as having lived and produced results upon earth" (Sri Aurobindo, 1990:28-29).

When we integrate both the Quantum Theory and the Theory of Relativity, we have a higher vision of the plane of 'absolutely nothing', and find validity in the vision of the ancient Rishis and Sri Aurobindo of India of the Non-Being.

"Absolutely nothing" is found by the Quantum Theory to be a plane of existence wherefrom energy comes out. Such energy, according to the Theory of Special Relativity, creates Matter in which there is gravity. It follows that energy contains gravity. Since gravity, according to the Theory of General Relativity, is the result of the curvature of the four-dimensional plane of existence, *spacetime* as it is called, one can be free from the gravity if one rises to the plane of four-dimensional existence, or transcends the four-dimensional plane. It follows that the four-dimensional plane exists beyond energy, energy which contains gravity. Further, since energy comes out of the plane of the 'absolutely nothing', the plane of the 'absolutely nothing' is found to be the plane of the four-dimensional existence. Since the four-dimensional plane of existence is mathematically established, Science can no more afford to dismiss the plane of 'absolutely nothing' as non-existent. It leads us to Sri Aurobindo's vision of the Non-Being as the 'primal state and sole constant reality' as stated earlier. It goes to confirm once again the validity of Einstein's vision of a higher theory, 'one without uncertainty'. And such a higher theory, thus, comes to be his own discovery of the four-dimensional plane of existence. Here, we rise from the relative existence, of which the Quantum Theory speaks, to something absolute or transcendent, of which Sri Aurobindo further says:

"We recognise, then, that it is possible for the consciousness in the individual to enter into a state in which relative existence appears to be dissolved and even Self seems to be an inadequate conception. It is possible to pass into a "Silence beyond the Silence". But this is not the whole of our ultimate experience, nor the single and all-excluding truth. For we find that this Nirvana, this self-extinction, while it gives an absolute peace and freedom to the soul within is yet consistent in practice with a desire-less but effective action

without. This possibility of an entire motionless impersonality and void Calm within doing outwardly the works of the eternal verities, Love, Truth and Righteousness, was perhaps the real gist of the Buddha's teaching, this superiority to ego and to the chain of personal workings and to the identification with mutable form and idea, not the petty ideal of an escape from the trouble and suffering of the physical birth. In any case, as the perfect man would combine in himself the silence and the activity, so also would the completely conscious soul reach back to the absolute freedom of the Non-Being without therefore losing its hold on Existence and the universe. It would thus reproduce in itself perpetually the eternal miracle of the divine Existence, in the universe, yet always beyond it and even, as it were, beyond itself. The opposite experience could only be a concentration of mentality in the individual upon Non-existence with the result of an oblivion and personal withdrawal from a cosmic activity still and always proceeding in the consciousness of the Eternal Being" (Sri, 1990:29-30).

INTEGRATION OF THE QUANTUM THEORY AND THE SPECIAL THEORY OF RELATIVITY

On the logical plane of the present day human mind, it is found that the uncertainty cannot be the fundamental system or law by which the universe, manifesting the picture of 'certainty', or to say, 'coherence' through the finite physical laws exists. If we accept the uncertainty principle, it would give birth to a contradiction, or dualism since one will get a picture in which the 'certain', or to say, the 'coherent' principle manifested in the universe is governed by an 'uncertain', or to say, 'incoherent' principle. To view the uncertainty as something fundamental or absolute truth, refusing to visualise what exists on the higher planes of existence as discussed above, would be an act of arrogance on the part of the intellectual mind consciousness. But very unfortunately the scientific mind does refuse to take note of these higher planes of existence, and further, to rise to the higher heights, and keeps on insisting on the 'uncertainty' with a clear wish or intent not to get release from the prison of the three-dimensional material world, the prison of ignorance. It must take note of its own vision of the transcendent wave at the sub-atomic plane. If someone does not accept the wave to be transcendent asserting it to be three-dimensional, The Theory of Special Relativity comes to tell us that such a three-dimensional wave is a projection of the four-dimensional plane of existence. In either case the scientific mind is left with no option than to accept the existence of the transcendent. If the scientific mind takes note of Einstein's discovery in the 'Theory of Special Relativity' that the three-dimensional plane of existence is a projection of the four-dimensional plane of

existence in the same manner in which shadow is a two-dimensional projection of a three-dimensional object, it will certainly rise from the plane of uncertainty, and some higher truth will certainly come into its vision.

The four-dimensional plane of existence, the projection of which is the three-dimensional plane of existence, as we have earlier noted, tells us that the vision of the uncertainty dwelling on the three-dimensional plane is an eclipsed one. We must not forget that the vision of the four-dimensional plane of existence in the being of Einstein is mathematically established. In the assertion of the uncertainty we, in fact, assert that the three-dimensional plane of existence is the summit of existence. It is for the reason that while asserting the Uncertainty Principle the three-dimensional scientific laws alone are taken into consideration. Hence, in the assertion of the uncertainty one comes to negate the higher existence of the four-dimensional plane. But such a negation is scientifically untenable. Einstein's discovery of the four-dimensional plane of existence continues to be the highest discovery so far in the realm of Science in spite of the latest discovery of what is commonly called 'God particle', or as Physics terms 'Higgs-boson'. The 'Higgs-boson' continues to be the projection of the four-dimensional plane of existence according to his Theory of special relativity. His 'four-dimensional plane of existence' remains undisturbed even by the debate on the higher velocity of neutrino at the sub-atomic plane of Matter than the velocity of light. However, the higher velocity of neutrino than the velocity of light has been seriously questioned for certain irrefutable scientific reasons. We are therefore, required to evaluate the phenomena of the three-dimensional plane in the perspective of the truth of the four-dimensional plane of existence.

HEISENBERG'S 'UNCERTAINTY PRINCIPLE' AND THE SUPRAPHYSICAL PLANE OF EXISTENCE

Since imperfection in the instruments has not been found by the scientific mind while coming to the conclusion of the 'Uncertainty Principle', this 'nothing' or what is called 'absolutely nothing' in the scientific world unmistakably takes us into the realm of the supraphysical. It is to be noted that nothing material, or to say, physical is found here in the 'nothing' by the scientific world. On an in-depth examination of the phenomenon which Heisenberg visualises we can very well say that the very uncertainty itself to be the 'fundamental to the wave nature of particles' reveals the truth of supraphysicality which cannot be visualised or sensed or brought into the tangible experience of Science with the aid of its existing physical laws and instruments. We are required to have senses which are supraphysical to visualise the supraphysical truth. In fact, the supraphysical senses are latent in us, and it is the need of the hour to evolve them. Of such a supraphysical truth and senses Sri Aurobindo

whom we have noted as the Soul, descended from the unknown eternal heights, says:

"Not only are there physical realities which are suprasensible, but, if evidence and experience are at all a test of truth, there are also senses which are supraphysical* and can not only take cognisance of the realities of the material world without the aid of the corporeal sense-organs, but can bring us into contact with other realities, supraphysical and belonging to another world- included, that is to say, in an organisation of conscious experiences that are dependent on some other principle than the gross Matter of which our suns and earths seem to be made" (Sri, 1990:18).¹

In fact, by applying the three-dimensional laws neither Einstein succeeds in ending the uncertainty at the base of the duality of wave and particle, nor do the other scientists like Werner Heisenberg and Niels Bohr. Such a failure of the three-dimensional scientific laws, too, reveals the supraphysical reality very clearly, the 'reality' which we are required to know and discover at this stage. Therefore, we have to take refuge into the spiritual consciousness existing, as noted earlier, above the plane of the intellectual mind consciousness, the spiritual consciousness wherein one comes to know and realise the existence of the one Divine, one Cosmic Self, or wherein one is aware of the existence of the Divine Self in the constitution of one's being.

WAVE AND PARTICLE AS FORMS OF 'ELECTRIC ENERGY'

Sri Aurobindo discovers 'the wave and the particles' to be the forms of the 'electric Energy'. In his epic *Savitri*, which he has written from the plane of the Supramental Consciousness^{**}, the manifestation of which takes place in the vivid and lucid description of the pre-creation state of existence in the opening canto of the epic as well as in other supra-dimensional description of the Divine Truth existing within the dimensional existence, he says:

"An ocean of electric Energy
Formlessly formed its strange wave-particles
Constructing by their dance this solid scheme,

* *Suksma indriya*, subtle organs, existing in the subtle body (*suksma deha*), and the means of subtle vision and experience (*suksma drsti*);

** The 'supramental', as the word discloses, is the consciousness which exists beyond the plane of the mental consciousness. Sri Aurobindo has discovered that the mental consciousness is the divisive, or to say, the separative consciousness whereas the supramental is the integral consciousness. The supramental consciousness exists beyond the plane of the dimensionality, the dimensionality being the manifestation of separativity. It is the sovereign plane of the Consciousness of the Divine, the Transcendent Divine.

its mightiness in the atom shut to rest" (Sri, 1994: II, V, 155)

Further, in his epic prose *The Life Divine*, too, he says:

"An electric energy produces positive, negative, neutral forms of itself, forms that are at once waves and particles;..." (Sri, 1990: 299)

In order to realise the truth in such a vision of Sri Aurobindo that the 'electric Energy' is at the base of the dualism of wave and particle we have to look into the structure of atom. Since inside the atom electron exists with negative electric charge, nucleus as well as proton with positive electric charge, neutron with zero charge and so on, the electric energy appears to pervade here in the world of atom housing itself in these forms. In other words, we can say that the 'electric Energy' assumes the form of atom with many other forms at the deeper levels revealing its different poises which Sri Aurobindo visualises in the above poetic lines. Further, since wave and particle are found to be the same by Albert Einstein, 'particles and waves were not entirely separate phenomena', and by Louis de Broglie as discussed earlier, the 'electric Energy' is found to be at the base of wave also. Wave, too, like particle appears to be the form of the electric energy. Thus, Sri Aurobindo's vision of the 'electric Energy' at the base of the dualism of wave and particle now stands confirmed. Since the supramental consciousness which Sri Aurobindo manifests in his epic *Savitri* and other works, as noted earlier, exists beyond the plane of dimensionality into which the present mankind is yet to evolve, the scientific world is required to carry out its investigations of the terrestrial reality in the light of his supramental vision. The supramental consciousness on account of being the integral consciousness transcends the dualism of the intellectual mind-consciousness, the dualism which is the result of the divisiveness, or to say, the separativity of the intellectual mind-consciousness. More to say, the supramental consciousness transcends the dualism working on the spiritual planes, too, on the plane of Mind. Sri Aurobindo has made it clear that Mind is the divisive, or to say, the separative principle of consciousness. In other words, mental consciousness, or to say, Mind is the separative consciousness or divisive consciousness as opposed to the Supramental Consciousness which we have noted to be the integral consciousness. The dualism as the result of the working out of the divisive or separative consciousness in the form of Mind gives birth to the eclipsed vision of the terrestrial as well as the spiritual truth^{*}. Further, as in the scientific world Einstein's

* On one of the planes of the spiritual consciousness one finds world as illusion, or 'Shunya', or 'Negation' etc. as a result of such an eclipse. Further, on account of the divisiveness or the separativity of Mind working on the spiritual planes the physical transformation of the earthly existence is not visualized by men of spiritual consciousness. But such a physical transformation is visualised

vision is not viewed sceptically, and the scientists of the world today carry out their investigations in the light of his findings in his Theory of Relativity for the reason that he is taken as the man who is dwelling on a much higher plane of the intellectual mind-consciousness, Sri Aurobindo's vision, that is to say, the vision of the Supramental Consciousness, too, is necessitated to be welcomed by the scientific world to carry out higher investigations.

ELECTRON, ATOM AND MATERIAL OBJECT AS THE FORMS OF CONSCIOUSNESS

Sri Aurobindo goes ahead of the 'electric Energy' which he finds to be existing at the base of wave and particle and very categorically says that the electron and the atom are the different poises of consciousness, consciousness which he finds to be the basic thing in existence. In one of his letters on yoga, he says:

"Consciousness is a fundamental thing, the fundamental thing in existence-it is the energy, the motion, 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, 1971:1236-1237)

In *Savitri* he further says:

"Housed in the atom, buried in the clod,
Her quick creative passion cannot cease" (Sri, 1994:II,VI,180).

Here, he discovers the divine creative passion of 'consciousness' which is 'housed in the atom'. It is eternally active here for giving impetus to the evolutionary force to rise to the higher planes of consciousness for the manifestation of the 'Divine in Matter'. In fact, that which one finds to be the evolutionary force, which is latent in Matter, is the manifestation of the creative passion of

'consciousness' in atom. The evolutionary force, on a deeper investigation, is found further as the creation of the creative passion of consciousness. He further says:

"Inconscience is her long gigantic pause,
Her cosmic swoon is a stupendous phase:
Time-born, she hides her immortality" (Sri, 1994:II,VI,180).

Such an immortality in the inconscience of atom, the matter, will no more remain hidden when the manifestation of the Divine takes place in Matter, or when, as Sri Aurobindo says,

"The Spirit shall look out through Matter's Gaze
And Matter shall reveal the Spirit's Face" (Sri, 1994:XI, 709).

In such a state when 'Matter shall reveal the Spirit's face', the consciousness will be fully unfolded as opposed to the state of inconscience in which the consciousness is completely in the involved, or to say, the folded state. In the unfolded state the consciousness emerges in its true or sovereign state. Such a true or sovereign state we cognise as the integral consciousness. Death, which is the result of the inconscient state of consciousness, as Sri Aurobindo visualises, loses its existence when the integral consciousness emerges.

Sri Aurobindo's vision of 'consciousness arranging itself' to be the macrocosm and the microcosm of the Existence comes to be intelligible to the logical mind when we look into his discovery of involution which is responsible for the evolution. He says:

"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 the admission that mental consciousness may itself be only a form and a veil of higher states which are beyond Mind. In that case, the unconquerable impulse of man towards God, Light, Bliss, Freedom, Immortality presents itself in its right place in the chain as simply the imperative impulse by which Nature is seeking to evolve beyond Mind, and appears to be as natural, true and just as the impulse towards Life which she has planted in certain forms of Matter or the impulse towards Mind which she has planted in certain forms of Life. As there, so here, the impulse exists more or less obscurely in her different vessels with an ever-ascending series in the power of its will-to-be; as

by Sri Aurobindo on the plane of the Supramental Consciousness where there is no such separativity of consciousness. The Supramental Consciousness, which, as noted earlier, is the integral consciousness, is the plane of the Sovereign Divine Consciousness. It is also found by Sri Aurobindo that the Sovereign Divine Consciousness will descend into the earth-existence, and the earth-existence will be accordingly transformed eventually. With such a transformation the Divine Life will be established into the earth-existence. Then *Matter shall reveal the Spirit's Face*, says Sri Aurobindo. Such a transformation shows that the vision of 'illusion' or 'negation' on the spiritual plane is an eclipsed one.

there, so here, it is gradually evolving and bound fully to evolve the necessary organs and faculties. As the impulse towards Mind ranges from the more sensitive reactions of Life in the metal and the plant up to its full organisation in man, so in man himself there is the same ascending series, the preparation, if nothing more, of a higher and divine life" (Sri, 1990:3)ⁱⁱ.

He further says:

"Matter could not have become animate if the principle of Life had not been there constituting Matter and emerging as a phenomenon of Life-in-Matter; Life-in-Matter could not have begun to feel, perceive, think, reason, if the principle of Mind had not been there behind life and substance, constituting it as its field of operation and emergent in the phenomenon of a thinking life and body: so too spirituality emerging in Mind is the sign of a power which itself has founded and constituted life, mind and body and is now emerging as a spiritual being in a living and thinking body. How far this emergence will go, whether it will become dominant and transform its instrument, is a subsequent question; but what is necessary first to posit is the existence of Spirit as something else than Mind and greater than Mind, spirituality as something other than mentality and the spiritual being therefore as something distinct from the mental being: Spirit is a final evolutionary emergence because it is the original involutionary element and factor. 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 the evolution the last and supreme emergence" (Sri, 1990:853).

Such an involution which is responsible for evolution is thus the involution of the Spirit, the Divine. When we make an overhead view of the aforesaid involution-evolution phenomenon and look at the phenomenon in the descending order from the plane of Spirit, that is to say, the Divine Consciousness we find that the Divine Consciousness assumes the form of Mind, and further Mind assumes the form of Life which assumes, further, the form of Matter. In such an assumption of the forms of Mind, Life and Matter successively the state of forgetfulness of 'Consciousness' takes place.

When the Divine Consciousness comes down to be Mind, It becomes separative, or to say, divisive. In such a separativity it is no more conscious of itself as the Sovereign Divine. Such an unconsciousness can very well be viewed the state of forgetfulness. On the first plane of Mind in course of Its descent, the plane which Sri Aurobindo terms 'Overmind', the consciousness which comes into existence as a result of separativity of the Divine Consciousness is conscious of the existence of

the transcendent plane of the Divine as its origin. It finds the Divine on the plane transcendent to it as 'the support, essence, fundamental power of all things' (Sri, 1971:244)ⁱⁱⁱ the things which come into existence as a result of its divisive, or to say, separative principle on the plane of Overmind. On this plane the different aspects of the universe, or to say, the dimensionalities of the universe come into existence as a result of such separativity. In other words, universe with its dimensionality comes into existence with the creation of the plane of the Overmind Consciousness. The Overmind plane of consciousness is, therefore, the cosmic consciousness. It is the summit of the spiritual consciousness on the plane of Mind. Such a summit is the world of the Gods as Sri Aurobindo discovers, the Gods which, being the emanations of the Divine of the transcendent plane, are the 'cosmic functionaries, making possible the growth of this creation in the mould of the original intention of the Creator' (Pandit, 1983:3). When we descend the plane of consciousness existing below it, we come to the plane which Sri Aurobindo calls the 'Intuitive Mind Consciousness'. It is also the plane of the spiritual consciousness on the plane of Mind. Separativity increases here. Therefore, it is not conscious of the One Divine as 'the support, essence, fundamental power of all things' which we find on the Overmind plane. It is for this reason of separativity that there exists and dominates ego on this plane though it has the vision of the One Divine. The dominance of the 'centralising ego-sense is entirely subordinated' (Sri Aurobindo: 1990:950) on the Overmind plane of Consciousness where separativity lessens. The higher intensity of separativity on this plane of the Intuitive Mind Consciousness than what is there on the plane of the Overmind Consciousness necessitates it 'to be constantly on guard against invasion and accretion, on the watch to reject and eliminate immixtures...' (Sri, 1984:779)^{iv} On account of the least separativity on the plane of the Overmind Consciousness there is a different picture. A harmony exists here on account of the vision of the One Divine as its origin. Separativity continues to increase as we descend the lower planes of consciousness whether they are spiritual, the 'Illumined Mind' and the 'Higher Mind' as Sri Aurobindo terms, or intellectual or the planes below it. As we descend the lower rungs of the evolutionary mind consciousness, and below the planes of Mind, Sri Aurobindo says, 'the underlying oneness becomes vague, abstract, indeterminate and indeterminable and the only apparent concreteness is that of the phenomenal which is by its nature a form and representation—the self-view of the One has already begun to disappear' (Sri, 1971:244-245) On the lowest plane of existence, that is to say, Matter, the vision of the One Divine is lost. Matter appears to be inert and what Sri Aurobindo terms, 'inconscient'. It clearly shows further that when we ascend the higher planes the vision of the One Divine begins to appear since separativity begins to decrease.

Of this Sri Aurobindo further says:

“In Matter, descending below Mind, we arrive at the acme of fragmentation and division; the One, though secretly there, is lost to knowledge and we get the fullness of the Ignorance, even a fundamental Inconscience, out of which the universe has to evolve consciousness and knowledge” (Sri, 1971:245).

He continues to say:

“The Divine descends from pure existence through the play of Consciousness-Force and Bliss and the creative medium of Supermind^{*} into cosmic being; we ascend from Matter through a developing life, soul and mind and the illuminating medium of Supermind towards the divine being. The knot of the two, the higher and the lower hemisphere², is where mind and Supermind meet with a veil between them. The rending of the veil is the condition of the divine life in humanity; for by that rending, by the illumining descent of the higher into the nature of the lower being and the forceful ascent of the lower being into the nature of the higher, mind can recover its divine light in the all-comprehending Supermind, the soul realise its divine self in the all-possessing all-blissful Ananda, life reposes its divine power in the play of omnipotent Conscious-Force and Matter open to its divine liberty as a form of the divine Existence” (Sri Aurobindo, 1990:264-265).

Thus, the integral consciousness was not lost on the lower planes of the Mind Consciousness. It can be viewed as the state of forgetfulness of the integral consciousness, or to say, the consciousness of the Divine. This forgetfulness continues to increase due to increasing separativity as we descend the lower rungs of evolution. The absolute forgetfulness develops on the lowest plane of involution, Matter as Sri Aurobindo states above. Matter appears to be inert and ‘Inconscient’ as a result of forgetfulness as noted earlier. It confirms Sri Aurobindo’s vision that ‘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’. Matter, he says, is the ‘culmination of the principle of Ignorance’ (Sri, 1990:243)^{*}, the principle which is the result of the separative principle of the Divine Consciousness. As we have noted, the Divine Consciousness takes up the separative principle when it assumes the form of Mind. Of the forgetfulness of Consciousness on the plane of Matter, Sri Aurobindo, further, says:

“Here Consciousness has lost and forgotten itself in a form of its works, as a man might forget in extreme absorption not only who he is but that he is at all and become momentarily only the work that is being done and the force that is doing it” (Sri, 1990:243)

CONSCIOUSNESS IN THE STRUCTURE OF ATOM

Another angle of vision confirms the truth of ‘consciousness’, becoming electron and atom, for which we have to look again into the atom. We find that the electron, the nucleus, the proton and the neutron which we have earlier concluded to be the different forms of the electric energy inside the atom are in harmony with one another, bringing stability in the existence of Matter. Such a harmony in different features of these forms, such as negative electric charge in electron, nucleus and proton with positive electric charge and neutron with zero charge reveals a oneness at the base of all these forms of the electric Energy. Such a oneness transcends the physical oneness of the electric Energy because a transcendent wave has been found at the deeper level into which particle, a form of the ‘electric Energy’ which we found earlier, goes to be one. The Quantum Theory, too, finds particle to be the packet of energy though it could not discover it to be the ‘electric Energy’. Since the wave in the sub-atomic plane has been found by the scientific mind to be obeying the dictates of human mind, one can very well visualise consciousness in the origin of the ‘electric Energy’, the electric Energy which comes to be particle having electron etc. and finally atom within it. Further, the scientific mind has found nothing of the physical world which is responsible for the said assumption of different forms by the ‘electric Energy’. Therefore, there is no room to negate Sri Aurobindo’s vision of consciousness becoming electron or atom. The truth of consciousness in electron and atom comes to be all the more intelligible to the matter-oriented mind when we look into Eddington’s discovery of ‘mind-stuff’ (Eddington, 1929:276) as the basic stuff of the material world, mind being one of the forms or planes of consciousness as Sri Aurobindo discovers on a very high plane of yogic consciousness. Eddington could come to the point of the ‘mind-stuff’ as it was found that ‘mind’, or to say, ‘consciousness’ in mind comes to supervene in the affair of the conversion and reconversion of wave and particle transcending the physical laws. This is what we noted earlier in the paper.

“Depending on how we look at them, they appear sometimes as particles, sometimes as waves” (Fritjof, 1982:77).

Such a way of looking at them is purely subjective. It appears that the consciousness within human mind while looking at ‘them’ is in correspondence or in commerce

^{*} Supramental.

² *Parardha* and *Aparardha*.

with waves and particles, and they are at its command. The very 'correspondence' or 'commerce' reveals the inherent consciousness in wave and particle. Such an inherent consciousness is receptive to the consciousness within human mind which comes to be responsible for bringing waves and particles into existence, or to say, for the conversion of wave into particle and vice-versa. It leads Eddington to declare that the stuff of the universe is 'mind-stuff'. He says:

"I do not believe that the activity of matter at a certain point of brain stimulates an activity of mind; my view is that in the activity of matter there is a metrical description of certain aspects of the activity of mind" (Eddington, 1929:268).

Further, nothing of the mathematical laws and the laws of Physics regulates this subjective state of mind while looking at 'them'. The three-dimensionality of Matter is found to have no control over such a way of looking at 'them'. Therefore we can say that the three-dimensionality of Matter has no sovereign existence. In fact, consciousness has its sovereign existence, and is responsible for the three-dimensional affairs at the base. It is further affirmed when Matter at its sub-atomic plane is not found to exist with material or physical certainty, rather a 'tendency' to exist replaces it.

"At the sub-atomic level, matter does not exist with certainty at definite places, but rather shows 'tendencies to exist', and atomic events do not occur with certainty at definite times and in definite ways, but rather show 'tendency to occur'" (Capra, 1982:77-78).

Further, waves are also not three-dimensional.

"They are not 'real' three-dimensional waves like sound or water waves" (Capra, 1982:77-78).

They are called 'probability waves' (Capra 1982:78) in the world of Physics. Physics calls them 'probability waves' because it does not take note of its own finding of the subjective state of mind while looking at waves and particles. It has been earlier noted that they appear sometimes as particles, sometimes as waves as a result of the working of the said subjective state of mind, the mind which is not under the gravitational pull of the laws of Physics and Mathematics which speak of fixity. In view of such a scientific finding, the 'probability waves' and what Physics finds to be 'tendency' with regard to the existence of Matter, as a matter of fact, take us unmistakably into the domain of Mind which is at the root of wave and particle. It is all the more intelligible since waves are not found 'real' three-dimensional. As there is no existence of the two-dimensional wave in the terrestrial existence, such waves appear unmistakably to be coming out of the plane of mind, the mind existing

independently of the materiality within the being of man. In other words, the 'probability waves' and the 'tendency' are, therefore, a thing of mind.

Heisenberg while coming to the conclusion of the uncertainty as the absolute truth in the Quantum Theory ignores the aforesaid scientific discovery that the wave which comes to be particle is not a three-dimensional wave like sound wave etc. It also ignores Einstein's Theory of Relativity, an ocean of scientific knowledge which opens the door to enter into the supraphysical world. In order to arrive at the truth one is essentially required to investigate such a wave transcending the scientific nature of thought which we find in the scientists like Heisenberg and also to view the three-dimensional phenomena in the perspective of the four-dimensional plane of existence as emphasized earlier. In fact, in view of the admitted scientific truth that the wave at the sub-atomic plane of Matter is not three-dimensional and also of the plane of 'nothing' wherefrom energy appears which we have concluded to be the four-dimensional plane of existence there is no room to deny the truth that the ultimate existence behind the dualism of wave and particle is a matter of supraphysical reality, for the realisation of which the Quantum Theory has to take refuge into the spiritual and the supramental consciousnesses.

CONCLUSION

Uncertainty in the world of the Quantum Mechanics ends when we find 'electric energy' at the base of wave and particle. With the end of this uncertainty we enter into the inexplicably beautiful world of consciousness. The world of consciousness is inexplicably beautiful because it is the world of the Divine Consciousness. It is this Consciousness which creates the universe, not the mind-stuff, or to say, the mental consciousness, for mind being the divisive or the separative consciousness is not constitutionally capable for such a high task of creation, creation which is the other name of integration. In other words, creation cannot take place by the divisive consciousness. The Divine Consciousness is essentially the integral consciousness, the manifestation of which we find first on the plane of, what we have earlier noted as the 'supramental consciousness'. It is this integral consciousness which is responsible for the birth of this integral universe in which all the creatures exist, or to say, live together harmoniously on all the planes of existence whether it be the 'macrocosm' or 'microcosm'. When this harmony is violated destruction takes place. Eddington, too, admits, further, the divine significance of this material creation:

"...the main significances of our environment are of a more spiritual character" (Eddington, 1929:276)

The spiritual truth, or to say, the Divine Consciousness is the transcendent into which Physics has to evolve to come out of, what Eddington calls, the 'world of shadows'. Of such a truth Sri Aurobindo says:

"The Godhead has built this universe in a complex system of world which we find within us and without, subjectively cognised and objectively sensed" (Sri, 1991:22).

The summit view Sri Aurobindo expresses very poetically, too, in one of his sonnets "*All Here is Spirit*":

All here is Spirit self-moved eternally,
For Matter is its seeming or its form,
A finite motion of Infinity,
Built up by energy's electric storm.

A flux of solid instability,
Whirled into shape by a tremendous, Force
That labours out the world's fabric endlessly,
Creates and then destroys without remorse.

Titan and worm, the dew-drop and the sea,
Our fragile bodies like the aeoned star,
But through it all remains immortally,
The secret spirit we for ever are.

Matter is Spirit's semblance glamorous,
Self-woven for its own field and robe and house
(Sri Aurobindo, 2012:2, 597).

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