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## **Dialectics of Ontology, Consciousness, and Knowledge in This Infinite, Eternal and Ever-Changing Universe**

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Any positive notion about the ontology of the universe, how its contents of matter, motion and human consciousness came to BE; was possible only after the most fundamental aspect of nature, namely the revolutionary quantum phenomena was discovered by natural science at the turn of the 20<sup>th</sup> century.

Before this epoch-making discovery by natural science, any notion or idea about the ontology of the world were progressively developed indirectly through epistemology and scant knowledge of phenomenology, provided by the sense perception of men, their social/historical living practice, technological interaction with external reality etc.; and extending these notions through mystical imagination, mythology and in recent history through organized thought and theories. The most sophisticated of this epistemology came in the form of mathematical idealism of Plato and more recently the subjective idealism of Emmanuel Kant's thought derived logical/mathematical categories. These categories - a system of logical thought conceived in individual human brain was supposed to represent the working of the phenomena perceived by man; but these categories could say nothing about how or why the ontology of things and phenomena came to BE as they are in the first place; except the mystery of an omnipotent and omniscient God.

This subjective idealist approach to knowledge gave some confidence that some kind of rational order of cause and effect and/or ideal mathematical form also underlie the ontological manifestation of the universe. But this understanding gave rise to sophisticated and centuries long, endless and meaningless scholasticism based on individual brain-cooked logical/mathematical categories; which led to nowhere, simply because it only dealt with the sense-perception of the phenomena; but has no clue as the noumena, i.e., ontology or how matter and motion came to be, in the first place! For Emmanuele Kant in philosophy and Albert Einstein in theoretical physics, the most prominent architects of this scholasticism; ontology or noumena (how, why and what things came to be in the universe) is an unknowable thing-in-itself - a mystery or in Einstein's own words **"Merely an illusion, albert a very long persisting one"**. The other main reason, at least in natural science, for this scholasticism is due the ignorance of the distinction between the properties of light and particulate matter; which this "science" cannot comprehend. Only G.W.F. Hegel (1770 – 1831), through an extreme extrapolation of his dialectical speculation of the triad **"being-nothing-becoming"**; in an obscure, very vague and a highly speculative way, anticipated the ontology of the quantum vacuum, as the manifestation of the contradiction of abstract space and abstract time, intuited by Kant.

The discovery of the quantum phenomena – a new revolutionary aspect of objective reality, which this scholasticism refuses to accept as REAL; solves this centuries old ontological problem of philosophy, natural science and cosmology. The "Evil Quanta" manifesting chance and necessity; turned Hegel's idealist and speculative dialectical ontology to a materialist one in the present form of quantum dialectics. It is now shown that the quantum vacuum forms the ontological reality of abstract space and time; which is also both the source and sink of matter/antimatter particles (including light photons, which are their own antiparticles) eternally coming into being and passing out of existence in this Infinite, Eternal and Ever-Changing universe.

As is now revealed through quantum dialectics; the only difference between the matter particles and light photons is that only the matter quantum particles possess the ability to form larger aggregates. The light photons, because of their insignificant mass and very high velocity at their origin, are unable to form larger units or aggregates, under any circumstances, even when these are forced to concentrate in the form of lasers. The matter/antimatter particles can separately aggregate to form larger units due to ensuing nuclear, chemical and

gravitational attractive forces, gained at the cost of their individual large mass and very high velocities and kinetic energy at their formative stage.

The chance accumulation of separate matter or antimatter particles gives rise to the larger aggregates of the cosmic bodies from the smallest of the inter-galactic gaseous and dust particles to the largest clusters of galaxies. Accumulation up to the stage of a star leads to initiation of nuclear reactions; transforming matter (and/or antimatter) into radiative photons. The chance encounter of the units of matter and antimatter leads to their annihilation and the instant production of equivalent enormous radiative energy of various scale; depending on the masses of the encountering matter and antimatter units. Mainly in the galactic scale, the matter/antimatter annihilation processes can eject (along the minor axis) part of the flat galaxies at enormous speed, in the form of quasars, which eventually slow down by the gravitational force of the mother galaxy; to form satellite galaxies. The other and less energetic ejections, depending on a particular case; leads to various form of structural changes and ejection of smaller chunks of the mother galaxies to short distances, eventually becoming parts of the spiral arms of the flat galaxies, slowly merging to the main body, which leads to the interconversion of spiral flat galaxies to the elliptical ones of various shape and vice versa.

Life as the subjective counterpart of lifeless matter comes into being as a chance phenomenon but with the necessity provided by the suitable material and physio-chemical condition of a celestial body like the earth. From the chance formation of a primitive cell; life undergoes dialectical evolution through chance and necessity and in discrete qualitative leaps to progressively higher forms, eventually leading to the thinking brain of man. Through the thinking brain, blind Nature (and Matter) becomes conscious of itself for a brief period of the time in the life-time of the host planet like the earth. Consciousness (Thought), itself, therefore, like a bubble comes into being and passes out of existence as Heraclitus intuited; in this Infinite, Eternal and Ever-changing universe, like the virtual particles of the quantum vacuum!

**The “Evil Quanta”, so much despised by modern official philosophy, science and cosmology; proves to be the only objective reality and “change” the only thing permanent in the universe, as intuited by the great dialectical thinkers of past history.**

For dialectical materialist Frederick Engels, “... however many millions of suns and earths may arise and pass away, however long it may last before the conditions for organic life develop, however innumerable the organic beings that have to arise and pass away before animals with a brain capable of thought are developed from their midst, and for a short span of time find conditions suitable for life, only to be exterminated later without mercy, we have the certainty that matter remains eternally the same in all its transformations, that none of its attributes can ever be lost, and therefore also, that with the same iron necessity that it will exterminate on the earth its highest creation, the thinking mind, it must somewhere else and at another time again produce it.” F. Engels, “Dialectics of Nature”.

A dialectical approach to both ontology and epistemology, allows man to acquire historically progressive knowledge during the life-bearing period of the existence of a planet like the earth. Therefore, only one life-hosting planet earth among the innumerable, only one sun among billions in a galaxy and only one milky-Way Galaxy among the countless; is enough to have positive knowledge of this Infinite, Eternal and Ever-changing universe. As the poet Jalaluddin Rumi, said, **“You are not a drop in the ocean, you ARE the entire ocean in a drop”**.

Knowledge as the arbiter between conscious and blind matter in motion:

Positive knowledge of man and the external reality can never arise from abstract Mythology, Platonic mathematics or Kantian theory alone, as has generally and historically been the case in class-ruled societies including the present one. The ruling classes used those ideas and theories as the ruling ideas to exploit and subjugate creative humanity. Progressively enhanced knowledge can only come through the social/historical living practice, technology etc., through which men materially interact with themselves and with the external

reality. True knowledge is possible when the notions and concepts or in one word epistemology corresponds to and/or is in conformity with the objective reality or ontology.

The most fundamental essence of humanity is to strive towards **"the freedom of the will"**, based on real knowledge of the world and of itself – a subjectivity and the dialectical unity of the opposites of the objectivity of blind Nature (and as a part of Nature itself); from the microcosm to the macrocosm of the universe. This essence is a progressively and historically acquired ability that allows man to effectively change the conditions of his physical, mental and social existence, based on the positive knowledge of the world and of himself (as a social being); in such a way as to progressively reduce the contradiction between subjective man and objective Nature, between humanity and the world, but never completely eliminating it.

This necessarily is a complex of historical processes of "being" and "knowing"; mediated by dialectical chance and necessity and taking place in a temporarily life-harboring celestial body where the subjectivity of life can evolve through discrete evolutionary leaps from blind non-living matter to the highest developed product of matter, namely the thinking brain of man.

The most decisive factor in the evolution of this subjective "being" came with the bipedal (erect) stature in man, which made his hands free (a giant leap towards freedom) for further subjective acts and developments; which enhanced both his "being" and his "knowing". The final act through which man forever separated himself from the animal kingdom and towards more freedom; was the mastery over one of the forces of Nature, namely heat (fire). The development of the dexterity and the manipulating skills of the hand necessitated the corresponding dialectical and revolutionary development of the brain and with it, speech. The developed brain gave man enhanced ability for abstraction, reflection, introspection and communication etc. that in a reciprocal way led to the further development of the brain and also gave the hand *"the high degree of perfection required to conjure into being the pictures of a Raphael, the statues of a Thorwaldsen, the music of a Paganini\*"*.

But this journey towards freedom so far was not a smooth one-way process only, without any loss! On the contrary there were dialectical and historical twists and turns, ups and downs and the loss of many important specific traits (that are necessary for sustaining lower life forms); on the way to the evolution of man. Moreover, new and evolving constraints on knowledge and developments imposed both by Nature and by man himself stood in his way towards freedom. The more damaging was the self-made constraints known as the alienations. The alienations are creations of man for his own need of the time, but those creations at a certain stage of their development goes out of his control as if an entity coming from outside and like a Frankenstein Monster sets itself to control its creator. Historically; Myths, Religion, Class Division, Capital, State etc., were the most potent alienations that impeded the progress towards knowledge and freedom. In modern times the most dominant alienation is Capital, in its most regressive monopoly-finance form.

Since the discovery of the quantum phenomena, by the turn of the 20th century; the social development of humanity and the accumulation of positive knowledge, created the sufficient stage from where men for the first time in history can envision the tangible contour and the clear path forward towards a mighty leap to freedom. But the vestiges of the old alienations, particularly decadent monopoly finance capitalism newly reinforced by the myths of obscurantist mathematical idealism-based theories of physics and cosmology, stand in their way. These theories based on brain-cooked logical/mathematical categories and masquerading as scientific knowledge; has led epistemology to fantastic mystery, myths and fairy tales of the cosmos; which in essence belittles subject man to a helpless object, to be redeemed by a new prophet of the omnipotent and omniscient God, who created this finite universe and all its contents, "perfect in themselves"; through a single act of "Big Bang" creation. But as our experience on earth so far in history shows, there is no mega leap in external Nature and knowledge; precisely because Nature and knowledge develop through countless and discrete dialectical and historical leaps.

Conclusion:



Our scientific and positive knowledge of ontology of reality, including the quantum phenomena, points to its dialectical nature mediated by blind chance, but an iron necessity inherent in chance itself. The dialectical ontology is therefore a negation and condemnation of the Myths and theories, created by the fantasy of mathematical and subjective idealism of the past history, particularly from Isaac Newton to Albert Einstein. The present decadent, moribund and desperate monopoly capitalism is making vigorous efforts to “seal the deal” on its continued rule; through contrived and deceptive so-called “experimental proofs” of the Cosmic Monsters; predicted by Einstein’s theories of relativity at the cost of enormous social, human and natural resources; while engaged in deadly intra and inter-capitalist conflicts and most of all against the working people of the world.

The accumulated knowledge, specially of the last few thousand years has given man the potential to vastly change the conditions of his existence by changing himself and Nature; thereby diminishing the contradiction between Nature and man; but at the same time also has equally given him enough potential to destroy himself and all other life forms on this planet, in a nuclear holocaust; unless its most debilitating alienation by monopoly capitalism is overcome and defeated by the collective working people and the nations on this planet!

\* “The Part Played by Labour in the Transition from Ape to Man”; F. Engels, 1876]

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