

QUALIFYING THE UNIT OF CONSCIOUSNESS

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Introduction

In this new decade, in the twenty first century, a lot of interest is being evinced in the study of consciousness. There is a fair amount of consensus in the scientific and philosophical circles that consciousness forms the substratum of all existence. The last fifty years of research in science has led us to the point of grasping very feebly the existence of an ineffable energy which manifests itself in various modalities right from sub-atomic particles to the various forces of the universe. When we study the nature of reality taking into consideration both Quantum physics and consciousness we come to a common ground where one can experience the semblance of reality. This is the area where individual consciousness of the observer merges with the infinite possibilities of experience to wean out a single perception and calls it an observed reality.

This is the reason Allan Combs, a consciousness researcher, neuro-psychologist, and systems theorist, defines consciousness as follows:

“Consciousness is the essence of experience. Its touch is the bearer of meaning. It is pointed neither inward nor outward; I mean it is neither introverted nor extroverted. It is not simple nor is it complex. It has no structure of its own but only essence. It is not static nor is it in motion. Consciousness is the perfect transparent subjectivity through which the phenomenal world shines. Without it knowledge is only information. Without it the Cosmos is dead.”¹

I attempt to capture, through a chronological approach, how the action of consciousness and its effects have been understood and defined as specific agencies and how these agencies themselves have gone through modifications in trying to understand the evolving structures of varying complexities in the universe.

We saw the definition of consciousness stating that it is “the essence of experience”. This leads us to the conception of reality as having two fundamental components namely; structure and essence. Any structure then can also be understood as a derivative of the essence.

Nature of Consciousness

Let me give you an example. It is like a child trying to make different toys using Lego blocks but stretch your imagination a little further and imagine that the child also has the miraculous capacity to instantly transform the shape of the basic Lego blocks just by wishing or its conscious action. Hence we have the basic building blocks that are result of the child’s consciousness and also we have the end product, the final toy, which is also conceived in the consciousness of the child. I hope you got the hang of what I have just explained. Now we can redefine the fundamental constituents of reality as ‘actuals’ and ‘potentials’. Both are fundamentally reversible, as we saw in the case of the child creating the toy, as ‘potentials’ which are consciousness waiting to become ‘actuals’ and ‘actuals’ are nothing but realized ‘potentials’ which at any time can dissipate back into ‘potentials’. If entire reality is made up of these two attributes of a single entity called consciousness then there needs to be a third aspect that needs to come into being namely; causation, which consists of intent and impending action. This is the attribute that directs all intermediate actions of continuous

¹ The Radiance of Being by Allan Combs

creation where structures evolve through actualization of a common ground state of essence or potentiality.

What all these analysis point out is that it is consciousness that exhibits itself as a subject and object of reality. The main differentiation between the Western and Eastern philosophical view is that the 'potentials' and 'actuals' were segregated from the act of 'causation' and 'creation' in the Christian west while there was an integrated view in the Advaitic (non-dual) philosophy of the East. In the next section we will examine how the Western philosophical thinking was influenced and the paradigm shift taking place in current perception which is led by integral thinking in the face of trying to understand the higher complexities of reality both at the macro and micro level.

The current study of consciousness, especially from the scientific perspective, has led to an attempt at defining not only the nature of consciousness but also its unit as a causation agent in the neuron-dendrite physical medium. In a 2008 Syamala Hari in an article in 'Neuroquantology' redefines Eccles 'psychons' as 'Zero-Energy Tachyons' or in other words 'Zero-Energy faster than light particles' which initiate exocytosis in the synaptic transactions.² This exercise is not new but had started with Aristotle and this article tries to capture in a broad brush stroke the picture of how the unitary concept of consciousness evolved.

'Entelechy' of Aristotle

Probably the earliest understanding of the condition of something whose essence is fully realized can be attributed to the philosophical concept of Entelechy conceived by Aristotle. Entelechy is a philosophical concept of Aristotle that was later adopted by the biological thinker Hans Driesch. From *én* (in), *télos* (end, or purpose) and *échein* (to have), Aristotle coined it to signify "having one's end within", therefore, that something's essential potential is being fully actualised.³ Though Thomas Aquinas modelled his concept of nature based on the Aristotelian Entelechy, the Primary application found acceptance in Biology and life sciences in the west as there could be observed an emergent form of higher order from an original form of lower complexity.

This is worded in a different way by, the great Father of the Church, St. Thomas Aquinas. The primary nature of causation is given the name God by him but he captures the very essence of what we are saying here in the following words:

"There are three principles of nature: matter (essence or potential / building block), form (actual / final product), and privation (impending action / act of creating). But generation requires more than these. Whatever exists potentially cannot make itself exist actually. The bronze, potentially a statue, cannot cause itself to be a statue; an agent is needed to bring the form of the statue from potentiality to actuality. Nor can form extract itself from potentiality to actuality. I am referring to the form of the reality generated that we call the aim of generation. In other words, form exists only when the reality is achieved; but whatever does the achieving is present within the very becoming or while the reality is being achieved. In addition to matter and form, therefore, there must be a principle (causation) that acts....."⁴

To St. Thomas Aquinas the primary agency of causation was God.

² 'Eccles's Psychons Could be Zero-Energy Tachyons' by Syamala Hari June 2008 in 'Neuroquantology'

³ <http://en.wikipedia.org/wiki/Entelechy>

⁴ "De Principiis Naturae" by Thomas Aquinas

'Monads' of Leibniz

It was Leibniz, in the seventeenth century, who expanded on Aristotle's concept of Entelechy and came out with the concept of 'Monads'. The major difference in understanding was that Leibniz held that every organic body has a special relation to a specific entelechy—but whereas Aristotle predominately thought of this as the form of some body of matter, Leibniz saw the 'dominant entelechy' of a body as the unextended substance that most clearly perceived the happenings in the various parts of the body. According to Leibniz:

- Only spiritual substances exist, and matter belongs only to our perceptual world (phenomenalism)
- No problem of interaction between different kinds of substance
- Consciousness is not a product of matter, but a gift of God to human monads
- Individual substances are kept distinct from God
- There is indeed a plenum
- But it is composed of infinitely small parts, which can always be further subdivided
- These parts are the bodies of living organisms, and every organism is a colony of smaller organisms
- Bodies are only phenomenal, and the ultimate realities are the souls which constitute the unity of each organism.⁵

Today we will disagree with many axioms which have been postulated by Leibniz but two important observations are very much in tune with current understanding. They are namely the primacy of the Spirit and the universal plenum of its field of action.

Leibniz expected to use his indivisible monads to challenge the divisible and physical atoms proposed by England's John Locke for Newton's mechanical universe. But, Locke died before the debate could take place. Leibniz eventually debated with Newton through Samuel Clarke in 1715-16. But Leibniz died in 1716 and the monads died with his death. Today, the monads are being offered as alternatives to the chemical atoms found in the Periodic Chart of chemistry books and the string theories being developed in the school of physics. The indivisible monads of Leibniz are being considered because the chemical atoms and strings are divisible objects and are thus not atoms.

Since the monads are indivisible, Leibniz can be connected to Nicholas of Cusa and Georg Cantor, who worked with indivisibles. Leonardo da Vinci and Galileo also worked with Cusa's indivisibles.

'Quanta' at the microcosm

The hermetic tradition, pioneered by Hermes Trismegestus, has long been concerned with the relationship between the inner world of our consciousness and the outer world of nature, between the microcosm and the macrocosm, as below so above, the material and the spiritual, the centric and the peripheral. The hermetic world view held by such as Robert Fludd, pictured a great chain of being linking our inner spark of consciousness with all the facets of the Great World. There was grand platonic metaphysical clockwork, as it were, through which our inner world was linked by means of a hierarchy of beings and planes to the highest unity of the Divine.

⁵ Leibniz's Monads and DNA :George MacDonald Ross - University of Leeds

“In the Quantum picture of the world, each individual event cannot be determined exactly, but has to be described by a wave of probability. This wave function was defined and formulated by Erwin Schrödinger. There is a kind of polarity between the position and energy of any particle in which they cannot be simultaneously determined. This was not a failing of experimental method but a property of the kinds of mathematical structures that physicists have to use to describe this realm of the world.

The famous equation of Quantum theory embodying Heisenberg's Uncertainty Principle is:

$$\text{Planck's constant} = (\text{uncertainty in energy}) \times (\text{uncertainty in position})$$

Thus if we try to fix the position of the particle (i.e. reduce the uncertainty in its position to a small factor) then as a consequence of this equation the uncertainty in the energy must increase to balance this, and therefore we cannot find a value for the energy of the particle simultaneous with fixing its position. Planck's constant being very small means that these factors only become dominant on the extremely small scale, which is within the realm of the atom”.⁶

Skip all the science, if you must, but what comes out of this analysis is that there is no more room for classical Newtonian model at the atomic and sub atomic level of reality. We are confronted with a sea of quantum probabilities and this can be termed as a ‘Quantum Foam’. Individual agents of action, in this world view, are all entities which exist near the Planck's length (10^{-35} metre) and Planck's time (10^{-43} sec). Without going into the mathematics what become manifest is level of complexity that can be built up using this basic agent or building block (quanta of energy with very high levels of uncertainties). This is the reason that the interface of our individual consciousness as observer into a macro level of perception of a structured reality must also be operating at the sub quantum level.

“In his book “Reflexive Universe”, putting out his insight in to the core idea underlying the cosmological work, mathematician Arthur Young, asserts that the photon, as a quantum of action, is a quantum of purposeful action. That is, the photon is the source of both manifest matter or energy (“action”) and manifest mind or consciousness (“purpose”). In its unmanifest state, says Young, the photon is precisely the “Divine Light” spoken of by mystics through the ages. He identifies photon as spirit thus:

“Quantum = photon = light = spirit”

Young's “quantum of purposeful action” is another way of describing what, from the perspective of panpsychism, we can call “sentient energy.” Just as purpose (consciousness) cannot be separated from action (energy), so is sentience (consciousness) intrinsic to energy. They always go together. Purpose and action, sentience and energy, form a unity.”⁷

Another take on this concept is the fact that Quanta of light can exhibit themselves at different wavelengths from the infrared to the ultraviolet and also faster than the speed of light entities as Tachyons. I am convinced that Photons, Tachyons and String theory, all taken together confirms the insight of Arthur Young. The language is crude but the essence is captured.

⁶ Quantum consciousness by Adam McLean

⁷ Deep Spirit: Cracking the Noetic Code. by Christian de Quincey

Psychons

It was Sir John Eccles (1903-1997) who proposed an agency of consciousness purely in the non-physical realm. Eccles recognized that Darwinian evolution cannot account for our self-conscious mind:

“Since materialist solutions fail to account for our experienced uniqueness, I am constrained to attribute the uniqueness of the Self or Soul to a supernatural spiritual creation. To give the explanation in theological terms: each Soul is a new Divine creation which is implanted into the growing foetus at some time between conception and birth. --Evolution of the Brain, p. 237”⁸

Eccles' partner in developing and promulgating his theory was Sir Karl Popper, the eminent philosopher of science, and his account has a philosophical and an empirical scientific side which require separate consideration. Karl Popper was renowned for his experiment on the study of dissociation between the memory and its location in the brain. In this respect it resembles the views of Roger Penrose, and the two theories also have in common an appeal to quantum physics and an advocacy, not just of dualism, but of a three-world system. There the resemblance ends, however.

Scientifically, Eccles and Popper argued and highlighted that a distinction exists between brain and mind. When the brain is stimulated with electrodes, images and memories can be evoked in the mind without shutting off the normal mental processes of perception and recollection. Surely this represents, on the one hand, images streaming up from the purely physical brain, and on the other, perceptions streaming down from a mind which can only be immaterial? Or take the example of ambiguous drawings with more than one interpretation: the brain, by itself, chooses one or other interpretation and presents the image to the mind in that light: but we can often choose to see the ambiguous image the other way, which surely represents the intervention of something else in the purely physical processing carried out by the brain. According to Eccles, the mind has access to a range of different brain processes, and by directing attention between them (like a searchlight) brings about the unity of consciousness which would otherwise be inexplicable given the diverse and complex nature of neural processes.

“Specifically, Eccles suggests that spiritual psychons interact with presynaptic vesicular grids by a process analogous to the probability fields of quantum physics. A kind of spiritual cerebral cortex interacts with the physical one undetectably but effectively at thousands of tiny sites. This allows interaction between mind and brain without violating the conservation laws of the physical world, while preserving the autonomy of the spiritual world, or 'World 2'. World 2 is one of three worlds proposed by Eccles and Popper: World 1 is the world of physical objects; World 2 is that of states of consciousness and subjectivity (the world of qualia, presumably); World 3 is a Platonic one of objective knowledge and culture. However, the third world does not play an essential role in the theory, with the key interest being the interaction between worlds 1 and 2.”⁹

⁸ ‘John Eccles on Mind and Brain’ By David Pratt - Sunrise magazine, June/July 1995. Copyright © 1995

⁹ <http://www.consciousentities.com/alternatives.htm>

Memes

It was Richard Dawkins who introduced the concept of Memes in his book “The Selfish Gene”. It was an attempt by him to understand the increasing complexity of evolution. Evolution based on purely a physical level through natural selection could not answer the short duration in which increasing complexity has been introduced into the world order. This was the period of intense search in cybernetics and in mathematics to understand Chaos and complexity. The concept of autopoiesis or self creation and fractal mathematics lead to a confidence in proposing memes as the non physical entity and unit of consciousness which could trigger rapid change in the ecosystem and especially in human consciousness development through mutual endorsement or elimination of non-conforming elements.

Daniel Dennett, contemporary philosopher, is bold in carrying the concept of Dawkins’ memes into proposing that the basic unit of consciousness is ‘meme’.

“The 1981 book “Genes, Mind, and Culture: The Coevolutionary Process” by Charles J. Lumsden and E. O. Wilson proposed the theory that genes and culture co-evolve, and that the fundamental biological units of culture must correspond to neuronal networks that function as nodes of semantic memory. They coined their own term, “culturgen”, which did not catch on. Co-author Wilson later acknowledged the term ‘meme’ as the best label for the fundamental unit of cultural inheritance in his 1998 book Consilience: The Unity of Knowledge, which elaborates upon the fundamental role of memes in unifying the natural and social sciences.”¹⁰

Memes can be equated to a knowledge packets within the consciousness field where there are no more divisions attempted but are consumed as holistic quanta in the make up of resultant derivatives in a brain-consciousness interaction.

Conclusion

We are entering a grey area where empirical ratification becomes extremely difficult as we are in the domain of sub quantum plenum. But what we can take from the table today is a better understanding of the distinct yet closely interacting nature of two independent agencies, namely; the physical brain and a field of consciousness from which all emanations take place. The mechanism of interaction and its study will continue to intrigue us but as ‘Homo Quarens’ (Seeking Man) we will continue in this pursuit of deeper understanding.

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¹⁰ http://en.wikipedia.org/wiki/Meme#The_meme_as_a_concept

