

UNCERTAINTY—contd.

“ I regard consciousness as fundamental-----.” -----Max Planck (April 23, 1858—October 04, 1947)

“ Consciousness cannot be accounted for in physical terms. For consciousness absolutely fundamental.—“-----in The Observer (Jan 11, 1931)-----Erwin Schrödinger (Aug. 12, 1887—Jan. 4, 1961)

“ The same organizing forces that have shaped nature in all her forms are also responsible for the structure of our minds.”-----Werner Heisenberg (Dec. 5, 1901---Feb. 01, 1976)

“ No problem can be solved from the same level of consciousness that created it.”---Albert Einstein (Mar. 14, 1879---Apr. 18, 1955)

The great gifted Quantum physicists in the 1920s as well as many other scholars in recent decades stated the similar quotes on “ consciousness being fundamental,” that most would accept to believe. However, some others may wish to find the reason why it is called fundamental, need to be elaborated.

Of the last essays in 2018 this writer sited in regard to the same issue; Michael A. Persinger et al published “ Similarities of energy density in the universe and thresholds for consciousness.” Namely consciousness is numerically quantized, “ Quantum energy field of universe and quantum energy field of consciousness are in similarities quantitatively.

In addition, Werner Heisenberg formulated celebrated Uncertainty Principle, that;

Energy and time or momentum and position of quantum mechanical system, cannot both be precisely measured simultaneously. If one knows the more precise momentum Δp of a moving particle (electron), it is impossible to know the precise position Δx , and vice versa. This relates to energy and time, one cannot measure the absolutely precise energy ΔE of a system in finite amount of time Δt .

Uncertainties in the products of ‘ variables pairs ‘ (momentum/position) and (energy/time) were clearly stated by Heisenberg as minimum value corresponding to Planck’s constant divided by 4π .

$$\Delta p \Delta x \geq \hbar / 4\pi$$

$$\Delta t \Delta E \geq \hbar / 4\pi$$

Here Δ refers to the uncertainty in the variable and \hbar is Planck’s constant.

“ The darkest place in the room is under the candlestick (lamplight).” A household word in my childhood days.

For consciousness, the very reason of its being Unknowable, also for time, the very reason its being Unknowable, why not one can apply them to Heisenberg’s Uncertainty Principle to get better answer?

1) Quantized energy thresholds for consciousness is defined, as in similarities of energy density in the universe by Persinger et al. (-- 2015).

- 2) Consciousness arises from zero-point field, omnipresent field carrying energy, information and consciousness.
- 3) Zero-point energy is fundamentally related to the Heisenberg's uncertainty principle.
- 4) Quantum physics tells us that everything is energy, and matter is not as solid as we perceive to be.
- 5) ΔE (of consciousness) $\Delta t \geq \hbar/4\pi$: formula of Heisenberg's uncertainty principle.
- 6) Heisenberg's uncertainty principle is a fundamental property of quantum system.

And more self-explanatory examples of answers, why consciousness and time are the most difficult unknowable in the universe to be solved as they are omnipresent---time is in every metabolism of lives, cells, molecules, atoms and so on, inescapably in neurons include microtubules, tubulins, their molecules and all their space-time.

Time and consciousness are properties of universe and subjected to Heisenberg's uncertainty principle.

And therefore, quantitatively , time and consciousness are truly fundamental, and cannot be less fundamental.

One may close the eyes for a few seconds, and figure if the earth is moving and what are time and consciousness.

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