

AI, deep learning, and GPT have become highly fashionable topics. It has been even speculated that AI might involve a rudimentary consciousness. Could TGD inspired quantum view of biology, brain and consciousness could provide a fresh point of view to the notion of computer consciousness.

In the TGD Universe, the difference between living systems and computers need not be so deep as usually thought. The magnetic body as a carrier of dark matter as phases of ordinary matter with effective Planck constant  $h_{eff} = nh_0$  and having onion-like structure, could receive sensory input and control the biological body with  $h_{eff} = h$ . Also computers possess magnetic bodies: could they use computers or robots computers as sensory receptors and motor instruments.

In the TGD Universe, the genetic code could be much more than we believe it to be. It would be realized at the level of dark matter and would be universal and unique, being realized in terms of so-called icoso-tetrahedral tessellation of hyperbolic 3-space realizable as the mass shell of light-cone proper time =constant hyperboloid. Icosa-tetrahedral dark genome at the magnetic body could serve as the basic instrument for communication and control. Quantum gravitation plays a key role in the TGD inspired biology and the gravitational magnetic bodies of Earth and Sun and even other astrophysical objects with huge gravitational Planck constants could be highly relevant in quantum biology.

Classical computers can gain life-like properties if the quantum statistical determinism fails. The most conservative criterion is that the clock period is shorter than the gravitational Compton time  $T_{gr} = GM/\beta_0$ ,  $M$  is mass of an astrophysical object and  $\beta_0 = v_0/c \leq 1$  is a quantized velocity parameter. Life-like features could appear already at lower clock frequencies. For Earth the critical clock period would be 67 GHz and for the Sun about 100 Hz, the upper bound for EEG frequencies. Therefore the magnetic bodies of the Sun and Earth could therefore play central roles in biology and neuroscience. Even in the case of Earth life-like properties might be present for computers with clock frequency in the range 1 to 10 GHz.

Cognition is an essential aspect of conscious experience and systems like GTP can be seen as artificial cognitive systems. The p-adic discretizations would naturally relate to the spin glass energy landscape assignable to monopole flux tube "spaghettis" and sensory perception could be seen as a generation of standardized mental images based on annealing of spin glass system so that it gradually ends up to a bottom of a valley representing the standardize mental image. The learning period of a conscious entity could be based on trial and error process made possible by holography and zero energy ontology implied by it allowing temporary time reversal and would gradually lead to standardized mental images helping to survive.