Towards a Possible Solution of Chalmers' Hard Problem and to Definitions of Life and Consciousness

Marko Vitas†
Independent Researcher
Laze pri Borovnici 38,
Borovnica,
1353 Slovenia
vitas.marko83@gmail.com

Abstract/Povzetek

There is no consensus about what cognition and its emergent form, consciousness, are. Yet this expanded abstract proposes a new definition of consciousness. As many researchers, philosophers and other thinkers believe that life means cognising, this new definition of consciousness stems from a generalisation of the existing Vitas & Dobovišek definition of life which postulates that *Life is a far from equilibrium self-maintaining chemical system capable of processing, transforming, and accumulating information acquired from the environment*. The new definition includes the thermodynamical aspect as a far from equilibrium system and considers the flow of information from the environment to a conscious system. The new definition of consciousness is formulated in a minimal manner; simultaneously, it is general enough to cover all emergent forms of cognition, *e.g.* thinking and rationality. The newly formulated definition states that *Consciousness is an emergent property of a far from equilibrium system of quantum particles sustained by an autopoietic system and capable of processing, transforming, and accumulating information acquired from the environment*. The newly proposed definition of consciousness may be of interest to cognitive and computer sciences – and even to the development of artificial intelligence. I propose a possible another alternative generalisation by introducing quantum particles to the Vitas & Dobovišek definition of life which refining it into a broader concept: *Life is a far from equilibrium self-maintaining system of quantum particles capable of processing, transforming, and accumulating information acquired from the environment.* A question might be posed here, whether we are not therefore encompassing other complex forms of matter which cannot be considered as life. It is here worth mentioning that some authors, for instance, consider dusty plasmas from the thermosphere – although they are not self-sustaining – as a fourth state of matter and fourth domain of life, something in between non-living and living matter. Newly formulated definition of consciousness presents a possible solution to Chalmers' hard problem of consciousness. By including quantum particles which do not have classical trajectories, in my definition of consciousness, which is apparently an emergent property of cognition, the solution to the Chalmers' hard problem may be found in the introduction of additional multiple dimensions. Organisms (including individual cells) are those who interpret; the interpretation process or semiosis (in the sense of C. Peirce) is the process of life. Digital coding might relate to the reduction of dimensions, and it is highly context-dependent, like digital coding of analogue protein three-dimensional structures in the unidimensional linear, genetic sequences or vice versa expanding of dimensions after interpretation, translation of linear digital genetic sequences into three-dimensional analogue protein structures. At this point, it is worth mentioning that interpretants should have the same dimension as analogue structures, providing additional information. Each biopolymer is an emergent molecule. Evolution gives rise to emergence. Undoubtedly, there is an emergence of three-dimensional structures from linear unidimensional digital sequences. Likewise, consciousness is an interpretant of the signals coming from the environment. Adding extra dimensions for the interpretant might shed new light on problems connected with consciousness, including Chalmers' hard problem. Yet perhaps a question worth posing at this point is whether we are not living in some sort of hyper-digital world coding for a hyper-analogue world. Could this view present a possible solution to Chalmers' hard problem of consciousness?

Keywords/Ključne besede

Definition of Consciousness, Definition of Life, Origins of Life, Chalmers Hard Problem, Cognition, Far from Equilibrium

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