Review of: "The Study of Consciousness Is Mired in Complexities and Difficulties: Can They Be Resolved?"

Andrew and Alexander Fingelkurts¹

1 BM-Science - Brain & Mind Technologies Research Centre

Potential competing interests: No potential competing interests to declare.

The Deep Essence of Consciousness: In Search of Definition.*Review of: "The Study of Consciousness Is Mired in Complexities and Difficulties: Can They Be Resolved?"*

The target article is a bold and ambitious attempt to state the long-standing (but often ignored) problem of consciousness definition, in which there are a slew of notions that purport to define the same phenomenon or, conversely, different phenomena labelled with the same notion of consciousness.

The target article's strength is that it provides a concise yet informative etymological, semantic, sociolinguistic, and methodological overview of the term "consciousness". Another strength is that the author offers a number of thoughtprovoking suggestions that may help in finding a more inclusive and accurate operational definition of consciousness. In this context, we are very sympathetic with the author's distinction between two notions that are frequently used interchangeably: "conscious" and "consciousness". According to the author's historical analysis, the term "conscious" has traditionally been used to refer to a physiological state such as being awake or in medical contexts, whereas "consciousness" is typically used to refer to the mental character of subjective experience – phenomenology. The author makes a specific suggestion that the uncapitalized word "consciousness" be used in reference to physiological or medical conditions, or in more mundane usages in common vernacular, such as "moral consciousness" or "group consciousness", whereas the capitalized word "Consciousness" be used when the phenomenality of the mentality is in question. The author believes that if widely adopted, such wordsmithing will provide the necessary clarity in discussions about the phenomenon of consciousness. We find this suggestion useful because in our own work, we systematically use the capitalized "Selfhood" when referring to the phenomenal self-consciousness in contrast to a more mundane and mechanistic usage of "self" (Fingelkurts et al., 2020, 2022, 2023).

In actuality, the author's intuition aligns with the widely accepted categories of consciousness (Kuhn, 2024): making a distinction, for instance, between "mental state consciousness," which is the phenomenal state of experiential engagement with one's surroundings and self, and "creature consciousness," which is the somatic condition of being awake and responding to stimuli mechanistically. As noted by philosopher Massimo Pigliucci, "you do not need phenomenal consciousness in order to react to the environment. Plants do it, bacteria do it, all sorts of stuff does it." (Pigliucci, 2023). At the same time, what is most difficult to comprehend, but also the most fascinating, is that we humans have "this

amazing, entertaining inner movie going on in our minds" (Chalmers, cited from Kuhn, 2024; p. 29), which persists even when we are isolated from our environment or deprived of stimuli (Hruby et al., 2024).

We think that this is exactly the point where the deepest essence of the consciousness phenomenon reveals itself. It is the felt qualities of our internal, *phenomenological* experience. This is Consciousness, with a capital "C". We take a stand that phenomenal Consciousness refers to all immediate and undeniable from the first-person perspective facts (phenomena) of subjective experiences (concerning the felt qualities such as hearing, seeing, touching, feeling, embodiment, moving, and so on) that present to a person right now and right here (Fingelkurts et al., 2009, 2012). This subjective phenomenal "world" is composed of a finely nested hierarchical architecture that is highly dynamic (Fingelkurts et al., 2010, 2013). In this regard, this notion is consistent with the author's claim that Consciousness is a dynamic, multifaceted "process" rather than a "thing" hidden in the brain. The author of the target article believes that theses based on the notion of Consciousness as "process" offer a better chance of success in the pursuit of a more tangible definition of the consciousness phenomenon.

While this definition does not answer the questions of why and how Consciousness emerged (Papineau, 2020), it appears to bring us closer to understanding the essence of our inner awareness of felt experience. If Consciousness is about the phenomenological experience, then everything that does not involve it is something else. Such understanding allows for greater clarity in situations where a person (patient) is unable to report his or her subjective phenomenological experience. Patients who are classified as having "Disorders of Consciousness" (DoC), a generic term used in clinical practice to describe patients who have recovered their ability to exhibit overt behaviors but are no longer comatose, are an example of this. These patients are typically in one of the following states: (i) vegetative state (VS) (Jennett and Plum, 1972), recently renamed unresponsive wakefulness syndrome (UWS) (Laureys et al., 2010), and defined as a "clinical condition of complete unawareness of the self and the environment" (Multi-Society Task Force on PVS, 1994; p. 1499), and (ii) minimally conscious state (MCS), which is "a condition of severely altered consciousness in which minimal but definite behavioral evidence of self or environmental awareness is demonstrated" (Giacino et al., 2002; p. 350-351)". As we have argued elsewhere, "the diagnostic tools/instruments available for clinicians are intended to assist them in recognizing overt behavioral responses to auditory and visual stimuli, which are indirect indicators of self and environmental awareness. They are of no help (regardless of how meticulously they are administered) in the specific situation where the patient may be conscious but show no behavioral signs of it at all" (Fingelkurts and Fingelkurts, 2023; p. 2). The goal of such clinical evaluation is to identify a physiological, mechanistic "conscious" condition rather than a first-person felt experience - phenomenal Consciousness. The question is, how can we detect the presence of such Consciousness in DoC patients who are unresponsive and unable to provide subjective reports?

The author of the target article dedicated an entire section to the so-called Neural Correlates of Consciousness (NCC), which may be useful in this regard. While research into NCC has been very useful in accumulating knowledge, we believe that future progress in understanding how a specific level of brain functional organization manifests itself as a subjective world will be in the search for neural *constitutives* of Consciousness. In this context, "the constitutive basis includes such immediately lower-level entities on which consciousness as a whole is ontologically dependent [...], meaning that [C]onsciousness could not exist without them to be present. In other words, a constitutive explanation describes

immediate lower-level processes that as a whole is [C]onsciousness" (Fingelkurts et al., 2013; p. 14). Indeed, as neurophilosopher Antti Revonsuo contends, "consciousness can in principle exist even in the absence of the entities and activities that make up its etiological pathway, while it cannot, even in principle, exist without the entities and activities that make up its constitutive basis" (Revonsuo, 2006). The most promising approach to find specific neural constitutive bases of Consciousness is neurophenomenology, where proper neurophysiological third-person data (e.g., EEG) is integrated with first-person phenomenological data (e.g., subjective experience and reports) (Varela, 1996; Lutz and Thompson, 2003). In this context, "if a causal link between objective and subjective accounts is established, it may offer an attractive possibility to assume the state of one account (phenomenal) by measuring the other one (neuro). This is especially important for cases of nonresponsive patients, who cannot provide subjective reports" (Fingelkurts and Fingelkurts, 2023; p. 3). Given what has been said, if, for example, a neural constitutive basis of Consciousness is discovered in patients diagnosed with VS/UWS, this would imply that they are not vegetative at all, but rather physically non-responsive with retained phenomenal awareness, the covert signs of which are revealed through neuro-screening (e.g., qEEG), regardless of whether these patients do not exhibit self-reflective abilities on additional behavioral/instrumental tests. The same logic applies to phenomenal experiences while sleeping, under anesthesia, or in deep meditation. If no such constitutive basis of Consciousness is found, a person/patient should be considered to be in either subconscious, unconscious, or even nonconscious state (for a detailed description and analysis of the sub-, un-, and non-consciousness, see Fingelkurts and Fingelkurts, 2023).

As a final comment, we would like to address the author's reference to ancient Eastern philosophy and tradition in an attempt to gain an additional insight into the Consciousness conundrum. We are very sympathetic to this approach and also believe that Vedic and Buddhistic traditions can offer a new angle (or angles) on the topic at hand. However, as we have argued elsewhere, "it is necessary to keep in mind that Eastern traditions frequently fail to clearly distinguish between phenomenological, epistemological, and metaphysical readings of concepts such as 'pure consciousness' " (Fingelkurts and Fingelkurts, 2023; p. 7). In our reading of the relevant literature, after analytically separating phenomenological descriptions from metaphysical interpretations, it is highly likely that the descriptions of contentless states of the quiet mind (that are not accessible to knowledge and awareness) relate to the unconscious (but *phenomenal*) level that is distinct from Consciousness, which is a phenomenal awareness of subjective experience as defined above.

In conclusion, we would like to congratulate the author of the target article on an important contribution to the field, as the current situation with the maze of consciousness terms impedes understanding, prevents the accumulation of fundamental knowledge, and slows progress in Consciousness studies.

References

Fingelkurts AA, Fingelkurts AA. Contemplating on the nature of Selfhood in DoC patients: Neurophenomenological perspective. *Journal of Integrative Neuroscience*, 2023; 22(1): 23, https://doi.org/10.31083/j.jin2201023

Fingelkurts AA, Fingelkurts AA. Patients with disorders of consciousness: Are they nonconscious, unconscious, or

subconscious? Expanding the discussion. Brain Sciences, 2023; 13: 814, https://doi.org/10.3390/brainsci13050814

Fingelkurts AA, Fingelkurts AA, Neves CFH. Phenomenological architecture of a mind and operational architectonics of the brain: The unified metastable continuum. *New Mathematics and Natural Computation*, 2009; 5(1): 221–244, https://doi.org/10.1142/S1793005709001258

Fingelkurts AA, Fingelkurts AA, Neves CFH. Natural world physical, brain operational, and mind phenomenal space–time. *Physics of Life Reviews*, 2010; 7: 195–249, https://doi.org/10.1016/j.plrev.2010.04.001

Fingelkurts AA, Fingelkurts AA, Neves CFH. "Machine" consciousness and "artificial" thought: An operational architectonics model guided approach. *Brain Research*, 2012; 1428: 80-92, https://doi.org/10.1016/j.brainres.2010.11.079

Fingelkurts AA, Fingelkurts AA, Neves CFH. Consciousness as a phenomenon in the operational architectonics of brain organization: Criticality and self-organization considerations. *Chaos, Solitons & Fractals*, 2013; 55: 13–31. http://dx.doi.org/10.1016/j.chaos.2013.02.007

Fingelkurts AA, Fingelkurts AA, Kallio-Tamminen T. Selfhood triumvirate: From phenomenology to brain activity and back again. *Consciousness and Cognition*, 2020; 86: 103031, https://doi.org/10.1016/j.concog.2020.103031

Fingelkurts AA, Fingelkurts AA, Kallio-Tamminen T. Self, Me and I in the repertoire of spontaneously occurring altered states of Selfhood: Eight neurophenomenological case study reports. *Cognitive Neurodynamics*, 2022; 16:255–282, https://doi.org/10.1007/s11571-021-09719-5

Fingelkurts AA, Fingelkurts AA, Kallio-Tamminen T. The Selfhood-components dynamics in the spectrum of discrete normotypical and pathological modes. *Journal of NeuroPhilosophy*, 2023; 2(2): https://doi.org/10.5281/zenodo.10203089

Giacino JT, Ashwal S, Childs N, Cranford R, Jennett B, Katz DI, et al. The minimally conscious state: definition and diagnostic criteria. *Neurology*, 2002; 58: 349–353, https://doi.org/10.1212/WNL.58.3.349

Hruby, H., Schmidt, S., Feinstein, J.S. et al. Induction of altered states of consciousness during Floatation-REST is associated with the dissolution of body boundaries and the distortion of subjective time. *Scientific Reports*, 2024; 14: 9316, https://doi.org/10.1038/s41598-024-59642-y

Jennett B, Plum F. Persistent vegetative state after brain damage. A syndrome in search of a name.*The Lancet*, 1972; 1: 734–737, <u>https://doi.org/10.1016/S0140-6736(72)90242-5</u>

Kuhn RL. A landscape of consciousness: Toward a taxonomy of explanations and implications. *Progress in Biophysics and Molecular Biology*, 2024; 190: 28-169, <u>https://doi.org/10.1016/j.pbiomolbio.2023.12.003</u>

Laureys S, Celesia GG, Cohadon F, Lavrijsen J, León-Carrión J, Sannita WG, et al. Unresponsive wakefulness syndrome: A new name for the vegetative state or apallic syndrome. *BMC Medicine*, 2010; 8: 68, https://doi.org/10.1186/1741-7015-8-68 Lutz A, Thompson E. Neurophenomenology: integrating subjective experience and brain dynamics in the neuroscience of consciousness. *Journal of Consciousness Studies* 2003; 10: 31–52.

Multi-Society Task Force on PVS. Medical aspects of the persistent vegetative state (1).*The New England Journal of Medicine*, 1994; 330: 1499–1508. DOI: 10.1056/NEJM199405263302107

Papineau D. The problem of consciousness. In: Kriegel, Uriah (Ed.), *The Oxford Handbook of the Philosophy of Consciousness*. Oxford University Press, 2020, https://global.oup.com/academic/product/the-oxford-handbook-of-the-philosophy-of-consciousness-9780198749677?cc=au&lang=en&#

Pigliucci M. Philosophy of Evolutionary Cognition, Emotion, Consciousness. *Closer To Truth.* 2023, https://closertotruth.com/video/pigma-004/?referrer=36211.

Revonsuo A. Inner presence: consciousness as a biological phenomenon. Cambridge: MIT Press; 2006.

Varela F. Neurophenomenology: a methodological remedy for the hard problem. *Journal of Consciousness Studies*, 1996; 3: 330–349.