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

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The essence of the paper revolves around addressing the complexities and difficulties in the study of consciousness. The author, Jonathan Nash, critiques the lack of clarity and consensus in the terminology and definitions surrounding consciousness research. He emphasizes the need for "semantic lucidity" and proposes a distinction between the medical/physiological and mental/psychological notions of consciousness. To clarify, he suggests using 'consciousness' in lowercase when referring to the medical/physiological state (such as being conscious vs. unconscious) and 'Consciousness' with a capital 'C' for the mental/psychological context, abbreviated as 'C'.

This proposed distinction is meant to reduce the confusion that arises from the overlapping and conflated usage of the term in various contexts. The author argues that such clarity would improve communication in the field and aid in advancing research. He also supports the view of consciousness as a process rather than a tangible thing localized in the brain, aligning with the idea that consciousness arises from complex, dynamic interactions within the nervous system.

The author's idea of distinguishing between 'consciousness' and 'Consciousness' seems useful in the context of academic and scientific discourse; however, I have tried to apply this distinction to my own years of effort to formulate a convincing definition of what we are talking about when we mention terms such as "sentience, self-awareness, and Consciousness".

To explain my position, I am forced to quote what I wrote in the text: "Review of: What is it like to be an AI bat?" [https://doi.org/10.32388/Q61JG6]. I wrote there...

[" **What we understand by concepts such as sentience, self-awareness, and consciousness**.

So, using the conclusions from our previous articles [1,2,3], we will adopt the following understanding of these concepts:

Sentience

Sentience is the awareness that external interaction is taking place. It is also the capacity to have subjective experiences and feelings, or more simply, the ability to perceive and experience sensations. This notion is commonly used in discussions about animal rights. In the context of animals, sentience refers to the ability to feel, perceive, or experience subjectively. This includes the capacity to experience positive or negative influences and emotional states, like happiness

or suffering.

Self-awareness

We will try to approximate what self-awareness is – first - by attempting to answer the question ***what does the statement 'I am self-aware' mean in colloquial understanding?***

To respond to this question, we must first define such a mental state as simply and intuitively as possible. So, it seems that to be conscious, one needs to... { *understand one's own separateness from other beings (and objects) perceived around oneself and be able to perceive oneself against the background of images of the surrounding world, taking into account one's* ***past existence*** *and* ***anticipating the outline of possible future events****}.*

To refine this description, it's necessary to introduce the extremely important concept of ***imagination (mental images, imagery).*** This initial definition can then be clarified. It's also important to discuss the concept of *self-image.* Imagining objects previously seen, such as an apple, a tree, a chair, a table, involves recalling an image of these objects from memory. This enables us to see them with our eyes closed, albeit less vividly. We sometimes describe this sensation as 'seeing something with the eyes of the imagination'. The same applies to auditory and tactile perceptions, as well as actions. Movements or complex behaviors can also be imagined.

Thus, we can now say that consciousness consists of the ability of the nervous system to ***{ imagine oneself against the background of the image of the known world or on the backdrop of imagery of the world }.*** However, in the proposed explanation, there is the phrase ***'imagine oneself',*** the meaning of which requires further clarification. To progress in our inference, we need to define what self-perception is.

Living beings, especially humans, experience a constant state of self-perception during periods of wakefulness. Beyond the visual and auditory sensations perceived then, animals and humans experience sensations from within their own bodies. These stimuli come from surface sensory receptors, joint sensory receptors, sensations from the respiratory system, the heart, and sometimes other organs. Sensations from one's own body can also be imagined to some extent.

Self-images also include ***autobiographical data***. Shortly after waking up, there's a moment of quick review of one's biographical path, a mental journey back in time, which gives exactly the feeling that I am 'John Doe'. ***Intense self-images also include memorized data about social and situational relationships.*** The ability to recall ***'stories about oneself'*** and various types of ***'opinions' about oneself*** is also important.

Since it can be stated that the sense of consciousness occurs only when awake, when body perception takes place, the image of oneself is a slightly different process than the imagination of an object known from visual perception. The image of oneself is superimposed on the perception of oneself.

Hearing or listening to words in natural language, such as apple, tree, chair, activates the same neuronal structure that was active during the perception of images of these objects. However, the neuronal process occurring ***after the activation of the word 'I'*** is much more complicated, and a substantive discussion of it requires considering contemporary neurophysiological theories.

Consciousness

Consciousness is the state of being aware of and able to think and perceive one's surroundings, thoughts, and emotions. It encompasses self-awareness, cognition, and the subjective experience of existence.

Beyond individual awareness, it also implies a collective understanding and interconnectedness among beings. This multifaceted concept has been explored in various disciplines, from neuroscience to philosophy, and remains a central subject of inquiry, bridging the tangible and the intangible, the known and the mysterious.

Self-awareness and consciousness in terms of neuroscience

The above intuitive, common-sense definition of consciousness can be presented using the terminology of neuroscience. We did this in our recent work [1,2]. We state therein that understanding self-awareness requires the integration of several contemporary neurophysiological theories. We write there that a condensed, brief presentation of an attempt to integrate these theories is as follows:

(i) - Some researchers emphasize that understanding the nature of consciousness requires the ability to explain ***the feeling of qualia.*** The 'Orch - OR' theory, proposed by Stuart Hameroff and Roger Penrose, which suggests that quantum processing occurs in microtubules, offers a potential explanation for the essence of feeling qualia. We propose that the perception of qualia can also be understood as specific changes in ***the shape of the brain's electromagnetic field, formed during perception*** [4].

(ii) - In order to be aware, we also need to ***feel our bodies, remember various data about the world (including opinions about ourselves), and, importantly, be able to retrieve this data, that is, to realize mental imaginations.*** We should also be able to conceive an image of ourselves ("self-image"). For the 'image of oneself' to arise, there must be a recursive circulation of impulses across many levels of the multi-level structure, including the parietal and prefrontal lobes.

(iii) - It is necessary to be able to explain what structures and processes are needed for ***the formation of the subject, the element called by the word 'self' or "I".*** MacFadden, author of the "conscious electromagnetic information field theory (cemi)," points out, probably rightly, that for "consciously perceive something," not only a certain process takes place, but also ***the existence of spatial objects*** is necessary. The realization of such a spatial object is possible thanks to the electromagnetic field of the brain that is created in the process of imagining oneself. Such an object can be mentally identified with ***that subject, the self*** [2].

(iv) - When aware, we always pay attention to a specific, chosen area – in other words, we "focus attention" on a certain field of matters. It's necessary to explain the neural basis of ***the process of "focusing attention"*** on a selected area.

References

1. Brodziak A. A current model of neural circuitry active in forming mental images. Med Sci Monit. 2013;19:1146-58.

https://doi.org/10.12659/MSM.889587
2. Różyk-Myrta A, Brodziak A, Muc-Wierzgoń M. Neural circuits, microtubule processing, brain's electromagnetic field - components of self-awareness. Brain Sci. 2021;11(8):984. https://doi.org/10.3390/brainsci11080984
3. Brodziak A, Abram D, Różyk-Myrta A. Planetary consciousness incites probably transcendent feelings and deepens the polarization of worldviews. Qeios 2023, https://doi.org/10.32388/BU24PQ

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The above citation of my own definitions shows that it is not possible not to use concepts from both the "physiological" and "mental/psychological" levels in these definitions. These considerations cannot be separated. This is my personal conviction.

The difficulties discussed here in defining what we mean by terms such as self-awareness and consciousness will, in my opinion, only diminish as tests are established to check whether a given character, person, or entity is conscious or not. The Turing Test and the Mirror Test are unsatisfactory in this respect.

Conclusion of the reviewer

Nevertheless, Jonathan Nash's paper offers a valuable critique of the current state of consciousness research, particularly in terms of its semantic and methodological challenges. The proposed distinction between 'consciousness' and 'Consciousness' could be sometimes useful. The paper draws attention to the need for more precise operational definitions and a reconsideration of the assumptions underlying current research methodologies.