Commentary

Reporting and Subjectivity Traps: A Brief Opinion Article on Consciousness as Belief

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We explore the notion that consciousness may be more of a belief than an empirically verifiable fact, shaped by the subjective nature of our experiences and the inherent limitations of reporting them. Contemporary science has yet to provide definitive proof of subjective experience beyond self-reports, which even sophisticated machines could mimic under specific conditions. Philosophical concepts such as phenomenological zombies—creatures identical to us but lacking consciousness—highlight the difficulty of distinguishing between actual conscious experience and mere behavioral reports. Current experimental designs often conflate metacognition (beliefs about perception) with consciousness, as seen in Higher-Order Thought theories and the Perceptual Reality Monitoring theory. These frameworks suggest that our sense of being conscious arises from metacognitive processes, potentially leading to cognitive biases. Studies involving disruptions to brain regions responsible for metacognitive accuracy further complicate our understanding of consciousness. Additionally, phenomena like delusional misidentification syndromes challenge the assumption of a coherent self that reliably perceives and reports reality. By questioning these assumptions, we propose that consciousness might be an elaborate belief system, a convenient construct for survival rather than an intrinsic quality of our being. This perspective urges a reconsideration of the fundamental nature of consciousness and our approach to studying it.

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At our core, our minds operate as sophisticated belief engines. As we mature, we gather a repertoire of ideas, opinions, and beliefs about ourselves and the world. Through repetition, these notions solidify into the bedrock of our identity, shaping our perceptions of reality and our understanding of relationships,

politics, and even the laws of physics. Consider, for instance, our belief in consciousness. Contemporary science lacks empirical proof of subjective experience beyond explicit reports, which any (cognitive) machine could be programmed to elicit under specific situations.

Both professional philosophers and scientists have reflected on the possibility of existence of creatures physically identical to us, but lacking any conscious experience (Kirk, 2019; Bourget & Chalmers, 2014). These creatures are typically called phenomenological (p) zombies and are supposed to have exactly our same biological structure, but lacking phenomenological or subjective experiences. In our point of view, obtaining evidence against the hypothesis of being a p-zombie necessitates two main elements (i.e. limitations) based on contemporary consciousness science: a coherent reporting behaviour and a reporter.

The reporting trap

When designing experiments to investigate the mechanisms involved in creating a conscious experience, it is not only preferable to ask participants to report whether they perceived a stimulus or not, but it might be the only theoretically valid measure of consciousness. Contemporary reporting experiments seem to suggest that, at least at discrimination tasks, subjective visibility ratings (such us the Perception Awareness Scale; Ramsøy & Overgaard, 2004) are closer to what the subject is consciously perceiving than objective task performance (Van Boxtel, Tsuchiya & Koch, 2010). However, operationalizing conscious experience as being identical to the subjective ratings reveals a key limitation in current reporting experiments, the fact that that there is no clear dissociation between consciousness and beliefs about our perception (i.e. metacognition), to the extent that one invokes the other (Shea & Frith, 2019).

Perhaps this blurred division between metacognition and consciousness led to the formulation of the Higher-Order Thought (HOT) theories of consciousness. HOT theories basically claim that conscious experiences “entail some kind of minimal inner awareness of one’s ongoing mental functioning, and this is due to the first-order state being in some way monitored or meta-represented by a relevant higher-order representation” (Brown, Lau & LeDoux, 2019). This empirically means that one should expect a positive correlation between metacognitive ratings and task performance, at least under normal conditions. The obscure line dividing metacognition from consciousness is even more evident in recent updates in HOT theories such as the Perceptual Reality Monitoring theory (PRM; Lau, 2019). PRM regards conscious experience as the result of a reliable (predicted) higher-order (metacognitive) representation being activated together with a first-order representation. Given this definition, we can assume

consciousness to be directly related to the correlation between objective and subjective reports (known as metacognitive sensitivity). Crucially, PRM makes a clear point when introducing that this only happens when the predictions of reliability are high, or that consciousness is a belief system with its associated predictions of reliability. If this was to be correct, we might believe we are conscious of being in some mental state when, in fact, we might make wrong inferences due to cognitive biases.

In a popular experiment, at each trial participants reported whether a square appeared on the left or on the right of a fixation cross while simultaneously reporting the relative visibility of that figure (Rounis et al., 2010). Although their discrimination performance was stable with use of a staircase procedure, their visibility ratings changed depending on the functioning of the dorsolateral prefrontal cortex (which was impaired with use of transcranial magnetic stimulation). Participants in this study were equally correct in their decisions even though their subjective experiences of visibility were no longer coupled to their task accuracy, meaning that there was an impairment in their metacognitive ability (i.e., the ability to know what is known). It is inferred that the metacognitive representation was interrupted from matching the unconscious representation. This type of results, if correct, shed light on the idea that we may believe to be conscious of something, while the reality is that perhaps there is no actual information available (such as when participants report perception while making discrimination mistakes). One may still argue that although the subject presents an incoherent reporting behaviour, the beliefs held may be the actual conscious experience, even if alienated from reality. This is because there is still one important unspoiled element, the existence of an alienated self, the reporter.

The subjectivity trap

Researchers delving into consciousness with use of subjective metacognitive reports share the insidious assumption of a self that knows what is to be known. A brilliant explicit example of this may be found in the minimal-self hypothesis stating that “it is necessarily the case that whenever there is a conscious experience, there is a self” (Lane, 2020). The operational definition of self typically includes identifying processes such as memories of our names or faces and may extend to body maps. Even-though we may not have reached a consensus on its definition, what we know is that (involuntarily) losing our sense of self is an indescribably hard form of suffering (Charmaz, 1983). However, it is arguably plausible that the assumption of a self in the brain possessing subjective perceptions may be false since some incoherences have also been found observing various forms of delusional misidentification syndromes (DMS; Feinberg & Keenan, 2005). Asomatognosia is a form of DMS resulting from right hemisphere lesions which

typically lead patients to reject a part of their bodies as being truly theirs. The opposite style of delusion has also been observed. Some patients may present a form of delusional reduplication of the self by which they believe a compromised part of their body to exist somewhere else in an illusory son or daughter.

Reporting incoherencies may not be a mere reflection of external manipulations, but instead reveal that consciousness is nothing more than a belief susceptible to internal biases. We hypothesize that the brain is systematically biassing itself to enhance its survival, and thus creates an illusory and convenient label attached to accessed information (self vs non-self-related). As any other form of belief, consciousness depends on potentially wrong premises such as that of the 'I exist'. What is even more alarming is this subjectivity trap in our thinking style, a circularity stating 'I exist therefore I am conscious' as well as 'I am conscious therefore I exist'. Until a clear proof of the existence of the self (with its associated definition) is obtained, the possibility of living in a subjectivity trap in which we believe to exist and possess information needs to be rethought.

Summing up, contemporary scientific experiments assume a distinction between consciousness and perception based on premises such as 'others have a self' and 'their self can access information and later report about it reliably'. Perhaps by lessening our assumptions we may find it easier to see ourselves as functioning biological entities of chemical connections of the physical building blocks of the universe. There may not be anything special distinguishing conscious perception from pure perception studies if we stop assuming a mysterious "ghost in the shell".

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