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Consciousness as a Narrativized Self: The Role of Abstract and Inner Thought in Forming the Conscious Experiences

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Abstract

The "hard problem" of consciousness, explaining how physical processes give rise to subjective experience, often leads to speculations beyond empirical science. This article suggests a framework that reinterprets consciousness not as a singular entity but as an emergent, narrativized self-model constructed by the brain. We argue that through the interplay of abstract and inner thought, primarily facilitated by language and implemented by networks such as the Default Mode Network (DMN), the brain generates a running narrative that integrates memories, perceptions, and interoceptive signals into a first-person story of a self-acting in a world. We have supported this by synthesizing evidence from neuroscience, developmental psychology, and philosophy. Although this view does not dissolve the hard problem, it demystifies consciousness by aligning it with other abstract, brain-constructed concepts like creativity or morality, suggesting it is a unique product of the brain's interpretive storytelling function rather than a metaphysical mystery. By implementing this structure and adding these elements, the manuscript will transform from an interesting collection of ideas into a powerful, coherent, and scholarly argument that makes a genuine contribution to the field.

Key Words: Consciousness, Inner thinking, Abstract thinking, Default mode network (DMN), Hard problem of consciousness

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1. Introduction

The human brain is a tool for interpreting information and experiences, as well as for storing these interpretations. It has not evolved to receive information from the external world in a manner that accurately reflects reality. The brain also functions as a prediction machine, constantly attempting to anticipate future events to help us navigate our environment effectively (Rahman et al., 2022). When we perceive an image, it is not an exact representation of the external scene but rather the brain's interpretation of the observed environment. This is why we sometimes suffer from visual errors, where we perceive something that deviates significantly from reality. Similarly, the brain also acts selectively when it comes to hearing sounds. Many external sounds are filtered out, allowing the brain to avoid processing excessive information. At times, we may even hear sounds that are mere illusions.

Our perceptions, what we see, hear, smell, or touch, are all interpretations of stimuli constructed by the brain. We then experience these interpretations as subjective perceptions from a first-person perspective, which may differ from others' subjective experiences of the same stimuli. We never realize the subjective experiences of others. However, these interpretations and the creation of models from sensory signals do not mean that what we perceive is completely far from reality. Therefore, models produced by the brain from the world are an efficient illusion and consistent with real evidence, and are confirmed by most other people. This is different from the illusion of schizophrenic patients, which is raised by brain damage and inconsistent with the perception of normal people. We efficiently discover the surrounding world by this approach, so far (Gregory, 1997; Otten et al., 2017).

However, why most obvious perception for each human, self-consciousness, considered totally illusory without a real base? Most humans share this subjective perception of self and the environment. We see, hear, and touch the world in similar ways, and we can communicate and agree on it. This collective agreement forms the basis of our social "reality."

In this paper, we try to address mechanisms through which we perceive ourselves, others, and the surrounding world subjectively. In times of relaxation, when there are no external concerns, a person thinks his experiences and feelings about himself and the world around him. From this perspective, consciousness may emerge from inner thinking about

experiences and be shaped through abstract thinking, similar to other abstract concepts generated by the newer regions of the human brain.

2. The Hard Problem: From Dualism to Panpsychism

The central challenge in the scientific study of consciousness, often referred to as the "hard problem," was clearly articulated by philosopher David Chalmers. It is the problem of explaining why and how physical processes in the brain give rise to subjective experiences (qualia), such as the redness of the color red or the feeling of pain. While we can readily identify the neural correlates of consciousness (NCCs), the brain activity associated with conscious experience, understanding how this electrical and chemical activity transforms into a rich inner life remains a profound mystery. This distinction is akin to differentiating between identifying the mechanics of visual processing and explaining why we experience vision at all (Chalmers and Chalmers, 2010).

This problem has deep historical roots. Before the modern scientific era, consciousness was often explained through dualism, most famously by René Descartes, who proposed a non-physical soul (the "res cogitans") as the seat of consciousness, interacting with the physical body via the pineal gland. Although Cartesian dualism has been largely abandoned due to the lack of a plausible mechanism and overwhelming evidence of the brain's role in shaping experience, it established a persistent intuition: that consciousness feels fundamentally different from mere physical matter (Thibaut, 2018).

In the conquest of the scientific era, the physical brain is understood as the source of the mind. Yet, the ghost of the "explanatory gap" left by dualism continues to haunt modern materialist theories. If consciousness is not a separate substance, then what is it? Some argue that it is merely an illusion, a compelling but ultimately empty story the brain tells itself. However, this perspective seems to dismiss the very phenomenon that requires explanation. As Chalmers notes, we are not unfeeling philosophical zombies merely processing information; we are beings who experience that processing (Márton, 2019).

One radical proposed solution is panpsychism, the view that consciousness is a fundamental property of the universe, similar to mass or charge. Within this framework, simple particles

possess rudimentary forms of consciousness, and the remarkable complexity of the human brain combines and amplifies these proto-conscious elements into the rich stream of awareness we experience (Chalmers, 2016a). While this perspective elegantly avoids the problem of consciousness "emerging" from entirely non-conscious matter, it faces significant challenges, notably the "combination problem": how do these tiny bits of consciousness merge into a unified whole? (Chalmers, 2016b). Furthermore, from an evolutionary standpoint, we would expect to observe a continuum of conscious experience across the animal kingdom. Although we infer consciousness in animals such as chimpanzees, consciousness lacks clear, observable "simpler forms" in less complex organisms, making its status as a standard evolutionary trait difficult to establish empirically (Grinde, 2024).

Therefore, the hard problem persists. Neither dualism, illusionism, nor panpsychism has provided a fully satisfactory answer. This impasse suggests the need for a different framework, one that bypasses the traditional metaphysical debate and examines consciousness not as an entity to be found, but as a process to be understood.

Perhaps physicalism entails accepting the concept of panpsychism; however, in addition to the lack of experimental evidence supporting this theory, it faces a significant challenge known as the combination problem. This problem questions how the experiences of individual fundamental entities (such as quarks or electrons) could combine to create the rich and complex consciousness we experience. In other words, panpsychism may fail to provide a plausible mechanism for this combination, leaving it unable to explain the emergence of higher-level consciousness from the experiences of basic entities (Chalmers, 2016b).

3. Conscious reflection on fundamental states

As an essential question, when do we become aware of ourselves, the external world, and our emotions? The answer is that when we think consciously about them. Particularly when we are not struggling with routine daily problems or are in a relaxed mental state, we tend to contemplate these fundamental questions and humanistic concerns more deeply. The initial experiences of early humans with abstract thinking may have occurred during

times when they were neither hungry nor ill, and as they lay under the sky and thought about the stars, the world, and their situation in the world. These early reflections likely marked the beginnings of religious thought as the first explanations of the world (Henriksen et al., 2020).

In most daily activities, we behave in an unconscious brain mode. In his book Thinking, Fast and Slow, Daniel Kahneman distinguishes between two modes of thinking. He describes "System 1," which represents our unconscious mind, automatic, intuitive, and effort-free processes, and "System 2," which reflects our conscious thinking, deliberate, analytical, and effortful reasoning. This dual-system model highlights how our minds operate subconsciously and consciously, influencing our decisions and judgments. This preferred evolutionary trait allows the brain to perform repeated actions with minimal energy consumption. The conscious mind enables humans to think, plan, and make intentional choices, especially in solving complex problems and interacting with others. On the other hand, the subconscious mind plays a vital role in reacting swiftly to potential threats by quickly processing environmental signals, allowing individuals to respond without needing to consciously think first. This balance between the two aspects of the mind promotes adaptive behavior, enabling humans to effectively navigate social challenges and immediate dangers (Kahneman, 2011).

4. The various parts of the brain contribute to conscious thinking

At times, we consciously perform inner thinking or a monologue about life, the universe, and ourselves, involving several parts of the brain. The conscious experience of an inner life emerges from the dynamic interplay of a distributed network. This collaboration transforms disparate cognitive functions, memory, prospection, self-reference, and emotion, into a coherent, first-person narrative.

Central to this process is the Default Mode Network (DMN), which acts less like a collection of parts and more like the narrative conductor of the brain’s orchestra. It becomes most active not when we are engaged with the outside world, but when we turn inward, when we reminisce, imagine the future, or ponder our place in the universe (Andrews-Hanna, 2012). Its function is fundamentally integrative:

The posterior cingulate cortex (PCC) and precuneus serve as a central hub, drawing upon autobiographical memories stored and contextualized by the medial temporal lobe (including the hippocampus). This provides the raw material, the characters, settings, and past events, of our life story. Simultaneously, the medial prefrontal cortex (mPFC) is not merely "thinking about ourselves." It is actively generating a model of the self, our traits, beliefs, and goals, and projecting this model across time. It uses the sensory scaffolding provided by the temporo-parietal junction to situate the self in a spatial and social context, allowing us to see ourselves from a third-person perspective or to theorize about the minds of others (Menon, 2023).

This entire process is imbued with emotional valence and salience by structures like the amygdala and the broader limbic system, which tag certain memories and future simulations as meaningful, frightening, or desirable, thus guiding the narrative's plot and motivations. These regions exhibit highly synchronized activity during rest, enabling the integration of diverse cognitive and emotional signals into a coherent internal narrative. This synchronization creates a continuous and unified subjective experience by weaving together memories, emotions, sensory information, and self-models in real time.

Empirical evidence shows that disturbances in DMN connectivity correlate with diminished levels of consciousness in clinical disorders, underscoring its role in sustaining conscious awareness. Furthermore, the DMN dynamically interacts with other brain networks, balancing internal thought and external attention, which supports the flexible construction of moment-to-moment conscious content. Recent neuroimaging and electrophysiological studies demonstrate that precise temporal coordination within DMN hubs enables the brain to assemble disparate cognitive functions into the seamless experience we recognize as the conscious self (Li et al., 2023).

5. The Role of Language in Inner Thinking

If inner thinking constructs a narrative of the self, then language provides the essential grammar and syntax for its composition. It is the cognitive technology that allows for the ordering of abstract experiences into a structured, linear story. There is a profound reciprocal relationship between thought and language; each shapes the other.

This is exemplified by inner speech, the silent 'talking to ourselves' that constitutes so much of our mental life. This internal dialogue is the process of narrativization in action. We are not just having experiences; we are using language to tell them, to assign cause and effect, and to place ourselves as the central protagonist. The influential, though debated, Sapir-Whorf hypothesis underscores this link (Gerrig and Banaji, 1994). While its strongest form, linguistic determinism, is widely rejected, a softer interpretation, linguistic relativity, posits that language can shape habitual thought and attention. The linguistic tools available to us (e.g., a rich vocabulary for emotions, complex tenses for time, syntax for causality) necessarily frame and constrain how we can articulate, and perhaps even experience, our own inner world (Alderson-Day and Fernyhough, 2015).

Furthermore, the act of narration inherently creates a subject-object relationship within one's own mind. In formulating a thought as a sentence, we necessarily make the first-person pronoun, the 'I' who is speaking, and the 'me' who is being talked about. Language, therefore, does not merely describe the self; it instantiates it through the very act of self-referential storytelling. When early humans began to share experiences linguistically, this narrative process externalized, allowing the concept of a continuous self, persistent across time and experience, to crystallize. As philosophers like Heidegger have argued, language is not just a tool we use; it is the medium in which our being and self-awareness are constituted. The development of language in humans is, consequently, inextricably linked to the evolution of a rich and articulate consciousness (Schalow, 1998: Gallagher and Zahavi, 2012).

6. How does inner thinking create a narrative about self and consciousness?

By synthesizing various cognitive, emotional, and autobiographical elements, inner thinking creates a narrative about the self and consciousness. This internal narrative, often experienced as an inner monologue or stream of consciousness, enables a person to organize their experiences, engage in self-reflection, and develop a coherent sense of identity over time. It acts as a unifying process where the "I" (the active self) constructs, edits, and continues to work on a narrative or "Me", a reflexive representation of the self that carries meaning, purpose, and unity. This narrative integrates autobiographical

memories, personality traits, beliefs, and values, shaping the self into a structured, evolving internal story. The narrative sense of self is both pre-reflective (bodily self-awareness) and reflective (cognitive self-awareness), with language and inner speech playing a crucial role. Inner thinking, or internal dialogue, continuously shapes one's self-understanding and maintains a psychological baseline or internal coherence (Scalabrini et al., 2022). Thus, the process of inner thinking creates a layered, integrative narrative that forms the core of self-consciousness, merging ongoing experiences with identity in an autobiographical story form (Marraffa and Meini, 2024).

7. From Narrative to Abstraction: The Formulation of Conscious Experience

The narrative of the self, while coherent, remains a largely internal and subjective story. For it to attain the status of a conceptual understanding, an object of thought that can be reflected upon and refined, it requires the additional layer of abstract thinking (Fireman, McVay, and Flanagan, 2003).

Abstract thinking is the process that formulates the products of inner narrative. It employs inner speech as a cognitive tool to navigate, dissect, and interpret the concepts within our narrative that are not directly tied to sensory experience, such as "self," "justice," or "consciousness" itself. These abstract concepts demand significant linguistic mediation; inner speech provides the essential "scaffolding" to support thought in the absence of concrete cues. This process facilitates metacognition, the ability to think about one's own thinking, and self-monitoring, enabling an active search for meaning and the mental rehearsal necessary to grasp abstract ideas. Neurocognitive evidence confirms this deep integration, highlighting the involvement of core language areas like the left inferior frontal gyrus in the interplay between abstract thought and inner speech (Butz et al., 2017).

Thus, abstract thinking does not merely accompany inner thought; it actively shapes and structures it. Through these layered linguistic and metacognitive processes, the raw data of internal experience is refined and elevated into the coherent, meaningful reflections that characterize our higher conscious experience (Trumpp et al., 2024). It is this final, abstract formulation that renders the private narrative of the self into a knowable concept, completing the argument that consciousness

is indeed a complex but understandable product of the brain's integrative and interpretive functions.

8. Conclusion

Abstract thinking produces ideas that extend beyond physical and tangible realities, such as concepts, facts, theories, principles, patterns, and symbols. This type of thinking allows us to recognize relationships between phenomena. Examples of abstract concepts include scientific theories, mathematical problems, moral rules, philosophical principles, linguistic symbols, music, art, and literary ideas. Humans create intangible concepts by observing real phenomena. A clear example is Picasso's paintings, where he deconstructed the images of surrounding objects and reassembled them using fragmented elements. These paintings are the result of abstract thinking.

Abstract thinking is closely linked to inner thinking. We first reflect on and analyze our experiences, perceptions, and emotions through inner thinking, which acts as a mental dialogue with ourselves. This process provides the foundation for abstract thinking to generate new concepts. Therefore, inner dialogue offers the background and framework for abstract thinking. Conversely, inner thinking produces the raw ideas that drive abstract thinking. Some parts of the brain, such as PFC and DMN, contribute to inner thinking and abstract concept generation. There is evidence that impairment in this area of the brain disrupts abstract thinking.

Moreover, we know that cognitive abilities develop alongside brain growth throughout life. Young children are unable to grasp abstract concepts before the age of 3 to 5 years. The development of self-perception is a gradual process that begins in infancy. While children exhibit a basic form of self-perception, such as recognizing themselves in a mirror or understanding self-agency, up to 24 months, the primary ability for self-awareness typically emerges between the ages of 4 to 5 years. During this stage, children develop the comprehension that others possess thoughts, feelings, and perspectives that differ from their own (Rochat, 2003). Consciousness develops throughout childhood and adolescence, gradually becoming more complex as it encompasses aspects such as awareness of one's place in social groups, self-reflection, and identity. Selfish traits that may persist into adulthood are influenced by self-perception, shaped

by brain development, and the prioritization of individual needs during childhood. In parallel with brain maturation, other abstract concepts also appear in children's lives, such as painting, playing music, and asking questions about the world. The elevated form of this self-perception has been articulated by philosophers and thinkers as self-consciousness through inner and abstract thinking, a topic of debate and conflict throughout history.

There is little doubt about the origin of abstract concepts in the brain. We often accept that environmental factors such as life experiences, education, family, culture, and personal experiences provide the foundation for the creation of works like Victor Hugo's "Les Misérables". Similarly, we recognize that Beethoven's Ninth Symphony was created by his brilliant mind. However, the nature of consciousness and self-consciousness remains a mysterious phenomenon.

We therefore propose that consciousness, or the sense of self, is no different. It is the central narrative product of the brain's abstract-generating systems. During periods of rest, the brain integrates a lifetime of sensory inputs, internal signals, memories, and learned knowledge, processed through inner dialogue, to construct the concept of a continuous self existing in the world. This framework resolves the apparent paradox of self-consciousness: we are both the subject and the agent of this thinking because the "I" is the narrative constructed by the brain, and that same narrative includes the story of an agent who is doing the thinking. In this view, consciousness is not an illusion but a biological achievement, the brain's most intimate and compelling work of abstract art.

References

Alderson-Day B, Fernyhough C. Inner Speech: Development, Cognitive Functions, Phenomenology, and Neurobiology. Psychol Bull. 2015;141(5):931-965. doi:10.1037/bul0000021

Andrews-Hanna JR. The brain's default network and its adaptive role in internal mentation. Neuroscientist. 2012;18(3):251-270. doi:10.1177/1073858411403316

Butz MV, Kutter EF. Language, Concepts, and Abstract Thought. In: How the Mind Comes into Being. Oxford University Press; 2017.

Chalmers DJ. Panpsychism and Panprotopsychism. In: Bruntrup G, Jaskolla L, eds. Panpsychism: Contemporary Perspectives. Oxford University Press; 2016.

Chalmers DJ. The Combination Problem for Panpsychism. In: Bruntrup G, Jaskolla L, eds. Panpsychism: Contemporary Perspectives. Oxford University Press; 2016.

Chalmers DJ. Facing Up to the Problem of Consciousness. In: The Character of Consciousness. Oxford University Press; 2010.

Fireman GD, McVay TE, Flanagan OJ. Narrative and Consciousness: Literature, Psychology, and the Brain. Oxford University Press; 2003.

Gallagher S, Zahavi D. The Phenomenological Mind. Routledge; 2012.

Gerrig RJ, Banaji MR. Language and Thought. In: Sternberg RJ, ed. Thinking and Problem Solving. Academic Press; 1994:233-261.

Gregory RL. Knowledge in perception and illusion. Philos Trans R Soc Lond B Biol Sci. 1997;352(1358):1121-1127. doi:10.1098/rstb.1997.0095

Grinde B. Consciousness makes sense in the light of evolution. Neurosci Biobehav Rev. 2024;164:105824. doi:10.1016/j.neubiorev.2024.105824

Henriksen D, Richardson C, Shack K. Mindfulness and creativity: Implications for thinking and learning. Think Skills Creat. 2020;37:100689. doi:10.1016/j.tsc.2020.100689

Kahneman D. Thinking, Fast and Slow. Farrar, Straus and Giroux; 2011.

Li H, Zhang X, Sun X, et al. Functional networks in prolonged disorders of consciousness. Front Neurosci. 2023;17:1113695. doi:10.3389/fnins.2023.1113695

Marraffa M, Meini C. Self-Consciousness as a Construction All the Way Down. Behav Sci (Basel). 2024;14(3):200. doi:10.3390/bs14030200

Márton M. What Does the Zombie Argument Prove? Acta Analytica. 2019;34(3):271-280. doi:10.1007/s12136-018-0373-4

Menon V. 20 years of the default mode network: A review and synthesis. Neuron. 2023;111(16):2469-2487. doi:10.1016/j.neuron.2023.04.023

Otten M, Pinto Y, Paffen CL, Seth AK, Kanai R. The Uniformity Illusion. Psychol Sci. 2017;28(1):56-68. doi:10.1177/0956797616672270

Rahman MM, Mahmood U, Lewis N, et al. Interpreting models interpreting brain dynamics. Sci Rep. 2022;12(1):12023. doi:10.1038/s41598-022-15539-2

Rochat P. Five levels of self-awareness as they unfold early in life. Conscious Cogn. 2003;12(4):717-731. doi:10.1016/s1053-8100(03)00081-3

Scalabrini A, Schimmenti A, De Amicis M, et al. The self and its internal thought: In search for a psychological baseline. Conscious Cogn. 2022;97:103244. doi:10.1016/j.concog.2021.103244

Schalow F. Language and the Social Roots of Conscience: Heidegger's Less Traveled Path. Human Studies. 1998;21(2):141-156. doi:10.1023/A:1005312105548

Thibaut F. The mind-body Cartesian dualism and psychiatry. Dialogues Clin Neurosci. 2018;20(1):3. doi:10.31887/DCNS.2018.20.1/fthibaut

Trumpp NM, Ulrich M, Kiefer M. Experiential grounding of abstract concepts: Processing of abstract mental state concepts engages brain regions involved in mentalizing, automatic speech, and lip movements. NeuroImage. 2024;288:120539. doi:10.1016/j.neuroimage.2024.120539