



## Understanding the Self from the Embodied Cognition Paradigm<sup>1</sup>

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### Abstract

Research Article



Over the centuries, the concept of the self has remained a prominent subject of philosophical inquiry. However, recent years have witnessed a notable shift, with empirical investigations in fields such as psychology, neuroscience, and anthropology directing their focus toward unraveling the mysteries of the self. These multidisciplinary endeavors have yielded profound insights into the nature of the self, particularly its intricate connection to the physical body. This article centers on a prevailing theory in contemporary discourse: the concept of the embodied self. Central to this theory is the proposition that the self is not an abstract entity but is fundamentally constituted by and inseparably linked with the corporeal form. The article provides an analytical examination of the theoretical scaffolding supporting this theory, drawing substantiation from recent empirical studies spanning diverse disciplines, including philosophy, psychology, and cognitive science. Additionally, it delves into the realm of phenomenology, briefly delving into Merleau-Ponty's philosophical contributions.

### Keywords

Philosophy of mind, Embodied self, Illusion of self, Phenomenology, Cognitive neuroscience.

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Received: 2023/09/22 ; Received in revised form: 2024/03/15 ; Accepted: 2024/04/24 ; Published online: 2024/04/25

▣ Singh, A.K. (2024). Understanding the Self from the Embodied Cognition Paradigm. *Journal of Philosophical Theological Research* (Mind, Body, and Consciousness special issue), 26(1), 121-140.  
<https://doi.org/10.22091/JPTR.2024.9899.2947>

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## Introduction

The self is one of philosophy's most complex and controversial topics, and philosophers have explored it for centuries. Recently, other empirical domains, such as psychology and neuroscience, have joined the league to paint a plausible picture of the self. However, even now, no one explanation can survive without any criticism. There are several different explanations for the self, each with its own merits and weaknesses since there can be several ways to look upon the self, and that is precisely why there are various and sometimes opposing explanations for the concept of self. However, each explanation offers a different perspective and uncovers some, if not all, characteristics of the self.

Moreover, the discussion about self is central to almost every religious tradition of the world and is one of the prominent differentiating features among them. A mere cursory overview is sufficient to outline these significant ontological differences. For example, Hinduism generally articulates the self as an eternal, transcendental, infinite, unchangeable, and pure conscious entity. At the same time, Buddhism holds that there is no unchangeable self. Similarly, in modern times, partly due to the rise of scientific methodology, the focus has shifted towards reductionist accounts of the self. For instance, some conceive the self as a socially constructed entity (Gergen, 2011) or a product of narrative (Schechtman, 2011). At the same time, some argue that the self is strictly minimal, on the order of 3 seconds in duration, and nothing more (Strawson, 1999). Going on the extreme, some argue that the self does not exist and is just a self-model, a kind of illusion created by the brain (Metzinger, 2004). These reductionist accounts are often reactions against what Gallagher (2013) describes as something like a traditional Cartesian notion of the self as a separate substantial (soul-like) entity, a view that can also be seen as influenced by Humean, Buddhist, or neuroscientific perspectives.

Before delving further into a discussion of self, it is essential to clarify that the term self is being used in its vast sense. For most people, the self is an essential part of their nature, which makes them different from everyone and everything else. It is the immaterial aspect of humans and is directly accessible to the concerned person only. Moreover, it is the main anchor that connects us (at least, we feel) to our body. When we talk about the 'self', we usually refer to a center of conscious experience and the subject of our thoughts and perceptions. It is also the sense of being separate and distinct from others and the awareness of the constancy in our inner world (Helen & Boyd, 2013). In

short, it is the ‘I’ in “I think, therefore I am” (Descartes, 1998, p. 34). So, the operational definition of the Self I am taking denotes the non-material aspects of humans, including phenomena such as self-consciousness and capabilities such as cognition and rationality. Mind, mental or immaterial, should be seen as analogous. Now, let us return to the discussion of the Self.

### **Contemporary understanding of human beings**

Generally, human beings are considered to have dual characteristics, that is, material and non-material. This claim is self-evident. Humans can be self-conscious, so they can reflect upon themselves, making them a distinct species compared to others (Newen et al., 2018). Self-consciousness is the ability to represent one’s own states as one’s own, especially mental states (Newen & Vogeley, 2003). This ability might be the cause of acknowledging that we all have some inner subjective life different from other material objects. This position gives the intuitive acceptance of material-immaterial or physical-mental aspects of human beings. Albert Newen (2018) explains some essential characteristics that make self-consciousness unique and special phenomena in human beings. These are perspective over experiences (feeliness), a sense of ownership of body parts (this is my arm), a sense of agency (this is my action), a sense of authorship of thoughts (this is my thought), and temporal unification of pluralistic self-related information in one stream (Synofzik et al., 2008). These characteristics have been claimed to be responsible for conceiving humans as self-conscious beings. As this is the exclusive characteristic of our inner life (immaterial), we tend to think on dualistic lines that a human’s immaterial aspect (mind) is ontologically different from the material aspect (body). Whether one can be reduced into another is a different matter, but in either case, mind and body as two distinct entities have been presupposed.

Although the mind-body dichotomy was a fundamental concept in most research until the early 20<sup>th</sup> century, the field of behaviorism initially challenged the religious and Cartesian notions of the mind’s superiority over the body. Later, the emergence of cognitive science, particularly from the 1950s onward, further challenged this dichotomy by introducing more robust empirical methodologies that questioned the separation of mind and body. Researchers have now shifted to the question of interactions between the material human body and beyond body surroundings and to how such interactions shape the mind. Proponents of this view argue for an embodied cognition approach and are convinced that it will ultimately dissolve the dichotomy between the immaterial mind and material body (Damasio, 1994;

Gallagher, 2005). It is argued that mind-body interchangeably interact and influence each other, which forms a human being. Furthermore, contemporary researchers argue that the mind and body are not only interdependent, but they move one step ahead and claim that mental properties arise out of our enaction in the world (Varela et al., 1991). The most important pillar of the embodied approach is that it sprang out of empirical findings in neurosciences and applied psychology (Lakoff & Johnson, 1999). Therefore, its validity is being continuously verified. However, the phenomenological movement can be seen as a theoretical precursor for empirical studies related to the bodily basis of ourselves.

### **Phenomenological moorings**

The principal subject of phenomenology is an explanation of our conscious lived experiences, in short—‘how do we experience’ (Smith, 2018). It is a method in which every concept is investigated from within and aims to explain the intentional structure of consciousness. Intentionality is a feature that refers to and relates to the objects or actions. For example, if I think about a dog, something will emerge in my consciousness. Similarly, if I think of running, it is directed toward an action that relates to a kind of bodily action. Phenomenologists, in general, do not see the difference between conscious experiences and intentionality features of them. That is why they focus on the investigation of our internal conscious experiences, which are, in fact, subjective, to explain most of our actions, imaginations, perceptions, willingness, etc. Therefore, in phenomenological exploration, an objective existence cannot be considered completely detached from our lived experiences. The obvious logical conclusion is that the body and the world around us cannot be ignored, as we typically experience the world through our bodies. That is why our subjective cognitive experiences should be viewed and analyzed in terms of our physical embodiment in the world. Developing on the same line, phenomenologist Maurice Merleau-Ponty argues that consciousness (subjectivity) cannot be looked at as separate from our bodily basis in the world. He argues: “My existence as subjectivity is merely one with my existence as a body and with the existence of the world, and because the subject that I am, when taken concretely, is inseparable from this body and this world” (Merleau-Ponty, 1962, p. 475). This view is a substantial deviation from the solipsistic notion of mentalism, which is conceived as completely detached from the body and world (Fodor, 1980).

In Merleau-Ponty’s view, experiences are not isolated activities but are

infused with our bodily engagement in the world. This is a radical departure from the conception that subjectivity (or consciousness broadly) is purely mentalistic and that bodies are merely tools for interacting with the world. Instead, the phenomenological method underscores an intertwining of mind, body, and world, suggesting a fluid relationship where not only is the mind embodied, but the body also extends into the cognitive realm. This perspective hints at a foundational role for phenomenology in developing the embodied approach. Furthermore, this approach proposes a more integrated view of experience and action, where the traditional boundaries between ‘input’ from the world and ‘output’ into it appear less rigid. It can be contemplated that both the mental and physical realms are deeply interconnected and that our cognitive experiences might be shaped significantly by our active engagement with the world. Phenomenology makes the foundation for further matured thoughts in this domain. That is why even recent embodied researchers such as Shaun Gallagher (2005), Dan Zahavi (2008), Evan Thompson (2007), and Fransisco Varela et al. (1991) frequently refer to thoughts of Merleau-Ponty or phenomenology in general. Now, before beginning the discussion of the self from the embodied approach, it is crucial to understand the core assumptions of the embodied cognition approach in general.

### **Core assumptions of the embodied cognition approach**

Embodied cognition is a research framework in which cognition is understood to be deeply reliant on the characteristics of the physical body of an agent (Wilson & Foglia, 2011). This suggests that the agent’s body beyond the brain plays a significant causal role or a physically constitutive role in the agent’s cognitive processing. Going beyond this definition, Gallagher (2023) articulates that embodied cognition is part of a broader, diversified field of 4E cognitive science, which encompasses embodied, embedded, enacted, and extended aspects of cognition. This comprehensive view posits that cognition is not merely dependent on an organism’s sensorimotor capacities but also on the dynamic interplay between the body and its environment. Moreover, this interaction is constitutive, actively shaping and determining the development and specific nature of cognitive processes. This expanded understanding emphasizes the varied dimensions through which the body and environment are integral to cognitive functions. These are the common fundamental assumptions upon which most of the current embodied research is being done.

It also claims that cognition depends upon the kind of body an organism has. Since every organism has a different set of bodily features and sensory-

motor capacities, each organism will undergo a different kind of experience (what it is like to be human will be different from what it is like to be a bat). Therefore, cognitive activity cannot work in isolation from the experiences that emerge out of a particular bodily feature. Another vital point to note here is that the embodied approach doesn't restrict the body to the brain only, but it includes other non-neural bodily parts, too. Therefore, the claim is that cognition is determined by particular experiences an organism gains with its bodily interaction in the world.

Another important claim that needs to be understood carefully is that the 'body plays causal and constitutive role in cognition'. The causal aspect is clear from the previous discussion that cognition is dependent upon the body as particular bodily experiences induce cognitive activities. However, the main issue emerges in the aspect of the body's constitutive role. That the body causes cognition is understandable, but is it part of the whole cognitive system? This is what has been argued. Embodied approach accepts the body as one of the constituents of cognitive activity. This position challenges the traditional view. Let's consider the example of the photosynthesis process to understand the commitments of this claim. We know that plants synthesize glucose from carbon dioxide and water in the presence of sunlight. Here, sunlight is merely the cause or catalyst, which causes the reaction. But it doesn't become a constituent of the final product, unlike carbon or hydrogen. In traditional approaches, the body was considered a mere causal factor for providing the initial sensory inputs, but it was not considered part of the cognitive system. All cognitive processes have been isolated from the body, and they were restricted to the brain only. The embodied approach challenges this view and considers non-neural bodily features as part of the cognitive system like other constituents such as the brain.

Further, developing from the above claims, embodied theories argue, in general, that cognition is a tightly coupled system of mind-body-world. Here, another important claim of the embodied approach that comes into the picture is the inclusion of the world (surrounding environment) into the cognitive system. The embodied approach considers cognition as an emergent property that emerges when a body interacts and acts in the world. That means there is no central controller or processing unit independent of the body or world. This is a fascinating viewpoint that claims that an embodied system is self-sufficient to perform cognitive activities without the help of any other mental faculty. We have seen earlier that it was thought that the body takes sensory input from the world, then the brain processes it, and finally, we act in the

world through our motor organs. Worldly objects, including our motor organs, were not part of the cognitive system. However, the embodied approach argues that cognition emerges because we can interact with worldly objects.

These claims briefly summarize the overall intent and mainly lay the foundation of the embodied thesis upon which many researchers develop their views. The main guiding principle is the acceptance that our interaction with worldly objects and engagement with the surroundings has a constitutive role in our reasoning, which was left out in the traditional approaches. Simply put, the embodied approach sees the body and world as an unavoidable part of our overall cognitive system. Moreover, for the sake of defining the embodied theory in one line, we can pin it as *mental phenomena arise out of bodily interaction with the world*.

Now, as mentioned earlier, this theory is not the result of mere speculation or a priori reasoning but is based on recent empirical studies in cognitive science. Thus, before moving to our final discussion related to the embodied self, I shall now discuss some of the recent empirical studies to show the soundness and validity of the embodied theory.

### **Evidence from cognitive science**

Numerous empirical studies demonstrate the inseparability of bodily and environmental features from thoughts or concepts typically regarded as attributes of the mind, detached from the body. Here, a select few will be presented for demonstration, with a focus on the domain of linguistic and mathematical concepts. This focus is primarily because these abilities are often considered exclusive to the mind or as immaterial entities.

#### **Case-1**

Olaf Hauk and colleagues (2004) found in a study that merely reading the words ‘lick’, ‘pick’, and ‘kick’ stimulates the brain area, which is responsible for actions by ‘tongue’, ‘hand’, and ‘leg’, respectively. This suggests that the way one understands the word ‘kick’ is intimately connected to the physical act of kicking. Such findings illustrate that cognitive processes are closely intertwined with the bodily experiences of an individual.

#### **Case-2**

An experiment conducted by Shirley-Ann Rueschemeyer and colleagues (2010) exhibited the utilization of the perceptual system in comprehending meaning while reading. They presented motion-related sentences in front of

participants, such as ‘the car drives toward you’, ‘the car drives away from you’, and ‘the car looks big’. The interesting outcome of this study was that researchers found more activity in the V5/MT area (the fifth visual area located in the middle temporal lobe: responsible for the perception of visual motion) while comprehending motion-related sentences than in no-motion situations. This finding suggested that the perceptual system is involved in semantic processing.

These findings bring the important conclusion that language comprehension is not an isolated activity because it is very much grounded in the sensory-motor modalities of humans. Moreover, advancements in brain imaging technologies provide more empirical evidence to support the sensorimotor basis of most linguistic structures. For instance, an experiment found that using an action verb activates the motor system of the brain, whereas the visual system of the brain gets activated when one thinks about a visual noun.

Likewise, there are various studies in the mathematics domain that exhibit that mathematical calculations are not completely divorced from sensory-motor movements. For instance,

### **Case-3**

Michael Andres and colleagues (2007) conducted a study related to counting tasks using transcranial magnetic stimulation (TMS). TMS is a non-invasive process that stimulates the brain with magnetic fields. It can be used to measure how a cognitive task influences motor activity. So, in this study, participants had to count the number of dots in a given series. At the same time, TMS pulses were delivered to brain areas related to hand, arm, and leg movements, and neural pulse activity was recorded from hand, arm, and leg muscles, respectively. It was found that during counting, an increased activity was measured in the hand, but not in the arm or leg. The result indicates that there is a possible link between hand motor circuits and counting activity.

The reason for discussing these empirical findings is only to show that mental phenomena are not isolated processes; instead, they consider it an integrated system in which the body, as well as other external features, are inseparable constituents. This also implies that mental phenomena cannot be completely reduced to the brain only because the brain is just one part of the whole system. But what about self? If our mental processes are embodied as being claimed, then why do we experience a separate self (something beyond the body) in our day-to-day lives?



## Is the ‘Self’ embodied?

To grasp the plausibility of an embodied self, it is imperative to approach the topic from various perspectives. The discussion is structured into three parts to provide a clear and comprehensive overview: firstly, an explanation of why the self cannot be distinct from the body or identical to it; secondly, the presentation of arguments for why the self can only be embodied; and finally, an exploration of why the self appears disembodied, even if implicitly embodied, supported by empirical studies.

### Why the self cannot be distinct from the body or identical to the body?

Existing accounts of the self, deeply rooted in philosophical, psychological, and scientific traditions, have predominantly conceptualized the self through various lenses, ranging from the purely metaphysical to the starkly reductionist. While these perspectives have significantly contributed to our understanding of the self, they often fall short of providing a comprehensive explanation, particularly in accounting for the crucial aspect of embodiment. This shortcoming stems from a range of factors, including an overemphasis on the cognitive and narrative dimensions of the self, neglect of the body’s role, and a tendency toward dualistic thinking that separates the mind from the physical body.

Philosophical explorations have mostly explained the self as a separate entity from the body, a trend true for both Western and Asian philosophical traditions. For instance, Hindu philosophy articulates the self (*Atman*) as an eternal, unchangeable essence fundamentally one with the universal spirit (*Brahman*), suggesting a form of self that transcends the physical and temporal realms (Radhakrishnan & Moore, 1957). In contrast, Buddhist philosophy posits the concept of Anatta, or no-self, arguing that what we perceive as the self is merely an aggregate of transient physical and mental phenomena devoid of an enduring essence (Anālayo, 2003; Harvey, 2012). These viewpoints, while offering deep insights into the nature of consciousness and identity, often overlook the tangible experiences of the body that ground the self in the physical world. Similarly, Western philosophical traditions conceptualize the human being as a combination of two separate entities that interact, beginning with Greek philosophy and continuing to Descartes in modern times. These dualistic views capture the major metaphysical debate on the nature of selfhood which tends to detach the self from its embodied, lived experiences.

This view was further and systematically developed by Descartes, who pondered the relation between a person and her body. With the advent of

modern scientific methodologies and the analytical philosophical tradition, various other views on the self and its relation to the body developed but mostly overlooked the embodied nature of human beings. For instance, materialism, developed in the twentieth century, positions itself at the extreme end of Cartesian dualism, holding the view that the self and body are, in fact, identical (Rosenthal, 2000). Constitutionalism, on the contrary, argues that a person is constituted by a human body but without being identical to the constituting body. Other related views have also been developed, conceptualising the self through lenses such as social constructivism, narrative identity, and even as an illusionary byproduct of brain processes. Kenneth Gergen (2011) posits the self as a social construct, emphasising the role of linguistic, cultural, and interpersonal dynamics in shaping self-conception. Similarly, Schechtman (2011) highlights the narrative dimension, suggesting that personal identity is constructed through the stories we tell about ourselves, linking our past, present, and anticipated future into a coherent whole. On a more radical note, Thomas Metzinger (2004) argues that the self is essentially a model created by the brain, a phenomenal self-model without an ontological counterpart, effectively rendering the self an illusion.

These modern perspectives, though revolutionary in challenging traditional notions of a unified, coherent self, often overlook the physicality and sensory-motor experiences foundational to selfhood. The emphasis on cognitive, narrative, and social dimensions, while critically important, tends to neglect the body's role, thereby offering an incomplete picture of self-experience. In discussing the limitations of traditional dualist and non-dualist perspectives on selfhood, Quassim Cassam (2011) highlights the prevalent distinction made between the body and personhood. He presents two probing questions to explore this separation: "Am I identical with my body? If not, can I exist without having a body?" (Cassam, 2011, p. 142). Descartes, representing a dualist viewpoint, would affirm both, suggesting that the self can persist beyond bodily death, which implies a conceptual separation from the physical body. This idea is often supported by the 'argument from death,' where the continued existence of the self post-mortem suggests that the self and body are distinct entities. The argument from death is based on the thesis that the Self and the body are not identical. It stems from the belief that when a person dies, the person ceases to exist physically but continues to exist in some other form. This implies that the continued existence of a physical body is not necessary for a person's continued existence. In other words, a person and their body are not the same.

Now, let's consider another example. Imagine that Person A's brain has been transplanted into Person B's body. The resulting individual would still be considered Person A, albeit with a different body. Although A's original body no longer exists, Person A continues to exist. This scenario further supports the argument that the self is not identical to the body. Descartes addressed this puzzle by asserting that an embodied person is not the same as their physical body. Descartes posits that the self, which he equates with the soul, is an immaterial substance distinct from the body, suggesting that a person's existence can continue without the physical body. This perspective has been critiqued, particularly regarding the challenge of conceptualizing how a soul might unify with a physical body. Critically, David Chalmers disputes the dualistic separation of mind and body. He argues against the notion of an independent mental substance influencing physical processes, emphasizing that the physical world is fundamentally causally closed. According to Chalmers, for every physical event, there exists a sufficient physical cause, which undermines the need to posit any nonphysical entities affecting physical outcomes (Chalmers, 1996, p. 14). In other words, there is no sufficient reason to consider some immaterial entity acting on physical objects. This implies that the self and body cannot be identical as well as distinct. Then, what could be the potential explanation? Here, the embodied approach provides the most plausible explanation.

### **Why the Self can only be embodied?**

The embodied approach provides significant implications for our understanding of the self. Specifically, this paradigm posits the self not as an isolated, autonomous entity but as inseparably intertwined with bodily experiences and environmental interactions. We delve into the implications of this approach, drawing upon seminal works in the field of cognitive science (Albahari, 2006; Cassam, 2003; Gallagher, 2005; Newen, 2018).

Traditional accounts often depict the self as a detached, thinking entity residing within the confines of the mind. This dualistic view, however, neglects the essential role of the body in shaping our sense of self (Damasio, 1994). In this regard, Albert Newen's pattern theory provides a compelling framework for conceptualizing the self. By integrating the embodied nature of cognition with the brain's predictive capabilities, Newen (2018) proposes a dynamic model where the self emerges from and adapts based on bodily experiences and environmental interactions. This theory not only enriches our understanding of selfhood but also aligns with contemporary neuroscience

findings on the predictive brain's role in cognition (Clark, 2022). In a similar vein, Shaun Gallagher's exploration of the narrative self bridges the gap between personal narratives and embodied experiences. Gallagher (2005) argues that narratives are not mere cognitive constructs but are entwined with our bodily engagements and social interactions. This interconnection between narratives and embodiment offers a nuanced perspective on how our identities are formed and expressed. Similarly, Evan Thompson (2007) challenges conventional notions of selfhood by emphasizing the embodied nature of consciousness. Rather than viewing the self as a detached observer, he invites us to recognize how our physical bodies actively shape our experiences and perceptions.

To understand the embodied nature of the self well, comprehending our bodily awareness is crucial. What is the nature of the awareness of our body, and how do we have this awareness? It is straightforward to comprehend that when we see ourselves in mirrors, we know that the person in the mirror is me. This is a normal understanding, but there is a much deeper connotation to this bodily awareness. We are also typically aware of our own bodies from the inside. This kind of non-visual knowledge is called proprioception. Shaun Gallagher clarifies proprioceptive awareness as "self-referential, but normally pre-reflective awareness of one's own body" (Gallagher, 2005, p. 73). It is a kind of "non-visual knowledge of bodily posture and movement" (Cassam, 2011, p. 146). This is evident from our day-to-day experience. For example, if we are experiencing pain in our left hand, we can tell it without having to look at the hand; we just have this knowledge from the inside. Similarly, we can tell that we are sitting with our legs crossed without having to look at it.

This kind of knowledge is not generated from sense-object contact; we just have it. This implies that to emerge this kind of knowledge, we cannot have the body as a subject as well as an object. We have discussed in detail in previous sections how the object-subject duality ceases to exist in a phenomenological stance. Let's reconsider it again with respect to our body awareness. This pre-reflective proprioceptive awareness is not only related to our bodily posture or feelings but also to our body in a three-dimensional field. This implies that we have an awareness of our body extending into space, its shape, solidity, and boundaries, including where it ends and the rest of the world begins (Cassam, 2011). Such awareness often treats the body as an object of our perception. However, if we explore the notion of the body as a subject, we confront the possibility that our self, or 'I', might not always be distinct from our bodies. This consideration leads us to question how deeply

integrated our sense of self is with our bodily experiences.

Kenneth Himma argues that “Being a conscious subject is itself an element of conscious experience” (Himma, 2011, p. 432). We, as conscious beings, have mental states that are closely connected to our conscious subjectivity. Conceptually and metaphysically, it appears evident that only conscious individuals can possess any form of conscious mental state. The notion of isolated, disembodied conscious mental states not associated with a mental subject seems illogical; a conscious mental state inherently requires a bearer. Therefore, conscious mental events occur exclusively within conscious subjects, as they are the natural carriers of such states. That means there is no fundamental difference between the mental states and the subject, which has mental states. It is not like one perceiving the world and, therefore, has a particular point of view, but something which has a point of view (Cassam, 2011). This implies that there is no fundamental difference between the experience of the awareness of the body and the awareness of the body. It is the kind of very first-person phenomenological knowledge that is explained in the previous section. It is a kind of *qua* subject. But the question is now, can bodily awareness be both kinds—that is, awareness as an object and awareness *qua* subject?

Sartre also sheds light on the fact that the body is either “a thing among other things, or it is that by which things are revealed to me” (Sartre, 2003, p. 328). Further, compatibilism holds that one can be simultaneously aware of one’s body as subject as well as object. This differentiation ceases to exist in the phenomenological stance, too, as Merleau-Ponty suggests that bodily awareness is to be aware of it as a ‘subject-object’ (Merleau-Ponty, 1962). That means the body which is presented to a subject as an object is not a mere physical inanimate matter but an animated living body. That means there is no distinction between a ‘mere body’ and a ‘living body.’ It is like, “I cannot be in pain without realizing that I am in pain” (Cassam, 2011, p. 151). Consequently, it is imperative that the very awareness of the living body cannot be separated from the perception of awareness, and in that sense, there cannot be any other case than that our self or ‘I’ is indistinctive to our bodies. This argument can be further illustrated by works of contemporary cognitive philosophers such as Alva Noe and Evan Thompson.

The embodied approach, as elucidated by Thompson (2007) and Noë, (2004), challenges the traditional Cartesian view that posits a clear demarcation between the subject (mind) and the object (external world). Instead, they propose a holistic perspective wherein cognition emerges from

the dynamic interaction between (which is termed as enactive) the organism and its environment, thereby deconstructing the dualistic framework. The enactive approach mainly holds that “biological and mental phenomena are continuous” (Kyselo, 2014, p. 2). Thompson (2007) contends that cognition is fundamentally rooted in bodily experiences, as evidenced by our sensorimotor engagement with the world. He argues that cognition is not confined to the brain but is distributed throughout the entire body, encompassing its interactions with the environment. This distributed nature of cognition implies that the boundaries between the self and the world are blurred, challenging the Cartesian dichotomy between subjectivity and objectivity. Similarly, Noë posits that perception is not a passive reception of sensory stimuli but an active engagement with the environment. He emphasizes the embodied and embedded nature of perception, arguing that it is intricately intertwined with action and movement. According to Noë, (2004), perception is a dynamic process wherein the body and the environment are co-constitutive, thereby undermining the traditional subject-object dichotomy. Both philosophers build on the ideas of thinkers like Merleau-Ponty, who said our bodies are crucial to how we experience things (Toadvine, 2019). Enactive cognition goes a step further, saying that our actions and experiences shape our thoughts. This means there’s no clear line between us and our environment—we’re always interacting with it.

Another approach to show the significance of the embodied nature of the experiences can be shown by the distinction between body image and body schema. Body image refers to a person’s subjective experiences about their own body. It “consists of a system of perceptions, attitudes, and beliefs pertaining to one’s own body” (Gallagher, 2005, p. 24). It encompasses how individuals perceive the size, shape, appearance, and functioning of their bodies. Body image is influenced by various factors, including social and cultural norms, media representations, personal experiences, and psychological factors, such as self-esteem and self-concept (O’Dea, 2012; Strauman & Glenberg, 1994). Body schema refers to the internal representation or mental map of one’s body and its spatial relationships. It is an unconscious and automatic process that allows individuals to navigate and interact with their environment effectively. Body schema includes awareness of body parts, their relative positions, and the ability to coordinate movements and actions (Gallagher, 1986). This internal representation is dynamic and can be modified through sensory feedback and motor experiences. Body schema plays a crucial role in motor control, perception, and the integration of sensory information,

contributing to bodily awareness and self-perception. For example, while entering a tunnel, we implicitly know how much we have to bend without any formal measurement and without bumping one's heads.

Now, the issue with body image and body schema pertains to their interaction and, in some cases, dissociation between the two. There are various pathological cases in which the body schema is intact, but a sense of body image is missing; on the other hand, there are also some cases in which the patient has no sense of their body schema (De Vignemont, 2010; Gallagher, 2005). However, in this context, Pitron et al. (2018) argue that in cases of dissociation, body schema has some primacy over body image while also acknowledging the special role played by body image. Having said that, body image and body schema contribute to the notion of the embodied self by emphasizing the integration of physical experiences and perceptions within self-conception. Body image reflects subjective attitudes toward one's body, while body schema represents the internal mapping of bodily spatial relationships. Both concepts highlight the inseparable link between the body, mind, and environment, enriching our understanding of human identity as fundamentally embodied. Now the question arises: If the self is an embodied concept, then why does it seem to be distinct from the bodily states? And why did Descartes and many others fall into the same philosophical quandary?

### **Why the Self seems disembodied?**

According to the embodied approach, the self is considered an emergent phenomenon from the interactions between the body and the environment. This implies that the body is not merely a vessel for the self but an integral part of it. In the embodied approach, self-conception cannot be ontologically distinct from bodily interactions in the world. Leading neuroscientist Antonio Damasio notes, "self is not the infamous homunculus, a little person inside our brain perceiving and thinking about the images the brain forms. It is, rather, a perpetually re-created neurobiological state" (Damasio, 1994, pp. 99–100). It implies that our awareness of our existence arises from the portrayal of ourselves as the central figure engaged in the process of cognition. The narrative depicted in the representations of core consciousness does not originate from an intelligent inner entity. Furthermore, the narrative is not genuinely articulated by the individual as a self, as the essential self emerges only as the narrative unfolds, within the narrative framework itself. Here, we encounter a reflexive self-conception, raising the question: Can a thinker exist independent of thought? Reflection reveals that the 'I' itself is a thought.

Miri Albahari (2006) delineates four modes of assumed self-identity that foster a notion of a separate self. These are ‘this-ness,’ a distinctiveness that defies easy description; autonomy, underscoring self-direction; consistent self-concern, reflecting ongoing personal investment; and personal ownership, denoting a proprietary relationship with one’s experiences. Beyond these modes, Albahari introduces ‘witness-consciousness,’ a form of pure, unchanging consciousness that underpins all experiences, actions, and thoughts. This consciousness is not confined by conventional boundaries, embodying an unbounded nature that integrates seamlessly with the physical and experiential aspects of existence. The merging of these modes with ‘witness-consciousness’ challenges the traditional separative concept of the self, suggesting instead an autobiographical self that is not only interconnected but also fundamentally embodied, reflecting the inseparable nature of mind, body, and environment.

However, this entity, which seems to be the subject, is, in fact, not separate from the experiences and objects of experiences. At most, the notion of a distinct entity depends upon the modes of experience and hence cannot be claimed as distinct. This suggests that the notion of a distinct subject, and consequently, personality, is deeply embedded in the objects and their experiences. This realisation leads us to understand that a distinct self is an illusion, which hinders us from appreciating our embodied nature. When a separative self-conception seems real to us, the embodied nature becomes counterintuitive. As Peter Carruthers (2020) argues, the dualistic approach becomes tacit in most of our thoughts and actions. The recognition that a separative self is an illusion also opens up the possibility of change. Albahari and many other thinkers suggest that eliminating this additional psychological layer and realizing our true nature, that is, ‘witness-consciousness,’ prompts us to change our approach and appreciate our embodied nature.

## **Conclusion**

In this exploration of the self, it is important to acknowledge that the self is not a static, immutable construct but rather a dynamic entity in perpetual transformation, continually shaped by our interactions within the world. The traditional Cartesian perspective, which envisions the self as an isolated, conscious entity, falls short of capturing the fluidity and responsiveness of the self to its surroundings. In contrast, the concept of an embodied self offers a more comprehensive understanding, recognizing the self’s evolution in direct response to environmental stimuli.



Despite the compelling evidence supporting the embodied cognition approach, it is not without its challenges. Philosophical inquiries into embodied cognition raise profound questions regarding representation, explanation, and the essence of the mind—questions that any comprehensive theory of mind must confront. Moreover, within the realm of psychology, there exist concerns about the reproducibility of key findings that underpin embodied cognition. These challenges notwithstanding, the continued examination of the aims, methods, conceptual underpinnings, and motivations of embodied cognition promises to significantly contribute to the enrichment of psychological philosophy.

Therefore, as we move forward, it is clear that fully establishing the self as an embodied phenomenon, both philosophically and empirically, remains an ongoing endeavor. Yet, the current body of research undeniably points towards the viability of the embodied self, suggesting that, despite uncertainties, the concept is too significant to overlook. The very notion of the embodied self as a possibility beckons further investigation and scholarly exploration, opening new pathways for understanding the intricate nature of selfhood. This acknowledgment not only invites a broader spectrum of inquiry but also underscores the necessity of embracing a more holistic approach to the study of the self—one that integrates the physical, cognitive, and experiential dimensions of our being.

### **Conflict of Interests**

The author has no competing interests.

### **Acknowledgment**

I would like to express my sincere gratitude to my PhD advisor, Dr Hari Narayanan V., for his invaluable guidance and meticulous review of the initial draft. His insightful feedback significantly contributed to enhancing the quality of this paper. Additionally, I extend my heartfelt thanks to the anonymous reviewers at the Journal of Philosophical Theological Research (JPTR). Their constructive comments and thorough assessments played a crucial role in refining and strengthening the arguments.

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