The Enaction of Embodied Wisdom:
The Unifying, Dynamic Nature of Cognition, Behavior, and Affect

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ABSTRACT

Cognitive theorists have tended to separate “mind” and “body.” This separation implies a phenomenologically incomplete account of cognition. As an alternative, this paper conceptualizes mind as the embodied process of living that is constitutive of emotions, behavior and physical responses, and it explains how these components dynamically co-emerge as embodied wisdom. Embodied wisdom is presented as the coadunation of objective and subjective realities that informs our embodied cognitive processes and expands our knowledge from merely a cognitive-evaluative psychological process, to an embodied way of understanding.

Keywords: Cognition, Affect, Subjectivity, Enaction, Embodied Wisdom.

1. INTRODUCTION

There is a growing re-thinking of the nature of cognition, a conceptualization away from formal operations on abstract symbols to a new paradigmatic view that understands cognition as a highly embodied and situated process. [1]. The classical approach to cognition that is bounded by psychology and sociology alone has left us only partially adept at understanding the profound role of our body in the process of cognition. The question of whether mind and body are separate has long limited theory and research in cognition. Western science’s Cartesian view that mind and body are separate has constrained our attempts to gain a thorough understanding of cognition by undervaluing the neurobiological basis of wisdom. The purpose of this article is to explain the relationship between mind and body in order to provide a more comprehensive understanding of cognition and to bridge the gap between knowledge and wisdom. In what follows, we will outline the basic foundations of embodied cognition as it is enacted by affect, behavior and physical responses and how it relates to embodied wisdom.

The use of the term “cognition” is broad, yet generally cognition has been understood as “thinking” or “knowing.” Cognitive science represents a multidiscipline field of study, much of which has under valued the embodied cognitive perspective, and the more comprehensive approach to cognition. In the embodied cognition view, cognition is not confined to one’s cortices, but rather is influenced, perhaps even determined by, one’s subjective experiences in the world [2]. Central to the embodied approach to cognition is the idea of enaction, which has emerged as a new paradigm for understanding cognition [3,4]. Embodied cognition is rooted in the enactive perspective, which views cognition as subject to the kinds of experiences that come from having a physical body with multiple sensorimotor capabilities. Further, these sensorimotor capacities are embedded in an encompassing biological, psychological, social and cultural context [5,6,7]. In other words, cognitive activity does not take place in a vacuum, but in a world where a cognitive agent is trying to get something accomplished. Thusly, cognition emerges as a correlate of one’s biological experience [8], which is comprised of a situated psychological, social and cultural milieu, which allows one to act skillfully. This skillful know-how is conceptualized as embodied wisdom, which flows from the unity and coherence of one’s actions in the present moment [9] and is part and parcel of embodied cognition.

2. EMBODIED COGNITION

While embodied cognition has many different meanings [10], they all hold that cognitive
processes are deeply rooted in the body’s interactions with the world. From a neurobiological perspective, human beings are biophysically autonomous systems that are spatially and functionally distributed [11], which is to say that humans and their environments are highly structured dynamical systems or “mutually embedded systems” [8]. An autonomous living system is a self-organizing, cybernetic unity that is always structurally coupled with its environment [12,3,8]. Humans, as living systems [13], cannot separate from their biophysical structure because they are living and functioning in relationships within and to some type of environment that they are a part of, not separate from. Living systems as complex adaptive systems [14] and self-organizing, cybernetic unities adapt by learning through experience to transform behavior, or otherwise they become isolated and die.

The environment constrains actions and behaviors, yet living systems simultaneously and dynamically co-emerge with the environment, co-operating by specifying, co-creating, and imagining [15] a life, in complementarity with the environment by means of synchronicity or co-creativity. As such, each element or component of the living system combines the maintenance of itself with the maintenance of the other, thus “coproducing” and co-creating their world [12,3,11,8]. “Living systems are cognitive systems” [5] and “living as a process is a process of cognition” [7]. The central idea of the embodied approach to cognition is that the environment is enacted by one’s living behavior, actions and intentions.

3. LIVING BEHAVIOR, ACTION, AND INTENTION

Human forms and levels of behavior in the social world [16] are categorized in three ways: (1) behavior, which means to respond in a particular way; (2) action, which is behavior with a determinate future goal or object in mind, and (3) social action, which is behavior with the goal of an ‘other’ in mind (or an object with a shared meaning), for example where the ‘other’ is imagined as an individual, group, or organizational goal in mind. According to interpersonal neurobiologist Daniel Siegel, and other scientists across multiple disciplines, mind has been defined as “a process that regulates the flow of energy and information” [17], and, as such, it is a self-organizing [dynamically co-emerging] property that is both embodied [within the living system] and between [a relational other(s)].

For example, among cognitive scientists, it is the rule of thumb that “unconscious thought is 95% of all thought – and that may be a serious underestimate. Moreover, the 95% of thought below the surface of conscious awareness shapes and structures all conscious thought” [2]. Yet the human body responds to stimuli [behavior] with biological imperative and autonomy, most often prior to awareness of intentionality. This is why one often has to explain one’s behavior and actions after they actually occur.

Finally, in neurophysiology and the neuroscience of mind, intentionality is seen as “the process by which meanings grow and operate” [18]. “Intentionality precedes consciousness”, and “most intentional behaviors occur without the need for awareness and consciousness up to a point. That point [the emerging present moment] is reached when, in order to understand intentionality, we need to think about meaning and to re-present our thought in words [conceptions/information]. We need to hear and read the words of others in order to enhance our own meaning.” The brain makes up its own mind through the body’s own natural selection and dynamic sense-making or co-emergence of conception and perception [19], most often through the arousal of affective energy/valence and perceptions of the embodied mind or emotioning, which in turn triggers cognition and conception or languaging [12].

In sum, perception and conception, body and mind, feeling and thought, and emotion and cognition are inseparable, as they operate with complementarity, composite unity, and dynamic co-emergence. The outcome, then, of this dynamic co-emergence actually enacts the environment.

4. ENACTMENT AND THE ENVIRONMENT

Human beings ‘enact’ the world in which they live; and their actions [and behaviors] in the world actually constitute perception and thereby ground cognition (i.e., affect our conceptions) [4]. Cognition in humans is a dynamic biological function and is best understood from the
cybernetic, self-organizing, living systems perspective [20]. A dynamic, living system is one that continually changes over time. Cognition “unfolds as the continuous coevolution of acting, perceiving, imagining, feeling, and thinking” [8]. Thus, the content of one’s mind is not pre-given, but rather it is one’s bodily experiences that create and give meaning to the content of one’s mind [1]. From infancy, we come to know the world through the experience of movement rather than from adult thoughts. “Without action there is no “world” and no perception” [4]. In the words of Maturana (1987), human beings “bring forth the world in which it exits.” ‘Reality’ is not pre-given, but rather co-constructed [co-created] by the individual [12,6] as he/she navigates through his/her environment moment by moment. In other words, enaction can be seen as “movement into context” [21], whether verbal or non-verbal. Thus, the content and relations of concepts of our cognitive processes are largely determined by embodied (i.e., subjective) experiences in the world, rather than pre-given logical or abstract ones [1].

5. THE NATURE OF AFFECT & SUBJECTIVITY

If we are to understand cognition as an embodied process, we must also understand the body’s processes that give rise to emotions, behavior and physical responses. Living is not just a cognitive process, “it’s also an emotive process of sensemaking, or bringing signification and value to existence” [7]. Further, “emotion is the energy of transformation” [22]. Living systems do not take in information passively from their environments, but rather they actively participate in the generation of meaning in what matters to them [23]. We enact our own life from the value that we both create and place on the information that we take in.

As living systems, humans create value, wherein value is defined as the “…expression of relationship between the evaluating subject and the object of evaluation…No one can deny the emotional factor in our value judgments” [24]. Here evaluation can be seen as an affective construct, far more than cognitive only. For individuals, the object of value can be a thing, a person, a goal, an idea, an organization, an ideal, even a goal to be achieved. As human beings, one’s body is simultaneously the form and substance of who and what they are as individuals; it is not simply something one knows, but also the basis of one’s knowing. Thus, the body’s processes (i.e., emotions, behaviors, and physical responses) contribute to the meaning we make [3,8,9].

Affect and emotion provide the necessary components and energy that give meaning and sensemaking [25] to our thoughts, beliefs and attitudes, giving individuals a sense that what they know is correct or not [26]. Affect acts as a sort of internal compass that aligns subjective experience with external facts [9]. Meaning, however, is also relational. Meaning is generated within the human system for the system itself and is simultaneously consumed and created by the system as a result of being coupled to others in its environment. Thus, the coupling to the environment (relationships) codetermines meaning—different couplings produce different meanings [27,28]. Cognition can be thought of as both an affective and subjective (enactive) process that is constituted by one’s lived bodily dynamics (emotions, behaviors and physical response). This bodily way of “knowing” (i.e., embodied cognition), combined with one’s experiences in the world, generates a mind that embodies wisdom. Wisdom for the purposes of this article, is the way in which we adaptively use information from our environment.

6. THE CONCEPT OF WISDOM

Although the concept of wisdom dates back to the beginning of civilization, the scientific study of wisdom is relatively recent [29]. Traditionally, discussions of wisdom have been confined to religion and philosophy [30], however, presently, the fields of sociology, psychology and neurobiology have taken an interest in exploring the depth and breadth of wisdom. Although contemporary researchers agree that defining wisdom is a difficult task and includes multiple perspectives, current research suggests that its origin is an “adaptive human attribute” that is rooted in the body’s interaction with its environment [30].

Meeks and Jeste’s (2009) meta-analysis held wisdom as a neurobiological function comprised of six subcomponents: (1) prosocial attitudes/behaviors, (2) social decision making/pragmatic knowledge of life, (3) emotional homeostasis, (4) reflection/self-understanding, (5)
value relativism/tolerance, and (6) acknowledgement of and dealing effectively with uncertainty/ambiguity. Similarly, Williams, Magelsdorf, Kontra, Nusbaum and Hoeckner (2016) maintain that wisdom is composed of “interrelated cognitive, reflective and affective characteristics.” The mind-body unity was also emphasized by Power (2011) who characterizes wisdom as an embodied cognitive process that is constitutive of emotions, behavior and physical responses.

Recent research suggests that wisdom is an inherent knowledge system that belongs to the cognitive pragmatics of the mind and body.

7. EMBODIED WISDOM

Embodied wisdom is defined as tacit understanding that is brought to one’s awareness by having a physical body with sensorimotor capabilities that are themselves embedded in a subjective ecology (i.e., psychological, social, and cultural context)[9]. Embodied wisdom is a different way of knowing and represents the transformation of knowledge from merely abstract knowing or conceptualizing to a higher, yet deeper, and more comprehensive level of understanding and sense-making [19]), seen now as the embodied interaction of conception and perception. Embodied wisdom is the adaptive interplay between an individual (autonomous agent) and his environment. Embodied wisdom is the coadunation of objective and subjective realities that inform embodied processes and expands knowledge from merely a cognitive-evaluative psychological process, to an embodied way of understanding.

This transformation of knowledge into a higher level of understanding or “wisdom” content is energized by human affect that bridges both objective and subjective realities. Affect dynamically co-emerges with cognition and behavior during conceptualization in order to create human value for self and others through the use of language, knowledge, shared meanings, individual understanding, and the social construction of reality [31] as tertiary emotional systems. Embodied wisdom emerges as a function of body sensations (e.g., emotions, butterfly feelings in the pit of one’s stomach, etc.) that act as a type of “body intelligence” that inform an individual that whatever is happening to or around him or her is valued enough to have meaning assigned to it. Every perceptual experience is in part also an experience of one’s body and, as such, reveals one’s position in the world [27]. Embodied responses help to disclose a world of meaning and importance (i.e., valence) by focusing attention (affective style) and acting as a marker to examine one’s thinking.

Figure 1 illustrates how embodied wisdom is conceptualized through empirical research [9].

![Figure 1. Embodied Wisdom.](image)

Embodied wisdom is part and parcel of embodied mind, which posits that in human cognition, such aspects as ideas, thoughts, concepts, and categories are largely affected by the body. These aspects include the perceptual system, the intuitions that underlie the ability to move, activities and interactions with one’s environment, and the natural, reciprocal understanding of the world that is inherent in both the body and mind [3]. “The cognitive self is its own implementation: its history and its action are of one piece” [32]. Embodied wisdom is an “inner knowing,” which is quite different from “analytical knowing.” Embodied wisdom is the nexus of intentional behaviors, cognitive conception and affective perception. One can think of embodied wisdom as skillful know-how in the coordination of the well-being of oneself and that of others and, as such, functions as an adaptive biological response to the information processing demands of one’s environment.

8. CONCLUSION

Recent empirical explorations of affective science and neuroscience [33,34,35,36,37] are confirming that perception/conception, feeling/thought, emotion/cognition and body/mind are inseparable and co-emerge dynamically with complementarity.
The human mind is clearly embodied in the entire body and not just structured in our brain, so that the embodied mind and embodied wisdom are enacted by the dynamic co-emergence of cognition, behavior, and affect [26,38,18], which are also shaped and mutually structured by three bodily processes—self-regulation, sensorimotor coupling and intersubjective interaction [3,39,40,8]. Future cognitive research should follow the enaction paradigm and take into account the reciprocal and mutually affecting processes of body, mind, and environment, not as detached elements, but rather as active and subjective processes that dynamically constitute individual cognition.

It can be said that embodied wisdom is cognition and higher level thought and feeling by virtue of having a physical body with sensorimotor capabilities that is embedded in a social and cultural milieu. The point we have attempted to make is that cognition is the interaction of internal and external processes and that affect and cognitive content are attributes of any state of knowing. If we are to fully understand human cognition, then we must expand our perspective of cognition from one that is psychologically and sociologically bound, to one that takes into account the bodily processes that constitute cognition. In so doing, our supposition is that human intelligence is less about the individual brain and more about the dynamic interaction of our brain and body with the broader world (i.e., social and cultural contexts). Our hope is to create research horizons rather than setting boundaries in an effort to stimulate future research in this area, which may, over time, demonstrate a more comprehensive view of cognition.

9. REFERENCES


