



The Mento-Physical Unit in the Dual Concept of Perception

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Abstract

The dual concept of perception enables rapid differentiation and directed response to stimuli from the surroundings. In a selective environment, this is a process that sustains life. Provided that the threat posed by an object is recognised in a timely manner, the precise identification of the object is of secondary importance. Moreover, the dual concept of perception also enables the imagination of mirrored opposites independent of their concrete existence. This results in a considerable broadening of the scope of reality, and even provides access to the metaphysical world. The rational and emotional experience of humans is characterised by a prevalence of polarity in its various dimensions. This bidirectional approach exerts a substantial influence on the attention expended, and the perceived significance and priority assigned to the perceived. The mento-physical unit in the dual concept encompasses both unconscious and conscious perception, thereby influencing reasoned and emotional communication and experience.

Keywords: Awareness; Biophysics; Developmental Psychology; Dual Concept of Perception; Ethics; Hydrozoic Theory; Mento-Physicalism

Introduction

The limits of imagination within the realm of physical conditions differ substantially from the limits of philosophical considerations. In the domain of physics, light is fundamentally understood to be an electromagnetic wave. However, it is deflected by gravity and can exert pressure on an object. Ultimately, light has the properties of both particles and waves. However, it is important to note that these particles (photons), cannot exist at rest without motion. Einstein explained this condition that a particle with mass would require an infinite amount of energy to reach the speed of light. In particle physics the notion of massless photons propagating at the speed of light (c) is rooted in Einstein's energy (E) and momentum (p) equation ($E=pc$). In accordance with the principles of quantum electrodynamics, photons possess energy and momentum, yet no mass, unless in a state of motion [1]. Photons are theorised to only exist in motion. Purely mathematically, in the absence of friction and inertia, and when considering a setting in which net-force (power to change an object's speed or direction of motion) and acceleration (change of an object's speed or direction of motion over time) are zero, mass is deducted to be also zero. Certainly, Newton's mechanics does not apply to the domains of particle physics. From a philosophical perspective, Arthur Schopenhauer stated that: "The intellect, which is nothing more than the subjective correlate of causality, never perceives matter except as having an effect. The being and the effect of matter are one and the same" [2].

According to the hydrozoic theory, the development of basic awareness is initiated at the membrane level even before the onset of the single-cell stage during bioevolution [3]. Hypothetically, in multicellular organisms, cell-bound and receptor-bound perception facilitated the development of situational awareness and internal awareness. Situational awareness has been shown to facilitate partial understanding of the environment, as well as the interpretation of sensory signals and the anticipation of changes. In this theoretical framework, the concept of awareness is posited as a passive recipient of a constant influx of environmental stimuli, thereby contributing to the construction of physical reality. Similarly, internal awareness to monitor, control and understand internal operations can establish an internal representation of the physical me.

The dual concept of perception enables rapid differentiation and directed response to stimuli from the surroundings [4]. It is the basic principle in the initial response system of emotions as well as in the fast-thinking and slow-thinking systems of reasoning as established by Daniel Kahneman [5]. According to Kahneman, fast-thinking is the system that constantly runs in the background and functions subconsciously, automatically and intuitively. The conclusions drawn are based on limited information. This system is vital to make split-second decisions for immediate survival of



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the individual. It already has been observed to result in a reaction to a sudden shadow without recognizing the predator responsible for casting it. It is essential to recognise the danger at the outset. The identification of the predator is of secondary importance. Conversely, slow-thinking necessitates focused attention and time for conscious reasoning. This system functions intransitively and mostly on demand. It is primarily specializing in handling complex situations, where a meticulous analysis and consideration are required [5]. It takes slow-thinking to comprehend the notion that mere perception cannot recognise directly. In retrospect, slow-thinking enables a holistic understanding and orientation within a conscious state of being. It is evident that the dual concept is also applicable to the slow system. It enables the imagination of the mirrored opposites, such as anti-matter, anti-time, and anti-space prior to their empirical validation. The dual concept forms the framework within which human perception and imagination develop. In humans, mental me and physical me are deeply interconnected. They constitute components of a unified entity, which is designated as a mento-physical unit. In this essay I focused the function of the mento-physical unit in the dual concept of perception.

Methods

The fundamental reasoning behind this essay on a mento-physical unit is based on developmental psychology and philosophical insights. The idea that cognitive phenomena such as thoughts, feelings, and memories are inherently physical by their nature is closely related to developmental psychology. It pertains to alterations in human experience and behaviour throughout the lifespan. Developmental psychology encompasses three interconnected domains, namely physical, cognitive and socio-emotional transformation. It spans from infancy, childhood, adolescence to late adulthood. Physical development focuses on the acquisition of motor skills and sensory capacities. In contrast, cognitive development pertains to mental processes such as attention, memory, reasoning and creativity. Finally, socio-emotional development focuses on the origin and control of emotions in the social setting of the community [6]. The relationship between the mental me and the physical me of an individual is a bidirectional loop that functions as a two-way street between two properties of a specific unit. Reasoning and affects facilitate effective communication. The former is responsible for verbal communication, while the latter is responsible for non-verbal communication.

In his book on ethics, Baruch de Spinoza delineated the harmony between the physical world and that of the sensuous-imaginative mind [7]. Within the infinite attribute of thought, the idea emerges as a mode of virtually boundless reality. In this concept the human mind is nothing other than the idea, which arises directly from physiological processes and indirectly in a complex of sensory perceptions. These perceptions, in turn, reflect the physical body and its environment [2]. Schopenhauer wrote that the baroque union between knowledge of beauty and the purposiveness of natural bodies leads to a cognitive faculty. This cognitive faculty was determined to be the power of reasoning. He defined it as the ability to transfer intuitive knowledge into abstract knowledge and then to apply abstract knowledge back to intuitive knowledge [2]. Spinoza posits the inseparability of physical states and conscious experience (part 2, principle 7). Literally he stated: "The order and interconnection of ideas is congruent with the order and interconnection of things" [7]. These aspects are defined as the internal and external dimensions of a single, unified entity. It corresponds with the mento-physical unit in this essay. Mento-

physicalism is characterised by the manifestation of mental properties in conscious experience and physical properties in cerebral cognition. It emerges from the dynamic interplay between a mental me and a physical me. In this context, mental me is posited as the anticipation of the subject that cognizes *a priori*. Correspondingly, physical me is the will of the object that cognizes *a posteriori*. This concept is derived from Arthur Schopenhauer's exposition regarding the objectification of the will [8].

In this essay on mento-physicalism I employed a contingency table in order to illuminate the intersections between mental and bodily characteristics. A contingency table serves as a visual indicator of categorical associations and shows relationships between the properties that might not be readily apparent. Cross-tabulation is a beneficial data analysis technique that can help to ensure the equitable treatment of all variables. By presenting all properties in a consistent and comparable manner, it reduces the likelihood of preferential treatment based on prior notion or assumption. The interrelation between two variables in a contingency table was first introduced to biostatistics by Karl Pearson [9]. In a similar manner, I presented categorical variables of the mental and the physical me in a grid format (Table 1). This cross-tabulation facilitates the identification of patterns and dependencies in a range of various human properties that are composed of mental and bodily characteristics. The columns indicate properties that depend on specific bodily characteristics (motion, strength, growth, drive, and grasping). The rows represent properties that are contingent on specific mental characteristics (perception, memory, consciousness, reasoning, and emotion) (Table 1).

Perception

Perception is defined as the process of acquiring sensory information from both the internal and external environment. Sensory signals are processed with reference to body representation [10]. In the context of a community, close observation and imitation are of critical importance for survival. Toddlers learn not only words and the correct sequences of sentence structure, but also an ability to replicate the precise auditory characteristics and intonation patterns. This serves to both protect and reveal. The shape, proportion, posture, and movement of the body, have a significant impact on the sensory perception of the body and the environment. Sensory and motor information, body representations, and perceptions are interdependent [10]. Perception also encompasses the interpretation and prioritisation of sensory information. However, not all stimuli acting on the organism are perceived by receptors, and not all signals that arise are consciously perceived. It would be a fallacy to conclude that what is not perceived does not exist [11].

1a: The intersection between perception and motion constitutes a bidirectional feedback loop in the processing of the environment. Motion perception is a multisensory requirement for exploration (activity to discover territory and expand knowledge and understanding). It influences the perception of space and time and adjusts physical movements in real time. The integration of perception and action was observed and reported in the activation of mirror neurons [6]. It allows to learn from experience and to share internal states within a community. It may even facilitate the capacity for empathy towards the internal experiences of another individual.

1b: The hypothetical correlation between perception of physical strength and the fighting ability (dominance) of the individual is to

2d: The interplay between memory and drive is representative of the manner in which experience dictates biological and behavioural urges. In this physiological interplay, emotional significance and goal-oriented behaviour are connected to survival instincts. Specific sensory input, such as sight or smell, triggers the recall of past experiences (personal history and background) and activate the physiological drive.

2e: The intersection between memory and grasping facilitates the acquisition of new knowledge, which in turn influences our way of thinking and alters our understanding. Cerebral cognition depends on past experiences, active capacity of working memory and real-time motor-skills. These elements are important to interpret the stimuli from our physical surrounding and interact with the environment. The recognition and handling of objects is the result of the interaction of different systems in the brain that are used for vision-guided and memory-guided movements [18]. The retrieval of stored memories is swayed by the probability of activation of a particular neural network pattern. Memory is theorised to be contingent on the alteration of neuronal firing probabilities through the unfolding of energy patterns into specific meanings [6].

Consciousness

The philosophical and scientific perspectives on consciousness vary considerably, and the lines between mind and matter become indistinct. The question of whether consciousness is considered to be an emergent property of physical matter or if the physical world is the result of the interpretation of patterns of experience remains unresolved [19]. There is an intimate and bidirectional relationship between consciousness and body. Consciousness is embodied. Furthermore, there is a mutual dependency between the level of individual responsiveness and the cohort consciousness [20].

3a: In accordance with the doctrine of conscious embodiment, the dynamic interplay between consciousness and motion, for instance, exerts a direct influence on human behaviour (the range of actions in interaction with the environment). Action precedes thought. Presumably, the evolutionary development of subjectivity was enhanced by controlled physical movement. Nevertheless, controlled motion necessitates a certain degree of consciousness. The capacity to think is inextricably linked to the capacity to act. The apparent paradox of motion arises from the assumption that the human mind is inherently incapable of directly perceiving continuous movement [6]. The perception of motion is rather constructed by comparing objects in different spatial locations at different times. This way the perception of motion is achieved through the sequential presentation of images, reminiscent of the traditional celluloid film.

3b: The intersection of consciousness and strength elucidates the direction of physical, mental and cognitive power by alertness (the wakeful state of being mindful of something). Mental strength relies on the conscious direction of attention, thereby facilitating purposeful action and controlled physical performance.

3c: The concept of conscious embodiment, as it pertains to the dynamic interplay between consciousness and growth, is a pivotal factor in determining an individual's potential. It may be exemplified by the experience of adolescence (period of rapid physical growth that is concomitant with specific psychological and behavioural processes). Awareness regarding cognitive, emotional and social changes facilitates adaptation of behaviour and development of an individual personality. Heightened awareness of the world around

and an expanded perspective facilitate the acquisition of self-responsibility.

3d: The intersection of consciousness and drive is the driving force behind human ambition (persistent and goal-oriented drive to achieve a specific objective). It engenders a synthesis between internal desires and deliberate assessment and action. While fundamental needs frequently function on an unconscious level, consciousness becomes operative during moments of unanticipated transformation. This favours processing of novel information and the subsequent formation of appropriate decisions.

3e: Conscious embodiment in the interplay between consciousness and grasping encompasses both the physical act of reaching and the philosophical act of conceptual understanding. From a philosophical perspective, the term grasping refers to the cognitive apprehension of abstract concepts in a moment of sudden intellectual clarity.

Reasoning

Reasoning is intimately connected to the physical me through embodied cognition. Cerebral processing is contingent on physical sensations. Reasoning can thus be defined as the deliberate and logical manipulation of selected sensory and abstract information in order to draw conclusions. It uses discrete symbols and concepts, with a focus on the application of logic and memory [6]. In a sequential approach the use of deductive and inductive evaluation enables the formulation of hypotheses from incomplete information.

4a: The cognitive logic governs physical movement and is of paramount importance in the recognition of actions and consequences. The intersection between reasoning and motion necessitates a spatiotemporal understanding of the relationship between multiple objects. Sensorimotor psychology is concerned with the relationship between abstract thought and physical movement. For instance, the hand movements of a painter or writer during the act of painting or writing [21]. Reasoning plays a crucial role in the learning of physical tasks, as it enables the comprehension of the underlying mechanics.

4b: Cognitive psychology investigates cognitive processes involved in logical thinking, the formation of conclusions, introspection, and the resolution of problems. The nexus between reasoning and cognitive strength shapes traits such as curiosity, which is imperative for research endeavours. It also influences creativity, which is essential for artistic pursuits. The role of creativity in the generation of valuable and useful ideas and insights is paramount. Furthermore, the weighting of priorities in the development of communities is influenced by curiosity and creativity. The impact of research and art on cohort consciousness is of the utmost importance.

4c: In this context, growth is defined as the continuous reorganization of human understanding of the world. The interplay between reasoning and growth highlights physical and social growth of youngsters. It directly responds to cognitive development and formal operational thought [6]. Intuitive thinking does not fully substitute for analytical reasoning, rather, they are complementary cognitive systems. While intuition facilitates rapid and experience-based decision-making, analytical thinking provides logical verification for complex problems. This constitutes the fundamental premise of Kahneman's two systems [5]. The integration of both of these factors enhances an individual's aptitude for applying knowledge and making accurate and effective decisions.

Table 2: The dual concept of perception is also applicable to basic instinct. As Baruch de Spinoza (5; part 3) asserts, the fundamental human affects emerge from the inherent nature of desire and its antithesis, aversion. The specification is contingent on various factors (external causes, internal causes, self-evaluation, affect imitation, and inconsistent imaginativeness).

Factors	Desire (Laetitia)	Aversion (Tristesia)
External causes	Love (amor)	Hatred (odium)
Internal causes	Honour (gloria)	Shame (pudor)
	Self-content (acquiescentia)	Despondency (humilitas)
Conditional contemporaries	Compersion (favor)	Compassion (commiseratio)
Self-evaluation	Hybris (superbia)	Faintheartedness (abiectio)
Conditional contemporaries	Overestimation (existimatio)	Underestimation (despectio)
Affect imitation	Rivalry (aemulatio)	Disregard (indifferentia)
Inconsistent imaginativeness	Hope (spes)	Fear (metus)
Without ambiguity	Confidence (securitas)	Distress (desperatio)
	Delight (gaudium)	Mourning (morsus)

4d: Drives dominate reasoning. The cognitive abilities that enable individuals to reason, identify and solve problems, and engage with abstract concepts basically determine the intelligence. In this context, it is important to draw a distinction between intelligence and intellect. Intelligence is defined as the innate ability to think logically, solve problems, and adapt to new situations. Intellect, in contrast, is defined as the active power of mind. It describes the actively acquired, interconnected knowledge and profound capacity for understanding. The interplay between reasoning and drive is a determining factor in the intellect, and involves cognitive control and drive reduction. Preexisting drives and emotional needs unconsciously influence cognitive processing of information. Cognitive psychology also explores the manner in which desires shape thoughts and the way in which logic and reasoning shape primitive urges.

4e: Conception is firmly rooted in bodily actions and sensorimotor experiences [22]. Object manipulation is contingent upon the existence of cognitive understanding, which serves to bridge the inherent gap between raw information and meaningful action. The intersection between reasoning and grasping involves the manner in which cognitive thinking shapes physical actions. It also involves how physical interactions facilitate the comprehension of abstract concepts in extralinguistic reasoning. In developmental psychology, the thumb-to-forefinger grip (pincer grasp) in infancy is considered to lay the foundation for advanced cognitive reasoning [23].

Emotion

It is evident that the notion of pure and cold rationality is largely a myth. Rational decision-making is also contingent upon affective states. Emotions such as fear and anticipation are fundamental components of effective decision-making processes. In the absence of affect, behaviour becomes irrational. Emotions rapidly guide attention. Affective reactions take precedence over analytic reasoning. They process information at an even faster rate than the fast-thinking system developed by Daniel Kahnemann [5]. Emotional reactions determine the activation of a wide array of circuits in the brain. The amygdala function as a receiving and sending station, coordinating perceptions with memory and behaviour [6]. Within the cerebral cortex, emotion interconnects disparate systems. It has been proposed that emotions are changes of integration. In this concept, appraisal and arousal are two core components of the psychological experience of emotion [6].

5a: The internal emotional state is manifest externally through the

phenomenon of affect. This is conveyed through facial expressions and gestures. It is expressed in bodily motion and posture. Emotional states directly drive physiological responses. Affect severely impacts reality. Affect actively shapes the manner in which individuals perceive the world around them. This notion involves the direction of attention towards specific items and the subsequent alteration in the prioritisation of what is perceived. Spinoza defined affect as “passion of despondency” [24]. In his ethical considerations, he listed numerous human affects that were generated from desire and its reverse aversion (Table 2). Physical movement dictates how the individual feels. Conversely, individual feelings influence physical action. The relationship between affect and motion is reciprocal, with the potential for influence in both directions. Bodily sensation and behaviour strongly shape emotional response. In this perspective, emotion exerts a significant influence on feelings and temperament (mood and emotional restraint). Furthermore, it instils the physical readiness to act. Motion and emotion are intrinsically connected [25] (Table 2).

5b: Appraisal centres are located within the limbic system, involving the amygdala, the anterior cingulate, and the orbitofrontal cortex [6]. Appraisal is the cognitive evaluation of a situation, interpreting its meaning and significance. It determines whether an unexpected event constitutes a threat or an opportunity. It initiates reactions of approach or withdrawal originally to protect and sustain life. The subsequent elaborative appraisal and arousal increase alertness, which in turn causes an initial orienting response. It facilitates the selection of an appropriate behaviour from a cascade of perceptual and motor responses. The impact of physical strength on emotion and affects is strong. Emotion refers to the precognitive response to stimuli. It has the capacity to focus attention on certain aspects of the environment. In this manner, emotional strength dictates performance and resilience. The nexus between emotion, affect, and strength determines state and strength of the mind.

5c: The interplay between emotion and growth determines allostasis, the process through which humans thrive and survive. Allostasis is the bodily response to internal and external stress [6]. It provides stability and influences engagement (emotional and physical involvement) of an individual. Emotion and affective states derived from desire and aversion, for example honour and compassion (Table 2) broaden our mental horizons [7]. Affective learning occurs within the border area of vulnerability and teachability. In personality development affective learning refers to the selection of virtues and

attitudes.

5d: Arousal is the physiological state of being energised or activated. The intensity of emotion is determined by arousal [6]. Arousal proposes the motivation to maintain an optimal level of stimulation. The interplay between affect and drive is the primary motivation of human behaviour. This process effectively transforms fundamental survival needs into profoundly felt desires. Affective states derived from desire, such as delight, amplify approach, while affective states derived from aversion, such as fear, (Table 2) amplify avoidance [7]. The experience of strong emotions, such as delight and fear, is characterized by the individual anticipation of an impending event.

5e: The interplay between emotion and grasping embodies cognition. It bridges psychological embodiment. Affective states influence early reactions. In this concept, fear constrains movements and tightens grip control. Conversely, delight facilitates exploratory behaviour and promotes expansive grasp. The act of grasping an object enhances both attention and the depth of memory. It immediately co-activates emotional and motivational centres in the brain, including the amygdala and the limbic system [6]. The cognitive categorisation and the emotional response to an object is influenced by the individual's grasp. In addition, exposure to an initial stimulus unconsciously shapes the response to a later stimulus (priming). It facilitates subsequent identification and classification, and consequently shapes thoughts and behaviour. Priming is linked to implicit memory, with no requirement for conscious effort [26].

The Interpersonal Consciousness of the Social Me

The interpersonal consciousness can be seen as a form of meta-awareness that plays a pivotal role in determining priorities and shaping self-consciousness. It arises from the confluence of the individual mind and the social world. Interpersonal consciousness exceeds internal awareness. It is limited by individual abilities to sense and model the minds of others. It exerts a significant influence on the individual awareness to get the capacity to comprehend shared realities, anticipate actions, and discern the intentions of others within a cooperative society. Information pertaining to social interactions is of paramount importance. It is prioritised and processed at a faster rate than most environmental information. In particular, it is granted attention and preferential access to the conscious visual perception [27]. The alignment of individual subjective perception with interpersonal consciousness is a fundamental aspect of human experience.

Processing of memories within a community is influenced by interactions among its members. Subjective experiences are fundamentally influenced by social interactions. Memory appears to be a collaborative process. Collective memory is predicated on the diversity of individual memories. From this social memory is established [28]. The influence of the community on the individual is enormous. The spectrum of conscious experience encompasses the following levels: un-conscious, co-conscious, pre-conscious, and sub-conscious. The area of effect of un-consciousness far exceeds the area of conscious experience. In this hypothetical conceptualisation, the term un-conscious is associated with emotions as a tertiary perception. The term co-conscious is associated with cerebral completions and modifications as a secondary perception. The term pre-conscious is associated with anticipation and imagination, and the term sub-

conscious is associated with social awareness and coherence [20]. The cultural and historical background of a community exerts a profound influence on a variety of interhuman relationships, ethical virtues, conscience, social rules and laws, appreciation for art, creativity, and imagination among others. Undoubtedly, the influence of the community on language, mindset, reasoning and argumentation is essential [20].

Emotion serves the purpose of communication within the community. It exists from the very beginning of life, long before the ability to express oneself through language is acquired. It may return as the predominant form of communication in the final stages of life. Emotion is communicated non-verbally through affects. Feeling is the conscious awareness of an emotion. The experience of empathy can be defined as the conscious awareness of another's emotion. This phenomenon exerts a significant influence on the course of human evolution. Emotional responses are inherently physical, thereby serving as the conduit that connects the mental me and the physical me. When people interact harmoniously, their body movements and vital parameters align and get synchronized. The basis of empathy and social connections is formed by the dynamic exchange of shared thoughts, feelings, and intentions. The correlation between thought and mobility is of fundamental significance. It supports the theoretical proposition that conscious thought and feelings are grounded in bodily movements.

A multitude of distinct behavioural strengths emerge from the intersection between self-awareness and social intelligence. In the context of interpersonal dynamics, the disclosure of limitations or emotional states in the presence of others may support trust and rapport within a community. The capacity to withstand arduous social environments necessitates strength. The ability to maintain a sense of groundedness is facilitated by interpersonal consciousness. Human development is inherently relational in nature. Growth is contingent on engagement with others, becoming aware of subconscious experiences that exert influence on interpersonal relationships.

An individual's social awareness modulates the motivation to act. The impact of individual actions and emotional expression on interpersonal relationship is significant. In this concept, interpersonal consciousness helps to adapt and compromise impulsive drives in a socially acceptable way. Social consciousness is predicated on the manner in which the individual engages with others. The intersection of interpersonal consciousness and grasping represents a synthesis of cognitive psychology, philosophy, and neuroscience. In this context the term grasping is understood to signify the ability to comprehend, establish a connection with, and physically reach for the conscious minds of others. It facilitates an individual's experience of consciousness in relation to other members of the community.

Mental, physical, and social me are the most important constituent elements that make up individual consciousness. The interpersonal consciousness of the social me develops primarily during the early years of childhood. The transmission of language, customs and technical skills occurs through language, observation and teaching. It is evident that community knowledge is passed on via communication, tradition, and collective memory. Education, cultural transmission and interindividual relationships strongly shape the individual development of the mento-physical unit.

Conclusion

Mental me and physical me are non-switched. The mento-

physical unit in the dual concept encompasses both unconscious and conscious perception, thereby influencing reasoned and emotional communication and experience. The concept of the mind as an embodied entity is a central tenet of this theory. The dual concept of perception is grounded in bodily actions, and bodily actions in turn sway perception. The bidirectional approach exerts a substantial influence on the attention expended, thereby establishing the basis for the development of a cohort consciousness. It assigns the importance and priority of the perceived. The dual concept posits that any achievement invariably gives rise to its antithesis. The existence of matter is predicated on the concomitant existence of anti-matter. Where there is desire, there is also aversion. The balancing of opposites invariably yields the same result, the same Indian number: zero. Enduring progress can only be achieved through a shift in perspective that influences all previous ways of looking at things. Such a process presupposes collective endeavour from cohort consciousness.

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