



# ¿QUÉ ES «LO ENCARNADO» CUANDO HABLAMOS DE MENTE ENCARNADA?

WHAT IS "THE EMBODIED"  
WHEN WE SAY EMBODIED MIND?

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SUMARIO: I. INTRODUCTION. II. EMBODIED MIND IN VARELA'S WORK. III. THE BÜHLER'S EXPRESSION THEORY. IV. HEINZ WERNER AND THE PHYSIOGNOMIC-ORGANISMIC NATURE OF HUMAN COGNITION. V. DISCUSSION. VI. CONCLUSION. VII. ACKNOWLEDGEMENTS. VIII. REFERENCES.

**RESUMEN:** El objetivo de este artículo fue desarrollar una comprensión de la teoría de la mente encarnada mediante la integración de postulados de otras tradiciones en psicología que no se han contemplado al conceptualizar la teoría de la cognición corporizada. Para esto, revisamos la conceptualización realizada por Francisco

**ABSTRACT:** The aim of this article was to develop an understanding of embodied mind theory by integrating postulates from other traditions in psychology that have not been contemplated when conceptualizing the embodiment theory. For this, we review the conceptualization carried out by Francisco Varela, as the main

Varela, como el autor principal que ha desarrollado la teoría de la mente encarnada en psicología. Además, la teoría de la expresión es revisitada – una larga tradición en psicología no contemplada en las obras de Varela– con el objetivo de completar los postulados actuales de la teoría de la mente encarnada. Se concluye que los postulados de la teoría de la expresión no han sido incorporados en el trabajo de Varela y reflexionamos sobre la importancia de hacer una integración entre la teoría de la expresión y la teoría de la mente encarnada para completar la comprensión de lo que llamamos “the embodied” en la experiencia psicológica.

author who has developed the embodied mind theory in psychology. Additionally, the theory of expression is revisited -a long tradition in psychology not contemplated in the works of Varela- with the aim of completing the current postulates of embodied mind theory. It is concluded that the postulates of the expression theory have not been incorporated into Varela’s work and we reflect on the importance of making an integration between the expression theory and the embodied mind theory in order to complete the understanding of what we call “the embodied” in the psychological experience.

**Palabras clave:** Mente encarnada, Teoría de la expresión, percepción fisiognómica, experiencia organísmica, Fenomenología.

**Keywords:** Embodied Mind; Theory of Expression, Physiognomic perception, Organismic experience; Phenomenology.

## I. INTRODUCTION

Embodied mind theory has had great development in recent years in our discipline. The phenomenological tradition has made the main contributions to this dimension of psychological experience. In the literature review, there is a permanent tension between the phenomenological notion of the embodied mind and the Cartesian mind-body dualism. While the body is proposed as lived, holistic and felt from the phenomenological perspective, the disembodied robotic body characterizes research approaches in modern science. These tensions and the scarce conceptual delimitation are what have allowed an ambiguous use of the concept (and little rigor with the tradition from which it emerges) in modern psychology and mainstream research. There is a need to rescue the original meaning and / or examine the multiple traditions or meanings that the concept of the embodiment in different traditions or authors has taken.

One of the main authors that has developed the embodied mind theory is Francisco Varela (Varela, Thompson & Rosch, 1991; Thompson & Varela, 2001; Varela, 1996), nevertheless, in its approaches a tendency towards the individual is observed, and not towards the relational one (Araya, Aristegui

& Fossa, 2017). Varela's proposal has been widely considered in research and psychology when referring to the embodied mind. However, there is a great tradition in psychology –forgotten or at least not visible– that could make important current contributions to the embodiment theory. The theory of expression (Bühler, 1933) is a long philosophical, anthropological and psychological tradition that has its origin in Aristotelian's *physiognomica* and has focused its interest in the expressive manifestations of human consciousness, that is, its expressiveness in the language incorporating the gestuality. Werner (Werner 1955, 1956; Werner & Kaplan, 1963) is another relevant author in psychology, less read and heard than Varela, who with his postulates allows to complete and contribute to strengthen the theoretical model of the embodied mind. Werner and Bühler, as well as many other authors who, with part of the tradition of the expression, have not been mentioned in Varela's work, may be the reason why it could be intuited that the Varela's proposal does not include the contributions of the developmental psychology and the theory of language proposed by the Expression Theory.

This article tries to develop the main approaches of the tradition of human expressiveness and its various authors involved. A long revision of postulates from Aristotle to the work of the embodied experience in psychology is contemplated, aiming to complete the perspective and understanding proposed by Varela to the embodiment theory.

## II. EMBODIED MIND IN VARELA'S WORK

Francisco Varela has been one of the main authors in psychology to develop and investigate the concept of embodied mind. His theory has criticized the cognitivist-computational perspective of consciousness, which understands cognition as an operator of symbols representing states and things of the world (Varela, Thompson and Rosch, 1991). Varela (1991) develops a theory of the embodied mind that critiques this perspective in cognitive sciences, emphasizing in its place, the mind – context interaction as a fundamental aspect of cognitive development. From this perspective, Varela (1991) abandons the understanding of a cognition «here inside» separated from the things of the world «out there», and proposes in its replacement a perspective of mind-cognition in permanent development with the culture. Varela (1991) then proposes that human cognition is not independent of the world around us.

The body, from the perspective of Varela (1996), is a lived experiential structure and the context of cognitive mechanisms (Thompson & Varela, 2001). Varela (1996) understands the body then not only as a physical structure, but as a living entity, in which cognition develops. This is, from Varela's (1992) perspective, the «external» and «internal» dimension of the mind,

thus proposing the incarnated phenomenon as the mind-body unit (Varela, Thompson & Rosch, 1991). In the words of Varela:

By embodied we understand the reflection in which the body and the mind are one only, that is, they can occur in an integrated manner. What this formulation tries to show is that reflection is not only about experience, but it is an experience in itself (Varela, Thompson & Rosch, 1991, p. 27.)

From Varela's perspective, the embodied mind theory allows to integrate the reflective-cognitive experience with the lived phenomenological experience, as two dimensions of human nature. This is evidenced in another passage of his work, when he explains: «a first dimension of experience looks at nature and cognitive processes, while the other looks at the human world or the *lebenswelt*»<sup>1</sup> (Varela, Thompson & Rosch, 1991, p. 37).

The perspective of embodied cognition, from Varela point of view, would allow access to a holistic understanding of background knowledge or knowledge, which is not restricted to a propositional, denotative and declarative knowledge, but rather, a holistic and total knowledge, such as cognitive-affective unit. In this sense, Varela tries to move from a representational to a presentational one. This means, giving greater emphasis to the psychological experience, giving it the same value as the cognitive-intellectual experience, always emphasizing the representational and presentational as two dimensions of experience (see Varela, 1996, Thompson & Varela, 2001).

From the perspective of Varela, Thompson & Rosch (1991), the enactive perspective that includes the mind as embodied proposes this phenomenon in an intermediate position between the scientific and the phenomenological experience. For this, it uses the metaphor of the egg and the chicken: the egg would correspond to being totally centered in the internal and the chicken would be the focus in the external (social and cultural world). Thus, the proposal alludes to contemplate the embodied mind as an integration between the previous dichotomies in psychology, and a shift from the computational theory of the mind to the enactive perspective.

The cognitive-representational understanding and the phenomenological-lived experience constitute the two vertices that the enactive program seeks to integrate. In other words, knowledge and the perception of the world would not only have a propositional character, and neither would it have a purely experiential character. The embodied mind of Varela constitutes an articulation between both orientations. In this way, then, the enaction and the

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1. *Lebenswelt* es una palabra alemana que ha sido traducida como «mundo de la vida».

embodied mind implies being present in the permanent emergence of the here and now, which allows embodied knowledge that simultaneously accounts for both dimensions (reflective-scientific and experiential).

The embodied mind concept offers an answer to traditional cognitivism, trying to integrate the biological, psychological and social dimensions, being a novel and revolutionary approach in modern cognitive sciences, integrating dissimilar theoretical traditions, such as phenomenological philosophy, Buddhist tradition and the modern cognitive-computational psychology.

### III. THE BÜHLER'S EXPRESSION THEORY

The theory of expression is an ancient tradition in philosophy, anthropology and psychology that sought to explore the manifestations of consciousness-including gestures-that account for the subjectivity and deep motivations of the person (Fossa & Araya, 2017). One of the main authors in psychology that developed the theory of expression was Karl Bühler, who in 1934 developed a theory of language in the proposed the existence of a dimension of this not incorporated into contemporary psychological research on human language. Through his *organon model* of language, he proposes that speech action would occur between two participants; on the one hand, the generator of speech action (Issuer), and on the other, the receiver of the speech action (Recipient). The participants (sender and receiver) would be in permanent exchange of linguistic signs, which constitute a field of meaning. However, that sign functions only as a mediator of the experience, since it never manages to represent the named object in its entirety. In this scenario, each linguistic sign corresponds to an acoustic phenomenon that mediates the relationship between an Ego and an Other. This acoustic phenomenon would have specific functions: representational, appellative and expressive. The language has a representational function since it constitutes a representation of the object, situation or mental state that is denominated during the speech action. On the other hand, the language maintains an appellative function, since that acoustic phenomenon always interpellates or tries to interpellate the recipient. Finally, all use of language is expressive because it always accounts for internal states and motivations that seek to be expressed. In the words of Bühler (1934) each acoustic phenomenon is:

(...) a symbol by virtue of its coordination with objects and states of affairs, a symptom by virtue of its dependence on the sender, whose inner states it expresses, and a signal by virtue of its appeal to the listener, whose inner or outer behavior is directed by what other communicative signs do (Bühler, 2011, p.65).

The linguistics and psychology that has studied the action of speech have not deepened in the expressive function of this, but mainly in its



representational (or referential) function. Bühler (1934) emphasizes the expressive function as a central function in human language. With this he says that each verbal expression seeks the expression of emotions, desires and motivations, that is, tries to account for deep internal states. The same author in 1933 develops a theory of expression that includes bodily elements, rooting it in an ancient philosophical-anthropological tradition of human expression. That is, human expressivity is manifested not only in the expression of linguistic signs but also in non-verbal movements. According to Bühler (1933), the beginning of the theory of expression goes back to a treatise called *Physiognomica*, attributed to Aristotle. This text is the first record of a work on physiognomy. For Bühler (1933) the Aristotelian physiognomy focused on the study of corporal expressions, which would provide information on internal states. This means that non-verbal, permanent or episodic expressions would indicate permanent or episodic states of the soul.

Bühler (1933) includes both physical movements and speech, as forms of communication. It includes, in turn, movements as another form of language, emphasizing a close relationship between language and physiognomy.

According to Bühler (1933) the gesture requires more observation and analysis since it constitutes a central aspect of the theory of expression. The human body appears before another as an entity full of expressivity, which externalizes or visibilizes a series of internalities. The study of expressions and the meticulous observation of gestures, signs and expressive cultural manifestations reveal the emotional and spiritual world of both individuals, groups, and evidence its evolution throughout history (Bühler, 1933). Bühler (1933) suggests that the distance between the expression and the represented is greater in the language than in the physiognomic gestures. This is because language is mediated by linguistic signs and by a cognitive process that interferes with its immediate expression. On the other hand, the physiognomic gesture is a direct and unconscious expression of internal states. According to Bühler, this is the reason why ideas are expressed differently in different languages, while the expressive gesture tends to be universal.

Wundt (1900) in his detailed analysis of the expressive gestures in the *Psychology of the peoples* proposes that the expressive movements are not the result of a reflection or cognitive activity, but the result of an emotion and the respective involuntary movement that accompanies that emotion. In this sense, Wundt adds an important dimension of expression: the involuntary act. In this regard, he points out that the expressive gesture not only expresses emotions but also ideas, ideas that are submerged in specific feelings. They are expressions of ideas, of an individual experience towards others. For example, an angry subject gestures and expresses facial movements that characterize an attack situation characteristic of the emotion of anger. These facial expressions are also accompanied by arms and hands movements. This

expressive background of language and gestures is what allows evoking the same idea or emotion in the minds of others.

According to popular belief, the impulse for communication is an intellectual, reflexive process and a voluntary action that allows the content of one's conscience to be communicated to other people. However, if we observe the gesture in its origin, a different vision is obtained. This mode of communication is not the result of intellectual reflections or a conscious purpose, but is the result of an emotion and involuntary expressive movements that accompany that emotion. In fact, it is simply a natural development of the expressive movements of human beings (Wundt, 1900, p.60).

Wundt (1900) reports that the physiognomic expression increases in the presence of foreigners and in the deaf-mute population. In his observations, he manages to distinguish two types of gestures. The pointing or deictic gestures, which are the indicative gestures (using the finger) to indicate an object, a person, himself or a third party during a conversation. Another type of expressive gestures are the so-called graphics, which are socially consensual and are frequently observed, for example, in the deaf-mute language (example: A house, a man walking, a hat, etc.). This is reflected in the following passages of Wundt's work:

The gesture of pointing with the hand is the clearest example of gestures to designate objects. «I» and «You» are expressed by the gesture of pointing of the speaker, which is directed towards himself or towards the other. This suggests a similar movement to designate a third person. (...) There is a second important class of gestures, which we will call graphic gestures. The deaf-mute, as well as some primitive cultures, represent objects in the air. For example, the word «house» is expressed by a characteristic hand movement, the idea of walking can be communicated by the fingers assimilating a man walking, and so on with the idea of garden, teacher, hat, etc. (Wundt, 1900, pp. 61-62).

Wundt (1900) argues that a physical variation corresponds to each psychic variation, and that this expressivity would have three dimensions or spheres of manifestation. On the one hand, the face, what he calls mimicry, would be a place in the human body upon which multiple forms of expression of internal states are deposited. On the other hand, the trunk and limbs, what Wundt calls pantomimia; and finally the autonomic (vegetative) nervous system, which includes the heart rate and the respiratory system. These nuclei of expressivity deposited in the body –mimic, pantomimia and autonomic nervous system– are those that manifest internal states towards the public world; from the depths of the psychic experience, to the immediate context that the subject experiences. These dimensions presented by Wundt (1900)

are what James (1890) called soul, body and clothing to the different levels in which the self manifests its expression. With this, James refers the existence of a spiritual self (soul), a body self (body) and a self that manifests in the immediate context (clothes). For James (1890) the Self of the human being, is not only the psychic dimension, but also a bodily dimension that is a reliable expression of deep states of the soul. That is to say, the felt experience or the expression of the self is experienced in the mind, passing through the expressiveness of the body and transcends into the immediate environment impregnated with our mind. This self, manifested in the body, is a direct link to the expressive function of Bühler. In the words of James (1890, p. 199): «Each mind is united to a body, through which its manifestations appear». In addition to the corporeal dimension, James (1890) emphasizes that the expressiveness of the self manifests itself in everything that is ours. In our choices and activities, in our priorities and our environment. Everything that surrounds us in the environment is pure expression of deep states of consciousness and soul. According to James (1890, pp. 291-292): «A man's self is the sum total of all that can be called his... Not only his body and his psychic faculties, but his clothes and his house, his wife and sons».

The gestures and the physiognomic expression in general coexist with the language and manage to express what in words often cannot be said. The gestural expression manages to demonstrate the permanent flow of experience in consciousness, while the vocalized language does so in a linear, partial and cut segment of sounds and words (Bergson, 1907, 1911; Cassirer, 1944, Schutz, 1967). Schutz (1967) states that every spontaneous expressive movement is communicative in itself and charged with meaning. This means that when the expressiveness is genuine and spontaneous, it lacks intention, so the objective becomes the simple act of expressing and giving an account of the internal experience. In this sense, the perception of the expression of gestures constitutes the genetic manifestation of deep states of the subject. Each gesture is communicative and full of meaning in itself, at the same time expressing the choice and intentionality that seeks to communicate the inner vital force of the subject (Bergson, 1913, Schutz, 1967). In *Phenomenology of social world*, Schutz declares: «From my point of view as an observer, your body is presented before me as a field of expression on which I can observe the flow of your lived experience» (Schutz, 1967, p. 117).

The human experience then is in constant course and is always expressed in gestures that in turn account for the expression of consciousness. This is the reason why an expressive void is observed in mechanized movements, since by not being genuine and spontaneous they are perceived as meaningless. These expressive movements then demonstrate the flow of consciousness and are expressions of aspects of the internal world that accompany vocalized speech. In this way, language, expressivity and internal speech come together



as a single expressive and communicative system, which is experienced as a process under development during the experience. In human expressiveness, experience lived and felt internally is not fragmented from external expressiveness. Both aspects constitute instances of the same continuum and together they form a single experiential system. Cassirer (1955) to refer to the internal and external aspects of the experience, declares:

Here it is not a mere transition, from the mimetic sign to the emotion that designates, on the contrary, both the emotion and its expression, the internal tension and its discharge, are given in the same act, without divisions in time (Cassirer, 1955, p 179).

Each expressive variation in turn manifests the flow of the states of consciousness. William James (1890) referred that the micro-variations of the states of consciousness are always never abrupt trajectories, but continuous and gradual. That is to say, the variations of the expressive states of the soul maintain a permanent flow in the experience which is possible to experience in the permanent flow of the mimetic expressive movements during the experience. In the words of James (1890):

I can only define «continuous» as what is without fraction, without crack or division. I have already said that the gap from one mind to another is perhaps the greatest gap in nature. The only fractions that can be conceived are produced within the limits of an individual mind. They are interruptions, gaps of time during which the consciousness and its contents re-exist again in a memory later on; or they would be fractions in the quality or content of the idea, so abrupt that the segment that follows has no connection with the previous one. The proposition that within each thought of the personal consciousness thought is felt as continuous means two things:

1. That even when there is a time gap in consciousness, after it feels as if it belonged with the previous consciousness, as another part of the same self.
2. That changes from one moment to another in the quality of consciousness are never absolutely abrupt (James, 1890, p.237).

In this way, James (1890) refers that the flow of consciousness is expressed in the continuity of thought, as a process of permanent novelty and evolution towards the future. It also highlights the possibility of changes in the states of consciousness or the contents of an idea, emphasizing that both are part of the lived experience of the subject, not dichotomous or separate, but as a continuity of one's consciousness.

Gestures, then, are «movements of the body or some part of it, which are expressive of thought or feeling» (Kendon, 2004, p. 8). They constitute actions

that have the characteristics of manifest expressiveness. They are movements in which a clear objective is not recognized, but apparently their end is their own expressiveness rather than being at the service of some practical purpose (Kendon, 2004).

The gestures include not only movements, but positions or body and facial postures. The gesture or expressive movement must be understood in relation to the discourse of the subject or to what the subject refers to what was thought or felt at a given moment. That is, the expressive value of nonverbal behavior can vary from one situation to another and from one subject to another.

Gesture and language constitute a single communication system (McNeill, 1992). However, the gesture is more closely connected to nature than spoken language because it «offers a form of expression not yet distorted by the conventions of spoken language» (McNeill, 1992, p. 35), being an expression of thought.

Gestures are a permanent way of expressing intentions, interests, feelings and ideas through corporally visible actions (Kendon, 2004). The orientation of the body, the postures and in the place that a subject is positioned in front of another and in front of nature provides important information about their emotions, intentions and interests.

Controversy exists regarding the temporal relationship between physiognomic expressions and language. From the perspective of Kendon (2004) these expressions of corporally visible actions «are deployed as a complement to spoken language, as a supplement or substitute for it» (Kendon, 2004, p.1). On the other hand, McNeill (1992) proposes that the gesture only manifests itself during the discursive expression of a subject. In a study conducted by McNeill (1992) it was found that 90% of the gestures of speakers occur when the speaker is declaring something. The act of speaking and the gestural expression seem to be intertwined with each other in time. That is, from the perspective of McNeill (1992) there would be a temporal and synchronic relationship between the speech act and the gestural expression. Gesture and speech are pragmatically and semantically co-expressive, finding themselves coherently articulated in the experience.

According to McNeill (1992), gesture and the word are inseparable components of the act of declaration. For him, the co-expressive relationship of gestures and speech shows the thought processes involved in human experience.

#### **IV. HEINZ WERNER AND THE PHYSIOGNOMIC-ORGANISMIC NATURE OF HUMAN COGNITION**

Heinz Werner was a research psychologist in developmental psychology, recognized for his work on human perception and language theory. Werner's

work has made an important contribution to psychology, specifically his studies of microgenetic orientation. In 1955, he wrote a work called *on expressive language*, in which he describes what, from his perspective, constitute the two forms of human perception: geometric-technical perception and physiognomic perception.

The geometric-technical perception is that perceptive capacity that allows distinguishing the objective qualities of the objects of the world and the stimuli of the environment (Werner, 1955). It is what allows describing the state of things, by their constituent parts or segregated aspects that compose it. The geometric-technical perception allows us to communicate in the social and cultural world, and establish the specific coordinates of the things to which we refer in the language. On the contrary, physiognomic perception is that which allows us to perceive objects in a holistic way, as a complete totality of forms and contents. This form of perception is intimately related to the internal experience of the subject and his bodily sensations, highlighting the dimensions of depth, depth, reliefs, textures, colors and moods of the world's things. By way of example, from the geometric perspective, a garment can be described by its color, design and manufacturing characteristics; while from the physiognomic perspective the garment and its owner are inseparable elements, which is why we attribute characteristics of the person or the relationship to that particular garment.

From Werner's (1955) perspective, then, the world and its objects are perceived both geometrically and physiognomically. This is how human language would also manifest these dimensions of human cognition. On the one hand, a sequence of words and sentences governed by standardized rules, and on the other, a perception of language that integrates content and form as an organismic experience. That is, before the perception of language it is possible to describe its direct and denotative meaning, while it is also possible to describe its sense and aesthetic impact that this idea expresses and all the ideas-elements that are removed in consciousness by the idea.

The physiognomic perception then constitutes a holistic and total understanding versus a purely sensory understanding of the geometric-technical perception. For Werner (see Werner, 1955, Werner, 1956, Werner & Kaplan, 1963) the physiognomic dimension of cognition is directly related to organismic sensations and would account for the first forms of the cognitive act. That is why his conception of organismic-physiognomic dimension of human experience. An example referred to by Werner (1955) is to observe a picture of a bird. From the geometric-technical perspective, it is possible to describe the height, the type of flight and its location, but from the physiognomic perspective, the bird is in motion without physical displacement: It is a flying bird. From a Wernerian orientation, we observe the physiognomic expressions that the objects of the social and cultural world

give us, which accounts for the expressive nature of cognition; while, at the same time, we observe its geometric qualities.

Human cognition and its capacity to construct symbols allow communication with the social and cultural world. This process occurs in a physiognomic –that is, organismic– relationship of the human being with his environment (Werner & Kaplan, 1963). The encounter of the human being with culture constitutes an aesthetic impact of a physiognomic nature; On the other hand, the construction of symbols by cognition is oriented –at least initially– organismic physiognomy. This implies that symbols, perceived and constructed, have an initial sensory and bodily character, rather than constructing a properly geometric-technical symbol. The symbol then has a representational function, that is, it must account for the relationship between the representation and the represented. Meanwhile, on the other hand, this process of symbol formation, from the perspective of Werner & Kaplan (1963), is expressive in itself and maintains physiognomic-organismic characteristics.

Human consciousness maintains language as the main tool for the construction of signs to communicate with the environment. Both dimensions –namely, geometric and physiognomic– are in the construction of signs and symbols, at the same time that the perception of language is an integration of both. When we perceive a concept, it is possible to observe its two dimensions. On the one hand, the concrete meaning of the word generated by the association between the syntactic-sound combination with the object it designates, and on the other, its physiognomic perception related to all aspects of consciousness that are removed by the ontogenetic relation of the subject with the represented object. That is to say, a holistic and organismic affective – cognitive integration of the link between the subject and the object. From the physiognomic perspective then, the perception of language and the world is produced through a form-content integration as a mental function characteristic of human consciousness.

An example of a physiognomic language is metaphor and poetry. In metaphorical language, form and meaning are more united than in any other form of language. From the perspective of Werner (1955, p.20), the physiognomic dimension of language and human experience shows «the indissoluble unity of form and content».

Werner (1956) in his work *Microgenesis and Aphasia*, proposes a way of approaching psychological phenomena in order to understand their gradual development process. His microgenetic studies on human perception allowed us to understand the process by which human beings manage to apprehend the environment and build meaning. Werner's microgenetic studies (see Werner, 1956; Werner & Kaplan, 1963) were conducted under the use of the tachistoscope. The tachystoscopic presentation consists of the projection of

stimuli in thousandths of seconds on a monitor, which gradually increase their presentation time. The subject must refer his experience after the presentation of each stimulus. Initially the objects are almost imperceptible, but then they can be observed more clearly until they are finally presented clearly.

A study in which the tachistoscopic presentation was used, Werner (1956) explored subjects with language disorders, specifically with aphasia syndrome. Through an experiment the author observed the dimensions of the physiognomic language. Werner (1956) presented words, combinations of words and short sentences tachistoscopically. After each application at 1/50 second each participant had to refer all their experience to the stimulus. The word presented in one of his studies was *Sanfter Wind*. In the different applications the participants executed expressions such as «what was put before» *wind* «feels like an adjective that specifies the nature of the wind», «feels like» *warm*», *soft* «or something similar», «definitely it's not a direction word». In the following applications: «Now I know that the word is» *heavier* «than» *hot* «... somehow more abstract». In a later application: «now it looks more like an adjective than a direction» and «now again a little more concrete». And in the final application: «now with all clarity: *Sanfter Wind*. Not at all. I had the idea clear before presenting the word, I already felt the idea».

This study yields two important results. On the one hand, there is evidence of an early appearance of the general sphere of the meaning of the word («warm», «soft») before specific recognition. That is, an initial physiognomic nature, rather than a geometric-technical one. The second reflection points to the undifferentiated physiognomic perception of the nature of the experience («it feels like warm»), which suggests the participation of an organismic – corporal dimension. In this sense, the organismic experience is total body sensation.

Another study by Werner & Kaplan (1956) consisted of asking subjects to observe words as lights projected on the wall of a dark room. The height of the eyes of the participants at the time of observing a dark wall was calculated as the observation baseline. They presented different words that alluded to «upward» movements or «downward» movements (eg: climbing, descending, etc.), and asked the subjects to position the words at the center of the projection field or visual field (middle line). The results showed a tendency of the subjects to position the words that alluded to movements «up», above the baseline, and words about «down» movements, further below the baseline. The same happened with happy words which were referred to as brighter and sad words as less luminous.

Another experiment by Werner & Kaplan (1963) demonstrated physiognomic aspects of sound patterns in fictitious words. The participants were invited to observe words without any meaning (*budraf* and *medref*).

The subjects had to refer all their experience regarding the word. Budraf was related to «weight» and Medref was related to «heaviness». Budraf, for example, was understood as heavier than medref. The tendency of the participating subjects shows that the physiognomy of words incorporates sound. That is, we give meaning to words by how they sound to us and what their sound represents in our experience.

In another study, the authors analyzed the act of repetition of words in the performance of contradictory behaviors. Different subjects were invited to repeat the word «push» by performing the push action. In another phase, subjects were invited to repeat the word «push» while squeezing their hands. The results showed a tendency not to present lapses of meaning in the first condition, while in the second condition there was a greater slippage of meanings (Werner & Kaplan, 1963).

In a similar study, the authors presented different words (eg, pull and push) through the tachistoscope, at the same time that they asked the participants for concordant and discordant movements. The results show that the concordant activity allows understanding and deciphering more quickly the word presented in the tachistoscope than the subjects that participated in the discordant condition (Werner & Kaplan, 1963).

Through these studies, it is possible to observe the organismic and physiognomic nature of the symbols. These studies account for the physiognomy of verbal forms in human experience and the embodied nature of cognition. In addition, it is possible to observe in these studies of apprehension of verb forms a phenomenon to which Werner (1955, 1956) and Werner & Kaplan (1963) have called loss of distance. That is to say, words are physiognomized and their perception is an organismic rather than a linguistic experience. The physiognomic is characterized by psychological indifferenciation (Werner, 1955) or the loss of distance with the object-word (Werner, 1956), characteristic of the experience in schizophrenia (Werner & Kaplan, 1963). That is, in schizophrenia the perception of linguistic forms equals the represented referent. That is, representation is the thing in itself.

In summary, the studies developed by Werner regarding human language, show a physiognomic-organismic nature of consciousness and cognition, since the expression of language evidences the fusion of the spiritual and material. We construct physiognomically language being this expressive process of the emitter experience. From the perspective in this revised section, the physiognomy of language accounts for it's expressive, holistic and embodied nature of human consciousness and cognition.

The philosophy of language and much of the psychology of language have focused their efforts on the study of geometric-technical language, sub-dimensioning that the construction of human language and the



perception of the world is also physiognomic (Werner, 1955, 1963). By way of synthesis, it is possible to conclude that Werner (1955) emphasizes in his works a physiognomic character of human language; that is, a pre-reflective scaffolding linked to organic-corporal sensations that color the perception of things and the world, and that is expressed daily in ordinary human language. The physiognomic nature of language, insofar as it involves organismic aspects, accounts for the expressive dimension of this and along with it, of the embodied nature of human consciousness.

## V. DISCUSSION

In this work, the theory of expression has been developed, based mainly on the works of Bühler and Werner. These perspectives are not observed in Varela's embodied mind theory. The central proposal of this work is that the integration between the expression theory and the proposals of Varela, allow completing a theory of the embodied mind psychological science.

What has been embodied in this work has been treated as a co-phenomenological coordination (Cornejo, 2008), an emergency that arises from the encounter between consciousness and context, between the states of the soul and corporal expressions. The embodied perspective of Varela (1996) is an integrated understanding between cognitive-scientific reflection and lived phenomenological experience. However, from the expression theory experience is always physiognomic rather than scientific-cognitive. In Varela, the body is understood in two ways, first as a lived experiential structure, and second, as the context or scope of cognitive mechanisms (Varela, Thompson & Rosch, 1991); on the contrary, in Werner (1956) the body-namely, the organismic sensations-constitutes the starting point of every cognitive act during human experience.

A point of encounter between both positions refers to the fact that the enaction questions, as well as the theory of expression (see Fossa & Araya, 2017), that cognition is fundamentally re-presentational. From the perspective of Bühler (1933, 1934) and Werner (1955, 1956), human experience is always *presentational*. This means that the incarnated mind of Varela and the theory of the expression share an understanding of the experience in particular, even though Varela did not use the postulates of the theory of expression in any of his works.

Varela, Thompson & Rosch (1991) propose that cognition is not the representation of a pre-given world, but rather it is the setting in motion of a world that emerges, with a variety of actions that are carried out in the world. From Werner (1955) perspective, the perception of the world emerges in the contact of states and things with consciousness, and it is there, in that moment, where the most primitive forms of cognition are experienced.

One aspect that differs in both positions is the integration of the two aspects of the experience. According to Varela, the enactive approach seeks to rescue the scope of experience without neglecting reflective and scientific processes. In the words of Varela: «one of their faces looks at nature and cognitive processes, while the other looks at the human world or *lebenswelt* (Varela, Thompson & Rosch, 1991, p.37). Werner (1956) develops the geometric and physiognomic language as two aspects of experience, which is directly related to the reflective and the phenomenological experience in Varela; however, from Werner's theory of development, the physiognomic nature responds to the first forms of contact with reality, to the global and diffuse sensations that will later give rise to the reflective cognitive act. That is, from the theory of expression, experience is always physiognomic-organismic and expressive, rather than reflective and intellectual.

From the perspective of Werner (1955, 1956), cognition is the creator of symbols, which first correspond to an embodied nature and then enter into more differentiated forms. That is to say, the mind is not only a processor of symbols, but has an active role in the formation of these. On the other hand, the symbols coming from the social and cultural world are transformed, by being internalized, in any dimension of the organismic matrix (namely, sensations, images, etc.), which in turn would also have an important role in understanding of language and the objects of the world, that is, an embodied nature.

Werner & Kaplan (1963) grant an important role to the body. Not only as the context or scope of cognitive mechanisms (Varela, 1991) but with an important role in cognition. The body and bodily sensations, from Werner's perspective, constitute the first residues of the cognitive act, which will later be transformed into verbal or iconic symbols to transmit the experience in consciousness (Fossa, 2017a; Fossa, 2017b).

When Varela, Thompson & Rosch (1991, p. 27) refer: «by embodied we understand the reflection in which the body and the mind are one only (...) Reflection is not only about experience, but it is an experience in itself», they seem to place special emphasis on the reflexive act, while for Werner (1956) the experience of the world is always organismic rather than conceptual in its nature.

In synthesis, although the approaches of Varela agree with some ideas developed by the expression theory, other elements of the latter exist that were not included in the Varela's work. A possible integration of these elements could allow completing the embodied mind theory of Francisco Varela.

## VI. CONCLUSION

This work has developed an ancient theoretical tradition of the history of psychology and philosophy to complete the embodied mind theory developed

by Francisco Varela. The contributions of the expression theory, evidenced in the works of Bühler and Werner, are undoubtedly a contribution to current theoretical understandings and to contemporary research on the embodied mind. The integration between Varela, Werner and Bühler allows us to delineate even better what is what we call «embodied» when we refer to the concept of embodied mind. In this work, «the embodied» has been proposed as an intrinsic dimension of human cognition, which must be visualized and incorporated in contemporary research, and which has been sub-dimensioned in mainstream research in psychology. Future theoretical developments may advance in the integration of different authors and traditions in order to make a more complex understanding of the embodied mind theory.

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## VIII. REFERENCES

- Araya, C., Aristegui, R. & Fossa, P. (2017). Pasos hacia una enacción relacional. Reflexión meta-teórica sobre el concepto de embodied mind de Francisco Varela. *Mindfulness & Compassion*, 2(1), 41-46.
- Bergson, H. (1907). *Creative Evolution*. New York: Cosimo Classics.
- Bergson, H. (1911). *Matter and Memory*. USA: Mansfield Centre.
- Bergson, H. (1913). *Time and free will: An essay on the immediate data of consciousness*. USA: Dover.
- Bühler, K. (1965). *Theory of Language. The representational function of language*. Amsterdam: John Benjamins Publishing Company.
- Bühler, K. (1980). *Theory of expression*. Madrid: Alianza Editorial.
- Cassirer, E. (1955). *The philosophy of symbolic forms*. USA: Yale University Press.
- Cassirer, E. (1944). *An essay on man*. USA: Yale University Press.
- Cornejo, C. (2008). Intersubjectivity as co-phenomenology: From the holism of meaning to the being-in-the-world-with-others. *Integrative Psychological and Behavioral Science*, 42(2), 171-178
- Fossa, P. & Araya, C. (2017). La teoría de la expresión: Una aproximación holística al fenómeno del lenguaje humano. *Summa Psicológica*, 14(1), 56-60.
- Fossa, P. (2017a). The expressive dimension of inner speech. *Psicología USP*, 28(3), 318-326.

- Fossa, P. (2017b). Pleromatization, physiognomization and metaphoricity: a theoretical articulation of sense making processes of Valsiner, Werner and McNeill. *Psicologia USP*, 28(1), 93-101.
- James, W. (1890). *The principles of Psychology*. New York: Dover Publications.
- Kendon, A. (2004). *Gestures*. UK: Cambridge University Press.
- McNeill, D. (1992). *Hand and Mind: What gestures reveal about thought*. USA: Chicago University Press.
- Schutz, A. (1967). *The phenomenology of the social world*. USA: Northwestern University Press.
- Thompson, E. & Varela, F. (2001). Radical embodiment: Neural dynamics and consciousness. *Trends in cognitive sciences*, 5(10), 418-425.
- Varela, F., Thompson, E. & Rosch, E. (1991). *The embodied mind. Cognitive science and human experience*. Massachusetts: The MIT Press.
- Varela, F. (1996). *Conocer. Las ciencias cognitivas: Tendencias y perspectivas. Cartografía de las ideas actuales*. Barcelona: Gedisa.
- Werner, H. (1955). *A psychological analysis of expressive language*. In *On expressive language*. Worcester: Clark University Press.
- Werner, H. (1956). Microgenesis and Aphasia. *Journal of Abnormal and Social Psychology*, 52, 347-353.
- Werner, H. & Kaplan, B. (1963). *Symbol Formation*. USA: Lawrence Erlbaum Associates Publishers.
- Wundt, W. (1900). *Elements of Folk Psychology. Outlines of Psychological History of the Development of Mankind*. USA: Macmillan Company.