



The experience of time in symbol formation process

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Abstract

The main objective of this article is to review the phenomenological theory of time in philosophy and the process of symbol formation in developmental psychology in order to explore a first approach to the integration of static-dynamic polarities in the construction of psychological experience. The interpretive hypothesis of the present work corresponds to the fact that in the discrete–continuous dual integration of the phenomenological theory of time with the theory of symbols formation in developmental psychology, the foundations and fundamental pillars of Cultural Semiotic Psychology are found.

Keywords Time · Symbol formation · Stream of consciousness · Cultural psychology

Introduction

Time has become one of the most relevant philosophical problems in the history of the discipline, as it has been the subject of study by various referents in philosophy (Bergson, 2012, 2016; Heidegger, 1962, 1992; Husserl, 2002; Merleau-Ponty, 1945; among others). During the twentieth century, Edmund Husserl and Henri Bergson are the ones who have developed in greater depth a theory regarding the experience of time in human experience.

On the one hand about time, in reference to psychology, the first to expose the substantiality of temporality in the study of consciousness was William James. James (1890), through a notion of a stream of consciousness, poses a dynamic psychological reality, that is, in permanent movement. Currently, the philosophical and psychological theories that have explored consciousness and human development incorporate the theory of time from a perspective of dynamic and transformative development in reference to the experience of the human being.

On the other hand, the process of symbol formation is constituted as a fundamental characteristic of the psyche, since the human being has been conceived as an incessant

constructor of symbols. Furthermore, the process of symbolic construction makes it possible to give meaning to the experience and to interact with the environment and its socio-cultural quality.

It is relevant to note that the symbol formation process is not separable from the cultural context. This is because through the function of forming symbols we are able to interact, adapt, modify and be transformed by the environment (Valsiner, 2014). In this way, it is constituted as an inherent process in human beings and is also a cultural phenomenon, where the constructed symbols are inserted in their context, facilitating the creation, modification, rework or destruction of symbols previously originated by ourselves.

The experience of time and the process of symbol formation constitute two fundamental elements in philosophy of mind and the conceptual bases for understanding the continuity-discontinuity relationship in psychological experience.

From cultural psychology, the *irreversibility of time* has become a topic for theorizing and research (Sato & Valsiner, 2010; Simao et al., 2015; Valsiner, 2014; Zittoun et al., 2013). This is due to the fact that the psychological experience takes place in an irreversible way in temporal terms, since it manifests a future that is gradually approaching and a past that is permanently distant. Likewise, cultural psychology has focused on the *meaning construction process*, understanding that the psychological experience of the human being is semiotically mediated.

It is essential to maintain that cultural psychology has managed to integrate the theory of time in phenomenology (Bergson, 2012, 2016; Heidegger, 1962, 1992; Husserl,

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2002; Merleau-Ponty, 1945) with the symbol formation process in developmental psychology (Bühler, 1933, 1934; Cassirer, 1944, 1955; Langer, 1953, 1957, 1982; Werner, 1955, 1956), however, this has not been explicitly stated. In this article, the integrative model between the static dimension of symbol formation with the continuity and fluidity of time in consciousness is discussed, allowing dynamism and evolutionary development to be given to symbols in cultural-semiotic psychology.

From our perspective, irreversible time (phenomenological experience of time) and meaning construction process (symbol formation process) constitute the fundamental elements of semiotic-cultural psychology. The core objective of the article corresponds to discussing this integration in detail (symbol formation process and phenomenological theory of time). The suggested hypothesis is based on the fact that the static-dynamic duality of both phenomena could support the foundations of cultural-semiotic psychology.

From our perspective, semiotic-cultural psychology manages to solve a complex problem in psychology: how to integrate the dynamic and fluid aspects of consciousness with those that are static and discrete. Although this problem is as old as the history of thought and has been the subject of reflection in the history of philosophy and psychology, it is semiotic-cultural psychology that allows us to understand how human development gives us the experience of creating novelty, in every moment without losing the continuity of the experience. That is, the experience of forming symbols in the irreversibility of time in human consciousness.

Symbol Formation in Human Experience

Human beings are characterized by being part of the environment and interacting permanently with it, becoming social beings from birth and building their knowledge in contact with the world (Valsiner, 2014). Within a society, it is essential to regulate behaviour through norms and consensuses that allow the creation of organized groups, since we require regulatory frameworks and denotations in order to generate a common language and understanding in multiple areas of daily life. For this, semiotics has been a strong reference and mediator between the human being and its context, fulfilling a communicational and organizational role in behavioural terms (Ramírez, 2009; Vygotsky, 1978; Wertsch, 1985).

Semiotics corresponds to the science that studies the creation of systems that allow communication between individuals through signs and symbols, as well as the instinctive capacity to produce and understand them (De Luca Picione, 2020; Sebeok, 2001). In this way, traffic signs, language, images, art, among other cultural elements are considered part of the semiotic system (Ramírez, 2009). Throughout

the history of thought, it was sought to establish meaningful schemes that conceptualize logical, exact and absolute sciences from a conventional nature and with referential functions, with mathematics being one of the main ones. However, in the last century the semantic area has been the focus of great interest and study after being visualized as a transcendental source of experience, conceiving *the meanings* as the dominant psychological-philosophical concept of our time (Cornejo, 2004; Langer, 1953; Vygotsky, 1934).

From the semiotic perspective, it is essential to clarify and delimit the difference between symbol and sign. On the one hand, the sign corresponds to an operational signal that is fixed and directly related to what it represents from a universal perspective, since it presents a physical-spatial-temporal relationship that guarantees the flow of communication and comprehensive survival functions (Bühler, 1934; Ricoeur, 2003; Wittgenstein, 1953). From this, it is formed as a concrete, rigid and finite phenomenon that is reduced to the mere signalling of something without a transcendent meaning (Ricoeur, 2003; Tello, 2017).

On the other hand, the symbol transcends the exclusively associative communicational limits and is constituted as any formulation of experience. In this way, the human being is conceived as an actor in permanent construction of symbols and, therefore, symbolization is an inherent process of the human being where its subjectivity is expressed (Amengual, 2007, Cassirer, 1944, 1955; Werner & Kaplan, 1963).

The symbol is a sensorially perceptible phenomenon of a reality that seeks to assign and grant unlimited meaning. Moreover, it is constituted as a complex, flexible and dynamic designator, it means that it can be interpretively transformed through the cultural and temporal context, since they are referred to a transcendent and evolutionary symbolic universe that allows granting progressive and complementary meanings to those already exist (Cassirer, 1955; Langer, 1953, 1957; Tello, 2017; Valsiner, 2014; Werner & Kaplan, 1963).

From the perspective of Ricoeur (2003), every symbol constitutes a sign but not every sign becomes a symbol due to its level of complexity. In this way, the sign corresponds to what it represents and the symbol constitutes a representation endowed with unlimited meaning, integrating values, ideals and feelings (Ricoeur, 2003).

From this perspective, it is possible to understand that the symbol is a complex creation applicable to multiple dimensions of human reality, mainly at an individual and socio-cultural level, always being an abstraction and generalization of the human experience in the world. The present abstraction manifests a meta-elaboration that allows concentrating and generating a transcendent expansion of meaning, because it experiences a complex mutation that makes its manifestation difficult through verbalizations (Langer, 1953, 1957). It is relevant to highlight the imminent role

of expressiveness in symbolization, since it corresponds to the function of the symbol together with the presentation of meaning. In this way, the symbol allows access to the inner life of each human being, accounting for the subjective experience and affective interiority from a relational perspective. This is due to the fact that it expresses inner aspects of the emitter and is interpreted by the receiver within an atmosphere related to other symbols, where hierarchical integrations and shared nucleus of meaning are presented (Cassirer, 1944, 1955; Fossa et al., 2020; Langer, 1953, 1957, 1982; Werner & Kaplan, 1963).

The sign has a specific associative function, since it refers to a particular element. For its part, the symbol can contain the sign but transcends the referential function towards one endowed with subjectivity and inner events, giving it greater complexity. In this way, the symbol can have multiple meaning-rich appraisals rather than one specific exclusive association. A clear example of a sign corresponds to the "No Smoking" sign, where there is the silhouette of a cigarette and a prohibition element that does not grant greater possibilities of interpretation, since it expresses a specific meaning. In addition, the use of a black shirt with red letters and allusion to a musical group, can concretely express a sign of "rock". However, it can transcend the associative meaning to a symbol that captures the identity, inner events and individual characteristics of a person that lead to a way of dressing.

As an example, a brief conceptualization of the socio-political context in Chile will be carried out, where a strong atmosphere of instability, violence and demands in the face of inequality are perceived, which led to a social explosion with the purpose of restructuring the national operating system. In this way, multiple characteristic elements of the social struggle and disruptions emerged that account for the radical change that is sought to be achieved. From this, it is possible to affirm that a tie can specifically express a sign of formality. However, when the new president of Chile takes his role at an official event without a tie, the sign of formality transcends to the underlying hope of a people who are looking for a different and close government with a social priority.

In relation to the above, one of the most connoted elements of the social discontent corresponds to the purple scarf that represents the feminist movement. In practice, it is constituted exclusively as a garment of textile origin and a simple color that is associated with the sign of a movement of great relevance. However, when someone observes a person wearing a purple scarf, a series of abuses, transgressions and ways of thinking are symbolized that account for the interiority of that person and/or a group.

In summary, on the one hand, "no smoking" is an example of a sign that directly represents the meaning it wishes to convey. On the other hand, the handkerchief, the tie or the

way of dressing constitute signs that manage to transcend symbolically due to the unlimited meanings that they transmit and express.

Symbol Formation Process in Cassirer, Langer & Werner's Theory

Sussane Langer (1953, 1957) proposes symbolization as a process inherent to the human being and the symbolizing function as a dynamic of the mind, since as human beings in contact with the world we constitute ourselves as beings in constant symbolic production. This is due to the fact that we repeatedly abstract, interpret and represent the external world from symbols in order to present meaning and allow the expression of our internal world (Pinto, 2018).

Langer (1953) argues that the symbol is an open field of meaning as it is endowed with richness and projection of meaning, since it manifests an unlimited expression by constituting itself as a meta-elaboration. With this in mind, the symbol is not a concrete categorization of the experience, as it implies abstraction and amplification of meaning that gives greater complexity to the phenomenon, even making it difficult to express it through words (Fossa et al., 2020; Langer, 1953; Pinto, 2018).

Langer contradicts the idea that human experiences and symbols lose their meaning if they are not described through language, since she argues that emotionality and vitality can be expressed in a syntactic or unconventional logic (Langer, 1958; Pinto, 2018). She also reveals that the communicative paradigm of the symbol tends to reduce and restrict the meaning of what cannot be expressed in words, even when there are non-linguistic symbols with deep expressiveness. Non-discursive symbols correspond to those expressions endowed with meaning that is not articulated linguistically, such as gestures, dreams, art and cultural constructions, among others. This makes it possible to form meanings without the need for a name, since the affective sphere corresponds to a source whose expression is complex and is not always subject to the discursiveness of language, since the identification of an appropriate word is hindered (Cassirer, 1944; Langer, 1953, 1982; Pinto, 2018; Valsiner, 2014).

It should be noted that it is considered that all symbolic forms are governed by an isomorphic analogy, that is, regardless of the fact that they manifest a structurally different method of representation, they present a common nature. This is because both discursive and non-discursive symbolisms represent the experience of reality and symbolize through abstraction, since there is no direct correlation with the symbolic object and it is only possible to access its meaning from its abstract and intuitive quality (Pinto, 2018).

Ernest Cassirer (1944, 1955) identifies that every symbolic form has a common element: the symbol. Particularly,

he conceives that man's interaction with the world is mediated by a symbolic system (Cassirer, 1944, 1955). Cassirer states that the essential characteristic of human beings does not correspond to reason, but to the symbolic network, since every cultural manifestation alludes to a symbolic character (Cassirer, 1955). From his perspective, the symbol has been responsible for the creation of civilization and cultural advances, considering human beings as a symbols generator (Cassirer, 1944, 1955; Gonzalez, 2012).

Additionally, Cassirer (1955) states that language, culture, rituals, social relations, customs, among other phenomena of daily activity within a society, correspond to symbolic forms in which the human being categorizes its experience (Montero, 2005). As a result, human beings inhabit a universe of symbols that is in constant transformation by the creative activity of the spirit, the latter being the agent responsible for the management and provision of meaning (Gonzalez, 2012).

Lastly, for Cassirer (1944, 1955) the sign is associated with a specific and concrete purpose in contrast to the unlimited characteristic of the symbol, which is why any desire to restrict symbolic expression is considered inoperative, by generating a direct association to the conception of the sign (Cassirer, 1955; Gonzalez, 2012).

For Heinz Werner, the human being has an inherent potential to construct meanings in interaction with the environment through which it names objects, situations and emotional states (Fossa, 2017a; Valsiner, 2006). Werner (1955) argues that meaning in relation to the world and human experience is constructed from two perspectives based on objects: geometric and physiognomic. The geometric-technical perspective corresponds to a solely sensory perception that distinguishes objective qualities of the environment and understands the object in a segregated way. For its part, the physiognomic perspective accounts for a holistic perception in reference to the object, with an organismic involvement (Werner, 1956; Werner & Kaplan, 1963). The physiognomic perspective consists of a holistic perception of the objects of the world, sensory and bodily felt. This perception has its origin in bodily sensations that allow us to capture the experience as a whole. Only at a later time can we describe the objects in their geometric-technical nature. Through physiognomic perception, then, the objects of the world and the experiences are perceived as dark, heavy, rough, warm or cold, accounting for an involvement of bodily sensations (organismic involvement) in the perception of the world and life experiences.

In the process of symbol formation, both perspectives converge, since the protoformations of the experience require a pre-conceptual and pre-verbal organismic experience to later categorize the experience at a geometric-technical level (Fossa, 2017a, b; Werner, 1955; Werner & Kaplan, 1963).

The formation of symbols emerges from the interaction of the organism with its immediate context, where each experience is perceived from a holistic and intrinsically intertwined perspective. When experiencing a first contact with the environment, a process of transformation of consciousness arises through the impact of the experience on the affective and bodily world of the person, allowing an integrative connection that is experienced in a vivid way. In this way, it is constituted as an experience that removes meanings and emotions that facilitate the construction of a symbolic and expressive representation (Fossa, 2017a, b; Werner, 1955; Werner & Kaplan, 1963).

This process corresponds to a pre-linguistic experience linked to an organismic function that allows subsequent access to representations with communicational objectives. Therefore, a concrete meaning is generated and in direct syntactic-sound association with the object it designates, facilitating the understanding and communication between different groups. From this, it is possible to point out the dual potentiality of the symbol, since it allows the representation of objects with an associative and communicational purpose from an intellectual conception, but it also maintains its physiognomic-organismic characteristic, which is an expressive process of the holistic experience of the transmitter (Fossa et al., 2020; Fossa, 2017a, b).

In summary, Cassirer, Langer and Werner are the main philosophers and psychologists who have worked on the phenomenon of the creation of symbolic forms. Susan Langer studied Cassirer's theories and Heinz Werner developed his theory basing his ideas on the theoretical models of Cassirer and Langer. All of them, although with some nuances, are required reading to study the process of symbol formation as one of the central characteristics of the human psyche.

Irrevocable Past and Uncertain Future: The Phenomenology of Subjective Time

Phenomenology corresponds to the philosophical study of the structures of consciousness through the analysis of phenomena captured from the senses, allowing us to question what is considered absolute (Husserl, 2005). At first, Descartes succeeds in establishing that it is possible to become aware of our existence by noticing what we think. However, the desire to explain the world around us and to get out of our own existence begins to emerge, which is why phenomenology tries to solve Cartesian solipsism. For this, the *epoché* is considered as a fundamental phenomenological attitude that allows us to put in parentheses the phenomena that our experience and its judgments receive, in order to concentrate on the things themselves, since it modifies the subject and not the object (Husserl & Picard, 2014).

William James used the term stream of consciousness to refer to the phenomenon of thinking and the circulation of thoughts in the conscious mind (James, 1890). Furthermore, he conceives the stream of consciousness as a continuous succession of experiences that connect past, current and future thoughts and mental states in a fluid chronology (James, 1890). The conception of flow considers various elements at the level of thought, images, ideas and sensations as an interconnected caravan, since constant psychological contents pass from a linked, changing and permanent perspective. In this way, being part of a network where each element arises from and in relation to another, makes it impossible to understand them from a division (James, 1890; Tornay and Milán, 1999).

For James (1890), consciousness is an autonomous current as it cannot consciously select what will initially arise in it, since it is not possible to restrict the access of a thought or element to this interconnected network. However, the selective capacity of the human being is proposed as part of free will, that is, the possibility of determining the quality of those elements to which attention will be paid and will be kept converging in the present (James, 1890).

In this same line, the action of thinking is conceived as a process directed towards objectives and innately driven by the satisfaction experienced when reaching certain goals, since thinking is constituted as an automated survival strategy that seeks the fulfillment of a purpose. As a result, consciousness is aligned with the desire to experience satisfaction through the direction and fulfillment of goals (James, 1890).

The notion of stream of consciousness proposed by James (1890) is directly linked to the theory of time in phenomenology (Bergson, 2016; Husserl, 2002). For phenomenology, the experience of time in consciousness is one of the main problems of philosophy in the study of human consciousness (Fossa & Araya-Véliz, 2016). This is because their constant desire to understand original experiences has aroused the interest of multiple authors who seek to conceptualize time as a dual entity, that is internal and external dimension, since it corresponds to a central theme to offer a global interpretation of reality (Roditi, 2006).

Since its beginning, the human being has generated various social constructs that allow us to represent a reality from a conditioning perspective and generate guidelines in social life that facilitate organized functioning, one of the main ones being temporality. Consequently, time is constituted as a product of social reality that, through ideal categories of understanding, promotes the mastery of certain behaviors and interactions at a collective and personal level. This is due to the fact that by crystallizing dogmatic social guidelines that transcend individuality, it is possible to structure a permanent and universal mode of operation that regulates the rhythm of a determined group through an imaginary and

shared notion of time as an elemental parameter (Durkheim, 1993; Simmel, 1986; Wallerstein, 1996).

This conception of time, understood as a construction of the collective intellect, conceives temporality as a set of spatialized instants, divided into simultaneous segments that allude to an external time as a condition of the experience of objects. However, the recurrent questioning of phenomenology in the face of a reductionist atmosphere and the possibility of disconnecting from an objective time or temporary objects, allows the opportunity to realize the persistence of a temporality, giving rise to an internal time (Calabrese, 2019; Cherniavsky, 2006).

The inner time corresponds to a temporality that integrates a subjective and immanent configuration, since it corresponds to the time of consciousness. From this, it is constituted as an uninterrupted temporality that manifests itself in a continuous and indivisible way (Calabrese, 2019; Cherniavsky, 2006; Husserl, 2002; Kretschel, 2015; Sassi, 1972).

For Husserl (2017) there is a perceptual synthesis that, without the active participation of the self, recomposes the temporal orientation of the phenomenal field so that we experience temporal unity during the different acts and perceptual appearances in everyday life (Husserl, 2017). From the perspective of Husserl (2002), consciousness has the possibility of transcending the now moment, managing to perceive an incessant temporal succession. We not only perceive the present moment, but also the past moment and anticipate the future, giving continuity to the experience (Husserl, 2002). For Husserl (2002, 2017) the experience of time is made up of a triadic unit: retention, original impression and protension. The original impression is the concrete act that is aimed at the current perception of the object. Retention is the perception of past experience moving away. And, finally, protention is the possibility of consciousness anticipating the phase that is about to occur.

Retention, original impression and protention are not three independent phases, but rather a unitary structure; that is, retention and protention occur simultaneously during the original impression (Husserl, 2002, 2017).

Its successive character lies in the notion of a constant line that links the retention, present moment and protention, since the now is a flowing experience that interconnects past experiences and manifests a gradual opening to the future (Husserl, 2002). In this way, it would not be possible to divide the various successive instances, since it maintains a sequential nature that constantly contains the subtle essence of the previous event that has given birth to a new one. Under this same proposal, the present is identified as a substantial element of time, considering it from an intentional longitudinal perspective instead of a rigid and static event (Calabrese, 2019; Cherniavsky, 2006; Husserl, 2002; Kretschel, 2015; Sassi, 1972).

It is relevant to highlight the continuity of time and the impossibility of stopping it, since it is constituted as a current that is experienced vividly and in constant homogeneous units of duration. Bergson (2016) criticizes the conception of time as a construction of the intellect that conceives a set of simultaneous spatialized instants divided into segments, since it contrasts with an interior time associated with an uninterrupted consciousness that he considers real time. As a result, it manifests itself successively and fluidly (Cherniavsky, 2006).

One of the core elements in Bergson's work corresponds to the concept of *duration*, understood as the succession of states and their qualitative changes generating the experience of suspension and temporary extension (Bergson, 2007, 2012, 2016; Husserl, 2002). For this reason, psychic experiences are perceived from their quality, because unlike space, it is not possible to reduce them to be measured in quantitative terms (Muñoz, 1996; Roditi, 2006).

Bergson (2007) argues that the human being presents the ability to understand the world through two fundamental elements: intelligence and intuition. On the one hand, intelligence corresponds to a tool that allows the generation of fragmented schemes with respect to reality, that is, it facilitates the limitation and paralysis of a fluid sequence to be able to represent and analyse its content, an activity that would not be possible in a continuous flow. On the other hand, he proposes that in order to achieve true knowledge one must be in contact with life itself, and for this, intuition allows the immersion of oneself in the totality of the experience without spatializing its content (Bergson, 2007; Ruiz, 2009).

Husserl, known as the father of phenomenology, proposes a conception of temporality that distinguishes the immanent time from the object's time, understanding the latter as an external temporality (Husserl, 2002). The inner or immanent time corresponds to the time of consciousness and the consciousness of time, where a universal structure of pure consciousness is identified that manifests intentionality as a central element, that is, a consciousness referred to something. This is because we can only become aware of the existence of the time of inner consciousness to the extent that we are able to intentionally link it with some element that justifies it (Calabrese, 2019; Kretschel, 2015; Sassi, 1972). The notion of intentionality here corresponds to a phenomenological sense, and not to a psychological sense. The "intentional" is the fundamental characteristic of human consciousness. Consciousness is always consciousness of something, if there is no object of intention, then there is no consciousness.

The concept of intentionality alludes to the fact that consciousness is directed towards "something", since it can only be conscious from the fact that there are objects in the world

of which we are aware. In a phenomenological sense, we could not be certain of consciousness if we were not aware of something. This means that thought is never directed to nothing, otherwise is directed to a content that is subject to the object quality.

Furthermore, Husserl proposes an uninterrupted temporality that links retention, an original (primal) impression and a protention, since the now is a flowing experience that is linked to past experiences and manifests a gradual opening to the future (Husserl, 2002). He identifies the present as an essential element of temporality, considering it from an intentional longitudinal perspective instead of a rigid and static event (Calabrese, 2019; Husserl, 2002; Kretschel, 2015; Sassi, 1972).

On the one hand, retention, original impression and protention are moments of the experience of temporary objects, that is, the experience of temporary objects is full of intentions towards the past and towards the future. This characteristic of the inner consciousness of time is what gives a sense of continuity to the experience and the objects of the world (Husserl, 2002). Following the same line, for Husserl (2002), the objects of our perception are held back towards the past, that is, the original perception in the present is perceived as a wake that recedes as the new moment approaches and merges with it. On the other hand, in the present experience of the original impression the future is announced, since the original perception of the object and its relation to the past allows one to notice the future that is approaching, giving the sensation of permanent flow and continuity in the experience (Husserl, 2002).

Therefore, from Husserl's perspective, time advances from a future that is approaching towards a past that is moving away, generating the present experience of a permanent becoming. In Husserl's words: "The impressionistic consciousness, flowing incessantly, passes into an ever new retentive consciousness" (Husserl, 2002, p. 52). This is what gives the sense of continuity to human experience.

In Husserl's (2002) Time Model (Fig. 1), X and X' constitute the objective linear time. Points A, B and C make up

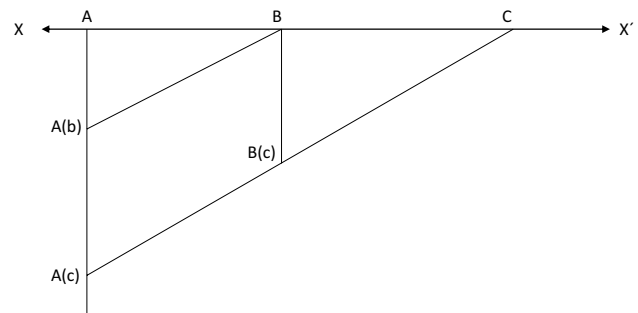


Fig. 1 Edmund Husserl's time model: extensive perception

a succession of presents, that is, each successive event is intertwined and linked in the following event. Every present experience is experienced and perceived extensively, as it expands in time. In this way, event A does not begin and end with A's perceptual experience but ends as a current present, remaining its trace in the past and being integrated with future events in a new and emerging new present. These residues of A, that is, A(b) and A(c) remain as vestiges of the past and give rise to a new present moment B that is expressed in an integrated way by the residues of A. Subsequently, experience B will leave gradations temporary B(c) that will be formed as stelae of the past that are successively linked. In this way, event C will take place during the target timeline, preceded by the time gradations of B and A respectively. All the points intertwine and integrate as extensive perception advances, generating a lived experience of continuity and permanent flow. An example of extensive perception is the experience of music: when we listen to a melody, each tone has its origin when the musician plays a note. At the same time that note A has the possibility of remaining resounding in the depth of the melody (Ab, Ac, etc.) and generating an emerging musical event B. The entire tonal figure, that is, notes that resonate from an immediate past and new tonal events in the "now" constitute a single melody that accounts for a complex totality.

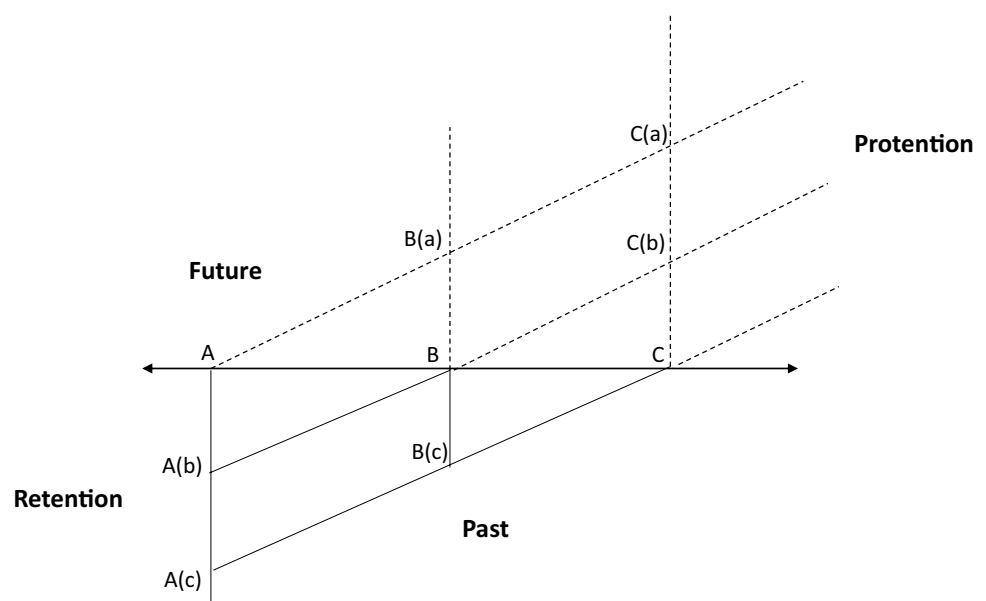
For Husserl (2002), the line $X-X'$, understood as a succession of presents, delimits the field of presence in two semi-planes associated with the past and the future. This new conception provides the extensive character, that is, a succession of current events that maintain the essence of the degradations of previous present times, and the distensive character, understood as the line of successive present times that delimits between past and future. On the one hand, A(b)

and A(c) will be passed from A, B and C respectively by a retention phenomenon. On the other hand, C(a) and C(b) will be possible futures of A and B insofar as they are protentions of the moment C. Retention is the "intention" to preserve the consciousness of the past, while protention is the intention to move towards near futures. It is possible to argue that when we advance from moment A to moment B, we retain experience A as A(b). Then when we advance to moment C of the extensive line, we retain A as A(c) and so on. This means that with each new "now" in the extensive plane the immediate past in the distensive plane is modified (Fig. 2).

Husserl's model of time has been, undoubtedly, a source of inspiration in modern thought for all those who have delved into the problem of time consciousness, including psychological thought. For example, in Contemporary Psychology, Sato and Valsiner (2010) developed a model for the construction of temporal experience in ontogenesis: The Chronogenesis Model (see Fig. 3). In the chronogenesis model, the horizontal line represents the past-future time and the vertical line (point A) the present moment of the experience. In this proposal, the past trajectories have been experienced and therefore are known to the subject (represented in the dark black line in Fig. 3). However, in the present trajectories there are turning or bifurcation points that have led our way to the present. These points of inflection leave paths not traveled, that is, unknown and associated with possible pasts (points F and G) not lived. In the "here and now" each new present (point A) is a bifurcation point towards new possible futures, which is why the inflection point requires us to take paths and leave others untouched as possible pasts, and so on.

The inflections and bifurcation points are colored by the existence of future attractors that allow the subject to

Fig. 2 Edmund Husserl's time model: protention and retention



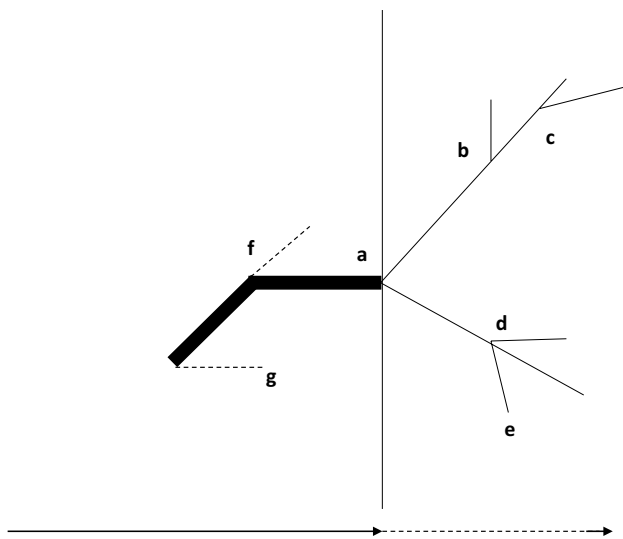


Fig. 3 Sato and Valsiner (2010) chronogenesis model

position itself towards certain alternatives over others. In the Chronogenesis of experience, the motivational sphere of consciousness allows a psychological position that leans towards new paths in the genesis of the present time and each present moment is a point of bifurcation with respect to future alternatives. The Chronogenesis of time is experienced as psychological positions that come from affective or motivational states of consciousness that allow us the emergence of certain experiences over others. Thus, Chronogenesis corresponds to the experience of subjective time that is lived as a constantly evolving process of ruptures and emergencies.

This model allows us to observe the dispositions and temporal orientations at each moment, as well as the ways of being in the world during the construction of the experience. In Chronogenesis, the present is a point in the experience that brings together the past and the future, that is, the present is influenced by the past and anticipates the range of possibilities that each new bifurcation unfolds. From this, the past and future are never disconnected, as they congregate in the emergence of the ever new present.

The Experience of Time in Symbol Formation Process: An Integration of the Continuous and Discontinuous Experience in Human Development

The fundamental pillars for a phenomenological theory of time are found in Bergson's concept of duration and Husserl's retention-primordial impression-protention unit, since both perspectives of temporality can be interpreted as a pre-reflective act of consciousness. According to Bergson

(2016), time corresponds to a unit of different states of consciousness that are characterized by being heterogeneous, indivisible and irreversible. On his part, Husserl (2002) conceives time as a succession retention—original impression—protention. Although the flow of temporal experience advances from protention to the original impression and progressively moves away from retention, it does not constitute a homogeneous flow of time. Stability in Husserl does not correspond to the contents of time but to the permanent movement from a retained past towards the original impression that becomes protentions. Husserl's phenomenological experience of time also presents a heterogeneous character from Bergson's perspective. What is homogeneous in Husserl is not time itself and its contents, but the passage of time from a past that is moving away to a future that is approaching.

To complete the Merleau-Ponty (1945) and Husserl (2002) model of time, it is necessary to reflect on the direction of time. In the field of presence there is a force that advances from the future and runs along the line of the present until it is lost in the past. In addition, there is a force that advances from the past into the possible future. At the same time, there is a force that advances from the succession of moments "now", a before and an after in the line that divides the two distensive planes of the field of presence. From the phenomenological perspective of time (Heidegger, 1962; Husserl, 2002; Merleau-Ponty, 1945; Sato & Valsiner, 2010) it is possible to argue that the experience of time is not linear, but is lived as a complex network of intentions.

The triad retention—original impression—protention acts as fundamental elements of the duration of time and do not make the experience something predictable, since the retention of the past that is integrated with a new present moment allows the experience of continuity and flow but fails to predict or anticipate the near future.

In the model of Husserl (2002), the retention of the past always modifies the future, giving it novelty and distinction. Intentionality and will correspond to functions and capacities of human consciousness that facilitate retention to be increasingly detached from protentions, providing novelty to the present experience and uncertainty to the future.

From this perspective, there is a double intention in the experience of time. On one hand, consciousness activates an intentionality directed at retention and, on the other hand, an intentionality directed at the object of knowledge of the original impression. This allows the succession of moments to be experienced as a permanent flow in consciousness, linking protentions with retentions to the extent that they allow the experience to be conceived as a complex totality. For this, the will and the intentionality directed to the protentions of the future allow the future to detach itself from what has been traveled in the immediate past.

The present dual intentionality between now and retention is what enables the Bergsonian experience of duration. The object of the original impression that passes from retention to retention is closely associated with Bergson's concept of duration and with the continuity of retentions from Husserl's perspective. In this sense, Husserl and Bergson advocate the same pre-reflective experience of time but from different theoretical and descriptive elements.

In Cultural Psychology, the irreversibility of time manifests itself in the expression of the double intention of human consciousness. This is because when the intentional consciousness is directed to an object in the world –original perception in the present moment-, it has knowledge of the retensioned and protensioned objects that give flow and continuity to the experience. In this way, the experience of irreversible time constitutes an integration of homogeneous passive syntheses in the passage of time and active syntheses, associated with the will that allows a past progressively detached from the uncertain and ambiguous future.

The symbol, as a creation of individual and cultural consciousness, emerges in a specific moment of the temporal experience and is inserted at the disposal of the culture. The process of symbol formation creates symbolic elaborations in a discrete moment of the experience, establishing a before and after of its construction. In the integration of the process of symbol formation with the stream of consciousness of James (1890), it is possible to understand the symbol from its dynamic perspective and not as an exclusively static elaboration, since it corresponds to the construction of the discrete in a world of continuous experiences. The symbol establishes a dialogic relationship with other symbols, since they are part of the same symbolic world in constant interaction. This relationship can be dialectical in nature; that is to say, of tension and opposition; or of a harmonic nature, where a complementary coexistence is established. Because the symbol emerges in an intentional and temporary consciousness, it is endowed with a potential for development. In this way, it makes it possible to displace, overcome or weaken a previous symbol or be absorbed by others and, therefore, merge hierarchically to form a larger symbol.

Consequently, it is essential to remember Vygotsky's theory of concept formation. For Vygotsky (1934) the concept does not end when it emerges, it is created and expressed in language, but when it manifests itself in the word its evolutionary development begins. In the same way, the process of symbolic formation does not end when the symbol emerges and is created in the culture, since it represents the moment of its birth and the beginning of its evolutionary development.

The possibility of development of the symbol is due to the fact that it is created in a temporary experience of individual and cultural consciousness. Likewise, the function of abstraction and generalization of human consciousness and

culture, facilitates the evolutive progress of symbolic construction. Therefore, it allows the symbol to progressively advance towards levels that are mostly hierarchical and integrated, since it is always directed to higher levels of generalization (Valsiner, 2014). In its dialectical and harmonic relationship that it establishes with other symbols during the continuous experience of time, new symbols are constructed. As a result, the generalization of the generalization is produced. Generalization beyond generalization involves further abstraction which can lead to qualitative escalation of the abstraction to cover the whole experience. Such forms of generalization are hyper-generalizations (Valsiner, 2012). Hyper-generalization is the process through which symbols, in their microgenetic development, acquire higher and higher levels of abstraction and generalization (Valsiner, 2012).

The process of symbol formation allows us to search for an illusory and momentary stability. However, the present stability always maintains a novel quality, since the retentions are detached from the protentions thanks to the will and intentionality of the human conscience. In this way, we create novelty even under the restrictions of the past (Valsiner, 2012). In Valsiner's words: "the inevitability of the irreversible time creates a situation where human abstraction processes make static similarity construct in the middle of the unstoppable movement to the future" (Valsiner, 2012, p. 22).

The above corresponds to the complex and dynamic relationship between the discrete and the continuous human experience. Consequently, we live with discrete creations that configure a point in the temporal flow of consciousness –that is, the creation of symbols-, but protentions manage to become independent from the determinations of retentions, always creating newness to the new future (Husserl, 2002). From the perspective of Valsiner (2012), the construction of the new is semiotically dependent on the constructions of the past and, in turn, sufficiently independent to give novelty to the new present. In Valsiner's words, the process of abstraction and generalization of symbols constitutes "the construction of a generalized static presentation of the dynamic reality" (Valsiner, 2012, p. 23).

This process of (hyper) generalized creations creates a static reality within a continuous and dynamic reality. By hypergeneralized creations we mean categorical meanings that rigidify experience by creating a generalized meaning by which to nominate experience.

In the integration of the symbol formation process with the subjective experience of time, the inclusive separation between dependence and independence is found as the basis of the continuous-discrete totality. As just mentioned, the construction of the new is semiotically dependent on the constructions of the past and, in turn, sufficiently independent to give novelty to the new present. This means that the meanings are linked to a past semiotic

sequence, but at the same time, the process of construction of meanings is free in future constructions. This allows the current meanings to be consistent with the previous ones and give novelty to the next one that is about to emerge.

The human being requires an illusory stability to face the near future and deal with uncertainty. There is an effort to stabilize the flow of Bergsonian duration in the immediate future, expressing human consciousness as an "ecological necessity of abstraction" for the anticipation of that uncertain future (Valsiner, 2012). Valsiner explains: "The construction of the new, associated with independence, is founded over the dependence of the semiotically constructed past. The human being is free even under the restrictions of the past, since there is a dependence on him" (Valsiner, 2012, p. 23).

The dynamic relationship between dependency and semiotic independence allows the new symbols to maintain a direct relationship with previous symbols while possessing sufficient independence to give novelty and creativity to the next symbolic emergence. In the sense of Husserl and Bergson works, protentions have a direct and indirect relationship with retentions. Each protention depends on the original impressions that become retentions but, at the same time, these retentions are increasingly detached from future protentions, allowing the experience of duration. This is the relationship between homogeneity and heterogeneity in the experience of time. Only these dynamics of dependency-independence and homogeneity-heterogeneity between protentions and retentions is what allows the emergence of discrete and discontinuous symbols dynamically articulated in a continuous and fluid consciousness.

Through the process of generalization, human experience moves toward the novelty of a near future that transcends the barriers of the established and known past. The process of generalization and hyper-generalization is always a generative process, which is why the future -or the new present moment- always seems novel to us. The process of permanent (hyper) generalization of the symbols formation in the irreversible experience of time allows progressively more complex and expressive integrations of a larger affective semiotic field. In Valsiner's words: "The highest level of hierarchical integration is that of a semiotically mediated hyper-generalized (nebulous) feeling (high feeling) that subordinates all rational discourse about emotions to its ever-current (inarticulated) guidance" (Valsiner, 2012, p. 25).

In the sense developed in this article, time is then not considered a "variable", but rather a constitutive aspect of the psychological experience that allows the possibility of human development (Tateo & Valsiner, 2015). Time is not apprehended by consciousness but rather created by it (Bergson, 2016; Husserl, 2002). There is no developmental science that does not consider the experience of time, at least

implicitly, since time plays an important role in the sense construction process (Tateo & Valsiner, 2015).

Time from the perspective treated here is not understood as an entity "out there", as a condition, as an external variable; Rather, time is understood as a process under construction, from a first-person perspective, a lived experience in permanent course during human experience (Tateo & Valsiner, 2015). The process of symbol formation takes place in that lived experience of time in consciousness. It is this fluid experience of time that gives a sense of continuity to the formation of symbols during human experience.

The integration between the symbol formation process (Werner, Langer, Cassirer) and the phenomenology of time consciousness (Bergson, 2016; Husserl, 2002) contribute to what cultural-semiotic psychology has called the process of construction of meanings and the irreversibility of time (Tateo & Valsiner, 2015; Valsiner, 2006, 2012, 2014; Simao et al., 2015, among others).

An example of the meaning construction process of as a form of symbolic emergence is presented below.

A variety of symbols are associated with specific objects, that is, they are materialized symbols. However, it is possible to identify the process of symbolic formation in circumstances that manifest a content but do not constitute a precise object. By this we mean the process of mental (intrapyschic) symbolization. A clear example of this corresponds to psychotherapeutic processes, where sometimes a consultant can generate a psychic breakdown by "realizing". This process of "insight" corresponds to the emergence of a new symbol or mental representation that appears as a new data in consciousness. This new mental symbol that emerges in the inner experience gives meaning to a certain experience, since a new symbol emerges that provides a greater degree of understanding. The emergence of "awareness" in psychotherapy processes through symbolic formation, usually marks a before and after within the therapeutic process, as well as in the psychic life of the person, since it constitutes a novel conceptualization regarding issues addressed with anteriority.

The novelty of the inner mental symbol that emerges can generate the heterogeneous perception of an absolute change regarding the way of being and being in the world, usually recognized by the consultant when stating that a session has changed their life. The formation of a new symbol that can be mentalized gives the sensation of being "a new person". In this experience there is a new meaning that allows a different understanding of oneself, others and the world. In this way, it is possible to show that there is something that is being removed and that generates a psychic breakdown; that is, a before and after the emergence of the symbol. In this sense, the formation of a new meaning in consciousness emerges in a concrete time; namely, it marks a specific point in the person's (chrono)genetic development. However, there

are elements that remain and account for the homogeneity of the patient, since in concrete terms the consultant remains the same person.

It is essential to specify that the psychic break that produces the formation of the symbol can establish a before and after in consciousness but it does not constitute a temporary break, since the symbolic formation arises at a specific moment but joins the timeline of the experience. From this, there is a continuity characterized by the dependence of the present on retention and an independence to give newness to the future. In this way, insight is shaped as a discrete symbol that arises at a certain moment of the psychotherapeutic process but joins the temporal flow through the connection to previous experiences and future possibilities of work in the clinical space.

Through this example it is possible to observe how the discrete/continuous dynamics are related to the processes of dependency and independence, and heterogeneity-homogeneity. The existing dependency between the primal impression and the retentions allow the experience of homogeneity. That is, we remain the same despite the fact that each new present is permanently diluted in the past. However, if the dependence and homogeneity of experience were not intertwined with the process of independence of present perception with retentions, each new present would be identical. This is not what happens in the human experience. Because consciousness maintains a dynamic of independence from the retentions of the past, the emergence of an ever new present is possible. The novelty of each new present and of the respective protensions are possible because the original impression is sufficiently independent of the retentions; while the sense of continuity of consciousness in time is possible because the original impression is sufficiently dependent on the retentions of the past. Here is the relationship between the dynamics of dependency-independence and homogeneity-heterogeneity with the novelty of each new present and new symbolic constructions.

Conclusion

This article has reviewed the theory of Symbol Formation developed by Developmental Psychologists, specifically Cassirer, Langer, and Werner. Along with that, we have deepened the Theory of the Temporality of Consciousness from a Phenomenological perspective focused on the work of Husserl and Bergson. From our argument developed here, in the integration of the phenomenology of time with the process of symbol formation, the foundations for a Semiotic-cultural psychology are found.

The integration of the discrete and continuous experience, the segmented and fluid, allows the construction of symbols and signs in the present to be united and at the

same time detached from signs and symbols constructed in the recent past. The integration of the symbolic formation process with the phenomenological theory of time allows us to understand symbols and signs as transformative and dynamic, in permanent evolution. The symbols created are dynamically articulated with other symbols that are susceptible to be developed. Therefore, the symbol is born, develops and dies, as it emerges in a constantly flowing consciousness.

This work gives an account of the philosophical bases of the two main principles of semiotic-cultural psychology: the irreversibility of time and the meaning making process. Future studies that focus their interest on the study of human development and psychological processes should incorporate the integration of these models to capture the phenomenon of moment-to-moment construction of psychological experience. Empirical-experimental research must not abandon the construction of the experience of time in that of psychological phenomena. This type of research should not understand time as a "variable" involved in the study of psychological functions. On the contrary, time, as it has been described in this article, is what makes human development possible.

Future research that wishes to explore the process of symbol formation and the construction of meanings should consider methodological designs that incorporate the temporal variable; that is, studies of a longitudinal nature or with a (micro) genetic orientation. This means methodological designs that allow capturing the ongoing experience, the moment-by-moment construction of the symbolization process.

The research designs that intend to study this phenomenon must generate methodological strategies that allow capturing the "ongoing" experience. That is, the phenomenon of study unfolding in time. For this, the research procedures should allow participants to be observed "doing the tasks" or constructing meanings "live" during the research procedure. This will make it possible to translate the study phenomenon into live data that lasts, whether it be small lapses of seconds in a laboratory procedure or a few hours of interviews.

The symbols that are constructed by consciousness are deposited in an always dynamic, changing, ambiguous and uncertain temporal experience. Therefore, the symbols created are dynamic, they transform and have the capacity for development in irreversible time. These fundamental theoretical principal challenges experimental science and demands ever deeper and more complex theoretical developments about the experience of human consciousness.

Data Availability Statement This research does not include data. This manuscript is a theoretical contribution.

Declarations

Informed Consent This article is a theoretical contribution; therefore, it does not include data and did not require informed consent.

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