

# The Genesis of the ‘Animation Complex’ Concept in the Historical-Cultural Psychology

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The animation complex is a child development milestone widely used in historical-cultural psychology. However, the emergence of the animation complex concept predates the emergence of cultural-historical psychology. This paper is a narrative review whose main objective is to recover the genesis of the concept of the animation complex and the process of linking and appropriation of this by historical-cultural psychology. Bibliographical research was carried out on the publications from 1960 to 2021, from which a difference between its uses in reflexology and historical-cultural psychology was deduced. Starting from the centrality of this construct for development research, we sought to reconstitute the genealogy of this concept from the rescue of these different conceptions of complex animation.

**Keywords:** child development, child psychology, developmental psychology, infant, neuropsychology.

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## Генезис концепции «комплекса оживления» в историко-культурной психологии

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Комплекс оживления — это веха детского развития, широко используемая в историко-культурной психологии. Однако возникновение концепции комплекса оживления предшествовало появлению культурно-исторической психологии. Данная статья представляет собой нарративный обзор, основной целью которого является восстановление генезиса понятия комплекса оживления и процесса связывания и присвоения его историко-культурной психологией. Было проведено библиографическое исследование публикаций с 1960 по 2021 год, из которого было выведено различие между его использованием в рефлексологии и историко-культурной психологии. Исходя из центрального значения этого конструкта для исследований развития, мы попытались восстановить генеалогию этого понятия, объединив различные концепции комплекса оживления.

**Ключевые слова:** развитие ребенка, детская психология, психология развития, младенец, нейропсихология.

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### Introduction

In the history of science, influential theories, and concepts, sooner or later, acquire a life of their own and are gradually disconnected from their first author. Sometimes, especially in the case of complex theories and concepts, their new life (or lives) can also become detached from the original theory. It is worth noting that the changes theories and concepts undergo may

differ from the originals. Deviation from old theories is not a problem because new evidence and more elaborate conceptualizations about the phenomena studied provide bases for modifying older approaches [1].

The historical process, inherent to the different nuances of a construct, emphasizes the importance of rescuing its genesis since such dynamics reveal how much they are alive and dialectically result from clashes with other concepts, with new contexts, acquire new clothes,

without letting the past be erased. In this essay, the conditions in which the concept of 'animation complex' (AC) emerges in Soviet psychology and, more specifically, in the cultural-historical approach are explored.

According to Zaporozhets [2], the concept of AC is part of Russian pedology and reflexology studies, more specifically, based on research carried out in the 1920s by Figurin and Denisov and coordinated by Shchelovanov. This researcher's laboratory was dedicated to the comparative study of the ontogenesis of behavior, and most of the investigations studied the first appearance of conditioned reflexes [3].

The sample for these surveys consisted of children from zero to three years of age residing at this Institute, making it possible to conduct systematic observations over 24 hours a day. The analysis of these observations, among other discoveries, led the team to circumscribe the concept they called AC [*kompleks ozhivleniia*] or animation syndrome (positive emotional syndrome), as published in 1929 in the book "Stages in the Development in Child Behavior from Birth to the Age of One Year" by NM Shchelovanov, NL Figurin and MP Denisova [3].

According to Kistiakovskaia [4], in this seminal work, the concept of «AC» refers to a set of actions that the baby manifests in response to the interaction with their caregivers. For this author, the appearance of these responses is of great significance for children's neurological and physical development. In favorable conditions for development, positive emotions should appear at the end of the first month of life. Gradually, over the next two months, expressive movements appear that correspond to the CA, including: « smiling, quick and animated widespread movements with repeated straightening and bending of hands and feet, fast breathing, vocal reactions, eyeblink, etc." [4, p.39].

From the characterization described above, initially, the AC concept was configured as an indicator of the development of babies of a reflexological and pedological nature. However, this construct is later identified in the literature of historical-cultural psychology and neuropsychology when several authors, in different decades, address the development of the first year of life [5; 6; 7; 8; 9].

Vygotsky [10], considered the main founder of the cultural-historical approach, references data from experiments by Shchelovanov when he presents his theory about the development of babies. However, he interprets the results from his perspective of ontogenetic development; therefore, he makes critical considerations about Shchelovanov's interpretation, as well as the conception of child development advanced by the reflexological perspective, as expressed in the following excerpt:

«By its very essence, this theory does not serve to explain these aspects of development since it ignores, on the one hand, the development of the child's psyche and, on the other hand, interprets the development of the child's social interrelationships, based on the point of view of the law of the relationship between the organism and the physical environment. Therefore, he inevitably reduces the higher laws to the lower ones and interprets development mechanically. His mechanism manifests chiefly in failing to

understand the difference in principle between the child's social and animal development.» [10, p. 28].

In the text «*The methods of reflexological and psychological investigation*», Vygotsky [11] reinforces this understanding of reflexology, pointing out that it is characterized as idealist when it splits the psychic and the reflexes in its experiments. For the author, when reflexology excludes psychic phenomena, considering them as something that is not within its competence, it acts similarly to idealistic psychology, which studies the psyche independently of the body and the social context in which the subject is immersed. Studying human behavior without the psyche is as fruitless as studying the psyche without behavior. In this sense, Vygotsky emphasizes the need for psychology to overcome axes of the tension inherent to its emergences, such as mind and body, nature and culture. The conception proposed by the author breaks with such dilemmas and proposes a dialectical psychology in which such axes need to be considered at the core of cogensis.

On the other hand, Vygotsky had a strong connection with pedology, a science to which Shchelovanov also contributed. However, despite also being a pedologist, Vygotsky does not mention the term AC in his publications or even mentions this indicator of development using another term. This concept will only appear in the future in the context of Historical-Cultural Psychology (HCP) after Vygotsky's death, being initially cited by Elkonin [5] and Lisina [6].

From the panorama presented, a time gap and a conceptual turnaround are identified, with questions about why, when, and how the concept of AC is incorporated into the historical-cultural approach. The recovery of this epistemic turn emerges as a challenge, that is, the point of becoming, the incorporation of the concept derived from reflexology, and the transformations that emerged from this process.

Considering the problematization above, this essay aims to build a narrative for the genesis of AC, exploring the relationships between this concept in its beginnings, psychology, and historical-cultural neuropsychology. To do so, it traces a historical path of child psychology in Russia and summons the conceptions of development presented by different researchers of the historical-cultural approach.

The publications were selected through a bibliographic search in the databases: Pubmed, Web of Science, PsycINFO, and Google Scholar, using the term "animation complex", "infant", and «historical-cultural psychology». In addition, the research was conducted in the scientific journals *Journal of Russian & East European Psychology* and *Cultural-Historical Psychology*, related to the diffusion of research of authors of cultural-historical psychology, as well as in the repository of Moscow University for the consultation of some primary sources. As the publications were analyzed, a search was carried out for the references cited in the texts as a strategy for adding gray literature. In addition, research was also carried out on important concepts and themes for constructing the narrative of the CA's genesis, such as "pedology" and "Elkonin's work", among others.

### Child psychology in Russia, the emergence of the CA construct, and the cultural-historical approach

According to Dafermos [12], Soviet psychology is a unique theoretical tradition that emerged and developed during the 20th century in the Soviet Union. Concepts, theories, and approaches that emerged in the context of Soviet psychology (historical-cultural psychology and activity theory) significantly influenced the development of psychology and scientific discussions in different countries.

In pre-revolutionary Russia, idealist tendencies were accompanied by a critical materialist influence based on the natural sciences and associated with the philosophical views of the revolutionaries. Regarding child psychology, before the 19th century, issues were dealt with within general psychology. As an independent branch, child psychology emerged during the methodological crisis of bourgeois science. After the 1917 revolution, research on child development became linked to the socialist state, and theories on child mental development needed to be revised based on dialectical materialism [7].

At the end of the 1920s, the Bolsheviks declared pedology an official science, entrusting it with the scientific management of children's education and health. For pedology, the child was conceived as a specific object of investigation, a human form different from the adult who, therefore, needed new theoretical models and empirical methods of study [13].

However, studies in pedology in Russia started before the revolution: In 1907, for example, Bekhterev founded the Psychoneurological Institute, which led to the creation of the Pedological Institute, where Schelovánov developed his research and proposed the concept of AC. In 1911, the first Congress of Experimental Pedagogy took place in Russia and, in 1927, the first Congress of Pedology in the Soviet Union [14].

In the 1920s, Kornilov and Blonskii began attempts to approach child psychology from the perspective of dialectical materialism, coinciding with the period in which Schelov nov took over the department of the Pedological Institute that investigated the origin of behavior. Subsequently, Vygotsky, Luria, Leontiev, and others began to study the social and historical determination of the child's mental development and the role of social experience in the development of higher mental processes. These previous studies introduced the cultural-historical approach [7; 14].

Under the principles of pedology, between 1922 and 1932, numerous studies were carried out with different psychological approaches, such as reflexology and reactology, among others. The diversity of approaches resulted from an internal battle, within pedology, between defenders of biologism and sociogeneticism [3].

In 1936, the decree "On pedological distortions in the Narcompros system" was issued, which lasted until the end of the Soviet Union in 1991. The Narcompros was an institution similar to the Ministry of Education. In addition to destroying scientific literature, expulsions, dismissals, and arrests occurred [15]. Whoever used the knowledge of pe-

dology was pointed out as someone who "stopped in time" and could even be condemned to death [14].

When the decree was published, Vygotsky was one of the leading Russian pedologists [15]. For this author, pedology was the science of child development, as it formed the basis for synthesizing different disciplines that studied children. Together with educators, he participated in the efforts to make pedology a means that could achieve the goals of the "new man" during the social restructuring so desired after the 1917 revolution. With the publication of the 1936 decree, Vygotsky was condemned by the authorities, and the study of his ideas was prohibited [14].

However, even with the prohibition of his works (censored between 1936 and 1956), the ideological seeds planted by Vygotsky grew strong enough to found and continue historical-cultural studies, having an underlying theoretical school composed of authors such as Luria (1902–1977), Galperin (1902–1988), Leontiev (1903–1979), Elkonin (1904–1984), Zaporozhets (1905–1981), Davidov (1930–1998) [16].

Elkonin, like Vygotsky, was very interested in pedology, notably children's play. An admirer of Vygotsky's ideas, he approached him around 1931. Since then, they began to work together, Elkonin as his assistant, studying the problems of play in child development. Due to Vygotsky's premature death, this partnership was brief, lasting just over four years. However, this approach was decisive for circumscribing the sphere of interest of subsequent studies of Elkonin, namely, child psychology and pedagogy [17].

The decree against pedology also negatively affected Elkonin; he was dismissed from his post as director of the Leningrad Institute of Pedology, deprived of the doctorate degree candidate, and removed from his professional activities. Sometime later, he began working with first-grade children, and this experience gave him subsidies to develop a study on learning to read and write in school-age children [17].

When talking about Vygotsky, Elkonin [18] always expressed admiration and emphasized the privilege of having been his work partner. This admiration meant that the investigations and works produced by this author were strongly influenced by Vygotsky and placed in the field of historical-cultural psychology. With the death of Vygotsky, Elkonin approached a group of collaborators from the cultural-historical school coordinated by Leontiev [19].

Elkonin devoted himself to theoretical and conceptual work on methodological problems relating to childhood and questions of applications in the psychology of learning, teaching, and education. For this author, the teaching and learning process should adapt to the periodization of psychological development. In this sense, it was necessary to deepen the knowledge on this subject because until then, in the Soviet Union, only Blonski and Vygotsky had studied the periodization of child development [16].

Like Vygotsky, Elkonin resorted to analyzing studies by other researchers – even with approaches far from his own, in this case, Shchelovanov, to carry out inter-

pretations based on his onto-epistemological matrix. However, unlike Vygotsky [10], who only mentions the presence of behaviors that are part of the AC without mentioning the concept itself, El'konin [3] names and recognizes it as an essential indicator of child development. In another text, Elkonin [20, p. 202] speaks again of AC, but this time he is not limited to Shchelovanov's studies and cites Lisina's experiments:

"Lisina and her collaborators (1974) demonstrated the existence in the baby of a particular communication activity that has an immediate emotional form: "the AC," which appears in the third month of life of the child and that previously was considered a simple reaction in towards the adult (which is the strongest and most attractive stimulus for the child), but which in reality represents a complex action due to its structure, whose objective is to communicate with the adult and is carried out through different particular means. It is worth emphasizing that this action appears long before the appearance of the possibility of acting with objects, before the emergence of the act of pressure."

Lisina was a researcher of the cultural-historical approach, a follower of Leontiev, and a student of Elkonin. She carried out studies to understand the development of communication activity in childhood and, during her experiments, also focused on the emergence of AC. Magalhães [21] points out that Lisina was influenced by Elkonin's studies, notably identified when he named the manifestations of babies, participants in his study, with the nickname of AC. In her text Lisina [6, p. 287] refers to Elkonin as the author of historical-cultural psychology that approaches AC to refer to positive emotional manifestations:

"Detailed ontogenetic research of positive emotional manifestations in children testifies that they are formed during the first months of life during communication with close people and under their influence. It refers to smiling (Izard, 1971; Spitz, 1946; Kistiakovskaia, 1970), laughter (Washburn, 1929), expressive vocalizations (Brackbill, 1958; Vétrova, 1975), motor excitement with positive emotional nuances (Lisina, 1974, a). These facts allowed Elkonin (1960) to state that the animation complex fulfills the baby's communication function with the surrounding adults."

For Lisina [6], communication or communicative activity is a mutually oriented activity of two or more people in which each one acts as an active subject. Therefore, it refers to the interaction of people coordinating and joining their efforts to achieve an expected result. Through contact with adults, children assimilate the historical and social experience of humanity and develop the peculiar characteristics of human beings, especially communication, which is considered one of the most important factors for children's psychic development [22].

The author, as mentioned earlier, starts from the concept of activity, developed by Leontiev [23], to classify communication as a type of activity. Like any activity, it is object-oriented, with its object being the companion of the communication activity. In this perspective, communication aims to satisfy a particular human need, which is the desire to know oneself and others, occurring through valuing the other and self-valuing [22].

Communication activity changes with development and, in this sense, Lisina [22] classified four different forms of communication that occur during the first seven years of life, namely: personal-situational communication (first six months of life), practical-situational form of communication (from 6 months to 2 years); cognitive-extra situational form of communication (from 3 to 5 years) and personal-extra situational form (6 to 7 years).

The results of experimental research carried out in the Laboratory of Early Stages of Mental Development of the Research Institute of General and Pedagogical Psychology of the Academy of Pedagogical Sciences of the USSR suggest that the content of communication is an important factor in the formation of a harmonious relationship between a child and an adult. The empirical study conducted by Lisina and Kornitskaya [23] tested the child's attitude to different programs of adult communication with her (I – direct-emotional, II – situational and III – extra situational). All three models were taught by the same adult-experimenter to children of three age groups (first six months of life, toddlers and older preschoolers). The results of the first group showed that infants from zero to six months benefit from all forms of communication, but they become more active and happier with communication program I, that is, with the main activity of this phase (direct emotional dialogue), especially because it includes physical contact with the adult. Thus, the compatibility of the communication content with the child's needs leads to affection and attachment to the adult. The authors suggest that to overcome the crises of childhood, the adult must, of course, constantly restructure the content of his interaction with the child in accordance with the development of the content of the child's need for communication [23].

However, the work of M.I. Lisina did not directly compare the AC in infants under the influence of an adult and under the influence of an object. Despite the presence of this form of behavior in both situations, Meshcheryakov's experiments found that the AC has distinct characteristics in infants when they perceive adult and object influences separately. First, the overall intensity of the AC upon exposure to an adult is greater compared with exposure to objects. Secondly, the composition of the AC for adult stimuli differs from that for object stimuli, the first case presenting significantly more bright smiles and more vocalizations. Finally, when the manner and nature of the adult stimuli changed, there was a reorganization of the infant's animation complex in its composition. Similar changes in the presentation of objects did not alter the expression of the AC [24; 25].

In light of the new findings, obtained by authors from various theoretical perspectives (such as J. Walton, T. Bauer, I. Bushnell, E. Spelke, K. Trevarthen, among others), Avdeeva highlights the characteristics of the infant's spontaneous activity from the earliest stages of development. It has been shown, for example, that babies see the human face and inanimate objects differently. When they look at the face, they make more sounds, start moving their arms and legs, open and close their fists and make fluid movements. K. Trevarthen suggested that two-month-old babies, in interaction with

an adult, already have some sense of their ability to act and have a sense of subjectivity. Thus, this group of authors assumes that the infant has a biologically determined versatile social competence. For this reason, the child's socialization is understood as a two-way process involving both parties. In terms of its content, the process appears as a synchronization of the complex action patterns of the adult and the child [26; 27].

For this review, it is worth detailing the first form of communication, personal-situational communication, the moment in which and through which the AC emerges. At this stage, the baby's main activity is communication with the adult. The interrelationship mediates his relationship with the world with the caregivers, and the baby has not yet mastered his movements nor the gripping movements to grab objects [28]. Thus, although Elkonin was the first cultural-historical author to cite the concept of AC, including influencing Lisina herself, this was the first cultural-historical author who, in her experiments, identified the emergence of AC and deepened the understanding of its manifestation and its role for development [21].

Currently, guided by Lisina's findings, historical-cultural neuropsychology researchers [8; 9] advance in the understanding and use of AC as an indicator of development: they state that, in the assessment and intervention from 2 months of life, professionals and caregivers should be attentive to how communicative activity and AC are expressed, as well as the stimulation of shared adult/baby activities that cause the emergence of this indicator. Moreover, both authors were involved in constructing the only child development assessment instrument published so far that contemplates the process of acquiring the AC [29; 30; 31; 32].

After outlining the historical path of insertion of the AC concept in historical-cultural psychology and neuropsychology – from the emergence of Russian child psychology to the present moment – the next section will address the understanding of this approach on the infant development process and its articulation with the AC concept.

### **The development process for the historical-cultural approach**

Historical-cultural psychology and neuropsychology consider the nervous system's materiality and formation through social interaction as fundamental aspects for understanding the development of the human psyche [33]. In this context, the main law of developing higher mental functions, called the 'law of internalization,' illustrates how such functions appear on two different planes. Initially, they appear on the social and interpsychic plane (mediated by external signs) to, only afterward, be internalized and appear on the mental and intrapsychic plane [34].

The social dimension is the source of development; therefore, the maturation process alone does not guarantee human development; specific experiences within a given culture are necessary. As a social being, outside the

relationship with society, man is incapable of developing specifically human superior qualities and characteristics. Such interdependence of human development concerning culture means that chronological age does not always correspond to psychological age [34].

Therefore, to understand the subject's development level, more is needed to know than his chronological age; it is also important to consider his psychological age. The latter is circumscribed from the periodization of development, classifying the development process into different phases. For Vygotsky [33], periodization should be based on the internal changes that occur during the development process, to the detriment of emphasis on symptoms (indications) or external characteristics. Only the twists and turns of the course of the inner essence of development provide a basis for determining the main periods of formation of the child's personality or the phases and crises that constitute development.

The construction of this periodization starts from the dialectical conception, in which development is characterized as a continuous process of self-movement, with revolutionary passages, evolutions, and involutions, qualitative leaps, and periods of crisis alternating with phases of relative stability. Both periods of crisis and stability are identified by the appearance and formation of the new, which did not exist in the previous stages. The "new" refers to the concept of neoformations, a new type of personality structure and its activity that emerge with the development process. Neoformation is the criterion that distinguishes the periods of child development, as it allows circumscribing the essential to be determined at each psychological age [33].

Within this scenario, pedagogical demands led to the need to understand the driving forces of child psychic development, in addition to describing or mapping this process. Elkonin [35] believed that the periodization of development should be considered from the notes of Blonski and Vygotsky, together with the findings of Leontiev and Rubinstein on the theory of activity. This theoretical body would provide a solution to the problem of the driving forces of psychic development, directly linking it to the question of the principles of division of stages in the psychic development of children.

For Leontiev [28], it is through the activity that human beings act on the surrounding reality to satisfy their physical and psychic needs. In turn, the higher psychic functions are developed in the execution of activities that require them. That is, the psyche develops in and through activity. Over the years, the subject has related to the world in a particular and unrepeatable way, as the psyche changes qualitatively from the relationships established with the social environment [36].

For each development phase, a primary activity triggers the core changes in psychic processes and the psychological particularities of the personality. The main activity is the one that drives and guides development, as it promotes the emergence of new types of activity and neoformations, ascending to the main psychological changes in each phase. Other activities coexist as accessory lines but play a secondary role in promoting development [37].

Taking advantage of this conception of activity, El'konin [35] proposes a developmental periodization model that: 1) overcomes the existing dichotomy in child psychology between the development of motivational aspects and needs and that of the intellect-cognitive aspects; 2) considers the process of psychic development as an upward spiral, instead of linearly; 3) enables the study of existing links between isolated periods and the establishment of the functional importance of every preceding period for the beginning of the following one; 4) divides psychic development into epochs and stages based on the internal laws of this development and; 5) it helps to resolve the question about the sensitivity of some periods of child development to specific influences and focuses on the problem of linkage between the links in the education system.

This proposal considers three main periods of development: early childhood, childhood, and adolescence. In turn, these periods are composed of stages, which have their periodization circumscribed from the main activity for child development at a given stage of life. The main activities, considering their chronological order of development are: emotional communication, object manipulative activity, role-playing, study activity, personal, intimate communication, and professional/study activity. The emergence and predominance of these activities signal the psychological age or stage in a particular development period [35].

To contemplate the objective established in this article, we will focus on the childhood period, notably the early childhood stage, as it is at this time that the emergence of AC is expected. For El'konin [3], although the concept of AC has emerged within the theoretical context of reflexology, the discovery of this development indicator is a precious finding of this historical period.

### **Infant development for the historical-cultural approach**

The process of infant development begins with the critical act of birth, and consequently, the phase that follows is a critical period called the postnatal period. This phase is marked by the transition from intrauterine to extrauterine life. After birth, the baby is already physically separated from its mother; however, due to the peculiar social situation of development, it is still biologically connected to the mother, as it continues to depend on her to satisfy its main vital functions [10].

The baby does not demonstrate the need for communication in the first days after birth. Only at the end of the first month do some components linked to this need begin to be structured, and their final form is reached around two months of life (with 6-8 weeks of life — close to the change in the postnatal period). Only from this moment on is it possible to speak of an activity aimed at adults, who can be considered an object of communicative activity [22].

In the first month of life, the baby's total dependence on the adult makes the latter try to identify and meet all the baby's demands. It is possible to perceive the exis-

tence of pleasant or unpleasant emotional states in the first days of life, especially from the facial expressions and intonation of screams and crying. However, the newborn undifferentiated psyche, emotions, and sensations are merged [10].

Thus, the state of consciousness needs to be more explicit. What is verified are non-differentiated and non-fractionated experiences; these represent a fusion of attraction, affection, and sensation. Furthermore, the psyche cannot separate its existence and experiences from the perception of objective things and, therefore, does not distinguish social and physical objects [10]. In this context, a fundamental law is formulated that regulates the perception of the newborn:

“In the beginning, the amorphous perception of the whole situation sets up a background against which a more or less limited and structural phenomenon stands out for the child, which he perceives as a special quality in this background. The structural law of the separation of figure and ground is, it seems, the most primitive peculiarity of psychic life, the starting point for the further development of consciousness.” [10, p.6].

Based on the research of predominantly German psychologists (Ch. B hler, K. Koffka, W. Stern, G. Hetzer and others), Vygotsky attributes a feature of originality to the mental life of the newborn child. This uniqueness consists in the predominance of undifferentiated and indivisible experiences, representing a type of unity between attraction, affection and sensation [26]. In this way, the baby's initial perceptions are characterized by an indivisible impression of the situation. No difference is made between the isolated objective moments of the situation or the elements of perception and senses. Thus, he reacts to complex emotional nuances and not to isolated or differentiated elements of the situation. In this direction, Vygotsky [10] exemplifies that, in the relationship with his primary caregiver, the baby reacts emotionally to his expressive movements before being able to perceive the shape of his face, color, and other attributes in isolation.

In this context, the first form of genetic communication establishes the child's emotional contact with others. These emotional ties between older children and adults form an indispensable part of the ties that unite participants in the communicative activity. They show the most generalized evaluation of one interlocutor by the other, which is most effectively expressed through expressive mime, a characteristic of situational-personal communication [6].

This form of communication is of great relevance for the general psychic development of the child, as the attention and affection that adults invest in the baby awaken a feeling of joy in him, and positive emotions increase his vital tone, activating all his functions. Personal-situational communication also stimulates the formation of perceptive actions, such as visual, auditory, and other analyzers. These acquisitions will be necessary for the baby's insertion in the subsequent development phase that demands interaction with objects [22].

Initially, the infant presents only the unconditioned reflex of vocal reactions, which is biological with an

emotional function. From the interaction with caregivers, this vocal reaction gradually becomes a conditioned reflex, starting to assume the function of establishing social contact [38; 39].

The pinnacle of this form of communication manifests itself through complex conduct, namely, the AC. For Lisina [6], this includes the behaviors of concentration, eye contact, smile, vocalization, and motor agitation, all in response to interaction with another person. AC components serve as a basis for the baby to initiate some processes, such as distinguishing the adult person from their surroundings (concentration), mimicking (smile) and vocal communication (pre-linguistic vocalizations), and actively attracting the adult to the communication (motor excitation).

Such an acquisition is only possible thanks to the social situation of the baby in the first year of life (which refers to a need of the child in relation to the adult), together with the attitude of the primary caregiver who, in advance, approaches the baby as a subject and actively shapes their behavior. Therefore, it is the adult who attracts the child to communicate through the process of this activity; the need for communication awakens in the baby around the age of two and a half months of life, and it is already possible to verify the emergence of such a need [22].

However, for proper communication, psychic processes are essential that allow the child to become aware that someone takes care of him and, therefore, to react to that person differently than others. Given the above, communicative activity is only expected at this stage from acquiring the neoformation of the postnatal period, namely, the individual psychic life [10]. About this neoformation, Vygotsky reports:

“We believe, therefore, that when determining the limits of the postnatal period, it is convenient to use data that characterize the psychic and social state of the newborn. The data that most coincide with this criterion refer to the child’s higher nervous activity, which is more directly related to his psychic and social life. The investigations of M. Denisova and N. Figurin show that a child’s development changes at the end of the first month or the beginning of the second. The cited authors consider that the symptom of the first period is the appearance of the child’s smile when he is spoken to, that is, his first specific reaction to the human voice. The investigations of Ch. B hler and H. Hetzer show that the child’s first social reactions, which indicate a general change in the psychic life of the newborn, are observed between the first and second months of life. At the end of the first month, the crying, the cry of one child, provokes in response the cry of another child. Between the first and second month, the child’s smile becomes the reaction to the sound of the human voice. All this makes us suppose that we have found the upper limit of the postnatal period, after which the child enters a new age stage.” [10, p. 7].

Recent studies elucidate that the smile in infants can be observed from birth, however, this smile called endogenous, spontaneous, primitive or false, occurs in response to internal stimulation of subcortical origin and

decreases its occurrence over time, being more frequent during sleep. In other words, this type of smile is not a positive emotional response to an experience or feeling of pleasure [40]. The manifestation of the endogenous smile is present in the same age group in different cultural contexts [41].

At three weeks of age, the first exogenous smiles start to be produced in response to external stimulation of the auditory type, whether social or not [40]. In the following week, the baby’s active attention is already directed to the caregiver, through sequences of face-to-face contact. In the nervous system, from the second month of life, the control that was exercised by subcortical regions is now performed by cortical regions [41]. As a result, around the sixth week of life, the exogenous smile also begins to appear for visual stimuli, and gradually, it begins to appear only as a social response, which is why it is also called social smile [40].

For Vygotsky [10], this acquisition marks the overcoming of the postnatal period, as it indicates the achievement of the neoformation of the phase: “individual psychic life”. The psychic life, which Vygotsky refers to, is different from the psychic life of older children or adults since it is mainly related to the subcortical centers and the still immature cortex, structurally and functionally. Therefore, it is impossible to conceive intellectual and volitional phenomena of consciousness at this stage. Nor are there innate ideas and accurate perception (understanding of external objects and processes or conscious aspirations) [10].

At this moment, the change in the infant’s attentional level to internal and external stimuli is evident: more attention is paid to sensory stimuli and movements. It sounds like he or other people produce. Such a change can be perceived through its facial expression, movements, and sounds it emits [10]. From then on, the baby has a powerful combination for its development: an individual psychic life and a higher level of attention and interest in the surrounding environment. Such acquisitions and the main activity provide the emergence of the AC.

The postnatal period is characterized as a moment of passivity and transition in the baby’s behavior and conscience. This situation begins to change from the end of the first month of life and ends with the rise of the neoformation that follows this phase; this is the starting point for developing the child’s personality. The new phase is called the period of receptive interest, and it is possible to overcome the limits of the newborn’s passivity, which is gradually transformed into interest. In this period, there is a reduction in the characteristics of the transition from intrauterine to extrauterine life, and the baby is more awake and interested in external stimuli [10].

Suppose we superimpose the understanding of Vygotsky [10] and Elkonin [5] on infant development to the findings of Lisina [22]. In that case, we will find that the emergence of communicative activity occurs consecutively with the formation of individual psychic life, with AC being the marker physical or visible part of both acquisitions. Initially, signs of the emergence of this neoformation appear, such as the smile in response



to human interaction, and then the other behaviors that form the AC and indicate the presence of communication are expressed.

Summarizing, we should note that the theoretical assumptions of L.S. Vygotsky, according to which the baby is “the most social being”, were validated and further developed in experimental studies of the M.I. Lisina school (N.N. Avdeeva, G.Kh. Mazitova, S.Yu. Meshcheryakova, S.V. Kornitskaya) on the formation of the child’s personality in communication. In this perspective, it was shown that the decisive condition for the child’s mental development is the unique social situation of development, when an adult, when coming into contact with a child, shows in advance an attitude towards him as a person with his unique importance, that is, as a subject of the communicative act. This attitude of the adult towards contact with the child is reflected in the formation of a positive motor self-consciousness, the first pre-personality formation, the essence of which is the child’s experience of himself as a subject of communication and social interaction [26].

In addition, despite not mentioning the term AC, Vygotsky [10] refers to the changes indicated by this development indicator, primarily when he reports that between two and three months of life, the baby goes from a more passive state to one of greater attention. This change becomes perceptible through behaviors such as facial expression (smile is the first of them), movements, and emission of sounds, that is, the components that are part of the AC.

### Conclusion

The concept of AC is initially incorporated into the theoretical-methodological corpus of cultural-historical psychology, considering the findings of studies carried out by Russian reflexology researchers. Vygotsky analyzes experiments by Shchelovanov’s team, including his conception of the infant’s development and the appearance of behaviors that are part of that list that circumscribes the AC. However, it does not name or use this concept, referring only to the behavioral expressions that characterize it.

Vygotsky indicates critical developmental changes between the second and third months of life, resulting from the emergence of the neof ormation of “individual psychic life.” This acquisition marks the transition from a period of passivity (postnatal crisis) to one of greater receptive interest (first stage of the first year of life). According to the author, it is possible to observe this

change through the presence of facial expressions, movements, and sound emissions, which are integral components of the AC according to the definition of Elkonin and Lisina.

Elkonin introduces, in a pioneering way, the concept of AC in the cultural-historical approach. For the author, AC would arise due to the main activity of the childhood stage, namely, direct emotional communication. Later, influenced by Elkonin and the findings of her experiments on the development of communication activity, Lisina reinforces the importance of AC as an indicator of development. For the author, AC is the most sophisticated expression of the main activity, the personal-situational communication activity.

In her studies on the development of the communicative activity, Lisina identifies the centrality of the personal-situational communication activity for the development of positive emotions, which raise vital tones and activate all functions, contributing to the formation of perceptive actions. For this author, the indicator that the baby is at the peak of this communicative way is the manifestation of AC. Currently, neuropsychologists from the historical-cultural approach continue to use this indicator to assess and intervene in the development of infants [30; 42; 43; 44].

Considering the historical path presented, it is concluded that, even without a direct citation of Vygotsky on AC, this concept has acquired importance within the historical-cultural approach; therefore, it can be considered an indicator of the infant’s development for this approach. This concept, in addition to pointing to the presence of communicative activity, reflects the acquisition of neof ormation-individual psychic life and the passage from the period of postnatal crisis to the period of receptive interest and the childhood stage.

In the present article the genesis of the term of CA in HCP is discussed, however this construct also has great practical importance for early childhood education. In line with Mescheryakov’s position [24], for the proper development of children in the first months of life and in the context of their care, it is not enough just to place a toy within their reach, a practice that still happens in some kindergartens and homes. At this stage, it is much more important that the caregiver has close and frequent affective contact with the baby. The adult should also go beyond satisfying the child’s basic organic needs and make emotional contact with her, aiming for synchrony in the communication process, participating in her formation as a subject and encouraging her to be active, something that no one but the adult can do.

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