



Space and Time Lived as an Inherent Part of Play



Vera Barros de Oliveira^{1,2*}

¹Professor in Social and Work Psychology at the University of São Paulo, Brazil

²Board Member of the São Paulo Academy of Psychology, Brazil

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***Corresponding author:** Vera Barros de Oliveira, Professor in Social and Work Psychology at the University of São Paulo, Brazil

Abstract

The main objective of this article is to address the great richness and flexibility of the brain system and the contribution of Play in the physical and mental, symbolic and emotional organization of children, with special attention to children with disabilities. It begins with theoretical considerations about the brain, emphasizing the importance of rhythm in its organization, focusing on sensory-motor and symbolic experiences in the child's organization. It follows in broad lines the intellectual and affective-emotional evolution provided by Playing in various health situations. It concludes by proposing brief practical considerations for the organization of recreational spaces in environments aimed at the development of children with disabilities.

Keywords: Spatio-temporal construction of reality; Child with disabilities; Sensorimotor play; Symbolic play

The transition from sensorimotor rhythmic play to symbolic representation

Bispham [1,2] when studying rhythmic skills and behaviors, from an evolutionary theoretical framework, emphasizes the need for psychological research about it, with valid definitions of what Rhythm is, that may help clarify potential hypotheses about the fact that skills with rhythmic characteristics have been developed. By following the human biological impetus, in turn, Coppens [3] shows the great reconciliation that exists between the endless repetition of what we did and the extraordinary changes we produced, by acting in an increasingly complicated and organized way.

Physiological and functional origins correlated to rhythmical brain activities that were detected by EEG indicated implications on the self-regulation mechanism in children, according to Serman [4]. Marosi et al. [5] point out that age also reflects on the EEG activity in normal and learning-disabled children. Also in the same subject, Fernandez et al. [6] verified rhythmical brain differences depending on each disabled child.

Oranghi [7] in a study that investigated aerobic rhythmic exercises on motor proficiency and emotional intelligence in children with psychomotor coordination disorders and their relationship between emotional intelligence and motor

proficiency, revealed the correlation between both of them, which increased after aerobic exercise. Likewise, the children's experience in groups increased their participation and made them happier and livelier. It also improved coordination at levels higher than presented in other exercise, which suggests that aerobic exercises can be used to improve motor skills and motor triggering effectiveness, as well as children's emotional intelligence can favor the development of motor coordination.

A study by Saarikallio [8] considers that there is little knowledge on the importance of using music in human self-regulation throughout life. The study reports fluctuations regarding a person's age and provides knowledge about the importance of music in relation to emotional and functional experiences, and its great significance in psychosocial development.

Understood by Fraisse [9] as "the order of movement", every rhythm has a temporal basis. The sequential description of this order requires a structural analysis of the dynamic organization of the patterns in question. Human activities, such as swinging, are very precocious and loved by children, they provide pleasure and tranquility, and are also used in dances and playing situations. Studies on rhythm, however, have not yet found a precise definition of what will be. Etymologically, they come

from Greek and literally means “a particular way of flowing”. In short, it turns out to be the ordering of a succession, conceived or perceived. It is a mental inference, which makes it possible to anticipate its sequence, starting from its base, which is repeated. Every rhythmic experience is plurisensory, requires movement, produces and feeds affective reactions, receives impact and reverberates socially.

Creating and carrying out plans requires coordinated and subordinate actions, as well as a critical attitude toward oneself and the environment, as well as relational flexibility for small or large adjustments, alterations, replacements or insertions of elements not initially foreseen. As mentioned by Luria, in brain-damaged patients in the frontal region who are able to answer common questions or act properly in common situations, they are incapable of more complex and cascades actions because they cannot evaluate what was positive or negative in their attempts, not seeking to correct themselves and just continuing to do things mechanically, meaninglessly and without purpose, sometimes not showing concerns about not achieving something, and even often presenting indifference to what they are doing [10].

Babies are born with the brain still in formation, which has enormous neurological, psychological and cultural consequences, as the brain also continues to develop through the child's interaction with the environment. This phylogenetic innovation that characterizes us as individuals capable of building our own history, based on the possibilities contained in the genome, began with the increase in cerebral volume through neuronal expansion, and, if on the one hand it brought great advantages, on the other it produced a great challenge. That is, a great risk at the time of childbirth, of the pelvic passage. The solution found by nature came to favor us enormously, as the brain continues to develop outside the mother's uterus, especially in the first year of life, when it triples in volume. Hence, the great need to provide freedom of movement to the baby, as well as to stimulate him perceptually, which is also extremely valid for the child.

In the process of human self-regulation, individual memory has an essential function because it keeps the record of lived experiences, in which the brain will decide what to do. It is very important to emphasize that this record does not have only objective or subjective information, but it is built on those of the species, keeping the memory of what this particular individual has experienced: its history, the history of its brain; in short, its individuality [10].

The evolutionary study of children playing, due to its great complexity and scope, was and continues being an object of research and reflection in different areas of Psychology, among other sciences. This article presents theoretical considerations about this evolution with focus on the rhythmic and temporal nature present in this evolution. Recent studies on Chronobiology are presented [11], exposing its relevance to Psychology and relating them to research and studies on Play. The focus is on the

rhythm and time spent for the constitution of personal and social awareness, through the ludic. It relates the endogenous character of biological rhythmicity to the vision of the human being as a dynamic, historical and interactive system. It highlights the great and irreplaceable importance of the free and self-motivated play of children, in space and time, since their early years, as an original action and regulatory instrument of their balance and current happiness, as well as an architect of their future [12].

The richness of symbolic manifestations

According to Cassirer [13], man would have discovered a new way of living, of adapting to the world, the symbolic way. This allowed him to resize his reality through verbal, imagery, graphic or ludic manifestations, which are linked to his memory, his creative imagination, science and art. In this sense, the symbolic is introduced in dealing with the lived experience, as well as in its theoretical interpretation, which integrates and dynamizes its vision of a man inserted in his own history. The experience of the past, as well as the vision of the future, can become present through their symbolic representations.

Memory has a fundamental role in the creation and maintenance of its identity, as well as in the understanding of the relationship between the continuity in the present, of the time lived, with the changes that occur in it, as explained by Bergson [14].

With the passage of history, the levels of reflection and consciousness are expanded, generating, in turn, new conquests, appropriations and demarcations of properties and spaces. In turn, such innovations also give rise to the need to exchange experiences, to exchange ways of living, that is, cultures, as indicated by Coppens [3]. Therefore, the narratives of the lived and the imagined, which before were presented for a small group, begin to disseminate and reach new spaces and times and also, in turn, generate new experiences and conquests, which, again and again, will be narrated and spread in ever widening ranges of action. Such narratives of lived facts often include and are also intertwined with legends based on their magical imagery, according to Patou Mathis [15].

The narratives of what has been lived or imagined, according to Ricoeur [16], aim to tell, reproduce in the present, something that happened, or it was imagined in the past, that is, they keep configuring the passage of time. In doing so, they are thus weaving the threads of the historical plot.

The fictional narrative, in turn, provides, in a certain way, to those who narrate and to those who listen, an imaginary experience, as if happening in another reality but, many times, related to the real time lived in the moment. Through dramatic play, children narrate through ludic representations, imaginary situations, which can be mixed in different degrees with experiences lived by them in reality, with all their color and dramatization.

Narratives retain what has been lived in time and have followed man's life since its beginnings, according to Patou-Mathis [15], when Man then begins to question himself about his present and future, as he reviews his story, his past.

The meaning of property starts to be formed throughout history, in the lived time and space, and man gradually learns the importance of marking and registering his trajectories and properties with abstract signs, to symbolically represent what is his. In this way and in this historical journey, the importance of graphic signage is configured, understood and used in its intimate relationship with the preservation of the lived history. Hence, the great importance of children marking what is theirs, in their own way and being able to recognize and reuse it in different ways. Likewise, ask the child to tell what he narrates, what is doing or what has already done.

In a narrative, according to Ricoeur [16], the composition and expression of time are continuously interrelated in a dynamic way, around the central character, and everything revolves around his doubts, desires and needs. For Benjamin [17], in order to narrate it is necessary to have had life experience. The past, however, always remains a source of order, since possible ruptures do not change it in itself, but as a new reference or interpretation of it. During the time lived and/or narrated, according to Coveney & Highfield [18], two major facets are detected: its repetition and its irreversibility, since time does not revert.

It is an opportunity for exchange between those who narrate and those who listen. In its articulation, it always combines the formal integration of what is being narrated, that is, of its structure, with its content, what is narrated, maintaining the progression of its meaning.

Symbolic play, make-believe play or even called dramatic play, can be seen as an excellent way of representing personal and social life and effectively takes part in the child development and may be seen as source of its historical and social identity [19,20]. This can also be seen as a non-verbal narrative, which provides, even corporal and emotionally, the expansion of central consciousness. As Damasio [24] points out, the presence of two complementary mechanisms can be observed in it: the generation of a report not only verbal between the child and the environment and the emphasis given by the child to the images represented by the objects, which also express feelings. There is no possibility of forming consciousness without mental representation and interaction with the environment.

According to Winnicott [21], the verbal limitation of the small child finds compensation in playing, which becomes a form of non-verbal expression. When playing, the child deals with his deepest feelings and affections and, for that, he needs safety and tranquility, to feel free to create his game, and to represent his experiences in it, including those that aroused sadness and uncertainty. On the contrary, any situation that inhibits him from

manifesting, harms him a lot, because, as Winnicott reminds us, "submission brings with it a feeling of worthlessness" [21]. On the other hand, the freedom of action, always present in genuine Play, is linked to creative living, to the joy of living.

Ludic representation inserted in time and space

The reality experienced in its dynamic process, inserted in time and space, develops according to the possible regularities related to the different contexts. The history of the manufacture of hunting and fishing equipment, as well as weapons, reports the search for identification, not only of the attributes of the object, but also of the human perceptual and motor possibilities, in relation to these attributes. Such possibility of discriminating and associating at the beginning is done through the body, which already involves a form of practical intelligence and creativity, focused on everyday life, specifically associated with areas of survival, and necessarily assuming social interaction. Body awareness and action in the living environment, in turn, germinate and substantiate symbolic awareness and its manifestations.

Playing situations are characterized by their great variety and versatility, with their own characteristics according to the child, his time and space lived, and can be analyzed from the point of view of his formal structure, according to cognitive and affective-emotional criteria correlatively. The integration of cognitive and emotional processes during early childhood takes place in an articulated way with the development of working memory [22]; a historical process, in which affective-emotional and cognitive aspects are intertwined in a continuous and dynamic way [23].

The structural and affective-emotional evolution of play begins already at birth with pronouncedly sensorimotor characteristics, which already demonstrate clear intentionality at four months of age. The manifestations of symbolic play emerge gradually about the eighteenth month of life, still with a great predominance of motor activities, but with intermittent peaks of symbolic representation, which already present strong affective-emotional content and attachment to the experienced territory, as well as movement activities. Over time, this symbolic representative play develops incredibly, and, in the evolutionary research on play, the author followed this evolution step by step and recorded the strong dramaticism and affectivity of play, as well as its spatio-temporal organization presented by a little boy of three years old, who represented with great emotion the belt beating he had taken by beating the teddy bear, as well as a girl of the same age, who represented in great detail her mother's day-to-day life at dusk, when she bathes her children and puts them to sleep; then, she takes her bath and pretends to quickly go out through an imaginary door to buy a key "just for me", as she said, and then she stopped and said "it's night and I am here alone". This research was carried out in a daycare center, maintained by a private entity, in which the author of this text worked as a volunteer for several years playing with the children, hence the fact that they know the author well and feel safe in her presence [19].

The brain, in its continuous integration and plasticity, highlighted by Damasio [24], shows an intimate relationship with the symbolic body awareness. Hence the importance of associating ludic strategies of symbolic representation with their cognitive and affective-emotional elements in the rehabilitation of motor functions [19]. Such considerations are also very important when working with disabled children.

Children with special needs and disabilities and emotional intelligence

Hornby [25] presents a theory that comprises a synthesis of values and practices of inclusive education with the interventions, strategies and procedures of special education, that provides strategies for effective education for children with special educational needs and disabilities.

Keil, Miller & Cobb [26] have already highlighted confusion over the use of terms that represent differing ideological perspective, that despite the social focus, characterize much of the discourse about disability. The authors note a new interesting framework based on the concept of “additional support needs”, which separates disability from educational need and is intended to represent a more inclusive approach to children’s learning.

Odom, Buysse & Soukakou [27] also describe issues affecting the inclusion of young children with disabilities over the last 25 years. Two recent directions affecting the implementation of inclusion, assessment of quality and Response to Intervention (RTI) are discussed. In addition, factors that may affect early childhood inclusion in the future are summarized.

To answer the question “What is a special needs child?”, Kagan [28] considers that it is a youth who has been determined to require special attention and specific necessities that other children do not. A variety of conditions and impairments can be classified as special needs. They can include chronic and terminal illnesses, physical impairments, and cognitive or psychiatric issues. For this reason, the author points out the possibility of the state offering benefits and assistance for the child’s well-being and growth.

Petrides, Furnham & Frederickson [29] remind us that nearly 15 years after the first formal definition and model of Emotional Intelligence, scientific research in the field still lags behind speculations. For this reason, it is clearly important that psychologists should try to keep abreast of relevant research findings in order to avoid involvement in unprofitable applications. The authors seek to make a contribution by outlining both the fundamentals and the latest research in the field of Emotional Intelligence. Applied in the educational, occupational and clinical domains, they are salient, among others, aspects common in models of Emotional Intelligence about emotion management, relationship skills, impulsiveness, control and self-motivation, joy of living.

Vygotsky [30] & Leontiev [31], the latter a great specialist

in symbolic play, emphasize the socio-historical character in the development of the noblest human mental functions. Learning to program one’s own action and managing to reconcile the maintenance of the original objective with the spontaneity of the moment have been a long achievement, both phylogenetic and ontogenetic. Therefore, it is sometimes difficult for children with special needs to perform a playful activity that is a little more complex and/or in group.

Children with disabilities demonstrate fewer complex pretend play behaviors than children with typical development, which might limit their social participation in early childhood settings. A multiple-probe design was used to examine the relation between a single prompt procedure-constant time delay-and the acquisition, maintenance, and generalization of sequences of pretend play by children with disabilities. Results indicated that systematic instruction was functionally related to increased levels of unprompted and different sequences of pretend play in all three participants. However, individual adaptations were required for two of three participants. The findings replicate previous research on adult systematic instruction using response-prompting strategies to teach pretend play and extend the literature by measuring and reporting generalized sequences of pretend play. Overall, this study supports systematic, individualized instruction using response-prompting strategies to teach sequences of pretend play to children who do not display such behaviors [32].

Kumar [33] highlights the emotional intelligence of children with special needs, for children with sensory impairment, cognitive impairment and physical impairment are emotionally unstable at some point or other. They remind us that emotional intelligence can be nurtured, developed and augmented and it is not a trait that we either have it or not. Children with special needs too can develop emotional intelligence and also develop effective inter and intrapersonal skills.

Maximo & Oliveira [34] verified the organization of the body image with the male child, with psychomotor delay in ludic psychomotor rehabilitation. The study was based on the literature of the French School of Psychomotricity, which emphasizes the importance of the body in the process of integrated psychomotor, social, affective-emotional and cognitive development. The evaluation was carried out through the Picq & Vayer Psychomotor Examination, Bender’s Visomotor Gestalt, Machover’s Human Figure Test, Raven’s Colored Progressive Matrices, anamnesis, analysis of school material. The intervention was carried out with ludic, symbolic sensorimotor strategies and simple rules games. The results point to a significant improvement in the Psychomotor Examination in the areas of Respiratory Conduct, Space Organization and Space-Time Structuring. The analysis of the Human Figure drawing showed better knowledge and organization of the Body Image and a more positive self-image. The study emphasizes the importance of follow-up with the family and the school, focusing on greater autonomy for the child.

In a historical documentary research with an interpretive analysis of playing through several generations in a family environment, Oliveira & Perrone [35] analyzed publications, films, photographs and interviews with family members. The richness of playing was verified over time, at parties and meetings, especially in the old generations. The research revealed the richness of family games, through six generations, and their relevance in the construction of children's social and cultural identity. There was a warning, however, of the risk to their mental health, due to less contact with outdoor games, with the progressive reduction of spaces and times available in the daily lives of families.

Focusing on the contribution of hospital toy libraries as playing support for children and their families points out to the large negative impact that poverty brings to health and the serious consequences with health problems. Oliveira [36] refers to the contribution of the public and private toy libraries in the support of families, providing healthy living spaces, lending toys, promoting educational support to children and professional training courses for parents. The article emphasizes the mind-body dynamic integration and the benefit of play for sick and hospitalized children and their adherence to treatment, since the hospitalization experience, alongside with being sick with any pathology, is a crisis situation for children and their parents. It brings international data on research and experience reports about toy libraries in pediatric healthcare environments and their support for children and their families. There is also a brief description about the Brazilian experience with toy libraries in public and private healthcare environment areas, and its low but continuing growth.

Play as an instrument for redeeming the day-to-day of a hospitalized child

Lopes, Oliveira Junior & Oliveira [37] analyze the daily life and functioning of a toy library in a pediatric hospital in a medium-sized city in the state of Parana, Brazil, in the face of possible power relations existing in the hospital environment in question. According to Foucault and Certeau, everyday life is understood as a space where micro powers are, at the same time, exercised and cheated by the subjects. The research is qualitative in nature and the methodology adopted is the Case Study. Triangulation of techniques and sources was carried out, including field observation, interviews and document analysis. The data reveal that the space and time of the hospital are marked by medical requirements and the existence of the toy library still goes through a tense process in order to be fully accepted and recognized. The toy library has contributed through free playing and other expressive modalities for children to recover activities from their daily lives, exercise their right of expression, choice and coexistence with other children, as well as for parents to experience the period of hospitalization more positively. The realization by health teams of the importance of the toy library for the emotional and physical well-being of children has contributed

to the recognition of the importance of space and time to play for the recovery of health and adherence to treatment, which brings us to the importance of the subjects who act every day to make the day-to-day become more flexible and socialized.

Supporting family of the hospitalized child through ludic

In a research of exploratory descriptive nature, Oliveira [38] investigates the support given to the families of hospitalized children through play in a large city, in public and private institutions. Initially, a survey is performed in health units of both sectors, identifying those with toy libraries. Then, a sample by convenience of the focused institutions is extracted, the ludic activities are analyzed and described, with focus on family support, through observation according to the Cumulative Inventory of Environmental Stimulation, and the toy libraries coordinators are interviewed. General data of the health public area reveal a total of 56 active toy libraries, distributed in different regions, aimed to support children / adolescents and their families, in primary, secondary and tertiary care sectors. In the private sphere, surveying was not possible because of the absence of available updated records. The hospitals selected by convenience, both large, evidenced great appreciation of the value of play and the toy library in supporting the families of hospitalized children.

A study investigated the constructional praxis evolution in a child with neuropsychomotor impairment through a psychomotor intervention with the use of play, through a longitudinal-interventional evaluation. The Wechsler's Scales for Children (WISC) indicates an evolution of the constructive praxis (from three to eight), and in the evocation of praxis the evolution (from four to nine). In the Everyday-Activities Scale, progress is related in personal care and autonomy. In the Mini-Mental graphic evolution, an improvement in the quality of handwriting and the special and syntactic organization of writing is observed. The ludic activities appear as favourable situations to praxic organization, to expression and communication. The data furnished by the school and by the mother confirm the evaluations performed and show a significant increase in social communication, autonomy and self-image, reflecting in the quality of life for the child [39].

Some suggestions for an environment where children can play

Playing supposes an environment in which the child finds conditions of security and confidence that allow her to move freely and take the risk of creating, interacting. Making it her territory, in a way, can be done by having a small box, like a shoe box, where she can keep something of her own, like a small toy, a photo or a drawing, which can mark her part in that space, which will be part of her life, of her memory. Plastic material for drawing, free painting and modeling in clay or plastic mass, including finger painting, can be part of the collection of this room, where the works can be periodically exposed. After each drawing or painting,

the child can be asked to name it or tell a story about it. Modeling material in its most varied forms. Regarding toys and games, in their great sensorimotor diversity, symbolic representation and rules, the idea would be to select and limit them to each session, observing the preference of the child(ren), but keeping always dolls or animals like the monkey and the bear, with a body schema similar to the human. In addition, organic material, such as small straw mats, pieces of washable cotton cloths, also help on symbolic play. Keeping a large mirror in the room, where children can, whenever they want, observe themselves, is also very important, for the formation and internment of their body schema. Outdoor games whenever possible provide children a sense of well-being, freedom and joy, as well as the possibility of using water in paintings or in symbolic play.

These are just small suggestions, with the main focus on undirected play, since the professionals who will work in the space that must organize it.

Conclusion

Addressing such a complex topic as the contribution of ludic psychology to children with disabilities implies dealing with its practical implications, with its great challenge. This article is largely based on the personal experience of the author, a clinical psychologist, who had the opportunity to follow the evolution of children with psychomotor problems, and to guide their parents and teachers, as well as the constant exchange she maintained with professionals in the field. Based on her experience, she believes in the great vivifying force of Play, which is, due to its open, creative and joyful phylogenetic nature, which attracts children and keeps their attention in what they do, as well as strengthens and speeds up their motor and symbolic development schemes, by even recalling experienced situations and stimulating them in the awareness and happiness of belonging to their space and time.

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