

# Creativity as a Necessity for Human Development

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## Abstract

In this paper, we will consider creativity as a necessary psychological property for the individual's development and survival. This standpoint is definitely in opposition to the empiricist behavioral theory on the one side, and to the innate gestalt theory on the other. As a constructivist, Piaget considered that understanding is a process of invention, or re-construction by invention, and that any knowledge emerging only from the environment's constraints was not true knowledge even if its owner believed so. Within the theory of equilibrations, what interests us here is spontaneous creativity, when the child discovers new means of interacting with the environment in order to reduce his internal conflicts, thus keeping his thoughts harmonious.

## Introduction

Creativity is involved in many domains such as the arts, literature, sciences, and everyday life problem solving. .. What can we consider creative in human development? It can be easily considered as the appearance of a behavior the person did not manifest before. This is generally the result of transforming a previous behavior, by breaking it down, and combining either the parts, or other behaviors to construct new ones. But what if this new behavior is the result of an imitating process? This is a major issue in the debate on learning and development. Actually, creativity is not creation (creating something purely new), and the capacity to imitate implies the capacity to create a mental image of the model on one side, and on the other, to create the internal organization (scheme) sustaining the behavior. We will use Piaget's theory and concepts to explore how the baby, the child and the adolescent are creative (in particular, Piaget, 1962). The progressive developmental issue for human beings is to maintain creativity while entering society and adopting its conventions. The difficulty is to maintain, or construct, an equilibrium between adapting the behavior to more and more complex constraints and projecting on the environment one's own representation to make them real. We will elaborate on this issue particular-

ly with the example of language development at the symbolic stage.

## From reflex to scheme

One of the first creative attitudes involves the transformation of reflexes into schema. Reflexes are the original non-creative sorts of behavior which accompany the newborn's arrival in the world, as they are automatic responses to stimuli, and being automatic, they lack intentionality. Reflexes are, by definition, universal and common to every newborn. However, through the repetition and application of this reflex to the various situations that arise in the newborn's life, the organization of the reflex becomes more flexible and adaptive. It is then transformed into a scheme (at this stage, we are dealing with sensory-motor schemas).

For example, one schema permitting the infant to acquire knowledge develops by means of the sucking reflex. There are two processes involving existing reflexes that can be used as a means to take in information from the environment. The first is called 'assimilation' and it occurs when the environment is changed to fit an existing schema. The sucking reflex's original purpose is to extract milk from the mother's breast. However, the infant, through the process of assimilation, can use this same sucking reflex to acquire information about other objects that can be sucked on, such as the infant's thumb or fist or everyday objects found in its environment. When the schema needs to be changed to fit with the environment, the second process which is called 'accommodation' occurs. For example, if the infant tries to suck on her/his fist, she/he needs to change the shape of her/his mouth to accommodate the larger size of the fist. Hence, in order to accommodate the fist to the infant's mouth, the original reflex must be changed into a schema that facilitates this change. At this stage, creativity occurs only by the adaptation of reflexes and schemas to the variability of the properties of the object appearing in the material and human environment surrounding the baby. The infant is forced to be creative because for her/him, the whole world is new so obviously, almost every new situation requires a new set of answers, which the baby discovers through the assimilation and accommodation of schema. Creativity is what enables adaptation, and at this age, creativity is predominantly deter-

mined by the infant's environment, in which cultural factors play a major role. The development of mental representation and imagery is the most important factor in directing the circular process by which the sensory input to the infant's perception is not recognized as already known and therefore induces the infant's motor responses to coordinate differently. At the end of this stage, the infant can solve problems with insight (rapid mental representations of the solution). This creativity relies on the mental computation of information extracted from exploration of a current situation.

### From symbolic play to language

As with other cultural behavior, pretend play starts with social interaction with adults. At first, play is primarily imitative: the child copies what s/he has seen or heard or done before. However, play is more than transmission: "The child's play activity is not simply a recollection of past experience but a creative reworking that combines impressions and constructs from them new realities addressing the needs of the child" (Vygotsky quoted in Smolucha, 1992, p. 51). Thus, imitating, if not considered as creative from a spectator point of view, is a creative process from the child's point of view. At this stage, creativity works on both sensory-motor and conceptual schemes. Over time and experience, the child becomes more adventurous in his or her object substitution, make believe objects function as something increasingly further from their "real world" functions, usefulness and categories (a match box used as a symbolic car for a race, a dieter for a tack sack to go on a pic-nic, a leaf as a symbolic fish for a meal, dirt for chocolate and so on). As such, play helps the child develop symbolizing capacity, with which will be created the semiotic function. In parallel, a similar kind of process occurs involving verbal and labeling activity: the child overgeneralizes the words (or pseudo words created by onomatopoeia) used to describe what s/he sees and does. Symbolizing will be particularly useful in the further acquisition and construction of language competencies. At this point, creativity processes are at their highest level. Indeed, the child is initially "authorized" to invent his own way of speaking about the world's objects and phenomena, his own way of using the surrounding objects. The child must experiment within a large range of freedom to actualize her/his imagination, and this is the necessary pre-condition for understanding how the material and social environment work. But, with the process of parental and school education, a certain part of the freedom to invent words as she/he wishes has to disappear under the pressure of society (i.e. after a certain age, adults will seriously correct a child calling a cat a "meow". Then the risk is that the child feels deeply that her/his creative behavior no longer has a way of expressing itself. We put forward the hypothesis that this could be one reason why children have difficulty for

speaking, writing and reading. This psychological challenge can only be solved by understanding that the language tool is one that can be used in a very personal and creative way.

To end this paragraphed, we would like to raise a contemporary issue by relating this anecdote: the author of this article thought about replacing the example of a match boxes (used as a car) by one of a cell phone, which is more common in our contemporary world. But do young children imagine new ways of using such technological tools? Wouldn't they just reproduce the canonic utilization by pressing the buttons on the cell phone, and saying "Hello" as they have observed people around them do it? We are now designing an experiment with the objective of comparing how various types of objects can be more or less evocative of personal interpretation of using the object.

### The Formal / Abstract stage

At this stage, creativity actualizes the inherent, latent possibilities of people and environments; it not only broadens what we singly and collectively have done, but also what we can and may do. It allows people to step out of the present moment, reflect on the past and plan future behavior; it connects us to what could be. Through the development of creativity, a person comes to be a flexible, intentional inventor of his or her personal future and a potential contributor to his or her cultural endowment.

### Conclusions

Habits, imitation, language acquisition may seem in opposition to creativity, but they are actually rooted in a psychological possibility to go beyond the present set of competencies. The issue is, for the child, to find equilibrium between repetition, stereotypy, and norm on the one side (which avoids creativity) and uniqueness on the other side. In a pragmatic consideration, these two extremes may lead to various types of neurosis.

Piaget rather mentions "invention" than "creativity", probably because his constructivist standpoint refers to the "scientific invention" reference.

### References

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