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About Synesthesia as a Way of Perception

Abstract: Synesthesia is a complex form of human sensuality. Its most common definition is associated with the concept of “color hearing.” However, today, when synesthesia has become a serious subject of scientific research, many types of this phenomenon have already been identified. Moreover, all researchers note the importance of this ability for a person, in particular, the connection of synesthesia with creative activity, a bright perception of the world. The author presents synesthesia as an object of scientific research. This phenomenon is related to brain activity and sensory features. Synesthesia is considered as an object of research by neuroscientists, people of the art world, and psychiatrists. The topic of synesthesia in childhood is presented separately. How important this is feeling when a child perceives the world that opens up to him as a phenomenon? What it means as a feature of perception for an adult. Can synesthesia be considered another kind of sensory perception of the world? This range of questions is the basis of this article.

Keywords: synesthesia, sensory perception, individual perception, phenomenon, aesthetic phenomenon, sensory cognition.

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О синестезии как способе восприятия

Аннотация: Синестезия – сложная форма человеческой чувственности. Наиболее распространенное его определение связано с концепцией «цветного слуха». Однако сегодня, когда синестезия стала серьезным предметом научных исследований, уже идентифицированы многие типы этого явления. Более того, все исследователи отмечают важность этой способности для человека, в частности, связь синестезии с творческой деятельностью, ярким восприятием мира. Автор представляет синестезию как объект научного исследования. Это явление связано с мозговой активностью и сенсорными функциями. Синестезия рассматривается как объект исследования нейробиологов, деятелей искусства и психиатров. Отдельно представлена тема синестезии в детстве. Насколько важно это чувство, когда ребенок воспринимает открывающийся ему мир как явление. Что значит особенность восприятия взрослого человека. Можно ли считать синестезию ещё одним видом чувственного восприятия мира. Этот круг вопросов и составляет основу данной статьи.

Ключевые слова: синестезия, чувственное восприятие, индивидуальное восприятие, феномен, эстетический феномен, чувственное познание.

Introduction

Synesthesia is a complex form of human sensuality. Its most common definition is associated with the concept of “color hearing”. However, today, when synesthesia has become a serious subject of scientific research, many types of this phenomenon have already been identified. Moreover, all researchers note the importance of this ability for a person, in particular, the connection of synesthesia with creative activity, a bright perception of the world.

Today, this phenomenon of the psyche is under active study and the definition of synesthesia as “color hearing” has become clearly insufficient. Thus, Professor *Laurence Marx* writes that “a better understanding of synesthesia can help us understand how phenomenological experience relates to the underlying neural and neurochemical mechanisms—and, perhaps, thereby shed light on the still unclear relationship between mind and body.” (*Marx, 2019*) For him, the concept of synesthesia as a neurological condition is clearly outdated, rather it is a ‘neurophysiological feature’.

Results

D. Nikolic believes that, in nature, all types of synesthesia are semantic in all cases and for all people. By the term of synesthesia, he means the ability of a person: “A person is born with the ability to create synesthetic connections. In the process of learning or creating new synesthetic connections, the most important factor, I think, is the abstractness of the subject being studied.” (*Nikolic, 2019*) The researcher puts forward the task of studying synesthesia as a phenomenal experience. This ability can be especially useful when people are dealing with abstract concepts.

Russian psychologist, founder of the website of the *Society of Synesthesia*, which seeks to study its role in the development of science and art, *A.V. Sidorov-Dorso* suggests that synesthesia is a direct product of the brain activity itself, a self-sufficient and independent phenomenon (*Sidorov-Dorso, 2013*). For many scientists, synesthesia is an inherited phenomenon (as an ability). The most commonly known type of it is grapheme-color. *B.M. Galeev*, who has devoted numerous works to this phenomenon, believes that synesthesia refers to “complex specific forms of nonverbal thinking that arise in the form of ‘co-representation’, ‘co-feeling’ but not co-sensation.” (*Galeev, 1992*) “Synesthesia can be characterized as a concentrated and simultaneous actualization of the sensory in a wide range of its manifestations: there we are dealing, first, with a ‘doubled’ sensoricity and, secondly, there are emotions also related to the sphere of the sensuous performing as an intermediary this metaphorical ‘doubling’.” (*Galeev, 2018*)

O.P. Dudar considers synesthesia as an aesthetic phenomenon, during which various ways of an individual’s sensory response to the world are involved (*Dudar, 2014*). Its manifestation is a purely individual act, in the cognitive aspect—an atypical act of perception.

Understanding synesthesia in the context of artistic creativity is one of the areas of research. *O.P. Dudar* explains the specifics of the creative path of some well-known artists linking it with a synesthetic predisposition. Synesthetes were *K. Balmont*, *S. Baudelaire*, *I. Goethe*, *V. Kandinsky*, *V. Nabokov*, and others. The researcher suggests that this fact indicates that synesthetes either show themselves most clearly in art, or share their experience more than others.

V. *Kandinsky* was an artist with an extraordinary mindset. He believed that any work of art has synesthetic capabilities. At the same time, synthesis cannot be considered an elementary doubling of the same thought by different types of arts (*Kandinsky, 2001*). Synesthesia, as an aesthetic phenomenon, is associated with aesthetic values, with the artistic thinking of synesthetes.

Now this phenomenon is generally recognized as a normal process of human brain activity, in which the most fantastic connections can be made. Synesthesia is the basis of a person's artistic thinking and gives a full perception of reality. Synesthetes in the art world use this opportunity to create new artistic forms by combining the incompatible, as it may seem at first glance. This experience was known in the 19th century. To this day, the search for new forms has not stopped. Artist synesthete R. *Turner* sets himself the task to combine art and meaning in his works, when the metaphor is revealed simultaneously with the sensory perception of the work. "I am interested in how we fill this world with meaning, how we compose meanings from fragments, reinterpret and modify." (*Turner, 2019*) She uses a multi-sensory approach to art. Synesthetes can bring to the foreground overlooked elements. "Context affects meaning, and associations can be changed by context. Context is the multilevel layers of our social, economic, political, real and sensory environments, the use of new materials, "millions of colours on screens, synthetic dyes, etc." (*Turner, 2019*).

Some field of synesthesia research is related to pedagogy. According to scientists, this ability is inherent in all babies. Infant perception is not yet formed, abstract. The system of feelings is not formed either. At 3–4 months, babies already respond to singing and music. Color differentiation occurs in the 5th month, although the color is not yet a sign of the item. Feelings can be developed. By the 3rd month, there is a differentiation of hearing and visual mental processes. A child not only sees and hears but strives for visual and auditory impressions, likes bright, shiny, and moving objects. The perception of an infant at the age of 1 year is syncretic and vague. In infancy, when the world is still perceived in abstract forms, children often designate objects with color that do not have color: days of the week, numbers, natural phenomena. Teachers, psychologists, and pediatricians see synesthesia as additional opportunities for the upbringing and development of cognitive abilities in a child: attention, memory, associativity, and creative potential in general. During this period, synesthesia is an open system, but it becomes closed with age (sensationsi communication become permanent).

The infant, who is not yet able to determine where the sensation comes from, is characterized by a mixture of feelings. The world will be like a bright color-light environment, where sounds and smells come from, which you can touch and taste. The fact that it is possible to determine vision or hearing, has to be tangible. The paints that first fell into the hands of the baby, interest him initially by themselves, regardless of their purpose. A sound, made by someone or something, affects the way it is: sharp one scares, melodic one calms. Everything in the child's perception is direct and natural. This possibility of direct perception of reality is lost over time, objects and phenomena cease to be abstractions and get their logical installation in the child's brain. However, the brightness and immediacy of perception, which opened the world to the infant as a phenomenal phenomenon, disappears.

In the arsenal of childhood, there are not a small number of tools that help preserve this feeling of interpenetration of feelings. This is, of course, toys, children's books, games, cartoons,

old wives' tales, etc. A child's toy is an amazing creation of the human mind. Material and spiritual in it are so closely connected that the doll was considered a magical object in ancient times. The toy is endowed with numerous properties that can cause various emotions and feelings in the child. Playing it, he experiences them often unconsciously (especially in infancy). This cycle of emotions causes not only the appearance of the toy, its colors, clothing (if it is there), purpose, but also something completely new that the child himself brought to this playing space. This is a story that is created against the background of the first sensations from the toy. The impression of an object is the meaning of this object for him, and the connection of impressions in the infant replaces the connection of objects.

The child hears and feels the fantasy that was born in his mind. This process of inter-sensory connections can be defined as synesthesia. The object that has meaning and characteristics for us can be revealed to the child based on its own reality, i.e., phenomenologically. It can evoke an emotional response with its color, sound, and taste (after all, the baby tastes everything), and we can only guess which of these characteristics gave the game direction. The red ball can turn into the sun in the game, or into a watermelon that you want to taste. The world of images evoked in children's minds by a toy can be very diverse, as well as emotions from these images.

The aesthetic component is very important in the formation of personality, and for a child, the aesthetic component is attractive for its emotionality. Hence the bright, local color of toys in infancy, which causes the first joyful sensations of the world as an unfamiliar environment. The native environment for the baby is associated with the warmth, smell, and taste of the mother's body. And the world around is not yet bright and blurry, but gradually gaining shape, it becomes attractive with these warm, cheerful colors. Perhaps these colors are felt by the child in the womb, it is possible that at the genetic level, he perceives them as positive. Local colors are inherent in folk toys, they are uncomplicated, connected with the native area and can be found in the decoration of the house, clothing. For a child, colour is "a living aesthetic that awakens a number of positive emotions in him. Red is associated with warmth, white—with mother's milk, blue—with the sky, and green—with the greenery of nature." (*Voloshina, 2017*)

Gaining the ability to move independently, the baby gets other ways to know the world and, accordingly, increase emotions. In the toy, in addition to colour, the form and sound are interested, and these new properties in the child relate to something familiar – roundness of form, softness of the material, sound toys – often terse but quite clear. Knowledge by an aesthetic way is the most acceptable for children's consciousness.

Everything in the child's perception works in mutual connection, associatively, and what is included in the child's environment should relate to what is close and clear to him. Then the toy will be interesting. Anything can be interesting to the baby if it somehow affects his feelings. These things gradually begin to interact with each other in his mind.

The real wealth in the world of childhood is the book. It is thanks to her that the world of children's images becomes great and magical. Toys also turn into characters in children's fairy tales very often. It is important to note the connection of traditional toys with Russian fairy tales. In ancient times, folklore and toys performing a common magical function were linked. They also performed a general aesthetic function. According to the researcher of traditional toys G.L. Dain, "...different types of folk art, in this case, toys and folklore, are deeply connected by nature, born from the same womb of folk mythology. They act as a whole here within a single,

folk, spiritual and material culture.” (*Dain, 1981*) Children’s books should always be of high quality, this is the first work of art for a child. If a toy for a child can be any object from the environment, to which it is enough to apply imagination, then this fantastic world is already built in the book. Now books with different textures, so that the baby can not only see the image but also touch it, are published for children. Books made of fabric, where there may also be elements of accessories for clothing in addition to textiles of different types, are common. These educational books are aimed at developing the baby’s sensory system.

Play is important in a child’s life. It is this way of knowing reality that is most close to the baby, and to the teenager, too. The game gives freedom to think, space to imagine, and it involves all the feelings of the child. Of course, these are games in infancy that are associated with a toy. However, there are collective games, and these games are played by children of all ages. How are game and synesthesia interrelated in a child’s life? From infancy to adolescence, folklore games are common among children. The syncretic nature of folklore play makes it possible to influence all aspects of sensory development. This is a game where the individual and social activity of the child are harmoniously combined. They involve all the senses. However, the main thing is that they take place in an imaginary reality, when the child overcomes danger, difficult situations, etc. in the game.

Folklore games are good for their naturalness and simplicity. They are understandable to the child and mainly related to motor activity. In addition, folk games use sayings, rhymes, some repetitive choruses that affect their rhythm very much in tune with the internal rhythms of the child.

They are, in general, little edifying, and they are lived and acted in spontaneous generic principle associated with rituals, conspiracies, etc.

Synesthesia is a little-studied feature of the human brain. The difficulty of working with intuitive senses is that the material used in them is ephemeral. Recent research has made it clear that this is a person’s ability to perceive the world, which is directly related to their personality. An individual can perceive the world only in the way that is peculiar to him alone. So, a lot of factors in his personal life depends on how harmonious and complete this perception. The ability to synesthesia in an infant, perhaps, is not just a mental moment that disappears with age but the possibility of a special knowledge of the world that is lost forever. The phenomenological way of knowing exists mainly as a problem of philosophy, an experience that continues to be investigated. This experience is given to a person from birth, but then it is lost remaining with a few in the form of synesthetic manifestations. These manifestations have long been considered a sign of a mental disorder.

However, modern studies of the phenomenon show that synesthesia cannot be understood as a violation in the psyche, as evidenced by observations of synesthetic manifestations in infants, and the manifestations of this feature in people of art. This is really an atypical act of perception, which indicates such a form of knowledge as aesthetic. To underestimate this possibility in a person, to consider it a mental disorder is to deny intuitive knowledge in general. “In the process of combining different types of cognition and perception, a new level of consciousness, characterized by a special depth of comprehension of the phenomena of the world and artistic objects, is reached.” (*Zaitseva & Pakulin, 2018*)

In particular, this assumption about a new way of knowing is confirmed by examples from the art world, where this idea was used as the basis for a new artistic worldview. Each area of art is associated with a certain form of synesthesia there.

Conclusion

Synesthesia compensates for the incompleteness of our sensuality. This is not only a connection between different feelings, it is a connection between emotions, which are followed by the discovery of an artistic image intuitively. Our impressions become the main meaning. The word “ours” is key here. Synesthetic perception of an art work is exactly our individual perception, which is based on our emotions and associations. This perception allows to make an art work by a personal discovery for us. It adds to our intelligence based on our feelings. In the aesthetic senses, the intellectual and emotional spheres reach the highest harmony and unity. The ability to interpenetrate emotions and intelligence aroused interest in such a form of knowledge as emotional intelligence. Emotional intelligence is associated with artistic thinking, and it performs an integrating function.

The value of individual emotion in the perception of artistic reality is great. It is impossible to imagine the channels, through which its movement is carried out. In this fantastic process, the role of synesthesia as a special attitude is not solved. Also, this phenomenon cannot be reduced only to the ability to superimpose different feelings on each other. Synesthesia is associated with the emotional sphere of human thinking, and here we can talk about the multiplication of emotions, in-depth aesthetic knowledge, which is carried out in the individual space of human sensuality.

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