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## **The parameters of the influence of visual cognition on the process of learning and thinking**

**Abstract**

The author has defined the conceptual foundations, principles, and the substantial structure of the metaphor of sight in the intellectual dimension of philosophical concepts, where the problem of visualization in scientific cognition, thinking and learning is highlighted. We have described the main directions of the analysis of metaphorization in historical and philosophical development considering the essence of visual experience, appealing to visual perception through the prism of visual metaphors. We have also found and systematically grounded a number of important philosophical metaphors, which have a visual nature such as metaphor of sight, metaphor of light, and metaphor of a mirror applying the logical-discursive approach. Their functions that complement the process of philosophical cognition in the transcendent and transcendental aspects are outlined to be as follows: idiomatic, stylistic, and heuristic. Furthermore, we have considered Plato's allegory of the cave in the context of development of the cognitive ability of contemplation, which plays an important role in the process of comprehending the real world by the mental vision. The authors have paid special attention to the concept of theory, which meant the kind of philosopher's activity in antiquity - to watch, that is, to theorize, and, accordingly, to study. Therefore, the authors have proved that visuality having its roots in philosophy and describing philosophical activity is a method of philosophical research and, consequently, is associated with philosophical thinking, the basis of the creative educational process.

**Keywords**

metaphor, cognition, theory, visuality, learning, sight, contemplation, the truth

**1 Formulation of the problem**

Modern studies of visual types of communications have shown the global transformation of mass culture, which moves from printed means of broadcasting information to visual forms. Today, all spheres of life and learning are visualized through cinema, television, and the Internet. The social, economic, and educational parameters of a person's activity are perceived through the prism of perceptually oriented marketing communications. Public relations in politics, education and social life are built based on visual images. A modern society of knowledge is at the same time a society of consumption of images, the technology of their creation forms a visual turn, which replaces

linguistic one. A new set of concepts, which become the basis for the creation of visual images, primarily in education and pedagogy, is formed instead of language, text, and rhetoric as the basis of educational processes and philosophical discourses.

The tool for creating visual images, a visual culture of cognition, learning and thinking are metaphors actively participating in the formation of educational systems of culture and art. Due to their functions, metaphors fill the gaps that arise in knowledge and thinking in the learning process. Using metaphors, pedagogy can get rid of excessive abstraction and direct thoughts into a way formed by imagination and vision. Among the philosophical and educational metaphors that have a visual nature, we can distinguish between the metaphor

of sight, metaphor of blindness, metaphor of light, and metaphor of the mirror. Thus, visual images and metaphors forming the means of expressiveness to ensure the productivity of educational theory and practice play an important role in the process of philosophical knowledge.

## 2 Analysis of recent research and publications

The problem of metaphor is widely highlighted in philosophical discourses. Metaphorical considerations are integral parts of philosophical argumentation. K. Terbein emphasizes in his works that the use of metaphors in philosophy and learning play the role of assimilation. However, in the process of cognition the great metaphors can change the understanding of reality, so they should not be taken literally. D. Cohen states that the use of metaphors can be regarded as the basis for the distinguishing between speculative and experimental philosophies as two different types of knowledge acquisition, namely metaphorical and conditional, which are attributes of philosophical and pedagogical discourses. K. Bigger believes that metaphors can be used as visualization tools in creating concepts and images both in learning and productive thinking.

The works by V. Semenov, A. Fetisgur, V. Gatry, G. Mueller, G. Vlastaas, J. M. Rist, H. Crémer and others are devoted to the issues of the use of metaphorical images in the context of the transcendent and transcendental directions of cognition.

Among the certain works of scientists on the issues of visual culture of thinking and cognition in the context of expanding the video-based understanding of contemporary socio-cultural reality, the works by J. Derrida, M. Danesi, G. Lakoff, M. Johnson, P. Hetly, and others are worth distinguishing. Roles of metaphors in visual culture and learning are considered by V. Rosen, N. Cherepovsky, and K. Bataev. However, the content and semantic loading of the metaphor of sight as the basis of the visual metaphorical series are supposed to be largely unclear. The facts mentioned determine the necessity to systematize philosophical approaches in substantiating the conceptual foundations of the metaphor of sight in thinking, learning and cognition.

## 3 The purpose of the paper

is to substantiate the epistemological principles of the metaphor of sight in the genesis of historical and philosophical studies and the context of cultural and intellectual practices of sociocultural cognition and learning, considering metaphysical generalizations, being the basis for knowledge and understanding of the world and mankind.

## 4 Main findings

Philosophy has always used metaphors in the long process of its development. Being conceptual, metaphors associated thinking with vision - seeing and sight. In other words, images are created when using the metaphorical language in philosophy and art. According to R. Rorty "these are images, not judgments, and the metaphors, not the statements that determine most of our philosophical beliefs" [1, p. 9].

Philosopher's activity is mostly contemplation, vision of the true essence of things, observation, and, more broadly, the use of the mind's eye or internal vision. It is described not only through the language as the basis of thinking, but it also involves visual images and imagination. The ocular dictionary of philosophy that is centred both on the vision and contemplation forms visual metaphors. In this case, abstract ideas and concepts are expressed through metaphors, which literally mean not abstract things, but those that are related to the sphere of sensory experience.

In the theory of conceptual metaphors this is explained by the fact that any abstract concepts are also transmitted through using metaphors. In the linguistic sense, they express the notion that is non-abstract (e.g., time is expressed by means of metaphors describing space). Metaphors originate from our comprehensible and concrete experience. Thinking as a philosopher's activity is a suspended concept; it is difficult to describe it physically, although it can be described using a visual dictionary that operates on clear and obvious concepts.

The authors of the theory of conceptual metaphors G. Lakoff and M. Johnson, drawing attention to the fact that metaphors form the way of conceptualizing for various phenomena, state: "Our usual conceptual system, according to which we think and act, is fundamentally metaphorical in nature" [2, p. 3]. The authors consider a number of metaphorical systems in language. Metaphors are considered to play a key role in thinking according to the researchers. Empirical concepts conceptualize pure physical reality, while abstract concepts require metaphors. The use of the ocular dictionary can be denied as an instrument of de-abstraction of speculative philosophical thinking, hence, not being a subject to the sensory experience of the process. This is due to the fact that the very visual perception can be attributed to the most abstract senses: objects of contemplation are remote from man and are reproduced in experience mentally, and not directly.

However, the predominantly visual perception passes through the stage of abstraction, and there is only a generalized image left in memory. "The eye is seen as a machine that must first abstract from possible experience before it can be said to see or observe anything", explains B. Sandywell. In

other words, the eye is not a passive recipient (thus theorizing means the only possible way of cultural poiesis) [3, p. 108-109]. Consequently, abstraction in the process of contemplation turns it into a metaphor. The process of visual metaphorization in the history of philosophy can be traced in a number of key philosophical concepts. On the one hand, they include metaphors that appeal to visual perception, sometimes - to the content of visual experience. On the other hand, the perception of philosophical activity through the lens of visual metaphors is traditional. These can include primarily the metaphor of sight, the metaphor of blindness, the metaphor of light, the metaphor of the mirror, and many others.

In the history of philosophy, the metaphor of sight has a dominant influence on the formation of thinking. It is implemented in Plato's allegory of the cave, which is one of the most famous images of ancient philosophy. Plato argues that in the cave, people who are imprisoned since childhood can see shadows of the objects that are carried by people outside the cave on its walls. The cave's prisoners consider these shadows to be real objects. But one of the prisoners is freed, looks around and sees a fire that dazzles him and prevents him from understanding what objects causing the shadows. Overcoming the pain of contemplating the light, the prisoner leaves the cave and looks at sunlight. Turning his eyes to sunshine, he can see only the shadows first, but then he can distinguish people and the rest of the objects. Later on, he gets the possibility to watch the stars and the moon at night, and finally can look at the sun. Only then he can consider it and what it is. After that, the prisoner returns to the cave, but his story about what he saw causes distrust of others [4, p. 514-516]. Therefore, having left the cave, the philosopher must look at the light, and see the light. Retreat from the darkness of ignorance is concentrated in the act of contemplation, where the comprehension of the true world occurs. A sight, vision of the philosopher is a metaphor that expresses the very essence of its activity - he leaves the darkness of ignorance in order to contemplate the light of truth.

Visual perception occupied a special place in philosophical research: sight was recognized as the noblest ability and the most beautiful of all senses. Visual reminiscences with domination of sight are found in the earliest origins of Western philosophical thought. The process of contemplation was already outlined in mythological contexts. Narcissus looks at his reflection; Orpheus looks around; a look at Gorgon Medusa turns into a stone. Ancient mythology gives a special weight to the look. Blinding is one of the symbolic means of the ancient drama. Homer's blindness is attributed to him on the basis of the blindness of the rhapsodes, whose imagination opens the inner,

true, vision of the events. The Hellenistic philosophical thought was aimed at seeing the invisible, the inferior, the divine.

Since the origin of Western philosophy to our time, the problem of perception has been associated with the person's ability to comprehend external experience with the help of internal capabilities. Consequently, visual perception often acts as the most obvious means of comprehension of the world, having been the centre of philosophical research for a long time. The distinction of sight as the most noble sense and capability takes place in ancient philosophy. It is during this period when the history of philosophy of perception begins. The word *aesthesis*, which occurs in the works by Plato and Aristotle to denote both sense and perception, originates in the 5th century BC. Early Greek philosophers neither used the notion of *aesthesis*, nor did it systematically and accidentally, in contrast to the deliberate consideration of this problem by Plato and Aristotle [5]. For the first time visual perception appears for them as an epistemological problem, as it means the main source of our knowledge of the world.

Visual perception occupies a prominent place in the history of philosophy within all the studies of *visuality* - both socially oriented and internally directed. The thesis of sight as the main sense has been proved since the era of antiquity. "For those who can see, sight is primary and dominant from all sorts of perception, at least in the realization of our daily lives. This does not seem to cause significant controversy. More problematic, however, is the narrative that defends dominance, the hegemony of the visual paradigm in cultural history", says D. Levy [6].

The problem of sight in philosophy includes, on the one hand, the identification of sight as the most important among senses, and on the other hand - as the basis for doubt, the basis for revealing inaccuracies, the uncertainty of knowledge about the world, as people are deceived in the cognition of visible things (Heraclitus). Thus, firstly, visual perception is a traditional theme of philosophical studies, and secondly, along with other senses, sight has a special, privileged position.

In the essay *The Nobility of Sight*, which became a classical work on visual themes, G. Jonas shows a significant role of *visualism* that originated in the era of antiquity, exercising influence on the formation of Western philosophy. He refers to Plato, who spoke about the eye of the soul and light of mind. At the very beginning of *Metaphysics* Aristotle relates the desire for knowledge inherent in the nature of people with the pleasures received from perception, mostly from visual one, although none of the ancient philosophers explained which properties of sight had risen it over other senses. Aristotle emphasizes that we "enjoy the sight for itself, in spite of its usefulness. This estimation only

hints at the properties that raise the sight over other senses" [7, p. 507]. G. Jonas suggests considering the features of the sight based on three image characteristics that are as follows: 1) the simultaneity in the presentation of diversity; 2) neutralization of the causality of sensory attachment; 3) distance in spatial and mental senses.

Therefore, vision is a sense of the greatest simultaneity, since it can capture at one time a very broad realm of reality. The superiority of sight along with all other senses explains the ontological views of the Greeks. In particular, the static nature of the object of contemplation creates a specific temporal perception. The present in this context is not identical to the fact that it exists now directly, but is a specific dimension not captured at one point in time, but existing in the context of eternity. "In reality, only the simultaneous view that extends the present of continuous objects admits the difference between change and immutable and, therefore, between becoming and being. All other senses act by fixing changes and cannot make a distinction. Consequently, only the view provides an empirical basis upon which the view can initiate the idea of eternal, which is never changed and always exists now" [7, p. 513]. Therefore, a distinction is made between eternity and temporality, where the present stands for the static fixation of visual meanings that consistently change each other.

The consequence of the static nature of the visual meanings for the ancient Greeks is the impossibility of the scientific explanation of the nature of motion. For example, Zeno's arrow never moves, it is constantly in a static state in flight. Being grasped at every moment of time, it is in a state of rest at this time point. As the object of contemplation, the arrow does not interact directly with the one who looks at it; it does not depend on another object (viewer), which would be in a state of rest comparing with it. It exists in its own, independent, static dimension, divided into an infinite number of moments of time.

Analysing the ancient representations of visuality, M. Jay notes that ancient Greek optics could not solve the problem of motion, as it considered the rays of light as geometric figures guided by the geometric "Optics" of Euclidean. According to it, the eye radiates light, but does it strictly according to the laws of his geometry. Consequently, the temporal aspect of the sight (as opposed to the other senses) shows a number of ontological problems.

The static nature of a visual object is related to the freedom of choice. The latter also causes dynamic neutralization - the second position on the subject of view. "I'm not involved into the object seen. I can, by my own choice, enter into the relationship with it, but it may appear without the fact of its appearance being already involved into

the relationship. No problem of my relationship with it is solved by my vision. Neither I nor the object in the future creates anything that could determine a common situation. It allows my being as I allow its being. In this sense, sight is different from touch and hearing" [7, p. 514].

Thus, there is a certain static nature in the act of contemplation, as opposed to the dynamics of hearing and touch. The subject is involved due to necessity in these acts of perception. Existence being stated in the process of visual perception is distanced from the person who perceives. At the same time, the spectator chooses himself whether to interact with what he sees or not. Therefore, the idea of objectivity arises here - the thing perceived is not under the influence of the person who perceives, and the distinction causes the idea of the theory itself and theoretical truth to grow. Consequently, dynamic neutrality forms the idea of objectivity in philosophy.

The feature of the visual orientation of philosophy is the spatial distance, since sight is the only sense which advantage is not in the proximity, but the distance: the best view does not mean the nearest view. To get the right view, we take the right distance that can vary for different objects and different purposes but that "is always realized as a positive, plays a special role in the phenomenal presence of the object" [7, p. 518]. No other sense, apart from the sight, benefits from distance. We are able to measure the correct distance for the most appropriate contemplation of a particular object. At the same time, the very distance in space generates the idea of infinity in classical philosophy. Sight opens up a certain perspective of objects of contemplation, in which it is impossible to identify the boundaries.

Plato, in addition to the metaphor cave, which associates philosopher's activities with visual contemplation of the light of truth, also interprets the problems of vision in other respects. For example, in *Timaeus*, Plato distinguishes between the creation of a sense of sight, which he associates with human rationality and soul, and other senses that he associates with their material constituents. The truth is embodied in *eidos*, which is a visible form. According to Plato, the human eye is capable of perceiving light as it has similar properties with the source of light (the sun). Here there is an analogy with the intellect, which he calls the eye of the mind, and the supreme form is Goodness. According to M. Jay, "Plato often expresses serious warnings about the reliability of the two eyes in normal perception". "We can see through the eyes, not with them", he insists. "The famous myth of the cave, where the fire replaced the sun as a light source is too dazzling to face it directly, implies his doubts regarding the illusions of sensory perception" [8, p. 45]. Consequently, in this situation, Plato appears to be

doubtful about sensory perception, including sight.

Sight is presented as the noblest sense in Timaeus, where it appears to be the source of the greatest benefit. "Since day and night, the cycles of months and years, the equinox and solstice are visible the eyes opened the number, gave the concept of time and prompted to explore the nature of the universe to us. Something that is called philosophy arose here and, nothing was better, and nothing would be a better gift to the mortal family of the gods. I argue that this is the highest benefit of the eye. Are other less important things worth chanting? We should consider that the reason for God to have created and given us our sight is precisely that we, observing the cycles of the mind in heaven, would benefit the cycle of our thinking, which is similar to those of heaven. Although in contrast to their intransigence, it is subjected to perturbation, and therefore, having understood and mastered the natural correctness of reasoning, we must arrange non-constant cycles within us imitating the flawless cycles of God "[9, 47 b-c].

Describing the role and meaning of sight, Plato speaks of "the eyes of the soul" ("The State", VII, 527d), and "the light of mind" (532a) [10], and also compares the eye and the sun. His sight has an ethical meaning. Aristotle continues this tradition in the work *On the Soul*, where in the first book (980-981) he says: "We value sight / vision above all else ... for all the senses sight gives us knowledge and highlights the difference between things" [11].

Despite this, the most influential viewpoint, the way Aristotle and this viewpoint are inherited in the main philosophical and natural-philosophical schools, is that the sight is privileged, since it is "eidetic": it is grasping essence. Although we can argue that what we perceive is Aristotle's reality is simply a form of randomness inherent in the surface of substance, but in reality it is not the essence of itself, which would be more of Neoplatonic interpretation of Aristotle, like by Avicenna and Roger Bacon" [12].

Sight works in all philosophical contexts. An imagination theme and sight theme are connected. According to Aristotle, "since sight is the most important sense, imagination has received its name (*phantasia*) from the light (*phaos*), because it cannot be seen without light. And due to the fact that the images are kept [in the soul] and are similar to perceptions, living things act in accordance with these representations in many cases: some of them because of lack of mind, - such are animals, others because of the fact that their minds sometimes are darkened by passion or illness, or sleep, - these are people [13, 429a].

Aristotle addresses to sight in *Politics* beginning with the following words: "Since we see that each state is a kind of association, and each association is organized for the benefit of a certain good ... it is

clear that all associations are directed to the good, and most of all these associations are the highest, and cover everything else [political associations are called policies], aimed at higher goodness" [14]. This statement is the basis of Aristotle's arguments of *Politics* as a whole. The subject of research (in this case - political philosophy) is described in the field of objects perceived, that is, in the field of vision. The evidence is a proof here. Therefore, "let's note the interesting relationship between, on the one hand, the underlying ground of the Policy, which is empirical, and, on the other hand, the speculative conclusion following this. A simple act of contemplation is generated in the paragraph that subtly suggests visual, which in turn allows itself to be used by the logic of the truth. The truth seemed to be captured in its own reflection, in a speculative game between the visible, the logical and the speculative: between observation, language and philosophy. For Aristotle, on the other hand, this interaction is not problematic. As a result, it always brings clarity (delon, "it's clear") [15, p. 97].

The ancient dominance of sight meant more than the reduction of other senses to dependent positions; it could also lead to ignoring language in several aspects. Being outside the tradition of Sophism, the language was considered lower than sight as the main path to truth.

## 5 Conclusions

To summarize, we can conclude that the development of metaphysical, scientific and sociocultural principles of philosophical cognition determines the process of formation of visual metaphors actualizing the process of thinking. The theoretical work on revealing the true essence of things is carried out both through a system of concepts and categories, and also involves visual images and imagination. Abstract concepts are transmitted using metaphors of a visual nature. The metaphor of sight as the basis of productive teaching and philosophical activity is singled out within them. Due to its direct relevance, visual perception occupies a priority place in historical, philosophical and scientific studies. Accentuation of the sight as a noble sense originated in ancient philosophy. The most famous example of the use of the metaphor of sight is the allegory of Plato's cave. Aristotle addressed the sight as an instrument of cognition and learning. The temporal aspect of the sight (as opposed to other modes of perception) distinguishes a number of ontological issues. The sight provides a certain perspective of objects of contemplation, where it is impossible to determine the boundaries. The activities of the philosopher are carried out in the context of the metaphor of the sight that is a way of philosophical cognition, learning and mastering the world.

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