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A NEW APPROACH TO THE STRUCTURE OF COGNITION

UN NUEVO ENFOQUE A LA ESTRUCTURA DE LA COGNICIÓN

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ABSTRACT

The objective of this research is to analyze cognition in the activity of speech and language, discussing the concept "cognitive-communicative activity" to understand and clarify said activity. The dialectical relationship between the bearer and the transmitted object, the controller and the expressed object, as well as the signifier and the signified object are highlighted. The cognitive-communicative process is initiated, carried out and recorded through signs, which are considered the unity of substance and ideal. Therefore, the work argues that these signs are fundamental for the grammar of each language and the various sciences, forming the basis of understanding and communication. Three stages were identified in the cognitive-communicative process, aligned with the ascending hierarchy of cognition. Understanding is described as the conclusion and result of this process, constituting a set of elements and a perception of important signs and relationships. Thus, thinking is situated between emotional and cognitive cognition, based on names and visualizing features and relationships between subjects and cases of truth. Thinking is considered an activity that begins and ends with notions, being the conclusion of the understanding process. For this reason, thinking is formed through general notions and is presented as a reasonable step to obtain results when problems arise.

Keywords: Cognition, thinking, cognitive-communicative process, language, understanding

RESUMEN

El objetivo de esta investigación es analizar la cognición en la actividad del habla y del lenguaje, discutiendo el concepto "actividad cognitivo-comunicativa" para comprender y clarificar dicha actividad. Se destaca la relación dialéctica entre el portador y el objeto transmitido, el controlador y el objeto expresado, así como el significante y el objeto significado. El proceso cognitivo-comunicativo se inicia, realiza y registra a través de signos, que son considerados la unidad de sustancia e ideal. Por lo tanto, en el trabajo se argumenta que estos signos son fundamentales para la gramática de cada lengua y de las diversas ciencias, formando la base de la comprensión y la comunicación. Se identificaron tres etapas en el proceso cognitivo-comunicativo, alineadas con la jerarquía ascendente de cognición. La comprensión se describe como la conclusión y resultado de este proceso, constituyendo un conjunto de elementos y una percepción de signos y relaciones importantes. Así, el pensamiento se sitúa entre la cognición emocional y cognitiva, basándose en nombres y visualizando rasgos y relaciones entre sujetos y casos de verdad. Se considera el pensamiento como una actividad que comienza y termina con nociones, siendo la conclusión del proceso de comprensión. Por ello el pensamiento se forma a través de nociones generales y se presenta como un paso razonable para obtener resultados ante problemas surgidos.

Palabras clave: Cognición, pensamiento, proceso cognitivo-comunicativo, lenguaje, comprensión.

INTRODUCTION

Expressions such as "speech activity", "language activity", "thinking activity" and so on are often found in the literature on rhetoric, linguistics, and logic. This diversity of expressions raises the question: can speech and language activities be realized without thinking and vice versa? Obviously not. In our opinion, "cognitive-communicative activity", which includes the mentioned types of activities, is a more loaded term. It is more profitable and appropriate to dwell on its nature. Cognitive-communication activity then includes the movement of cognition from ignorance to knowledge, from incomplete knowledge to complete knowledge, from uncertainty to certainty, and various types of structured communication, etc. Covers. At the same time, cognitive-communication activity is based on the dialectical relationship of the bearer and the carried, the one who controls and the expressed, the signifier and the signified (Dabrowska & Divjak, 2015).

Any idea formed at different stages of the cognitive process remains an "idea in itself" outside the cognitive-communication process. When there is a desire and necessity to turn "thoughts in oneself" into ideas for us, it becomes relevant to include them in the cognitive-communication process. "Thought in itself", which acts as an ideal entity, must find its carriers to enter the cognitive-communication process. For this, he must first choose the appropriate one from his material covering options through language units. In other words, a suitable material cover should be determined for each idea. This is selected from the vocabulary of the relevant language. However, the choice of words is not enough for ideas to materialize or enter the process. Words materialize when they are expressed either graphically or with sound symbols. It is clear from this that the cognitive-communication process has three important aspects: 1) different levels of cognition; 2) language; 3) speech. Therefore, each idea must be expressed through language units and spoken through speech units (Zlatev et al., 2016).

Cognitive-communication process includes the formation, expression, and utterance of the thought (Heller & Brown-Schmidt, 2023). That is, the cognitive-communication process begins with signs, is carried out with signs, and is registered with signs. But what is the sign? Various answers have been given to this question in the process of development of scientific knowledge. Here we do not intend to give a long historical excursus on the nature, status, and functions of signs since we devoted a special place to this problem in other work (Huseynli, 2003). However, it is important to establish that the sign is the unity of the material and the ideal. It is material because, regardless of its nature, the lens exists and affects our consciousness. It is ideal because the material side carries certain information.

Therefore, the object indicated by the sign is material, and the information it carries is ideal. This indicates that the sign has a dual nature, that is, the sign consists of a dialectic unity of the signified, the expresser and the expressed, the bearer and the carried. The predicates shown and expressed by the signs are its object value, and the way in which the object values of the signs are given in the sign is called its meaning. The duality of the sign and its subject text ensures their completeness. It's like when Niels Bohr first used the phenomenon of "duality" in physics. In this regard Ovchinnikov (2000, p. 301) writes: "N. Bohr noted that a new language is needed to describe the processes inside the atom. He was sure that it is possible to fully understand situations only through natural language. N. Bohr wanted to create, in the scientific language, both wave and corpuscular scenes of nuclear events through language. From there come two principles– family -and completion principles to create brought comes out ». In our opinion, the principles put forward by N. Bohr are important for all fields of science. If we apply these principles to signs, we can see that a sign has a dual character: on the one hand, a sign is a partially perceived physical object, on the other hand, it is a real sign. On the other hand, the signified itself has a dual character: on the one hand, it is a certain object from the signee, and on the other hand, it is the sign of the sign.

It makes no sense to talk about signs outside of people. In other words, the signification of signs is determined in relation to the interpreter. Interpreter means the person who interprets the sign. Interpretation (interpretatio) is a Latin word, meaning: 1) to explain, interpret, translate into an understandable language; 2) means to interpret the meaning of works in certain cultural and historical conditions. The interpreter creates a connection between the sign and its object value. Information about the subject value of the sign is transferred to the sign through the interpreter. Interpretant (interio) means interpreted in Latin. In scientific literature, the subject value of a sign is called denotate (Latin denotatus - signified), and the method of giving a sign is called designat (Latin designatum, expressed). So, if the connection between the sign and its object value is created through the interpreter, the connection between the sign and its meaning is realized with the help of the interpreter. In other words, sign-denotate relations are created in the first case, and sign-designate relations in the second case.

Sign, designate, denotate, interpreter and interpretant are the elements that make up the sign situation. A sign acquires its iconicity status based on those components.

For example, certain symbols in mathematics are defined by a certain group of mathematicians (interpreters) and are interpreted by other mathematicians (interpretant) and communicated to others. In other words, a mathematician explains the significations of his signs to someone who does not know mathematics. In this process, the same mathematician can act as both interpreter and interpretant. Another example: the differential sign was brought to science for the first time by Leibnitz, that is, for the interpreter, the denotant of the differential sign is the differential itself, and for the interpretant, the designator of the differential sign is the way it is given.

Signs have three aspects: 1) semantic; 2) syntactic; 3) pragmatic. The relation of the signs to the reality outside the signs (either material or ideal) constitutes the content of the semantic aspect, the relationship of the signs to each other is the syntactic aspect, and how the signs are used in which situations is the content of the pragmatic aspect. In the cognitive-communication process, the semantic aspect ensures the formation of the grammar of the language, and the pragmatic aspect ensures the speech process. Therefore, it is appropriate to approach the cognitive-communication process as a process based on signs, going with signs and recorded with signs. Considering the previously stated, the objective of this research is to analyze cognition in the activity of speech and language, trough "cognitive-communicative activity" concept.

DEVELOPMENT

The cognitive-communication process can be characterized as a three-stage process according to the stages of the ascending hierarchy of cognition. We considered cognition as a three-stage process (feeling, thinking, thinking) and as an inherently individual process. Genetically and functionally, the formation of each individual knowledge begins with the sense organs. One of the most important tasks facing sensory perception is to separate and differentiate, which is carried out through signs. First, the interpreter creates a connection between the sign and its denotation and then explains them to others to establish a connection between the sign and its denotation, that is, the denotation of the sign is also given to the denotation in different ways. In these circumstances, designat acts as imagination. It is known that at the sensory level of cognition, imaginations are formed by the number of sense organs. Imagination is essentially a general-individual form of knowledge formed on the basis of individual cognition. Because in the cognitive-communication process, the feeling given by the sense organs of an individual is formed on the basis of functional dependence on knowledge, on the other hand, it is formed on the basis of the intersection of the ideas of the parties involved in this process and is recorded in signs through their designations.

It is known that the level and influence of the sense organs of different individuals are different, and in this sense, the levels of knowledge recorded through the designation of signs also differ. From this level of cognition, the abilities to perceive are also different, that is, each idea is formed on the basis of separate cognitive abilities. Therefore, there is a functional dependence between imagination and cognitive ability. In other words, the ability to perceive acts as a coefficient of imagination (Jung et al., 2016; Stuart, 2021). As mentioned, the ideas formed at the sensory level of cognition are registered with signs. This process essentially constitutes the semantic aspect of signs. After that, the knowledge formed in the form of imagination is not included in the cognitive-communication process. For this, first of all, on the basis of certain rules, the relation of the signs to each other should be established. Such rules are called syntactic rules or the grammar of the language (Frazier, 2015).

When formulating syntactic rules, it is necessary to pay attention to the following points: if a sign refers only to something, it has an indexical status (for example, the first tree, the second tree, the third tree, etc.); if it indicates a set of objects, it is compatible with signs that limit or interpret the application field of the sign in different ways; if it signifies everything, it is related to all signs. In the first case, the existence of a singular object indicates the existence of another object of this nature, that is, the first implies the second; in the second case it predicates; and the third case is universal implication. According to them, they defined three types of signs: 1) sign-index; 2) sign-image; 3) sign-symbol. In this regard signs and symbols play a more important role in the process of cognition and communication.

On the basis of signs and symbols, the grammar of the language of each nation and the languages of individual sciences are formed. Language signs have a dual character: graphic and sound. Words, phrases, sentences and other structural units of the language are formed through language signs. One of the conditions for the existence of language is that it is marked. The functional relations between the signs of the language may not be analogous to the functional relations between the object values of the signs.

One of the important aspects of linguistic signs is that they involve both presentation and representation. A conclusion follows from this that the idea formed by signs is recorded by signs, expressed by signs and conveyed to

someone else. Linguistic signs, on the one hand, establish ideas, and on the other hand, present them. From this point of view, the opinions of the authors of the logico-linguistic concept Port Royal, A. Arnaud, K. Lancelot and P. Nicol are interesting: "...the idea of things leads to the idea of sound, and the idea of sound leads to the idea of thing", or "the word is the established sign of thought", or "to speak is to express one's ideas with signs", or "...first, they are sounds and letters by nature. Second, they have value, which is the way people use to signal their ideas (Arnaud & Lancelet, 1990; Arnaud & Nicole, 1991). Then, the signs in the language are also presented through sounds. So, the sounds act as the sign of the sign.

If we look at the formation of language signs from a genetic point of view, we will see that words are divided into parts of speech: noun, adjective, number, pronoun, adverb. Of this, based on object-object, object-property and their movement and relations. Starting from antiquity, ideas about objects and their properties have been expressed through certain names. Names were taken as language signs, and the idea was taken inseparable from its form of expression. Ancient thinker Plato's views on the stages of cognition are a clear proof of this. In the first stage, Plato takes names and relates them directly to the object. In the second stage, he does not give the relationship between the names in the form of a sentence composed. In the third stage, he notes the transfer of knowledge in the form of certain images, and finally, in the last stage, he takes self-awareness (Plato, 1994). Plato in his other work too with thought speech equated: "… idea ... and speech ... the same one is something" (Plato, 1993, p. 338).

It can be argued that thought, speech and language are different aspects of the same process. It is possible to disagree because they differ significantly from each other. However, it should be noted that they cannot exist without each other. Even if they exist, they will remain "speech in itself", "language in itself", "thought in itself". If language and speech present thought, speech also presents language. And at the sensory level of perception, the idea included in the cognitive-communication process has an individual-general-transient character, and the speech is not based on terms, but on the basis of simple information about the objects indicated by individual words.

In the formation of signs-symbols, along with the knowledge expressed in signs-indexes and signs-images of the feeling stage of cognition, the results of feeling, observation and experiments also play an important role. If the knowledge formed in the feeling stage of cognition is detected in emotions, imagination and other forms, cognition cannot be satisfied with these forms in the next stage of cognition. At the same time, according to the historical and functional views on the stages of cognition, cognition was considered a two-stage process, it was thought that the results of sensory cognition are directly transferred to rational cognition and thinking is formed on this basis. At the same time, they have accepted the way of understanding and understanding the truth as the way that leads from observing the senses to abstract thinking and from there to practice. It seems that the practical activity of people begins only and only after thinking. It seems that people do not engage in any practical activity in the stage of cognitive activity before feeling and thinking.

We want to point out that this idea is fundamentally wrong. Because, at first, the knowledge that people receive at the sensory level is essentially practical in nature; secondly, observation and theoretical-experimental experiments are the basis of people's knowledge formed before thinking activity. Empirical knowledge itself is essentially practical in nature. Theoretical generalizations begin after that. However, at the same time, any knowledge obtained as a result of thinking activity is tested in practice within a certain time and space. From this point of view, we placed the thinking level between the feeling and thinking level of cognition. We would not be mistaken if we consider this second stage of cognition as a level based on names and formed on this basis. It is known that cognition is a process that develops in the ratio of discontinuity. Therefore, although the general ideas formed in the individual consciousness constitute the source of cognition, they cannot be satisfied with it. If the role of signs-indexes and signs-images in the formation of knowledge is irreplaceable in the feeling stage of cognition, the subsequent stages are based on signs-symbols. Signs-symbols include the former because they are higher order than sign-indexes and sign-images.

Names are first formed as proper names. Then, common names are formed based on generalization of sensory images. If one source of the formation of common names is the information given by sense perception, the other source is the knowledge obtained on the basis of sense watching, observations and experiments. The formation of a name is the first step towards theoretical knowledge, and in this process various types of abstraction are used. This includes abstractions from identity, real structure, gender, and species. A name is a form of thought that visualizes the signs of the objects and events of reality, and their relationships. Naming and naming relationships play an important role in the formation of names. No necessary connection is created between the names formed in the relation of naming and its predicate, in other words, the predicate only points, indicates or marks.

Proper names are formed in the relation of naming. For example, there is no connection between the name "Baku" and the city of Baku. The naming relationship has an important cognitive load and is carried out in the direction of separating the necessary features of a set of objects. In this process, different types of names are formed. This includes not only specific and general, marked and unmarked, important and unimportant, positive and negative, concrete and abstract, etc. It should also be noted that proper and only names are fundamentally different from each other. Thus, names differ from proper names only because they are created in naming relations, because they reflect the characteristics of common names, and because they act as a form of thought from the level of cognition. Proper names do not have these qualities. In addition, the objects indicated by the proper names are included in the class of certain objects, not according to their names, but according to the subject content. For example, the proper name "Combay" is not only the name of a certain person, but also the name of a certain agricultural technique.

Names have the following structure at the thought level of cognition: subject value and meaning, volume and content. This suggests that names are essentially a synthesis of language units and thought forms. In other words, the idea reflected in the names has a cognitive-communication process through language signs. Let us also note here that the relationship between language signs and names is a variate-invariant relationship. In other words, the idea reflected in names can be included in thinking-communication relations through various language signs. Based on this, the relationship between the acoustic image and the name is clear and realizes the acoustic-articulation process.

There are certain fundamental differences between the name and language units, which have a symbolic nature. It is known that language units have object value and meaning as signs. If the object value of language signs is with separate objects and their properties, or individual parties, the object value of names is a set of objects and the relations between them. If the meaning of language signs is the method of giving the subject value of the sign through signs, the meaning of names is the way of giving the necessary, similar features of a set of objects to names through language signs. In other words, the meaning of names is, on the one hand, the formation of the content of names, and on the other hand, the process of including the idea in the names in the process of cognitive communication. For example, the name human is "insan" in Azerbaijani, "man" in English, "chelovek" in Russian, etc. Signs enter the cognitive-communication process. Moreover, while names have volume and content, as well as the relationship between them, linguistic units do not have this status. At the same time, if judgments, mental conclusions and other forms of thought are formed on the basis of relations between names, different language units are formed in the relations between language signs.

In addition to all this, one of the important characteristics of the name is that the name shapes the language, speech and thought activities of people as a whole idea, and also acts as their connector; the idea in the name is realized by being covered with certain language units in a certain cognitive communication process, and the name itself is termed in a certain speech process and stabilizes the speech process due to the choice of certain language signs. In other words, certain statements are formed based on the relations between the names in speech activity. If we look at the development of names from a genetic point of view as a movement from individual-general to universal-general, we will not be mistaken. First, this process begins with the separation of a class of objects from the multitude of objects, and the selection of necessary and important features of the class of objects. It is at this stage that concepts begin to form. Therefore, the thinking stage of cognition based on names is one of the prerequisites for the formation of concepts.

As an example, let's follow the development from the idea of the atom to the concept of the atom. At the end of the 19th century, such an idea began to form that atoms have a complex structure consisting of large or small parts. This includes the results of research on electrolysis, the discovery of the electron, the determination of chemical similarity, etc. can be attributed. The formation of the concept of atom first started from Dalton's atomic theory. According to this theory, atoms are composed of elementary particles, the world consists of a certain number of atoms, these atoms are eternal and unchanging, having their own characteristics. This perception changed after the discovery of the electron, because all atoms have electrons. After that, Thomson created his atomic model. According to this theory, atoms consist of positively charged particles, and electrons are moving inside them. The discovery of radioactive radiation by Antoine Becquerel led to certain changes in Thomson's model. This discovery was based on the discovery of ultraviolet spectra (the discovery of uranium). Becker determined the radioactivity of all uranium compounds. According to the results of Pierre and Curie, the atomic mass of radium is significantly different from the mass of uranium, and its radioactivity is about a million times stronger. E. Rutherford created the planetary model of atoms. This model was based on the idea of electrons revolving around a heavily charged nucleus.

N. Bohr created his own theory based on the Rutherford model about the structure of the atom. According to this theory, atoms are in a certain stationary state, electrons rotate around the nucleus, and they can only rotate in quantum orbits, not in all possible orbits. However, atoms do not release energy in a stationary state. It gives energy only if it exits this state. Electrons only circulate around the nucleus and do not give energy. Energy is obtained when electrons move from one orbit to another, the transition is a jump. Atoms give off energy in the form of photons. Electrons can move not to any orbit, but to orbits governed by quantum laws. This is based on the principle of choosing. Bohr called this the quantum rule. But, in 1923, L. de Broglie hypothesized that elementary particles also have light-like properties.

Thus, elementary particles can also be explained as wave processes. Thus, the wave nature of electrons was determined. So, like light, electrons have both wave and corpuscular nature. Broglie's conclusions were summarized by E. Schrodinger reflected in the equation related to his name (Smyk, 2013). In the equation for wave functions, particles move in external fields. In arbitrary space, this equation is for waves of constant length. In other cases, the wavelength varies from point to point, and here the energy is derived from the sum of the potential and genetic energies. The solution of the Schrödinger equation for hydrogen atoms follows Bohr's quantum rules but is unsuitable for other cases. On the other hand, Heisenberg developed another version of the quantum theory. Based on the principle of observation, he gave the set of all possible amplitudes of transition of quantum systems from one state to another in certain quantities.

Amplitude transitions have also been observed in practice. Here, each quantity system has two values that characterize the initial final state. These quantities were called matrix. Thus, the r-coordinate in rgh-matrix corresponds to, where g and h are different states of the system. All observable quantities can be found in this closed Heisenberg equation. However, his matrix mechanics was not justified compared to Schrödinger's wave mechanics. Later Schrödinger Heisenberg's matrix mechanics discovered complete equivalence and combined them in quantum mechanics. Thus, the concept of atom was formed, reflecting the important and necessary relationships of atoms included in the class of atoms. On the basis of all the concepts about the atom formed from the genetic point of view, a single, whole theory was finally formed.

The movement from the name atom to the concept of atom can be considered as a movement towards the formation of quantum mechanics. Starting from ancient times, ideas about the atom were formed as the name of the atom in Dalton's atomic model, and after Thomson, Rutherford, Bohr, Heisenberg, and Schrodinger defined the important, necessary, recurring features of the atom, the concept of the atom began to be formed. Only after that, the knowledge about the nature of the atomic nucleus, their division and synthesis ensured the enrichment of the content of the atomic concept and the expansion of its scope of application.

All these ideas show that all the teachings, starting from the ideas about the atom to the teaching about the structure of the atom, are different characteristics of the atom, different types, etc. has been about. Therefore, scientific teachings about the atom are fundamentally different from theories about atoms, because the teachings about the atom were about its separate aspects and relationships. Then, scientific teachings are essentially a set of relationships between scientific names. They are a set of names and relationships between them, obtained by using all the means of experiments, observations, etc. In other words, scientific doctrines are scientific paradigms. But scientific theories differ from scientific paradigms in that, first, scientific theories are the product of a synthetic combination of scientific paradigms; secondly, if theories are wholes formed on the basis of concepts and relations between them, paradigms are conceptual schemes formed on the basis of relations between names; thirdly, theories are formed through the replacement of paradigms and the discarding of transient, dynamic ones; fourthly, theories have a generalization function that determines the directions of paradigms and sets them in motion ; fifth, each paradigm is a special case of the relevant theory; sixth, the paradigm is one of the necessary conditions for the formation of theories.

We can evaluate the process from the name of atom to the formation of the concept of atom as a replacement of paradigms, as a movement from the individual general to the universal general, and from there to the specific general. Lefkipps and Democritus created the first paradigms about atoms in individual-universals about indivisible, eternal things, starting from ancient times. At the beginning of the 19th century, the English physicist and chemist John Dalton based Democritus' views on the atom in his paradigm through the name of the universal atom. In 1897, the English physicist John Thomson discovered the electron, determined the relation of the electron's charge to the mass, and created the first model of the atom. At the end of the 19th century, the French physicist A. Becquerel discovered radioactivity, and in 1899-1900, the English physicist E. Rutherford discovered atomic radioactivity (α and β rays of corpuscular particles, β radiation electrons, and α radiation of helium) and the decay of radium and his

ideas about the existence of neutrons put forward. P. And M. Curie discovered polonium and radium, radium gives heat. German physicist Max Planck developed the theory of thermodynamics and laid the foundation of quantum theory. Einstein developed the principle of equivalence of mass and energy, etc. Finally, all these and other teachings determined the individual properties, signs and relations between atoms and led to the separation of the class of objects from the set of elements considered as atoms. The final result is the concept of an atom, which has a general nature. Therefore, one of the prerequisites for the formation of the atomic concept and other concepts is the separation of a class of predicaments from a set of predicaments, the second is the discovery of necessary and important ones based on the signs of the elements of the class of predicaments, and the third is the formation of an appropriate theory based on the relations established between concepts.

Based on the above, let's try to show the main characteristic features of the cognitive-communication process at the thought level of cognition. If sensory images or acoustic images entered the communication process through natural language at the level of cognition, in other words, the cognitive-communication process was carried out on the basis of the unity of the object (acoustic symbols) and the carrier (language signs), then at the thought level of cognition, this process was based on different types of names and natural it was carried out by including other signs and symbols along with the signs of the language. At the thinking level of cognition, the knowledge gathered through names has a cumulative nature. Because in acquiring this kind of knowledge, the results of experiments, observations, and feeling are collected. It is known that this kind of knowledge includes negative results as well as positive knowledge obtained by the indicated methods. This is related to the fact that this kind of knowledge is formed by observing the transitory, non-repeating, unimportant features of the studied items. Therefore, scientific teachings formed on the basis of knowledge at the level of thought are often subject to changes. The transition from scientific teachings to scientific theories is carried out through concepts.

The internal dynamics of the development of science has its own characteristics at each level of research. If research at the thought level have a cumulative nature, researches at the theoretical level have a synthetic nature. If the development of knowledge at the level of thought is evolutionary, then theoretical knowledge formed on the basis of concepts is evolutionary. Each theory leads to changes in the core of the system of knowledge. One of the most urgent issues of the methodology of science is the replacement of scientific teachings. In the first half of the 20th century, theory was accepted as the main structural unit of research, and its replacement was considered dependent on either verification (empirical confirmation) or falsification (empirical refutation). Here, the main methodological problem is to reduce the theoretical level of the research to the empirical level. This ultimately did not prove itself. In the 60s of the 20th century, the American scientist T. Kuhn put forward the concept of scientific paradigms replacing each other. According to this concept, a theory accepted by scientific societies in any field of knowledge remains valid until the basic paradigm of the study is refuted. T. Kun's scheme is as follows: old paradigm → normal stage of development of science → revolution in science → new paradigm.

In this scheme, the relationship between paradigms and theories is not visible. From this point of view, it would be more appropriate if we give the development from paradigms to theories as follows: Paradigm formed on the basis of acoustic images → general paradigms formed on the basis of names → special-scientific paradigms formed on the basis of names → special-scientific theories formed on the basis of concepts → general-scientific theories formed on the basis of concepts → philosophy. Here, the transition from paradigms to theories has a breakthrough character. In other cases, the development is evolutionary. The dynamics of the atomic concept leads us to make the following comments about concepts in general. Understanding is the conclusion, sum, and result of a certain cognitive-communication process, and not a set of elements, but an understanding of the important, necessary, recurring signs and relations of a class of elements. Then, scientific theories are formed on the basis of concepts.

Finally, thinking can be considered as an activity that begins with concepts and is carried out based on concepts and ends with concepts. Thinking is the culmination of the process of understanding, and understanding is an activity carried out through the hierarchy of essences through the faculty of intelligence. From this point of view, thinking is a movement towards the results obtained from the setting of the issue, the problem. They it is usually valued the active, creative nature of thinking activity. This type of activity, on the one hand, is directed towards understanding the real situation, and on the other hand, towards achieving practical results. The results of the thinking process are then formed through common concepts.

CONCLUSIONS

The process of cognition consists of three stages: partial cognition, cognitive cognition, and rational cognition.

In our opinion, these stages of the cognitive process are based on the ability to perceive, think and understand the cognitive subject. Of course, neither these three abilities nor the cognitive stages based on them can be imagined as separate from each other. These are connected to each other by endless transitions. Based on the ability to perceive, forms of partial cognition and different orderly abilities between them, names and relationships between them are formed and decided based on the ability to think. The level of cognitive perception and its forms perform their regular translational and transforming functions in the cognitive process as a whole.

Different from existing viewpoints, we think that the name category is a category that connects understanding and speech as a form of thought and regulates the relations between them. On the one hand, thinking units (thoughts) in relation to ordinary verbal units are included in the process of gender between subjects, on the other hand, they are terminated in the process of speech and become the main element of the system.

As a form of thought that reflects the characteristics of the number of objects or the class of nouns, it has object value and meaning, and content. Then, the relationship between the meaning and the content of the names is regulated by the law of inverse relationship, that is, if the meaning of the names is distorted, their meaning is narrowed and vice versa.

REFERENCES

Arnaud, A., & Lancelet, K. (1990). ***Port-Royal's General and Rational Grammar*** (P. Nicol & N. Yu. Bokadorova, Trads.). Progress Publishing House.

Arnaud, L., & Nicole, P. (1991). ***Logic or the Art of Thinking***. Nauka.

Dabrowska, E., & Divjak, D. (2015). ***Handbook of Cognitive Linguistics***. De Gruyter Mouton.

Frazier, L. (2015). Two Interpretive Systems for Natural Language? ***Journal of Psycholinguistic Research***, ***44***(1), 7-25. https://doi.org/10.1007/s10936-014-9328-0

Heller, D., & Brown-Schmidt, S. (2023). The Multiple Perspectives Theory of Mental States in Communication. ***Cognitive Science***, ***47***(7), e13322. https://doi.org/10.1111/cogs.13322

Huseynli, N. Z. (2003). ***Concept-Categorical Apparatus of Thinking: Epistemological and Methodological Analysis***. Sabah and Diplomat Publishing House.

Jung, R. E., Flores, R. A., & Hunter, D. (2016). A New Measure of Imagination Ability: Anatomical Brain Imaging Correlates. ***Frontiers in Psychology***, ***7***. https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00496

Ovchinnikov, N. F. (2000). Bohr Niels. En ***New Philosophical Encyclopedia*** (Vol. 1, p. 273). Mysl Publishing House.

Plato. (1993). ***Collected Works*** (A. F. Loseva, V. F. Asmus, & A. A. Takho-Godi, Eds.; Vol. 2). Mysl Publishing House.

Plato. (1994). ***Collected Works*** (Vol. 4). Mysl Publishing House.

Smyk, A. F. (2013). ***Louis de Broglie and his role in the development of quantum mechanics*** [Dissertation for the degree of LPK-Mountain of Physical and Mathematical Sciences, Vavilov Institute of the History of Natural Science and Technology of the Russian Academy of Sciences]. https://cheloveknauka.com/lui-de-broyl-i-ego-rol-v-razvitii-kvantovoy-mehaniki

Stuart, M. T. (2021). Towards a dual process epistemology of imagination. ***Synthese***, ***198***(2), 1329-1350. https://doi.org/10.1007/s11229-019-02116-w

Zlatev, J., Sonesson, G., & Konderak, P. (2016). ***Meaning, Mind and Communication: Explorations in Cognitive Semiotics***. Peter Lang.