

Subset and Superset Language Relations as Way of Expression of Linguistic and Philosophical Generalization and Specialization Categories

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Abstract. The article is devoted to a research of a linguistic and philosophical category of generalization and specialization. The generalization category is one of the most important categories of human mind. It is as important as the other categories, like analyzing and synthesizing, classification, extrapolation and analogy. On the one hand, generalization is a philosophical category, because it is one of world designing instruments and a world picture creation in mind of the human. On the other hand, generalization is also a linguistic category, because it is one of instruments of designing a world language picture. The certificate of it are the cross-disciplinary researches using knowledge of different sciences. The ability to draw conclusions is a feature of human minds. It allows a human to unite a logical and figurative approach to perception and understanding of the world. The research has shown that the generalization category realizes the subset and superset relations between language units. These relations assume communication of the general concept with the private concepts included in it. In the pragmatism plan, the generalization category is expressed in existing words having the generalized value. These words designate nonexistent denotations. At the same time, they correspond too many denotations. However, they do not call these denotations directly, but that is what it means. Designating a lot of things, the generalized words have a high coefficient of informational content. But this coefficient significantly decreases in specific conditions of a context. It is necessary to tell that the criterion of informational content is the important criterion of the language development. And we should see that generalization is one of ways of information growth in language. Subset and superset relations make human communications more successful.

Introduction, theory and methods

The key of modern science is holistic understanding of the world. It is connected with the fact that ever-changing world seems to a person as unity of material and ideal beginnings. And in this regard, synergetic approach to a research of a person in the society and everything that is connected with an activity of a person and his activity in society becomes relevant [1-5]. Synergetic approach allows not only to see the universal laws existing in various systems and it gives the chance not only to consider and connect knowledge of others including technical sciences to a research of a person and society, but also to understand society as open dissipative structures and everything that it made. These structures are characterized by both regularity, and accident of development, both entropy, and negentropy [6-13].

One of the essential spheres of human activities is the language. It would seem that language development does not depend on the individuals, but the language in its development depends entirely on society, using it as a way of communication. Therefore, all categories could be realized by the language entirely dependent on the

ability of each person to think and to be guided by means of consciousness in the reality and in the world where human lives. Whether a person wants it or not, language submits to general laws of thinking and is defined by its ways. The most important among these laws are extrapolation, classification, synthesis and analysis and analogy.

One of the social life aspects is the language activity, which is carried out by people using a language means as a communication medium, unprecedented by nature. But the language is much more than a way of communication, language is a way of expressing individual thinking, a way of knowledge and perception of the world and knowledge representation about the world. Language is a very important area of human activity, because "all the thinking, all the culture of a given linguistic community is transmitted through language; the language «structures and the operations are often bizarre because it shows how various human thinking can be » [14].

All this, of course, determined by the anthropocentric vision of the world based on «holistic understanding of the unity of human, society and nature, material and spiritual also the human features as developing and

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functioning biopsychosocial being» [15, p. 14]. Moreover, the anthropocentrism assumes world outlook and world attitude in the borders of which a person not only uses language for the purpose of implementation and exercise of the social functions in society, but also comprehends himself and the world by language means, because «to be a human means to be able to counteract with a language» [16]. The anthropocentrism is the base of world vision and understanding by the person, its representation and expression. All these processes are carried out exclusively through human consciousness and thinking.

The research of language structure cannot be presented without using complex problem-oriented search allowing one to consider knowledge not only linguistics but also other sciences of mankind and society, nature and the world as one.

1 Subset and superset relations as a way of plurality of world ideas

The central provision of the research is the understanding that language, as we consider, represents not real, but imaginable unity. This unity exists exclusively in human thinking, and generally presented as a specific structure, model, consisting of individual elements, linked by various relationships.

In general, «language precedes the person» and is given to a person, but not chosen by him: «Like other codes our code isn't elected by us or anybody else, it is simply for those who inquired it» [17, p. 21]. Language is the result of conflict resolution between requirements of communication and natural inertia of a person [18] and it is the original reality, and the boundaries of the languages. And so it became the boundaries of his world [19]. This means that knowledge of the world has, on the one hand, subjective, and objective nature. This is due to the fact that what is available in the perception and understanding of all people as individual and social vision. Therefore, we speak not about ascertaining, but about interpretation of the world phenomena. This multiplicity of vision and view of the world phenomena allows the scientist to say that the need to interpret anything in the situation when there is no completeness describing the phenomenon leads to infinity of his interpretation [20], and that reality is simulation nature of all contemporary social and cultural phenomena [21].

1.1 Language as way of world interpretation

Language should be understood as some kind of code that is largely logical reasons. These bases are caused by thinking of a person; therefore, language is natural multilevel classification of high reliable degree. Language is an organized system that consists of elements capable of changing. The ability to change, expressed primarily in the self-organization of the language system, generally ensures the integrity and viability of the language and stability in the emergence of dissipative structures. The desire to change language

depends on the desire to change the society, human mind and behavior.

Change has a way of adaptation, which defines human survival. Any changing which takes place in a language is a condition of survival of this language and a way of human adaptation to the environment which is carried out due to development of consciousness and sensibleness by a person of his existence in the world. The origin of language was in itself «natural logical continuation of that adaptation to cogitative activity which was taken by primacies» [22]. In addition, the diversity within the language makes it possible for evolution, because in general, the variety has potential for adaptation [23].

1.2 Generalization as linguistic and philosophical category

Scientists understand how necessary language is. And yet the question of the origin of language and the mechanisms of its development remains controversial. In this case, scientists are interested not so much how a system of codes is formed but how a person acquires or assimilate an ability to use this system of codes. Here we are talking about the formation of the language as a phenomenon of human activity. This issue focused on the reflections not only linguists, but first and foremost philosophers who saw that the language is the basis of human thinking.

So, by means of language philosophy the crucial cogitative categories, such as categories of the generalization and particular, discussion and description of which took place in Plato's philosophy, were proved by philosopher [24]. Plato's eidos is nothing but the result of man's ability to lead some private provision to one overall situation, uniting all private situations [25]. Language, developed in response to changes in human thinking, according to us, along the way from meaningful through distracted to abstract [26], over time not only acquire new units and elements, but also implement possible expression of the vital human categories.

Subset and superset (subordination / superordination, generalization / specialization) relations represent one of types of the universal paradigmatic relations between words. But it is possible only because the subordination and superordination principles of classification is abstraction of the generalization and specialization relations in human nature [27, p. 76].

The idea of generalization expressed by Plato, is a clear expression of the modern living languages, in which words denote the set of similar items. However, this aggregate is separated or disjointed because there is no such object, which would be named after this word. So, for example, in modern Russian such words as *clothes, footwear, furniture, food, drink, housing, second-hand articles, linen, tree, fruit, vegetable, substance, plant, animal, insect, religion, profession, relative* and so on function. And there is a lot of such words. But what these words mean and what denotations they can be carried to?

Let us take a look at an example. Each *tree* has a name - *oak*, *birch*, *aspen*, etc., and all *oaks*, *birches* and *aspens* can be defined as a different type of trees and be attributed to some general characteristics and functions that characterize them generally as a *tree*. Therefore, there is such *tree*, which can be called a *birch*, and there is no such *birch* which couldn't be defined as a *tree*. But not the other way around. Both the *oak* and *baobab* can be called a *tree*. However, it is clear to everyone that the *birch* is not an *oak*, just as the *birch* is not a *baobab*. Therefore, we cannot put an equal sign between a *birch* and a *tree* as we cannot put an equal sign between a *birch* and an *aspen*. It turns out that the *birch*, being a special case, is not a *tree* if we think about it from the absolute positions. Let us compare. In a context: *The birch was ready to fall at any moment* – we understand that the *birch* is a *tree*, but in a context: *The closure of the road was caused by bent tree branches, which were weighed down to the road level by the snowfall* – we are not sure of the fact that a *tree* is a *birch*. Therefore, in a concrete communicative situation we try to call a species of a tree precisely: *The birch leaves have already turned yellow*; or *There is a lot of money comes by selling the sandalwoods tree*. However, in a situation when it is not important to us to know the name of a tree or when we do not know the name of it, we use a general term – *tree*: *We are a generation of settlers, and we will not be able to plant a tree and build a home*. And most often we achieve the communication purpose.

Thus, the human ability is shown in seeing private categories in general categories, and to build private categories to general categories. And Plato wrote about it. Let's try to define how it works in society. When we give the encyclopedic description or word interpretation, we address first of all ability of a human to generalize.

For example, *clothes* are a "set of items (from fabrics, furs, etc.), which covers the body. The set of clothes is understood as its separate realization: shirt, skirt, trousers, t-shirt and so on. All these denotations strongly differ among themselves, performing at the same time one function – to cover the human body. The explanatory dictionary helps us to define for what this or that thing is necessary, that it is what separate functions perform. But to express the main ideas and to understand the main assignments of all of these items, there must be a language media synthesis. It is connected with the fact that generalization helps to refer this or that subject, this or that phenomenon to category of denotations already clear to the native speaker.

In general linguists consider generalization, along with substitution, as one of the main ways of word interpretation. And they lean at the same time on the natural mechanisms of thinking inherent in the person, – ability to analyze and synthesize information, to detail it and to generalize. So, the explanatory dictionary gives us the following interpretation: a *shirt* – "the top men's wear or underwear in the form of a blouse", a *dress* – "clothes, worn over underwear", a *t-shirt* – "a knitted shirt of sports breed as a part of a uniform of football players, cyclists" and so on. When we read a word *clothes*, we understand at once for what this or that thing is necessary. However, a *dress* isn't similar to a *t-shirt* and

to a *shirt*, a *shirt* isn't similar to *trousers* or a *skirt* at all, nevertheless all these things called *clothes* at the same time.

The modern Russian word *clothes* is word from Church Slavonic language and designates set of objects that cover the body. It has developed from a praslavic word **odedja* (in old Slavic language **dj* has passed in жд, in contrast to East Slavic where **dj* has given ж: Russian *одежда*, Ukrainian *одежа*). Praslavic **odedja* < **obdedja* is formed by prefix *ob-* and a suffix *-j-a* from root **ded-* which represents incomplete repetition of a root *dě-(de-d-)* of a verb **děti* > Russian *деть*. Thus, there are clothes that should be wearing. A word *clothes* as, naturally, and all other words in language, has appeared as a result of the so-called social order that is i.e. when it became topical, popular in society. It is possible that it appeared long before all items of clothing began to acquire their individual value. Therefore, you can say that, most likely, it was the original concept and have substantive value.

However gradually types and options of clothes increased, and in society there was a need to distinguish these types of clothes, to distinguish, for example, a *skirt* from *trousers*, a *shirt* from a *dress*. So, there weren't always words as *t-shirts*, *shirts*, *trousers*, just as there weren't always objects is designated by these words. And over the time there will be more and more new types of clothes, but all of them together can be used us one word – *clothes*. Therefore, some words have a subordinate relationship to the word *clothes*, remains open: we cease to use some words and begin to consume others. It is absolutely normal and natural process in language.

And yet, the situation is not as simple as it seems at first glance. By itself, the word *clothes* is uninformative. It is relevant only in those contexts when we need to specify that the person is not naked that he is dressed (cf., for example: *he was in clothes* or *he was without clothes*) or that something belongs to the spherical, mentioning clothes (clothes store). In all other cases the word *clothes* loses its information, because we find ourselves in a situation of having to clarify what kind of clothes we are interested in. And for this purpose we need to know what clothes the person is wearing. As a result, there is a paradox: having the most information with respect to the set of items, word *clothes* loses its contextual conditions.

Such relations in language are called subset and superset relations, which is the relations private and whole. They are basic and realize the basic language relations and categories of thinking along with synonyms and antonyms. People will not be able to communicate fully, having excluded similar words from language. Therefore, the category of generalization is basic category of identification of the denotation (the world phenomenon) for compliance of a subject of his reference to objects of this kind. So, a *shirt* can be with *short* or *long sleeves*, with or without a collar, but all can still be called *shirt*. Nevertheless when we cannot accurately identify it, we identify it to a certain extent-approximately, and more appropriate in this case will be the identification through superset-term: *shirt is a type of clothes*.

2 Generalization as means of restriction of language

What we need in language related terms as a result of generalization, what are the words that do not have a foundation in the form of real denotation? The answer is the same: the existence of supersets is to make communication of people more easy and successful, which makes the language more mobile, adapted to a person's capability of expressing human thoughts.

2.1 Generalization as linguistic and philosophical category

And this is very important because the ability primarily determines the survival of human beings as a species in the world; it defines the ability to negotiate. Without this category, the world continuously would be divided into more and more private phenomena. These private phenomena would differ from each other more and stronger, and it would lead to the fact that at some point language would cease to carry out the direct appointment – to be the means of communication of people. All this would occur because the fractional and detailed description of objects alienates people from each other. And if in the course of communication one of communicators would make a private mistake, another wouldn't understand him. If the number of words in a language kept on increasing, that certainly would lead to the widening of the language. Meanwhile, every language maintains a healthy balance of words in the language, the optimum amount that is relevant for successful communication between people and satisfies the physiological human abilities to memorize information and keep it in memory.

Unfortunately, human memory is a limited resource, and there is no such person who knew and remembered all the words that exist in the Russian language. If you imagine that, instead of a single word *shirt* will exist twenty, thirty and more words in the language (a shirt with long sleeves is one title, with short is another, with a collar is third, collarless is fourth and so on) and this will apply to all the words of the language, it can be seen that such differentiation will lead to rocketing volume language. And this is totally unacceptable to today's average native speaker with his average brain job opportunities and information processing and its memorizing ability. Besides, the antonymy relations would become tougher, and the relations of a synonyms would be lost behind uselessness. It would lead to communicative and cognitive catastrophe.

2.2 Generalization as universal way of communication

The ability of a human to generalize is shown in language and expression of language categories, and it is the means of survival of human as species in the world and in nature. The ability to generalize is the important ability, which is the cornerstone of a person ability to agree. This position suggests that language is a determinant of human survival. If we consider that the language is still the only reliable means of

communication, it is necessary to recognize, that the study of cognitive language features will contribute to the study of society.

It is necessary to draw a conclusion that generalization can't be universal way of thinking because it has only certain degree of universality. Generalization in itself as result of synthesis is caused by borders which are attributed by a person to this or that denotation – the phenomenon or a subject of the world.

The desire to consolidate and simultaneously select private in general is a contradiction, which manages human way of thinking. Here, of course, should refer to the philosophy of Immanuel Kant, who suggested that human thinking is contradictory [28]. Continuing told by Kant, we draw a conclusion that if thinking of the person is carried out through language and by language means, then and language will comprise contradictions. Moreover, language will be as contradictory as contradictory human thinking will be.

3 Results and conclusion

To sum up, languages, certainly, are becoming more and more contradictory because they accumulate logical errors [29]. This phenomenon is connected with the fact that languages that are more concrete are more primitive, and more primitive languages, in turn, are more subordinated to direct logic. Conversely, the more abstract languages, the more they are able to express a variety of categories and human thoughts. However, the more they are chaotic, the more they are unambiguous. Moreover, we should not say that the complexity and versatility of language leads to categorical difficulties in communication. When people need to agree, they can certainly do it because in the language a reverse mechanisms act. These are mechanisms for stabilizing and reducing entropy as a measure of the level of chaos in the language.

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