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Language Ability and Word Functioning

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Abstract

It is proved that every native speaker has an inborn more or less detailed and exact system of formal procedures of perception, generation and interpretation of language units. This system is aimed at new words and statements producing and understanding, all this implying ordinary and natural use of language. In this regard the explanation of how people use language means to explain, how they define correlation between language and the world.

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1. Introduction

There is undeniable and ample evidence that children are born with inherent abilities to perceive the surrounding world and are capable of social interactions. However, it looks as if other higher animals especially those who have a certain social structure are allocated with such abilities. Therefore the question is: due to what we went ahead in comparison with them. The thing is that in the process of evolution the abilities to acquire information by analogy, to know symbolical systems, such as language and mathematics are of paramount importance. Besides, irrespective of our will and consciousness people continuously carry out processes of the analysis and synthesis, comparison, classification and categorization.

Among the researchers of language the idea of innateness of language ability is rather popular. They believe that a human brain deals with sets of various rules, the most universal part of which (applicable to all languages) is, probably, inborn. Other researchers are of another opinion. They, on the contrary, presume that it is doubtful that the

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specific language knowledge in a certain organization is inherited. Our so called «central processor» of thoughts, capable to construct representation of a surrounding world in our consciousness, is able to construct grammar without innate language knowledge. By means of this mental processor we can build mathematical and scientific theories, draw the conclusions about personal characteristics of other people and so on. And, really, experience acquired by a child is so stable and universal that can look like congenital. Some authors think that it is difficult to call any mechanism congenital or acquired. There is an impression that congenital mechanisms form knowledge, and the knowledge corrects congenital mechanisms.

The results, achieved by several generations of psycholinguists and experts in the field of artificial intelligence, testify that normally functioning human mind does not belong to any individual as congenital property, it arises and is supported where there is a steady system of personal communication.

1.1. Development of language ability

Learning and mastering of language is undoubtedly connected with the intellect development, and so it is possible to accept the idea of predisposition to language ability and thus the congenital character of the latter. I think that a child is likely to be born with a brain which has the built-in mental properties and mechanisms providing the development of possibilities of intellectual processing. These processes undoubtedly lead to language acquisition. In this regard it is possible to postulate that a child has an innate basic strategy of learning. We constantly form concepts in our minds in accordance with our requirements and a so called picture of the world.

In due time Plato, Descartes, Leibniz and others believed that the congenital initial knowledge is revealed through discourses in a combination with significant experience. And experience appears to be the means of knowledge activation; it helps not to form new knowledge but to extract already existing knowledge.

According to N. Chomsky, when mastering language there is no need to learn long lists of rules because children are born with the knowledge of super rules (I mean his Universal grammar). Thus instead of learning hundreds of rules children can simply switch some mental knife-switches over. The point is that the brain probably contains the program which allows to get unlimited number of sentences out of limited number of words. Hence the existence of a specialized module is postulated by Chomsky. This module provides an ability to translate language of a thought into chains of words and statements of a natural language.

As a result of these studies, the generativists came to a conclusion that the fact that parents teach their children language is illusive because the main merit of language learning is children's own. It can be demonstrated in practice that children really know what they could not be taught. One of such basic abilities is, for instance the following: native speakers, including children, can understand and produce expressions which they never met in their language experience. But in order to start speaking, children can't simply be engaged in memorizing; they should so to say «jump in a jungle of language and start to generalize, so that subsequently they can produce unlimited number of sentences».

But in N. Chomsky's theory there are certain principles which are impossible to agree with. Thus, he claims that languages are extra human essences with a remarkable ability to evolve and adapt in relation to people. Now his quotation is coming: «additional support for language assimilation is concluded not in a brain of a child and not in brains of parents or teachers, but out of brains, in the language». But languages can't exist outside of the biological world. I believe that languages exist only in consciousness of individuals. Languages disappear when native speakers die out or are unwilling to speak. Undoubtedly, languages evolve but it is impossible to agree that languages can «spontaneously be developed elsewhere except for a human brain» (Chomsky, 1968).

I believe that as soon as the peculiarities of the language are assimilated by a child, further teaching (except for vocabulary assimilation and enlarging) becomes superfluous. A normal mastering of a language is guaranteed to children less than six-year old age and then this ability is little by little disappearing.

It is very important to stress that a complicated organization of cognition (including forming of conceptions spheres) is not a consequence of a teaching process; on the contrary – a possibility of a teaching process is a consequence of complicated organization of cognition. On the other hand, ability to speak about complexity of language using a language, understandable for others, inevitably leads to a conclusion that though the consciousness is an extremely complicated phenomenon, language is simple for consciousness to which it belongs. Bearing all this in mind, we can conclude that knowledge of language means knowledge of how we transfer coded thoughts into

chains of words and vice versa.

According to Vygotsky a child develops his semantics starting from a whole sentence moving on to separate semantic units. Children separate their conjoint thoughts expressed by one sentence into several word meanings. All this means that the semantic aspect of speech is developed from a whole to a part, from a sentence to a word (Vygotsky, 1999).

Meantime, some contemporary researchers support the idea of existence of a special «brain language» (or mentalese) which is supposed to function at a cognitive level. For instance, D. Demmet believes that language learning can be compared with a net thrown by the individual over various objects and phenomena. As a result a brain or rather a mind contains a structured network of knowledge in the form of concepts which are capable of upgrowth and evolution. Eventually under the influence of the accumulated experience networks enlarging and develop. In course of time, separation of specialized knowledge takes place. It is particularly noticeable in scientific and technical languages. And it is typical not only for some individuals but also for all human beings (Dammett, 1978).

One of the founders of analytical philosophy F. Mautner wrote at the beginning of the XXth century that language is based on some material Apriori which implies and involves a special psychobiological structure of a human body. This psychobiological structure is responsible for congenital predisposition of a person to certain ways of perception of reality and kinds of activity (Mauthner, 1982).

Very often language is understood as a responsiveness of a person to external signals and influences, as a means serving for the adaptation to environment and orientation in it. To some extent it appears to be a bridge connecting sensual experience of a person and external reality. It implies that language is unable to describe the outside world adequately, so this «world in itself» appears to be fundamentally incognizable.

The representatives of biocognitive science believe that language at its deepest level is a physiological process. Like all other physical processes language is subject to fail to function and is subject to pathological conditions. The degree of intelligence depends on the quantity of neuronal connections which are, in its turn, in direct dependence on brain training, on education process, on genetic history of a person, on his individual and social development.

Some researchers went further considering that language is a developing object of organic kind. The development of language takes place due to spontaneous and unconscious creativity of people, that's why there is an impression that language, like other organic systems, is capable for development.

These ideas were perceived by the representatives of biolinguists who name the similar mechanism of self-regulation a self-organizing principle, considering it to be a common property of all biological and social systems. The system is regarded as a self-organized if it is ordered and structured, if it is capable of interaction with the environment, can evolve and use feedback mechanisms. The main property of self-organizing systems is the ability to achieve a result with the help of certain information programs.

Considering all this I can state that in fact the majority of modern linguistic theories do not take in account physiological and biological data. To my regret many linguists consider language exclusively as a property of a rational and a social human being. I entirely agree with biocognitive scientists who rightfully believe that there is no knowledge and there is no language somewhere outside a living organism. Functioning of consciousness is directly connected with its substratum – a neural tissue.

Knowledge is subjected to changes – it is constantly getting extended or narrowed due to the ability to acquire new information or erase the old one from the memory. The stimulus of such changes and processes is not a "stream" of information receiving from the outside but certain signals. The signals come from material objects which we notice. They affect our senses. But it is important to underline that signals themselves do not convey any knowledge or information. Being a property of nervous tissue a thought, a concept, a meaning of a word, a notion and the like can't be separated from it (can't be separated from nervous tissue). In the same way color can't be separate from colored objects (for example, a red color from tomato).

Hence we can come to a conclusion that consciousness as well as an individual are doomed to loneliness of cognition. On the contrary, psychologists believe that there can't be a lonely consciousness, for consciousness is dialogic by nature. But we adhere strictly to the fact that consciousness as well as a language exist within the boundaries of material signs, signals and objects.

1.2. Synergetic self-organization at a word level

If biocognitive scientists believe that knowledge can't exist beyond a living organism, the supporters of a synergetic approach to the problems of emergence and development of language have another opinion. They, on the contrary, admit that there is cogitative self-organizing somewhere beyond human consciousness.

Synergy come from Greek συνεργία Synergos — (syn) together (ergos) operating, acting. It is an interaction of two or more factors, characterized by the fact that the mutual total effect of their action far exceeds the effect of their separate action in the form of their simple sum.

The thing is that knowledge and efforts of several persons can be organized in such a way that they mutually amplify. Synergetic mechanisms work in various fields. For example in economics: the profit as a result of the merger of two companies can exceed the sum of profits of these companies before joining. In relation to language it will take the following form. A meaning expressed by a phraseological unit is much deeper than the simple sum of meanings of words composing the phrase. So in linguistics the whole can be more than the sum of the parts.

In this respect some of our linguists postulated lingua cognitive synergetics. The central methodological principle of lingua cognitive synergetic implies that mechanisms of self-organization and self-regulation are the only way of rational explanation of systemic organization of language.

According to a synergetic approach, the internal form of language hidden in subconsciousness is revealed in the text as a resulting projection. The hidden from view internal language functioning manifests itself in signs and signals. The representatives of this approach claim that these signs can accumulate and store meanings. I can't agree with this statement because senses or meanings can't be formed, stored and can't function anywhere beyond consciousness of an individual. Language can function only in regard to a person and his mind. Language is an entity in which reality of different levels of complexity is modeled from the point of view of a certain Ethnic Culture.

In the theoretical aspect the lingua cognitive synergetics is kind of a meta science dealing with complicated problems of linguistic regularities. The supporters of synergetic hypothesis conduct their researches at the intersection of sciences. And it is very good because they have a possibility for a new look at the results of investigations in linguistics, analytical philosophy and psycholinguistics. The researches in this direction were conducted by scientists of more than one generation.

Upon the whole I find these researches interesting except for some statements. For example I find doubtful or rather questionable the statements of some authors concerning functioning of noospheres and other phenomena of this kind. They are treated as endowed with reason self-sufficient mental formations, existing somewhere apart from human consciousness.

In fact L.Vaysgerber's statements about social nature of language are of interest for us in this respect. Of course language embodied in mind is manifested in thinking and speaking. But we also should bear in mind that language can't be represented completely in the mind of one individual; nobody knows the whole language. Language is not associated with one person. If a person or some members of a language community pass away, it won't have a negative impact on the language of the whole community. It is very important to understand a social factor or nature of language as relationship and communication within a group of people. So I entirely agree with the following statement: language relationship within a group of people where a concrete person recedes into the background is meant by social nature of language (Vaysgerber, 2009).

The procedure of knowledge acquisition and cognitive processes in general are in constant interaction with a natural language and lexicon. To answer a question in what form this interaction is performed is possible only hypothetically – probably by means of certain algorithms connected with transformation of language symbols. It is obvious that memory stores both ready for use units, and certain schemes of their creation. We **assume** that the internal lexicon is organized as a flexible and mobile system providing simplicity and easy access to the information in different directions.

In linguistics the opposition of two opinions concerning word functioning in a lexicon is observed. According to the first concept language is presented as "self-sufficient" and "self-organized" system which is a mirror reflection of speech. Supporters of this approach claim that to construct a certain speech context a speaker "inspects" by an internal look the whole language system and makes a necessary choice. Listener, in return, receives this ready for use information and only rechecks it for adequacy and suitability for a certain speech situation. The essence of this

approach is the following: a word stored in long-term memory is represented with a whole system of its meanings (usual, contextual and potential) and their possible combinations ready to be demanded at a speech level. In this respect I believe that there should be some kind of word organization. For instance words can be organized in synonymous and antonymous clusters, in the alphabetic way, by associations and the like.

But the problem is that the great majority of words have more than one meaning. Hence there is another hypothesis of words storing and functioning in mind. There is our approach to the problem and I dare say it is pragmatic and rational. I assume that at a level of a structure of a lexicon the information about words is presented not by a list of meanings but in other, more compact way. If a word beside direct has figurative meanings: metaphors, metonymies, narrowed or extended meanings, idioms there should be a simple access to the whole idea of a word, to its formula. And this formula should be presented in mind. This formula can be equal to a semantic core of a polysemantic word (lexical invariant) (Pesina, Solonchak, 2014).

So in the process of decoding contextual meanings of words a speaker so to say “applies” this semantic core (invariant meaning) to various situations. In his turn a listener uses essentially the same algorithm of a meaning derivation on the basis of a semantic core. The latter is gradually formed by means of repeated use of a meaning in various contexts.

We believe, that functioning of this interpretational mechanism, instead of a mechanic one (implying scanning all the meanings before finding a correct one) reveals creative character of thinking and speaking activities. This approach explains the possibility of storage of extensive volume of the operative information. It can serve as a basis for functioning of a polysemous word in a lexicon, providing its semantic integrity.

The results of our analysis revealed the following. (we analyzed all English polysemous words but I like this particular example). For a word *head* besides its first meaning (*head* (1) – the upper part of a human body that contains the eyes, nose, mouth, ears and brain) there is a semantic core (components of abstract character – something resembling a head: the top, round and/or the most important part of a larger object; the beginning or end of it). Without such a semantic core integrity of a word would not be felt. This invariant abstract essence of a word helps to understand such meanings as head of milk/beer/bridge and some others (there are more than one hundred meanings of this word) (Pesina, Solonchak, 2014).

In a lexical core the program for all (or nearly all) meanings is contained. And, vice versa, in every meaning there is a part, trace of invariant in the form of a semantic component. Our investigations in field of word semantics proved the following. I consider that the process of semantic invariant forming is synergetic. It is synergetic because an invariant or a semantic core is a result of self-organization of secondary meanings of a word in mind. That is the idea.

An invariant is a result of a modification and self-organization of meanings, thus it is a synergetic process. It takes place in accordance with such a property of language, as economy as I mentioned above. The mechanism of self-organization is as universal as heredity. Probably it is connected with functioning of our nervous system and functioning of a body and thus it can be revealed. And at this very point at the end of my presentation the three problems I discussed above have met (Solonchak, Pesina, 2014.).

In accordance with present-day researches in the field of cognitive linguistics and facing the logic and the spirit of scientific problems of the day, this theory continues a tendency of attentive studying of "ordinary" mind of an average person. In this respect semantic invariants, being stereotypes of ordinary thinking, are created as a result of a uniform interpretation of reality.

2. Conclusion

To sum it up I should presume that not any system, invented by a person can be compared with a human being himself regarding of coding and decoding information. Though a lot of languages are incomprehensible for us, probably, there should be a uniform resultant scheme which connects the processes of hearing, articulating and functioning of mind, i.e. with three absolutely different types of competence. On the other hand, language can be understood as a special linguistic and mental program by which we can self-organize. According to this program people can produce meanings which they never used before. And finally I can assume that knowledge of various contextual meanings of words makes inevitable condition of good command of any language.

As a result of tackling the problem of synergetic processes in linguistics we came to a conclusion that the content of any language is formed by people experience. Language accommodates the most important and useful data, obtained in the attempt to investigate and perceive the world. There is nothing more closely connected with the destiny of any people, than language, and there is no closer correlation, than between the people and their language. By means of language a unified world outlook is transmitted to all members of language community.

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