



Available at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/bica](http://www.elsevier.com/locate/bica)



## INVITED ARTICLE

# Back to basics of speech activity



Yuriy I. Kyslenko \*

National Technical University of Ukraine "Kyiv Polytechnic Institute", 37 Prospect Peremohy, Kiev 03056, Ukraine

Received 27 March 2014; accepted 27 March 2014

### KEYWORDS

Individual language system;  
Figural level situation;  
Ontogenetic parallels;  
Basic semantico-syntactic  
structure;  
Axiomatics of the language  
system

### Abstract

The structural level of speech organization is analysed from the perspective of integration of the recent advances in a number of adjoined lines of human speech research, such as linguistics, psychology, neurophysiology, philosophy, cybernetics. The notion of "a situation" for information on the figural level is formally defined, and the procedure of transmitting a certain situation onto the verbal level becomes the object of the syntax research. The result of verbalisation is the basic semantic–syntactic structure, which is clearly defined on the semantic, graphic and formal levels. By extending Haeckel's biogenetic law onto the functional development of human neural organization and using the achievements in the field of ontogeny by Gvozdev A.N., the researcher of children's speech development, a version of the setting stage of language phylogeny is offered that is arranged in the form of speech axiomatics.

© 2014 The Author. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

## Introduction

Notwithstanding the fact that we all use and understand the language fluently, our knowledge of the language structure, its sources, evolution, generation, development and operation remains hard to comprehend and understand and is only published on the level of intuitive statistical analysis of a number of ready-made texts. The reason for the above is now well understood: language is one of the most complicated forms of human intellectual activity and it can only be comprehended with due account of the research results in the numerous adjoined fields of human

speech actualization. This intriguing issue has certainly always agitated research linguists (and not only linguists!), and there is a number of researches on the topic (by (Losev, 1982; Porshnev, 1984); a physicist (Melnikov, 2003) and many others), however, at the moment constructive suggestions on the issue are lacking.

According to Shcherba (1974a, 1974b), the human speech is actualized by the *individual language system (ILS)*, which includes a linguistic processor (LP – as a tribute to the modern preferences of the information technologies) embracing all our knowledge about language organization (on the conscious), but even more so on the subconscious level) as well as our knowledge (KB) accumulated at the current moment via sensory perception of the environment (sight, hearing, feeling, ..., taste) or most often received

\* Tel.: +380 975223522.

E-mail address: [y.i.kislenko@gmail.com](mailto:y.i.kislenko@gmail.com)

via *symbolic forms of organization and presentation of knowledge (language, theatre, dancing, visual arts, etc.)* – (Rechitskiy, 2007).

Speech (S) as a variety of symbolic communication is actualized either in the synthetic mode – “*speaking*”, or in the analytic mode – “*understanding*” the message. The above procedures are of the same difficulty level and they can only become comprehensive if we turn to “*neuropsychophysiology*” (Shcherba, 1974a, 1974b). Human speech is actualized either on the acoustic level (fundamentally), or is transmitted onto the writing level; certainly, writing is a derivative from speaking. So, if S is actualized by our head (or, more precisely, by our neural organization), the answers to all the questions regarding speech – one of the most important forms of symbolic communication – should be sought in the field of analysis of the structural organization and operation of our neural network, taking into account the peculiarities of human psychic activity. Notwithstanding the apparently natural difficulty of the search, the question still remains beyond the capacities of our comprehension; it is actually a philosophical problem: “*Can a thinking substance understand how it thinks?*”.

However, recently the adjoined fields of speech research have been developing greatly – these include neurophysiology of sensory systems, brain neurophysiology, cognitive psychology, psycholinguistics, integrative processes of neural organization, etc. Since the human speech is one way or the other determined by the peculiarities of our neural network organization, our capacity to perceive the variety of the environment through the sensory system and to accumulate this experience throughout the whole lifespan as well as to transmit it into various forms of symbolic (and particularly verbal) reality, it is impossible (and unfair!) to research speech without taking into account the recent achievements in the indicated above fields of research of this complicated human intellectual activity. *Now it is possible to state the goal of the research more constructively: it is to analyse the structural organization of speech, taking into account the recent achievements in human speech research in all adjoined fields: neurophysiology, psychology, philosophy, cybernetics and linguistics* and tracing the stage of ontogeny to offer our own view on the language phylogeny.

The research is centred around the analysis of the correlation “*Reality–Text*”, or, more precisely, “*Reality–Sense–Text*”, with a detailed analysis of the procedure of information perception by the visual analyser (so long as an opinion exists that about 80–90 per cent of knowledge about the environment is received via the visual analyser) and with the following analysis of the procedure of transmitting this information onto the verbal level. The key guidelines of the offered research are the following:

- peculiarities of information perception and processing by a human’s visual tract (Shcherba, 1974a, 1974b; Zeki, 1992; Zvegintsev, 1976),
- definition of an individual situation of the visual environment and the structure of its components,
- peculiarities of transmitting an individual situation onto the verbal level,

- structural organization of an arbitrary message (its basic structure, mono- or polipredicative levels of language organization).

Before starting to research the stated topic, the current status of classical linguistics regarding language structural organization as well as its evaluation by prominent linguists should be analysed. These topics are thoroughly covered by the author in the works (Kyslenko, 1998; Kyslenko, 2010), while herein only a brief analysis of the development of knowledge of the language structural organization is presented.

### The current status of classical linguistics regarding structural organization

The structural level of language organization was first knowledgeably researched in the *Port-Royal Grammar (1966)*, which indicated the main structural peculiarities of language organization and became a model for grammatical science throughout Europe for centuries. Our main interest lies in the technology of processing the language material and the key conclusions.

The object of the research, as we would say nowadays, was to gather the texts, mostly religious by nature; the goal of the research was to assess the structure of language organization. So, the task was rather ambitious, taking into account that syntax had been the least researched branch of linguistics at the time, even though individual sections of the grammatical science (such as phonology, morphology and lexicology) for a number of languages had already been thoroughly observed by experts for thousands of years. It should be noted that the authors (a logician and philosopher A. Arnauld and a grammarian Claude Lancelot), while working with a specific selection of language materials, managed to reach a considerable level of generalisation, documenting the most important peculiarities of the language structural organization:

- the simple complex/compound sentence dichotomy was clearly indicated and documented;
- the complexity and the recursive nature of language organization were noted;
- the notion of a “*word combination*” was introduced, thus allowing to explain the structure of an arbitrary message within the accepted dichotomy, even though the boundary between a word combination and a sentence is not clearly defined even yet; it is a remarkable example of a definition of one indefinite notion via another one, just as indefinite, which can often be found in modern literature. It is important to emphasize that these achievements of the grammatical science regarding the structural level of language organization have been synthesized in the process of *statistical analytical* processing of a certain number (selection) of real texts.

### The evaluation of classical linguistics by prominent experts

What is the current status of the classical linguistics, particularly regarding the structural organization of language? The

Download English Version:

<https://daneshyari.com/en/article/378275>

Download Persian Version:

<https://daneshyari.com/article/378275>

[Daneshyari.com](https://daneshyari.com)