



## **Cognitive Elements And Criteria Of The Progressive Inflectional System In Modern Russian Language In The Process Of Verbal Communication (Cognitive Word-Formation Analysis Of The Word Structure)**

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### **ABSTRACT**

This article is devoted to the selection of elements and criteria of the inflectional system of the Russian language in the process of verbal communication by sound physiological principle. Based on the cognitive elements and criteria of sound quantity of language units, we distinguish the progressive inflected system of verbal communication in Russian. The first semantic criterion, in which we investigate a set of phonetic variations of sounds expressing basic elements of thinking, contributes to the selection of the second criterion – morphonological. The second criterion depends on the phonetic changes occurring with different combinations of sounds in the process of verbal activity, and serves as an indicative basis for the syntactic criterion, which is based on the first two language levels. It is clearly shown when the verbal communication of inflected system of a language is done. All the above mentioned elements and criteria specify each other, forming a coherent cognitive chain of verbal activity, which serves as a basis for the principle of progressive cognitive activity of the inflected system of the Russian language. The semantic criterion formed by main elements expressing the lexical meaning of roots, will be changed by the vowel alteration. The changing of vowel quantity causes the change of consonant quantity in the same syllable and other syllables. These sound changes lead to inflectional categorization recognized by ear as a change of sound quantity in the verbal communication. Recognized as semantic and grammatical markers, the sound quantity changes give the words its grammatical indicators like male and female markers by which the declination of words will be recognized audibly.

### **1. Introduction**

Verbal communication differs from the written contact in that the perception of elements of thought and their semantic and grammatical categories in the inflectional system are done without the use of formal signs of a language. In the process of speech communication, language elements are certainly used, and they are serving as codes of its perception of the world around. At the same time, there are no formal means of a language, since they are not needed elements for audible speech. Now, it is clear why such categories of people as those with disabilities (for example, those with vision problems) or who didn't receive basic education (illiterate) are able to successfully participate in the process of communication without learning the signs of a language system and its formalities. Writing does not always accurately display all of the elements of thought, for example, in some systems of writing, consonants and vowels are fixed separately, however as these sounds are not separated from each other (Buslaev, 1992: p. 199, Humboldt, 1984: 86).

Written representation of speech sounds is not always a complete transmission of speech communication, and requires formal signs to express phonetic elements of cognitive activity. Therefore, it is necessary to identify the elements and criteria, by which you can understand the process of cognitive activity of the inflected system to get acquainted with the mechanisms and the order of the process of speech communication. Speech communication is not formal, it is organized use of the elements and criteria of audible verbal act, with which a person recognizes speech and participates in communication. Without this system of elements and criteria, the speech communication would not be feasible, because it is, in most cases, aimed at making contact between people. In this situation, the formal (written) language system is inactive, and therefore, in our opinion, a completely different system of verbal communication can operate here with the help of elements and criteria, with which the communicative function is carried out.

The selection of sound as a sign for thought and thinking (Fortunatov, 1956. 117), and the connection of certain sounds-the elements that form the key part of the word, with which its semantic meaning is associated; tell us the idea of the existence of a system of cognitive speech activity. In the proposed system, the elements of thought are grouped in a lexical unit to form the lexical meaning of a word and its cognitive categories.

The set of phonetic semantic elements that form an inseparable part of a word or a part of a word remaining after omitting the word - formation means-the root of the Russian language, with which its lexical meaning is associated, is a good reason to study the functioning of the mechanism of the inflected system of the language in speech communication. The separate sound as an element of thought, forming in combination with other sounds perceived by ear as a lexical meaning of a word, determines the existence of a special type of inflected phonetic mechanism by which these sounds are combined. The process of inflectional categorization is not perceived spontaneously, and certainly its understanding is the result of cognitive activity which reflects a person's knowledge of the world fixed in the language lexical categories (Kubryakova 2004: 314). Great attention is paid to the linguistic interpretation which as a rule mediated by linguistic forms, is characterized by the use of linguistic means for understanding the world around (Boldyrev 2011). Therefore, at the present period of development of cognitive linguistics is increasing interest in studying the structure and regularities of the development of the human cognitive system, as well as the processes of its formation (Boldyrev 2013: 5). However, in our opinion, the processes of formation of phonetic elements and criteria of thought in the inflectional order of the language have not yet attracted the attention of the scientific community.

Often, especially in the framework of everyday communication, a person uses not formal means of a language, but verbal expression of thought and sound patterns of words. Categories of people unfamiliar with formal signs of the language, such as illiterate people and some people with disabilities, can successfully communicate and carry out cognitive activities. This phenomenon obliges us to consider non-traditional means of speech activity in which, of course, there are special elements and criteria and practiced special system of cognition, with the help of which these elements and criteria that promote understanding of the audible speech are perceived. To achieve this goal, we will analyze the cognitive elements and criteria of the inflectional system, starting with the minimum audible unit of speech activity – sound.

## 2. Methods

In this work, we used the cognitive method to investigate the physiological bases of selecting elements and criteria of the progressive inflectional system in verbal communication. The purpose and objectives of this article determined the choice of system method to analyze the relationship of cognitive processes with the inflectional system of the language. A structural method was used to gradually reveal the progressive system of the Russian languages. Such research methods as deductive and functional-structural approaches were also used in the work.

## 3. Cognitive elements and criteria of the inflectional system

The process of perception of cognitive elements and criteria should be clearly organized to make the speech communication able to be carried out carefully and gradually. To do this process, we need to start with a minimal cognitive element (in this paper we propose a sound), which connects with other elements and creates a more complex comprehend cognitive linguistic unit – the root with which the lexical meaning of a word is associated. Therefore, when we investigate these elements and criteria, we will start with a minimal phonetic element – sound.

### 3.1. Sound.

The fact that the sound is recognized as a reflection of thought – the selection of sound as the main element of Aristotle's "verbal presentation" with a predominance of phonetic-semantic side of the language over the structural-grammatical (Aristotle 2010) - obliges us to consider it as a minimal phonetic cognitive code of speech communication. It (sound) is a key semantic element of meaning, and the roots of Russian words are formed from this kind of elements. In words like слыть "to have a reputation", слыхать "to hear", слышать "to hear", we can assign a root with two key consonants with which the main lexical, non-grammatical meaning is associated. This meaning is clarified, defined and elaborated by the last consonant sounds: слыхать "to hear", слышать "to hear" (Al-foadi, 2016).

Key consonants сл-, express the general idea of spreading and perception by ear. In such cognate Russian words as дар "gift, present", дань "toll", дам "I will give", дать "to give", sound /д/ can be singled out as the main element of the root with which its key meaning is associated. Each sound in the root morphemes of the Russian language is a designation of thought, and in the case of the above, the root sound /д/ plays the role of the key root composition, which is associated with its key meaning - "giving": дар "gift, present", дань "toll", дам "I will give",

дать "to give". The remaining sounds are cognitive elements that clarify the concept of "giving" expressed by sound /д/ in these words. The same order of arrangement of the cognitive elements of the root, acts in words слыть "to have a reputation", слышать "to hear", слышать "to hear". The first two consonants of the root perform the task of expressing the key meaning of the root, which is specified by its last sound (Al-foadi, 2015). This cognitive order of elements of Russian roots acts even when joining it with other affixal morphemes such as: "передать "to send, transfer", подать "to give, to submit", придать "to give, to impart"; слышать "to hear", недослышать "fail to hear"

### 3.2. A syllable-phoneme

A syllable-phoneme is an entire sound in which the vowel and consonant are in a sound modification. Its (syllable-phoneme) selection is motivated by the fact that the consonant cannot be uttered without a vowel, which activates it. For example, the sound /m/ without a vowel is reproduced through the nose, but when it is "revived" by the vowel, for example, /a/, its pronunciation becomes more natural (/ma/) (Ibn Jinni 2012, Vol.1.p. 23-25). This postulate is proven by the fact that the consonant sound, together with its modifying vowel, is perceived as an inseparable complex, in which the consonant is a fundamental part of the complex. Vowels or short vowels give this complex a different variation (Grande 1972, 70). These variations which occur as a result of alternating vowels, give the syllable-phoneme different sound quantities (ma, me, mi, etc.), and create different frequency vibrations of the same sound.

The frequency of vibrations or the sound wave of a syllable-phoneme by which its cognitive code is recognized by the human brain, is a changeable sound quantity. Its changes are depending on the vowel that modifies the consonant in the syllable-phoneme. "Vowels are fluid and consonants are hard. Consonants can be called the bone and the flesh, and the vowels – the fact that waters, revives hard consonants with blood and breath" (Buslaev 1992, 199). "They – vowels and consonants - it is impossible to separate them from each other, so they are perceived by the human ear in inseparable unity" (Humboldt 1984, 86-87). At quantitative alternation of vowels in the Russian language changes the frequency of sound vibrations of a syllable-phoneme in a speech stream. This process creates the distinctive cognitive code of an element within the same root. For example, слово "word", слова "words". Such phenomenon, we can see in Arabic, for example, sāmaḥa "forgive", samaḥa "allow," salama "to greet" sālama "to make peace".

It is quite obvious, in our opinion that the quantitative change of the vowels of the first syllable, leads to change the frequency of the syllable-phoneme. This variable frequency vibration of the first syllable is a distinctive cognitive code by which words like слушать "to listen", слышать "to hear" are semantically varied. In Arabic, the quantitative change of vowels is shown in writing by formal means-alternating short vowels. In this regard, we agree that "...in order to denote this natural connection in writing, it would be more correct to represent vowels not as separate letters, but only as modifications of consonants, as it is used in a number of Asian alphabets" (Humboldt 1984, 86-87).

This type of quantitative change in the syllable-phoneme causes a micro-flexion as a result of which, the vowel alternates. This alternation changes the frequency of sound vibrations of the consonant, which can be considered as a sound code of cognitive activity in speech communication. The cognitive basis for the selection of the syllable-phoneme as an element of the inflected system is the change in the frequency of vibration of a consonant sound located in the same syllable with the vowel. This process allows human hearing to distinguish semantic differences of the same root. Therefore, in this case, the micro-inflective criterion of the language can be distinguished according to the quantitative changes in the frequency of the syllable-phoneme. As a result of this process, the semantic criterion varies, because it is a set of sound variations of the elements with which the lexical meaning of the root or morpheme is associated. The semantic criterion is subjected to an inflectional change as a result of the micro-flexion of one of the syllable-phonemes. This inflectional change makes the sound cognitive code vary semantically and grammatically, for example, Rus слушать "to listen", слышать "to hear"; моросить "to drizzle – verb", морось "drizzle – noun".

### 3.3. The root audible pattern.

In the process of speech communication, the formal side of a language cannot be an element of the inflectional system because the verbal communication takes place without the use of a written language. Therefore, the selection of the minimum meaningful language unit-the cognitive element of a speech act, depends not on the form of the language unit, but on the elements and criteria of the cognitive process, which are perceived by ear as sound vibrations. The first two elements of inflectional system – sound and syllable-phoneme, with their concomitant criteria – semantic and micro-inflectional, participate in the creation of semantic audible pattern of the root. The meaning of this pattern depends on the frequency of vibration of stable consonant elements, for instance, убирать "remove - the imperfect form of the verb", убрать ""remove - the perfect form of the verb", убери "remove – imperative".

The changeless order of the Russian word consonant elements, which remains after omitting the derivational elements – the Russian root, is represented by a systematic code of lexical meaning of one-root words of the Russian language. The quantitative variation of the set of syllables like убрать "to remove" – убери "remove – imperative", serves as a quantitative change in the frequency of vibration of sound elements, which are perceived by ear as a grammatical-semantic code. The frequency of vibration of the entire syllable-phoneme, changes as a result of changing the vowel modifier. Therefore, the words in Russian language are perceived by ear depending on the frequency of sounds that creates an audible root pattern. For example, when vowel modifiers are arranged

according to syllables in the following order: “у” - 1st consonant-“и” - 2nd consonant - “а” - the end of an infinitive, such as убирать "to remove", уличать "condemn", унижать "to humiliate", and умирать "to die", the frequency of vibration of sounds and syllables is perceived by hearing as certain codes of verbal action, indicating semantic meaning determined by the place of its consonant composition.

The sound pattern of the root which determines the semantics and grammar of each word by ear should be understandable, so the frequencies of cognitive sounds—elements serve as the codes of the general audible pattern. This pattern determines the semantics in accordance with the order of the elements, and the grammar – according to quantitative changes in the frequency of these elements. We do not find any other way to recognize semantics and grammar for illiterate people, as the frequency of vibration of sounds are the only means of perception of the language for this type and other types of people.

There is no doubt that the frequency of sound vibrations is not formally recognized, but by ear, and it implies an exact organization of cognitive elements and criteria. The first element – sound and its semantic criterion - is progressive, because according to the sustainable order of the elements of each root, its lexical meaning is determined. They (the stable elements of the root) are strictly organized frequencies of sounds transmitted by sound waves. Their grammatical variations (categorizations) are perceived by ear as systematic changes in the frequency of sound vibrations serving as codes of perception of grammatical markers.

### 3.4. Inflectional audible pattern.

The selection of root's main pattern, which lexical meaning is associated with the elements, demonstrates that the change in the sound quantity of these elements is determined by grammatical differences (Al-Foadi, 2018). The derivatives of the inflectional audible patterns are usually characterized by systematic, regular changes in the frequency of vibration of each element. It means that the whole sound quantity of all elements of the words created by the same derivational pattern is changeable. The regularity of word categorization, according to the same audible pattern helps a person to determine the standard rules for the vast majority of the derived words. These words are organized by the inflectional typical audible patterns. For example, the types of inflectional audible patterns:

1. Ожигать "to burn" – ожог "burn" , поджигать "to set a fire to" – поджог "arson", и др.
2. подбирать "to select" – подбор "selection", набирать "gain" – набор "set".
3. Умирать "to die" – умер "died", запирать "lock" – запер "locked", and many others.

Thus a person recognizes sound quantities changes of all elements (consonants modified by vowels), which grammatical categorization reflects the grammatical meanings of words of the same word-formation type. In other words, on the basis of changes in the frequency of vibration of the root elements, a person recognizes the semantic and grammatical changes of a word by hearing. This kind of sound quantity changes has a systematic mechanism of categorization, which allows recognizing the audible patterns of a language in the process of speech communication by analogy.

### 4. Conclusion

Inflectional system of modern Russian language demonstrates that it can be selected as various elements and criteria of cognitive activities starting from the minimal linguistic unit – element (sound). The sound is transmitted by sound waves and has different frequency vibrations. When we speak, the set of sounds is perceived as a certain matrix of elements with different frequency vibrations. These elements are small particles of the Russian word, with which its lexical meaning is associated. A certain arrangement of sounds reflects the lexical meaning recognized by hearing as sound waves. Therefore, the recognition process in this case depends on the human hearing. The ear perceives different frequencies of a certain combination of sounds, with which the key meaning of a word is associated. Each combination of sounds of the language, of course, is associated with a certain meaning, so it is important to select a certain order of sounds like: слыть "to have a reputation", слышать "to hear", слушать "to listen"; слово "word", слава "glory" to express the key meaning. These sounds are reflected in the process of speaking by sound waves, which implies the existence of a semantic criterion for recognizing the minimum elements of cognitive activity – sounds.

The possibility of quantitative changes of these sounds in the composition of the syllable as a result of internal flexion caused by vowel modification creates a syllable-phoneme. The syllable-phoneme is characterized by a vowel modification of the consonant sound. The change of vowels creates different sound waves within the same syllable, and causes grammatical and semantic differences, for example: слышать "hear", слушать "listen"; влечь "to attract", влѣк "attracted. This phenomenon, by which the grammatical and semantic meaning is varying, we call micro-flexion.

According to the micro-flexion, the sound waves of the syllable are changed, and a grammatical difference is created. Changing the sound waves helps a person to determine the linguistic differences in speech communication. On the basis of the second element of cognitive activity, it is possible to distinguish micro-inflectional criterion by which the sound quantity of the syllable changes. Therefore, the semantics and grammatical categorization of a whole word is getting varied. The elements of the Russian root like -бp- remain in strict order after removing the word-forming elements. The lexical meaning (semantic criterion) is associated with these elements -бp- “revived”

by vowels. The vowels together with the consonants make up the syllable-phonemes, the sound frequencies of which vary in order to create different phonetic vibrations recognized by a person as cognitive codes. Thus, sustainable order of consonant elements of a root receives its sound quantity as a result of vowel modification. The set of these syllable-phonemes is a whole sound combination. The frequency of phonetic vibrations are recognized by the person as sound waves in a certain language order, which allows us to express linguistic category, such as: убирать "to remove, to clean", уличать "to catch", унижать "to humiliate", умирать "to die". This is the basic root pattern. Inflectional audible pattern is a model by which the sound quantity of the same root is varying for next inflectional pattern changes. For them, there are systematic rules of grammatical categorization. According to laws of categorization, we can establish a rule by which the alternations of vowels are carried out. That allows a person to recognize the order of frequency vibrations changes of each syllable and knows semantic and grammatical categories by analogy.

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#### References

- Buslaev F.I. (1992). *Prepodavanie otechestvennogo yazyka*. Moscow: Prosveshenie.
- Humboldt W. Von (1984). *Izbrannyye trudy po yazykoznaniiyu*. Moscow: Progress.
- Fortunatov F.F. (1956). *Sravnitel'noe yazykovedenie*. Izbrannyye trudy. Moscow: Uchpedgiz.
- Kubryakova E.S. (2004). *Yazyk i znaniye: Na puti polucheniya znaniy o yazyke: Chasti rechi s kognitivnoy tochki zreniya. Rol' yazyka v poznanii mira*. Moscow: Yazyki slavyanskoi kul'tury.
- Boldyrev N.N. (2011). Linguistic cognition and interpretation. *Cognitivnyye isslelovanya yazyka*. Vyp. VIII. Problemy yazykovogo soznyy: materyaly mejlnarolnoi konferentsii 15-17 sentyabrya, (pp.42-44). Boldyrev N.N., Panasenko L.A. (2013). *Kognitivnaya osnova leksicheskikh kategoriy i ih interpretiruyshiy potencial*. *Voprosy kognitivnoi lingvistiki*. 2 pp. 5-12
- Aristoteles (2010). *Poetics. Rhetoric*. Saint-Petersburg: "Azbuka-klassika".
- Al-Foadi R.A. (2016) *Principy fonogrammatiki v prilozhenii k progressivnoi yazykovoii kategorizacii arabskikh i russkikh kornei*. *Filologicheskie nauki. Nauchnye doklady vysshei shkoly*. pp.20-26.
- Al-Foadi R.A. (2015) *Progressivnaya semanticheskaya fonogrammatika: principy arabskoi fonostruktury*. *Filologicheskie nauki. Voprosy teorii i praktiki*. Tambov: Gramota, 5 (47): Vol. 16 pp. 13-23.
- Ibn Jini Abu al'fatih Osman. (2012). *Al'Khasais, taḥqiq Mohamed Ali Al'najar, Al'qahira*, [Translation form Arabic: Ibn Jini, Abu al'fatih Osman. Features. Mohamed Ali Alnajar (ed). Cairo].
- Grande B.M. (1972). *Vvedenie v sravnitel'noe izucheniye semitskikh yazykov*. - Moscow, 1972.
- Al-foadi, R.A. (2018): *Derivation as the Main Way of Adapting New Terms to Arabic*. *Modern Journal of Language Teaching Methods (MJLTM)*. Iran, 2018. Pp. 175–180.