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Methods of Identifying Members of Synonymic Row

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***Abstract*— This article is devoted to identifying the criteria of synonymity of lexical items. The existence of different definitions of synonymy, the selection criteria of items in the synonymic row indicate the insufficient study and incoherence of this phenomenon in linguistics. The study of the semantics of lexical items allows explaining the most accurately and authentically the integration and differentiation of lexical items close in meaning. The description of the meaning structure (sememe) is possible through the description of its seme composition. The methods of seme semasiology (lexicographic, psycholinguistic, contextual) allow revealing various components in the sememe structure. The integration of the results obtained by different methods allows describing synonymic relations the most objectively as well as revealing intra-linguistic similarities and differences.**

Keywords—synonymic row; seme; sememe; lexicographic; psycholinguistic; contextual

I. Introduction

The problems of semantics in linguistics are very significant because their research and the results allow us to understand the essence of different phenomena including synonymy.

The relevance of this research is due to the lack of general consensus on the definition, criteria and algorithm for identifying synonymous relations. It is a well-known fact that there are various opinions on the criteria of words` synonymity. Some scientists (I. V. Arnold, V. D. Chernyak, S. V. Kiseleva, etc.) proceed from the close meaning and the interchangeability of synonyms in the context. Others (Yu. D. Apresyan,V. P. Evgenieva, M. I. Fomina,) consider the words synonymic that are close in their lexical meaning and different in their connotative meaning without taking into account the criterion of interchangeability in the context. We believe that the use of modern integrated research methods of this linguistic phenomenon will clarify a number of issues related to the definition and specification of these criteria.

The goal of this research is to explain theoretically the semantic differentiation and integration of lexical items connected by synonymic relations.

II. Methods

The paper uses the following research methods: analysis, experiment, descriptive method, method of component analysis, method of field modeling, method of semantic interpretation, method of generalization of dictionary definitions, methods of quantitative, lexicographical, contextual, psycholinguistic analysis. Data for the study were 2 lexical items in the Russian language (gorodok, gorodishko) obtained from the Russian Explanatory Dictionaries (V. I. Dahl, D. N. Ushakov, S. I. Ozhegov, A. P. Evgenieva, S. A. Kuznetsov, T. F. Efremova), Russian National Corpus (ruscorpora.ru).

III. Discussion

The theoretical problems of the semantic description of the word meaning are connected with the identification of its entity and structure.

It is well known that the sign (word) is a two-sided entity (expression plane and content plane). It is much more difficult to study the content plane than to study the expression plane. It is impossible to understand the problem of dual language nature and the synonymic nature without paying attention to the content plane. Synonymy is a partial match of the content plane and a mismatch of the expression plane.

The interpretation and understanding of such phenomenon in language as synonymy deal inextricably with the problem of “word meaning” definition and “sense” interpretation, with the problem of “meaning” and “concept” correlation.

The terms “meaning” and “ sense” are closely interrelated because sense is an internal, logical content (of words, speech, phenomenon), the meaning that is comprehended by human brains [1]. In our opinion, the terms “concept” and “meaning” are not identical, they are connected by the partial relationships (the concept is wider than the meaning, the meaning is a part of the concept that calls a word). All this should be taken into account when studying and describing the meaning.

Taking into account the results of our study and other scientists` studies (V. M. Grigoryan [2], Aleksandrova Z. E. [3], Evgenieva A. P. [4], Tsarevskaya I. V., Timashova M. V. [5], Krongauz M. A. [6], Bazarbaeva Z. M., Vdovichenko L. V., Garipova A. A. [7], Grigorieva A. D. [8], Krysin L. P. [9], Aprasyan Yu. D. [10]), we believe that synonyms are sememes of two or more lexical items that denote a specific concept and express the same actual at this moment meaning (sense), coincide in the semantic kernel (archiseme + a certain

set of kernel semes) and their normative collocation which determines their ability to be interchangeable in contexts. Such synonyms form synonymic rows (SR) which are called open.

In turn we believe that the study of synonymic relations in the language at the seme level allows us to identify integral and differential semes in the structure of the sememe. The seme method of meaning description is "the basic concept of seme semasiology describing the meanings of words through the description of their seme composition" [11].

The main types of semes that are significant for our study are, according to Sternin, kernel and peripheral [12].

It is believed that at the level of micro-components the kernel semes include not only the archiseme but also other brightest semes indicating the feature by which lexical items are defined as members of SR. Peripheral semes represent less significant, irregular, probabilistic features of the object that are basic for this object.

The allocation of kernel and peripheral semes in the sememe is very essential when describing the synonymic relations of lexical items. Both kernel and peripheral components of meaning are revealed by different methods (for example, lexicographical, psycholinguistic, contextual) on the basis of seme interpretation and seme analysis of the obtained results. The variety of methods for describing the word meaning leads to different wordings in its interpretation.

The system methods analyze linguistic phenomena within the framework of the language system, that is, within the paradigms established and described by linguists. Analysis of the lexical items` semantics by system methods assumes, first of all, reliance on the dictionaries.

Contextual methods involve the analysis of real contexts of the use of linguistic units and the description of contextually realized meanings by means of semantic components.

Anthropometric methods are language studies based on data obtained from native speakers. They imply an appeal to their linguistic consciousness. These methods include experimental methods and methods of linguistic interviewing [13].

The generalized lexicographical meaning description (data of explanatory and encyclopedic dictionaries) allows revealing systemic semes and thus to form the semantic kernel of SR. The generalized psycholinguistic meaning description (free associative experiment and directed associative experiment) reveals the brightness of connotative semes of the sememe (evaluative, non-evaluative, emotional, unemotional) and identifying semes that indicate specific images of the stimulus word.

The generalized contextual meaning description (literary books and newspapers) reveals a wide normative collocation which is the second criterion of synonymic relations.

The results of the word meaning research obtained by different methods are subject to component analysis and used in building a field model.

The method of component analysis is universal, because it reveals the sememes with the help of a universal inventory of semes, which in turn allows you to establish effectively and objectively intra-linguistic and inter-linguistic similarities and differences between the sememes. Component analysis is "one of the most important tools with which we can penetrate into the internal organization of language as a system, in particular the structural organization of the semantic system of language" [14].

The disadvantage of this method is usually subjective but subjectivism characterizes other linguistic methods based "either directly on the intuition of the speakers, or on the data obtained with their help" [14].

The description of synonymic relations, the identification of intralinguistic similarities and differences of the studied sememes are the most reliable and reasonable when integrating the results obtained by different methods.

IV. Results

The generalized description of sememes *gorodok, gorodishko* according to the lexicography (according to the Explanatory and Encyclopedic Dictionaries). The total number of dictionaries is 10.

Gorodok – small, settlement 0.50, administrative, industrial, cultural, shopping center 0.30 (TBI 2.10).

Functional semes: colloquill.

Evaluation semes 0.29:

Positive evaluation 0.29: cultural, commercial (trade) center of 0.30.

Negative evaluation: –

Gorodishko – small 0.20, provincial 0.20 town 0.30 (the total brightness index (TBI) 0.70)

Functional semes: colloquial, derogatory to a town.

Evaluation semes 0.29:

Positive evaluation: –

Negative evaluation 0.29: backwater.

The generalized description of lexicographical meaning of the above-mentioned sememes allows us to define the systemic, functional and evaluation semes.

The generalized description of sememes *gorodok, gorodishko* according psycholinguistic experiments (according to Free and Directed Associative Experiments). The total number of people is 50.

Gorodok – small urban settlement 0.26, quiet 0.24, where a small number of residents 0.12, a certain environmental condition (clean) 0.10, cozy, a certain structure 0,08, there is a market 0.06, stable, vintage 0.04, beautiful nature, traffic lights, offices, oil, woodsheds, farms, fences, few cars, small businesses, the old Church 0.02. (TBI 1.22)

Functional semes: temporal (typical of 90's) 0.02.

Evaluation semes 0.20:

Positive evaluation 0.20: clean, comfortable, all stable, beautiful nature

Negative evaluation: -

Identifiers 0.10: Vladimir, Rossosh, Anna, Borisoglebsk, Lipetsk 0.02.

Usual collocations 0.10: military 0.08, old 0.02.

Gorodishko - quiet urban settlement 0.16, small size 0.10, where there are private houses, detached houses, cozy, undeveloped, countryside, home to few people 0.04, a certain structure, wooden houses, buses, shops, church, fence, houses with gardens, stability, home to many people, a suburb, far 0.02. (TBI -0.72)

Evaluation semes 0.14:

Positive evaluation 0.08: cozy, stability.

Negative evaluation 0.06: undeveloped.

Usual collocations 0.06: provincial 0.04, sleepy 0.02.

Identifiers 0.12: Usman 0.04, Sergiev Posad, Ivanovo, Liski, Voronezh 0.02.

The generalized description of psycholinguistic meaning of the above-mentioned sememes allows us to define systemic, peripheral, evaluation semes, the usual collocations of these sememes and identifiers.

The generalized description of sememes *gorodok, gorodishko* according the texts (according to literary works and newspapers). The total number of contexts is 100.

Gorodok (100) – a small urban settlement 0.35, which causes positive emotions, where nothing happens 0.05, people disappear, cultural 0.01. (TBI -0.46)

Evaluation semes 0.15:

Positive evaluation 0.02: cultural.

Negative evaluation 0.13: where nothing happens, people disappear. **Emotional semes (0.11):**

Positive emotion (0.11): causes positive emotions.

Negative emotion: –

Usual collocations 0.20: resort 0.09, taiga, garrison, provincial, scientific, miner 0.02, native 0.01.

Gorodishko (70) – small 0.17, urban settlement 0.16, which causes negative emotions 0.14, quiet 0.06, unknown 0.04, developed industry 0.03, home to few people, strange, dusty, boring, no events, with its own geographical location, wooden houses, houses, cozy 0.01 (TBI -0.69)

Evaluation semes 0.14:

Positive evaluation 0.10: quiet, cozy.

Negative evaluation 0.04: dusty, boring, no events.

Emotional semes (0.20):

Positive emotion: –

Negative emotion 0.20: causes negative emotions

Usual collocations 0.12: provincial 0.06, sleepy 0.03, new, military, resort 0.01.

The generalized description of contextual meaning of the above-mentioned sememes allows us to define systemic, peripheral, evaluation, emotional semes, the usual collocations of these sememes.

The integrated description of sememes gorodok, gorodishko in the Russian language

The integrated description of language items involves the integration of results obtained by different methods of describing the meaning (sememe) – lexicographical, psycholinguistic, contextual.

The following algorithm is used for the integrated description of lexical items:

1. Make a list of semantic components of the denotative meaning obtained by different methods with their brightness not less than 0.05.

2. Generalize identical semantic components of denotative meaning, the identical collocations of the normal collocation zone, the identical identifying semes indicating the greatest index of brightness in one of the methods.

3. Specify the greatest index of brightness in connotative meaning (evaluative and emotional semes) in one of the methods.

4. Formulate the integrated denotative meaning providing a clear demarcation of the kernel and peripheral components, the collocation, functional and identifying components.

5. Group SR based on the integrated description of lexical items.

6. Identify the total index of brightness of all their matching semantic components of the denotative meaning and the normal collocation zone for identifying the semantic distance of the studied sememes inside SR.

The results of the integrated description of **the denotative meaning** are presented as follows:

TABLE I. THE INTEGRATED DESCRIPTION OF THE DENOTATIVE MEANING OF SEMEMES GORODOK, GORODISHKO

Semantic component	Gorodok	Gorodishko
administrative	0.30	
urban settlement	**0.50**	**0.30**
industrial	0.30	
cultural	0.30	
trading	0.30	
a certain environmental condition	0.10	
a certain structure	0.08	
small	**0.50**	**0.20**
quiet	**0.24**	**0.16**
it causes negative emotions		0.14
a small number of residents	0.12	
cosy	0.08	
backwater		0.20
Total brightness index of their matching semantic components	***1.24***	***0.66***
Total brightness index of the endemic semantic components	***1.58***	***0.34***

Table I shows that **gorodok** has 11 semantic components and **gorodishko –** 5 semantic components. Such semantic components as *urban settlement, small, quiet* are common to them. Their brightest semantic components are *urban settlement, small* that form the semantic kernel of SR the members of which they are. The total brightness index of their matching semantic components in sememe **gorodok** is 1.24, **gorodishko** is 0.66. The endemic semantic components of sememe **gorodok** are *administrative (0.30), industrial (0.30), cultural (0.30), trading(0.30), a certain environmental condition (0.10), a small number of residents (0,12), a certain structure (0.08), cosy (0.08),* sememe **gorodishko** – *it causes negative emotions (0.14), backwater (0.20).*

The results of the integrated description of **the normative collocation zone** are presented as follows.

TABLE II. THE INTEGRATED DESCRIPTION OF THE NORMATIVE COLLOCATION ZONE OF GORODOK, GORODISHKO

Normative collocations	Gorodok	Gorodishko
native	0.01	
old	0.02	
new		0.01
military	**0.08**	**0.01**
resort	**0.09**	**0.01**
taiga	0.02	
garrison	0.02	
provincial	**0.02**	**0.06**
scientific	0.02	
mining	0.02	
sleepy		0.03
Total index of brightness of their matching collocations	***0.19***	***0.08***
Total index of brightness of the endemic collocations	***0.11***	***0.04***

Table II shows that such matching collocations as *military, resort, provincial* were identified as a result of the integrated description of the normative collocation zone in the structure of these sememes. The total index of brightness of their matching collocations is 0.19 (gorodok) and 0.08 (gorodishko). The endemic collocations of sememe **gorodok** are *native (0.01), old (0.02), taiga (0.02), garrison (0.02), scientific (0.02), mining (0.02),* sememe **gorodishko** – *new (0.01), sleepy (0.03).*

The results of the integrated description of the identifying zone show that these sememes do not have matching identifying components. The endemic identifying components of sememe **gorodok** are *Vladimir, Rossosh, Anna, Borisoglebsk, Lipetsk 0.02,* semema **gorodishko** – *Usman 0.04, Sergiev Posad, Ivanovo, Liski, Voronezh 0.02.*

The results of the integrated descriptions of connotative meaning show that both sememes are non-evaluative (**gorodok** – 0.67, **gorodishko** – 0.89) and unemotional (**gorodok** – 0.84, **gorodishko** – 0.80).

The results of the integrated description of the functional features show that sememes **gorodok, gorodishko** are used in spoken language. The endemic functional component of sememe **gorodok** – temporal component (typical of the 90s), sememe **gorodishko** – pejorative component.

The semantic distance between the members of SR may be defined by summing up the total brightness index of their matching semantic components of denotative meaning and the total brightness index of their matching collocations of the normative collocation zone, that is **gorodok** – 1.43, **gorodishko** – 0.74. It may be shown in the table below:

TABLE III. THE TOTAL BRIGHTNESS INDEX OF THEIR MATCHING SEMANTIC COMPONENTS OF DENOTATIVE MEANING AND NORMATIVE COLLOCATION ZONE

The total brightness index	Gorodok	Gorodishko
Total brightness index of their matching semantic components of denotative meaning	1.24	0.66
Total brightness index of their matching collocations of the normative collocation zone	0.19	0.08
Total brightness index (denotative meaning and normative collocation zone	***1.43***	***0.74***

Thus, a large semantic distance between **gorodok** (1,43) and **gorodishko** (0,74) makes it possible to say that these sememes are approximate synonyms.

IV. CONCLUSION

The use of integrated research methods of the sememe description allows providing a clear demarcation of the kernel and peripheral components, revealing the generalized semantic kernel for inclusion of these lexical items in one SR, differentiating the lexical items at the level of macro components (denotative, connotative and functional), identifying the volume of their normative collocation zone in

SR and their semantic distance that is to prove the typology of synonymic relations on the basis of the received results.

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