

STRUCTURE AND FUNCTIONS OF QUANTIFIER WORDS (IN ENGLISH, RUSSIAN AND JAPANESE)

*Vitaly G. Subich**Kazan Federal University**Nailya G. Mingazova**Kazan Federal University**Raheem Ali Al-foadi**Baghdad University*

Abstract. Quantitative characteristics of the surrounding world's entities are expressed by the specific words – logical quantifiers. In a language, quantifiers are represented by the so-called quantifier words. Representing different degrees of the concentration of quantity, quantifier words in natural languages are positioned in a strict sequence – the quantifying scale. In terms of logic, it starts with nothingness (quantifier of meaningful nothingness), terminating at universality while in terms of language quantifier words, it is represented by the complex scale of quantifying words' intensity. Logically speaking, this scale should start with the quantifier word 'nothing' to move all the way through increasing intensity over to the quantifier word 'all/everything'. The article aims at establishing major functional and structural differences in the languages of different genealogical origins (Germanic, Slavic, and Altaic), basing on the scale of quantifier words' intensity. It is assumed that quantifier words possess asymmetrical structural and functional characteristics in English, Russian, and Japanese as far as the scale is concerned.

Keywords: language quantity, quantifier, quantifier words, scale of intensity, English, Russian, Japanese.

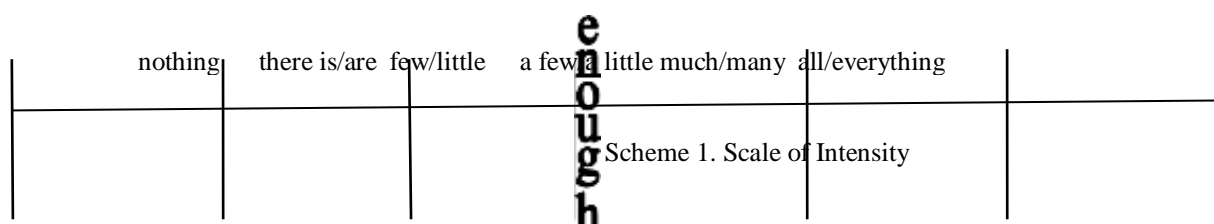
1. Introduction

Ontological category of quantity, being reflected and conceptualized in a natural language, constitutes the gnosiological category of language quantity. Language quantity as the semantic category may be reflected directly, indirectly, implicitly. Scholars of the XIXth-XXth century pointed out the special words which characterize the surrounding reality; these words obtained the name quantifiers. The first investigation of quantifiers in terms of logic and semantics was carried out by Gottlob Frege (1879). He suggested that the quantifiers 'everything' and 'something' are second-level concepts [Frege 1979]. His ideas gave rise to later investigations by A. Mostowski (1957) and P. Lindström (1966). Logical quantifiers have parallels in natural languages, expressed by a far bigger number of units, comparing with logic, e.g. all, everybody, everything, every, each, some, several, few, a few, little, a little, there is, much, many, etc. Cardinal numerals are also a part of language quantifiers [Bol'shaya sovetskaya ehnciklopediya 1973]. The first studies of language quantifiers, as far as semantics were concerned, were undertaken by J. Barwise and R. Cooper (1981), L. Higginbotham and R. May (1981), D. Westerstahl (1985), J. Stavi and E. L. Keenan (1986) and others. The biggest attention in the abovementioned works was given to the connection between semantics and syntax of language quantifiers. The quantifiers were described as determiners and were studied as part of determiner phrases (DP) [encyclopedia]. Semantic groups of quantifiers were studied in the works of D. Gil (1992) who analyzed "scopal quantifiers" and their semantic roles in world languages [Kefer and van der Auwera 1992 ; Fiorino, Víctor Martin, and Amparo Holguín. 2018].

In modern linguistics much research is conducted in the domain of "quantifier words". The relations between quantifiers and quantifier words are described in [Litvin 2005]. Valency of quantifier words and their use in different contexts are analyzed in [Boguslavskij 2005]. Quantifier words and their multi-functional parts are studied by A. Szabolcsi, J. Doh Whang, and V. Zu through formal semantic analysis [Szabolcsi, Doh Whang and Zu 2014]. S. Nishiguchi in his work "Quantifiers in Japanese" argues that the generalized quantifier theory does not directly apply to Japanese quantifiers [Nishiguchi 2007]. The semantic approach is used in [Subich, Mingazova and Shangaraeva 2016]. The given work compares quantifier words in the languages of different structure in terms of their structure and functions. As Bolgarova et al stated, "the ability to compare is organically included into a human consciousness and is embodied in a language" [Bolgarova, Safonova, Zamaliutdinova 2014 ; Nirmala, J. (2017)].

2. Methods

Quantifier words may have different intensity in texts (see scheme 1). In this connection, pointing out some norm or the medium is arbitrary, though, logically speaking, the parameter 'enough' may be considered as such a norm or ordinary state.



Scaling of the intensity of quantifying words may reasonably start with the quantifier of meaningful nothingness, i. e. with a zero quantifying mark. Meaningful nothingness points out the empty (not occupied) segment of the reality.

In English the quantifier of meaningful nothingness is represented by the pronouns **nobody**, **no one**, **none**, **nothing**, based on the negative particle 'no': It shall avail you **none**. **Nobody** understands the implications of the nuclear power plants construction. These markers represent pure nothingness by emphasizing the vacant part of the reality. We can see a contrast between existence, marked by a positive form (e.g. understands) and non-existence, marked by a negative pronoun (e.g. nobody).

In Russian and Japanese the quantifier of meaningful nothingness is realized through a combination of negations. In Japanese it is represented by the postposition particle も *mo* which means totality, completeness, and a prepositional pronoun: 今や人々には理想も何もなく唯一の目的は金でしかない。Imaya hitobito ni wa risō mo **nani mo naku** yuuitsu no mokuteki wa kane de shika nai. The Japanese 何も *nani mo* is similar to the English whatsoever, however, unlike English, it is used with negation. The Russian language demonstrates double negation, including the negative particle: **Nigde** v mire nel'zya meshat' drugim lyudyam zhit'!

The quantifier of meaningful nothingness is followed by the quantifier of existence (Engl. **there is/there are**, Jap. ある/いる, Russ. **imeetsya**), which implies the opposition presence-absence, showing the quantitative definiteness of an object or phenomenon. English quantifier words **there is/are** and their forms are ubiquitous and may be encountered in informal or formal contexts: **There was** mockery in his manner of speaking. Words such as **exist**, **existence** also indicate the notion: The **existence** of dark matter is a fact. Japanese quantifier words ある/いる (depending on whether the object is animate or inanimate) are verbs, hence, postpositional: 人生は老いてからが味がある。Jinsei wa oite kara ga aji **ga aru**. In the Russian language quantifier words **sushchestvuet/est'** correlate with each other, with the word **est'** being more neutral: **Sushchestvuet/est'** mnenie, chto on ne projdet v poslednij tur.

The third position on the scale of intensity is taken by the quantifier **little/few**. In English **little** is used with uncountable nouns and abstract phenomena while **few** – with countables: The drink had so **little** spirits that there was no kick at all – Harold was lonely; he had very **few** friends.

In Japanese the adjective すくない *sukunai* is used at the end of the sentence: この作家について知られていることは少ない。Kono sakka ni tsuite shirarete iru koto wa **sukunai**. Also we can see a frequent use of adverb わずか *wazuka*: 一日中着物を着ている人はこのごろはわずかしきません。Ichinichi jū kimono wo kite iru hito wa konogoro wa **wazuka** shika imasen. Both ways, in fact, create negative sentences.

Russian indefinite numeral **malo** is used with both countable and uncountable nouns: V stat'e ochen' **malo** dejstvitel'no poleznoj informacii Na stole **malo** priborov, neobhodimo vystavit' eshche.

The semantic area of the quantifier **a few/a little** borders the enough mark, representing adequate quantity.

Quantifying words **several**, **a little**, **a few** in English are used either with countable or uncountable nouns: Do you have **a little** time? You'll have to take **a few** pains if you want to accomplish something. There are **several** mistakes in your assignment so you have to do it over. Quantifying word **some** is used with both: The library has got **some** new computers. He possesses **some** information which we need to draw out of him. Some set expressions are used in the same meaning: He's **a bit** crazy. We still have to do **a couple** of things.

In Russian the criterion of countability/non-countability also differentiates quantifying words: Mne nado **nemnogo** podumat'. U nih est' **neskol'ko** zamechanij i predlozhenij.

Japanese does not possess the same determination concerning countability/uncountability. Thus, such adverbs as いくつか *ikutsuka*, いくらか *ikuraka*, 何か *nanka*, 少し *sukoshi* are used both with countable and uncountable nouns: A: お金、ある? – B: うん、いくらか(いくつか/何円か)持つてる。A: Okane aru? – B: Un, **ikura ka** (**ikutsu ka/nan en ka**) motteru.

A: 和英辞典を持っていますか。

B: ええ、いくつか(何冊か/いくらか)持っています。A: Wa-ei-jiten wo motte imasu ka. – B: Ee, **ikutsu ka** (**nan satsu ka/ikura ka**) motte imasu. 彼女は、少し酔ってきたみたいだ。Kanojo wa, **sukoshi** yotte kita mitai da. このクラスには外国人の学生が少しいます。Kono kurasu ni wa gaikokujin no gakusei ga **sukoshi** imasu.

Countable nouns may be used with the numerals 数 *sū* and 二三 *nisan* (lit. two-three):

この「ドルの天井」を数回にわたって経験しながら、日本経済は成長期へと向かうことになった。Kono 'doru no tenjō' wo **sūkai** ni watatte keikenshinagara, Nihon keizai wa seichō ki e to mukau koto ni natta. もう二三分待ってくださいませんか。

Further growth of quantity indicates the semantic area of the quantifier **much/many**. These are used with non-countable and countable nouns respectively: **Much** was said about his behavior – **Many** wars occur because of economic reasons. In some cases we can see the use of 'many' with singular number, e.g. **many** a book. The noun

‘majority’ also possesses high frequency of usage: The **majority** of people are going to boycott the Duma elections. The **majority** of Soviet cities were involved in the War.

To denote multiplicity, several set expressions are used: **a lot of, plenty of, a big amount, a large amount, a great deal of: A big amount** of evidence was in his favor. There is always **a great deal** of misunderstanding among people who don’t want to hear other people’s opinion.

In Japanese multiplicity is expressed by the adverb 沢山 takusan, adjective 多い ooi and noun 大勢 oozei.

沢 山 and 大 勢 are grammatically interchangeable while the adjective 多 い is the predicative in a sentence: したいことが沢山/大勢ある。Shitai koto ga **takusan/oozei** aru. – したいことが多い。Shitai koto ga **ooi**. The adjective 多くの ooku no numerous is a characteristic of official style:

関西大学A教授には原稿を読んで多くの貴重な助言を戴きました。Kansai daigaku A kyōju ni wa genkō wo yonde **ooku no** kichō na jōgen wo itadakimashita. The notion of **majority** is represented by the combinations 大抵の taitei no and ほとんどの hotondo no:

この町の大抵(ほとんど)の人は日曜日に教会に行く。Kono machi no **taitei (hotondo)** no hito wa nichiyōbi ni kyōkai ni iku.

Indefinite numeral **mnogo** in the Russian language may be used with countable and uncountable nouns alike: **Mnogo** lyubvi ne byvaet! Vy sdelali **mnogo** nelepyh oshibok. Quantifier **many** is also represented by the words **bol'shinstvo (majority), mnozhestvo (multiplicity)** and combinations such as **bol'shoe kolichestvo (a big number, amount):** Ne vseгда oshibaetsya odin chelovek, inogda oshibaetsya **bol'shinstvo. Bol'shoe kolichestvo** moloka bylo proizvedeno za granicej. The adverb **polno (plenty)** is used primarily in the colloquial style: U nas eshche polno vremeni.

Quantifier **everything/everyone** signifies that a particular segment of the reality is completely full. This quantifier marks the limit of the intensity scale. All that is over the limit is associated with abundance and surplus, referring to infinitely great quantity and expressed in a language. Universality is the logical and semantic opposition of nothingness.

The main markers of the universality quantifier in the English language are pronouns **all, everything, everyone, everybody, everywhere**; the adjective **whole: All** people are created equal. Those who do **everything** for others usually do it for their own sake. I am sure, **everybody** knows the answer. You can find our goods **everywhere** in the world. The notion of **each, every** is also a marker of universality. **Every** day we have to work hard and do the most we can.

Universality in Japanese is represented by the combinations すべての subete no, 全部の zenbu no, あらゆる arayuru: すべての(全部の/あらゆる)条件が同じなら、ほとんどの人は平和を望む。Subete no (zenbu no/arayuru) jōken ga onaji nara, hotondo no hito wa heiwa wo nozomu. Talking about human beings, the noun みんな minna is used: みんな愛を必要としている。Minna ai wo hitsuyō to shite iru. Adverbs such as **everywhere, everyone** in the Japanese language are constructed like ‘where any’ and ‘who any’, transforming into synthetic forms: この地方ではどこでもカンガルーを見ることができます。Kono chihō de wa **doko demo** kangarū wo miru koto ga dekimasu. Universality connected with dates is as well formed synthetically via the suffix **mai**: 彼女は毎週そこへ行きます。Kanojo wa **maishū** soko e ikimasu.娘は毎年着物を伸張します。Musume wa **maitoshi** kimono wo shinchōshimasu [Shklovskij 2005].

In Russian, the criterion countability/uncountability determines pronouns of universality. Countable nouns are used with the pronoun **vse**, uncountable nouns are associated with the pronoun **vsyo**: **Vsyo** smeshalos' v dome Oblonskih (Leo Tolstoy). Esli by tol'ko **vse** my ispol'zovali svoi vozmozhnosti! Adverbs **vezde, povsyudu** (both meaning everywhere), **vsegda** (all the time), the pronoun **kazhdyj** (each, every) are of rather frequent usage, like in English and Japanese: Nel'zya byt' **vezde** odnovremennno. Zakony prirody **vsegda i vezde** odni i te zhe. **Kazhdyj** mnit sebya strategom, vidya boj so storony.

3. Results And Discussion

Quantifiers in different languages are basically studied in the works connected with their syntactic functions; quantifier words are either not emphasized by scholars or are granted inadequate attention in terms of semantics and/or functionality. This work suggests that the quantifier words of a natural language are positioned on the so-called scale of intensity, starting from the lowest quantity (expressed by the quantifier of meaningful nothingness) all the way up to the highest quantity (expressed by the quantifier of universality). Each logical quantifier is expressed by certain quantifier words in the languages considered. However, the mentioned quantifier words are characterized by asymmetrical performance in Russian, English and Japanese, though in some aspects similar parallel patterns may be registered in the given languages.

4. Summary

The contrastive analysis of the English, Russian and Japanese quantifiers in the three structurally different languages, basing on the scale of quantifier words’ intensity established their major functional and structural peculiarities. “Nothingness” is realized rather asymmetrically in the languages under consideration. Russian is

characterized by double negation while English forms negative meanings by the lexemes which include the negative particle and are used in affirmative surroundings; the Japanese also uses a particle, however it does not imply negation. Quantifier words associated with “existence” possess similarities in the given languages, though in English and Japanese it is realized via compound constructions. “Some amount”, “little amount”, “big amount”, and “universality” are expressed in a similar way in the languages, depending on countable or uncountable nouns, however Japanese does not demonstrate the same valence force between the noun and the quantifier word while English “universality” is semantically wider, represented by ‘each’ and ‘every’.

5. Conclusions

The languages under consideration demonstrate unique and universal peculiarities of quantifier words in terms of semantics and function. According to Wei Liu et al, “national-specific indicators of a particular characteristic are estimated in the prism of the social attitudes and traditions of the people [Wei Liu, Shangaraeva, Grolman, Zakirova 2016]. Any language is perceived as a nation’s cultural phenomena [Shemshurenko, Deputatova, Biktagirova 2015, 87]. For instance, double negation is a typically Russian peculiarity, whereas the quantifier of existence in Japanese is represented by the animate and inanimate forms. Unlike Russian and Japanese, the English language strictly distinguishes between countability and uncountability. The quantifier of universality is expressed in the similar way in all the languages considered.

6. Acknowledgements

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

References

1. Frege, G. (1979). *Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens*. Halle: Nebert,. Translated by Stefan Bauer-Mengelberg as *Begriffsschrift, a Formal Language, Modeled Upon That of Arithmetic, for Pure Thought in From Frege to Gödel: A Source Book in Mathematical Logic, 1879–1931*, edited by Jean van Heijenoort. Cambridge, MA: Harvard University Press, 1967.
2. Bol'shaya sovetskaya ehnciklopediya. (1973). 3rd edition. Moscow, Book 11. – P. 1803.
3. <https://www.encyclopedia.com/humanities/encyclopedias-almanacs-transcripts-and-maps/quantifiers-natural-language>
4. Kefer, M. and van der Auwera, J. (1992). David Gil in *Meaning and Grammar: cross-linguistic perspectives* / ed. by – Berlin; New-York: Mouton de Gruyter, – PP. 305-340.
5. Fiorino, Victor Martin, and Amparo Holguín. "El otro en Laín Entralgo: encuentro interhumano, diálogo y convivencia." *Opción* 34.86 (2018): 518-546.
6. Litvin, F. A. (2005). *Kvantory i slova // Kvantifikativnyj aspekt yazyka / Otv. red. N. D. Arutyunova. – Moscow: Indrik – P. 201.*
7. Boguslavskij, I. M. (2005). *Valentnosti kvantornyh slov // Kvantifikativnyj aspekt yazyka / Otv. red. N. D. Arutyunova. – Moscow: Indrik – PP. 139-165.*
8. Szabolcsi, A., Doh Whang, J. and Zu, V. (2014). *Language and Linguistics* 15(1) 115–155, DOI: 10.1177/1606822X13506660.
9. Nishiguchi, S. (2007) Osaka University, Graduate School of Language and Culture, Department of Language and Information Science 1-8 Machikaneyama, Toyonaka, Osaka 560-0043, Japan.
10. Subich, V.G., Mingazova N.G. and Shangaraeva, L.F. (2016). *Oppositions in noun number in nonrelated languages: semantic approach // Modern Journal of Language Teaching Methods (MJLTM). Special issue (November): ELT in Russia, ISSN: 2251-6204. – 266p. - P.65-69.*
11. Bolgarova, R.M., Safonova, S.S., Zamaliutdinova, E.R. (2014). *Comparison in Russian and Tatar linguocultures: systemic functional and comparative analysis // Journal of Language and Literature, ISSN: 2018-0303, Vol. 5. No.3. 2014.*
12. Nirmala, J. (2017). *Structure of liquid and comparison of adhesive force with cohesion force. International Journal of Engineering, Science and Mathematics, 6(2), 19-27.*
13. Shklovskij, I. G. (2005). *Prakticheskij sintaksis yaponskogo yazyka. Ehlementarnoe predlozhenie / I. Shklovskij. – M.: AST; Har'kov: Torsing – 765 p.*
14. Wei Liu, Shangaraeva L.F., Grolman, M.B., Zakirova, L.R. (2016). *Interpretation of the figurative basis of phraseological units characterizing labour activity in English and Russian // AD ALTA: Journal of Interdisciplinary research. Vol. 7. Issue 2. Special issue 2. 2017.*
15. Shemshurenko O., Deputatova N., Biktagirova Z. (2015). *Phonetic, grammatical and lexical features of Southern American English on the example of "to kill a Mockingbird" by Harper Lee //Journal of Language and Literature, Vol.6 N2. P. 87-92*