Izvorni znanstveni rad
Rukopis primljen 12. 4. 2022.
Prihvaćen za tisak 17. 2. 2023.
https://doi.org/10.22210/govor.2022.39.09

Ivana Grabar
ivana.grabar@unin.hr
University North, Koprivnica, Croatia

Svetlana S. Shlyakhova
Perm National Research Polytechnic University, Perm, Russia
shlyahova@mail.ru

Svetlana V. Shustova
Perm State University, Perm, Russia
lanaschust@mail.ru

Olga V. Shestakova
Perm National Research Polytechnic University, Perm, Russia
shestakova64@mail.ru

Ekaterina A. Kostina
Novosibirsk State Pedagogical University, Novosibirsk, Russia
ea_kostina@mail.ru

Onomatopoeia in representing the semantics of love, affection, and gender relations

Summary

The paper describes the sound symbolic nature of linguistic units with the semantics of *love*, *affection*, *gender relations* in German and Russian. It is known that onomatopoeic words with the semantics of blow, the physiological sound of the body and the sounds of speech in German and Russian languages regularly form associated with love, affection, and gender relations. In most cases, this type of semantics is expressed by combination of plosives and sonorants sounds, and also vibrants. Inter-relation between sound and meaning, as well as the sound-iconic functions of phonotypes is clarified: voiceless fricative sounds – reflection of pejorativeness, less often – femininity (dearness and softness); explosive and vibrant sounds – reflection of strong feelings, pressure, perseverance, aggressiveness in a relationship.

Keywords: iconicity, onomatopoeia, love, German, Russian

1. INTRODUCTION

In the past decades, there has literally been an avalanche-like increase in publications exploring the problems of linguistic iconism, one of the variants of which is onomatopoeia (Figure 1).

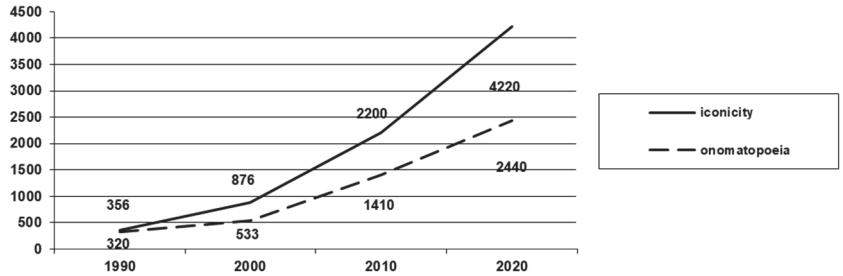

Figure 1. Number of publications on the request *onomatopoeia* and *iconicity* (Google Scholar, October 20th, 2022)

Slika 1. Broj publikacija pri pretraživanju pojmova *onomatopeja* i *ikoničnost* (Google Scholar, 20. 10. 2022.)

Iconicity (sound symbolism) denotes connections between the form of a linguistic sign and its meanings. The thesis about arbitrariness of a language sign was considered axiomatic, however, this thesis is undergoing a serious revision. Previously, there were no linguistic tools that could be used to explore large arrays of linguistic data, therefore a relevant amount of comparable material could not be collected. Today, Big Data allows you to identify patterns of iconism in a massive array of data. Thus, the Automated Similarity Judgment Program (ASJP) resource consists of 40 basic vocabulary lists for more than 62% of the world's languages, covering 85% of language families (Brown, Holman, Wichmann, & Velupillai, 2008; Holman et al., 2011; Wichmann, Holman, & Brown, 2018). With the help of ASJP, it was found that in the same 40 basic concepts in more than half of the languages of the world, sound symbolism is quite common and generates regular sound, semantic and sound-semantic associations. All sounds (or at least the most frequent ones) are grouped with phonetically related sounds in positions in words belonging to common semantic classes in unrelated languages. Some sounds tend to be repeated in words with certain meanings, which leads to identification of prototypical forms of words. In a small sample, sound symbolism is clearly present in at least 18% of words. These

conclusions are based on a much more exhaustive sample of languages and a more rigorous quantitative assessment than is usually found in studies on this topic (Wichmann et al., 2010).

Statistical analysis has shown that unrelated languages use the same sounds for specific referents. Analysis of ASJP lists covering almost two thirds of the world's languages shows that a significant part of the 100 words of the basic dictionary have associations with speech sounds that constantly occur on different continents and in language families or isolates. These connections are most obvious in words with semantics *small* for /i/ and *full* for /p/ or /b/, *body parts*: *tongue* for /l/, *nose* for /n/. The range and historical distribution of these associations suggests that they often arise independently, and are not inherited or borrowed (Blasi, Wichmann, Hammarström, Stadler, & Christiansen, 2016).

Based on the material from 100 languages belonging to 49 language families, it is proved that semantically close words often have phonological similarity. This is a large scale cross-linguistic evidence of phonological clustering of semantically close words (Dautriche, Mahowald, Gibson, & Piantadosi, 2017).

Modern researchers give special attention to natural (anatomic and physiological) basis of sound symbolism, including at the level of synesthesia and cross-modal effects. Today, the synesthetic theory of the language origin is being discussed. It synthesizes sound symbolism and synesthesia: iconicity (supported by common synesthetic cross-modal associations). It can help to explain how people learn to connect form and meaning in the origin and evolution of language (Cuskley & Kirby, 2013; Imai & Kita, 2014; Nielsen & Rendall, 2011; Ramachandran & Hubbard, 2001).

There are several types of sound symbolism among which this paper focuses on two: *onomatopoeia* and *complex (conventional) iconicity. Onomatopoeia* (*phonic iconism* (Voronin, 1982); *imitative sound symbolism* (Hinton, Nichols, & Ohala, 1994); *absolute iconicity* (Dingemanse, Blasi, Lupyan, Christiansen, & Monaghan, 2015); *imagic iconicity* (Johansson, Anikin, Carling, & Holmer, 2020)) is a semiotically simplest and transparent kind of iconism, which is built on imitation of reality sounds by speech means. *Complex (conventional) iconicity* (*secondary onomatopoeia* (Chastaing, 1958; Crockett, 1970; Jespersen, 1933); *sound symbolic* (Voronin, 1982); *conventional sound symbolism* (Hinton et al., 1994); *complex iconicity* of *analogical emergence* (Johansson et al., 2020)) is complex networks of meaning(s) and linguistic form(s) which are grounded in an association to other sound symbolic words within the language, i.e., complex iconicity of analogical emergence

(Johansson et al., 2020). The term *secondary onomatopoeia* describes correspondences between individual speech sounds and certain non-auditory experiences, as, for instance, between the sound of the vowel /i/ and impressions of smallness (Chastaing, 1958; Crockett, 1970; Jespersen, 1933).

There are obvious discrepancies in understanding the term *sound symbolic.* The followers of the St. Petersburg phonosemantic school define the term *sound symbolic* narrowly. In Russian linguistics the term *phonoiconic* includes two areas: *onomatopoeic* (designation of acoustic (sound) objects of reality) and *sound symbolic* (designation of non-acoustic (not sound) objects of reality). Most of researchers on iconism categorize *onomatopoeic* as a type of *sound symbolic.* Problems of sound symbolic terminology are discussed in more detail in (Johansson et al., 2020; Koleva-Zlateva, 2008).

Sound symbolism plays a significant role in transmission of negative or positive emotions (Adelman, Estes, & Cossu, 2018; Aryany, Conrad, Schmidtke, & Jacobs, 2018; Aryani, Kraxenberger, Ullrich, Jacobs, & Conrad, 2016; Auracher, Menninghaus, & Scharinger, 2020; Bally, 1950; Benczes & Kovács, 2022; Conrad, Ullrich, Schmidtke, & Kotz, 2022; Miron, 1961; Rummer & Schweppe, 2019; Rummer, Schweppe, Schlegelmilch, & Grice, 2014; Voronin, 1982; Wescott, 1971), which allows us to explore a hypothesis about emotional sound symbolism (Adelman et al., 2018). These ideas are also directly relevant to our research.

Today, the study of onomatopoeia is becoming particularly relevant. In neurophysiology, the classical hypothesis of the imitative origin of language was actualized in connection with the discovery of mirror neurons that provide imitation and understanding of other people's emotions (empathy) by a person (Fadiga, Craighero, Buccino, & Rizzolatti, 2002; Gentilucci, Dalla Volta, & Gianelli, 2008; Rizzolatti & Arbib, 1998; Tettamanti et al., 2005). It is assumed that the appearance of mirror neurons caused the appearance of speech, imitation and empathy, which was a key moment in human evolution. The mechanisms of sound-symbolic associations are considered: statistically established correlation of phonetic features and stimuli in the environment (Sidhu & Pexman, 2018).

Most of the existing research on onomatopoeia, including the Russian one, is focused on establishing the correspondences between phonetic form and sounds and objects of reality, in a cross-linguistic context as well (Crockett, 1970; Johanna, Aleksandrova, Bogomolov, Pasmor, & Laura, 2016; Kanerva & Häikiö, 2022; Taitz et al., 2018). The capacity of creative language to transport complex multisensory information in a controlled experiment in which participants improvised

onomatopoeias from noisy moving objects in audio, visual and audiovisual formats is studied. It is found that consonants communicate movement types (slide, hit or ring) mainly through the manner of articulation in the vocal tract. Vowels communicate shapes in visual stimuli (spiky or rounded) and sound frequencies in auditory stimuli through the configuration of the lips and tongue (Taitz et al., 2018). The study of phonologization of acoustic events related to water in Russian and Finnish showed that the words proposed by the respondents differed significantly in their phonological structure, frequency of use and semantic meanings in the two languages (Johanna et al., 2016). Based on the material from Russian and Finnish onomatopoeia findings, which support the view that imitative sound symbolism, offering a scaffolding material for connecting onomatopoeias to their referents when words are pronounced in isolation. The availability of both audio and visual inputs substantially increases recognizability of an unknown onomatopoeia. Cross-linguistic sound symbolism offers a good explanation to the presence of different cues that affect semantic recognition of the unknown onomatopoeic words (Kanerva & Häikiö, 2022).

Studies demonstrate that nearly all human abilities, including language and communication ones, are connected with imitation (Assaneo, Nichols, & Trevisan, 2011; Fabbri-Destro & Rizzolatti, 2008; Ferrari & Rizzolatti, 2014; Hamilton, 2013; Iacoboni & Dapretto, 2006; Rizzolatti & Craighero, 2004). Therefore, the study of imitative mechanisms at the level of onomatopoeia is particularly relevant, as it implies an imitative-driven transformation of a natural sound into a word. Other mimetic forces received extensive attention by the scientific community, such as cross-modal associations between speech and visual categories. The present approach helps building a global view of the mimetic forces acting on language and opens a new venue for a quantitative study of word formation in terms of vocal imitation (Assaneo et al., 2011). The study of cross-modal associations between speech and abstract, insubstantial, intangible categories is of no less importance.

Our study was conducted on the material of the German and Russian languages and it aims to explore the possibilities of onomatopoeia in explication of semantics of *love*, *affection*, *gender relations*, thus denoting the transition of onomatopoeia into the sphere of sound symbolism in the iconic space of the language.

Most linguistic research studying the concept "Love" are focused not on phonosemantic specificity but on linguistic representations of this feeling in different languages: Spanish and Russian (Vorkachev, 1995), German and Russian (Vil'ms, 1997), French, Mari and Russian (Makarova, 2001) and others.

2. MATERIAL AND METHODS

The research material was restricted by the German and Russian onomatopoeia verbs emphasizing the mental and emotional state of love (falling in love, caring, caressing, etc.), as well as nouns denominating a partner/beloved people (German *Dirn* "girl", Russian *зазноба* (zaznoba) "sweetheart", etc.) which are represented in the German-Russian onomatopoeia dictionary (Shlyakhova & Shestakova, 2011). 66 German and 62 Russian units (in total 128 units) are analyzed.

The units included in the study are not only the obvious onomatopoeia but also words that have lost their semantic connection with the acoustic denotatum. Their phonic iconicity character is determined by an etymological phonosemantic analysis based on etymological (Chernykh, 1993; Fasmer, 1986; Levitskii, 2010), explanatory (The Digital Dictionary of the German Language, 2010; Duden, 2015) and phonosemantic (Shlyakhova & Shestakova, 2011) dictionaries.

- German *kokettieren* (to flirt), Russian *кокетничать* (koketnichat') "to flirt", cf. French *coq* "cock", *cocorico*; *coquerico* "cock-a-doodle-doo"; adopted in the second half of 18th century in the Russian language from the French language where *coquette* (obtained Russian suffix *-k-a*) is a substantive derivative of *(femme) coquette* "coquettish" (woman), suf. derived from *coqueter* "to flirt" < "behave like a cock" (from *coq* "petukh"). Compare *kokotka* < from French *cocotte* "cocotte, courtesan" < "hen" (also from *coq* "petukh") (Fasmer, 1986; Shanskii & Bobrova, 2000);
- German *flirten*, Russian *флиртовать* (flirtovat'), compared to English *flirt* (a quick, jerky movement; flutter), in the Russian language via German *Flirt*, *flirten* < the same or French *flirter* < English *to flirt* < Old French *fleureter* "flit from flower to flower" (Fasmer, 1986);
- German *poussieren* "to flirt" compared to French *poussée* "to flutter";
- German *umwerben* compared to "sweetheart" < *werben* "to recruit" < Germanic *Hwerf* "to whirl";
- German *gefallen* "to like" < German *fallen* "to fall", *fällen* "to fell; to cut" (compared to spoken Russian *западать* (zapadat') "to like; to get kick out of smb." from *падать* (padat') "to fall");
- Russian *прикипеть* (prikipet') "to love; to take a strong liking" < from Russian *кипеть* (kipet') "to boil", compared to Lithuanian *kūpėti*, *kūpù* "to seethe, to foam", Middle High German *hopfen*, *hupfen*, Old English *Hoppian* "jump";

- Russian *зазноба* (zaznoba) "sweetheart" < *знобить* (znobи́t') "shiver" < зябнуть (ziabnut') "feel cold", conjugate from Lithuanian *žembiù*, *žemb̃ti* "cut";
- Russian *лелеять* (leleiat') "cherish" < sound combination of the same root that *liuliu* (*люлька* (liul'ka) "bassinet"). Conjugate is the Ancient Indian word *lēláyati* "lull", German *(ein)lullen* "lull" < revert interpretation "lull the baby singing" (Shanskii & Bobrova, 2000);
- Russian *заботиться* (zabotit'sia) "to take care of, to care" < *зоб* (zob) "food, now goiter" > "something to swallow the food" (fauces, esophagus); Northern Russian *зобать* (zobat') "to eat greedily and hastily, to peck" (Fasmer, 1986; Shanskii & Bobrova, 2000).

The overwhelming majority of the studied language units in both German and Russian are colloquial. Most words denoting a relationship object have negative semantics: German *Fotze* "cunt"; *Metze* "whore"; Russian *чикса* (chiksa) "cheek", *сикуха* (sikukha) "joung cunt". There are also recorded affectionate names of a beloved person: German *Mätzchen* "sweetie", Russian *дроля* (drolia) "beloved". "Implicit" onomatopoeia obtain generally a stylistically neutral tinge: German *flirten* "to flirt", *gefallen* "to like" (German *fallen* "to fall"); Russian *кокетничать* (koketnichat') "to flirt", *прикипеть* (prikipet') "to love; to take a strong liking".

The study uses traditional linguistic methods (lexical-semantic, etymological, comparative, quantitative analysis, component analysis method), as well as the proper phonosemantic methods (etymological phonosemantic analysis and phoneme-type modeling) (Voronin, 1982).

3. RESULTS

3.1 Qualitative analysis

Our studies are based on the three-term classification of onomatopoeic words: acoustic and articulatory onomatopoeic words (Voronin, 1982) and onomatopoeic words of speaking (Shlyakhova, 2003). The words of phonic iconicity in different languages are comparable with each other at the level of the phoneme type, i.e., type of phoneme, depending on its acoustic-articulatory features (occlusive, fricative, explosive, labial, sonorous, etc.).

The classification of units in the semantics of *love*, *affection*, *gender relations* is presented at the level of the phoneme-type of the universal typology of onomatopoeic words by S.V. Voronin (Voronin, 1982). The sounds of blow, non-blow (tone and

noise), dissonance and their combinations in German and Russian regularly form the semantics of *love*, *affection*, and *gender relations*.

3.1.1 Acoustic onomatopoeic words

Acoustic onomatopoeic words are units that reproduce by phonemic means non-articulating acoustic sounds of the external environment (German *zisch*, Russian *psh sh*, *shh sh* "rustling, hissing", etc.).

Blow

"Extrashort" noise or tone, equally perceived by the human ear as an acoustic blow > sweetheart, fall in love: German *tätscheln* "caress" (< *tatschen* "slap"); *baggern* "cozy up to"; *anbaggern* "fish for, angle for" (< *baggern* "dig; drag"); Russian *стежки утаптывать* (stezhki utaptyvat') < *стегать* (stegat'), from the same root as in Old High German *stechen* "chop, split", Old High German *stahhula* "thorn, sting"; *топать* (topat'), *набиваться* (nabivat'sia), *подбивать клинья* (podbivat' klin'ia) (< *bit'; klin* < *kolot'*) "to sweetheart", *западать* (zapadat') < *падать* (padat') "fall in love"; *выскочить замуж* (vyskochit' zamuzh) (< *скакать* (skakat') < *скок* (skok), *подкатывать* (podkatyvat') "to try to sweetheart", *расточать ласки* (rastochat' laski) (< *точить* (tochit') < *течь* (tech'), *прикипеть* (prikipet') (< *кипеть* (kipet') "come to love"). Intensity, efforts, perseverance of action are reflected in fricative sounds: German /b/, /g/, /t/ and/or affricate (t͡ʃ); Russian /b/, /d/, /k/, /p/, /t/ and /or affricate /ch/.

Tone. Noise

Tone non-blow, Indo-European tone in its purest form > to sweetheart: Russian *лелеять* (leleiat') (< *люлька* (liul'ka) "sweetheart"). The gentle, cautious nature of the action is pronounced by the sonorous /л/.

Noise non-blow, Indo-European noise in its purest form > light-minded or shallow-brained girl, party girl, to caress: German *Fiffi* "woman of easy virtue", *poussieren* "flirt", *küssen* "kiss" (< from Indo-European *ku/kus* "kiss", Indo-European *k* > Germanic *H* (Levitskii, 2009: 336)); *hätscheln* "caress, hug"; *Hache* – Middle German "prostitute" (compare to German *Haschee* "mince (dish)"; French *hacher* "to chop (meat)"); Russian *свистулька* (svistul'ka) (< *свистеть* (svistet') "to whistle"), *чикса* (chiksa) (< *чикать* (chikat') "to hit"), *сикуха* (sikukha) (< *сикать* (sikat') "to urinate"), *фифочка* (fifochka), *фифа* (fifa) (< *фи* (fi) "expression of contempt")

"light-minded or shallow-brained girl, party girl". Pejorativeness is transmitted with fricative consonants: German /f/, /h/, /s/; Russian /s/, /f/, /sh/.

Noise with tone elements > party girl, to sweetheart: German *mieseln* "sweetheart" (< *mies*, *mies* "puss-puss"); *Fotze* "prostitute" (< *Fotze* "vagina", "a slap in the face"); *Metze* "concubine; harlot; prostitute" (< *metzen* "butchered"); *Mätzchen* "a pretty piece". Pejorativeness is transmitted with fricative consonants and/or affricate: German /f/, /s/, /ts/.

Dissonance

Pure dissonance, Indo-European a series of blows (trembling, bubbling, gurgling, etc.) > sweetheart, fall in love: Russian *приударять* (priudariat') "sweetheart", *терка* (terka) < *тереть* (teret') "girl", *втюриться* (vtiurit'sia) < *тюря* (tiuria) < *тереть* (teret') "fall in love". The intensity of feelings and actions is reflected by fricative sounds and vibrant: Russian /d/, /t/, /r/.

Noise quasi-non-blow where the pure dissonance is accompanied with noise non-blow > to sweetheart, not to respond to flirtation: German *Süßholz raspeln* "flirt, coquet" (< *raspeln* "to rustle"); *sich zieren* "to be prim"; Russian *vrezat'sia* (< *rezat'* < *raz*) "to fall in love". The vibrant is used to reflect the intensity of the action: German /r/; Russian /r/; the caution, closedness of action are reflected by fricative consonant: German /s/.

Blow + tone, noise

Blow followed by tone non-blow > party girl, to fall in love, to sweetheart: German *buhlen (um A)* "to sweetheart, fool after" (< *Buhle* "originally the word of the children's language, appeal to relatives"), *Nutte* (< *Nut* "groove"), *Schnalle* "bint, floozie, harlot" (< *schnallen* "to fasten"); *sich verkeilen* "to fall in love" (< *verkeilen* "to wedge" < *Keil* "wedge", compare to Russian *кайло* (kailo); Russian *ломаться* (lomat'sia) (< *ломать* (lomat') "not to respond to flirtation", *липнуть* (lipnut') (< *lepit', l'nut'*) "to keep at", *лапать* (lapat') "to give a feel", *разлапушка* (razlapushka) "darling" (< *lapa*, *lopata*, *lapot'*), *влепить безе* (vlepit' beze) (< *lipnut'*) "to cling", *влопаться* (vlopat'sia), *вляпаться* (vliapat'sia), *прилепиться* (prilepit'sia) "to fall in love". The fricative sound reflects the blow nature of the sound: German /b/, /k/, /t/; Russian /p/, the sonorous one – tone non-blow: German /l/, /n/; Russian /l/, /m/.

The blow followed by the purely noise non-blow > to sweetheart, to flirt; party girl: German *gefallen* "to like"; *techtelmechteln* (< *Techtelmechtel* "rumpy pumpy"),

schäkern "to flirt" (*schäkern* < "lark about (concerning child)"); *busse(r)ln*, *bützen* "to kiss" (< *bützen* "to rub"), *Betze* "girl", *ficheln*, *heukeln*, *puscheln* "to caress" (< *Büschel* "a lock"); *Tussi* "donar"; Russian *цеплять* (tsepliat') (< *tsap*) "to draw attention, to excite"; *тискать* (tiskat'), *шупать* (shchupat'), *цапать* (tsapat'), *цопать* (tsopat') (< *tsap*, *tsop*) "to feel up, to touch up, to hug"; *прищепка* (prishchepka) (< *shchepa*), *потаскушка* (potaskukha) (< *taskat'*) "party girl". The fricative sound reflects intensity, efforts of action: German /b/, /t/; Russian /b/, /p/, /t/, fricative sound or affricate – the closedness or the pejorativeness of action: German /f/, /h/, /s/, /ts/; Russian /s/, /kh/, /sh/, /ts/.

The blow preceded by noise non-blow > to fall in love, to sweetheart; party girl: German *j-m die Cour schneiden* "to sweetheart (woman)" (< *schneiden* "to cut"), *mit Wimpern klimpern* "to flutter one's eyelashes" (< *klimpern* "to strum"), *mit den Augen klappern* "to flutter one's eyelids, to flirt" (< *klappern* "to rattle"), *es hat bei ihr geschnappt* "she fell in love" (< *schnappen* "to snap", "to grab"), *knuddeln* "to hug" (< *zerknüllen* "to crumple up"), *knutschen* "to kiss, to hug" (< *knutschen* "to crumple"), *schnäbeln* "to hug, to kiss"; *Schnepfe* "harlot" (< *Schnäbel* "beak", ср. Russian *шнобель* (shnobel') "big nose"); *Schnecke* "donar" (*Schnecke* "snail"); *Flittchen* "light-minded girl", *flittern* "to caress" (< *flittern* "to flitter"); *verknallen* "to fall in love" (*knallen* "to crack, to snip"), *fummeln* "to caress" (< *fummeln* "to brush, to polish"); *schmachten (nach D)* "to feel sad", *plänkeln* "to flirt" (< *plänkeln* "to flail"); Russian *shchelkat' glazami* (< *shchelk*) "to coquet", *privoloknut'sia* (< *voloch'*, *volok*), *ukhlestyvat'* (< *khlest'*, *khlias'*) "to sweetheart", *shchelka*, *mokroshchelka*, *kliushka* (< *kliuka*) "girl, pejorative", *kholit'* "to care". The intensity of feeling is reflected by explosive sound and/or affricate: German /b/, /g/, /k/, /p/, (tʃ); Russian /k/, /t/; pejorativeness – by fricative one: German /f/, /h/; Russian /f/, /kh/, /sh/, /ts/, /shch/.

Dissonance + tone, noise

Quasi-blow (dissonant blow) followed by tone non-blow > to sweetheart, to flirt; beloved: German *kraulen* "to caress" (< *kraulen* "to scratch slightly"); *Deern*, *Dirn* "girl", *flirten* "to flirt"; Russian *дроля* (drolia) "beloved", *флиртовать* (flirtovat') "to flirt". The intensity of efforts and feeling is reflected by vibrant: German /r/; Russian /p/; the dearness, the closedness – by sonorous: German /l/, /n/; Russian /l/.

Quasi-blow followed by purely noise non-blow > to sweetheart, to flirt; party girl: German *embrassieren* "to hug; to kiss" (< French *Embrasser* "embrace"), *Grabscher* "groper, man giving a feel to woman", *angraben* "make a pass at girl/boy" (< *graben*

"dig"), *Krabbe*, *Kröte* "girl"; *auf Abbruch heiraten* "marry expecting the imminent death of a spouse" (< *Abbruch* "demolition"), *umwerben* "to sweetheart" (< *werben* "to recruit" < German *hwerf* "to whirl"); Russian *кривляться* (krivliat'sia) "to coquet", *втрескаться* (vtreskat'sia) (< *tresk*), *втрюхаться* (vriukhat'sia) "to fall in love", *вертеть задом* (vertet' zadom) "to seduce", *вертихвостка* (vertikhvostka), *вертушка* (vertushka), *вертячка* (vertiachka), *дрючка* (driuchka) "light-minded girl", *крутить роман* (krutit' roman), *кружить голову* (kruzhit' golovu) "turn smb.'s head, make love to smb., flirt". The intensity of efforts, feeling is reflected by explosive sound or vibrant: German /b/, /g/, /k/, /r/, Russian /k/, /t/, /r/; pejorativeness – by fricative one or affricate: German /s/, (tʃ), /f/, /pf/; Russian /v/, /z/, /s/, /zh/.

3.1.2 Articulatory onomatopoeic words

Articulatory onomatopoeic words nominate sound processes occurring in the cavities of the nose, mouth and throat of a person: reflex (accompanying sensations) and "expressive" (accompanying emotions) movements (German *labbern*, *lappen*, *schlabbern*; Russian *лакать* (lakat'), *лизать* (lizat'), etc.). Articulatory onomatopoeias rarely participate in explication of semantics *love*, *affection*, and *gender relations* both in German and Russian languages.

Among the units studied, there are found the following articulatory onomatopoeic words: German *j-n zum Schnaufen bringen* "to make someone appetency" (< *schnaufen* "to puff, to gasp"), *bubbeln* "to kiss; to smooch" (< *bubbeln* "to blow bubbles"), *schlecken* "to kiss; to lick one another" (< *schlecken* "to lick"), *schmatzen* "to kiss; to smooch" (< *schmatzen* "slur"), *löffeln (mit D)* "to flirt; to spoon" (< *löffeln* "to spoon"); Russian *чмокнуть* (chmoknut') (< *chmokat'*) "make a smacking sound with one's lips", *лизаться* (lizat'sia) (< *lizat'*) "to lick", *сосаться* (sosat'sia) (< *sosat'*) "to kiss", *вздыхать* (vzdykhat') (< *dykhanie*) "to be in love", *фуфыра* (fufyra) (< *fukat'*) "to blow", *прихехе(ня)* (prikhekhe(nia)), *хахаль* (khakhal') "lover, friend" (< *хихикать* (khikhikat') (Fasmer, 1986).

3.1.3 Onomatopoeic words of speaking

Onomatopoeic words of speaking are language units reproducing by phonemic means the non-reflex acoustic-articulatory flows of sound, characterizing the process of speech, parole in isolation from the specific meaning of speech by representing the process of speech in its target-oriented, modal, physiological, acoustic and other

characteristics (Shlyakhova, 2003: 62): German *blabla*, *Larifari*, Russian *bla-bla*, *lia-lia fa-fa* "hogwash, talkie talkie", etc. Onomatopoeic words of speaking even less often explicate semantics of *love*, *affection*, *gender relations* in German and Russian languages. The following onomatopoeia of speaking are recorded: German *schmusen* "to speak to smb. compliments, to caress" (< rotw. *schmußen* "to chat"); Russian *лалара* (lalara) "girl" (< *lala* "chatterbox").

3.1.4 Regular semantic transitions from imitative sound symbolism (onomatopoeia) to complex (conventional) iconicity (secondary onomatopoeia)

The analysis allows us to establish regular semantic transitions from imitative sound symbolism (onomatopoeia), which is built on imitation of reality sounds by speech means, to complex (conventional) iconicity (secondary onomatopoeia) in both German and Russian:

- blow; tone non-blow (tone in its purest form); blow with elements of tone; pure dissonance (a series of blows); pure dissonance with a noise blow; blow followed by tone non-blow; blow followed or preceded by pure noise non-blow; dissonant blow followed by pure noise or tone non-blow > to sweetheart, to flirt; to fall in love;
- noise non-blow (noise in its purest form); noise with elements of tone; blow followed by tone or noise non-blow; dissonant blow followed by pure noise non-blow > light-minded, shallow-brained girl, or party girl;
- noise non-blow (noise in its purest form) > to caress, cherish;
- pure dissonance with noise bob-blow > not to respond to flirtation;
- dissonant blow followed by tone non-blow > beloved, darling.

The semantic analyses of regular onomatopoeic words used to represent semantics of *love*, *affection*, *gender relations* allow to determine its features. The nature of feelings and attitudes at the level of onomatopoeia is characterized by frivolity, superficiality, levity and substandard language: German *baggern* "to pull", *anbaggern* "fish for, angle for", *buhlen (um A)* "to woo, to court", *poussieren* "to flirt", *Süßholz raspeln* "to turn on the blarney", *sich zieren* "to make a fuss", *sich verkeilen* "to plow into each other", *gefallen* "to like", *techtelmechteln*, *schäkern* "to flirt", *mit Wimpern klimpern* "to flutter one's eyelashes", *mit den Augen klappern* "to flutter one's eyelids", *es hat bei ihr geschnappt* "she was hooked", *verknallen* "to fall for smb.", *plänkeln* "to

banter", *Grabscher* "groper", *angraben* "to hit on", *Krabbe*, *Kröte* "girl"; *auf Abbruch heiraten* "marry expecting the imminent death of a spouse"; Russian *набиваться* (nabivat'sia), *подкатывать* (podkatyvat'), *подбивать клинья* (podbivat' klin'ia), *липнуть* (lipnut'), *волочиться* (volochit'sia), *ухлестывать* (ukhlestyvat') "to care, to court on, to hit on", *ломаться* (lomat'sia) "not to respond to flirtation", *лапать* (lapat'), *тискать* (tiskat'), *щупать* (shchupat'), *цапать* (tsapat'), *цопать* (tsopat') "to feel up, to touch up", *влопаться* (vlopat'sia), *вляпаться* (vliapat'sia), *прилепиться* (prilepit'sia) "to fall in love", *кривляться* (krivliat'sia) "to coquet", *вертеть задом* (vertet' zadom) "to wag one's behind", *крутить роман* (krutit' roman), *кружить голову* (kruzhit' golovu) "to smooch, to highly coll".

Less often, a deep degree of feeling is expounded, often with a tinge of pejorativeness: German *hätscheln* "to caress"; *schmachten (nach D)* "to crave"; Russian *прикипеть* (prikipet') "to take a strong liking", *врезаться* (vrezat'sia), *втрескаться* (vtreskat'sia) "to fall in love, to daffy about", *цеплять* (tsepliat') "to turn on, to excite", etc.

The corresponding sense object at the level of the onomatopoeia is a light-minded, shallow-brained girl, or a party girl: German *Fiffi* "woman of easy virtue", *Hache* mid.-German "coochie", *Fotze* "cunt", *Metze* "whore", *Mätzchen* "sweetie", *Nutte*, *Schnalle* "pro, hooker", *Betze* "slut, bitch"; compare to Russian words with the same meaning *свистулька* (svistul'ka), *чикса* (chiksa), *фифа* (fifa), *прищепка* (prishchepka), *потаскушка* (potaskukha), *вертихвостка* (vertikhvostka), *вертушка* (vertushka), *вертячка* (vertiachka), *дрючка* (driuchka), etc.

3.1.5 Sound symbolic functions of phonotypes

The following functions of phonotypes are revealed:

- unvoiced fricative as a reflection of pejorativeness, less often – femininity (dearness and softness): German ***Fiffi*** "woman of easy virtue"; *pou**ssi**eren* "to flirt"; *kü**ss**en* "to kiss"; Russian *с**в**истулька* (s**vi**stul'ka), ***ф**и**ф**очка* (**f**i**f**ochka), ***ф**и**ф**а* (**f**i**f**a) "doll, dolly" etc.;
- explosive consonants and vibrant as reflection of strong feeling, rush, persistency in courtship: German *an**b**a**gg**ern* "to fish for, to angle for", Russian *по**дб**ивать клинья* (po**db**ivat' klin'ia) "to chase", ***втр**ескаться* (**vtr**eskat'sia), ***в**тю**р**иться* (**v**tiu**r**it'sia) "to fall in love", *приу**д**а**р**ять* (priu**d**a**r**iat) "to sweetheart", ***тер**ка* (te**r**ka) "girl" etc.

3.2 Quantitative analysis

Figure 2 illustrates the quantitative representation of acoustic and articulatory onomatopoeic words as well as onomatopoeic words of speaking that form the semantics of *love*, *affection*, *gender relations* in German and Russian languages (percentage of the entire material).

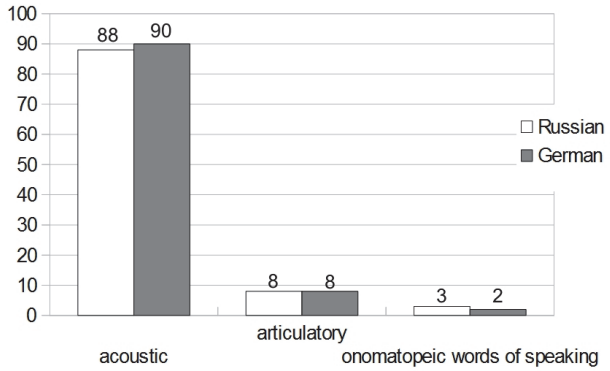

Figure 2. Onomatopoeia types in explication of semantics of *love*, *affection*, *gender relations* (%)

Slika 2. Vrste onomatopeje u pojašnjenju značenja *ljubavi*, *privrženosti* i *rodnih odnosa* (%)

Prijevod tekstualnih dijelova: *Russian* – ruski; *German* – njemački; *acoustic* – zvučne; *articulatory* – artikulatorne; *onomatopoeic words of speaking* – onomatopejske riječi u govoru

The data in the diagram (Figure 2) clearly reflect the dominance of "blow" nature in semantics of *love*, *affection*, *gender relations* in German and Russian languages. Least of all, the semantics of *love*, *affection*, *gender relations* in the German and Russian languages is connected with the physiological sounds of the body and speech.

The data of a comparative quantitative analysis of acoustic onomatopoeic words in the explication of the semantics of *love*, *affection*, *gender relations* in the German and Russian languages are presented in Figure 3 (percentage of the entire material of acoustic onomatopoeias).

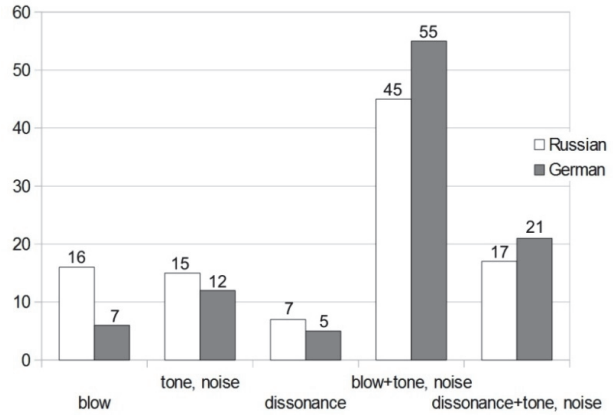

Figure 3. Types of acoustic onomatopoeic words in explication of the semantics of *love*, *affection*, *gender relations* (%)

Slika 3. Vrste akustičnih onomatopejskih riječi u pojašnjenju značenja *ljubavi*, *privrženosti* i *rodnih odnosa* (%)

Prijevod tekstualnih dijelova: *Russian* – ruski; *German* – njemački; *blow* – udarac; *tone*, *noise* – ton, buka; *dissonance* – disonanca; *blow+tone*, *noise* – udarac+ton, buka; *dissonance+tone*, *noise* – disonanca+ton, buka

Thematic group "Love" is mainly motivated by acoustic onomatopoeic words of blow: blow followed by tone or noise non-blow – 55% of the entire material in the German language and 45% of the entire material in the Russian language; dissonant blow followed by tone or noise non-blow – 12% in German language, 15% in Russian language. A blow in explication of semantics of *love*, *affection*, *gender relations* is more significant for the Russian (16%) that for the German language (7%).

In most cases, semantics of *love*, *affection*, *gender relations* is presented by combination of explosive and lenis sounds (noise-tone-blow sounding) as well as explosive, sonorous and vibrant (noise-tone-blow dissonant sounding). These two forms of sounding are equal to 76% in the German language and 62% in the Russian language.

Articulatory onomatopoeic words and onomatopoeia of speaking in the compared two languages amount to 8% and 2–3%, respectively. It is not possible to speak about stable and regular semantic transitions in this semantic sphere in our material.

4. DISCUSSION

The term *emotional sound symbolism*, which means as the ability of human languages to signal emotions via individual phonemes, as a rapid way of communicating the emotional valence of stimuli (i.e., negativity or positivity) is vital for averting dangers and acquiring rewards. It seems that the phonemes at the beginning of the word signal its valence, as this would maximize the receiver's time to respond adaptively (Adelman et al., 2018).

According to research, positive emotions, such as the concept of *good*, *pleasant* in Hungarian, English and Japanese are symbolized by the sign of the front row of vowels (Benczes & Kovács, 2022; Miron, 1961; Voronin, 1982: 94–95); in Hungarian – the front vowel, fricative, palatal and sibilant (Benczes & Kovács, 2022); while names for positive objects included more /i:/ (Rummer & Schweppe, 2019; Rummer et al., 2014). In the names of world brands, there is an increased frequency of front-row vowels, which are associated with smallness, lightness, thinness, coldness, softness, speed, bitterness, weakness, femininity and attractiveness (Abelin, 2015; Boslet, 2006; Klink, 2000; Pogacar, Plant, Rosulek, & Kouril, 2015; Spence, 2012). The initial plosive in the name raises the memorability of the brand name (Lowrey, 2003), its recognition and the likelihood of a positive review (Cortese, 1998).

In Hungarian, negative emotions are associated with rounded vowels, explosive and dorsal consonants (Benczes & Kovács, 2022), in Indo-European languages with short vowels (Adelman et al., 2018; Aryani et al., 2018), dark consonants and sibilants (Aryani et al., 2018); names for negative objects often include /o:/ (Rummer & Schweppe, 2019; Rummer et al., 2014). Pejorative (evaluation is bad, unpleasant, disgusting) is symbolized by the signs of the back row and labialization. "Labialization is well known as one of the ways of expressing contemptuous meaning, which is due to visual articulatory movements accompanying the emotion of contempt" (Voronin, 1982: 94–95). Labial means both labial proper and labialized (Wescott, 1971). When pronouncing rounded vowels /ou/, /u/, similar to Russian /u/, the lips are stretched, which (even outside of speech activity) expresses a bad mood, ridicule, contempt (Bally, 1950). In English, French, Korean, Tamil and Japanese, the vowels of the back row symbolize – unpleasant (Levitskii, 2009; Miron, 1961). The fricative /s/ in brand names was less present than expected based on the average frequency (Schloss, 1981; Vanden Bergh, 1990). Fricatives in the names of political candidates were negatively evaluated and reduced the possibility of their election (Smith, 1998). Affricates (in

Merrill Lynch and in *Gillette*) were described by respondents as unpleasant (Johnson, Suzuki, & Olds, 1964).

Despite some contradictions of the data obtained on the material of different structural languages, one can see some patterns that may turn out to be linguistic universals: negative – vowels of the back row and labialized, fricative consonants and affricates; positive – vowels of the front row. Our data supports the negative trend – unvoiced fricative as a reflection of pejorativeness: German *Fiffi* "woman of easy virtue"; *poussieren* "to flirt"; *küssen* "to kiss"; Russian *svistul'ka*, *fifochka*, *fifa* ("doll, dolly") etc.

The reasons for the discrepancies may be belonging of the language material to different language families (in the presented data – Finno-Ugric and Indo-European languages). In addition, the influence of a morphological factor is possible. Therefore the analysis of a larger set of more than 2,500 general vocabulary words rated for size finds no evidence for size sound symbolism; thereby suggesting that *size sound symbolism* is restricted to size adjectives. Our findings are the first demonstration that *size sound symbolism* is a statistical property of the English lexicon (Winter & Perlman, 2021). It is also necessary to significantly increase the array of the studied material.

Nowadays there are many papers showing that the onomatopoeic words can develop a rich system of meanings about the abstract concepts like *God*, *life*, *mind*, *ardour*, *space*, *form*, etc. (Auracher, 2017; Catricalà & Guidi, 2015; Drozhashchikh, 2006; Gazov-Ginzberg, 1974; Karimova & Khabibullina, 2018; Makovskii, 1996; Mikhalev, 1995a, 1995b, 2008, 2014; Rezanova & Miklashevsky, 2016; Shestakova, 2016; Shlyakhova, 2003; Sidhu & Pexman, 2018; Tzeng, Nygaard, & Namy, 2016; Vershinina, 2013; Voronin, 1982). Correlation of onomatopoeia in different languages in properly phonosemantic, semantic, and quantitative aspects, points out the consistent reflection of the objective reality and the universal way of explicating the world view in the language.

The onomatopoeic words semantics reconstructs the entire picture of human being in many aspects of its manifestation. The stable model of semantic development is also noted: onomatopoeic words have regular semantic transitions (Drozhashchikh, 2006; Gazov-Ginzberg, 1974; Shestakova, 2016; Shlyakhova, 2003; Vershinina, 2013). It has also been found that in the onomatopoeias of the German and Russian languages the vast majority of spheres of the reality are explicated except for some narrow special fields of *economics*, *law*, *history*, *religion*, etc. (Shestakova, 2016).

Linguistic iconism studies the syncretism of onomatopoeia and sound symbolism. The complexity of the problem of distinguishing between onomatopoeia and sound-symbolic words is addressed in various contexts: nondistinction of these phenomena in the illustrative material, in typologies, system descriptions, dictionaries, grammars and even special studies; reducing them to a general principle – the iconism, numerous etymologies, etc. Many authors find examples of overlapping, merging, syncretism of onomatopoeia and sound symbolism, which, in our opinion, is connected with the syncretic semantics of ancient roots.

Comparison of the onomatopoeia semantic space with the sound symbolic semantics of the initial consonants ("dental", "labial", "velar" vocabulary) in Old English and Indo-European languages (Drozhashchikh, 2006), with semantics of the phonostheme of Russian, French, English, Arabic, German, Abazin, Chechen, modern Greek (Dzhukaeva, 2010; Mikhalev, 1995a, 1995b, 2008; Zimova, 2005), with the semantics of reduplicatives in the Slavic languages (Koleva-Zlateva, 2008) indicated that the semantic areas of onomatopoeic and sound symbolic fields coincide by 89.5%; only 10.5% of onomatopoeia groups did not find a semantic match in the field of sound symbolism (Shestakova, 2016). The fields of greatest coincidence of the semantics of onomatopoeia and sound symbolism are related to the following semantics *connection*, *distortion*, *confusion*; *Zoom*; *roundness*, *ball*, *bump*; *junction*, *border*; *mechanical movement*; *physiological processes*, etc.

The onomatopoeia is supposed to retain the properties of the once "consistent syncretic, originally undifferentiated complexes" (Levitskii, 2009: 69) from which the number of semantic units originated in various Indo-European languages in the development and differentiation of these indiscrete complexes.

The fragility, marginality of the boundaries between onomatopoeia and sound symbolism reflects the syncretism of ancient thinking which is preserved in the sphere of iconism in modern synchrony. The problem analysis allows us to hypothesize that the iconic nature of onomatopoeia and sound-symbolic words related to semantic syncretism of the ancient foundations determines the unity of the semantic space of all words of iconic origin. Establishing the marginality of the boundaries and the coinciding semantic fields of the onomatopoeic and sound symbolic areas allows us to suggest a certain universal code of the iconic word as such.

The system analysis of the German and Russian onomatopoeia indicated that "sound" values appear only in half of the cases (55.7% – in German, 54.4% – in Russian), the remaining corpus of onomatopoeia is not associated with sound picture

of the world, i.e., it reflects other aspects of human being while forming "non-sound" meanings through semantic transitions (Shestakova, 2016; Shlyakhova & Shestakova, 2011).

Therefore, overlapping and marginality of the boundaries of onomatopoeia and sound symbolism allow onomatopoeias (the sounds of real objects) to represent, to explicate the semantics of love, affection, gender relations in a language.

5. CONCLUSION

The results of this study suggests that the onomatopoeic words are universal and rather productive way of explicating the semantics of *love*, *affection*, *gender relations* in the German and Russian languages. It has been found that onomatopoeic words with semantics of blow, physiological sounding of the body and speech sounds in the German and Russian languages regularly form semantics related to love, affection, and gender relations.

Onomatopoeia of the compared languages possesses regular semantic transitions forming a rather rigid model of semantic development. Regular models of the semantic development of acoustic onomatopoeic words have been recorded: *blow*, *tone*, *noise*, *dissonance in various combinations* (acoustic onomatopoeic words) > *to sweetheart*, *to flirt*; *to fall in love*; *light-minded*, *shallow-brained girl or party girl*; *to caress*, *cherish*; *not to respond to flirtation*; *beloved*, *darling*.

In most cases, the semantics of *love*, *affection*, *gender relations* in the German and Russian languages is expressed by the combination of explosive and sonorous consonants as well as explosive, sonorous and vibrant consonants. The relationship between sounding and semantics and the sound functions of phonotypes has been identified; unvoiced fricative sounds represent pejorativeness, sometimes femininity (dearness and softness); explosive and vibrant consonants describe the reflection of strong feelings, pressure, perseverance, aggressiveness in a relationship.

The level of onomatopoeia actualizes frivolous, flighty, diminished feelings and relationships of the sexes, as well as nominations of love objects (often with pejorative connotations), which is reflected in the frequency of pejorative connotations and the ratio of the studied units to stylistically reduced levels of the language. The stylistic affiliation of the units which belong to colloquial speech was analyzed. The universal and specific features of the manifestation of semantics were revealed: *love*, *affection*, *gender relations* at the level of onomatopoeia. Based on the semantic, phonosemantic

and quantitative analysis of the thematic group "Love", it was found that isomorphism of the onomatopoeic words of the German and Russian languages dominates on allomorphism. The specifics of demonstration of semantics *love*, *affection*, *gender relations* at the level of onomatopoeia is indicated in insignificant quantitative differences in phonosemantic types in the languages studied, which can be explained by the special phonetic organization of German and Russian languages, as well as the errors of statistical processing and selection of material.

Studying the evolution of onomatopoeia values in separate thematic groups allows us to clarify many issues related to cognitive processes and the nature of reflection of objective reality in a language.

It is necessary to establish the causes that lead to squalid, primitive relationships between a woman and a man. The "primal love" was possibly reduced to physiology only. However, it is articulatory (physiological) onomatopoeias that do not participate in formation of the semantics in question.

The explanation of gender relations is represented mainly by sounds of a " blow" nature external to a person. Sound symbolism is rooted in the human perception of the body and its interaction with the surrounding world, and therefore could occur as a loading mechanism that can help us understand the biocultural origins of human language, mental lexicon, and linguistic diversity (Johansson et al., 2020).

It is characteristic that in Russian folk culture the nominations of the male and female genital organs are also etymologically determined by the "blow" semantics:

- *кол* (kol), *колик* (kolik), *клин* (klin), *колышек* (kolyshek), *колышек-сиротинка* (kolyshek-sirotinka), *колбаса* (kolbasa) "penis" < *кол* "stake", *колик* "peg", *клин* "wedge", *колышек* "peg", *колышек-сиротинка* "orphan peg", *колбаса* "sausage" < Indo-European *(s)kel-: (s)kol-: *kl – *резать* (rezat') "cut", *колоть* (kolot') "prick", *разбивать* (razbivat') "chop", *рассекать* (rassekat') "dissect" (Chernykh, I, 411; Fasmer, II, 285, 251; Makovskii, 1996: 341);
- *косач* (kosach), *чесалка* (chesalka), *шиш* (shish), *шишка* (shishka), *шишечка* (shishechka), *мяса кусок* (myasa kusok) "penis" < *косач* "mower", *чесалка* "comber", *шиш* "knob", *шишка* "knob", *шишечка* "knobble", *мяса кусок* "piece of meat" < Indo-European *kses-: *kas-: *kes-: *kos-: *ks-: *sk- – *ломать* (lomat) "break", *резать* (rezat') "cut", *рубить* (rubit') "chop" (Chernykh, 1, 384, II, 412, 385; Fasmer, II, 206, IV, 349–50, 440). This includes *каша* (kasha), *костянка* (kostyanka) "vulva" < *каша* "porridge", *костянка* "drupe";

- *черенок* (cherenok), *черенишка* (cherenishka), *черенишка дубов* (cherenishka dubov), *корешок* (koreshok) "penis" < *черенок* "stalk", *черенишка* "stalk", *черенишка дубов* "oak stalk", *корешок* "root" < Indo-European *(s)ker- *резать* (rezat') "cut" (Chernykh, II, 385, I, 428; Fasmer, IV, 340, 343). This includes *корытце* (korytce) "vulva" < "vulva" < *корыто* (koryto) "trough" < *кора* (kora) "bark", *корень* (koren') "root", etc.

Semantics of tearing, dissection, blow may be due to archetypes, since phallic actions were thought by the ancients as creation of the Universe: the Deity tore apart Chaos with the phallus and created the Universe (Makovsky, 1996: 376). At the same time, coition was considered to be tantamount to death for a man, where a woman is the source of this death. Regular semantic correspondences are found in Russian onomatops: "blow – coitus – death":

- *касать* (kasat') *dialectal* "hit", "beat" – *косач* (kosach) "mower", *шиш* (shish) "knob" < "penis" – *косить* (kosit') "kill" (compare *смерть с косой* (smert' s kosoj) "grim Reaper";
- *колоть* (kolot') "hit" – *колода* (koloda) *dialectal* "flax processing tool", argot "frigid woman" – *колода* (koloda) *dialectal* "coffin"; *щель* (shchel') *argot* "vulva" and "grave".

For a broader view of the development of semantics and iconicity, it is necessary to rely on the results from a number of fields, including communication, linguistics, and sign languages (Nielsen & Dingemanse, 2020).

REFERENCES

Abelin, Å. (2015). Phonaesthemes and sound symbolism in Swedish brand names. *Ampersand*, *2*, 19–29. https://doi.org/10.1016/j.amper.2014.12.001

Adelman, J. S., Estes, Z., & Cossu, M. (2018). Emotional sound symbolism: Languages rapidly signal valence via phonemes. *Cognition*, *175*, 122–130. https://doi.org/10.1016/j.cognition.2018.02.007

Aryani, A., Conrad, M., Schmidtke, D., & Jacobs, A. (2018). Why 'piss' is ruder than 'pee'? The role of sound in affective meaning making. *PloS ONE*, *13*(6), e0198430. https://doi.org/10.1371/journal.pone.0198430

Aryani, A., Kraxenberger, M., Ullrich, S., Jacobs, A. M., & Conrad, M. (2016). Measuring the basic affective tone of poems via phonological saliency and

iconicity. *Psychology of Aesthetics, Creativity, and the Arts*, *10*(2), 191–204. https://doi.org/10.1037/aca0000033

Assaneo, M. F., Nichols, J. I., & Trevisan, M. A. (2011). The anatomy of onomatopoeia. *PloS ONE*, *6*(12), e28317. https://doi. org/10.1371/ journal.pone.0028317

Auracher, J. (2017). Sound iconicity of abstract concepts: Place of articulation is implicitly associated with abstract concepts of size and social dominance. *PloS ONE*, *12*(11), e0187196. https://doi.org/10.1371/journal.pone.0187196

Auracher, J., Menninghaus, W., & Scharinger, M. (2020). Sound predicts meaning: Cross-modal associations between formant frequency and emotional tone in stanzas. *Cognitive Science*, *44*(10), e12906. https://doi.org/10.1111/ cogs.12906

Bally, Ch. (1950). *Linguistique générale et linguistique française*. Bern: A. Francke.

Benczes, R., & Kovács, G. (2022). Palatal is for happiness, plosive is for sadness: Evidence for stochastic relationships between phoneme classes and sentiment polarity in Hungarian. *Language and Cognition*, 1–20. https://doi.org/10.1017/ langcog.2022.23

Blasi, D. E., Wichmann, S., Hammarström, H., Stadler, P. F., & Christiansen, M. H. (2016). Sound-meaning association biases evidenced across thousands of languages. *Proceedings of the National Academy of Sciences*, *113*(39), 10818–10823. https://doi.org/10.1073/pnas.1605782113

Boslet, M. (2006, November 16). It's alive. It's also small, simple: The ideas behind the name 'Zune'. *The Wall Street JournalB3*, New York.

Brown, C. H., Holman, E. W., Wichmann, S., & Velupillai, V. (2008). Automated classification of the world's languages: A description of the method and preliminary results. *Language Typology and Universals*, *61*(4), 285–308.

Catricalà, M., & Guidi, A. (2015). Onomatopoeias: A new perspective around space, image schemas and phoneme clusters. *Cognitive Processing*, *16*(1), 175–178. https://doi.org/10.1007/s10339-015-0693-x

Chastaing, M. (1958). *Le symbolisme des voyelles. Signification des "I"*. Presses universitaires.

Chernykh, P. I. A. (1993). *Историко-этимологический словарь современного русского языка: в 2 т* (*Istoriko-etimologicheskij slovar' sovremennogo russkogo yazyka: v 2 t.*) [Historical and etymological dictionary of the modern Russian language in 2 volumes]. Rus. Moscow.

Conrad, M., Ullrich, S., Schmidtke, D., & Kotz, S. A. (2022). ERPs reveal an iconic relation between sublexical phonology and affective meaning. *Cognition*, *226*(6), 105182. https://doi.:10.1016/ j.cognition.2022.105182

Cortese, M. J. (1998). Revisiting serial position effects in reading. *Journal of Memory and Language*, *39*(4), 652–665. https://doi.org/10.1006/jmla.1998.2603

Crockett, D. B. (1970). Secondary onomatopoeia in Russian. *Word*, *26*(1), 107–113. https://doi.org/10.1080/00437956.1970.11435586

Cuskley, C., & Kirby, S. (2013). Synesthesia, cross-modality, and language evolution. In J. Simner, & E. M. Hubbard (Eds.), *Oxford handbook of synaesthesia* (pp. 869–907). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199603329.013.0043

Das Digitale Wörterbuch der deutschen Sprache des 20. Jh. (2010). [The digital dictionary of the German language of the 20th century]. Retrieved from http://www.dwds.de

Dautriche, I., Mahowald, K., Gibson, E., & Piantadosi, S. T. (2017). Wordform similarity increases with semantic similarity: An analysis of 100 languages. *Cognitive Science*, *41*(8), 2149–2169. DOI:10.1016/j.tics.2015.07.013

Dingemanse, M., Blasi, D. E., Lupyan, G., Christiansen, M. H., & Monaghan, P. (2015). Arbitrariness, iconicity, and systematicity in language. *Trends in Cognitive Sciences*, *19*(10), 603–615. https://doi.10.1016/j.tics.2015.07.013

Drozhashchikh, N. V. (2006). *Синергетическая модель иконического пространства языка* (*Sinergeticheskaya model' ikonicheskogo prostranstva yazyka*) [Synergetic model of the iconic space of language] (Abstract of doctoral thesis). Barnaul.

Duden. (n. d.). *Deutsches Universalwörterbuch*. In *Duden online*. Retrieved January, 18, 2022, from http://www.duden.de

Dzhukaeva, M. A. (2010). *Межъязыковые фоносемантические свойства спирантов: на материале чеченского, русского и немецкого языков* (*Mezh'yazykovye fonosemanticheskie svojstva spirantov: na materiale chechenskogo, russkogo i nemeckogo yazykov*) [Interlingual phonosemantic properties of spirants (on the material of Chechen, Russian and German languages)] (Abstract of doctoral thesis). Pyatigorsk.

Fabbri-Destro, M., & Rizzolatti, G. (2008). Mirror neurons and mirror systems in monkeys and humans. *Physiology*, *23*(3), 171–179. https://doi.org/10.1152/physiol.00004.2008

Fadiga, L., Craighero, L., Buccino, G., & Rizzolatti, G. (2002). Speech listening specifically modulates the excitability of tongue muscles: A TMS study. *European Journal of Neuroscience*, *15*(2), 399–402. https://doi.org/10.1046/j.0953-816x.2001.01874.x

Fasmer, M. (1986). *Этимологический словарь русского языка* (*Etimologicheskij slovar' russkogo yazyka*) [Etymological dictionary of the Russian language]. Retrieved from http://dic.academic.ru/

Ferrari, P. F., & Rizzolatti, G. (2014). Mirror neuron research: The past and the future. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *369*(1644), 20130169. https://doi.org/10.1098/rstb.2013.0169

Gazov-Ginzberg, A. M. (1974). *Символизм прасемитской флексии. О безусловной мотивированности знака* (*Simvolizm prasemitskoj fleksii. O bezuslovnoj motivirovannosti znaka*) [Symbolism of prasemitic inflexion. On the unconditional motivation of the sign]. Moscow: Nauka.

Gentilucci, M., Dalla Volta, R., & Gianelli, C. (2008). When the hands speak. *Journal of Physiology-Paris*, *102*(1–3), 21–30. https://doi.org/10.1016/j.jphysparis.2008.03.002

Hamilton, A. F. D. C. (2013). Reflecting on the mirror neuron system in autism: A systematic review of current theories. *Developmental Cognitive Neuroscience*, *3*, 91–105. https://doi.org/10.1016/j.dcn.2012.09.008

Hinton, L., Nichols, J., & Ohala, J. (1994). Introduction: Sound-symbolic processes. U L. Hinton, J. Nichols, & J. J. Ohala (Eds.), *Sound symbolism* (pp. 1–12). Cambridge: Cambridge University Press. https://doi.org/10.3757/jser.70.223

Holman, E. W., Brown, C. H., Wichmann, S., Müller, A., Velupillai, V., Hammarström, H., ... Egorov, D. (2011). Automated dating of the world's language families based on lexical similarity. *Current Anthropology*, *52*(6), 841–875.

Iacoboni, M., & Dapretto, M. (2006). The mirror neuron system and the consequences of its dysfunction. *Nature Reviews Neuroscience*, *7*(12), 942–951.

Imai, M., & Kita, S. (2014). The sound symbolism bootstrapping hypothesis for language acquisition and language evolution. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *369*(1651), 20130298. https://doi.org/10.1098/rstb.2013.0298

Jespersen, O. (1933). Symbolic value of the vowel I. Selected writings (London, n.d.). *Linguistica*, 557–577.

Johanna, V., Aleksandrova, A. A., Bogomolov, A. S., Pasmor, E. S., & Laura, T. (2016). "Водные" звукоподражания в финском и русском языках ("Vodnye" zvukopodrazhaniya v finskom i russkom yazykah) [Interjections pertaining to sounds of water in Finnish and Russian]. *Jazyk i kul'tura*, *1*, 6–24. https://doi.org/10.17223/19996195/33/1

Johansson, N. E., Anikin, A., Carling, G., & Holmer, A. (2020). The typology of sound symbolism: Defining macro-concepts via their semantic and phonetic features. *Linguistic Typology*, *24*(2), 253–310. https://doi.10.1515/lingty-2020-2034

Johnson, R. C., Suzuki, N. S., & Olds, W. K. (1964). Phonetic symbolism in an artificial language. *The Journal of Abnormal and Social Psychology*, *69*(2), 233–236. https://doi.org/10.1037/h0043851

Kanerva, O., & Häikiö, T. (2022). Sound symbolic potential of Russian onomatopoeias: Evidence from eye-tracking. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 48*(3), 432–445. https://doi.org/ 10.1037/xlm0001114

Karimova, R. K., & Khabibullina, O. A. (2018). Звукоподражательные слова в лексических системах неродственных языков (немецком и татарском) (Zvukopodrazhatel'nye slova v leksicheskih sistemah nerodstvennyh yazykov (nemeckom i tatarskom)) [Onomatopoeic words in lexical systems of unrelated languages (German and Tatar)]. *Tomsk State Pedagogical University Bulletin*, *4*(193), 90–95. https://doi.org/10.23951/1609-624X-2018-4-90-95

Klink, R. R. (2000). Creating brand names with meaning: The use of sound symbolism. *Marketing Letters*, *11*(1), 5–20.

Koleva-Zlateva, Z. (2008). Славянская лексика звукосимволического происхождения (Slavyanskaia leksika zvukosimvolicheskogo proiskhozhdeniia) [Slavic vocabulary sound symbols origin]. *Tractata Slavica.* Debrecen: Universitatis Debreceniensis.

Levitskii, V. V. (2009). Семантические дериваты индоевропейских корней со значением "резать" (Semanticheskie derivaty indoevropejskih kornej so znacheniem "rezat'") [Semantic derivatives of Indo-European roots meaning "to cut"]. *Studia Germanica et Romanica: Foreign Languages. World Literature. Methods of Teaching*, *6*(16), 69–79.

Levitskii, V. V. (2010). *Этимологический словарь германских языков: в 2 т.* (*Etimologicheskij slovar' germanskih yazykov: v 2 t.*) [Etymological dictionary of Germanic languages in 2 volumes]. Chernovtsy: Nova kniga.

Lowrey, T. M., Shrum, L. J., & Dubitsky, T. M. (2003). The relation between brand-name linguistic characteristics and brand-name memory. *Journal of Advertising*, *32*(3), 7–17. https://doi.org/10.1080/00913367.2003.10639137

Makarova, G. A. (2001). *Концепт "любовь" в языках разных типов: французском, русском и марийском (на материале лингвокультурных текстов)* (*Koncept "lyubov'" v yazykah raznyh tipov: francuzskom, russkom i marijskom (na materiale lingvokul'turnyh tekstov)*) [The concept of "love" in languages of different types: French, Russian and Mari (on the basis of linguocultural texts)]. Ioshkar-Ola: MarGTU.

Makovskii, M. M. (1996). *Сравнительный словарь мифологической символики в индоевропейских языках: Образ мира и миры образов* (*Sravnitel'nyj slovar' mifologicheskoj simvoliki v indoevropejskih yazykah: Obraz mira i miry obrazov*) [Comparative dictionary of mythological symbols in Indo-European languages: The image of the world and the worlds of images]. Moscow: Vlados.

Mikhalev, A. B. (1995a). *Лексико-семантическое содержание фоносемантического пространства морфемотипа Spir-Lab.Plos (B/P)* (*Leksiko-semanticheskoe soderzhanie fonosemanticheskogo prostranstva morfemotipa Spir-Lab.Plos (B/P)*) [Lexical-semantic content of the phonosemantic space of the morpheme type Spir-Lab.Plos (B/P)]. Retrieved from http://amikhalev.ru/ ?page_id=153

Mikhalev, A. B. (1995b). *Теория фоносемантического поля* (*Teoriya fonosemanticheskogo polya*) [The phonosemantic field theory: Monograph]. Pyatigorsk: PGLU.

Mikhalev, A. B. (2008). Проблема категоризации (фоносемантический ракурс) (Problema kategorizacii (fonosemanticheskij rakurs)) [The problem of categorization (phonosemantic aspect)]. *Problems of General, Germanic and Slavic Linguistics. Papers for 70th anniversary of Professor V. Levickij*. Chernivtsi: Books-XXI, 163–170.

Mikhalev, A. B. (2014). От фоносемантического поля к протоконцептуальному пространству языка (Ot fonosemanticheskogo polya k protokonceptual'nomu prostranstvu yazyka) [From the phonosemantic pole to the conceptual space of language]. *Questions of Cognitive Linguistics*, *1*(38), 91–104.

Miron, M. S. (1961). A cross-linguistic investigation of phonetic symbolism. *J Abnorm Soc Psychol*, *62*, 623–630.

Nielsen, A. K., & Dingemanse, M. (2021). Iconicity in word learning and beyond: A critical review. *Language and Speech*, *64*(1), 52–72. https://doi.org/10.1177/0023830920914339

Nielsen, A., & Rendall, D. (2011). The sound of round: Evaluating the sound-symbolic role of consonants in the classic Takete-Maluma phenomenon. *Canadian Journal of Experimental Psychology*, *65*(2), 115–124. doi: 10.1037/a0022268

Pogacar, R., Plant, E., Rosulek, L. F., & Kouril, M. (2015). Sounds good: Phonetic sound patterns in top brand names. *Marketing Letters*, *26*(4), 549–563. https://doi.org/10.1007/s11002-014-9288-z

Ramachandran, V. S., & Hubbard, E. M. (2001). Psychophysical investigations into the neural basis of synaesthesia. *Proceedings of the Royal Society of London. Series B: Biological Sciences*, *268*(1470), 979–983. https://doi.org/10.1098/rspb.2000.1576

Rezanova, Z. I., & Miklashevsky, A. (2016). Моделирование образно-перцептивного компонента языковой семантики при помощи психолингвистической базы данных (Modelirovanie obrazno-perceptivnogo komponenta yazykovoj semantiki pri pomoshchi psiholingvisticheskoj bazy dannyh) [Modeling of the perceptual-based component of language semantics using a psycholinguistic database]. *Tomsk State University Journal of Philology*, *5*(43), 71–92. doi: 10.17223/19986645/43/6

Rizzolatti, G., & Arbib, M. A. (1998). Language within our grasp. *Trends in Neurosciences*, *21*(5), 188–194. https://doi.org/10.1016/S0166-2236(98)01260-0

Rizzolatti, G., & Craighero, L. (2004). The mirror-neuron system. *Annu Rev Neurosci*, *27*, 169–192. doi: 10.1146/annurev.neuro.27.070203.144230

Rummer, R., & Schweppe, J. (2019). Talking emotions: Vowel selection in fictional names depends on the emotional valence of the to-be-named faces and objects. *Cognition and Emotion*, *33*(3), 404–416. https://doi.org/ 10.1080/ 02699931.2018.1456406

Rummer, R., Schweppe, J., Schlegelmilch, R., & Grice, M. (2014). Mood is linked to vowel type: The role of articulatory movements. *Emotion*, *14*(2), 246–250. https://doi.org/10.1037/a0035752

Schloss, I. (1981). Chickens and pickles. *Journal of Advertising Research*, *21*(6), 47–49.

Shanskii, N. M., & Bobrova, T. A. (2000). *Школьный этимологический словарь русского языка* (*Shkol'nyj etimologicheskij slovar' russkogo yazyka*) [School etymological dictionary of the Russian language]. Retrieved from https://shansky.lexicography.online/

Shestakova, O. V. (2016). *Мир сквозь призму ономатопеи* (*Mir skvoz' prizmu onomatopei*) [World through the prism of onomatopoeia]. Perm: PNIPU.

Shlyakhova, S. S. (2003). *Тень смысла в звуке: Введение в русскую фоносемантику; учеб. пособие* (*Ten' smysla v zvuke: Vvedenie v russkuyu fonosemantiku; ucheb. Posobie*) [Shadow of meaning in sound: Introduction to the Russian phonosemantics (textbook)]. Perm: Perm State Pedagogical University. (in Russian)

Shlyakhova, S. S., & Shestakova, O. V. (2011). *Немецкая ономатопея: история изучения, проблемы, немецко-русский словарь* (*Nemeckaya onomatopeya: istoriya izucheniya, problemy, nemecko-russkij slovar'*) [German onomatopoeia: History of study, problems, German-Russian dictionary]. Perm: PNIPU.

Sidhu, D. M., & Pexman, P. M. (2018). Five mechanisms of sound symbolic association. *Psychonomic Bulletin & Review*, *25*(5), 1619–1643, https://doi.org/10.3758/s13423-017-1361-1

Smith, G. W. (1998). The political impact of name sounds. *Communication Monographs, 65*(2), 154–172. https://doi.org/10.1080/03637759809376443

Spence, C. (2012). Managing sensory expectations concerning products and brands: Capitalizing on the potential of sound and shape symbolism. *Journal of Consumer Psychology*, *22*(1), 37–54. https://doi.org/10.1016/j.jcps.2011.09.004

Taitz, A., Assaneo, M. F., Elisei, N., Trípodi, M., Cohen, L., Sitt, J. D., & Trevisan, M. A. (2018). The audiovisual structure of onomatopoeias: An intrusion of real-world physics in lexical creation. *PloS ONE*, *13*(3), e0193466. https://doi.org/10.1371/journal.pone.0193466

Tettamanti, M., Buccino, G., Saccuman, M. C., Gallese, V., Danna, M., Scifo, P., Perani, D. (2005). Listening to action-related sentences activates fronto-parietal motor circuits. *Journal of Cognitive Neuroscience*, *17*(2), 273–281. doi: 10.1162/0898929053124965

Tzeng, C. Y., Nygaard, L. C., & Namy, L. L. (2017). The specificity of sound symbolic correspondences in spoken language. *Cognitive Science*, *41*(8), 2191–2220. doi: 10.1111/cogs.

Vanden Bergh, B. (1990). The rekurring kase of the special K. *Journal of Advertising Research*, *30*(5), RC9–RC12.

Vershinina, M. G. (2013). *Экспликация фоносферы в русской фоносемантической звуковой картине мира* (*Eksplikaciya fonosfery v russkoj fonosemanticheskoj zvukovoj kartine mira*) [Explication of the phonosphere in the Russian phonosemantic sound picture of the world] (Abstract of doctoral thesis). Perm: PGU.

Vil'ms, L. E. (1997). *Лингвокультурологическая специфика понятия "любовь": на материале немецкого и русского языков* (*Lingvokul'turologicheskaya specifika ponyatiya "lyubov'": na materiale nemeckogo i russkogo yazykov*) [Linguistic-culturological specificity of the concept of "Love": On the material of German and Russian languages] (Abstract of doctoral thesis). Volgograd.

Vorkachev, S. G. (1995). Национально-культурная специфика концепта любви в русской и испанской паремиологии (Nacional'no-kul'turnaya specifika koncepta lyubvi v russkoj i ispanskoj paremiologii) [National-cultural specificity of the concept of love in Russian and Spanish paremiology]. *Philology Science. Scientific Reports of Higher Education*, *3*, 56–66.

Voronin, S. V. (1982). *Основы фоносемантики* (*Osnovy fonosemantiki*) [Fundamentals of phonosemantics]. Saint Petersburg: LGU.

Wescott, R. W. (1971). Linguistic iconism. *Language*, *47*(2), 416–428.

Wichmann, S., Holman, E. W., & Brown, C. H. (2010). Sound symbolism in basic vocabulary. *Entropy*, *12*(4), 844–858. Retrieved from https://www.mdpi.com /1099-4300/12/4/844/htm

Wichmann, S., Holman, E. W., & Brown, C. H. (2018). The ASJP Database (version 18). Retrieved from https://asjp.clld.org/

Winter, B., & Perlman, M. (2021). Size sound symbolism in the English lexicon. *Glossa: A Journal of General Linguistics*, *6*(1), 1–13. https://doi.org /10.5334/gjgl.1646

Zimova, M. D. (2005). *Звукоизобразительные тенденции начальных согласных в немецком и новогреческом языках* (*Zvukoizobrazitel'nye tendencii nachal'nyh soglasnyh v nemeckom i novogrecheskom yazykah*) [Sound consonant tendencies of initial consonants in German and modern Greek languages] (Abstract of doctoral thesis). Pyatigorsk.

Ivana Grabar
Sveučilište Sjever, Koprivnica, Hrvatska
ivana.grabar@unin.hr

Svetlana S. Shlyakhova
Nacionalno istraživačko politehničko sveučilište u Permu, Rusija
shlyahova@mail.ru

Svetlana V. Shustova
Državno sveučilište u Permu, Rusija
lanaschust@mail.ru

Olga V. Shestakova
Nacionalno istraživačko politehničko sveučilište u Permu, Rusija
shestakova64@mail.ru

Ekaterina A. Kostina
Državno pedagoško sveučilište u Novosibirsku, Rusija
ea_kostina@mail.ru

Onomatopeja pri reprezentaciji značenja ljubavi, privrženosti i rodnih odnosa

Sažetak

U radu se otkriva zvučno-simbolička priroda jezičnih jedinica sa značenjem ljubavi, privrženosti i rodnih odnosa u njemačkome i ruskome jeziku. Utvrđeno je da onomatopejske riječi sa značenjem udarca, fiziološkim zvukom tijela i zvucima govora, u njemačkome i ruskome jeziku redovito tvore značenje povezano s ljubavlju, privrženošću i rodnim odnosima. U većini slučajeva značenje ljubavi, privrženosti i rodnih odnosa u njemačkome i ruskome jeziku izražava se kombinacijom praskavaca i zvonačnika, kao i praskavaca, zvonačnika i treptajnika. Razjašnjena je međusobna povezanost zvuka i značenja, kao i zvučno-ikoničke funkcije fonotipova: bezvučni tjesnačnici odraz su pejorativnosti te rjeđe ženstvenosti (dragosti i mekoće), dok su praskavci i treptajnici odraz snažnih osjećaja, pritiska, ustrajnosti te agresivnosti u vezi.

Ključne riječi: zvučna ikoničnost, onomatopeja, ljubav, njemački jezik, ruski jezik