ГЕРМАНСКИЕ ЯЗЫКИ

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ЗВУКОВОЙ СИМВОЛИЗМ КАК ФОНЕТИЧЕСКОЕ ЯВЛЕНИЕ И СРЕДСТВО ХУДОЖЕСТВЕННОЙ ВЫРАЗИТЕЛЬНОСТИ

В статье рассматривается феномен звукового символизма в языке. Обсуждаются различные подходы к определению сущности явления, его статус в современной лингвистике. Особо подчеркивается кросс-модальный характер явления, образующего собой предметную область для исследований как в области языкознания, так и в области психологии. Кросс-модальное соответствие звуковой и смысловой составляющих звукосимволических слов представляется авторами одним из обоснований научной значимости теорий фоносемантики и дальнейших попыток обнаружения и изучения устойчивых непроизвольных связей в звукоизобразительной системе языка. Важной особенностью работы является, также, расширение подхода к классификации звукосимволических явлений на основе семантики и формальной фонетической структуры путем добавления прагматической составляющей в ряд учитываемых характеристик. Так, авторами самостоятельно выделяются и анализируются три типа звукового символизма на основе существующих общепринятых классификаций: звуковой символизм, содержащий фонестему (Phonaestheme-containing Sound Symbolism); партикуляристский (Particularistic Sound Symbolism); идеофоны (Ideophones). Отдельно рассматривается взаимосвязь звукового символизма и фонэстетики – неформализованного направления лингвистики о красоте звучания языка, суть техник которого впервые описал Дж. Р. Р. Толкин, комментируя процесс создания вселенной в "Хоббите" и "Властелине колец" (в особенности в части фонетических приемов написания художественного текста, таких как,

например использование определенной "контрастной" фонетики в языках разных рас). Авторами делается вывод о том, что фонэстетика способна расширить дуальную кросс-модальность звукового символизма, поскольку предполагает исследование субъективной категории красоты звука.

Ключевые слова: фоносемантика, звуковой символизм, фонестема, идеофон, ономатопея, фонэстетика

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SOUND SYMBOLISM AS A PHONETIC PHENOMENON AND A MEANS OF ARTISTIC EXPRESSION

The research is devoted to the phenomenon of sound symbolism in the language. Various approaches to defining the essence of the phenomenon and its status in contemporary linguistics are discussed. The authors explain 'crossmodal correspondence' within sound symbolism, which may form a subject area for researches both in the field of linguistics and in the field of psychology. The cross-modal correspondence occurring between sound and semantic components of sound-symbolic words is presented by the authors as a justification factor for the scientific significance of the phonosemantic theories and further attempts to detect and to study non-arbitrary connections between sound and meaning of a linguistic sign. An important feature of the work lies in the expansion of the classification approach of sound-symbolic language units. It is suggested to add a pragmatic component to the analysis of units' semantics and formal phonetic structure. Therefore, three types of sound symbolism are distinguished and analyzed in this work by the authors relying on the conventional classification approaches: Phonaestheme-containing Sound Symbolism; Particularistic Sound Symbolism; Ideophones. Finally, the authors emphasize heuristic potential of phonaesthetics – an unformalized direction of linguistics about the beauty of the sound of a language, which was first described by J.R.R. Tolkien in connection with the phonetic techniques applied in 'Hobbit' and 'Lord of the

Rings', e.g., the use of certain phonetics in languages of different races. It is concluded that phonaesthetics may expand the dual cross-modality of sound symbolism, since it involves the study of the subjective category of the beauty of sound.

Keywords: phonosemantics, sound symbolism, phonaestheme, ideophone, onomatopoeia, phonaesthetics

Introduction

Are sounds incorporated with the meaning? This philosophical question can be easily transferred into the field of linguistics: is the meaning of a word related to the way it is pronounced? The common answer of modern science for that is negative. However, there have always been the opposite views, stating that some meaningful connection between sound and meaning in language can occur at least in some cases. Moreover, there are attempts to discover some basic principles of *phonosemantics* – the branch of linguistics which could make the studies of sound-and-meaning pair formalized and recognized.

We believe that the relatable studies are at least valid, as they are conducted with the use of scientific methods. At the same time, we do not insist on rejecting the majority views in contemporary linguistics in this research. However, we are to try to compile some examples of the observable regularities of sound-and-meaning interrelation as well as to explain the principles of its foundation.

We assume that sound symbolism is not only linguistic but psychological phenomenon at the same time – i.e., it is relevant to many cognitive activities including language. This kind of view implies the thesis that *specific phonetics is correspondent at least to specific perceptual response*. In other words, particular sounds linguistically expressed through the phonemes facilitate the specific type of brainwork and mind reaction. As for this thought, it is shared widely in modern psychology and stands out as the evidence of *crossmodal correspondence*, being actively studied by several authors (Spence, 2011; Parise, 2016). Within the framework of the current work, this thought additionally justifies further attempts to discover and to explain possible sound-and-semantics non-arbitrary relationships, even though it does not fully prove the verity of such studies' results.

Materials and methods

Material of the research is represented by the examples of phonosemantically marked language units derived from the texts of English-language media discourse. The study was conducted within the scope of phonosemantic field of linguistic studies. The mixed-method research approach was implemented by the deductive analysis of gathered data with its further comparison and classification.

Dealing with a variety of different techniques which relate to the use of sounds and language units together, we will observe two dimensions of this phenomenon separately:

– Forms and mechanisms of sound-and-meaning associations in language in general (sound symbolism in linguistics).

– Human mind reaction on phonetics (rules of pleasant sounds of language – phonaesthetics).

Theoretical background

Sound symbolism in language is understood as the apparent association between particular sound and/or its sequences and specific meanings in speech (Johansson et al., 2020). As we have already said, this concept is rather controversial in linguistics, as it raises the issue of arbitrariness or non-arbitrariness of sound-and-meaning interrelation (Malyuga, Ivanova & Orlova, 2017). The term itself and its determination are somehow derived from the works of one of the fathers of modern language studies Ferdinand de Saussure. Thus, Saussure's one of the most well-known contributions in linguistics is the internal structure of a *linguistic sign*, which is understood as any meaningful language unit – i.e., morpheme, word, phrase, sentence (Saussure, 1983). Saussure distinguished two components for the linguistic sign: *the signifier* is about the way unit sounds, and *the signified* incorporates unit's meaning. Saussure insisted that the connection between these two components is essentially arbitrary, with a few minor exceptions (Fitch, 2016).

Most linguists nowadays agree with that, however historically there are the examples of the opposite view on the problem (Cassidy, 2019). In the matter of fact, Socrates argues that although many words have arbitrary relations to their meaning, the sound of 'good' words somehow suites their meaning (Fitch, 2016).

Some kinds of sounds-and-ideas relationship are given in Wilhelm von Humboldt classic work written in 1836 'On Language. On the

Diversity of Human Language Construction and Its Influence on the Mental Development of the Human Species' (Humboldt, 1999). Humboldt established three kinds of sounds and ideas relationships, which laid the foundation for future phonosemantic studies: Onomatopoeia, Clustering, and Iconism.

Nevertheless, Saussure's view became dominant at some point. In European and American language studies this problem exists as a question of the presence (and the degree) of natural motivation in language. This topic has been of marginal interest in contemporary language studies, since the foundational assumption has been that there is not any natural connection between a linguistic form and its meaning (Kwon & Round, 2015). The principle of arbitrariness of the sign has been widely adopted in mainstream linguistic theory, including Chomsky's generative grammar (Chomsky & Halle, 1968). According to it, language's syntax, morphology, and phonology do not consist of linear associations. In Chomsky's view the universal grammar is not necessarily specific to the phenomenon of language but "to the general ways in which the human mind works across multiple domains" (Chomsky & Halle, 1968). Obviously, generative grammar has a huge potential as an explanatory power for the issue of languages' grammar differences and lexical variability – e.g., 'house' is maison in French, casa in Spanish, dom in Russian, mazil in Arabic, etc.

A considerable contribution to contemporary studies of sound symbolism was made by the researchers of Saint Petersburgh school of phonosemantics in Russia in the second half of the 20th century. The scholars headed by S. V. Voronin have managed to widen the view on the phenomenon of sound symbolism by means of the following milestones of their school (Brodovich, 2016): (1) A linguistic sign has a twofold nature (it is non-arbitrary at the fundamental level, but it tends to obtain arbitrariness in the process of its evolution); (2) Creation of iconicity in language is an integral attribute of human thinking; (3) Sound-expressing (iconic) vocabulary is divided into onomatopoeic (acoustic imitation) and sound-symbolic (articulatory or acoustic-articulatory imitation).

Thus, the major achievement in phonosemantic field of research made by the representatives of Saint Petersburgh school is that the unitary principle "the linguistic sign is arbitrary" is replaced by a principle of the duality of the linguistic sign in a synchronous aspect. A sign system

in synchronicity acts as a unity of arbitrary (conventional, secondary) elements and non-arbitrary (natural, primary) elements that are in a relationship of "complementarity". At the same time, both, arbitrary and non-arbitrary elements can act as dominants, depending on the type of functional linguosemantic tasks being solved (Voronin, 2006).

Along with these milestones there are many more particular regularities in phonosemantics. These regularities are universal, and they make up a special section within the phonosemantic typology, which is called phonosemantic universology (Voronin, 2006). All the regularities are either absolute or relative.

Absolute phonosemantic regularities are multilingual and valid for all the languages. The following list contains the absolute regularities mentioned in S. S. Shlyahova and M. G. Vershinina work "Phonosemantic sound picture of the world" (Shlyahova & Vershinina, 2016): (1) Sound-expressive words form a system; (2) There are regular (constant) correspondences between sound-expressive word and its denotatum; (3) The emotive lexis is always sound-expressive; (4) The interlingual isomorphism of sound-expressive words is determined by the extralinguistic factor, which is the homomorphic relationships of sound-expressive words and designating objects; (5) The accuracy of the sound expressiveness is inversely related to the complexity of the denotatum; (6) Multiplying of the sound composition of sound-expressive word's root is one of the means of intensifying the root's core meaning; (7) If the nomination motive is known, then at least one phonotype of the sound-expressive word is predictable; (8) If the elements of the psychoacoustic structure of the denotatum's sound and the general features of the structuring of onomatopoeic words in a given language are known, then the model of this onomatopoeic word is predictable; (9) At least one phonotype in the sound-expressive word has an entity being identical to the entity of denotatum; (10) All the phonemes in sound-expressive words are polyfunctional; (11) The element of the denotatum's structure can be expressed in the sound-expressive word in more than one way.

Relative phonosemantic regularities may be observed in various languages as absolute regularities, however they are valid not for any language. They may be still found in most languages. The following examples, for instance, are the relative regularities that are valid for the most of Germanic languages (including English), though, they are

usually observed in other families too (Shlyahova & Vershinina, 2016): (1) The designations for the semantic category of 'large' contain an open wide intense vowel in their structure; (2) The designations for the semantic category of 'small' contain a closed narrow non-intensive vowel or palatal consonant in their structure; (3) The designations for the categories of 'open' and 'wide' contain an open wide intense vowel in their structure; (4) The designations for the semantic category of 'flat' contain an open vowel in their structure; (5) The designations for the categories of 'slippery' and 'smooth' contain smooth lateral consonant in their structure; (6) The designations for the categories of 'dark' and 'sad' contain a low-toned vowel in their structure; (7) 'Pejorative' meaning is associated with labiality.

Study and results

As we have already mentioned, there are several patterns of language units providing non-arbitrariness of sound-and-meaning interrelation. It is rather challenging to mention all of them and do it systematically, as they may be explored either from the acoustic (neuropsychological) or the semantic (linguistic) side, and at both the phonemic and the lexemic levels. Nevertheless, we will still mention the major examples from the relevant periodicals and media. Furthermore, we will attempt to divide them according to our own classification, basing on the accepted terminological grounds and the structure of units and their functions. Relying on this approach will allow us to avoid the drawbacks of 'purely semantic' and morphological classifications.

The first type of sound symbolism may be called *phonaesthemes-containing* sound symbolism. *Phonaesthemes* are represented by a particular sound or sound sequences of the word's phonetic structure, which is related to a certain meaning. The term was coined by a British linguist John Rupert Firth (Firth, 1930). Firth first used it to refer to recurrent pairings of sound and meaning such as the English examples *sl-*, *tw-* and *-irl/url*:

– *sl-* (often expresses 'pejorative'meaning): slack, slouch, slush, sludge, slime, slosh, slash, sloppy, slug;

– *tw-* (often expresses 'twisting' meaning): twist, twirl, tweak, twill, tweed, tweezer, twiddle, twine, twinge;

– *-i/url* (often expresses 'circular' meaning): twirl, curl, furl, burl, knurl, whirl, hurl, swirl, purl.

It is clear from the definition that the concept of the phonaestheme

violates Saussure's principle of arbitrariness, which makes it potentially difficult to be widely accepted among the scientific community. In Saussure's view linguistic units start to possess meaning beginning with a morpheme, whereas phonaesthemes sometimes are closer to the phonemes in terms of its obtained features. Hence, the other matter of concern is the place of phonaestheme as a language unit in a hierarchy of elements. It stands out as something unique, obtaining characteristics from both – phoneme and morpheme. Phonaesthemes are to be seen as in-between units sharing certain sound forms and reflect potential meanings that can be found in a limited number of language's words (Mubarak, 2009). Besides, it is necessary to add that such parts of the words as described above become phonaesthemes only when they are provided with a respective meaning in a considerable number of cases – i.e., phonaesthemes' own meaning strength depends on the frequency of words in which it occurs. This fact may be seen as one more of the concept's 'weak spots'.

Undoubtedly, phonaesthemes are very important in the studies of sound symbolism. In fact, they comprise a major number of the examples of what is related to the sound symbolism phenomenon in literature and media. We are to mention a few quite commonly known ones compiled from online-guide by British linguist David Appleyard (Appleyard, 2020). All the respective interpretations and examples of use are from the Cambridge Dictionary:

  – *gl-* (often indicates shiny visual phenomena): gloss (a smooth, shiny appearance on the surface of something: "Marble can be polished to a high gloss"), glare (unpleasantly bright or strong light: "Tinted windows will reduce the sun's glare"), gleam (to produce or reflect a small, bright light: "He polished the table until it gleamed"), glisten (to shine by reflecting light from a wet or smooth surface: "The grass glistened in the early-morning dew"), glitter (to produce a lot of small, bright flashes of reflected light: "Her diamond necklace glittered brilliantly under the spotlights"), glow (to produce a continuous light and sometimes heat: "A nightlight glowed dimly in the corner of the children's bedroom"), etc.

  – *fl-* (often indicates a sense of movement): flap (to wave something, especially wings when or as if flying: "A small bird flapped its wings furiously and flew off"), flee (to escape by running away, especially because of danger or fear: "She fled (from) the room in

tears"), flex (to bend an arm, leg, etc. or tighten a muscle: "First, straighten your legs, then flex your feet"), flow ([especially of liquids, gases, or electricity] to move in one direction, especially continuously and easily: "Lava from the volcano was flowing down the hillside"), fly (When a bird, insect, or aircraft flies, it moves through the air: "The poor bird couldn't fly because it had a broken wing"), etc.

– *sl-* (often expresses negative and 'pejorative' meaning): slam (to criticize: "Although the reviewers slammed the play, the audience loved it"), slap (an action that insults or upsets someone: "It was a real slap in the face for him when she refused to go out to dinner with him"), slave (a person who is legally owned by someone else and has to work for that person: "Black slaves used to work on the cotton plantations of the southern United States"), sloppy (very wet or liquid, often in a way that is unpleasant: "She covered his face with sloppy kisses"), slump (a period when an industry or the economy is in a bad state and there is a lot of unemployment: "The airline industry is currently in a slump"), slush (language or writing that is too emotional and romantic and does not have any real importance or meaning: "Have you read his early poems? They're slush"), etc.

– *wh-* (often indicates a sound caused by rapid movements of or through air): whack (to hit someone or something noisily: "He whacked the tree trunk with his stick"), wham (used to suggest the sound of a sudden hit: "The boys in the cartoon were punching each other - wham, zap!"), whiz (to move or do something very fast: "A police car whizzed by, on its way to the accident"), whoosh (a soft sound made by something moving fast through the air or like that made when air is pushed out of something: "The train sped through the station with a whoosh"), etc.

– *-ump* (often refers to a rounded form): hump (a large, round raised area or part: "The car hit a hump in the road and swerved"), lump (a hard swelling found in or on the body, especially because of illness or injury: "She found a lump in her breast"), mumps (an infectious disease that causes painful swelling in the neck and slight fever: "Children are vaccinated against measles and mumps"), plump (having a pleasantly soft, rounded body or shape: "Wow, what a nice plump chicken"), etc.

Another form of sound symbolism may seem to be similar to the phonaesthemes. We will call it *particularistic sound symbolism.* It is

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based on non-arbitrary association between the sound of a word's part and its meaning but does not meet the term of frequency in a language's corpora. That is why in this type of sound symbolism every single case is independent and cannot be directly related to the concept of phonaestheme. Common examples from the scientific observations include the use of different vowels to represent size, e.g., as the /i:/ in 'teeny' or 'weeny' symbolizes small size. Similarly, different consonants may represent different shape of the objects, as in the well-known 'bouba' and 'kiki' example. In a variety of experiments across different culture and age groups, participants were asked to choose a name from these two words for a rounded shape and for a sharp-edged shape in the picture. People consistently chose the rounded shape for bouba and associated the sharp-edged shape with kiki. Thus, it appeared that smooth and rounded shape is commonly associated with consonant 'b', and angular sharp shape is associated with 'k' (Fitch, 2016).

These results were further confirmed and developed in numerous researches. For instance, Bremner et al. (Bremner et al. 2013) confirmed both, interethnic nature of sound symbolism and the stability of sound-shape associations. In this study, speakers who have little exposure to Western culture – namely, people from the Himba of Northern Namibia, were asked to perform the same correspondence task as in 'bouba and kiki experiment'. However, there was an important feature in that case, as the participants did not have any non-verbal (written) forms of the language. Thus, they were asked to repeat the nonce words after the speaker and decide whether they are more suitable for the angular or for the rounded shapes. The answers of 82% of the participants were the same as the ones of majority in the initial experiment.

Furthermore, there are some free-choice tests with no articulated task of matching sounds with particular shapes. In Berlin's experiment (Berlin 2006) a group of English-speaking people was asked to create the names for two birds. One of the birds looked round, while the other looked angular. Once again, the results confirmed the universal pattern of sound symbolism: back vowels /u/ and /o/ were predominant in the names created for the 'rounded' bird, while front vowels /i/ and /e/, and voiceless stops /p/, /t/, and /k/ were predominant for the 'angular' bird.

Finally, the third form of sound symbolism is represented by *ideophones*. While the previous types of distinction were based upon the function of particular words' parts, the term 'ideophones' entitles the group of completed words themselves. Ideophones aim at corresponding to the sensory experience and depicting it in a written form, e.g., a comic-book word 'kapow' or 'zigzag'. They are created as attributes of some phenomena from the sensory world. Thus, they are implied to embody association and consequently to be a type of sound symbolism. While the association is created by means of the ideophone's sound, it imitates some other sense, e.g., shape, smell, or size. The ideophones being correspondent to the sounds are termed *onomatopoeias*. Onomatopoeias include a variety of words from fully imitating interjections-like 'beep' (a short, loud sound, especially made by something electronic: The voice on the answering machine said "Please leave a message after the beep."), 'quack' (to make the usual sound of a duck: "The ducks started quacking loudly when we threw them some bread."), 'meow' (the crying sound a cat makes: "My sister's cat will just sit at the sink and meow until you turn the tap on for her."), etc. to nouns 'cuckoo' (a grey bird with a two-note call that sounds similar to its name), 'roar' (to make a long, loud, deep sound: "We could hear the lions roaring at the other end of the zoo".), etc. (Cambridge Dictionary, 2020).

It has been already mentioned above, there is a phenomenon of crossmodal correspondence, occurring between the phonetics of linguistic units (or the way they sound) and a type of human mind's reaction. The result of this kind of conglomerate is association. We can say that different types of sound symbolism found a physical part of its representation. But at the same time any association may be represented by the senses being experienced by a person through the process of observation. We are not to get deep into the spectrum of all the possible emotional perception of association within the framework of this study, however we will focus on the category of pleasantness and unpleasantness of association. A series of researches in this field makes up a foundation for a scientific direction called *phonaesthetics* – i.e., rules of euphonious phonetics. It is not commonly recognized as a full-fledged branch of linguistics, as it is considered to be overly affected by the subjective factor. Even though, it is still partly based upon the researches of human reactions on different sounds and sequences, being

incorporated within a word.

It is believed that the term 'phonaesthetics' was first used by John Ronald Reuel Tolkien, when he described the process of creation of his characters' names and verse (Holmes, 2010). Probably, one of the poets' and writers' major tasks in the creating process is to convey a variety of different sensations in a rather convincing and powerful way. Thus, some authors take seriously possible meanings communicated by sound – i.e., phonetic side of the language they use in their texts. Indeed, even in prose, while creating his high fantasy worlds, Tolkien did an outstanding amount of writer's work considering the organization of relationships between sound and meaning. He consciously followed the idea that sound carries its own sense, and therefore all the words need to be used in a certain way from the phonetic point of view. Such approach made possible the creation of universe fulfilled with the elements which bring to light volumes of strong associations: for instance, unique and recognizable language features for different races including the aspects of their phonetics, grammar, and pronunciation. Therefore, when creating the language of the Elves, it was important for Tolkien to make it sound pleasant; for the Black Speech, however, he used sounds that he felt to be unpleasant (Allan, 1978). We will not focus on the detailed analysis of Tolkien's novels, as this topic is rather broad and 'far-reaching'. However, it is necessary to state that Tolkien followed his own instincts and aesthetic preferences, while creating the authentic sound of his worlds and prose as a final result. In Susan Robbins study of Tolkien's phonaesthetics she writes (Robbins, 2013): "Tolkien was reluctant to explain in detail his phonetic preferences, considering them to be idiosyncratic and purely subjective. But phonetic analysis and immense popularity among the reading public show this not to be the case. It is shown in how Tolkien includes songs and poems, and invocations in both Elvish languages, sometimes without even translating them. Upon his arrival in Rivendell, Frodo hears an elf sing a song to Elbereth, the text of which is given without translation. Tolkien writes, "He stood still enchanted, while the sweet syllables of the elvish song fell like clear jewels of blended word and melody." Evidently the 'sweet syllables' of the song are meant to have the same effect on the reader seeing them in print. Translation isn't necessary for the apprehension of beauty."

Indeed, in various further researches it was shown that Tolkien came

very close to those objective results of psycholinguistics that were mentioned above (e.g., 'bouba' and 'kiki' effect, Berlin's experiment 'of birds' names creation'). As for the contemporary linguistic studies, David Crystal is among the scientists using the concept of phonaesthetics in his works. Moreover, Tolkien's ideas of what sounds in language are pleasurable correspond significantly with the results of Crystal's studies. He defines phonaesthetics as "the study of the aesthetic properties of sound, especially the sound symbolism attributable to individual sounds, sound clusters or sound types." (Crystal, 2001). Basing on this definition and Tolkien's view on the concept, we may conclude that phonaesthetics both studies sound symbolism and is achieved by its means. Consequently, phonaesthetics is related to the concept of phonaestheme, as it may often include the latter as an object of study, even though not necessarily.

Therefore, phonaesthetics in language may be expressed through the words incorporated with the specific phonetic patterns, not being a well-established combination of particular letters as phonaesthemes. Consequently, the whole thing is not about the words' parts and their meanings but about the rules of phonemes' sequence. In his research, Crystal presents 112 English words, that were chosen as a result of a set of readers' polls and surveys. These words constitute a matrix of phonaesthetic words. This matrix is further analyzed by the author to formulate some regularities of the words' euphoniousness. Obviously, the majority of such regularities simply note the presence or absence of particular sounds. Nevertheless, some of them deal with more complex pattern – e.g., the repetition of certain types of sounds, like the repetition of the nasal consonants in 'murmur', 'harmony' and 'mignonette'. There are several examples listed below, which are extracted from D. Crystal's paper "Phonaesthetically Speaking" (Crystal, 1995) where he contributes with the words, being commonly regarded to sound pleasantly according to the results of reader polls:

– Three or more syllables (e.g., *goss·a·mer* and *mel·o·dy*).
– Stress on the first syllable (e.g., *góssamer* and *mélody*).
– /l/ is the most common consonant phoneme, followed by /m, s, n, r, k, t, d/, then a huge drop-off before other consonants (e.g., *luminous* contains the first four).

–   Short vowels (e.g., the schwa, followed in order by the vowels in *lid*, *led*, and *lad*) are favored over long vowels and diphthongs (e.g., as in *lied*, *load*, *loud*).

–   Three or more manners of articulation (with approximant consonants the most common, followed by stop consonants, etc.; e.g., *tremulous* and *tremendous*).

We may conclude, that phonaesthetics has a potential to go beyond the framework of phonosemantic studies, as it allows to explore the interaction between linguistic phenomena and such subjective categories as pleasantness and unpleasantness. Thus, it will lead to extension of the dual crossmodality of sound symbolism.

Conclusion

In this paper we have studied some examples of the observable regularities of sound-and-meaning relationships. We also have explained the principles of this connection's foundation as well as analyzed different contemporary approaches, making an emphasize on the crossmodal nature of the phenomenon. The main results are formulated in theses below:

Sound symbolism as a linguistic concept remains to be not completely formalized due to its controversial status and critical attitude of scientific community to the ideas of non-arbitrary connection between sound and meaning as two sides of a linguistic unit.

Sound symbolism should be studied as both, linguistic and psychological phenomenon – i.e., it is an example of crossmodal correspondence, as particular sounds linguistically expressed through the phonemes facilitate the specific type of brainwork and mind reaction. This approach provides justification for linguistic studies in the field.

In own classification of sound-and-meaning associations in language in general we suggest implementing a pragmatic approach, dividing the observed units basing not only on their semantics or formal structure, but on the functions a part of word or a word itself performs:

–   Phonaesthemes-containing sound symbolism includes the words with a particular sound or sound sequences related to a certain meaning in their phonetic structure – phonaesthemes. They indicate a certain meaning, being frequent in language's corpora (e.g., *fl*-indicating a sense of movement in 'flag', 'flap', 'flee', 'flex', 'flow', 'fly', etc.)

–   Particularistic sound symbolism is based on association between the sound of a word's part and its meaning but does not meet the term of frequency in corpora. In this type, every case should be observed independently (e.g., the /i/ in 'teeny' or 'weeny'symbolizing small size).

–   Ideophones (including onomatopoeias) aim at corresponding to the sensory experience (e.g., 'zigzag', 'meow', 'boom', etc.)

Phonaesthetics states rules of pleasant sounds of language. It is possible to be studied in a context of sound symbolism's crossmodality, as it deals with associations between sound and meaning. Furthermore, phonaesthetic studies can extend dual crossmodality of sound symbolism, as it goes beyond the framework of phonosemantic studies, allowing to explore the interaction between linguistic phenomena and such subjective categories as pleasantness and unpleasantness.

Any further attempts to explore language features at their crossmodal interrelations are likely to become widely used in practice by the speechwriters, diplomats, politicians, journalists, etc. All of these people can benefit from any science to be found in sound-symbolic words. In fact, this is a sphere of knowledge relating to any kind of occupation that implies some sort of public relations. Deeper understanding of possible influence that language will allow to invent and to implement new technologies of cognitive manipulation. They can be both good and evil. Thus, it is highly important to conventionalize these spheres of research not only through the prism of natural sciences, but through the humanitarian sciences as well. In this sense, phonosemantic studies in linguistics may become a good starting point of this 'expansion', as they obtain a relatively high level of systematicity and developed methodology.

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МЕТАФОРИЧЕСКАЯ НОМИНАЦИЯ В
ТЕРМИНОСИСТЕМЕ АТОМНОЙ ЭНЕРГЕТИКИ
(НА МАТЕРИАЛЕ АНГЛИЙСКОГО ЯЗЫКА):
ОПЫТ КОРПУСНОГО И КОГНИТИВНОГО ОПИСАНИЯ

В настоящей статье делается попытка рассмотрения проблемы номинации в терминосистеме атомной энергетики и потенциал метафоры как средства номинации. Путем анализа конкретных терминов делается попытка реконструкции когнитивных механизмов номинации и предлагаются продуктивные когнитивные модели номинации в данной терминосистеме.

Верификация результатов обеспечивается за счет применения корпусных методов исследования. Материал исследования позволяет утверждать, что метафора является продуктивным средством номинации объектов и явлений. Более того, такой механизм номинации образует устойчивые и в значительной степени упорядоченные метафорические комплексы.

Наличие таких комплексов позволяет утверждать, что лежащие в основе данных номинаций модели имеют