PERCEPTION OF ONOMATOPOEIC WORDS
BY FOREIGN SPEAKERS

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Abstract. The article deals with the problem of linguistic iconism, which is popular nowadays not only with linguists but also with psychologists and philosophers. The article presents the description and the results of the experiment involving the Russian speaking volunteers. The aim of the research is to examine the potential ability of foreign speakers to recognize the meaning of the onomatopoeic words of the unfamiliar language. The results of the relevant preceding experiments with the Altay and Mongolian speakers are also discussed in the paper. The research involves the speakers and the onomatopoeic words belonging to different genealogical branches in order to prevent the speakers from recognizing the stimuli due to their similarity in their native language.
Keywords: iconism; sound symbolism; onomatopoeic word; acoustic perception; the Russian language; the Altay language; the Mongolian language.

Nowadays it is a widely spread conception not only in Linguistics but also in Philosophy, Psychology and cognitive science that there is a certain coincidence between the word and its meaning, but the question is the degree of this coincidence.

Often referred to as *sound symbolism* [10], the associations between words and their abstract meaning was first mentioned in Plato's *Cratylus* dialogue [11], and has been particularly examined in both Linguistics [12; 6; 9; 2; 7; 5] and Psychology [8; 13].

Through a detailed evaluation of the literature we can find a few approaches to the *sound symbolism phenomenon* that works out a *few types of sound symbolism*: associations between sound and shape [3], associations between sound and color [5], associations between sound and gestures and some others.

In our paper we mostly deal with associations between sound and meaning. The potential for words to denote their meaning was described by Ch. Pierce [10]. According to Pierce's Semiological Conception the degree of coincidence between the word and its meaning can be observed in the chain *symbol – index – iconic* sign. The most conventional relation between the word and its referent is viewed in a *symbol*, and the closest – in an *icon*. In any language iconic signs are represented by onomatopoeic words. In the process of phylogenesis the phonemes of the onomatopoeic words were chosen according to their coincidence with the acoustic value of the natural sounds they are to denote. It is important to stress that there is a great difference in phonetic features of a particular onomatopoeic word in different languages.

In the current article we examined the potential ability of foreign speakers to recognize the meaning of the onomatopoeic words of the unfamiliar language. We suppose that the iconic features of the stimuli are the only available source of information for the participants in case they do not know the language of the stimuli.

Participants

Sixty-three monolingual native Russian speakers who had never learned or dealt in any way with the Mongolian language were recruited from The Shukshin State Pedagogical University of Biysk. The subjects were asked to perform a short pencil and paper task lasting approximately 15 minutes.

Material

We engaged the continuous sampling method to choose 25 Mongolian onomatopoeic words as stimuli. It is necessary to mention that the phonetic qualities of the Mongolian onomatopoeic words were quite different from the correlating Russian words to prevent the participants from guessing the

meaning of the stimuli due to their similarity with the words in their native language. The stimuli were recorded by the native Mongolian Speaker. In the record each stimuli was repeated 5 times.

Procedure

In the course of the experiment the participants were asked to listen to the Mongolian onomatopoeic words, guess the natural sounds denoted by the stimuli and find the correlating Russian onomatopoeic words used to denote them. We aimed to encourage the participants to perceive iconic qualities of the foreign words in order they could guess their meaning. We tried to avoid any outlets with the task and chose a pure auditory presentation of the material to stimulate the subjects concentrate on the acoustic qualities of the onomatopoeic words in order to help them get the correlation between the sound and the meaning. After hearing each Mongolian onomatopoeic word that was repeated 5 times the participants wrote a better corresponding Russian onomatopoeic word on a sheet of paper.

Figura 1.

Identification of Mongolian onomatopoeic words by Russian speakers (%)

Mongolian onomatopoeic word	Russian equivalent	Identification (%)
Пин-пан [пин пан]	**Бах** [бах]	**14**
Тар-няр [тарн'ар]	**Тресь** [трес']	**2**
Жин-жин [жин жин]	**Динь-дон** [дин'дон]	**86**
Шир-шир [ш'ирш'ир]	**Звяк** [зв'ак]	**0**
Час-час [часчас]	**Хруп** [хруп]	**8**
Хярр-хярр [х'арх'ар]	**Скрип** [скр'ип]	**32**
Товор-товор [товор товор]	**Цок-цок** [цокцок]	**40**
Чад-чад [чатчат]	**Щелк** [щ'олк]	**0**
Чаг-чаг [чакчак]	**Тик-так** [тиктак]	**24**
Тас-тас [тастас]	**Хрясь** [хр'ас']	**2**
Шоп [ш'опш'оп]	**Чмок** [чмок]	**0**
Шур-шар [ш'урш'ар]	**Шурк-шурк** [шуркщурк]	**92**
Шор-шор [ш'орш'ор]	**Кап-кап** [капкап]	**0**
Май-май [мај мај]	**Бе-е** [б'э]	**86**
Хав-хав [хафхаф]	**Гав-гав** [гафгаф]	**90**
Ваг-ваг [ваквак]	**Кар-кар** [каркар]	**0**
Жив-жив [живжив]	**Чик-чирик** [чикчирик]	**80**
Цор-цор [цорцор]	**Тяф-тяф** [т'афт'аф]	**0**
Ва-ва [вава]	**Ква** [ква]	**0**
Абс [апс]	**Апчхи** [апчх'и]	**64**
Туй [туј]	**Тьфу** [т'фу]	**72**

Results

The average rate of recognition made up 27 %. Thus, the participants had no difficulty with the mong. *шур-шар* (rus. *шурк-шурк*): it was identified by 92 % of the subjects. It can be explained by a certain acoustic simi-

larity between the mong. *шур-шар* and its equivalent in Russian *шурк-шурк*, that denote the sound of rustle. But there is no obvious acoustic correlation between mong. *товор-товор* and rus. *цок-цок* whereas the Mongolian item is identified by 40 % of Russian subjects (*Figura 1*).

Similarity of the words' acoustic features in both languages often causes wrong identification of the stimuli: mong. *шир-шир (*rus. *звяк)* was defined as rus. *шир-шир, шорк-шорк* by 88 % of subjects. The same thing happened to mong. *шоп-шоп (рус. чмок)* that was wrongly defined due to their acoustic similarity as рус. *шлеп* by 70 % of Russian speakers involved.

It is necessary to stress, that the index of phonosemantic quality in most cases appears to be either high (64–92 %) or low (0–14 %), but not in the middle. Thus it is possible to conclude, that each Mongolian onomatopoeic word either has high iconic features or does not have them at all.

In the course of the experiment the participants showed a significant ability to get the meaning of a foreign word through its acoustic value. This effect is to be expected, since the highest degree of coincidence between the verbal item and its meaning can be observed in *iconic* signs that include onomatopoeic words [10].

There was also a series of experiments involving onomatopoeic words of the English Language perceived by Russian and Mongolian users who do not have any command of English. The analysis of the data showed that there is a significant interaction between the sound and the meaning within onomatopoeic words. Thus, Russian speakers recognized 36 % of the English onomatopoeic words offered to them during the experiment, and the Mongolian speakers have the result of 32 %. According to all of the experiments the average level of foreign onomatopoeic word recognition is 31–38 % (Figure 2).

Figure 2.

General data of the experiments

Material (onomatopoeic words)	Speakers	Recognition (%)
English	Russian	36
English	Mongolian	32
English	Altaian	32
Altaian	Russian	38
Mongolian	Russian	32
Mongolian	Altaian	31

Discussion

A comparison of the results and a careful consideration strongly supports the idea that foreign onomatopoeic words are recognized due to the following factors:

1) Outer phonetic similarity between onomatopoeic words in different languages (even belonging to different language branches). We define this phenomenon as *universal language iconism*;

2) Preservation of natural sounds qualities in onomatopoeic words in different languages in spite of the difference in phonetic means applied to form the particular words. This phenomenon is defined as *inner language iconism*.

It can be concluded from our studies and the previous examinations that language speakers take acoustic cues from the foreign word form and respond to them while deducing the meaning of the items.

A deeper understanding of how "inner" and "outer" iconic qualities interact in this phenomenon or what specific features they have in different languages, is an issue for further study. A number of authors suggest that sound-meaning correspondences are borne in cognitive structures that may differ according to the language. All the existing languages are created in the human brain, although it does not mean that they were formed within the same cognitive mechanisms or in the same area of the brain [1].

Many open questions remain about the phenomenon of iconism regarding its correspondence with other sensory and cognitive phenomena such as synaesthesia [3] and analogical reasoning or metaphor interpretation [8]. The further results may provide a greater understanding regarding the relationship between verbal items and meaning, can illuminate the range of factors that are important in naming biases.

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