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Onomatopoeia and Regular Sound Changes

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The article deals with the problem of diachronic development of onomatopoeic lexicon and discusses how regular sound changes affect imitative words. The classification according to the degrees of the impact of regular sound changes is devised and applied to the bulk of English sound-imitative words.

The aim of the article is to establish which regular sound changes of the English language had the most detrimental effect. In order to achieve this aim, all major English regular sound changes are classified into phonosemantically significant and phonosemantically insignificant. This classification is based on the use of methods of historical-comparative linguistics and etymological analysis.

The main result is the revelation of the fact that not all regular sound changes are equally detrimental to the iconic lexicon of a language. They are only so if: 1) touch upon salient, meaning-bearing phonemes of an iconic word; 2) change the original phonotype of a phoneme; and 3) take place when the word still retains its original sound-meaning coherence. The devised classification is potentially universal and applicable to the onomatopoeic lexicons of related and unrelated languages.

Keywords: onomatopoeia, regular sound changes, diachronic linguistics, iconicity, sound symbolism, etymology, phonosemantics.

Research area: philology.

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Introduction

Onomatopoeia has always been enigmatic to the researchers of language. It creates a link between the seemingly isolated universe of human language and the rest of the world in its diverse manifestations.

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Even Ferdinand de Saussure, one of the founders of modern linguistics admitted (Saussure, 2006: 81) that onomatopoeic words were a hindrance to the otherwise perfect theory of the arbitrariness of the linguistic sign. Such words considerably 'spoiled' the impeccable picture where form and meaning existed independently of each other and nomination was a mere convention.

Ever since the appearance of Saussure's *Cours de linguistique générale* onomatopoeia has been an 'unwanted child' of structuralism, and later of the domineering theory of generative grammar. The notion of existence of nonconventional, natural link between sound and meaning simply doesn't fit into these theories.

These notions result in the marginalization of onomatopoeic words and create a view that they are nothing but linguistic oddities, peculiar items in the Cabinet of Curiosities of modern linguistics.

In the present article I challenge this view and aim to show how evolutionary processes in the language obscure originally onomatopoeic words, making their originally imitative nature invisible for the present-day researchers.

Theoretical framework

It is impossible to speak about onomatopoeia without mentioning *iconicity.* 'Iconicity' is a term belonging to the realm of semiotics. It describes a relation between sign and its object as a relation of *similarity.*

The semiotic triad *image – icon – symbol* was first introduced by Charles Sanders Peirce (Peirce, 2018) and later applied to the human language. The vast majority of the present-day words are symbols (arbitrary relation between sign and its object, or word form and its denotatum); and onomatopoeic words – which are a minority – are linguistic icons.

Studies of linguistic iconism now encompass general theoretical problems of linguistic sign (Jakobson, Waugh, 1979; Jespersen, 1933; Wescott, 1980), studies on reduplication (Rozhanskii, 2011; Moreno Cabrera, 2017), sound symbolism (Abelin, 1999; Hinton et al., 1994; Kuzmich, 1993; Marchand, 1959; Slonitskaia, 1987; Bartens, 2000), onomatopoeia (Voeltz et al., 2001; Voronin, 1998; Lapkina, 1979; Shliakhova, 1991; Veldi, 1988) and other related issues (Anderson, 1998; Voronin, 2005, Voronin, 2006; Gazov-Ginzberg, 1965; Kankiia, 1988; Dingemanse and Akita, 2017).

Over the past decades appeared several specialized dictionaries of onomatopoeic words (Taylor, 2007; Flaksman, 2016; Written Sound, 2018; Iconicity Atlas, 2018) and the studies of onomatopoeic lexicons in different languages are gaining ground.

On the whole, the growing bulk of data from languages of different language families is paving the way for the re-examination of the role played by iconicity in the human language.

Problem statement

Despite the continuous appearance of books and articles on onomatopoeia in various languages (see the paragraph above), most of these works deal with the synchronous level of language, rarely taking into account diachronic problems of onomatopoeia (outstanding exceptions to this tendency see – Brodovich, 2008; Joseph, 1997; Liberman, 2010; Malkiel, 1990). Yet diachronic approach gives a new insight into the nature of onomatopoeia.

In the present paper we continue the discussion we started in (Flaksman, 2015; Flaksman, 2017) and describe how regular sound changes affect English onomatopoeic word, focusing on the five main sub-classes of imitative words – instants, continuants, frequentatives, instants-continuants and frequentatives-instants-continuants (see Voronin, 2006: 39).

Methods

Methods applied in the present research are historical-comparative method, etymological analysis and the method of phonosemantic analysis (introduced in Voronin, 2006: 87).

The method of phonosemantic analysis is a combination of etymological investigation and typological comparison which takes into account such salient iconic traits as reduplication (e.g. E. *clap-clap*), syllable-lengthening (E. *baa-a-a*), expressive ablaut (e.g. E. *tick-tock, flip-flop*), metathesis, expressive gemination, etc. (Voronin, 2006, *op. cit.*: 91).

The method is used when there is a need to establish or verify the iconic origin of a word, and, therefore, in the present study is used supplementary.

Stanislav Voronin's classification of onomatopoeic words

For the purposes of the present article I briefly describe the classification of onomatopoeic words designed by S.V. Voronin (Voronin, 2006). His classification is based upon a comparison of the oscillogram recordings of speech sounds and the sounds of the natural world.

According to Voronin (Voronin, 2006, *op. cit.*: 39), onomatopoeic words are classified into five major categories: three pure – *instants*, *continuants*, *frequentatives*

and two mixed – *instants-continuants* and *frequentatives-instants-continuants.* Here are the main characteristics of these sub-classes of onomatopoeic words:

- ***Instants*** imitate pulse-like natural sounds via usage of plosives;
- ***Continuants*** imitate prolonged tones or noises via usage of 1) (long) vowels or 2) fricatives and/or sibilants;
- ***Frequentatives*** imitate vibratory dissonance-like sounds via trills;
- ***Instants-continuants*** imitate sounds which combine the traits of pulses and tones;
- ***Frequentatives-instants-continuants*** (FIC) designate sounds combining the traits of dissonances, pulses and tones.

Thus, examples of instants in English will be *tap, tick, clap, pip.* Here the plosive nature of /b/, /p/ acoustically reflects intense natural sounds of short duration. To tonal continuants belong *hoot* and *peep*; to noise continuants – *sizzle* and *hiss.* To the sub-class of frequentatives belong *purr* and *chirr* (historically /pʊr/ and /ʧɪr/). Examples of instants-continuants are *plump, clash, flap* and *slump*; of frequentatives-instants-continuants – *crash, rush* and *scream*.

The given division of onomatopoeic words into these cathegories is based on the comparison of acoustic charachteristics of the phonemes (as they are pronounced in speech) with the achoustic charasteristics of natural sounds.

Phonosemantically significant regular sound changes

The nature of sound changes is very elusive. Small changes like grains of sand in an hour-glass slowly make a huge difference. Therefore, one can't draw a strict line and say that yesterday the word was more iconic than today because a sound change has happened overnight.

In addition to that, not all regular sound changes of a language are equally 'dangerous' for imitative words.

For example, in the word *tap* 'a light blow or knock' two plosives iconically denote abrupt sounds they have acoustic similarity to, and the vowel between them is positioned to avoid forming a vowelless syllable **tp.* Therefore, any potential sound change affecting this vowel is less 'drastic' from the standpoint of phonosemantics than any change touching upon either of the consonants.

In order to differentiate the regular sound changes I proposed to classify them into *phonosemantically significant* and *phonosemantically insignificant* (Flaksman, 2015: 93).

To be considered phonosemantically significant a sound change should:

- touch upon salient, meaning-bearing phonemes of an iconic word;
- change the original phonotype of a phoneme (e.g. plosives);
- take place when the word still retains its original sound-meaning link.

When and only when these three conditions, as explained below, are fulfilled, a sound change can be pronounced phonosemantically significant.

Condition 1

In order to establish which of the phonemes constituting an imitative word bear the specific, mimetic meaning, one should consult either S.V. Voronin's universal classification of onomatopoeic words or the basic description of iconic lexemes, like we did with *tap.*

In case the sound change occurs in the words of corresponding iconic classes and touches upon respective phonemes it may be regarded as phonosemantically significant (if conditions 2 and 3 are fulfilled as well).

For instance, the vocalization of /r/ which started in the 16th century in the British English and touched upon *snore* (an imitative word belonging to the FIC class) made /r/ (the meaning-bearing phoneme) lose its acoustic quality necessary for denoting a

Table 1. Meaning-Bearing Phonemes According to Subclasses of Onomatopoeic Words (In English)

Onomatopoeic Words				
Phonosemantic Class		**Phonotypes, meaning-bearing phonemes belong to**	**Meaning-bearing phonemes in English**	**Examples**
Instants		plosives and affricates	/p/, /b/, /t/, /d/, /k/, /g/ and /ʧ/, /ʤ/	*tap, knock, blip*
Continuants	Pure Tones	(long/tense) vowels	/u:/, /a:/, /i:/, /ɔ:/ + historical long vowels and modern diphthongs	*hoot, screech*
	Pure Noises	sibilants, fricatives	/s/, /z/, /ʒ/, /ʃ/, /θ/, /ð/, /f/, /v/	*fizz, flash*
Frequentatives		R (vibr. or other)	/r/	historically *chirr*
Instants-Continuants		plosives + sibilants, fricatives	/p/, /b/, /t/, /d/, /k/, /g/ + /s/, /z/, /ʒ/, /ʃ/, /θ/, /ð/, /f/, /v/	*flap, thump, clash*
FIC		plosives + sibilants, fricatives + R	/p/, /b/, /t/, /d/, /k/, /g/ + /s/, /z/, /ʒ/, /ʃ/, /θ/, /ð/, /f/, /v/ + /r/	thrum

coarse vibrating sound heard when someone breathes through nose and mouth while asleep. At present, *snore* is pronounced /snɔ:/ and its form is far less capable for miming its meaning. Note, that in other languages the notion *to snore* is conveyed through related and unrelated words, containing R of one quality or other (Russ. *храпеть* /xrapet^{i}/, Germ. *schnarchen,* Sp. *roncar,* It. *ronfare, russare*).

The meaning-bearing phonemes for different classes of imitative words are listed above with special reference to English (see Table 1).

Condition 2

Not all sound changes can have a significant impact on iconic words even if examined separately, disregarding Condition 1. For instance, the a>æ change (acknowledged by most of the linguists) cannot be phonosemantically significant, as acoustic characteristics of both sounds are more or less similar (both vowels are lax, low and front).

There is a want of appropriate examples in the history of the English language, as /æ/ sound does not happen to be a chief 'carrier' of the iconic meaning in any types of imitative words (see Table 1), and therefore Condition 2 cannot be fulfilled while Condition 1 is fulfilled. The a>æ sound change occurring in such imitative words like *flap* and *brattle*, is not phonosemantically significant because it doesn't touch upon meaning-bearing phonemes (in this case phonesthemes) *br-* and *fl-* (Condition 1 is not fulfilled) and because it doesn't change the phonotype of concerned phoneme (Condition 2 is not fulfilled as well).

Condition 3

A sound change cannot be phonosemantically significant if it occurs after the loss of the word's original meaning. In this case, the sound-meaning correlation is already destroyed and the word is no longer iconic. The only harm such sound change can make is to complicate the etymologist's work, as the task of unraveling the iconic origins becomes more and more difficult with every sound change.

Let's consider, for example, the ʊ>ʌ change happening in the 17th century in the word *lunch*, originally a denotation of the chewing motion accompanied by a munching sound. The sound change cannot bear any effect whatsoever on the sound-meaning correlation of the word – by the time the sound changed started the word had already lost its original sound-related meaning and the new one – 'a type of meal' – had but arbitrary connection to its form.

Some remarks on the classification

It should be noted that *one and the same regular sound change can be phonosemantically significant for one word while not so for other*. For instance, ʊ>ʌ sound change that occurred in the English language in the 17th century was phonosemantically significant for *bubble*, a sound symbolic word, denoting a round object, as it has broken the labial cluster /bʊb-/, that iconically copied the articulation (for the discussion of iconicity in denotation of round objects – see Slonitskaia, 1987). The same regular sound change (ʊ>ʌ in the 17th century) was not phonosemantically significant for such word as *scrub*, another FIC. The main meaning-bearing phoneme for words of such type is /r/, and the sound change affecting /ʊ/ has no effect on the iconic sound-sense correlation *'a harsh, scraping sound' : /r/'s acoustic characteristics.*

Phonosemantically significant regular sound changes of the English language

The research has shown that the phonosemantically significant sound changes of the British English are (on condition that they have taken place not after the loss of the original meaning):

- ***r-vocalization*** in the 16th century – for all frequentatives (as in *chirr* where /r/ conveyed a shrill trilled sound, missing in modern pronunciation /ʧɜ:/); for all FIC groups (as in *snore* – see above); for for individual iconic words where the quality of preceding vowel changes significantly as well (as in *squirm*, where the vowel's pitch lowers in the course if r-vocalization);
- ***Great Vowel Shift*** (predominantly i:>aɪ and u:>aʊ changes) – for continuants (pure tones) where change of vowel quality or its diphthongization are phonosemantically significant (as in *howl* (ME /hu:lən/) where u:>aʊ change transformed /u:/ sound which is most suitable for denoting a low-frequency wail characteristic of a wolf or a hound);
- ***u>ʌ change*** in the 17th century – for several onomatopoeic words (e.g. *bumble, fuzz, mutter*);
- ***other regular sound changes*** occurring rarely in individual iconic words – e.g. the loss of initial /k/ in *knock* is phonosemantically significant because the sound belongs to the phonotype 'plosives' and the word is an instant according to the Voronin's classification.

Thus, regular sound changes gradually obscure the iconic sound-sense link between originally existing in every onomatopoeic word, making it invisible to the present day investigation.

Conclusions and discussion

Iconicity loss is a gradual process, invisible to the eye, but evident from the diachronic perspective. Every new generation of speakers alters the sound shape of onomatopoeic words unconsciously using patterns of sound change existing in their language. Accumulation of such changes leads to the weakening of the sound-sense link which, on the first place, makes onomatopoeic words iconic, that is, easily recognizable as bright, vivid allusions to the sounds of nature. Some regular sound changes forcibly accelerate the process of iconicity loss, as they touch upon the most salient phonemes used in sound imitation.

In order to outline these changes in the history of a particular language one should, first of all, turn to the study of the structures of onomatopoeic words of this language. Whereas patterns of imitation show a striking similarity across languages of different families, varying phonemic inventories and rules of phonotactics add to accumulation of language specific traits in onomatopoeia. Upon establishing the 'key' phonemes in the onomatopoeic words' structure one can turn to the regular sound changes and see whether these changes alter the phonotypes of the phonemes in question and whether they take place before the word has lost its original meaning via metaphor and metonymy. After these procedures one can decide whether the changes have been phonosemantically significant or not.

The proposed approach to the examination of regular sound changes sheds light to the hidden history of onomatopoeic words and reveals that the role they play in the obscuring traces of iconicity in the language should not be underestimated.

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Звукоподражания и регулярные фонетические изменения

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Статья посвящена вопросам изучения звукоподражательной лексики в диахронии и рассматривает, какое влияние оказывают регулярные фонетические изменения на слова с иконической связью между фонетическим обликом и денотатом. В работе обсуждается предложенная ранее классификация регулярных фонетических изменений на фоносемантически значимые и фоносемантически незначимые, дается обзор основных фонетических изменений английского языка. В исследовании применяются методы сравнительно-исторического языкознания и этимологического анализа. В результате проведенной работы удалось выделить группы фонем, являющиеся ключевыми для основных классов английских ономатопов, а также потенциальные группы фонемных сочетаний, изменение которых в будущем может повлечь за собой утрату иконической, подражательной связи, изначально присущей любому звукоизобразительному слову. Одним из наиболее значимых результатов исследования является выделение критериев фоносемантически значимых регулярных изменений. Чтобы считаться таковым, изменение должно: 1) затрагивать центральные, смыслонесущие фонемы звукоизобразительного слова; 2) выводить фонемы за рамки фонотипа; 3) происходить в слове, еще не утратившем первоначальную семантику, связанную со звукообозначением. Предложенная модель классификации регулярных фонетических изменений потенциально применима к языкам других групп и семей.

Ключевые слова: звукоподражания, ономатопея, регулярные фонетические изменения, диахрония, иконичность, звукосимволизм, этимология, фоносемантика.

Научная специальность: 10.00.00 – филологические науки.