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NOSE MOVEMENTS: PECULIARITIES OF CONCEPTUALIZATION AND INTERPRETATION

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Abstract

In the article English linguistic units representing ideas about the middle area expression (nose) are described. The author reveals the characteristics of the MIDDLE AREA EXPRESSION (NOSE) concept, which includes the information about the perceptual acquisition of the middle area expression and interpretive characteristics. The characteristics that give the ideas about the perceptual acquisition of the middle area expression (nose) are 'nose muscle movement' and 'wrinkle formation', 'nose muscle movement' and 'increase of nose size', 'nose muscle movement' and 'air stream movement through the nose', and the interpretative characteristics are 'emotional state', 'functional (physiological) state'. The author shows that the identified linguistic units tend to represent certain interpretative characteristics that may be considered as dominant ones. Some cognitive mechanisms for secondary conceptualization and interpretation of the middle area expression are considered. They are "conceptual metaphor", "conceptual metonymy", "conceptual metaphonymy", "conceptual comparison", "focusing", "refocusing", "re-accentuation". It is demonstrated that the integrated use of cognitive mechanisms allows us to describe the situation of facial movement colorfully and in an extraordinary way, taking into account human states and emotions. The way of presenting the situation of facial movements is determined by the predisposition of an individual to linguo-creative thinking.

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Keywords: Nomination of facial movements, secondary conceptualization, interpretation, concept of MIDDLE AREA EXPRESSION (NOSE), dominant meanings, cognitive mechanisms.



1. Introduction

The study of non-verbal means of communication, which are a manifestation of a person's motor activity, has attracted researchers' attention in various fields of science for a long time (Camras, Castro, Halberstadt, & Shuster, 2017; Castro, Cheng, Halberstadt, & Grünh, 2016; Castro, Halberstadt, & Garrett-Peters, 2016; Chronaki, Hadwin, Garner, Maurage, & Sonuga-Barke, 2015). This problem also aroused linguists' interest, since these means of communication, called "kinesic movements," accompany speech and are reflected in the language.

In studies whose authors consider the linguistic problems of verbalization of kinesic phenomena, the principles of their lexicographical fixation, the systemic relations between nominations of kinesic movements, their functioning in fiction texts, the role of kinesic means in organizing culturally informative communication are investigated. The interpretation of non-verbal signs at a comparative level in various languages and the classification of linguistic units used for the nomination of kinesic movements also become the subject of study. Researchers, in particular Boeva (2006), note that kinesic means are informative, since they complement the meaning of the verbal message and give information about the speaker, about his or her national, cultural, social and age features, gender, properties of character. However, the meanings of kinesic units can easily change in one or another communicative situation.

Khlystova (2005) emphasizes the role of context for the interpretation of any movement as communicatively significant, reveals standard, contextual and original kinemes. Standard kinemes regularly act as non-verbal means of information and retain their symbolic essence in any communication situation, original kinemes can't regularly act as non-verbal means of communication, and contextual kinemes that occupy an intermediate position acquire a communicative meaning only if they are included in certain situations. From a structural point of view, the author distinguishes a heterogeneous layer of lexico-syntactic units: single-word lexemes — kinemes expressed by a verb or a verbal noun, free phrases, set phrases with limited compatibility of components, and phraseological units.

The review of works connected with the investigation of kinesic phenomena shows that kinetic units are not sufficiently studied from the standpoint of the cognitive-discursive approach, which considers language as a cognitive process carried out in communicative activities (Babina & Proskurnich, 2018).

2. Problem Statement

To analyze the conceptualization of facial movements and the interpretation of linguistic units designating kinesic phenomena is the issue that concerns this study. In our study we assume that the concept of FACIAL EXPRESSION may be modeled as a cognitive hypermatrix, the concept of MIDDLE AREA EXPRESSION (NOSE) is a component of this hypermatrix. There are certain cognitive mechanisms that determine the secondary conceptualization and interpretation of linguistic units representing the MIDDLE AREA EXPRESSION (NOSE) concept.

3. Research Questions

- 3.1. How is it possible to model the concept of FACIAL EXPRESSION?
- 3.2. What conceptual content is revealed by linguistic units designating nose movements?
- 3.3. What cognitive mechanisms determine secondary conceptualization of linguistic units designating nose movements?
- 3.4. What cognitive mechanisms determine the interpretation of linguistic units designating nose movements?

4. Purpose of the Study

In accordance to the research questions the purpose of the study is to

- model the concept of FACIAL EXPRESSION;
- study the conceptual content revealed by linguistic units designating nose movements;
- identify cognitive mechanisms for secondary conceptualization of linguistic units designating nose movements;
- identify cognitive mechanisms for interpretation of linguistic units designating nose movements.

5. Research Methods

The object of the study is English linguistic units designating nose movements. The studied units are accessed from the dictionaries (<http://changingminds.org>; <http://www.thefreedictionary.com>; <https://www.merriam-webster.com>; <http://dictionary.cambridge.org/ru>; <http://medical-dictionary.thefreedictionary.com>; <https://en.oxforddictionaries.com>) and the Lancaster Corps (<http://bncweb.lancs.ac.uk>). The subject of the study is the analysis of the conceptualization of nose movements and the interpretation of linguistic units designating nose movements.

The following methods of investigating linguistic data are used: methods of definitional, conceptual and contextual analysis, and the method of cognitive modeling.

6. Findings

In English, the phrase *facial expression* and the word *mimicry* can be used to refer to facial expressions. However, the analysis of the definitions of the linguistic units under consideration proves that facial muscle movements and the states expressed by them are primarily represented by the phrase *facial expression*, while the word *mimicry* gives an idea of imitating the movements of someone or something. In view of the above, we denote the concept, which includes knowledge about the interpretation of facial movements, as FACIAL EXPRESSION.

Facial expression: 1) a gesture executed with the facial muscles; 2) the feelings expressed on a person's face; 'a sad expression'; 'a look of triumph'; 'an angry face' (<http://www.thefreedictionary.com>).

Mimicry – the act of mimicking; imitative behavior; the act, practice, or art of copying the manner or expression of another (Ibidem).

When analyzing the concept in question, one cannot but refer to the definition of the word *face* - the front part of the head that in humans extends from the forehead to the chin and includes the mouth, nose, cheeks, and eyes (<https://www.merriam-webster.com>).

The definition shows that facial movements are caused by movements of different muscles. According to physiologists, facial muscles include epicranial muscles and the epicranial aponeurosis, temporal muscles, the circular muscle of the face, the muscle that raises the corner of the mouth, the cheek muscle, the muscle that lowers the lower lip, the chin muscle, the muscle that lowers the angle of the mouth, the circular muscle of the mouth, the mastication muscle, the nasal muscle and other (<http://face-building.com/obshchee/facial-muscles.html>). Taking into account our everyday knowledge, the facial movement is defined as the movement of face organs, that is, the movement of the forehead, eyes, the nose, and cheeks with cheekbones, lips, and the chin. Therefore, it can be said that the FACIAL EXPRESSION concept is integrative in its nature and can be represented as a set of concepts: UPPER AREA EXPRESSION (FOREHEAD, EYEBROWS), MIDDLE AREA EXPRESSION (EYES, NOSE), LOWER AREA EXPRESSION (MOUTH, CHIN).

Linguistic units representing the MIDDLE AREA EXPRESSION (NOSE) concept

Despite the “limited movement”, the nose, located in the epicenter of the three zones, is of particular importance in reading facial expressions, since it serves as a fulcrum for assessing balance (Ravensky, 2007). In the study of facial expressions the parts of the nose that are able to move, that is, the wings and the tip, are considered.

The analysis of linguistic units representing the MIDDLE AREA EXPRESSION (NOSE) concept revealed the characteristics of this concept, which were divided into two groups: characteristics reflecting information about the perceptual acquisition of nose movements, and interpretive characteristics ‘emotional state’, ‘functional (physiological) state’.

To the characteristics that reflect information about the perceptual acquisition of nose movements, were attributed:

- ‘nose muscle movement’ and ‘wrinkle formation’

The characteristics ‘nose muscle movement’ and ‘wrinkle formation’ are represented by the following phrases: wrinkle (up) one’s nose (nostrils) “tighten the muscles in your nose so that small lines appear in the skin” (<http://dictionary.cambridge.org/ru>), curl up one’s nose, screw one’s nose, crease one’s nose, wriggle one’s nose, contort one’s nostrils, twitch one’s nostrils, etc.

‘Save it up till then, eh?’ Charlie wrinkled his nose and winked quickly (<http://bncweb.lancs.ac.uk>).

- ‘nose muscle movement’ and ‘increase of nose size’

The characteristics ‘nose muscle movement’ and ‘increase of nose size’ are represented by the phrases *flare (widen) nostrils*, *flaring of nostrils* “nasal widening during inspiration” ([http://medical-diction.thefreedictionary/flaring + of + nostrils](http://medical-diction.thefreedictionary/flaring+of+nostrils)).

His expression was at once casual and turbulent; his eyes were distant and his mouth was steady, but his nostrils flared slightly with his breathing (https://royallib.com/book/Tarrt_Donna/The_Secret_History.html).

- 'nose muscle movement' and 'air stream movement through the nose'.

These characteristics are represented by the verb *to sniff* "a: to inhale through the nose especially for smelling // b: to take air into the nose in short audible breaths" (<https://www.merriam-webster.com/dictionary/sniff>), the verbal noun *sniff* "an act of sniffing" (<https://www.merriam-webster.com/dictionary/sniff>), and the following phrases: *give a sniff*, *take a sniff*, *blow one's nose* "clear one's nose of mucus by blowing through it into a handkerchief" (https://en.oxforddictionaries.com/definition/blow_one%27s_nose), *exhale through one's nose (nostrils)*, *breathe through one's nose (nostrils)*.

"Well, you can't breathe very well," Garp complained, "so just don't put too much in your mouth. You might inhale it. You can't breathe through your nose, at all - that's perfectly clear." (https://royallib.com/book/Irving_John/The_World_According_to_Garp.html).

Among the characteristics reflecting information about the *interpretation* of nose movements, the following ones were highlighted:

- 'emotional state'

In psychology, the emotional state is understood as "a person's experience of their attitude to the surrounding reality and to themselves at a certain point in time, relatively typical for a given person; conditions that are determined primarily by the emotional sphere and encompass emotional reactions and emotional relationships; relatively stable experiences" (https://psihologiya_cheloveka.academic.ru/505/Emotional_states). That is, the characteristic "emotional state" includes ideas about human feelings and emotions.

The emotional state may be conveyed by the phrase representing the characteristics 'nose muscle movement' and 'wrinkle formation' *wrinkle nose* "to show surprise, uncertainty, or disgust at something" (<http://dictionary.cambridge.org/>). Other phrases can represent this characteristic in certain contexts.

Nora Fanshawe wrinkled her nose in distaste (<http://bncweb.lancs.ac.uk>). The example describes the situation in which the heroine wrinkled her nose in disgust.

He felt his nose crease and his eyes screw up with pleasure (<http://bncweb.lancs.ac.uk>). Another example demonstrates a situation in which a hero wrinkles his nose while experiencing a positive emotion.

The phrase representing the characteristics 'nose muscle movement' and 'increase of nose size' can convey a certain emotion: *widen nostrils* "experiencing extreme displeasure" (http://changingminds.org/techniques/body/parts_body_language/htm).

Angelina's nostrils widened; she did not completely share my enthusiasm for the creatures (https://royallib.com/book/Hamison_Harry/The_Stainless_Steel_Rat_Joins_the_Circus.html). In the example, the heroine inflates her nostrils, not sharing the hero's enthusiasm.

The verb and the verbal noun *sniff* "mean displeasure or disgust" (http://changingminds.org/techniques/body/parts_body_language/htm) belong to linguistic units that represent the characteristics 'nose muscle movement' and 'air stream movement through the nose', as well as reflect the emotional component.

In the gloom of the hall, Buddie sniffed and curled his lip in distaste (<http://bncweb.lancs.ac.uk>). In the example, the character sniffs and curls his lips, experiencing unpleasant emotions.

- ‘functional (physiological) state’.

It is necessary to consider how the functional state is understood in physiology and psychology in order to give an idea of what is meant by this characteristic. According to Leonova (1984), who studies psychology problems, the functional (physiological) state is “a characteristic of the life support processes at the level of individual physiological systems and the organism as a whole for solving behavioral tasks. According to studies, physiological mechanisms ensure the occurrence of metabolic, neurohumoral, cerebral, vegetative and other processes in different conditions and modes of activity. Such types of psychophysiological states, which manifest themselves and are characteristic of different situations, include, for example: 'fatigue', 'drowsiness', 'boredom', 'stress', 'tension', and other conditions” (p. 96). It is indicated that, despite the large variety of functional states, they all have common physiological components. These components include sensory components of activity, which characterize the possibility of receiving and primary processing of incoming information (visual, auditory, etc.), then information components of activity, which ensure the processing of information and decision-making on its basis. This group is represented by indicators of the main cognitive processes - memory and thinking. Based on the above, functional states are understood as states of stress, tension, fatigue, hunger and the like, as well as the implementation of mental activity by a human being.

The following units are able to represent the characteristic ‘functional (physiological) state’:

the phrase representing the characteristics ‘nose muscle movement’ and ‘wrinkle formation’
wrinkle *nose* “thinking about their own ideas”
(http://changingminds.org/techniques/body/parts_body_language.htm).

the phrase representing the characteristics ‘nose muscle movement’ and ‘increase of nose size’
flare *nostrils* “making an internal judgment about something”
(http://changingminds.org/techniques/body/parts_body_language/nose_body_language.htm).

As usual, her face twisted slightly when she referred to Lucifer, her lip lifting and nose wrinkling
(https://royallib.com/book/Saintcrow_Lilith/To_Hell_and_Back.html). The character twists her face, lifts her lip and wrinkles her nose at the mention of Lucifer's name, not quite satisfied with her own thoughts.

His nostrils flared at the scent of privilege, like an animal alert for blood
(<http://bncweb.lancs.ac.uk>). Thinking about the possibility of obtaining privileges, the character flares nostrils.

The study showed that linguistic units designating nose movements do not convey the characteristic ‘sign of communicative intention’ out of contexts.

Blemish is simply about creating a bad atmosphere around a person, for example, ‘What do you think about Jane?’ said by someone **screwing up** their **nose** — to indicate that they themselves obviously don't think too highly of her (<http://bncweb.lancs.ac.uk>).

6.1.Mechanisms for secondary conceptualization and interpretation of linguistic units designating nose movements

The analysis of linguistic units designating nose movements has shown that they can be created by means of secondary conceptualization with the help of the cognitive mechanisms “conceptual metonymy” and “conceptual metaphonymy”. The mechanism “conceptual metonymy” means that a mapping occurs

within a single conceptual domain. There are such conceptual metonymies as PART-WHOLE, WHOLE-PART, PART1- PART2, etc. The mechanism “conceptual metaphor” is defined as a mapping across two conceptual domains: source domain and target domain. In metaphor, the source domain is mapped onto the target domain. In this process the source allows us to reason about the target (Kövecses & Radden, 1998; Barcelona, 2003; Dirven, 2003). The mechanism “conceptual metaphonymy” implies that metonymy and metaphor are located along a continuum. They may be found in combination in actual natural language expressions (Croft, 2003; Radden, 2003; Goossens, 2003; Fauconnier & Turner, 2008).

The linguistic units giving an idea of not only nose movement but also the human emotional, physiological states are created with the help of the mechanism “conceptual metonymy”. The metonymy PART-WHOLE is used. As a whole we consider a situation in which a person who is in a certain emotional or physiological state consciously or unconsciously performs certain facial movements. It is worth pointing out that the same facial movement can be conceptualized in different ways depending on the situation. The way of conceptualization is indicated by a certain context. We illustrate this with phrases which have the noun *nose*.

Kirov looked at the photo, his nose wrinkling slightly in disgust (<http://bncweb.lancs.ac.uk>). In the example, the character wrinkles his nose in disgust at the sight of a forged photo. The conceptualization of the phrase occurs relative to the cognitive context of EMOTIONAL STATE.

‘Well, Jane?’ Lilith asked, nose wrinkled. ‘Does seven mean anything?’ (<http://bncweb.lancs.ac.uk>). In the example presented, the character wrinkles her nose, experiencing uncertainty and wondering what the number seven means, which the mirror used in the fortune telling indicated. The conceptualization of the phrase occurs relative to the cognitive context of PHYSIOLOGICAL STATE.

The mechanism “conceptual metaphonymy” is used to form the meaning of the phrase *sniff out* “recognize or detect by or as if by smelling” (<http://www.thefreedictionary.com/sniff+out>). The phrase changes its meaning; it isn’t conceptualized relative to the FACIAL EXPRESSION matrix any more.

And Sonya's *We are one, we live as one,* while it remains authorially bold, has nothing to fear at the hands of readers quick to **sniff out dogma** (<http://bncweb.lancs.ac.uk>).

In the example, the phrase *sniff out* is used, the meaning of which is formed with help of the PART-WHOLE metonymy. One component of the situation stands for the situation as a whole. In addition, the mechanism “conceptual metaphor” is used. It helps to interpret physical action as a mental one.

The interpretation of situations of nose movements in the text depends on how they are constructed by the author of the text (see about linguistic interpretation (Boldyrev, 2014, 2017)). The way of presenting a situation of facial movements is determined by a person’s predisposition to creative thinking. During the study, a number of mechanisms for interpretation were identified: “conceptual metaphor”, “conceptual metonymy”, “conceptual comparison”, “focusing”, “refocusing”, and “re-accentuation”.

The mechanism “*conceptual metaphor*” can be used to interpret linguistic units designating nose movements. Thanks to this mechanism, the organ of body used to perform a facial movement is interpreted as an active entity.

His nostrils quivered when they caught the perfume of the scotch (<http://bncweb.lancs.ac.uk>).

In the example, the noun *nostrils* used with the verb of movement *to quiver* is conceptualized as an active entity. During the interpretation, the cognitive matrix, namely the cognitive context of MIDDLE AREA EXPRESSION (NOSE) is put in focus, the characteristics ‘nose muscle movement’ and ‘wrinkle formation’ are activated, the understanding of the considered phrase is relative to the cognitive context of EMOTIONAL STATE, as indicated by the linguistic context. It can be assumed that the character experienced positive emotions, because the author uses the word *perfume* to describe the smell “a substance that emits a pleasant odor” (<https://www.merriam-webster.com/dictionary/perfume>).

As another mechanism for interpretation, you can specify the mechanism “*conceptual metonymy*”. Metonymy PART-WHOLE is used.

She **wrinkled** her freckled teenage nose (<http://bncweb.lancs.ac.uk>).

In the example, through the organ that performs the described facial movement, thanks to metonymy PART-WHOLE, reference is made to the person characterized by the adjective *teenage*. The conceptualization of the linguistic unit designating the nose movement is carried out relative to the cognitive context of PHYSIOLOGICAL STATE, since there is a reference to human mental activity, as indicated by a broader context. The heroine reflecting on the interlocutor’s request wrinkles her nose.

*‘I have to leave,’ said Lucy, but sat and drank, sat and lit a cigarette, **sniffed away more tears*** (<http://bncweb.lancs.ac.uk>). In the example, the situation involving two actions: drawing in air and swallowing tears is described by the phrase.

The mechanism “*conceptual comparison*” can be used as a mechanism for interpretation. The mechanism means that the mapping occurs across two conceptual domains. It presupposes “the setting the comparison standard or cognitive reference point, juxtaposing two or more entities, establishing correspondences between two or more things, finding vantage point, scanning, within-domain mapping or cross-domain mapping, and blending” (Yong, 2014, p. 27).

*Wilcox fumbled for a cigarette, lit it, and **exhaled smoke through his nostrils like an angry dragon*** (<http://bncweb.lancs.ac.uk>). In the example, the expiration of air by the character is compared to the emission of the flame by a dragon. The interpretation is carried out relative to the cognitive context of EMOTIONAL STATE.

The mechanism “*focusing*” is another mechanism for interpretation. It means that certain properties of objects or aspect of an event are put into focus (Iriskhanova, 2014).

‘No, it’s not, stupid’ announces another, **screwing a freckled nose**. ‘It’s White Fang. And he’s only half a wolf. Don’t you know anything?’ (<http://bncweb.lancs.ac.uk>). In this example, the information about the character’s appearance, who wrinkles his nose, expressing his dissatisfaction, is profiled (the presence of freckles is indicated). The interpretation of the phrase occurs relative to the cognitive context of EMOTIONAL STATE.

The mechanism “*refocusing*” can also be used when interpreting linguistic units designating facial movements. The mechanism “refocusing” presupposes that “focusing” and “defocusing” are used, which means taking some properties of objects or events out of focus and putting other properties into focus. In the case of interpreting linguistic units designating facial movements, the change of a cognitive context can occur.

The forlorn figure gave an apologetic sniff (<http://bncweb.lancs.ac.uk>).

The example is interesting because the use of the adjective *apologetic* contributes to understanding the character's sniff as a desire to apologize, which leads to the interpretation of the phrase *give a sniff* relative to the cognitive context of SIGN OF COMMUNICATIVE INTENTION (It includes the information about the situation when facial movements are interpreted as signals of a certain communicative intention, that is, a goal for the realization of which a person consciously or unconsciously carries out a facial movement).

The mechanism “**re-accentuation**” is another mechanism for interpretation. It implies a change in the evaluative sense when the interpretation is relative to the cognitive context of EMOTIONAL STATE.

He sniffed morosely. 'You always were a bloody liar, Lambert' (<http://bncweb.lancs.ac.uk>).

Sniff, as a rule, conveys discontent. In this example, this facial movement reflects the sadness of the character, as the context shows.

7. Conclusion

The concept of MIDDLE AREA EXPRESSION (NOSE) is represented by a variety of linguistic units: single-word lexemes (verbs and verbal nouns), set phrases and free phrases. It includes characteristics that reflect information about the perceptual acquisition of nose movements, and characteristics that reflect information about the interpretation of nose movements ('emotional state', 'functional (physiological) state'). The characteristic 'the sign of communicative intention' can be represented by considered linguistic units only in specific contexts.

The secondary conceptualization of linguistic units designating nose movements is carried out with the help of cognitive mechanisms “conceptual metonymy” and “conceptual metaphonymy”. When interpreting linguistic units designating nose movements, it is necessary to refer to background knowledge about nose expressions and to use certain cognitive mechanisms: “conceptual metaphor”, “conceptual metonymy”, “conceptual comparison”, “focusing”, “refocusing”, and ‘re-accentuation’. Sometimes interpretation is carried out with the help of several mechanisms. It allows describing a situation of nose movements colorfully and in an extraordinary way, and gives an idea of a person's state, emotions and intentions.

The results allow us to deepen the theoretical knowledge of conceptualization and interpretation in general and the theory of cognitive modeling in particular due to the modeling of knowledge structures about facial movements represented by English single-word lexemes, set phrases and free phrases.

Further research of linguistic units designating facial movements by conducting a psycholinguistic experiment to identify the associations connected with these units is perspective.

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