Color Linguistics: Khanty riddles

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Abstract. From the point of view of physics and physiology, the perception of color should be the same by all people, but the process and associations connected with it have historical and cultural determinants in different nations. The conceptual apparatus of color linguistics is studied in different scientific studies and from different points of view. The material of this study comprises riddles extracted from Khanty folklore by the method of continuous sampling, as well as scientific literature on the description of color words. A common way of creating riddle metaphors is color matching. Therefore, exploring color words in the Khanty riddles allows us to reveal the cognitive, pragmatic and cultural factors of language functioning. The present research highlights the role of color terms in the formation of linguistic worldview, as well as conceptualizes and defines the place of the color vocabulary in the cognitive process. Key words: Khanty riddles, basic color terms, color words.

1 Introduction

Language is a mirror of culture reflecting not only the real world of the people, i.e. the native speaker, but also their mentality, character, customs, traditions, as well as perceptual features and color terms. The use of color terms increases significantly the emotional and expressive meaning of the communication process; these linguistic units can express the most subtle relations and aspects of people's life. The system of color terms and color perceptions is marked by ethnic and culturological features [1-4]. Ethnic coloristics is filled with deep philosophical meaning and is a reflection of the people's worldview, their various sacred, mythical, religious, cultural and social strata. The process of initial nomination is always conditioned by some or other factors, the environment primarily. Features of color perception and color use are complementary; they affect the perception and frequency of the use of some or other color terms [3-5]. Thus, the relevance of the color words study consists in perceiving them as vehicles and instruments of national cultures and languages, as well as cognitive, pragmatic and ethnocultural factors of language functioning [6-8].

2 Objective of the study

The objective of our study is to identify the semantic and cultural specificity of color terms in the Khanty language. To achieve the goal, we set the following tasks: to identify lexical units that contain color semes in their composition; to analyze the revealed color terms in the language under study.

The data for the research were riddles obtained from the Khanty folklore by the method of continuous sampling, as well as scientific literature on color words. The Khanty people have many riddles that are laconic, metaphorical and figurative, like poetry itself. Riddles contain the digested results of human observations of different natural phenomena, flora, and fauna, objects of labor and life; they demonstrates important conclusions and inferences of people, and therefore characterize the people themselves. This is one of the oldest forms of folk art passed on by word of mouth to many generations, so we can assume that the color naming used in the riddles reflects the vocabulary of lexical units, which is more ancient compared with the current state of the language. Meanwhile, metaphor is the basis of a riddle. This is what makes riddles interesting, and distinguishes them from other types of oral folklore [9]. To solve a riddle is to find a real-life equivalent for metaphorical images. One of the common ways of creating riddle metaphors is color matching. Therefore, exploring color words in the Khanty riddles allows us to reveal the cognitive, pragmatic and cultural factors of language functioning. The research highlights the role of color terms in the formation of the linguistic worldview, as well as conceptualizes and defines the place of the color vocabulary in the cognitive process.

3. Problem statement

In recent decades considerable attention has been devoted to topics related to color linguistics as well as theoretical approaches and practical methods for extracting color terms, resulting in a large number of publications. The wide spectrum of color linguistics approaches represented...
in this paper includes the basic color term theory of Berlin and Kay, the typological evolutionary scale of Kay and Maffi, the Vantage Theory of MacLaury, conceptual semantics of Jackendoff and Nikanne, historical linguistics, ethnolinguistics, the Natural Semantic Metalanguage of Wierzbicka, approaches examining the focal colors across eleven languages affiliated to Uralic and Indo-European languages of Mari Uuskülä, David Bimler, philological and etymological analyses of color terms of Nganasan, one of the least documented Uralic languages by Sândor Szeverényi and various graph visualization techniques [10-19].

To identify psychologically significant colors, various experiments have been performed and attempts have been made to create a system of basic colors. The classic reference point in the color semantics study was the work by American linguists B. Berlin and P. Kay [10]. Based on the data derived from 98 languages they came to the following conclusions. Despite the fact that different languages in their dictionaries contain a different number of basic color terms, the total universal word-stock consists of the same 11 basic colors: black, white, red, yellow, green, blue, brown, purple, pink, orange, grey. Berlin and Kay have also established that even if there are less than 11 basic colors in the language, in this case there are strict rules as to what basic colors exist in this language. All languages have color terms for white and black basic colors. Thus, if there are only three basic color terms in the language, then the third one is necessarily the term for the red color. The researchers have built the following hierarchy of 11 primary colors: the first stage – black, white; the second – red; the third – green, yellow; the fourth – blue; the fifth – brown; the sixth – purple, pink, orange, gray [10]. This proves yet again that there are subjective color perceptions in different languages. Each language segments the reality in different ways, therefore Kasevich notes that ‘some peoples distinguish, for instance, three colors, white others — seven, etc.’ [20].

According to the Khanty language data, there are some papers studying the issues of color symbols in traditional culture, clothing, ornamental patterns, methods of color terms [21-25]. Besides, some aspects of the color symbolism are touched upon by scientists in the studies of other topical issues of Khanty Philology and traditional culture [26-28]. The researchers claim that the Khanty language has plenty of color terms and shades. For instance, the Khanty of the Lower Ob have 17 names for white color, where 16 terms are descriptive, and 10 names out of 11 color terms are descriptive for black and red color [29]. Descriptive terms have many expressions indicating colors of objects, real-world phenomena, for instance, light and sky are white; the soil and charcoal are black, etc. Reindeer herding is one of the main activities of the Khanty, so it is not surprising that a wide color spectrum emerges for reindeer color terms [30, 31]. For example, A. Shiyanova distinguishes six tints of white color with regard to the reindeer color ranging from deep white to white-gray: ворча → нярва → навн/ноби → шовер хорти → ћалхь хорти → хёнтэр. [25].

According to Sokolova and Taligina, the basic colors in the Khanty language are white, black and red, and the colors constitute the so-called color triad, which corresponds to the tripartition of the Universe in the Khanty culture [29, 32]. K.P. Cheremisina claims, that The Upper world, inhabited by gods, is associated with the white color; the World of People or the Middle world — with red, and the World of the Dead, the Lower world — with the black color. However, in the recently published ‘Dialectological Atlas of the Uralic languages spoken in the Yamal-Nenets Autonomous district’ the authors, who consider the features of the color terms systems organization, come to the conclusion that ‘in fact, only black and white are basic colors in the Khanty language. According to N.B. Koskhareva, et. al, other names are mostly based on associations with different objects of the real world, and serve as a reference for following color terms: red for blood, blue for the sky, green for grass, and yellow for autumn leaves or bile [33]. V.I. Spodina also points out that ‘in the Khanty language, there are only two words indicating color, and they have their own independent color naming: white and black’ [23].

4 Research methods

The study data are riddles extracted from different riddle books written in the Khanty language and translated into Russian [9, 26, 34-35]. With the method of continuous sampling the authors revealed 59 riddles, which were then grouped according to color. The data in the present study were gathered via questionnaires and interviews complementing each other. Five native Khanty speakers were given a pre-questionnaire to elicit information about their age, gender, the number of languages they spoke, their language proficiency is functional for four people of five (one respondent has a high level of language proficiency), and all interviewees speak Kazym dialect. This study followed a four-step cycle suggested by researchers. At the first stage, we determined the main objectives of the study. At the second stage, we formulated the most appropriate methods, tools and strategies to achieve the goals. The third stage involved data gathering. Khanty native speakers were given riddles to solve. Recipients were expected to identify color associations that helped the speakers to solve the riddle frequency chart (see Figure 1.) as well as a number of the most common color names are mostly based on associations with different objects of the real world, and serve as a reference for different color terms: red for blood, blue for the sky, green for grass, and yellow for autumn leaves or bile [33].

5. Findings

Upon the experiment, the following names of colors were revealed in the Khanty riddles: ‘иўря’ white – 11, ‘пиит’ black – 10, ‘вўрты’ red – 13, ‘пиит вўрты’ dark red – 2, ‘вўрты вўшлам’ literally red-and-yellow – 2, ‘вўлюст’ green – 1, ‘вўшлам’ yellow – 1, ‘сорни, сорне’
gold/goldish – 11, ‘цел вух’ silver – 8. Based on the results of the revealed colors, we plotted a color frequency chart (see Figure 1.) as well as a number of tables containing examples of riddles, color words and associations that helped the speakers to solve the riddle (see Tables 1-7). In some riddles, one comes across two colors simultaneously, for instance: ‘нуйи сухе зжëрпийз, питы сухе ювърщикйз, (хӑтмэ па ат)’ - White cloth opens up, black cloth curls up. Answer to the riddle - day and night.

Fig. 1. A color frequency chart.

5.1 Питы/Black

The adjective ‘питы’ is translated into Russian as black, dark [36]. In the collections of riddles, this word is always translated as black, but native speakers translate it as dark in most cases.

Table 1. Питы/Black

<table>
<thead>
<tr>
<th>Riddle</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Питы ӳмлй хот яу Ӵ и зыцыйз вӧззэт. (цааренькэ)</td>
<td>‘Питы ӳмлй’ means a black hat.</td>
</tr>
<tr>
<td>2. Питы пӧнэт мӧлмичи вӧзз хот хӑйтйз. (пӧш)</td>
<td>‘Питы’ means dark, since one cannot call fur black</td>
</tr>
<tr>
<td>3. Нуви сухе зжëрпийз, питы сухе ювърщикйз. (хӑтмэ па ат)</td>
<td>‘Нуви’ means light, ‘питы’ means dark</td>
</tr>
<tr>
<td>4. Питы љѩхэрэн и хо сорни вӱзэзл љӱзэтэз. (тылэш)</td>
<td>White cloth opens up, black cloth curls up. (day and night)</td>
</tr>
<tr>
<td>5. Шума ћӱзэмтэ сӑӱхэм ӴӴӴз кӑмзнат кӗрэи вӱзэт љӱзэмтэ</td>
<td>‘Питы вой - вӱрты вой’ means parallelism, often used in speech; ‘питы вой оӴӴӴз, вӱрты вой ћӱзэмтэ. (хӱкмэ тосэт кӱт). On a steep hill, you cannot make a step without getting into a hole of a black beast, a hole of a red beast. (gaps in the stairs)</td>
</tr>
</tbody>
</table>

Riddle no. 5: the answer is gaps in the stairs. Patterns on traditional fabrics (fur, suede, birch bark) are, first of all, an alternation of dark-light areas; light-dark patterns that are typical for Ob Ugrians’ ornaments. For instance, fur boots decorated with alternating dark and white stripes are called ‘элëд вей’ (literally: boots with chinks), ‘вей’ means footwear with a boot top. The light-dark alteration, in turn, is associated with the profile wood and bone carving (thickly – empty, chink – wood is ripple, steps). Thus, there appeared the riddles about the stairs, the hole means chink. In general, ripples and steps in all kinds of figurative expressions are very important in the Khanty traditional culture. For instance, in folklore, the river banks is compared to the back of a lizard or mythical creature – ‘-vesy’: with a lizard back, rippled river bank, rippled river banks with ‘vesys’ backs”? ‘Сэреп(ǝ) шишиLookAndFeel(ʘ) шишиLookAndFeel(ʘ) репен(ʘ)’ is a typical formula in which the adjective ‘сэреп(ǝ)’ has two meanings: on the one hand, it is a boot top of footwear meaning the high river bank, like the boot top; on the other hand, it is the alteration of dark and white stripes on winter shoes made of reindeer skin, resembling a stepped river bank [26].

5.2 Нуви, нэви/white

The adjective ‘нуви’ is translated into Russian as white, light, colorless, light gray, clear, pale, lunar, silver [36]. In books of riddles this word is always translated as white. Interviewees translated it as light and white when referring to coat pattern, color of fabric, thread, clothing.

Table 2. Нуви, нэви/white.

<table>
<thead>
<tr>
<th>Riddle</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Нуви сӑхӑх хо картья шоркана, вӴӴӴӴз шоркана питмаԓ. (Сос)</td>
</tr>
<tr>
<td>8. Пӑтлам хотэи хотхэр хӑйвт нуви пӴӴ хӑмэз. (тылэш)</td>
</tr>
</tbody>
</table>
5.3 Вурты/Red

The adjective ‘вурты’ is translated into Russian as red, ginger, rosy [36]. In most cases, it is translated into Russian as red. In two examples, a combination of ‘питы вурты’ (literally, dark red) is used, which translates as dark red in one case, in the other – burgundy. In two examples, a combination of ‘вурты в.wallet’ is used (literally, reddish yellow), which is translated into Russian as red-and-yellow in one case, in the other as scarlet. In one example, ‘вурты’ translates as ginger when the riddle means a fox.

Table 3. Вурты/Red.

<table>
<thead>
<tr>
<th>Riddle</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Сєр вонт, мур вонт сєкм ўйпана пөчат вурты милини ай. икисун кос. (милы)</td>
<td>If a woman or man wearing a red kchief/that is sitting in the middle of the forest, then it is a mushroom; if a woman wearing a red (reddish yellow) kchief is sitting in the middle of a swamp, then it is a cloudberry. This association is transmitted through the color itself, though they do not describe cloudberry as red or yellow in the Khanty language, but it is ‘шостох’ – unripe, raw and ‘їзуаг’ – ripe, literally, molten.</td>
</tr>
<tr>
<td>11. Нєргун күтунг вурты ухамаму ими олмає (морх)</td>
<td>A woman with a red kchief is sitting in the middle of the swamp. (a cloudberry)</td>
</tr>
<tr>
<td>12. Вонт ышпый вурты ухамаму не кос. (хон ах)</td>
<td>The respondents failed to solve this riddle, as it is uncommon for a tree to be referred to with color; perhaps, it is a loan translation from Russian; this riddle may be asked about mushrooms, as respondents do not associate red with such berries as raspberry or rose hip.</td>
</tr>
<tr>
<td>13. Іх сєм хуват вурты вухар кос. (шухал түт)</td>
<td>‘Вурты’ literally means red although it is translated into Russian as ginger, because a fox is supposed to be red in the Russian lingual culture.</td>
</tr>
<tr>
<td>14. Хуиапау ёх</td>
<td>In this case, ‘вурты’ is translated as red (fox), where red color is associated with fire and burning.</td>
</tr>
</tbody>
</table>

5.4 Бусты/blue and green

In the Khanty language, just one word is used to denote blue and green colors, it is ‘бусты’.

Table 4. Бусты/blue and green.

<table>
<thead>
<tr>
<th>Riddle</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Бусты найсту ыярл ут ёа шютэ, кёр ваныш. (Псевдо)</td>
<td>When speaking about the grass, they use ‘бусты’, for instance, ‘бусты түр’ means green grass. Speaking of trees, they usually do not refer to colors but shapes, e.g., a straight tree, a crooked tree, though there is an expression ‘пимт вонт’ for dark forest. This riddle was solved with the help of the color term (green, color of grass) and quality of grass-cutting.</td>
</tr>
</tbody>
</table>
In the folklore, the expressions are typical: ‘Вуулэ эмъя хэвээл (эмъя ихэлэ, Вуулэ эмъя ньээ эмъя ээлэ эмъя ихэлэ)’. T.A. Moldanova says that ‘our forest is motley like a crow’s beak’, which reproduces an image of the Urals foothill with boulders covered with lichen, and is compared to a crow’s beak, which is framed by a fluff, and at the same time with the dark grey color of the bird [26]. Speaking of the river, they do not refer to colors either; there is an established dark grey color of the bird [26]. Speaking of the river, expressions ‘онал эмъя ихэлэ’ – light water, ‘ээлэ эмъя ихэлэ’ in folk texts – literally, red water, i.e., blood-red water. In some cases, the informants believe that the water is red, as it flows from the swamps (that is, saturated with iron, swamp ore i.e. limonite).

5.5 Yellow

The adjective ‘Вуулэ’ is translated as yellow [36].

Table 5. Yellow.

<table>
<thead>
<tr>
<th>Riddle</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Сорнь(ы)'</td>
<td>сорь(ы) means motley, multicolor, so ‘сорь(ы)’ cannot be translated as golden but valued, divine. The riddle is solved by the shape (yoke) and place (across the river).</td>
</tr>
</tbody>
</table>

5.6 Сорни, Сорнеӈ

The adjective ‘сорни (сорнеӈ)’ is translated as golden [36]. The golden color is at the top of the color hierarchy related to the spiritual world, as it symbolizes the highest sacredness and value. It characterizes the characters of the divine pantheon and their zoomorphic incarnations. Speaking about variation in the use of words ‘сорни’ and ‘сорнеӈ’ some informants noted that ‘сорни’ is used when value or the highest status is meant, for example: ‘Сорни Торум’ (literally – gold Torum), ‘Сорни най’ (literally – gold goddess), that is, he (she) himself (herself) is gold, absolute value, one cannot say ‘сорнеӈ Торум’ or ‘сорнеӈ най’, but they say ‘сорнеӈ аню’ - golden girl, ‘сорнеӈ зыми’ - golden ring. In most examples, ‘сорни (сорнеӈ)’ is translated as gold, and in one case. Table 6.

Table 6. Сорни, Сорнеӈ.

<table>
<thead>
<tr>
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<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Сорни хэвээл'</td>
<td>‘хэвээл’ means motley, multicolor, so ‘сорни’ cannot be translated as golden but valued, divine. The riddle is solved by the shape (yoke) and place (across the river).</td>
</tr>
</tbody>
</table>

5.7 Йеел вух (Єлень)

The phrase ‘йеел вух’, or just ‘йеел’ and ‘вух’ are translated into Russian as silver. According to the Khanty-Russian dictionary ‘йеел вух’ means a silver coin, ‘вух’ – money, silver. In the dictionary, the expression is
translated as silver ‘щєл вух сэрэн’, but it is not used in the riddles [36]. The informants translated it as with a silver surface. Informants report that ‘щєл вух’ translates literally as liquid money. It is supposed that the word ‘вух (naх)’ used to denote metal meaning value. In the riddles, there is a comparison to silver (window, icicles, moonlight rays).

**Table 7. Щєл вух (сэрэн).**

<table>
<thead>
<tr>
<th>Riddle</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Иши иши щєл вух. Silver coin is hanging in front of the window. (an icicle)</td>
<td>‘Щєл вух’ means liquid money, this is how silver is described.</td>
</tr>
<tr>
<td>25. Хот пѫӈəәԓ тӑхты. (иши) There is silver deerskin on the house wall. (a window)</td>
<td>‘щєл вух’ means shiny, тӑхты means deerskin.</td>
</tr>
<tr>
<td>26. Пӑтлам хот сѫراع карты ётӑтӑн се, вух ётӑтӑн се дӑнсӑл. (ТӰлӰл, еӈ, хӑтӑл еӈ) A woman with iron, silver rings is sewing in a dark corner of the house. (moon and sun rays)</td>
<td>‘Вух’ means iron, and an addition of ‘щєл’ makes it silver.</td>
</tr>
</tbody>
</table>

4. Interlanguage (Russian – Khanty) comparison of the content aspect of the words for color terms shows universality (red hat, man means mushroom) of many processes in the studied languages alongside with a different degree of their actualization and an unequal set of lexical color units, which is primarily due to ethnic, social and cultural factors (‘rainbow’ means golden - ‘a golden staff’ is put in the sky).

5. The Khanty language has its own ethnically preferred colors, possessing the quality of dominance and ethnic priority, which serve to convey ethnic feelings when it comes to things most sacred for a person/people, i.e. idealization takes place in color, for example, a bear is a golden ratle (sacred animal), golden crosses mean crane footprints (a crane is the incarnation of a god). The present study is an attempt at developing a hypothesis that certain color terms are extremely important for this ethnic group; in the Khanty culture, it is gold meaning valuable, sacred.

Thus, the conducted study shows that color terms are complex lexical units of language and speech, whose meanings are determined to a large extent by the historical and cultural experience of certain linguistic groups.

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Appendix 1. Pre-questionnaire for native Khanty speakers.

Instruction: Please write down your responses to the following questions:
1. What is your age?
2. What is your gender? (Male/female)
3. What languages do you speak?
4. What is your level of competency of the Khanty language? (minimal, functional, proficient)
5. What is your dialect?