

Colors Associated with Mystery in American and Russian Student Groups

Folina S. Yu.

Post-graduate department
Kemerovo State University
Kemerovo, Russia
Lana.ru81@mail.ru

Teleguz A.A.

Foreign languages department
Novosibirsk State Technical University,
Novosibirsk Military Institute of National Guard Troops
Novosibirsk, Russia
AnnaTeleguz@yandex.ru

Abstract – The article reveals the results of the experiment conducted among Russian and American university students in 2017. Such groups of respondents were chosen as due to their age peculiarities they are very interested in everything enigmatic and mysterious. The article highlights the differences in associations that students have in relation to concepts “mysterious” and “мистическое”. Because of cultural peculiarities people of different nations associate concepts which at first sight seem to be identical with different things. This can be demonstrated by means of color scheme consideration. While Russian students gave answers connected with red color, American students associate mystery with grey and black colors.

Keywords – word association test; concept; cultural differences; linguistic culture

I. INTRODUCTION

In 2017 the authors conducted an experiment among Russian and American students to understand which associations students have when they think about mysterious objects and notions. The main aim of the experiment was to reveal cultural and linguistic differences which characterize concept “Mysterious” and “мистическое” in these two languages.

The experiment was carried out in Florida International University, Kemerovo State University and Kemerovo State Agrarian Academy.

The results of this initial experiment showed that there are some fundamental differences in the associations American and Russian students gave. One of them was connected with visual associations, namely, color scheme. While almost all Russian students mentioned red color (blood), American students mostly associated mysterious things with grey and black colors. For that reason the authors calculated the percentage of color associations and made an attempt to explain the revealed differences.

II. METHODS AND MATERIALS

The authors chose students as the source of data because this age group is subject to cultural globalization. The authors supposed that there are less and less cultural differences attributed to concepts “Mysterious” and “Мистическое” in American and Russian cultures because of increasing number

of American and European films released in Russia and books translated and printed in Russian language.

Teenagers due to their age peculiarities are very interested in everything having relation to mystery. That is why such films and books are very popular among young generation. Students are especially susceptible to changes connected with culture. They watch films about everything having relation to mystery, while most of these films were shot in America.

That idea was confirmed after the analysis of the obtained associations. The authors divided them into three large groups:

1) Mysterious creatures, personalities, objects, notions, places, etc. and their properties (vampire, monster, strange, dangerous, gloomy);

2) Sources of knowledge about mysterious items placed in the first group (thrilling, fun, scary);

3) Feelings and emotions that participants have when they think about something mysterious (they vary from very negative, for example, *scary* and *fear* up to positive ones, such as *fun* and *curious*).

Each participant explicitly mentioned the source of knowledge about the mysterious.

Thanks to folklore studied at primary and secondary school, classic literature, films and cartoons, Russian students are familiar with mysterious objects, creatures and notions specific for Russian culture and attitude to them as well as associations Russian people have in relation to these mysterious notions.

Thus, Russian respondents are not only “carriers” of Russian culture, but they are partially “carriers” of American culture in respect to concept “Mysterious”. That’s why the authors decided to reveal how interaction of these two cultures influenced the recipients’ reactions concerning concepts “Mysterious” and “Мистическое”.

Participants were not aware of the purpose of the experiment which consisted of two parts. First, the respondents were asked to answer the following question:

What do you associate with the words “Mystery” and “Mysterious” / “мистика” and “мистическое”?

They were asked to give as many associations as they could. Time period was not limited, but as a rule, participants

finished answering this question within 2–3 minutes. Minimum number of associations was 3 words/word combinations; maximum number was 21.

After that the participants were asked to give more detailed information by answering the following list of questions:

1. Complete the following phrases. Write as many variants as possible:
 - a) mysterious _____
 - b) _____ mysteriously
2. Which mysterious creatures / people do you know?
3. Which sayings about mysterious creatures/ people / events / notions do you remember?
4. Which mysterious art objects do you know (sculptures, paintings, music)?
5. Which mysterious places do you know?
6. Which literary works of American writers about mysterious people, events, places, etc. do you know?
7. Which literary works of foreign writers about mysterious people, events, places, etc. do you know?
8. Which films about mysterious people, events, places, etc. do you know?

After the experiment the authors calculated the results and found out that among the answers given to the first question there were a lot of associations connected not only with objects, but with some particular colors (namely, black, grey, red). The authors calculated the percentage of such words denoting colors for each group and made a comparative analysis.

III. DIFFERENCES IN COLOR ASSOCIATIONS

People comprehend the world around them first of all by means of visual perception. That is why colors and associations connected with them have been subjects to numerous studies for the last century.

Color does not refer exclusively to aesthetics. It also communicates specific information. Clinical psychologists point out that colors influence person's behavior, physical and mental state. For example, color red increases blood pressure and pulse, while blue makes a person calmer. It is very important to study color associations as people perceive color and form faster than other stimuli and process them almost simultaneously. By contrast, movement perception takes place about 50 ms later [1].

According to the interview conducted by A.A. Al-Ayash, students perceive light red color as distracting, not focusing attention, and inducing feelings of stress and nervousness. Vivid red color was described as tense, annoying, and impairing concentration. Moreover, the scholar found out that both light and vivid red have negative effects on students' emotions, physical body and activity [2].

Color meanings and effects are contextual. That means that the same color can evoke various implications in different contexts [3, 4] even within one linguistic culture. For example, red color can, on the one hand, be perceived as danger when used on warning signs, and on the other hand, it can be perceived as a sigh of love and passion when applied to

express feelings. In a romantic context, it is perceived as a color stimulating approach. But in a cognitive context it acts as an inhibitory factor and encourages avoidant behavior [5]. Moreover, representatives of different cultures can have different associations with the same color due to their cultural experience.

Axiological color semes have binary nature, in other words, each of them consists of two polar semes – semes with positive evaluation and negative one [6]. For example, color nomination “red” has both positive axiological seme (*a red-letter day* – a day that has been specially memorable or enjoyable; *roll out the red carpet* – to give special treatment to an important or honored visitor) and negative one (*a red herring* – an irrelevant distraction, intended to divert attention; *in the red* – owe money or have a negative account; *see red* – become very angry or annoyed; *red-handed* – caught while doing something wrong or illegal; *better dead than red* – destruction in a nuclear war would be preferable to submission to communism; *a red rag to a bull* – an action or statement that is likely to make somebody angry or violent) [7].

In a linguistic context, three aspects that influence color associations can be distinguished: previous knowledge, immediate linguistic environment (type of discourse, genre, register, field of discourse) and symbolic connection [8]. During the interpretation of the obtained results the authors paid especial attention to students' previous knowledge and color symbolic connections.

As S.K. Shevell points out, color appearance is a mental phenomenon, not a physical one. No wavelength of light is a color [9]. The way people's eyes perceive light depends on such factors as color of other objects or background, luminance, the current state of neural pathways of the person's eye and brain, brightness, etc.

According to Lüscher's test, there are not any statistically significant differences in relation to color preferences among the representatives of different ethnic groups [10]. Besides, the series of tests conducted by B. Berlin and P. Kay demonstrated the cross-language universality of color foci as the location of color foci varies no more between speakers of different languages than between speakers of the same language [11].

That means that the differences in the choice of colors can be connected with the peculiarities of the concepts “Mysterious” and “мистическое” in American and Russian cultures and not with students' personal preferences and color foci.

Basic color concepts are represented in the picture of the world the representatives of different nations have in their minds. That presents special interest for scholars. For that reason there are numerous studies devoted to consideration of basic color concepts in different languages [12–16]. In reference books on linguistics and culture a lot of attention is paid to concept “color” as it carries historical, cultural, intellectual, and emotional information. It is an important element of myths and customs [14].

Key concepts help understand important peculiarities of the nation's culture. They are images created in human

conscious having different degree of precision and reflecting certain characteristics of the object. Concepts emerge as a set of semes which reflect not only the main peculiarities attributed to the concept, but also some very specific ones [17]. They show how the representatives of certain culture perceive the world [18].

Concepts have two-dimensional nature. First, concept is a mental, national specific notion which contains all information about the object, second, it is conveyed via a variety of linguistic means, such as words, word combinations, idioms, etc [19]. Moreover, concepts are dynamic notions. That means that they can change over time due to both linguistic and extralinguistic causes.

Gataullina L.R. highlights that color belongs to those cultural constants which belong to the deepest layers of ethnic cognitive base. They were one of the first constants which acquired axiological sense [20].

Color is closely connected with such core cultural segments as Time, Space and Person [14]. This idea is especially valuable for the conducted experiment as it demonstrates that through color scheme concepts “mysterious” and “мистическое” interact with the concepts mentioned above.

Information about the world is reflected in the semantic structure of words. That is why when a person speaks certain language he or she dips into the culture of that nation and shares the conceptual view of the language group. And a word association test helps reveal these cultural peculiarities of different concepts. Semantics of most words that seem to be identical in two languages (like words mysterious and мистический) has specific configuration of ideas which are subject to constant changes. What is more, universal concepts can have quite different connotations [21] and potential semes [14].

First of all, the presence of such a specific cultural constituent of the concept is connected with the history of certain nation. But globalization has a great influence on the configuration of national-specific ideas characterizing the concept.

Having analyzed the definitions of the word “color”, Ya.A. Astakhova came to the conclusion that explanation of color denotation is most often made through comparing the color with some object which has the same coloration [14]. This remark is also vital for the study as many participants of the conducted experiment did not mention colors explicitly. Instead, they pointed out associations which have particular colorations, such as blood, night, fog, etc.

Colors denote not only physical properties of different objects, but the inner structure of their concepts may also contain such components as time parameter, location in space, feelings that people have in relation to something or someone, etc [22].

As Kramkova O.V. points out, there are more than 800 color denotations found in the dictionaries [23]. The dictionary compiled by Kharchenko V.K. includes 4 000 words which

denote colors, hues, etc. [24]. But only 40–45 of them are used by native speakers in real life [23].

Free word association test requires responses that are not restricted to any specific category or class of words [25]. The authors conducted a test of continuous association which consisted of two parts. The first stimulus words and then the list of questions were presented to the respondents only once and they are asked to give as many associations and answers as they could.

The results of linguistic cultural experiment showed that 94 % of Russian students associate the mysterious with either blood or red color. Besides, among the associations connected with mystery they pointed out black and gray colors.

Fig. 1 shows that there are three important colors (black gray and red) which are associated with concept “Мистическое” in the conscious of Russian-speaking students.

As for American students, only 2 % gave associations connected with red color. At the same time 98 % of the latter group chose black color and different shades of gray starting with very dark grey and up to vague and transparent hues. American students did not give associations having relation to blood (Fig. 2).

The processed data showed that 12 % of American students associate the mysterious with transparency, while 8 % of Russian students correlate the mysterious and invisibility.

Thus, to understand the differences emerging during the interpretation of the results, it is necessary to consider what implications the colors mentioned above have for the representatives of these cultures. The most significant difference in the results was connected with red color.

The results of the componential analysis conducted by S.V. Kezina demonstrate that different Indo-European languages used the same objects for color nomination on the early stages of their development. The author supposes that fire was such an initial object for color nomination. Probably, blood was as important for people at that time [6].

Red color is one of the basic colors. It is one of the most thoroughly studied colors nowadays. It has been studied from the viewpoint of many sciences, such as psychology, linguistics, medicine, marketing, architecture, etc.

Studies show that red is a colour of psychomotor stimulation, great vigour, desire, and autonomic action. It motivates the individual’s energy to act and increases breathing and blood pressure. It stimulates one to successful action, sport or fight [10].The color red is arousing or exciting and speeds up motor reactions arousing drive and inducing bright moods [26]. But in general red carries the meaning of danger, especially psychological danger of failure [27].



Fig. 1. Colors associations with concept “Мистическое” for Russian students

In Russian language the group of words which denote both red color itself and its different hues has always been the biggest one [28].

The verbalization of concept “red” took place on the second stage of language development after people started distinguishing white and black colors (light and darkness), while concept “gray” appeared on the last stage [11].

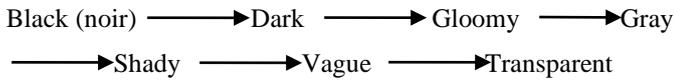


Fig. 2. Colors associations with concept “Mysterious” for American students

The study conducted by S.V. Kezina revealed that concept “red” has the richest range of nominations in Russian language which demonstrates especial importance of that color in Russian culture [6]. Consequently, this shows the importance of the object which has become the prototype for the word which denotes red color.

Goroshko E.I. demonstrates that all groups of Russian-speaking participants associate color red with blood [29]. Moreover, that color stimulated the biggest number of negative connotations during that test. The participants reacted on that color as a stimulus, bringing negative ideas. But the scholar pointed out that in contrast to the obtained results Word Associating Dictionary did not give such an association. Less frequently the respondents associated red color with flag, tomato, brightness, rose, fest, anxiety, apple, car, sunset, fire, something sweet, tulip, and poppy. The results of that test revealed that the most prominent association with red color is blood, though there are plenty of less frequent associations specific to some groups having positive connotation.

According to Russian explanatory dictionary, red is the color of blood, ripe strawberry, bright poppy flower [30]. As the definition shows, the association with blood comes first.

English explanatory dictionary gives similar definition:

Red [color] having the color of blood or fire [31]. To understand the implications of red color, the meaning of key words in that definition were also analyzed:

Blood [in your body] [U] the red liquid that your heart pumps round your body [31].

Fire [burning] [U] the flames, light and heat produced when something burns [31]. At the same time the verb to burn means the following: 1. Produce heat, 2. Destroy with fire, 3. Damage by fire [31].

All given definitions explicitly suggest that in both cultures red is connected with injured body, pain and destruction. But in contrast to Russian students American youth does not attribute these characteristics to concept “Mysterious”. Mysterious notions do not cause bleeding, wounds and pain to a person.

The second fundamental difference is that American students gave twice as many words describing different shades of gray color as Russian ones.

Dark colors are an example of one light affecting the appearance of another. In general, the appearance of a given light will depend on other light(s) also in view [9]. Gray as well as other non-vivid desaturated hues belongs to so called category of “bad” color [32].

The word grey has the following definitions:

Grey 1. the colour of ashes or of clouds on a rainy day. 2. You use grey to describe the colour of people's hair when it changes from its original colour, usually as they get old. 3. If the weather is grey, there are many clouds in the sky and the light is dull 4. If you describe a situation as grey, you mean that it is dull, unpleasant, or difficult. 5. If you describe someone or something as grey, you think that they are boring and unattractive, and very similar to other things or other people [33].

Gray color is a neutral color – it is neither dark nor bright and it does not play the role of psychological stimulus. It is a borderline between opposites. Its characteristic is non-engagement [10]. Thus, gray is somewhere in between. It is associated with a borderline between real and supernatural worlds. It is not certain like black (bad) and white (good) and has many variations. It correlates with senior age and something dull. Besides, gray is compared with ash which is left after burning. Something that has burnt does not exist anymore. Generally ash is neutral for people and evokes sadness.

The last characteristic of that color (non-engagement) proves that in the conscious of American students mysterious things and notions do not disturb people.

E.I. Goroshko shows that Russian-speaking people from all four groups of participants associate gray color with rain and asphalt. Least frequent reactions are ash, day, sky, hare, mouse (2 groups of participants gave these associations), the reactions given just by one of these groups were dull, dirt, cat, costume, wolf, wall, evening, something pleasant / calm / white. Whereas according to Word Associating Dictionary the participants should have given such associations as wolf, day, fume, cat, color, white, hare, horse, raincoat [29]. As we see, the results of the scholar's experiment showed significant differences between anticipated (according to the data given in the dictionary) and real results. That fact confirms that concepts, relating to colors, are subject to fast changes.

In Russian the word *gray* means the following:

Grey – 1. The color of ash, fume, asphalt or mouse; the color between white and black; 2. Pale; 3. Dull, faint; 4. Ordinary, colorless, commonplace [34].

The analyzed data demonstrated that gray color has neither very positive nor negative connotations in both languages. Generally it refers to something neutral or dull. It can generate sadness. In conscious of Russian-speaking people it correlates with different animals who either do not bring any troubles (mouse, cat, hare) or, when dangerous, live far from people (wolf).

Thus, gray is a composite color, which has black and white as its base. No participant of the experiment mentioned white

color which implies purity and weakness [26]. Instead, all participants mentioned black color (darkness).

Scientists underline that the black color has the following implications:

1) The color *black* symbolizes a boundary behind which there is nothingness. It is the darkest color, which is preferred by people in a difficult situation. It expresses negation, resignation, and a necessity to take a definite decision. It is a color of protest and rebellion [10]; 2) The word (and color) black carries a negative or bad connotative meaning. Bad, sad, powerful, and strong are adjectives or mood-tones used, most often to describe the color black. It is associated with something unpleasant and connotes badness.

In Russian explanatory dictionary the word *black* has the following meaning:

Black – the darkest of all colors, having the color of cinder, coal; 2. Dark, darker than ordinary colors, having dark color (about something exposed to the sunlight, dirt, etc.); 5. Difficult, dirty labor; 7. Mean, vile; 9. Having relation to mystery, magic spells and recipes; 10. Very bad, extremely negative [30].

Nowadays the word “black” has the following meanings: dirty, ugly, angry, mean, bad, difficult, unskilled, hostile, connected with undead, witching, deathly, exhausting, ominous, hard [kezina, article].

According to E.I. Goroshko, Russian-speaking people associate black color with night, death, earth, coffin, darkness, car, mourning, shoes, elegance, abyss, square, eternity, evil, clothes, trouble, fear, cloud [10]. The most frequent reactions typical for all four groups of participants are night and death / mourning. Respondents from two groups had associations with earth.

Association with the word *night* shows that black color is connected with person’s vulnerability either because he / she sleeps or is not able to see properly.

As is seen, the word *black* has evident negative connotation because it is associated with death, bereavement, evil, and danger.

The given data make it possible to suggest that association of the word *black* with concepts “Mysterious” and “Мистическое” in both languages demonstrates that this concept is attributed the following list of characteristics:

1. Danger (the mysterious is strong); 2. Unmeasurable character, having no limits (abyss, eternity); 3. Enigmatic character (connected with mystery); 4. Exposition to something unpleasant which has negative effect or deterioration; 5. Having negative traits of character; 6. Weakening; 6. End of existence.

The analyzed data have shown that the most significant difference between colors representing concepts “Mysterious” and “Мистическое” is that in Russian culture mysterious objects and notions are associated with possibility of inflicting bodily harm, but in American culture this association is absent.

References

- [1] P. Viviani, C. Aymoz, “Colour, form, and movement are not perceived simultaneously”, Elsevier, pp. 2909–2918, 2001.
- [2] A.A. Al-Ayash, The influence of colour on learning in university libraries, PhD thesis.Curtin University, 2015, 294 p.
- [3] A.J. Elliot, M.A. Maier, “Color and Psychological Functioning”, *Current Directions in Psychological Science*, vol. 16, no. 5, pp. 250–254, 2007.
- [4] M. Platonova, L. Iljinska, “Beyond Colour: The Evaluation of Meaning Representation”, *Vertimo Studijos*, vol. 9, pp. 107–122, 2016.
- [5] G. Neil Martin, “Seeing Red”, *The Psychologist*, vol. 30, pp. 48–53.
- [6] S.V. Kezina, Semantic field of color denotations in Russian language (diachronic aspect)”. PhD thesis. Chelyabinsk, 2010.
- [7] R. Allen, *Allen’s Dictionary of English Phrases*. Penguin books, 2008.
- [8] W. Croft, *Explaining Language Change: an Evolutionary Approach*. Pearson Education, 2000, p. 102.
- [9] S.K. Shevell, *The science of color*, 2nd ed. Elsevier, 2003, 339 p.
- [10] J. Stompór-Świdarska, “Possibilities of the Lüscher Test Application in Job Consultancy and Personnel Recruitment, Qualitative Methods in the Professional Diagnosis”, *Oficyna Wydawnicza Atut Wrocław*, pp. 131–145, 2013.
- [11] B. Berlin, P. Kay, *Basic Color Terms: Their Universality and Evolution*. University of California Press, 1991, 196 p.
- [12] E.N. Alymova, Color as a linguistic and cognitive category in Russian linguistic view of the world. St. Petersburg, 2007, 269 p.
- [13] Yu.V. Guz, Experimental study of basic color concepts based on the data obtained from Russian, English, German and Chinese languages. Biysk, 2010, 487 p.
- [14] Ya.A. Astakhova, Color denotations in Russian linguistic view of the world. Moscow, 2014, 234 p.
- [15] L.A. Golub’, Recurrent motives in linguistic view of the world based on the example of lexical-semantic field “color” in English and Russian languages. Moscow, 2006, 219 p.
- [16] T.A. Morozova, “Color concept sphere in Chinese linguistic view of the world”. Biysk, 2008, 217 p.
- [17] A.P. Babushkin, Types of Concepts in Lexical and Phraseological Semantics of the Language, Their Personal and National Peculiarities, Voronezh, 1996, p. 51.
- [18] A.A. Zaliznyak, I.B. Levontina, A.D. Shmelev, Constants and Variables of Russian Linguistic World Vision, Moscow: Slavic Culture Languages, 2012, pp. 17.
- [19] V.A. Maslova, *Cognitive linguistics*. TetraSystems, 2004, 256 p.
- [20] L.R. Gataullina, Linguistic color picture of the world: research aspects. Semantic categories in different linguistic paradigms. Ufa, 2005, pp. 43–53.
- [21] O.A. Kornilov, Linguistic pictures of the world as national mindset derivatives. KDU, 2011, 350 p.
- [22] Sh.K. Zharkynbekova, Color linguistic conceptualization in culture and languages. Author’s thesis. Almaty, 2004, 17 p.
- [23] O.V. Kramkova, “The principles of lexicographic description of the words with the meaning of color”, *Vestnik of Lobachevsky University of Nizhni Novgorod*, vol. 4, no. 2, pp. 568–571, 2010.
- [24] V.K. Kharchenko, Color dictionary: conceptual foundation, new material, full electronic version. Gorky literary institute, 2013, 208 p.
- [25] Z. Kostova, “Word Association Test for Studying Conceptual Structures of Teachers and Students”, *Bulgarian Journal of Science and Education Policy*, vol. 4, no. 1, P. 67, 2010.
- [26] H. Ganther, *Rehabilitation and the meaning of color*. California State University, San Bernardino, 2000, pp. 10–11.
- [27] A.J. Elliot, M.A. Maier, The color of competence motivation. Social psychological perspectives. Emerald Group Publ. Ltd. 2008, pp. 145–170.
- [28] N.B. Bakhilina, *History of color denotations in Russian language*. Moscow: Nauka, 1975, 288 p.
- [29] E.I. Goroshko, *Study of Verbal Associations on Colors*. Moscow: Linguistic Conscious and Image of the World, 2000, 320 p.

- [30] S.N. Ozhegov, Explanatory Dictionary of the Russian Language, 2011, 726 p.
- [31] Longman. Dictionary of Contemporary English. Pearson Education Limited, 2001, 1668 p.
- [32] P. Kay, B. Berlin, L. Maffi, W. Merrifield, Color naming across languages, 1997.
- [33] Collins Dictionary. Retrieved from: <https://www.collinsdictionary.com/dictionary/english/grey> (accessed 20.04.2017).
- [34] S.A. Kuznetsov, Big Explanatory Dictionary, St. Petersburg: Norint, 2000, pp. 1180, 1474.
- [35] S.V. Kezina, "Evaluativity of color nominations in Russian language compared to other languages", Humanitary sciences. Philology, no. 3, pp. 99–107, 2008.