COLOUR PERCEPTION AND ASSOCIATIVE FIELDS IN RUSSIAN AND ENGLISH

The article addresses the peculiarities of colour perception in different cultures. Etymological analysis of words denoting the main colours of the spectre in Russian and English and the historical influence of social and cultural factors allows the author to work out the associative fields connected with the perception of colour in various contexts.

In terms of physics and physiology, colour perception must be similar for everybody, but representatives of different cultures have differences in perceiving colours. It is difficult, if possible at all, to single out associative fields without studying the etymology of words denoting colours, as associations are historically and culturally determined. Why should we speak about associative fields? – Because the process of primary nomination is determined by a number of factors, primarily, by the environment. Speaking about characteristics of colour perception in different cultures, we cannot fail to see their connection with the basic concepts of optics, the science that studies light and colour. Physical characteristics of colour perception and social and cultural properties of colour usage are complimentary; they influence perception and the frequency of occurrence of colour denotations.

The main colours that were the first to appear in human culture are white – black – red. The first two correspond to light and darkness, the third one – to fire. Later, in European cultures, priority was given to ‘red – yellow – blue’ which were, in their turn, replaced by ‘red – green – blue’. The first fundamental studies on the theory of light appeared in the 17th-century England. The basics of modern theory of light were laid by the English scientists Robert Hooke (Micrographia, 1665), Robert Boyle (Experiments and considerations upon Colors, with a letter containing observations on a diamond that shines in the dark, 1664) and Isaac Newton (A New Theory of Light and Colour, 1672; Opticks: or a Treatise of the Reflections, Refractions, Inflections and Colours of Light, 1704). In accordance with the theory worked out by I. Newton, the number of main colours went up to seven: red, orange, yellow, green, blue, indigo, purple. But in everyday life we always add two more colours – white and black, seldom mention orange, still more seldom – purple, and quite rarely speak about indigo. Let’s have a closer look at the etymology of colour nomination and the associative fields connected with them.

WHИТЕ/БЕЛЫЙ [byeliy]. The English word white goes back to the Indo-European *h₂id- preserved in Sanskrit in the form of śveta – (to be bright, white), in Slavic languages – свет [svet] (light). At the same time, in the ancient Indian language there existed such words as bhālam (glare) and bhāti (shines), which, through Latin, gave the Romance root blanc-. Accordingly, in Slavic languages for white we have белый, би́льный [beli, biliy] (Ukr.), bel/beli (Sloven.), bialy (Pol.). [9, p. 84] Thus, белый [belyj] is associated with light, glare, shining. In Christianity, the white colour symbolizes Christ, that is why on the so-called Lord’s Days (Christmas, Transfiguration of Jesus) Orthodox clergy are dressed in white robes.

Both in Russian and in English there are metaphors with similar meanings: snow/milk white (бёлый как снег/молоко). In English, the white foam on top of sea waves is compared with white horses and in Russian – with white lambs (бёлые барашки). In English, and white-hot (cf. white-hot metal) can mean “impressive, exciting” – almost the same as in the Russian phrase довести до белого каления. [11, p. 1637; 8, p. 141] Such coincidences are explained by the fact that the oldest metaphors were drawn from natural and occupational phenomena.

In English, white is often associated with honesty and virtue, good and happiness, which is largely explained by the impact of Christian culture. Speaking about an honest person who
acts in accordance with the norms of social morality, we say (even if sometimes ironically) that they are *whiter than white*. Witchcraft practised for someone’s good is known in both cultures as *white magic*. In some cases, though, there are differences in the two cultures. For example, in both cultures the bride usually wears white at a wedding (*white wedding*) as this colour traditionally symbolizes virginity and purity. For the same reason, an unmarried girl is sometimes buried in a white dress (*white funeral*). When someone tells a lie to avoid upsetting someone, not for their own advantage or in order to harm someone else, that is called *a white lie*. Similar traditions exist in Russian culture, although they are not directly expressed in colour nomination.

Since ancient times, Britain has been called *the Albion*. The word is supposed to go back to the Celtic word *mountains* (compare: *the Alps*). But it might just as well have originated from the Latin *albus* (white). The first thing a traveller crossing the English Channel sees is the white cliffs of Dover. For the English, *the white cliffs of Dover* symbolize the joy of homecoming. [13, p. 581]

In England snow melts quickly, but there are several days in a year when everyone hopes that it won’t melt – that is at Christmas, which is then called *White Christmas*. The snow is considered to create a magic atmosphere of a fairy-tale, typical of this holiday. A person who is expected to bring great success is called *white hope* (sometimes with a shade of humour or even a derogatory meaning). “A person or organization that puts money into a business company to save it from being taken over by another company” is known as *a white knight*. Here we see associations with good, hope, joy. [10, p. 1522]

BLACK/ЧЕРНЫЙ. The English *black* goes back to the Old English *blæc* (dark, black, ink), which has cognates in Old Germanic languages, with the meaning of “burn, smoulder, coal” in proto-Germanic *

*blakaz* and in Indo-European *

*bhleg*. [12] Here we can clearly see associations with smouldering fire and coals. In Slavic languages there is a different root – *черн* (proto-Slavic *

*черь*). *Black* is associated with darkness, the end of life (a burnt tree), mourning, adversity, vice, dark forces – a negative connotation that appeared in the Middle Ages.

The words *black/чёрный* are also present in the expressions which are not directly related to the primary meaning – “burnt”. In comparisons we refer to the world of fauna and nature: *black as a crow’s/raven’s wing; black as a crow/raven* (черный как вороново крыло), *coals black; black as coals* (черный как уголь).

The pandemic of plague which devastated Europe in the 14th century was 200 years later described in Scandinavian chronicles as a “black” (dreary, horrible) event. But the phrase *The Black Death* appeared only in the 19th century as a result of the incorrect translation of *atra mors* (horrible death – Latin) as “the black death”. After that, the phrase came into use to describe the 14th-century pandemic.

Both in English and in Russian *black/чёрный* is associated with misfortune, adversity, anger, darkness: *black mark/черная метка, blacklist/черный список, black hump/чёрный хомар*. Speaking about a person in grief or in anger, the English say that they have a *black look* or that the person is in a *black mood*. In the *black day/чёрный день* (in both languages) the adjective means “very bad”.

In the Middle Ages, England was Europe’s major producer and exporter of high quality wool which was the country’s main wealth. A black sheep in the flock was sub-standard as black wool could not be dyed. That is why a person who is not approved of by the other members of the family is still called *a black sheep* in English. Russian linguistic culture offers a different word for the phrase with the same meaning – *паршивая овца*, with reference to a mangy animal that can infect the others.

Black clothes in the medieval and Renaissance England were almost always a sign of prosperity as it takes a lot of dye to make a fabric really black. Thus the black colour indicated wealth and high social position. [3, p. 19] Courtiers usually wore coloured clothes.

In both cultures, darkness is associated with hell (*black as hell*), and *black magic/чёрная магия* – with the evil forces (Satan, sorcerers, witches). The English phrase *not as black as it’s
painted is part of the proverb the devil is not so/as black as he’s painted (не так страшен чёрт, как его малют). Although the Russian phrase gives no reference to the colour, there is direct indication of visual perception and fear of the devil. A black cat in Russian culture, as well as in many European cultures, is believed to bring misfortune as it is connected with the evil forces. In English culture, things are quite different – a black cat brings luck.

In Russian, the word чёрный (black) can be socially coloured indicating a humble background as compared to белый (white) meaning “noble, of (great) importance”: чёрная (vs. белая) кость (“black vs. white bone”)=humble people vs. noble people, чернь (the black=the humble, serfs). The latter example illustrates the idea put forward by the Russian linguist Юрий Степанов: according to his research, in the 13th-15th century Russia the words чернь, черные люди (the humble) were used to describe the people belonging to the lower class but not dependent on the upper class. Among the former, there were representatives of both urban and rural population. The latter corresponded to the formerly used word смерд [smerd] (a man working on the land, a peasant) which, according to Yu. Stepanov, is connected with the concept “black” in Indo-European languages. The linguist claims that that is connected with slash-and-burn farming. The word смерд might have been associated with a peasant, black with soot after burning wood. [6, p. 684-685] Later, social inequality led to a change in the meaning of the word into “low class commoners”.

The 20th century brought about new meanings to the words black/чёрный. They began to be associated with illegal activities (compare with the ancient association with sin): black market/чёрный рынок, black economy/чёрная экономика.

КРАСНЫЙ/RED. The English word red goes back to the Indo-European stem redh-/*roudh-/*rudh, which can be traced both in West-European and Slavic languages: rote (Germ.), rojo (Span.), rufus (Lat), rudy (Pol.). [3] Red is used in English not only in its primary meaning, but also in describing hair and fur: red-haired, red fox. The Anglo-Norman king William II, the son of William the Conqueror, was known as William Rufus (William the red-haired). Red-haired English boys are often nicknamed Ginger for their ginger-red hair. (Ginger is a plant with yellowish-beige roots.)

In Russian there are a number of words that originated from the same root: рыжий [rjyjij] (red, red-haired), русый [rusiy] (fair-haired), ржавый [rzhaviy] (rusty), рдеть [rdet] (to turn red), румяный [rumyanii] (ruddy), рубиновый [rubinoviy] (ruby). The word рыжий is older than красный: рыжие волосы (red hair), рыжая лиса (red fox), as well as the mushrooms рыжика [rjyjihkij] (“gingers”) and лисички (“little red foxes”) are associated with the corresponding words in their primary meanings. The word руда [rud] (ore) can also be traced to the same colour – that of ferrous elements in the rock. According to one of the etymological versions, it was the colour of the ferrous rock that gave origin to the Indo-European root. The word русый goes back to the same root but it came into Russian from South-Slavic languages with the primary meaning of “fine, fine-fleeced” (Bulg.), «wavy, curly; thick, dense» (Serb.). Thus the word русый has a more abstract meaning and contains assessment semes. [2]

The origin of Russian words denoting the red colour can be traced back to the common Slavic stem *c churn—*cchrv—: черный [chenni], червонный [chervonniy], червленный [chervlennyi], червовый [chervovyi]. The name of the Red Sea in the form of Черное море [chernoye more] existed back in the 11th century. If one does not know the word черный, they can mistake Черное море (the Red Sea) for Черное море (the Black Sea). One missing letter in the latter may lead to a blunder as it happened in the spring of 2011 when the Supreme Rabbi of Russia Berl Lazar said in a television address that Moses had led his people to the Black Sea, while in fact it is the Red Sea (Черное море) that is indicated in the Scripture.

Even the Russian name of a card suit – червы [chervy] – originated from the same root, while in English it is called hearts. The word красный appeared in Russian no earlier than the 14th century and its primary meaning was “beautiful, luxurious, high-quality”. Researchers think that the word красный goes back to the Slavic root *krasa «расстроен», which, in its turn, originated from the Indo-European root -*ker. In Russian culture, red is the colour of beauty, joy
and happiness. In Russian fairy-tales a beautiful girl is described as красна девица [krasna devitsa]. A hero usually wears a white shirt and a red waistband.

According to the latest studies, Russian adjectives красный (red) and черный (black) are etymologically related and can be traced back to the Indo-European root *ker (to burn, to glow). It gives reference to fire as a substance possessing various colours – red, yellow, green, blue, black. Besides, it is fire that can be described with such verbs as to burn, to glow. Thus we see that the colour-adjectives with the meaning of red and black originally associated with fire and burning. In Russian the phrase красный петух (red rooster) means fire. In the West-Christian culture, red is the colour of the devil (sometimes black) and Gehenna, while for Orthodox Christians the devil is black.

The red colour is also associated with blood. When we say that someone has turned red/покраснел we mean that blood has rushed into the person's face. The English phrase to take sb red-handed originally meant to find someone with blood-stained hands. [5, p. 624] The expression was first used by Walter Scott in Ivanhoe (1819). The English phrase to see red is practically identical to the Russian гэзэ да нэлэш кровь. The English verb to see is correlated with the Russian noun eyes, the English adjective red is correlated with the Russian noun кровь (blood). In both cases the associative fields are similar.

The origin of the Russian word краска [kraska] (dye) needs no explanation as one of the first natural dyes was red. The English verb to dye goes back to the Old English words deah, deag (a shade, tint of colour) and deagol (dark, hidden, secret), and they, in their turn, go back to the proto-Germanic *daugilaz. [12] Thus, the verb to dye itself indicates that a first cloth was dyed dark, nearing black.

The colour known as Victorian red came into fashion as early as the 16th century, during the reign of Queen Elizabeth I, but is associated with the Victorian age when more people could afford it. That particular colour was typical of tiles, brick and upholstery. In the 1890s, the necessity to prepare engineers for the fast-developing British industry led to opening red-brick universities – a new type of universities which had a more pragmatic approach to teaching than the traditional classical universities of Oxford and Cambridge.

In political discourse, both English and Russian cultures tend to associate the adjective red with communist. But the opposition ‘red–white’ is typical only of the Russian political culture: it describes the confrontation between the Red and the White armies in the 20th-century Civil War.

BLUE/ СИНИЙ. The English word blue came, through French, from the proto-Indo-European root bhle-was (light, blue, yellow). In Ukrainian we can find the word блакитный (light-blue), in Russian a light-grey horse is called буланый [bulaniy]. In English culture, since the time of G. Chaucer, the blue colour has symbolized fidelity. Some researchers claim that it is connected with the simple rhyme true blue. Blue ribbons on the clothes of the bride and the groom serve as one of the manifestations of this belief. Anglo-American tradition advises the bride to have “something old, something new, something borrowed, something blue”. Strange as it may seem, servants were also expected to wear blue.

The English are a nation of sailors, that is why the dark-blue colour is known as navy blue. As a strong colonial power, Britain produced and used a new colour – indigo, or Indian blue. Indigo is the name of a plant growing in India and Indian blue, a rare colour, traditionally was more frequently used in Britain than in Russia as Britain had colonies on the Asian subcontinent. There was another reason why indigo did not spread in Russia. In the 18th century, German merchants, protecting their interests in producing the local blue dye, received the support of the state in form of a law (1777) that prohibited the use of imported blue dye. It was claimed to come straight from the devil. For Russia, Germany was the main source of new technologies, thus indigo remained practically unknown in the country. [1]

Unlike English and many other Indo-European languages, Russian has two adjectives to denote the shades of blue – синий [sinyi] (blue, dark blue) and голубой [goluboy] (light blue). According to M. Fasmer’s Etymological Dictionary, синий goes back to the ancient Indian
The word синий is inseparably connected with water. [3] In Russian fairy tales the sea is always referred to as сине-море (the blue sea). Since ancient times, water has been associated with death and the other world. The same is true about the blue colour which was often associated with the evil or magic forces. A huge boulder lying on the shore of Plescheyev Lake in Pereslavl-Zalesskiy (Russia) is known as the Blue Stone and is believed to possess magic force.

In Russian, one of the euphemisms for the word devil is синец [sinets] (the Blue one). Ivan the Terrible (1530–1584) is believed to have avoided blue-eyed people for fear of dealing with the evil forces. In English, the phrase blue devils does not only mean melancholy, anguish (see below to feel blue), but delirium tremens as well (compare with the Russian напиться до чертков – to drink until one sees devils). [5, c. 209] Thus, in both cultures alcoholism is associated with the devil and devil’s work. It is also interesting to look at the English phrase (to be) between the devil and the deep blue sea (to be in a desperate situation). [5, p. 208-209] Here again blue is used to indicate the evil forces.

In the 19th-century Russia gendarms wore blue uniforms and were often called синие штаны (the blue pants). Maids of honour at the royal court also wore blue uniform dresses. The blue colour is considered to have a unifying, although impersonalizing effect, while red attracts attention taking one out of the crowd. For quite a long time the word синий had a negative connotation in Russian culture as in гори все синим пламенем (let it all burn in the blue fire). The physiological impact of blue might be called depressing as it lowers blood pressure, pulse rate and respiration. No wonder the English language produced the phrase to feel blue which then led to blues in music.

The Russian word голубой (light blue) is used to denote a whole range of shades of light blue, from blue proper to green. The word may have originated from голубь [golub] (dove) and must have originally been used to describe the feathers on a dove’s neck. [1] While синий (blue) was associated mainly with water, especially with dark waters, голубой was associated with the sky as in небесно-голубой (sky-blue). In general, голубой used to have a positive connotation. Things changed in the late 20th century when it began to be used to denote male homosexuals. Today the word голубой is still used in its primary meaning but in certain contexts the new meaning prevails. A similar thing happened to the English word gay which has practically lost its primary meaning of “merry”.

GREEN/ЗЕЛЁНЫЙ. Some scholars think that in both English and Russian, the words green/зелёный come from grōwan (to grow, become green). Upon closer examination, we can see that the word green goes back to the proto-Indo-European root ǵʰel- (bright, yellow, green). [3] There is a clear with the nature coming back to life and turning green in spring. Similarly, a young inexperienced and immature person is compared to the first green leaves: зеленый еще (sb is still green), the green years. A good gardener is considered to have green fingers.

If a person suffers from nausea we say that they feel/t urn green, that is, the face turns green. But that colour is also associated with boredom, envy and jealousy: тоска зеленая (great boredom), green with envy, the green-eyed monster (=jealousy). Thus, the green colour is associated with physical or mental illness, feeling of unhappiness, discontent.

Green and gold taken together symbolise the fading youth. It is a bad sign to have a green car, a green wedding dress for the bride and the bridesmaids. Even green stage costumes are thought to be unlucky. Nevertheless, there are clothes that were never considered unlucky and have been preserved in ballads and legends – Lincoln green. They were made from the green cloth produced in Lincoln in the Middle Ages. Such clothes were worn by Robin Hood and his merry men. In Russia, the ‘local’ green colour was malachite green (the Urals).

YELLOW/ЖЕЛТЫЙ. The words yellow, gold, жёлтый [zholtiy] (yellow), золотой [zolotoy] (gold) and зеленый go back to the same proto-Indo-European root ǵʰel-.[12] But as compared with the other main colours, associations connected with the yellow colour are fewer in Russian and English linguistic cultures.
Psychologists think that yellow is the most ‘positive’ colour that evokes a feeling of optimism. That is why, in the 19th-century Russia the walls of psychiatric hospitals were painted yellow. That gave origin to the euphemism жёлтый дом (the yellow house=madhouse). A young inexperienced person may be called жёлтоглазый (yellow-mouthed) – the comparison is drawn from ornithology: nestlings have yellow beaks. A yellowish face indicates that the person is ill. In English culture, the yellow colour is associated with cowardice: yellow, yellow-bellied. The phrase Yellow Pages/жёлтые страницы is used to denote a book or a section in the telephone directory containing the telephone numbers and addresses of businesses and organizations in a particular area. As a rule, this section is printed on yellow paper. Scandal-mongering journalism that uses unreliable sources and eye-catching headlines to attract readers is known as yellow press, yellow journalism/жёлтая пресса. The phrase was first used as the name of a character in the comic strip that was published in the 1890s in New York newspapers. [13, c. 594]

Both in Russian and English, gold(en)/золотой may be used to describe something that is not really gold: golden hair, golden locks/ золотые, золотистые волосы, golden age/золотой век thus comparing something with gold or stressing that something is very good, the best. In Russian the word золотой is also used in the meaning of “efficient, skilled” – золотые руки (about a person’s hands); talented, clever – золотая голова (about a person’s head); wonderful, beautiful – золотые слова (about certain words).

The analysis shows that there are practically no differences in colour perception in Russian and English linguistic cultures. There are differences in the nomination of shades of colour. In Russian these are малиновый (the colour of raspberry), брусничный (the colour of foxberry), свекольный (the colour of beetroot), васильковый (the colour of cornflower), розовый (rosy), пшеничный (the colour of wheat – used to describe moustage or hair). A girl’s red cheeks can be compared to a red poppy – как маков цвет. In English culture we find two words denoting, practically, the same colour – rosy and pink. Pink is more neutral and more productive in terms of word-building, while rosy is more emotionally coloured and, therefore, used metaphorically: rosy lips and cheeks, rosy future. Wild roses were widespread in the mediaeval England, today the rose is one of the favourite garden flowers. Another English adjective connected with flora is hazel – the light-brown and slightly green or golden colour of some people’s eyes. No similar colour exists in Russian linguistic culture. In both cultures we can see comparison with beetroot to describe someone who blushes: красный как свёкла/red as a beetroot.

The adjectives described above are derived from the names of cereals, vegetables, berries, flowers, that is, objects of flora surrounding a person in everyday life. In general, adjectives denoting colours are frequently used in describing people, with natural environment (fire, water, the sky, flora and fauna, natural resources) serving as the descriptive source:

- **Eyes:** (Russian) чёрные (как уголь), карие [kariye] (kara – black, Turkic), серые, синие, голубые, васильковые, зелёные; (English) black coals, brown, hazel, grey, blue, green.
- **Cheeks/face:** (Russian) красные (как маков цвет), розовые, свекольное, красное как свёкла; (English) red as a beet root, pink, rosy.
- **Hair:** (Russian) чёрные (как вороново крыло, как смоль), золотистые, русые, белокурые, рыжие, каштановые; (English) crow/raven-black, coal-black, golden, fair, blonde, red, auburn.

The etymological analysis of adjectives denoting colours shows that they have the following associative fields: light, darkness, fire, water, mysticism, the dark forces, envy, jealousy, illness, happiness, grief, unhappiness, natural phenomena, (il)legality, virtue, vice, honour, social position, political attitudes. The table below shows coincidences and differences (given in bold type) in the associative fields. The high rate of coincidences makes it possible to conclude that the associative fields are largely determined by the proto-Indo-European etymology of adjectives denoting colours, although they have acquired new specific features within their proper linguistic cultures.
<table>
<thead>
<tr>
<th>Associative fields</th>
<th>Russian</th>
<th>English</th>
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<tbody>
<tr>
<td>light</td>
<td>белый (white)</td>
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<tr>
<td>darkness</td>
<td>черный (black)</td>
<td>black</td>
</tr>
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<td>fire burning</td>
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<td>синий (blue)</td>
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<td>white</td>
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<td>anger</td>
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<td>чёрный, синий (устар.)</td>
<td>black, blue, red</td>
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<tr>
<td>cowardice</td>
<td>—</td>
<td>yellow</td>
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