SEMANTIC STRUCTURE AND WORD-FORMATION OF COLOUR ADJECTIVES IN ENGLISH, RUSSIAN AND UZBEK

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Abstract: The article analyses the semantic structure of colour adjectives in English, Russian and Uzbek on three levels: the componential structure of the core meaning (hue, lightness, saturation), the polysemy that arises through metonymic and metaphoric extension, and the derivational and syntactic means by which the languages express shade and intensity. Drawing on prototype theory, the notion of culture-specific reference objects and published studies of colour polysemy, the article shows that English relies mainly on analytic modification and on compounds with object names (*pale yellow, jet-black, sky-blue*), Russian on prefixal compounds and suffixes of attenuation (*svetlo-zelyonyy, krasnovatyy*), and Uzbek on a distinctive system of intensive reduplication with a fixed first syllable (*oppoq, qop-qora, qip-qizil, sap-sariq, yam-yashil, ko‘m-ko‘k*) together with the suffixes *-ish* and *-imtir* and the modifiers *to‘q* and *och*. The comparison demonstrates that the three languages encode the same semantic dimensions by typologically different means.

Keywords: colour adjectives, semantic structure, polysemy, word-formation, intensification, reduplication, English, Russian, Uzbek.

1. Introduction

Colour adjectives are semantically simple and structurally rich at the same time. A word such as *red* names a perceptual quality that can be described in terms of hue, lightness and saturation, yet in actual usage it enters a complex network of senses - *red wine*, *red tape*, *to see red* - and combines with a large number of modifiers and affixes. Linguistic research has approached this duality from several directions. Kay and McDaniel (1978) described the denotation of basic colour terms as a fuzzy category with a focal centre and graded boundaries, a model that is compatible with prototype semantics. Wierzbicka (1990) argued that the meanings of colour words cannot be reduced to physical wavelengths and that they are anchored in universal human experience of salient objects and phenomena such as the sun, the sky, fire and vegetation, and she developed the idea further in her theory of semantic primes (Wierzbicka, 1996). Studies of English colour terms in context show that the meaning of a colour adjective is realised in interaction with the modified noun and the wider discourse (Steinvall, 2002), and work on the history of English colour vocabulary

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traces the development of colour senses from metonymy to metaphor (Hamilton, 2016).

For Russian, research has concentrated on the status and structure of the basic terms (Davies & Corbett, 1994) and on the culture-specific objects that function as referents of colour terms (Griber, Mylonas, & Paramei, 2018). For Uzbek, comparative work has addressed the polysemy of the basic colour terms in English, Russian, Tajik and Uzbek and the role of metonymy and metaphor in it (Zayniev, 2019, 2025), the syncretism of the adjectives that express “white” (Muydinovich, 2021) and the semantics of colour lexemes in Turkish and Uzbek (Israilova, 2025). At the level of morphology, descriptions of colour terms in a particular variety of English illustrate how affixation and compounding extend the colour lexicon (Danladi, 2024). What is lacking is a comparison that treats the semantic structure and the formal means of expressing shade and intensity of colour adjectives in English, Russian and Uzbek in one framework.

The aim of the article is to describe and compare the semantic structure and the word-formation of colour adjectives in these three languages. The research questions are: (1) What semantic components are encoded in the core meaning of a colour adjective, and how are they expressed in each language? (2) What mechanisms generate polysemy? (3) What are the formal means of expressing shade and intensity, and how do they differ typologically?

2. Materials and methods

Design. The study is a qualitative-comparative analysis conducted on three levels - componential, polysemic and morphological-syntactic. At the componential level, the meaning of each core adjective is described in terms of hue, lightness and saturation and of its prototypical referent (Kay & McDaniel, 1978; Wierzbicka, 1990). At the polysemic level, derived senses are classified according to the mechanism of extension (metonymy, metaphor) and the semantic domain (Falkum & Vicente, 2015; Zayniev, 2025). At the morphological-syntactic level, the means of expressing shade (attenuation, mixture, specification) and intensity (amplification) are classified by type: analytic (modifier + adjective), compounding, affixation and reduplication.

Material. The illustrative material consists of the core adjectives of each language and of their derivatives and combinations that are attested in standard dictionaries and in current usage. The English items are *white, black, red, green, yellow, blue*, the Russian items *belyy, chyornyy, krasnyy, zelyonyy, zhyoltyy, siniy, goluboy*, and the Uzbek items *oq, qora, qizil, yashil, sariq, ko‘k*. [Dictionary editions and, if used, the corpus and the number of examples analysed are to be entered by the author.] No frequency data are reported.

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Limitations. The article does not contain experimental data on perception or on speaker judgements. The examples are chosen to illustrate the types of formation and are not exhaustive.

3. Results

3.1. Componential structure of the core meaning

In all three languages the core meaning of a colour adjective can be decomposed into (a) a hue component, (b) a lightness component, (c) a saturation component and (d) a prototypical referent. The first three are perceptual components, and the fourth, in the sense of Wierzbicka (1990), anchors the colour concept in a shared experience. For example, the meaning of English *green* includes the hue "between yellow and blue" and the prototypical referent "vegetation", whereas Uzbek *yashil* has the same prototypical referent, and Russian *zelyonyy* is formally related to words for greenery and herbs (*zelen'*). The terms differ in how much of the lightness component they encode. The Russian pair *siniy* and *goluboy* incorporates lightness into the hue distinction (Davies & Corbett, 1994), whereas English and Uzbek encode it by modification: *light blue* and *och ko'k* versus *dark blue* and *to'q ko'k*.

The category structure of the adjectives is prototypical. A prototypical referent exists, and the boundaries are gradient (Kay & McDaniel, 1978). It is for this reason that the same adjective can refer to quite different hues in connection with different nouns: *red hair*, *red wine* and *red sky* denote different regions of the red area, and a similar observation applies to the Russian *krasnoe vino* and the Uzbek *qizil vino*. The meaning is, in the terms of the contextual approach, a function of the noun that the adjective modifies (Steinvall, 2002).

3.2. Polysemy: metonymy and metaphor

Colour polysemy arises primarily through metonymy - the colour stands for the object, the substance or the situation in which it is typically seen - and secondarily through metaphor, where the mapping is from the colour to an abstract property (Hamilton, 2016; Zayniev, 2025). Three classes of senses can be distinguished.

1. Object-related senses. The colour names the typical bearer: Russian *zelyonyy* → "unripe"; English *a green* "grass area"; Uzbek *sariq* → "jaundice" in the medical sense and "yellow" in the plant sense. These are metonymic.

2. Evaluative and emotional senses. The colour stands for a quality or a state: English *blue* "sad", *green* "inexperienced"; Uzbek *qora* "dark, hostile", *oq* "pure, honest". These are metaphoric, and in the case of *white* they are the object of detailed comparison in English, Russian, Tajik and Uzbek (Zayniev, 2019).

3. Institutional and conventional senses. The colour names an institution or a conventional category: *Red Cross*, *White House*, Russian *belaya armiya*, Uzbek *Qizil kitob* ("Red Data Book").

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It is characteristic that polysemy of the core terms is wide and that it is partly shared by the languages, but the individual senses differ. An analysis of the group of adjectives that express "white" in Uzbek indicates that their meanings are characterised by content syncretism (Muydinovich, 2021), i.e. that several semantic features are combined in one word form. The common pattern is explained by the shared basis of colour concepts in experience (Wierzbicka, 1990), whereas the differences are explained by cultural salience (Griber et al., 2018).

3.3. Expression of shade and intensity

The three languages use typologically different means (Table 1).

English relies on analytic modification and on compounding. Lightness and saturation are expressed by preposed modifiers (*pale yellow, dark red, bright green*); mixture by hyphenated compounds (*blue-green, red-brown*) and by the suffix *-ish* (*reddish, bluish*); intensity and specification by compounds with a noun that serves as a prototype of the colour (*jet-black, snow-white, sky-blue, blood-red*). Productive formation of colour terms in a variety of English is described by Danladi (2024).

Russian combines the analytic modifier with prefixal composition. Lightness and intensity are expressed by the first element of a compound (*svetlo-zelyonyy, tyomno-siniy, yarko-krasnyy*), mixture by the compound of two colours (*sine-zelyonyy*), attenuation by the suffix *-ovat-* (*krasnovatyy, sinevatyy*) and amplification by comparable intensifying words (*ochen' belyy*, *sovsem chyornyy*). The pair *siniy-goluboy* is an additional lexical means of expressing lightness (Davies & Corbett, 1994).

Uzbek has the most distinctive system. Intensity is expressed by *intensive reduplication* in which the first syllable of the adjective (or its first sounds), supplemented by a consonant, is repeated before the base: *oq* → *oppoq* ("completely white"), *qora* → *qop-qora* ("pitch black"), *qizil* → *qip-qizil* ("bright red"), *sariq* → *sap-sariq* ("very yellow"), *yashil* → *yam-yashil* ("very green"), *ko'k* → *ko'm-ko'k* ("deep blue"). The formation is generated by a fixed first element for each adjective and is not freely applicable to any other adjective. Attenuation is expressed by the suffixes *-ish* and *-imtir* (*qizg'ish* "reddish", *sarg'ish* "yellowish", *ko'kimtir* "bluish"); lightness by the modifiers *och* ("light") and *to'q* ("dark"): *och yashil, to'q qizil*. A separate group is made up of compounds with the formant *-rang* and an object name (*kulrang, jigarrang, olovrang*), which are the Uzbek equivalents of the English object-derived compounds.

Table 1.

Means of expressing shade and intensity (illustrative examples)

Function	English	Russian	Uzbek
Lightness / darkness	*light blue, dark red*	*svetlo-siniy, tyomno-krasnyy*;	*och ko'k, to'q qizil*

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Function	English	Russian	Uzbek
		lexical pair *goluboy / siniy*	
Attenuation	*reddish, bluish*	*krasnovatyy, sinevatyy*	*qizg‘ish, ko‘kimtir*
Mixture	*blue-green*	*sine-zelyonyy*	*ko‘k-yashil* (analytic)
Amplification	*jet-black, snow-white*	*chernyy kak smol’* (simile), *ochen’ belyy*	*qop-qora, oppoq, qip-qizil* (reduplication)
Object-colour compound	*sky-blue, blood-red*	*vasil’kovyy, izumrudnyy*	*kulrang, olovrang*

Manba: author’s classification based on the descriptions in [2], [10], [9], [1] and [13].

4. Discussion

Shared semantic dimensions, different formal means. The results show that the three languages encode the same semantic dimensions - hue, lightness, saturation and intensity - but that the formal resources differ in a typologically predictable way. English, with its analytic morphology, expresses them by word order and compounding; Russian, as a fusional language, uses both prefixal composition and suffixation; Uzbek, as an agglutinative language, has regular suffixation and an extensive expressive system of reduplication. This confirms that the semantic structure is an interface between a universal conceptual basis and the grammar of an individual language (Wierzbicka, 1996).

The role of the prototype. The prototypical structure of colour meaning explains why the same colour name can be combined with so many modifiers and nouns and why compounds with prototype nouns (*snow-white, qop-qora*) are used for intensification: they call up the best example of the colour (Kay & McDaniel, 1978; Wierzbicka, 1990). The Russian and Uzbek facts are in accordance with this view, with the difference that in Uzbek the prototype is encoded phonologically in the reduplicated syllable.

Polysemy as a bridge to phraseology. The metonymic and metaphoric senses described in Section 3.2 are the semantic basis for the colour component of idioms and proverbs. The mechanisms of extension are shared, while the selected senses differ in the three languages (Zayniev, 2019, 2025; Falkum & Vicente, 2015). A detailed analysis of colour phraseology is, however, a separate task that goes beyond the limits of this article.

Practical implications. For lexicography, the description suggests that dictionary entries for colour adjectives should specify the prototypical referent and the productive

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intensifier (for Uzbek, the form of the reduplicated syllable). For language teaching, learners of Uzbek need to learn the intensive forms as lexical items; for translation, the loss of intensity is a frequent problem when an Uzbek intensive form is rendered by a bare adjective.

Limitations. The conclusions rest on a qualitative analysis of illustrative items. A corpus study of the frequency of the intensive and attenuative forms in each language, and an experimental study of the hue range of the modified forms, would provide a quantitative test.

5. Conclusion

The comparison of the semantic structure and the word-formation of colour adjectives in English, Russian and Uzbek leads to the following conclusions. (1) The core meaning of a colour adjective has a common componential structure (hue, lightness, saturation, prototypical referent), which is realised in a prototypical rather than a classical category. (2) Polysemy arises through metonymy and metaphor and is partly shared, partly language-specific. (3) The languages differ in the formal means of expressing shade and intensity: analytic modification and compounding in English, prefixal composition and suffixes of attenuation in Russian, and intensive reduplication, the suffixes *-ish* and *-imtir* and the modifiers *och* and *to‘q* in Uzbek. (4) The Uzbek system of intensive reduplication, which has no direct equivalent in English or Russian, deserves a separate corpus-based study and should be reflected in dictionaries and in translation practice.

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