The Fugue
of the Five Senses
and the Semiotics
of the Shifting Sensorium

Selected Proceedings

from the 11th International Conference of the Hellenic Semiotics Society

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Evangelos Kourdis
Maria Papadopoulou
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Visual and Verbal color: chaos or cognitive and cultural fugue?

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Abstract

Fugue *and* chaos *are used in their contemporary meaning. Elements of fugue, albeit a small number of universals, will be demonstrated in the area of visual and verbal colors. Chaos dominates the internet, fashion and everyday life. The visual and verbal colors are differentiated and their communicative potential is indicated alongside the diachronic changes. The prototypes of colors are the interface between visual and verbal colors.*

Goal

I will try to show that visual and verbal colors could be a language, a system of signs, 'that people use to express thoughts and feelings to each other'[1]. Provided that colors cannot be a natural communicative sign system, I would like to demonstrate that the basic colors (white, black, red, green, blue and yellow) have meanings for human notions, emotions and feelings, e.g. purity, immaculateness, love, hate, luck, health, hope, eternity, etc. (this is not the Hupka *et al.* [1997] verbal synesthesia between concepts of color and emotions). The reason for such an approach is the link between colors, color prototypes and meanings in the rituals of different cultures. Studies of the rituals of different peoples provide grounds to think about a small number of universal values motivated by the strategy of the ritual and the prototypes.

Another very difficult question is: "Are there common meanings between visual and verbal colors?" My aim is to demonstrate that the availability of a small core of mutual associative meanings of colors is based on the culturization of the prototypes, for details see Almalech 2011a. The core meanings are fugue, at the same time there are local/individual meanings presenting semiotic chaos.

Terms used

The terms *fugue* and *chaos* will be used in their contemporary meaning. Fugue: In music – a compositional procedure characterized by the systematic imitation of a principal theme (called the subject) in simultaneous sounds. A fugue is based on the polyphonic treatment (through extensive melodic imitation) of a recurring subject or theme.[2] A contrapuntal composition, in which a short melody or phrase (the subject) is introduced by one part and successively taken up by others, and developed by interweaving the parts.[3] Chaos: Complete disorder and confusion.[4] Chaos may refer to Lawlessness, a lack of laws or law enforcement; Anarchy, lawlessness or a stateless society.[5]

Ergo, *Fugue* is something systematic and well structured, with recognizable elements and relationships among them. *Chaos* is an unsystematic and unstructured object.

Also, we should distinguish between visual and verbal color. The basic idea is that despite the many contributions hitherto there has been no clear differentiation in the semiotic status of the visual and the verbal color. Eco (1985/1996) points out the problematics:

> We are dealing with verbal language in so far as it conveys notions about visual experiences, and we must, then, understand how verbal language makes the non-verbal experience recognizable, speakable and effable. (p. 159) When one utters a color term one is not directly pointing to a state of the world (process of reference), but, on the contrary, one is connecting or correlating that term with a cultural unit or concept. The utterance of the term is determined, obviously, by a given sensation, but the

transformation of the sensory stimuli into a percept is in some way deter-
mined by the semiotic relationship between the linguistic expression and
the meaning or *content* culturally correlated to it. (p. 160)

In addition, we need a simple definition of language. Merriam-Webster Dictionary gives such a simple definition: 'The system of words or signs that people use to express thoughts and feelings to each other'.[6]

Visual color is what we have access to by our visual perception.

Verbal color is when we use natural language to designate color in natural language. I include four types of words for color reference: Basic Color Terms, BCT (red, green, white, black, etc.); Prototype Terms, PT (e.g. light, darkness, sun, fire, blood, sky, sea, all plants), Rival Terms, RT (e.g. cherry, duckling, ruby, linen, etc.), and Terms for the Basic Features of the Prototypes, TBFP (clean, pure, immaculate for light; hot and warm for fire/blood; fresh for plants, etc.). As color meaning, BCT are independent, all others are context-dependent. This approach corresponds to the opinion that color is not only expressed in BCT (Sutrop, 2011). My linguo-semiotic approach includes knowledge of the paradigm of Berlin and Kay (1969), the World Color Survey[7], led by Kay; critics of Berlin and Kay; Norm of free word-associations to BCT for different languages, Prototype Theory, and Theory of translation.

Verbal colors are subjected to linear ordering or the syntax of natural language. Visual colors are perceived simultaneously or tactically.

The parameters of the environment and human anatomy and psychology dictate the formation of color categories in the human minds via the so-called most typical exam-ples or prototypes for color. This is the Prototype Theory presented by Rosch (1972; 1973), Lakoff (1978) and Wierzbicka (1990). The prototypes are: *light* or *milk* or *snow* for White; *darkness* or *coals* for Black; *blood* and/or *fire/flame* for Red; *sea* and/or *sky* for Blue; *the midday sun* for Yellow; *all plants* for Green. Prototypes are the same for all races and peoples, regardless of the political and economic system, social structure, re-gardless of the degree of technological development. This is one level of Fugue because it is a universal phenomenon based on human anatomy and environmental conditions. This is a cognitive fugue and a universal phenomenon.

Each human being possesses a biological antenna (acoustic apparatus) to broadcast verbal tokens and a biological antenna (auditory perception) for receiving audio signals. For visual signs, each human has a biological antenna only for receiving visual signs (perception and sensation) but no biological antenna to broadcast (speech apparatus) any visual color characters. A human's speech apparatus is the technology for coloring objects, but it is not a natural/biological apparatus. Ergo, colors cannot be a primary, general semiotic system for communication between people. Such a system can only be the natural language.

> To understand the written language, temporal sequence or order in which words appear in a sentence is very important [...] In visual images, the position, size, and composition of the contents of the image play a significant role in the meaning making. (Liu, 2013, p. 1260)

Usually scholars concentrate on the verbal color terms, in particular on Basic Color Terms. Until now, visual colors have remained relatively independent and unbound to the verbal colors' area. One positive exception is the Ph.D. dissertation of Darrodi (2012). Her main method is the scale rating of Osgood (1960) that is relevant to visual and verbal colors, but Darrodi uses neither the Theory of prototypes nor the free word-associations (Kent & Rosanoff, 1910).

The meanings I found in the Kent and Rosanoff test are called innate response or biological associations in the psychology survey based on Osgood's (1960) semantic differential technique. Osgood points out the synesthesia as a factor: 'visualverbal synesthetic relationships characteristic of our own language/culture community are shared by peoples who speak different languages and enjoy different cultures' (p. 146). The meanings of 'anger' and 'danger' are associated with red both in the Norm of word associations and in Osgood's method survey. There is one serious difference: in the test of Kent and Rosanoff, the respondents themselves indicate the meaning of 'anger', whereas with the method of Osgood, the scholars predetermine the meaning of colors, e.g. 'danger' as the meaning of red, which has to be evaluated on a scale (good – bad; anger – calm, etc.).

Darrodi involves the scale rating analysis with saturation and brightness, an element of B & K method that is strongly criticized (Saunders, 1995; Saunders & van Brakel, 1988): 'This explanation leaves further problems – why should characteristics of color such as saturation and brightness be universally reacted to in terms of goodness or badness, strength or weakness.' (p. 61). Darrodi points to some weakness of Osgood's semantic differential in cross-cultural and cross-linguistic areas:

> Although the methods of scale rating that Osgood uses do not work equally well in all cultures, and the translation of concepts often involves almost insuperable problems, yet every systematic study of this phenomena in other cultures has found remarkably similar factors of evaluation, potency, and activity (p. 61).

Cross-cultural and the cross-linguistic deviations could appear with the free word-associations test regarding all languages, all over the world, but the biggest differences are the strong correlations between BCT and PT; the reevaluation of linguistic consciousness and subconsciousness in free associative responses.

The most positive result with the studies, based on Osgood's technique, is the clear articulation of the existence of 'associations or verbal synesthesia between concepts of color and emotions' (Hupka *et al.*, 1997, p. 156).

Diachronic changes are Fugue, but not Chaos. Just as diachronic changes are the mien of permanent semiosis for natural languages, changes in the language of color during the centuries are something we can expect to happen.

Although color (visual or verbal) cannot be the main communication system, there are facts from folk and religious cultures showing the ritual meanings of colors (Al-malech, 1996).

Current humanitarian knowledge integrates colors in multimodal texts/messages, even in an attempt to formulate a Visual communication grammar. Kress & van Leeuwen (2002) deal with visual color by analyzing color speech and visual rhetoric, but not color language. They achieve results within the adopted methodology of systemic linguistics. According to the authors, color is metafunctional in the terms of Halliday with *ideational, interpersonal,* and *textual* functions. In some cases, color fulfills these three metafunctions simultaneously (p. 346), but color does not always satisfy all three of these functions (p. 350).

Other authors who comment on the positions of Kress & van Leeuwen note:

> The three metafunctions put forth by Kress and van Leeuwen (1996) are not direct relationships between semiotic resources and meaning. The concepts such as power, interaction, detachment and involvement and so on are not meanings hidden in the images, rather, they are meaning potentials, that is, they are the possible meanings which will be activated by the producers and viewers of images. (Jewitt & Oyama, 2001, p. 136)

Kress and van Leeuwen (2002) distinguish between two ways to produce the meaning of colors. The first is psychological – by associations that come from the culture and the past, but also from present day advertising and brands. An essential element is the context in which an association operates. The second way is to accept the visual qualities of color – *hue, saturation, purity, modulation, differentiation* – as semantic distinguishing features. They are placed within the ideational, interpersonal and textual functions.

The physical and psychological features of visual colors are used to explain how and what the meanings of colors could be. Big problems and a high degree of complexity characterize this system, despite its scholarly severity.

In my opinion, treating colors as *cultural units* by Eco (1985/1996) gives more freedom and chances to reflect on the constantly elusive non-color meanings of colors (visual or verbal). Color as a cultural unit should include the meanings of colors in folk and religious rituals. The cultural unit should take into account verbal and visual colors, color and non-color meanings (lexical and contextual), the whole information on the semantics of a token – synchronic and diachronic, the cultural and the social aspects – all of them are "culturally correlated". We should not be ashamed to use the symbolism of colors, as described in anthropology, e.g. Turner (1966).

The color language as fugue and chaos

The prototype is an object which is most typical for a class of objects, and the objects, are the same for humankind. Human notions and feelings could be encoded because of this universal cognitive Fugue – in the rituals consumed visually and verbally. Chaos is on the internet, fashion, and everyday life where the basic principle is the opposite – 'be different', 'be unique'. Thus, Pantone Inc. is a corporation known for its Pantone Matching System (PMS) and color chart. Every year Pantone introduces a "color of the year", a very influential proposition in the fashion industry, e.g. marcala (Pantone 18-1438) is the color of 2015, Rose Quartz and Serenity are the colors of 2016, etc. Key rituals, such as marriage, have been repeated for centuries without change, and this is another level of Fugue.

In the traditional wedding, there are four colors. Every color has its meaning. Red – apotropaic; White – purity, clean; Green – life; Gold – 1. Utilitarian value of wealth; 2. Gold permit to the afterlife.

In my research on traditional wedding customs, I used data from many reliable scholars. It appears that a Red bridal veil was a universal sign for marriage. It was the sign for the bride in Ancient Rome, Ancient Greece, an Ottoman bride in the 19-20 centuries, Christian brides in Slavic ethnic territories, as well as for Armenian, Jewish, and Druse brides. (Almalech, 1996).

Considering the golden object in the ritual, Marazov postulates, 'In archaic cultures, high syncretism between the utilitarian and symbolic function of things [...] remains. Each item combines both senses, both purposes [...] thereby enhancing their semiotic status considerably. The golden objects turned into the gold permits to the afterlife [...]' (Marazov, 1994, p. 12).

The red bridal veil is one of the striking examples for universality. Young couples marry in modern reconstructions of the traditional bridal attire in Bulgaria, Turkey, and other countries[8]. Brides in China, India and Nepal still hold their red dresses and red veils, especially in rural areas[9], although currently in the monotheistic countries, as well as in China, Nepal and India, white is the norm for bridal wear. Red dress, red veil and red shoes are replaced with white. There are even some mixes between traditional and current marital norms.

Diachronic changes are another level of Fugue and not Chaos. In current monotheistic states, as well as in China, Nepal, and India, a white "uniform" is the norm for bridal attire. The red dress, red veil, and red shoes are substituted by white ones. There are even some mixtures between the traditional and current marriage norms.

There is no wedding without greenery. The modern white version keeps this element. Gold has also been preserved as part of the norm with gold rings. Thus, only red has been eliminated from the ancient norm.

It is a quite popular understanding that a white dress and a white veil have the meaning of 'moral and physical purity', 'virginity'. These meanings exist in both the traditional and the modern norm. When did the new association norm start? There are two women

noted to have made the white wedding gown popular – Anne of Brittany and Victoria. The case with Anne of Brittany is the product of mythology. We find the view that she wears a white dress and white veil to express her protest and disagreement with the marriage settlement with a French king, who made her and her district subject to the French crown. At that time, the mourning color for the king's family was white.

> Queen Victoria wore an elegant, wholly white gown at her wedding in 1840, after which the tendency to wear a white dress and a wedding veil began to catch on. The white was worn because people believed it to be wealth, virginity and purity.[10]

This change is diachronic. This does not mean, however, that contemporary fashion is deprived of meaning. In fact, white has the same meaning, which operates under the 'white mourning' ancient times and in different cultures – it means purity. Thus, we have a diachronic change, which does not mean that there is no color language.

Quite an interesting phenomenon is documented in the Bible. The norm for the clothes of priests was postulated by Moses (13th century B.C.) for the Tabernacle. The clothes of priests constitute a color Tetranom – *blue* [tekhèleth], *purple* [argamàn], *scarlet* [tolàat šanì], and *fine linen* [šeš]. It is a verbal specification with loan words, not by accident, for something which should be visual. The color tetranom was retained in the First Temple but Solomon replaced linen-[šeš] with linen-[butz] in the 10th century B.C. In the 6th century B.C., the prophet Ezekiel postulated that priests should wear monocolored clothes in the Second Temple, and the single color is of linen named by another term – [pištìm]. Thus, the whole tetranom was withdrawn from use. This is evidence of a diachronic change.

The terminology of the priest's garments has a special status because before the story of Moses in the biblical text two other terms for *linen clothes* appear in the biblical text – [badìm] and [ketònet]. The diachronic changes in terminology are a marker for the cultural and contextual circumstances that dictate these changes.

My definition of color language is as thus. We have a color language when by visual or verbal color we express/refer to human concepts and emotions, e.g. *purity, anger, love, life, eternity*, etc. These I call the non-color meanings of colors.

The biggest difficulty is to prove the realistic parameters of the language of colors – with their elements of fugue and chaos.

I am not interested in the regular referential scope of BCTs in one or another language – it is a well-known fact, proven in many texts and experiments that there is inter-lingual asymmetry on this point, even in a single language, 'depending on dialect', idiolect or personal color vision and naming. I am focused on a much more difficult area – to prove that colors have communicative power to refer to non-color meanings, just as it is with traffic lights – *go*, *stop, attention* in the spirit of parts of speech, being imperative, narrative, etc. I would go as far as to claim that we can even lie with colors.

Usually, specialists answer in the negative to the question "Is there a universal color language?"

> There has never been a single language of color. Color codes with a restricted semantic reach have always proliferated, and sometimes contradicted each other. But there are also broader, longer lasting, and more widely distributed trends, such as the reign of 'puritan black' or the ascendance of blue (van Leeuwen, 2011, p. 97).

I agree with this conclusion, but if we take into account that diachronic changes are the stronghold of permanent semiosis in which some meanings remain unchanged, e.g. 'pure' for white, the conclusion of van Leeuwen appears in a different light.

Others call "color language" something that does not meet the true idea of language (a sign system), but which has to be included into the territory of semiotics and structuralism in the spirit of Saussure. They remain in the territory of examination for BCT, including all developments of Berlin and Kay's theory on naming and the categorization of color, and do not pay attention to the opinion of Sutrop (2011) that BCTs are a small part how each language names the colors. Thus, we can evaluate the papers at the conference of the Color Group UK in the section "Color langauge" – that remains entirely in the routine mainstream of natural language, color categorization, naming, translation, natural language synchrony and diachrony, see PICS 2016[11].

A real semiotic challenge is the translation between visual and verbal color language, which was undertaken by Kurdis (2016).

Traffic lights are a popular example of a universal visual language, which means that colors have communicative potential. We can translate every color to human notions. In traditional folk marriage, a red bridal veil is a universal custom in Ancient Rome, Ancient Greece, Bulgaria, Serbia, and Ukraine in the XIX century, and Ottoman Turkey.

There have been some changes in the language of colors in rituals, e.g. the replacement of the four-color code of the traditional wedding with a tricolor (white, green and gold) one in modern wedding ritual. As in any language there is synchrony and diachrony, in the language of colors in rituals there is synchrony and diachrony. Meanwhile, even today, in China and India the traditional and universal four-color wedding code persists. Diachronic changes do not cover the synchronic understanding for relativity, so these changes remain in the territory of universalism.

The opposition universality – relativity is fundamental to structuralism, semiotics, and linguistics. A positive feature of universalism is that it typically finds common structures and elements in different phenomena. A negative one is the neglect of various, often important, differences. A positive feature of relativism is that it accounts for, and reckons with, various local elements, relationships, and structures, while its negative feature is that it ignores reasonable common elements. For example, the claim that there are no

common features between Indo-European languages because each language is unique is an unreasonable denial of the evidence for their common genealogy. Both approaches are vindicated in the approach to BCT. Berlin and Kay (1969) present an opinion for BCT's evolution/appearance in languages. The World Color Survey on BCT is a project of Paul Kay and associates who have been carrying it out since 1975.

In my writings, the term Universality differs from the evolutionary interpretation in the paradigm of Berlin and Kay. I seek to prove that there are non-color meanings of visual and verbal colors in folk and religious rituals, e.g. purity, cleanliness, immaculateness for white; love, hate for red; life, calm for green, etc. In the humanitarian tradition, this kind of meanings is known as symbolism. Ndembu ritual colors are an excellent example in this respect. I claim, unlike Van Leeuwen, that there is a color language, with a small core of universal meanings, but it can be observed only in rituals.

Diachronic changes are inevitable phenomena, just as they are for natural languages. We must add the idea of Umberto Eco that we should treat color as a 'cultural unit' (Eco, 1985/1996; Almalech, 2017).

In the case of the bridal veil and dress, their white color has an anthropological and cultural explanation. The life of queens is detached from nature to which it is necessary to associate the apotropaic function of red. The development of technologies at the end of the 19th century and the resettlement of many villagers in towns led to the illusion that people do not depend on nature. It is therefore not necessary for red to protect the bride from evil natural forces.

Universality (prototypes in the visual, verbal and cultural space)

The prototypes are the same for all humankind, in all ages, regardless of religion, level of technology and social set-up. The prototypes are the visual colors of blood, fire, sky, sea, etc. The Test for Free word associations of Kent and Rosanoff (1910) is a well-known method. The Bulgarian Norm of Free word associations for BCT (Almalech, 2001; 2011a) proves that in the core of the Norm the most frequent and steady associations are the tokens for prototypes.

The results of the Bulgarian Norm show that the highest statistical frequency in the norm belongs to the terms of the prototypes and mostly for their specific qualities – Almalech, 2001; 2011b). If we recall the main folklore and ritual meanings of colors (Almalech, 1996), we shall see that there is a small core of shared meanings. This core represents the universal non-color meanings of colors. I made an experiment – I tested students from different countries (Bulgaria, Cyprus, Greece, Estonia, Finland, Italy and Kazakhstan) using English as the common language. It did it twice – during the intensive Erasmus program *Semiotic Theories and Practices* in Cyprus Technology (2014) and at the *Early Fall School of Semiotics* (2015). Despite the fact that the students did not use their mother tongue, the responses to the English BCT showed the same result – the words for Prototypes had the highest frequency.

The responses are considered (linguistic and non-linguistic, unconscious and conscious) knowledge of the universal, prototype-based meanings of colors. The fact there are universal responses is well-known. Rosenzweig (1961, pp. 359-360) marks the universal character of word-associations in the frame of the Kent and Rosanoff list across French, English, Italian and German Norms of Free Word Associations. The shared knowledge of universal non-color meanings of BCT represents a common code – the language of colors.

The paradigm of responses can mirror personal subconscious knowledge based on individual experience plus socially formed meanings. That is why the list of word-associations represents both the universal meanings and the non-universal meanings of colors.

Thus, it is possible to claim that color language, where it exists, is the semantization and culturization of the prototypes. There is a basic lexical meaning of colors – *pure, clean, immaculate* for White (light, snow, milk); *hot, warm* for Red (fire, blood); *fresh* for Green (all plants); *expanse, vastness, infinitude* for Blue (sky, sea) etc. This point is the Fugue in color language, and the universal feature. These basic lexical meanings are tainted by derived meanings, depending on the strategy of the ritual.

The basic Fugue allows the appearance of the different individual, relative features, which are a kind of ordered features, e.g. the ritual culture of the Ndembu tribe from Africa is concentrated around different categories of blood and red clay but not fire (Turner, 1966, pp. 59-60).

The situation in Bulgarian folk rituals and customs is different – fire and blood are equally represented (Almalech, 1996).

The chaos is also represented in the language of colors.

An important peculiarity is that individual derivative meanings are much more and are more common than the basic ones. Individual meanings are distant from the main lexical meanings, especially in poetry and novels. Chaotic meanings, which result from the writer's fantasy, taste, etc., are possible in poetry and novels.

It is important to make a definitive difference between the everyday and the ritual use of colors. In everyday life, fashion, the internet, and advertising, there is no color language, i.e. there is chaos.

Conclusions

It is easy to observe chaotic color meanings. It is much more difficult to prove/trace universal visual-verbal color-emotion associations and human notions encoded in colors. Prototypes are linguistic, cognitive and cultural interfaces between the fugue of visual and verbal colors' where it exists. Anthropological surveys make it clear that the visual colors have non-color meanings (i.e. the symbolism of colors). Verbal colors also have non-color meanings proved by the results of Kent and Rosanoff test (1910), and the core of the Norm is motivated by the prototypes. Color symbolism and the associative color mean-

ings can be treated as a natural sign. This conclusion corresponds to the opinion of Yelle (2012) for the motivation of the signs in different folklore and religious systems and practices. Thus, in the unscientific, religious understanding of sound and colors, the sounds of natural language and the colors are motivated/natural signs. This is an anti-structuralist understanding, but motivated/natural signs are fact in folklore and religious practices all over the world. The color fugue is cognitively based on the universality of the prototypes.

It is doubtful that all five senses (Levi-Strauss, 1969) are involved in color language. Apart from sight and hearing, various cultural phenomena are involved actively in the synesthetic fugue color language surrounded by a world of chaotic uses of color. Universal prototypes, however, are at the heart of color culturization, and they form the elements of fugue at the associative core meanings of colors.

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