Progress In Colour Studies 2022

Book of Abstracts

TALLINN UNIVERSITY

PICS 2020

Tallinn University, Tallinn, Estonia
7-10 September
2022

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Scientific Program

Wednesday, 7 Sept 2022		
19.00-22.00	**Welcome drinks and dinner**	Included in the general registration Location TBA

Thursday, 8 Sept 2022		
8.00-9.00	Registration	
9.00-9.15	**Welcome speech**	Vice Rector of Research Prof. Katrin Niglas
9.15-11.00	**Conference Session 1**	Chair: Adam Pawłowski
	Carole Biggam	The colour semantic potential for the relative dating of early texts
	Victoria Bogushevskaya	Cultural memory of Chinese colour tropes
	Thekla Wiebusch	Representation of colours in the Chinese writing system
	Michal Schwarz	Functions of colours in the evolution of Inner Asian societies
11.00-11.30	Coffee break	
11.30-12.30	**Keynote Lecture I**	Chair: Mari Uusküla
	Delwin T. Lindsey & Angela M. Brown	The mental representation of colour in English, Somali, and other world languages
12.30-14.00	Lunch	
14.00-15.30	**Conference Session 2**	Chair: Victoria Bogushevskaya
	Domicele Jonauskaite	Colours and Emotions: What have we learned so far and what's next?
	Giulia Spagnulo et al.	Colour-emotion associations are unrelated to current mood
	Déborah Epicoco et al.	What do we think about colours? Coding free associations with colour terms
	Carlo Martins Gaddi & Marcelo Fernandes da Costa	Comparing colour concept with emotion colour preference using psychophysical interval scale and ranking order procedure
15.30-16.00	Coffee break	
16.00-17.30	**Conference Session 3**	Chair: Paula Teixeira Moláns
	Ene Vainik	Free associations of colour words in Estonian
	Merle Oğuz & Mari Uusküla	A Comparative Analysis of Estonian, Swedish and Turkish Colour Idioms
	Veera Hatakka	Finnish words tumma 'dark' and vaalea 'light' as colour names
	Mari Uusküla	Translation of colour language: old and new perspectives
17.30-18.00	A short break	
18.00-19.30	**A city tour**	Included in the general registration

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Friday, 9 Sept 2022		
9.00-9.30	Registration	
9.30-11.00	**Conference Session 4**	Chair: Déborah Epicoco
	Kaidi Rätsep	Listing, sorting and naming 'blue'
	David H. Peterzell et al.	Are light and dark blue used as separate basic colour categories in English?: A corpus linguistics approach to studying visual perception
	Danuta Stanulewicz & Adam Pawłowski	From vegetation to politics: The word for GREEN in the Polish press, 1945–1956
	Adam Pawłowski	ChronoPress webservice and other CLARIN-PL text-mining tools for SSH community
11.00-11.30	Coffee break	
11.30-12.30	**Keynote Lecture II**	Chair: Mari Uusküla
	Carsten Levisen	Basic Kala terms and the end of history: An invitation to visual semantics
12.30-14.00	Lunch	
14.00-15.15	**Conference Session 5**	Chair: Michal Schwarz
	Urmas Sutrop	Colours in the Grimm and non-Grimm Snow White fairy tales (ATU 709)
	Isabel Espinosa Zaragoza	Obscure lipstick colour names: ambiguity as an attention-grabbing technique
	Grażyna Wąsowicz	The impact of colours on the effectiveness of persuasive messages designed to promote behaviour change toward sustainable consumption
15.15-15.45	Coffee break	
15.45-17.00	**Meet the Editors**	Chair: Domicele Jonauskaite
	Galina Paramei	*Color Research & Application*
	Carole Biggam	*Rodopi, John Benjamins, the University of Leeds, the Arizona Center for Medieval and Renaissance Studies,* and *Bloomsbury Press*
	Urmas Sutrop	*Trames*
17.00-19.00	A break to relax and refresh	
19.00-23.00	**Conference dinner**	Roseni 7, Tallinn www.platz.ee

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Saturday, 10 Sept 2022		
9.30-10.30	**Keynote Lecture III**	Chair: Urmas Sutrop
	Galina V. Paramei	Communicative need drives colour language refinement: The riches of "Italian blues"
10.30-10.45	A short break	
10.45-12.00	**Conference Session 6**	Chair: Merle Oğuz
	Paula Teixeira Moláns	The categorisation of orange in Galician: generational contrasts in a diglossic community
	Hiromasa Mita	Linguistic Palette: How can colours be deep, dark, and dull?
	Yurie Okami	Colour idioms and direct modification in Japanese
12.00-12.30	**Closing ceremony**	
12.30-13.00	Take-away lunch	
13.00-18.00	**Excursion**	Lahemaa National Park (not included in the general registration; € 55 per person)

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Keynote Lecture I

The mental representation of colour in English, Somali, and other world languages

Delwin T. Lindsey & Angela M. Brown

Ohio State University, USA

Correspondence: lindsey.43@osu.edu and brown.112@osu.edu

Linguists generally accord special status to the modest number of basic color terms (BCTs) found in world languages because of their widespread and high-consensus usage within language communities, and because color-naming studies reveal striking cross-language regularities in the BCT-partition of color space. Yet color lexicons are far more diverse than the analysis of BCTs alone would suggest. We will describe several studies in which we focus on the remarkable within-language diversity observed in world color lexicons. Our talk will describe studies that exploit this diversity and reveal several aspects of color communication and the mental representation of color that traditional studies of BCTs have missed.

We will discuss color naming by speakers of English, Somali, and Hadzane, a language isolate spoken by Tanzanian hunter-gatherers. We will show that color categories can exist without high-consensus color terms, and that people's understanding of color can seriously violate the axioms of the standard theory of color appearance. We will explore the influence of color categories on color communication, and we will present evidence of both lexical and sensory influence on color memory.

Our results do not challenge the view that bottom-up sensory processes mediate color appearance, and we have no reason to believe that people around the world see colors fundamentally differently. However, this line of research reveals flexible cognitive processes that integrate both sensory information, which is universal, and language-related information, which is influenced by cultural and environmental factors.

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Keynote Lecture II

Basic Kala terms and the end of history: An invitation to visual semantics

Carsten Levisen

Roskilde University, Denmark

Correspondence: carstenlevisen@gmail.com

In this keynote talk, the aim is to provide a state-of-the art overview of 'Visual Semantics' – as an alternative to Berlin and Kay's "basic color term"-paradigm. Visual Semantics, originated by Anna Wierzbicka, draws on insights from cognitive, cultural and postcolonial approaches to semantics and aims to study the wealth of visual-semantic construals of meaning in and across global linguacultures, including historical linguacultural settings.

The global spread of the European and Eurocolonial visual-semantic system in recent times has led to a certain amount of semantic homogenization and loss of visual diversity in the world's languages. Imported words like *kala* 'colour' (or similar), along with *kala* terms (e.g. *grin* 'green' and *yelo* 'yellow') are now common in many linguacultures that did not traditionally have "color" in the Western sense of the word. But underneath the apparent homogenization, we can still find a rich and diverse visual language, if we look carefully, and the principle of linguistic relativity is still alive. With case studies from three different world areas, the South Pacific (Bislama), South-East Ethiopia (Hamar) and Southern Scandinavia (Danish), this talk explores the diversity of linguistic visuality, and shows how Visual Semantics can enrich, expand and open up locally founded construals of "what they eyes can see".

Visual Semantics offers (i) a practical semantic approach based on a high-resolution method of paraphrase called NSM (natural semantic metalanguage), a method that allows for a high-resolution analysis of the multitude of visual meanings in the world's linguacultures. Crucially, it also allows for (ii) a new question space founded on emic concerns, and a conceptually-oriented study of visual meaning including meanings without counterparts in English/European languages, and finally, (iii) a metalinguistic critique of Anglocentric and Eurocolonial terminologies that continue to exercise a form of conceptual colonialism that hinders the progress of visual science and semantics.

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Keynote Lecture III

Communicative need drives colour language refinement: The riches of "Italian blues"

Galina V. Paramei

Liverpool Hope University, UK

Correspondence: parameg@hope.ac.uk

In my talk, I will address factors that drive lexical partitioning of colour space beyond the universal constraints (visual system "hardwiring" and colour space perceptual landmarks). In this context, I will consider Italian colour inventory that cuts through the "hard ceiling" of basic colour terms (BCTs) of the universal colour lexicon and focus on lexical refinement of BLUE area in Italian whose speakers require more than one 'blue' basic colour term (BCT).

I will present an overview of the results of a psycholinguistic experiment undertaken with my Italian collaborators. It involved unconstrained colour naming of the blue segment (core and surface) of the Munsell Color Solid, and estimation of focal colours of three Italian salient 'blue' terms – *celeste, azzurro* and *blu*. Due to diatopic variation in Italian and speakers' exposure to regiolects, the experiment was carried out in three geographically separated locations – Alghero (Sardinia), Verona (Veneto region) and Florence (Tuscany).

For each speakers' population, the number of 'blue' BCTs was establish-ed based on (i) the size and compactness of denotative volumes of the three 'blue' categories, (ii) consensus of their naming, and (iii) consensus of focal colour choices. The results enabled to conclude that speakers of Alghero and Verona possess two 'blue' BCTs – *blu* 'dark blue' and 'light-and-medium blue'; however, the lexicalisation of the latter category differs: it is termed *celeste* by the Algherese and *azzurro* by the Veronese. In comparison, Tuscan speakers require three 'blue' BCTs: *celeste* 'light blue', *azzurro* 'medium blue' and *blu* 'dark blue'.

I will discuss the role of the chromatic environment ("colour diet") – exposure to sea and visibility of blue sky – that conceivably have spurred lexical differentiation of the BLUE area in Italian. Furthermore, I will consider socio-cultural factors: flourishing, in Middle-Ages, of the blue dyeing technology, trade and fashion, and semiotically differentiated blue pigments in art of the Italian Renaissance. Together these factors were likely to drive the communicative need to lexically differentiate blue shades in Italian and elevated the considered 'blue' terms to cognitive salience and/or basic status.

Oral Sessions

The colour semantic potential for the relative dating of early texts

Carole Biggam

University of Glasgow, UK

Correspondence: carole.biggam@glasgow.ac.uk

Among colour semanticists, the work of Berlin and Kay is well known. They suggested a so-called 'evolutionary sequence' for the acquisition of basic colour categories by any language. The theory was that, over centuries, a language will develop cognition of basic categories *in the same order* as all other languages. After numerous semantic studies among greatly differing societies, the evolutionary sequence was emended several times and we are now left with the 'UE model' which suggests that languages tend to follow one of very few so-called 'trajectories' as they develop new categories.

Whether we accept this hypothesis or not, the now considerable evidence suggests that certain features of basic colour category development in a society are extremely widespread. This involves a sequential recognition of the visual impressions of abstract darkness and lightness, followed by the cognition of the warm hues, then the cool hues, and then the sub-division of the warm hues. For historical languages with sufficient surviving material, we can also assess the relative basicness of colour terms which may be developing into the principal names for such categories.

The central argument of this lecture will be that, since we can probably rely on the simplified evolutionary sequence to a considerable extent, we have a tool for the relative dating of early texts. Where we can also assess the relative basicness of colour terms, the dating can be even more sensitive. The lecture will present the Old English poem *Beowulf* as a case study but other early insular texts will also be mentioned.

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Cultural memory of Chinese colour tropes

Victoria Bogushevskaya

University of Salento, Italy

Correspondence: victoria.bogushevskaya@unisalento.it

In a high-context culture like Chinese, the linguistic code encompasses only part of the message and is incomplete without context (Hall 1976). One of the implicit codes embedded in high-context communication is colour tropes. Highly recognisable in the Sinophone world, colour tropes usually manifest themselves in the forms of metaphor, metonymy, and allusion and are often related with the conveyance of emotional content. The focus of this paper is three-fold. Using the examples of the following types of Chinese colour tropes – a) those that express the results of visual perception of colour characteristics of objects or phenomena; b) those that embody the culture-bound realities and artefacts; c) those representing the situations of social nature, – I will first demonstrate that color associations and connotations that are often very subtle and determined by deep 'culture memory'. Secondly, I will argue that, in the case of Chinese colour tropes, primary semasiology of a colour term often influences its consecutive semantic extension. Finally, the observations should also point to more mindful and dynamic-equivalent translations.

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Representation of colours in the Chinese writing system

Thekla Wiebusch

CRLAO (CNRS-EHESS-INALCO), France

Correspondence: thekla.wiebusch@hotmail.fr

 The long textual tradition of Chinese allows to follow the diachronic development of Chinese colour terms for more than 3.000 years (seeWu 2011, Bogushevskaya 2015). The nature of the Chinese writing system provides researchers with an additional window into the underlying organization of this semantic field: Most Chinese characters contain an unpronounced categorial marker (CM, often called semantic determinative or radical), indicating the perceived semantic category the word primarily belongs to. Each time a character occurs this link between word and category is reinforced in the reader.

CM usually denote superordinate categories or salient features of the character referent. In the case of colour terms, graphemes denoting (basic) colour terms, such as黃 yellow in *xian* 羬 'reddish yellow' or materials carrying the colour or dying materials (e.g. 糸 silk in *hong* 红 'pink', later red, *lü*綠 green or 艹grerb in *lan*藍 blue serve as CM.

This paper shows that domains of categorial markers used for colour terms form complex prototype categories, containing both specific colours, as well as physical and psychological states associated with colours, attributes as dirty and clean, activities such as painting and make-up.

Many historical dictionaries such as *Shuowen jiezi* (120 CE), *Yuanben yupian* (ca. 543), *Songben yupian* (ca. 1000), *Longkan shoujing* (997), *Leipian* (1066/7), *Wuyin leiju sisheng pianhai* (1208), *Kangxi zidian* (1716) use CMs as organizing principle. This allows to follow the evolving domains and definitions of colour terms in the writing system and compare it to the parallel evolution of basic colour terms in the Chinese language, showing both the growing divergence of basic notions in the two systems, and a richness of Chinese colour-domains in reference works scarcely reflect in other sources.

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Functions of colours in the evolution of Inner Asian societies

Michal Schwarz

Masaryk University, Czechia

Correspondence: schwarz@phil.muni.cz

The purpose of this paper is to analyze basic functions of colors and their evolutionary use in hierarchical, social and other stratifications in societies of Inner Asia and adjacent Korean Peninsula. Highly ritualized royal cultures and multinational Asian societies used colors for three distinctive functions: 1) for ethnopolitical identification, 2) for ranks of officials and social classes, and 3) for military banners. Especially the first and second pragmatic contexts represent a research gap in contemporary color studies and Inner Asian research. Nevertheless besides above mentioned functions, the white (or less often golden) color had another 4) religious meaning in Iranian / Manichaeian and Central Asian dualism between the good and bad principles in the form of the light (or light color) and darkness. Mainly the first, the fourth, and partly the second mentioned function are of ancient origin and their careful study will shed better light on their evolutionary role within local as well as long-range historical affiliations.

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Colours and emotions: What have we learned so far and what's next?

Domicele Jonauskaite

University of Lausanne, Switzerland
University of Vienna, Austria

Correspondence: domicele.jonauskaite@univie.ac.at

Colours carry certain affective meaning to most people. We *feel blue, see red,* are *green with envy.* Obviously, with our linguistic, cultural, and perceptual environments being rich in affective colour meanings, colour-emotion associations can also be detected in controlled laboratory settings. Despite the long-standing tradition of empirical research into colour-emotion associations, only recently different laboratories started systematic investigations to understand the mechanisms guiding these associations. Here, I present main conclusions from the colour-emotion research in our psychology lab in the last five years.

By consistently using the same methodology and asking participants to associate colours (basic terms or focal colours) with emotion terms, we have reached four conclusions. First, colours and emotions are associated systematically (not randomly), with a possible exception of *purple*. Second, colour-emotion associations are universal, at least when testing associations with colour terms across 30 nations (Jonauskaite et al., 2020), and more recently, 70 nations. Third, these associations are further modulated by perceptual and linguistic experiences. Fourth, colour-emotion associations have a strong conceptual component, suggesting that these associations are abstract rather than driven by direct visual or affective experience.

With this knowledge at hand, we highlight some open questions. First, systematic colour-emotion associations do not automatically imply that colours "evoke" emotions. Second, the origins of colour-emotion associations and their universality are still obscure. Potentially, colour-emotion associations are shared across countries because of shared environmental experiences or rather globalisation. Third, developmental and age-related changes in affective colour connotations are poorly understood. Finally, the link between colour-emotion associations and colour preferences is understudied, and both types of affective connotations are often lumped together. Hopefully, future studies in our and other labs will shed light on these and other questions in affective colour psychology.

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Colour-emotion associations are unrelated to current mood

Giulia Spagnulo[1], Déborah Epicoco[1], Domicele Jonauskaite[1,2], and Christine Mohr[1]

[1]University of Lausanne, Switzerland
[2]University of Vienna, Austria

Correspondence: giulia.spagnulo@unil.ch

People are relatively consistent in their colour choices to represent their current mood. The literature shows systematic relationships between i) felt mood and physical colour choices, (e.g., joyful mood is frequently represented by yellow hues and chromatic colours), and ii) between colour terms and emotion concepts (e.g., red-anger or yellow-joy). Here, we investigated a potential interaction between these two affective concepts by testing whether colour-emotion relationships differ as a function of participants' mood. Using a validated mood induction technique, we induced either joy (37 participants, 13 men) or fear (40 participants, 10 men). Afterwards, participants selected the most representative colour for each emotion term (*love*, *anger*, *disgust*, and *admiration*) using a computerised colour picker. Mood induction was successful in most cases, as confirmed by self-report of participants' current affective state. When looking at hues independently of the joy and fear mood induction, red was the most frequently chosen hue for both *love* and *anger*. Dark yellow and green hues were chosen for *disgust*, and yellow hues were chosen for *admiration*. When comparing joy and fear conditions in the successful cases, we found comparable colour choices for all the emotion terms in both conditions. It was true whether considering lightness, $t(147) = -1.43$, $p = .155$, chroma, $t(147) = -2.192$, $p = .030$, or hue, $\chi^2(8) = 1.37$, $p = .792$. Overall, these results indicate that color-emotion relationships are stable, and do not vary with current mood, guaranteeing continuity in one's immediate sensory environment. We conclude that colour-emotion relationships are conceptual, expressed in language and reinforced through our shared knowledge.

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What do we think about colours? Coding free associations with colour terms

Déborah Epicoco[1], Domicele Jonauskaite[1,2], Mari Uusküla[3], and Christine Mohr[1]

[1]University of Lausanne, Switzerland
[2]University of Vienna, Austria
[3]Tallinn University, Estonia

Correspondence: deborah.epicoco@unil.ch

Efficient verbal communication depends on clearly defined words. Words do not stand as isolated entities, though. Beyond their proper definitions, they carry additional meanings depending on previous contexts and surrounding words. Colour terms are key examples in this regard. We collected free associations with colour terms and assessed meaning using our recently developed coding scheme, consisting in the following nine themes: i) experiential (sensory and affective experiences), ii) human-made objects, iii) natural elements and objects, iv) scenery, v) abstract concepts, vi) people, vii) colour terms, viii) personal, and ix) ambiguous words. Most themes can be further separated into different levels of abstraction: superordinate, basic, and subordinate. We applied this scheme on two datasets. The first comprised free associations with the colour terms *purple*, *violet*, and *lilac* in French (n = 2074 associations). The second dataset comprised free associations with participants' favourite and least favourite colours (n = 1813 associations). Two researchers coded 20% of the associations, both times resulting in an almost perfect inter-rater reliability (first dataset: k = .848; second dataset: k = .944). The remaining data was coded by one researcher. Comparisons within and between datasets showed the scheme's ability to depict associated meaning in organized ways. For instance, natural elements and objects were the main themes for the first dataset and abstract concept for the second dataset. We argue that our coding scheme can be applied to a wide range of open answers related to colour. It offers insights into the meaning of colour beyond mere frequency analysis.

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Comparing colour concept with emotion colour preference using psychophysical interval scale and ranking order procedure

Carlo Martins Gaddi & Marcelo Fernandes da Costa

University of São Paulo, São Paulo, Brazi

Correspondence: carlogaddi@usp.br and costamf@usp.br

An online experiment was conducted in 278 Brazilians volunteers (mean age = 30; SD = 1.02; 209 Female), which consisted of ranking 8 solid color squares according to their degree of (i) personal preference; and emotional content in an orthogonal opposed-polarity axes (ii) boring-exciting and (iii) tense-calm. The order of tasks (ii) and (iii) were randomly presented after finishing task (i). We use emotional terms from circumplex model of affect (Posner et al., 2005), which proposes that all affective states arise from two neurophysiological system, one related to pleasure-displeasure continuum and other to arousal. The testing consisted of the same 8 color squares displayed in random order in a single line for each round. The participant could reorder the squares at will. No time limit was imposed. The main purpose of this experiment was verify discrepancies between the preferred color stimuli with color concept measured using interval level psychophysics (Costa et al., 2021). We measure two emotional axes to quantify these psychological dimensions and verify any possible quantitative relationship with color preference.

Two methods were used in conjunction for the construction of an interval psychophysical scale. First, the data were analyzed based on the Ranking Order Scale Method (Thurstone, 1931), that consider all the stimuli as the standards, allowing calculation of the proportion of judgments that every stimulus is greater them other for every possible pair in the series. These derived proportions were used to apply his Law of Comparative Judgment (Thurstone, 1927). We used this simplest version of the law, the Case's V, that assumes evaluation of one stimulus along the continuum does not influence the evaluation of the other in the paired comparison, and that the dispersions are equal for all stimuli.

Results shown the following scale values (SD units) for personal preference Blue = 1.62; Purple = 1.27; Green = 1.06; Red = 1.05; Orange = 0.91; Pink = 0.85; Yellow = 0.57; Brown = 0.0. For tense-calm Red = 2.39; Yellow = 1.15; Orange, 1.02; Purple = 0.95; Blue = 0.80; Brown = 0.61; Green = 0.43; Pink = 0.0. For boring-exciting Brown = 2.34; Pink = 1.08; Orange 1.00; Purple = 0.87; Green = 0.71; Yellow = 0.58; Blue = 0.42; Red = 0.0. Categorical-linear correlation between color preference ordered median value and color concept scale values was $r = 0.70$ ($p = 0.05$). Correlation between tense-preference was $r = 0.13$ ($p = 0.75$); and for boring-preference was $r = -0.75$ ($p = 0.03$).

The first major finding was bluish hues are more preferred and yellowish less, results in line with the literature. The very similar psychophysical distance for green and red hues on the preference scale was also observed in color concept measurement and could be interpreted as having similar cognitive salience value.

Color preference was compared with color concept development in the same psychophysical scale. Considering that emotions were organized in axes of opponent

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valence the high negative correlation between color preference and boring-exciting means that higher the preference less the boring emotion. The correlation between tense and preference was small, revealing no correlation with preference.

Finally, these results can help understand how perceptual information and emotions are represented. In quantifying colors in emotional terms in a continuum interval scale, we better understand his various psychological representation. The simplicity and high precision of the procedure allow its applicability on large groups of different populations, in which comparisons are desired.

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Free associations of colour words in Estonian

Ene Vainik

Institute of the Estonian Language, Estonia

Correspondence: ene.vainik@eki.ee

In the present study, the expectation that the spontaneous responses to colour words would indicate affective preferences in the first place (e. g Hupka et al., 1997; Kaya and Epps, 2004; Jonauskaite et al., 2020; Jonauskaite et al., 2019; Tham et al., 2020) is given up. It is proposed, instead that the spontaneous responses to colour words should follow the same regularities as do the free word associations in general: that both paradigmatic and syntagmatic types of associations would turn up as well as some thematic ones (de Deyne and Storms 2015; Vainik et al., 2020; Vainik, 2021).

The study collects the responses of twelve Estonian colour terms from the Dictionary of Estonian Word Associations (Vainik, 2018) and the excerpts with the stimuli that were responded to by the twelve colour words. The latter is a novel aspect in association studies afforded by the nature of the larger database. Thus, the mutual associations both inside of the colour category and with the external realia can be detected. The Estonian lexical category of colours, which is well studied, generally (Sutrop 2002; Uusküla 2008; Uusküla and Bimler, 2016, Bimler and Uusküla, 2018) will be provided with new information about its internal and external relations.

The results support the assumption that there exists an underlying gradient of salience or "basicness" of terms (Bimler and Uusküla, 2018: 184) as a correlation between membership centrality and the level of agreement of the associations was noticed. The results show also that the colour words tend to form a network of associated terms relying on the paradigmatic relation of cohyponymy. These relations are insensitive in respect of whether the colour terms which are considered to be systematically polysemic in Estonian, (Tuulik and Langemets 2016) are interpreted as nouns or adjectives.

There are salient links to words other than colours, too, in which case also the pairs of mutually related words emerge. In this case, the relations of attribution prevail and the colour terms are interpreted as adjectives, mostly. The associations between colour terms and other words reveal multiple motivations – the thematic relation of colour attribution is often accompanied and co- motivated by the existence of syntagmatic units like colour compounds, figurative expressions, collocations, proverbs etc. The associations grounded on a broader cultural frame of knowledge can be told to be symbolic as they establish a link between concepts which's actual relation is indirect and/or manifold. The relations between colour and emotion words or affectively loaded words were marginal.

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A Comparative Analysis of Estonian, Swedish and Turkish Colour Idioms

Merle Oğuz & Mari Uusküla

Tallinn University, Estonia

Correspondence: merleogz@tlu.ee and muuskyla@tlu.ee

It has been argued – first by George Lakoff and Mark Johnson in the 1980s – that figurative language reflects our inner world and our cognitive frames of reference. Idioms can be defined as expressions that contain two or more components and the meaning of these expressions cannot be predicted from the meanings of the components (see, for example, Kövecses and Szabó 1996). Most of the time, idioms have figurative meanings. Figurative language (including idioms) has been viewed as more than a decorative element and as something that is part of our everyday life and helps categorise our feelings and experiences. Colour idioms consist of at least one colour word which more often than not carries the figurative meaning of the idiom or functions as the source domain of a conceptual metaphor. For example, "white" in the idiom "white lie" (the same applies to *vit* in the Swedish *vit lögn* and *beyaz* in its Turkish equivalent *beyaz yalan*) is based on the conceptual metaphor INNOCENCE IS WHITE. Research on colours shows that colours can carry meanings that can be both culture-specific and universal (see, for example, Gheltofan and Pungă 2018). However, more research is needed for drawing broader conclusions about the universality and variability of colour idioms across cultures and languages. With this study, we would like to contribute to the discussion by comparing the colour idioms of three languages that have not been compared yet: Swedish, Estonian, and Turkish.

We collected more than 100 colour idioms from each of the languages using different dictionaries and corpora. We compared the colour idioms of these three languages and categorised them as shared, unshared but transparent, and unshared but non-transparent (as in Bazzanella *et al*. 2016). Some interesting patterns emerged: all three languages seem to have the highest number of colour idioms with the colour word "black", followed by the colour words "white" and "red" respectively. The same pattern has been observed by other researchers comparing other languages as well. The pattern appears to have a connection with Brent Berlin and Paul Kay's (1969) findings that established that colour words emerge in languages in a certain sequence: the first words to appear are always "black" and "white", which are followed by "red". Our findings seem to suggest that there is a larger number of colour idioms in Turkish compared to Swedish and Estonian, but this seems to be mainly due to a larger number of idioms with the colour words "black" and "white" in Turkish.

All three languages contrast the colour words "black" and "white". "Black" mainly carries a negative connotation in all three languages and "white" a positive connotation (except for when "white" refers to paleness of the skin or to something otherwise unhealthy – examples of which could be found in all three languages), while in Turkish "black" also referred to bravery.

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An interesting difference that we observed was that Turkish people associate ageing and the change of hair colour with the colour word "white", while Swedish and Estonian speakers use "grey" instead. Turkish also strongly associates "yellow" with turning pale from fear, nervousness, excitement, or sickness. Swedish and Estonian speakers use "white" instead.

In general, there were more colour idioms that were shared between Estonian and Swedish than between Swedish and Turkish or Estonian and Turkish. We found a few colour words (for example "purple") with which there were idioms but none of them was shared between the languages. However, most colour categories had some shared idioms between all three languages. The shared meanings were often related to universal conventions (for example *punane kaart* in Estonian, *kırmızı kart* in Turkish and *rött kort* in Swedish ('red card'), which refer to football), embodiment (in all three languages one can turn red when embarrassed) or other universally recognised phenomena (for example "yellow journalism" (*kollane ajakirjandus/ sarı gazetecilik/ gula pressen*). Some opaque idioms were related to culture-specific phenomena (for example *sarı lacivertliler* 'yellow blues' or *kara kartallar* 'black eagles' when referring to popular Turkish football clubs). There were a few colour idioms that seemed to be shared but carried a different meaning (for example, the Turkish *kara kış* lit. 'black winter' and the Estonian *must talv* lit. 'black winter' – the first referring to the most difficult period (in the winter) or a very difficult situation and the second to a snowless winter).

Comparing languages of different origins that have not had many contacts (Swedish and Turkish; Estonian and Turkish) provides a good opportunity for examining the universality and variability of the meanings that colour words carry across cultures and languages. Furthermore, it helps us determine how speakers of different languages and cultures interpret the world.

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Finnish words tumma 'dark' and vaalea 'light' as colour names

Veera Hatakka

University of Helsinki, Finland

Correspondence: veera.hatakka@helsinki.fi

The Finnish words *tumma* 'dark' and *vaalea* 'light' appear frequently in compounds such as *tummat hiukset* 'dark hair' and *vaalea nainen* 'light woman'. This kind of expressions are rather idiomatic, and the role of the words *tumma* and *vaalea* is not to explicate the perceived color but to denote the darkness/lightness of the described entity. In addition, *tumma* and *vaalea* have an important role in the Finnish color description. They have and established role as lightness modifiers in expression such as *vaaleankeltainen* 'light yellow' and *tummanvihreä* 'dark green' (Koski 1983, 314–319; Hatakka 2020, 253–255). Further, *vaaleanpunainen* 'light red' has the basic color terms status in Finnish (Uusküla 2007, 389–390).

Tumma and *vaalea* has been said to only modify color expressions, and their independent appearance as color names has been denied (Koski 1983, 314). In language use, however, *tumma* and *vaalea* appear also independently, for example in *Kadonneella on yllään tumma takki, harmaa fleece, vaalea kauluspaita sekä mustat housut* 'the missing person is wearing a dark coat, grey fleece jacket, light button-up shirt, and black trousers'.

In this presentation I view the independent use of the Finnish words *tumma* and *vaalea*. My aim is to sort out in what kind of situations words *tumma* and *vaalea* do not modify other color words but are instead used as color terms. I also examine what kind of colors are described with *tumma* and *vaalea*. My hypothesis is that *tumma* describes muted or cold colors (e.g., shades of brown and blue), and *vaalea* denotes warm hues (e.g., yellow and light shades of red) more often. The findings are based on data collected from Finnish newspapers, internet conversations and spoken interaction. In the analysis, context and the characteristics of the described entity are observed.

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Translation of colour language: old and new perspectives

Mari Uusküla

Tallinn University, Estonia

Correspondence: muuskyla@tlu.ee

What could be considered as a translation of colour? And why does it seem so complicated? The topic of colour translation has been relevant in many disciplines: anthropology, semiotics, linguistics, translation studies and beyond. However, what I consider as translation of colour might seem unconventional to some and familiar to others. I do not only consider interlinguistic translation between several language pairs, but also intralinguistic variation and translation between different historical stages. Most important is that colour must be converted into the meaning of colour sense, so that a receiver is able to understand the initial message.

Listing, sorting and naming 'blue'

Kaidi Rätsep

Independent researcher

Correspondence: kaidi.ratsep@gmail.com

It was hypothesised that the Turkish *lacivert* 'dark blue' does not share a type-of relationship with *mavi* 'blue', the Estonian *helesinine* 'light blue' and *tumesinine* 'dark blue' are not just a kind of *sinine* 'blue' and neither is the Russian *goluboj* 'light blue' a type of *sinij* 'blue'. If *lacivert* is a separate category from *mavi*, and *helesinine* and *tumesinine* differ from *sinine*, then their quantifiable measures should be relatively similar to those of established 'blue' basic colour terms. In this case the 'blue' terms would have the same quantitative measures in all three languages. Conversely, if the Turkish *lacivert* 'dark blue', and the Estonian *helesinine* 'light blue' and *tumesinine* 'dark blue' are not separate categories, then quantifiable measures of their basic colour traits will not match those of previously established basic colour terms.

A multi-method approach was used in the form of different field tests in which data were collected in a list task to scrutinise the semantic memory, a sorting task assessed the categories of blue in the groupings of stimuli, and a naming task analysed the one-by-one naming of colour stimuli.

Turkish participants (N=56) completed a list task and a naming task. In the naming task a standardised set of 65 coloured tiles suggested by Davies and Corbett (1995) was used with 17 more stimuli from the purple-blue region of colour space were selected to ascertain the status of *lacivert* 'dark blue'. The Estonian (N=39) and Russian (N =30) participants completed a list task, a sorting task and a naming task. The Estonian and Russian sorting and naming tasks used 55 stimuli to test the blue-green-purple neighbourhood of colour space (Bimler and Uusküla 2014).

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Are light and dark blue used as separate basic colour categories in English?: A corpus linguistics approach to studying visual perception

David H. Peterzell[1,2], Anke Marit Albers[3] & Sean Isamu Johnson[4]

[1]John F. Kennedy University, Pleasant Hill, California, USA
[2]University of California, Berkeley, California, USA
[3]Justus Liebig University Giessen, Germany
[4]Hofstra University, Hempstead, New York, USA

Correspondence: dpeterzell@berkeley.edu and ankemarit.albers@gmail.com and
sjohnson6@pride.hofstra.edue

Although people perceive countless different colors, they typically use 11 discrete 'basic' or 'universal' terms to categorize hues. However, several languages (e.g. Russian, Greek, Italian, Lithuanian; Bimler & Uusküla, 2014, 2017; Paramei, 2005, 2007) use different terms for different blues, suggesting additional basic-level distinctions. Experimental work shows no such distinction for blue in English (Uusküla & Bimler, 2016), but perhaps speakers use the words 'light' and 'dark' (and other specifiers) with 'blue' far more frequently than with other basic colors, thus identifying multiple blues in practice. To examine the use of 'light' blue, 'dark' blue, and other chromatic specifiers in daily common language, we used corpus linguistics. From the Corpus of American English (COCA, a balanced corpus with >550 million words from newspapers, magazines, academic texts, literature, spoken language) we extracted all occurrences of the 11 basic color terms, as well as their 100 most common preceding words (collocates). We calculated the relative frequency of 'light' and 'dark' and marked all other potential specifiers of the colors. 'Light' and 'dark' indeed appeared frequently with blue (1.19 and 2.15% of selected cases). Light also specified brown (2.18%), whereas 'dark' collocated with brown (2.60%), gray (1.71%), green (1.87%) and purple (2.05%), with much lower percentages for other colors (~0-0.82%). There could be cases where 'light blue' referred to something both lightweight and blue, but a set of unambiguous cases showed a similar pattern. Finally, blue was preceded by more unique chromatic specifiers than any other color. Results suggest that (1) American English speakers distinguish between different (categories of) blues, resembling the explicit distinction of blues in some other languages (the pattern was even stronger for brown); (2) the separation between basic and non-basic color categories might be gradual rather than distinct also in English.

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From vegetation to politics: The word for GREEN in the Polish press, 1945–1956

Danuta Stanulewicz[1] & Adam Pawłowski[2]

[1]University of Gdańsk, Poland
[2]University of Wrocław, Poland

Correspondence: danuta.stanulewicz@gmail.com and adam.pawlowski@uwr.edu.pl

The Polish term for green, *zielony*, has been analyzed from various perspectives by a number of scholars, including, *inter alia*, Ampel Rudolf (1989, 1994), Komorowska (2003, 2010, 2017), Teodorowicz-Hellman (2000), Tokarski (2004), Warth-Szczygłowska (2014), Waszakowa (2000, 2001, 2003) and Zaręba (1954). The aim of this paper is to examine the uses of *zielony* in the Polish press released in 1945–1956. The data will be extracted from ChronoPress (Chronologiczny Korpus Polskich Tekstów Prasowych), a corpus of Polish newspapers and magazines available at http://chronopress.clarin-pl.eu.

While analyzing the occurrences of the word for red, *czerwony*, in the texts of ChronoPress, taking into consideration the context of the new political system, communism, introduced in Poland after World War II (Stanulewicz and Pawłowski 2018), we noticed that the lexeme *zielony* had ideological uses as well – green was the colour of Stronnictwo Ludowe (People's Party), later Zjednoczone Stronnictwo Ludowe (United People's Party). In this paper, we estimate the scope of these and other uses of *zielony*. Furthermore, we analyze its extended meanings and connotations it carries, connected not only with vegetation, but also with the army, permission and ignorance.

Finally, we compare the uses of *zielony* in the texts of ChronoPress with its uses in the press of the 21st century. The latter research material comes from the National Corpus of Polish, available at http://nkjp.pl. This comparison will allow us to trace the extensions of the meanings of *zielony*, which have actually occurred in numerous languages (cf. Warth-Szczygłowska 2014).

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ChronoPress webservice and other CLARIN-PL text-mining tools for SSH community

Adam Pawłowski

University of Wrocław, Poland

Correspondence: adam.pawlowski@uwr.edu.pl

Colours in the Grimm and non-Grimm Snow White fairy tales (ATU 709)

Urmas Sutrop

Estonian Literary Museum, Tartu

Correspondence: Urmas.Sutrop@kirmus.ee

Although we believe that Snow White fairy tale is defined by a beautiful girl, three colours (black, white, and red), a magic mirror, and a jealous step-mother, it is not so, if we take a look at the bigger corpus of Snow White tales, including pre-Grimm and Brothers Grimm tales, and tales collected after the Brothers Grimm (mainly, but not only ATU 709), we can see that these features are not definitive at all and may absent in this tale type. Snow White tale type is defined by three motifs – jealousy, exile, and enchanted death-like sleep, from which the heroine (very rarely the hero) is woken. So colours are secondary features of the Snow White fairy tale, but still important.

In this study I will select and analyse the Snow White tales that include colours that correspond to Brothers Grimm colour triad or are meaningful in other ways from my corpus. The whole corpus includes 175 Snow White tales or versions from all over the world – Europe, Asia, Africa, and America. The analyse methods are linguistic and/or semiotic with emphasis of the motivation of the valuable and desirable "beautiful" colours, e.g. women's yellow skin, and red teeth in Malay "Bidasari" (ca 1750). Both colours are motivated by social status. People in higher rank had yellow skin and they used to chew narcotic beetle, that turns teeth from white to red.

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Obscure lipstick colour names: ambiguity as an attention-grabbing technique

Isabel Espinosa Zaragoza

Universidad de Alicante, Spain

Correspondence: isabel.espinosa@ua.es

Colour names for cosmetic products are "constructed nameables" (see Wyler, 2007, p. 117) with the potential to explore many different creative routes and nominal categories in the constant search for a distinctive and memorable verbal image (see Allen & Simmons, 2003). The main objective of this study is to analyse and describe the semantic opaqueness of lip product names in the cosmetic industry. A sample of 2374 lip shade names (155 collections) from 12 brands (e.g. Chanel, Givenchy, Burberry, Dior, Ofra, Nars, Too Faced, Bite Beauty, Nyx, Milani, Kiko Milano and Catrice) was manually compiled during 2017. From the shades selected, more than half (1241, 52.57%) are obscure or non-transparent from a semantic point of view, following Biggam's (2012, p. 50) criteria. These either refer to (1) colourless abstractions (e.g. *Windswept*, a pale blue); (2) multicoloured realities, that is, entities which can be found in a wide range of colours and, therefore, are unspecific as regards colour (e.g. *Driftwood*, a pale pinkish-cream); and (3) objects whose colour does not match the colour of the lip product, therefore, not connected metonymically (e.g. *Nori* not being a green-coloured lipstick). While the majority of obscure names are described, 40% is not, leaving the consumer unaided, especially when purchasing online. Following Merskin (2007), for obscure lipstick colour names the categories most resorted to are feelings and characteristics (356, 28.69%), toponyms (181, 14.59%), people and their names (179, 14.42%) and sex and romance (148, 11.93%). These topics or nominal domains either sell a story about oneself (e.g. qualities, feelings, personality) or exploit the evocation of exotic places upon application. This marketing strategy is aimed at acquiring salience in a competitive market where colour names can be the ultimate reason for purchasing one product among many quasi-identical lip products (see Espinosa-Zaragoza, 2022).

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The impact of colours on the effectiveness of persuasive messages designed to promote behaviour change toward sustainable consumption

Grażyna Wąsowicz

Kozminski University, Warsaw, Poland

Correspondence: gwasowicz@kozminski.edu.pl

Colours are considered an important means of persuasive communication as they are salient, carry multiple meanings and can affect attention, emotions, beliefs, and behaviours (Bellizzi and Hite, 1992; Garber and Hyatt, 2003; Jonauskaite et al. 2020; Labrecque et al., 2013; Wąsowicz et al. 2015). The objective of the study was to widen the psychological knowledge on the importance of content and visual attributes of persuasive messages designed to promote behaviour change toward sustainable consumption on their effectiveness (indicated twofold by evaluation to what extent it encourages one to take the given action and encourages reflection). The main research questions were as follows:

1. Which of the content and visual attributes of the persuasive message have the greatest impact on its effectiveness?

2. What is the optimal combination of content and visual attributes leading to greater effectiveness of the persuasive message?

The study was conducted by means of conjoint analysis (between and within subject orthogonal design). Between subject design was: 3 (product category: food, home appliances and clothes) x 2 (suggested behaviour change toward buying new products vs. reducing product waste). Within subject manipulation was: 2 (gain/buy vs. lose/share) x 3 (who supports protection of the environment: me, others, public) x 4 (colours: green, yellow, blue, and brown) x 3 (emoticon: absent, positive emotion, negative emotion).

In the study 150 women and 150 men participated, aged 19 – 59 (*M = 39.79, SD = 11.53*). The results indicate that regardless of the experimental group and the dependent variable indicator, visual elements take approximately 60% of messages' attributes importance, with the colour being the most important (31 to 39%). The most effective messages present blue or green colour and invite to buy more local products. The least effective messages use brown colour and invite to buy less of imported products.

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The categorisation of orange in Galician: generational contrasts in a diglossic community

Paula Teixeira Moláns

University of Glasgow, UK

Correspondence: p.teixeira-molans.1@research.gla.ac.uk

This paper will present original colour semantics data collected in 2021 from two age groups of Galician speakers: elderly and young adults. With a methodology informed by Uusküla and Bimler (2016) and Griber, Mylonas and Paramei (2021) it will show the results for orange and explore the generational differences found not only in labelling but also in categorisation.

Young participants strongly agreed on this region of the colour space being an independent category labelled *laranxa* ('orange') or its Spanish cognate *naranja*. In contrast, elderly participants had much lower consensus rates. Some shared the semantic extension and the label(s) of their young counterparts whilst others used a more restricted category labelled *color butano* ('butane gas bottle coloured') applied to highly saturated orange alone. Half of the elderly participants, however, included this region of the colour space within other categories. Some of those chose the neighbouring categories red (with terms such as *encarnado*, *roxo* or the Spanish cognate *rojo)* or yellow (*amarelo*, *marelo* or the Spanish cognate *amarillo*) although other elderly participants labelled these hues as *rosa* and included them within pink, a much less predictable categorisation.

Finally, aware of the linguistic pressure that Galician faces in a diglossic context, this paper will interpret these generational differences as two stages of linguistic assimilation towards Spanish: a superficial influence concerning labelling in the older generation and a deeper one affecting both labelling and categorisation in their younger counterparts.

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Linguistic Palette: How can colours be deep, dark, and dull?

Hiromasa Mita

University of Tokyo, Japan

Correspondence: pamcpeach@gmail.com

When verbally describing various tones and shades of color, although an expert could elegantly employ technical nomenclature, we usually describe them in a compositional and ambiguous fashion by using a wide variety of adjectives, for example, *bright* green, *dark* blue, *deep* red, and *dull* gray. Most of these adjectives are not used to depict colors by nature but are rather borrowed from other semantic domains. A question may arise about how and why that is possible and what the difference between describing a color as *dull* and describing the same color as *subdued* is. And is there a cross-linguistically common way to encode "dullness" of color? These questions are linguistic rather than purely chromatic. In order to provide answers, this study investigates how colors are compositionally verbalized and what motivates this verbalization. In particular, it attempts a contrastive description and analysis of the adjectival expressions that can modify (e.g., a *dark* color) or predicate (e.g., The color is *dark*.) colors in multiple languages from different language families (English, Mandarin, Japanese, etc.) from a cognitive linguistic perspective. The analysis reveals that contrary to the standard view that the concept of color is one of the most primitive and innate semantic domains which become a "building block" for more abstract and complicated ones, it is in fact highly figuratively conceptualized in its own right, involving a miscellany of metaphoric and metonymic processes. Whereas studies on color expressions have tended to focus on the lexicological research of color names (the basic color terms being at the head of the list), this study offers a complete picture of how humans mix colors on a linguistic palette.

Colour idioms and direct modification in Japanese

Yurie Okami

Chukyo University, Japan

Correspondence: yurie_t_okami@yahoo.co.jp

Akai ito "red thread", *shiro-i me* "white eye", and *kuro-i uwasa* "black rumor". All these are color idioms in Japanese, and each of them has an interpretation that goes beyond the sum of the meanings of two words (1a). However, these expressions lose their idiomatic meanings when the color word is realized as noun with the postposition *-no* (1b), and when it is separated from the head noun by another adjective (1c). Although color is one of the seven basic concepts of the category of adjective (Dixon 1982), its morphological realization is cross-linguistically ambiguous between noun and adjective. In Japanese, with the closed, non-productive category of adjective, there are actually only four color adjectives with *-i* ending (*aka-i* "red", *ao-i* "blue", *kuro-i* "black", and *shiro-i* "white"), and all the other colors are realized as noun with the *-no* ("of"), which functions as a linker of nominal elements.

On the other hand, it is known that there are two types of adjective modification: direct and indirect modification (Sproat and Shih 1991; Cinque 2010), and idiomatic meaning is one of the properties of direct modification. Interestingly, this distinction can be extended to categories other than adjective (Watanabe 2012; Nagano 2013; Nagano and Shimada 2015). In this presentation, we propose that color words can be interpreted as direct and indirect modification regardless of the morphological realizations, and color idioms can be clearly distinguished and reflected both in the word ordering in DP and in the syntactic structure.

(1)   a. *Taro-to Hanako-wa   aka-i ito-de   musub-are-teiru*.

          Taro-and Hanako-TOP red thread-with bind-PASSIVE-STATE

        "Taro and Hanako are destined to be together"

        b. *Taro-to Hanako-wa   aka-no ito-de   musub-are-teiru*.

        "Taro and Hanako are tied up with a red thread"

        c. *Taro-to Hanako-wa aka-i huto-i ito-de musub-are-teiru*.

        "Taro and Hanako are tied up with a red thick thread"

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