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## **BOOK OF PAPERS**



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BELGIUM INTERDISCIPLINARY COLOUR DAY 2017

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# INTERDISCIPLINARY COLOUR ASSOCIATION BELGIUM

ICA-Belgium is a non profit association that provides a platform to encourage interdisciplinary colour research and disseminates knowledge and studies in order to contribute to the development and challenges in the field of science, art, design and industry in relation to colour. She does this by organising seminars, lectures, courses, forums, study groups and other. ICA-Belgium will also seek close cooperation with existing national and international organisations.

#### **BOARD & ORGANISING COMMITTEE**

#### **Jeannette Hanenburg**

Owner House of Colours. Founder of Colour Professionals. Member of the scientific international organization AIC-color and member of the international study group The Language of Colour. Co-founder of the Belgian Interdisciplinary Colour Association.

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# PRESIDENT'S MESSAGE: THE BIRTH OF ICA-BELGIUM

We are together here on the international day of colour. Does anyone know why this day is on the 21st of March and who came up with the idea? 21 of March is the day that night and day are about equally long and was founded by the AIC to encourage events in the field of colour.

Welcome to the first symposium of the Interdisciplinary Colour Association Belgium, short ICA-Belgium. ICA is brand new association and we are glad you came to celebrate its birth with us. Also a very special welcome to our speakers of today.

About a year ago we started talking about the foundation of a colour association for Belgium with the goal to provide a platform for everyone involved in the world of colour. ICA wants to be, interdisciplinary and encourage colour research, colour education, collaboration and this in the field of science, art, design, consultancy, education and industry.

Our second goal, is to become a member of the most prestigious, international association in the field of Colour, AIC. The members of this international association are formed by 27 countries throughout the world. We want to make Belgium number 28.

2015, at the meeting, of AIC in Tokyo, there was the question, to found a colour association in Belgium. 2016, the foundation of ICA was mentioned for the general assembly of AIC at the end of the meeting in Chili.

So now, two years later we have accomplished the first steps of ICA and ICA is getting ready to walk to a full membership of the AIC and so Belgium will be a regular member after the congress in South Korea, coming up oktober.

We started ICA with the three of us and since a few months we are with 4 board members who I would like to introduce to you. Inez Michiels, Claire de Maere and Filip Roscam.

All four of us are working in a different field of colour and are therefore very interdisciplinary, like ICA. We strongly, believe in the necessity of this association. This interdisciplinary board is representative for what ICA is about. Collaboration, education and research are the fundamentals of the platform ICA wants to provide for everyone involved in the world of colour. We can learn so much from each other.

Before I talked about the first steps ICA has taken and now ICA is ready to grow. Growing bigger can not be done without good nurturing and help of the



people around it. We, the board, believe in the founding of ICA Belgium so strongly, that we invested in the setup of ICA-Belgium by making the website, the foundation, getting insurance and renting this room today. For the future we are also looking for sponsors to help ICA, and to be the guardians in it's growth. Help ICA-Belgium to grow from small beginnings to it's full potential.

I am going to end with a final question. We need your help. The plan is to organise a symposium each year, to organise colourcafé's, courses and study groups. We are not looking for board members. We are looking for enthusiastic people who can help us with one of these events, and maybe have some great ideas on organizing different events, big or small, in the field of colour. If, after today, you want to help, raise ICA to it's full potential. Come and be part of the most colorful family of Belgium.

Now it is time to listen to interesting lectures.

Thank you.



JEANNETTE HANENBURG
President
ICA-BELGIUM



## ORAL PAPERS, IN ORDER OF PRESENTATION:

#### A sensorimotor approach to the philosophy of colour

Dr. Erik Myin

**Centre for Philosophical Psychology – University of Antwerp** 

## In Living Colour: Studying the Evolution of Human Colour Preferences

Dr. Larissa Mendoza Straffon

Archaeologist specialising in visual art and evolution Lecturer at Centre for the Arts in Society – Leiden University

## Lighting colour quality evaluation based on memory colours of familiar objects

Dr. Kevin Smet

Postdoctoral Fellow at the Light and Lighting Laboratory Technologiecluster Elektrotechniek (ESAT) KU Leuven

#### The path to global color trends

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# A sensorimotor approach to the philosophy of colour

#### Dr. Erik Myin

#### Centre for Philosophical Psychology - University of Antwerp

What does red feel like? And why does it not feel like blue or green? Is red something out in the world, or something in our heads? The sensorimotor approach to perception attempts to give an answer to these questions. It proposes that perception is a way of interacting with environment, rather than the construction of a representation of the environment. In this talk Erik will explain the sensorimotor approach, its view on what colours are and how they feel, and how it implies that colours are not arbitrary labels we attach to objects.

#### **ABSTRACT**

The question what colour is has fascinated philosophers since antiquity. It has been debated whether colours are subjective, in the mind, or objective, on surfaces, objects and in environments. Both positions have well known problems. Subjectivism, if in the guise of the idea that colours are created by the mind, or, in contemporary terms, by the brain, seems to make the perception of colour impossible. For perceiving something means not only having sensations of a kind, but having experiences of something which is independent from one's sensation. Hallucinating a dagger, after all, is something which does not amount to perceiving a dagger. On the other hand, if colours are not subjective, what objective properties can they be identified with? And how is it possible that the same objective situations might give rise to systematically different colour experiences in different individuals, or in different species of organisms?

After introducing the philosophy of colour in a broad way, I will propose what I see as the most promising approach to address the main philosophical questions about colour. This is the sensorimotor approach to colour, proposed originally by Kevin O'Regan. According to it, colour perception should be considered in terms of the lawful patterns which characterize interactions between perceivers and environments. To see red, on this view, is to have become sensitive to the ways in which the light changes when one interacts with red surfaces. It is to find one's tacit expectations about how the light will change fulfilled, and once one has acquired this capacity, one can see red by minimal cues, just as one can recognize a familiar person in a distant silhouette. I will describe some of the empirical material that lends support to



this sensorimotor approach, such as the finding that the colours red, green, yellow and blue have particular, comparatively simple, sensorimotor profiles. Finally I will sketch the outlines of a fuller philosophical account of colour perception that I think can be based on these sensorimotor ideas. According to it, colour perception should be seen in terms of specific embodied interactions, not unlike sensations such as pain, or simple emotions. Such a view of colour, allows to do justice to both its objective and its subjective pole. For colours are person- or, organism-bound, yet not totally arbitrary with respect to the situations in which they are typically experienced. For example, it is no coincidence that we experience dark colours or blackness in situations of low lighting, and not whiteness.

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# In Living Colour: Studying the Evolution of Human Colour Preferences

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#### INTRODUCTION

Humans possess a complex colour vision that is partially shared with other species. Darwin suggested that our colour preferences might originate in the mechanisms of sexual selection, like in the case of birds. More recently, biologists have proposed that they might be inherited from the feeding habits of our remote primate ancestors. However, humans, unlike other primates, exploit colour culturally. That is, we make use of colours to mark, signal, attract, express, communicate, or simply embellish ourselves and our environment.

The different applications of colour across time and cultures provide researchers with clues as to how and why colour became incorporated in human cultural behaviour. For this reason, in recent years, scholars from different fields have been addressing questions regarding, for example, the identification and naming of colours around the world, individual vs. group colour preferences, and the emotions evoked by specific colour ranges.

In addition, archaeological data can provide insights into the development of the use and classification of colours through time. Recent discoveries from Africa, for instance, point to the use of red pigments as one of our species 'most ancient cultural practices.

This paper will examine the available evidence for the origins of colour perception, processing, and exploitation in humans and discusses what it can tell us about the evolution of our colour preferences.

#### The biological uses of colour

In his classic work The Descent of Man, Charles Darwin suggested that humans, like birds, might use colour as a personal advertisement of physical, mental, and social condition, rendering colour attractive to the opposite sex, and thus improving reproductive opportunities (1888). Darwin's ideas have been recently revisited by evolutionary scholars (e.g. Dutton 2009, Miller 2000, Zahavi & Zahavi 1997) who support the idea that visual aesthetic preferences



evolved in the context of mate selection. Although there is no doubt that colour is an important element in human visual signalling, including mate choice, the cultural use of colour is not restricted to mate attraction or rival competition (as it often is in birds), but is pervasive across many different contexts (e.g. ritual, communication, play). Furthermore, animal colourful signals are also very diverse (Johnstone 2009:155). Sexual signalling is just one of many signalling modes. For example, the bright colours of some frogs and insects have as a primary aim is to deter predators. The bioluminescent displays of some cephalopods are used to entice prey, scare off predators, and for communication with conspecifics, as well as to lure mates. Likewise, the impressive ability of chameleons to change colour serves as a social signal, as well as for camouflage, and sexual displays. However, birds, cephalopods, and reptiles are phylogenetically distant relatives of humans. If we want to find out more about the specific evolution of colour perception and cognition in our species, studying primates might be more informative.

Among primates, colour can be used in sexual selection. Think of the colourful faces of mandrill alpha males, or the redness of female chimpanzee behinds during oestrus. Colour in this context clearly accentuates and draws attention to a biological sexual signal. But colour vision in primates has wider array of ecological functions, for example spotting predators, members of the group, and most importantly, it seems, food.

The primate visual system is highly specialized, and is very different from that of other mammals. Some typical features are orbital convergence and, in anthropoids, dichromatic and trichromatic colour vision. Several recent studies of colour perception across different primate species support the hypothesis that detecting fruit patches at long distances and finding young edible foliage could have served as an important selective pressure for the development of trichromatic colour vision. Furthermore, monkeys and apes have a diurnal lifestyle based on colour vision, and vision-based communication, seem to have played a key role in the evolution of the primate brain (Dunbar 1998:183).

Summarizing, many different species possess complex colour vision, use colour displays for protection, communication, and attracting mates. However, evidence from our own order (the primates) suggest that trichromatic colour vision likely evolved in the context of food detection, and was later co-opted by other behaviours, like mate choice.

#### Colour talk

People with normal colour vision have three types of light receptors in the eye, or cone cells, which allow them to detect different wavelengths of the light spectrum, or colours. Humans are actually able perceive up to millions of different shades, but these are generally grouped culturally into so-called 'basic colour' categories.



According to the World Colour Survey, all cultures have 'colour words' although they might differ in how they divide the colour spectrum. For example, some languages, like Tahitian, Tzetzal (a native language from Mexico), and Japanese, do not distinguish between green and blue. However, all languages should minimally have words for black and white, followed in frequency by red, yellow/green, and blue. In general, most modern languages include 11 'basic' colours: black, white, grey, red, orange, yellow, green, blue, purple, pink, and brown (Kay et al. 2009).

Whether such categories are actually universal or not constitutes an issue of contention among colour researchers. Like the recent social media phenomenon of the white/gold blue/black dress has shown, the ways in which people describe and compare colours can differ not only from culture to culture but even from one individual to another (Lafer–Sousa et al. 2015). This might be because colour perception is not only the result of how sensory data are interpreted by the brain, which may vary among people, but is also influenced by factors like distance, angle, lighting, background, and even the proximity of other colours.

One of the most extreme cases to call the universality of colour categories into question is that of the Candoshi people, a small hunter-gatherer group in the Peruvian Amazon who do not seem to have a concept of colour or any colour words. Instead, they use comparisons to describe colours, for instance they would use 'like ripe fruit' to say red, or 'like tar' to mean black (Surallés 2016). Another hunter-gatherer group, the Yolngu from Australia, do not distinguish linguistically between colour and design, using the same term 'miny'tji' to describe anything colourful or any regularly occurring pattern whether natural or man-made (Morphy 1989). Such customs might seem strange, but they are not if we consider that a small group of hunter-gatherers is not likely to find colours 'out of context', that is, colours in their world are always a property of an object. In industrialized societies, in contrast, we are used to thinking of colours as independent categories that we can isolate and apply to different media. Nonetheless, the terms 'orange' and 'turquoise' actually reveal that modern languages at times also make use of comparative devices to denote colours.

Preference is another somewhat contentious issue in colour studies. Again, the main debate oscillates between proponents of universal biases and supporters of individual taste. The question, however, might not be as straight-forward as that. Palmer et al. (2013), for instance, have summarized some studies which have found a preference for cool colours (green, cyan, blue) over warm colours (red, orange, yellow) among Western adults, whereas 4-6 month-old babies show precisely the opposite bias, preferring dark-yellow and light-red against light-blue and dark-green. Of course, it might simply be that warm colours are more eye-catching, but it may also be that actual preference changes over time



and is highly influenced by development. For example, female preference for pink in Western countries generally arises at the time that gender roles and sex stereotypes begin to be internalized, around ages 4–6. Preference may also develop by association. In a study of colour predilections among American college students, they showed liking for green because it reminded them of nature, and expressed dislike for green-yellow, since it resembled vomit (Naz & Epps 2004).

In general, cultural as well as individual colour predilections seem to be accounted for by cultural conventions or by preferences for things that colours are associated with. Independently of outspoken colour preferences in objects or built environments, colours can have specific emotional effects at an unconscious level, constituting an environmental cue capable of influencing people's mood and behaviour.

Several studies have indicated some cross-cultural similarities regarding the emotional effects of colour and colour combinations. The red, yellow, orange spectrum often evokes emotions of agitation and stimulation, whereas the blue-green spectrum, for instance, corresponds to feeling of focus and calm (Manning & Amare 2009). These emotional associations might explain some of the observed colour preferences discussed above. For instance, it would make sense that babies seek sensory stimulation, while adults favour calming colours. Furthermore, if colour biases indeed evolved from primate food-seeking behaviour, it might be that red-orange colours, associated with ripe fruit, might induce arousal and alertness related to seeking behaviour, whereas green-blue colours reminiscent of foliage and skies might induce rest behaviour. These observations are rather speculative, but would be interesting to test.

Despite its relevance to psychology, emotion science, the creative industry, and marketing, the relationship between colour and human affect has yet to be fully explored but has the potential of becoming a booming field of research within the next decade.

#### The earliest evidence of colour production

As I have discussed above, colour vision is an inherited trait from our primate ancestry. However, the systematic production of colour pigments and the incorporation of colour into cultural life seem to be uniquely human behaviours which, in fact, go back to the very origin of our species.

The first pigments were produced by rubbing, scraping, or crushing natural coloured minerals known generically as ochre, which contain iron oxides that produce a range of hues that include yellow, brown, orange, and red. Other naturally occurring minerals which may be used for pigment production include gypsum and kaolin (white), charcoal and manganese dioxide (black).



However, red ochre in particular seems to have been preferably exploited by humans from the start (Watts 2009)¹.

The earliest evidence of ochre exploitation coincides in age with the oldest Homo sapiens fossils, some 250,000 years before present. Sites in Kenya and Zambia have yielded numerous hematite and limonite fragments that seem to have been scraped and rubbed to produce yellow and red hues, and stained grindstones assumed to have been used to process pigment (Barham 1998, McBrearty & Brooks 2000:528).

By 160–130,000 years ago, ochre exploitation had become a recurrent activity among the first modern humans in Africa (Barham 1998). In South Africa alone, the evidence is abundant. The site of Pinnacle Point has produced ochre fragments with clear traces of use-wear dating to 160,000 years ago. The sites of Klasies River and Howiesons Poort have traces of ochre use going back to 100 and 80 thousand years ago respectively. The archaeological material from Border Cave includes 'hematite pencils' older than 100 thousand years, and Blombos Cave has a record of ochre exploitation spanning from 100 to 75 thousand years ago (McBrearty & Brooks 2000:528; Watts 2009).¹ A recent find of ochre-processing toolkits at the latter site confirms that ochre minerals were purposively exploited there for pigment extraction by 100,000 years ago (Henshilwood et al. 2011).

The early exploitation and application of ochre by Pleistocene humans is not constrained to Africa. In Israel, Qafzeh Cave contained several worked ochre pieces dated to around 92 thousand years ago. There too, the ochre minerals were carefully selected and processed, targeting the most intense hues of red (Hovers et al. 2003).

Ochres can have many different domestic (utilitarian) applications, among others, the treatment and preservation of hides and production of leather objects (Dubreuil & Grosman 2009:948). Ochres can also be mixed with resins and wax to produce an effective adhesive for attaching stone tools like points, blades and arrows to hafts and shafts (Wadley 2005). Ochre clays are also known to have antiseptic, astringent and deodorizing qualities; and when eaten they can have a purging effect and help against stomach pain (Velo 1984, 1986). Finally, ochre and other mineral pigments either mixed with oils or by themselves can offer skin protection against insects and the elements (Ellis et al. 1997).

For aesthetic purposes, the ethnographic record shows that pigments have a generalized use in body ornamentation and ritual activities, as paint or dye applied to the face, body and hair, attires, and in tattooing. Body paint and these other examples of pigment application are unfortunately ephemeral

<sup>&</sup>lt;sup>1</sup> The sites mentioned only refer to the earliest samples of ochre exploitation but the actual record is much more extensive. For a general overview, see: Watts (1999).



activities that hardly leave any trace in the archaeological record. But the generalized use of body paint among hunter-gatherers, and its cultural relevance as a (primordial) marker of social identity strongly suggests that the use of pigments for bodily decoration was practiced among prehistoric humans (Schildkrout 2004).

The recurrent presence of red ochre in prehistoric funerary contexts furthermore points towards its probable importance in ritual activity. Red ochre was found in association to a burial in Qafzeh Cave, mentioned above, and at Lake Mungo, the earliest human burial in Australia dated around 60 thousand years ago (Bowler et al. 2003). Red ochre is also a recurrent component in burials from Ice Age Europe. This use has ethnographic parallels among Australian Aboriginals and Native Americans, among whom red pigment plays an important role in symbolic practices (Morris 2010:10; Wrenschner 1980).

As mentioned, red hues are not the only naturally available pigments, therefore, it is all the more notable that reddish pigments were highly preferred over blacks or whites, which points to an intentional selection of colour that would not be expected if pigment use had been strictly utilitarian (Watts 2009). Furthermore, the earliest examples of visual art, including personal ornaments made of shells and carved figurines of animals and women frequently show traces of red pigment, too.

Some intrinsic visual qualities of red ochre may explain why it was preferred over other colour minerals. Beside some of the possible unconscious associations with the red spectrum discussed before, Ernst Wreschner has argued that there might other evolutionary perceptual— aesthetic biases related to the colour red due to its potential emotional association with blood, and concepts like life and death (1980).

In brief, it is remarkable that in both Africa and Europe, the appearance of H. sapiens seems accompanied by an increase in frequency and quantity of ochre presence in the archaeological record. For this reason, the archaeologist Ian Watts has argued convincingly that the habitual occurrence of ochre (for use as red pigment) may in fact be considered as a defining trait of our species (2009:80).

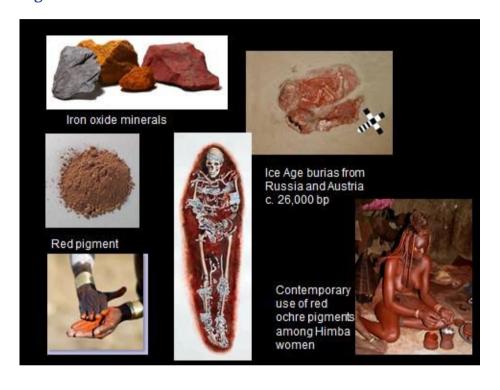
With the advent of painting in Europe, over 30,000 years ago, we obtain further evidence of colour use in prehistory. The colour range of Ice Age rock art includes basically ochre-based colours such as red, brown, orange and yellow, along with black and white (Clottes 1993).

Probably it was not until the origins of agriculture that humans began producing plant or seed-based pigments that allowed them to obtain hues like green or purple and the basic colour palette was finally extended.

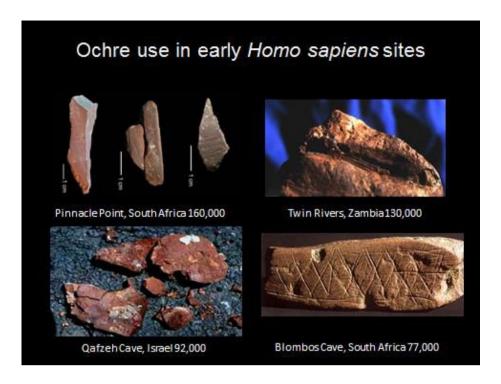


#### Conclusion

As this brief review has shown, humans have always been concerned with ways of incorporating colour into their lives, and even beyond. Our love for colour might be shared by some birds and might have been partly inherited from our primate ancestors, but our species has evolved unique and extraordinary strategies to exploit colour in many different contexts. At the same time, our ancestral interest in colour might have driven the evolution human aesthetic cognition and artistic behaviour.







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# Lighting colour quality evaluation based on memory colours of familiar objects

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#### **ABSTRACT**

Typically lighting color quality is assessed with respect to a reference illuminant, such as in the color rendering index of the International Commission on Illumination. However, lighting quality can also be assessed with respect to a set of internal references, such as the memory colours of a set of familiar objects: the idea is that perceived colour quality will improve as colours are rendered more closely to what is remembered. This talk will briefly discuss the memory color rendition index (MCRI), its predictive performance in terms of visual appreciation and the potential impact of cross-cultural differences."

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### The path to global colour trends

#### Filip Roscam

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Appetizer: What are effect pigments?

Basically, all pigments that do more that make just a color, but rather an effect, are considered effect pigments. More concrete, we find different categories:

- -Metallic pigments, based on bronze and aluminum flakes. They give a mirror-like reflection to color stylings
- -Pearlescent and mica effect pigments: they are based on natural or synthetic mica, or on other metal oxide substrates.
- -Effect pigments that change under changing physical conditions: fluorescent, phosphorescent, thermo-chromic, UV-sensitive, etc

We focus here on pearlescent, mica pigments and colored aluminum flakes.

The basic principle of these pigments is that they consist of two elements: a thin substrate and a "shell" around it.

The substrate can be natural mica, synthetic mica, aluminum oxide flakes or silicon dioxide flakes. That substrate will be covered by very thin layers of metal oxides such as titanium dioxide, iron oxide or both. This concept mimics the process of a shell in the ocean, covering a grain of sand with many semi-transparent layers of proteins to create a natural pearl.

A special phenomenon happens when the layer of these oxides get a little bit thicker (nanometers): the color changes under specific viewing angles. This is known in physics as interference. At a certain thickness, the wavelength of a specific color fits exactly to the thickness: that color is reflected, the complementary color is transmitted. With interference pigments, you can create a color which is invisible (black) at a certain angle, but in the highlight, all of a sudden a metallic-like color appears. Effects like these are commonly used on automotive coatings: bluish blacks, reddish blacks, etc. When adding other organic pigments, one can make a color that changes from –for example– green to blue. Certain effect pigments generate such a palette already in one pigment (Colorstream).

#### The road to the Global Mobility Color Inspirations

TRENDS COME AND GO IN CYCLES. WITH THE PASSING OF THE SEASONS, WE KEEP OUR EYES ON THE CHANGES HAPPENING AROUND US IN SOCIETY, WE



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TRACK SHIFTS IN CONSUMER PREFERENCES, AND WE USE THESE INSIGHTS AS A BASIS FOR RE-DEVELOPING INNOVATIVE TOOLS LIKE OUR GLOBAL MOBILITY COLOR INSPIRATIONS.

So how do we go about creating such an inspirational tool? What's involved in the process from beginning to end? In a nutshell: it entails a strong dedication to continually evaluating the world around us.

From start to finish, the journey of developing our color tool each year is varied and complex. Along the way, our specialists look at trends, news, popular discussion topics, social media, and even art to determine how the color trend landscape might evolve. It all starts with people – observing them, talking to them. We talk to our customers, bring experts together, share visions, and analyze the potential consumer preferences of the future. Of course this requires creativity, the ability to think ahead, and the capacity to contemplate future application scenarios. We look at social behaviors and try to link colors to the trends we see unfolding. This is a continuous, iterative process, which our colleagues engage in over the course of a year.

#### Choosing the right waypoints

We visits trade shows and exhibitions, participate in trend workshops, and even host our own panel of consultants which includes experts from around the world. All of the information generated by these activities is channeled into our work. Not only are we a loyal sponsor of the Color Marketing Group (CMG), we also enjoy every opportunity to debate, share, and learn from international experts from countries as diverse as China, India, the Netherlands, the United States, Spain, Thailand, Belgium, Germany, Austria, and Italy. This gives us a unique global perspective on how the world thinks.

#### Viewing trends from every angle

Each member of our panel of consultants has a chance to present what they see as up-and-coming trends. Based on their observations in their home countries – the kinds of things that are becoming popular, the types of artwork artists are creating – we get a fairly accurate account of the world as it changes around us. Their reports are summarized in hundreds of keywords captured on sticky notes that are clustered on whiteboards during a creative brainstorming process. This gives us a fascinating overview of the differences cropping up in far-flung corners of the globe. These keywords are grouped together and used to generate the stories behind our color inspirations.

#### Bringing it all home

The fun part begins when we select the future scenarios we will focus on. Now it's time to translate each scenario into colors. At this point, creativity, curiosity, and



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experience are the key ingredients for success. Our color engineers in the lab keep in constant dialogue with our creative marketing and design team. This interaction is used to challenge our own assumptions and get the best color options out of each styling concept, so it requires careful consideration. Do we only suggest colors that are ready to be used tomorrow? Or do we opt for ideas that would involve further development? From experience, we know the latter is the better option. It triggers the most interesting innovations.

#### Shifting the limits of innovation

We partner with our customers to move innovation forward. To this end, we forge a link between our pigments and what the design world can expect on the horizon. This process results in exciting colors and effects that can bring out the true character of a car. Our inspirations are captured in five multimedia mood boards consisting of video collages, music, and keywords — all of which breathe life into the abstract stories and their effects, abstract stories and their effects, colors, and forms.

#### 1001 Nations

In a world where global communications are breaking through national borders, we will see powerful colors that underline strong identities. Cultural heritage and street style from all over the world will merge and create a new kind of authenticity without frontiers. This world is marked by an eclectic mix of colors that reflects the merging of people into new groups. Warm colors place more focus on people rather than the technologies that unite them.



#### Crossroads

Younger generations will not feel any fear of change, since they embrace the unanticipated. "Full of variety" is tantamount to never boring, the buzz of the unexpected. Non-conformity and transitional colors will reflect an element of surprise. Dissonant color combinations will underscore a clear break with tradition. Interference effects with changing colors will represent a mindful



escapism. In this crossover between fantasy and reality, people won't feel constrained but rather liberated by making daring color choices.



#### **Park**

As tumultuous times leave us with the need to retreat to calm, quiet spaces, our autonomous vehicles will become the first place to unwind. Relaxing, monochromatic colors will define this cocoon where we can recharge our internal batteries. Blue with a light-dark color flop – like the color of ocean waves – is the only chromatic color to help energize us here. This limited color palette is a welcome relief and fits with our desire for less-is-more basics. We don't look to the past or future, but to the origin of all things.



#### **House of Truth**

As we turn our back on manipulation and spin doctors in search of the truth, clean effect colors with no surprises will dominate our experiences. This world is all about honesty. An effect red with no additional interference color represents facts and visual proof. With a clear shift toward "cathedral thinking," we plan for generations, not months. Ethical entrepreneurs and craftsmen will experience a



renaissance as the superheroes of the day, creating objects from raw materials like copper, brass, wood, and leather – and we will enjoy the colors to match.



#### **Data Bridge**

Mysterious color transitions will blur the lines between physical and digital spaces. As we move through an age of virtual and augmented reality, we will find ourselves surrounded by powerful, artificial colors and deep sparkle. With this escape to holographic settings, we will finally dissolve the boundaries between fantasy and fiction. We now feel comfortable among laser–marked patterns and sparkling effects reminiscent of the cables found in the data centers that power our alternate realities.





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