

The Theory of Colour

Colour Definitions

How are colours classified? What is a saturated colour? Here is an explanation of the chromatic circle and definitions of colour terms such as you have never had before!

Primary colours: Primary colours - red, yellow and blue - may not be created by mixing other colours. On the contrary, they are mixed with one another to produce other colours. In printing and plastic arts, magenta (a pinkish red), yellow and cyan (a blue) are used as primary colours because they are better suited to mixing, and yield better balanced secondary colours. A mixture of the three primary colours produces black.

Secondary colours: They result from the mixing of two of the primary colours. Red (magenta) and yellow produce orange, yellow and blue (cyan) produce green while red and blue (cyan) produce violet.

Intermediate colours: Mixing a primary and a secondary colour produces intermediate colour such as orange-yellow.

Complementary colours: Colours that are opposite one another in the chromatic circle are called complementary. For example, green (resulting from the mixing of the primary colours yellow and blue [cyan]) is complementary to red. Orange (a mixture of yellow and red [magenta]) is complementary to blue, while violet (a mixture of blue [cyan] and red [magenta]) is complementary to yellow.

Warm colours: Colours ranging between yellow to red-violet on the chromatic circle: yellow, orange-yellow, red and red-violet.

However, interaction between colours may cause a hue such as red-violet to appear warmer if it is placed next to a cold colour, such as green, or colder if it is placed next to a warm colour, such as orange.

Cold colours: Colours ranging between blue-violet and yellow-green on the chromatic circle i.e. blue-violet, blue, blue-green, green, yellow-green.

However, interaction between colours may cause a hue such as yellow-green to appear colder if it is placed next to a warm colour, such as red, or warmer if it is placed next to a cold colour, such as blue.

Pale or clear colours: Hues containing more or less white.

Dark colours: Hues containing more or less black.

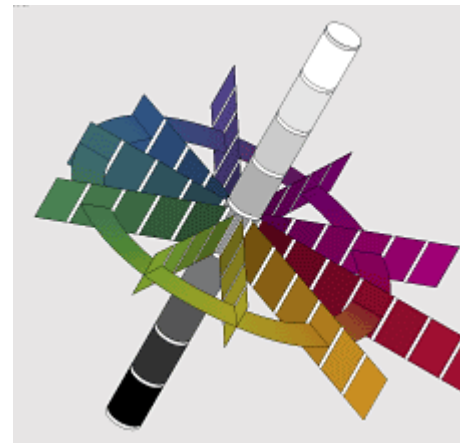
Saturated or bright colours: Pure hues containing, theoretically, no white, black, grey or complementary colours. However, this definition can be stretched to extend the range of complementary colours. For example, the range of saturated blues is not limited to pure blues. Blues containing white

black may still be considered saturated. On the other hand, orange contains black, even in small quantities, is considered unsaturated because it becomes brownish.

Unsaturated or grey-tinted colours: Hues containing more or less grey of their complementary colour. Theoreticians also use the expression "dull colours" to designate those colours. The expression does not carry a derogatory meaning.

Harmony: In decoration, harmony refers to a combination of colours that is pleasing to the eye.

The Paint Café has adopted definitions derived from the Munsell System of Color Notation. The Munsell System arranges colours in a three-dimensional space resembling a tree. The trunk (vertical axis) serves as a scale for neutral grey tones, black being at the bottom, white at the top. The horizontal axes, in variable lengths, represent a degree of saturation for each of the hues.

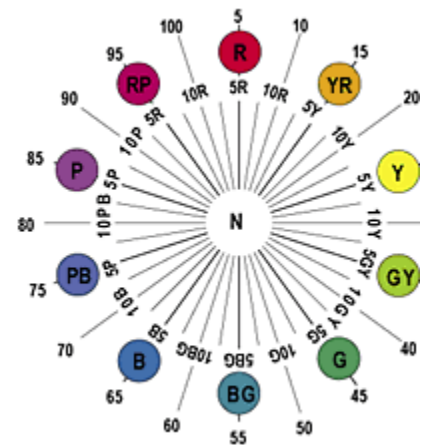


Munsell Color Space (Courtesy of Munsell Color Services, A Division of GretagMacbeth)

The world renowned Munsell System describes each colour according to three attributes: hue, value and chroma (saturation), terms that allow all those interested in colour to speak the same language.

Hue: It is the quality that distinguishes one colour from another. It is, for example, what differentiates blue from yellow.

Chromatic Circle (Courtesy of Munsell Color Services, A Division of GretagMacbeth)



Value: It refers to the position of a hue relative to the vertical grey scale. Value allows to qualify hues as pale or dark, or light and dark.

Munsell Value
(Courtesy of Munsell Color Services, A Division of GretagMacbeth)

Chroma (saturation): It describes the horizontal spread between a hue of the same scale value as neutral grey. Chroma allows us to describe a colour as saturated or unsaturated, or as bright or grey-tinted. Adding grey makes the hue less saturated or more unsaturated. A hue can also be modified with the addition of some of its complementary colour.

The seven colour contrasts

The seven colour contrasts, as described by Johannes Itten, painter and colour theoretician in *Kunst der farbe, studienausgabe (The Art of Colour*, form the basis of almost every colour effect used in interior design. The F Café provides a brief explanation. To find out how to transpose those not into decorating, visit the Playing with Space page of the About Decorating section.

Pure colour contrasts

They result from the juxtaposition of saturated colours that are clearly different. These contrasts are peak when the three primary colours are juxtaposed to one another.



Light-dark contrasts

They are produced by the juxtaposition of a pale and dark colour or of a light and dark colour. In a monochromatic palette, the use of such contrasts adds depth to the entire palette. In a palette made up of different colours, however, the absence of such contrasts, or the use of hues of equivalent lightness, help to link the different colours.



Warm-cold contrasts

They result from the juxtaposition of warm and cold colours, which make warm hues appear warmer, and vice versa. This type of contrast, which helps balance colour schemes, can be found in many of the Harmony Collection palettes.





Complementary contrasts

They refer to the juxtaposition of diametrically opposed colours on the chromatic circle. Such contrasts contribute to the fundamental and natural balance of chromatic composition.



Simultaneous contrasts

They flow from the juxtaposition of two colours that are not exactly complementary. In such cases, colours seem to repel one another and vibrate as the eye tries to bring them closer to their precise complementary colour. The use of such contrasts makes chromatic compositions livelier and more interesting.



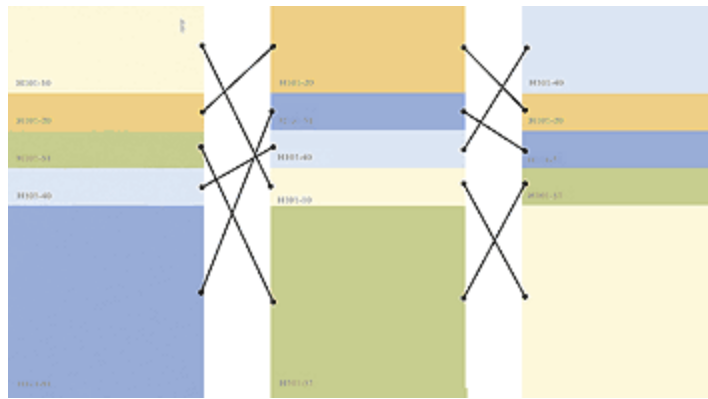
Quality contrasts

They are the result of juxtaposing saturated and unsaturated colours, or bright and a grey-tinted colours (to which grey or its complementary colour was added). This contrast exists only if unsaturated colours are considered dominant.



Quantity contrasts

They are the result of the juxtaposition of little and much, small and large. The surface devoted to each colour influences their impact on composition. Creating balanced compositions calls for more than devoting equal space to each colour. The brightness and saturation of each hue must also be taken into account. The lighter a hue, the greater its impact and the lower its need for space. The more saturated or bright the colour is, the more powerful its effect.



References: Itten, Johannes; *Kunst der farbe, studienausgabe*; Dessain & Tolra, Paris ; 1973 ; 95 pages.

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Colour Symbolism

Blue

Be it celestial or oceanic, blue evokes wide open spaces, calm and serenity. It symbolizes peace, escape and dream.

For sometime, blue has been the favourite colour of most occidentals. Over time, blue as taken on a multitude of symbolic connotations which have been modified or crystalized in our thought processes.

During the Middle Ages, lapis-lazuli, the blue pigment of choice of illuminators, was so precious that it cost as much if not more than gold. That is the reason blue was used to depict the Virgin's mantle.

In antique Greece and Rome, sky blue was also the colour of Zeus and Jupiter.

Among blue's attributes: calm, peaceful, pacific. A room painted in dark blue can even have a sedative effect. But blue also displays a more dynamic side one that promotes creativity and inspiration.

Hygiene, freshness and cleanliness are difficult to dissociate from blue. Advertisers continually use it to demonstrate those qualities in numerous products which they either colour in blue or package in blue: windshield washer antifreeze, powdered detergent and its blue particles and mint capsules are but a few examples.

Blue stands for peace as the United Nations' flag and the blue helmets of

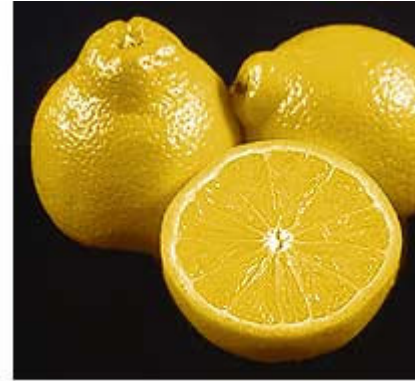


peacekeepers remind us.

A number of modern expressions, based on the word blue, carry a variety of connotations. Among them: "to be blue with cold" (freezing), "once in a blue moon" (very rarely), "to be in a blue funk" (petrified), "the blue" (sea) and "blue-blooded" (of noble blood).

Yellow

Nothing illuminates a décor like yellow, the colour of the sun, of light, of summer. In matters of decoration, yellow is your strongest ally when it comes to brightening a dark room or one that faces north.



Over the ages and in a number of cultures, yellow has variously been associated with the emperors of China, the arrival of spring and Easter, the generosity of the land at wheat and corn harvest time, Buddhist philosophy and a number of other images.

Yellow draws people's attention. It is used to flag potential danger and prohibitions on our highways: traffic lights turn yellow (amber) before turning red, road signage used to forewarn us of construction work and other dangers are yellow as are double lines used to prohibit passing.

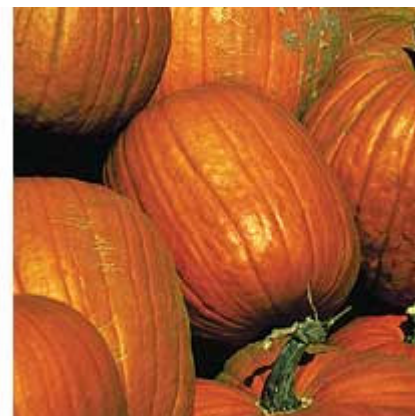
In advertising, yellow is used to attract the eye. Publishers of telephone directories (Yellow Pages) understood the phenomenon a long time ago. New York cabs are yellow.

In sports, yellow carries different meanings. In European football (soccer) a yellow card is used to warn players of fouls. In cycling, the yellow shirt is emblematic of supremacy in the world-renowned Tour de France.

But yellow does have a less positive side to it. It is associated with illness. Seagoing ships, for example, reserved their yellow pavilions as quarantine quarters. Yellow is also associated with cowardice and newspapers that practice sensationalism.

Orange

The colour orange got its name at the time oranges first arrived in Europe. The word appeared in English for the first time in a 1044 poem before passing to common use some centuries later, as oranges became more readily available in Europe.



We associate orange with fall colours, fire, earth and pottery. Despite that,

orange does not evoke the same strong symbolic connotations as its immediate neighbours on the colour scale, namely yellow and red. It is variously considered joyful and stimulating like yellow or teeming with the passion and buoyancy of red, although always to a lesser degree.

As well, expressions do not exist to enhance the status of orange as is the case for other colours. This is perhaps a reflection of the few symbolic associations cultures have developed with orange. In fact, we talk of red and red clay when it would be more accurate to describe them as orange another proof of the secondary role of orange.

Although orange has not achieved a strong symbolic status, it remains an important colour in matters of safety, when good visibility is a must. Known for its high visual impact, orange is used in the manufacturing of a number of safety-related items such as life jackets, buoys and life rafts.

Red and its symbols

Red is often considered "the colour of colours". In some languages, the words "red" and "coloured" are synonyms; in other languages, "red" and "beautiful" are synonyms.



Red excites our senses and activates blood circulation. It is the colour of passionate love, sensuality and desire.

Red is joyful. Many children-oriented products are red: balls, toys, games as well as other products that trigger pleasure like fruit jam, candies, etc. Christmas decorations are red too.

Red evokes exuberance, speed and action. It is no coincidence that so many sports cars are red.

Red and orange are the hues that are easiest to perceive from a distance is one of the reasons they are used to warn against dangers. They are also the colours of prohibition. Stop signs and traffic lights are red. Warnings on medication packages are printed in red.

Red attracts our attention: we use it to mark students' homework and exams or to show that a certain product is sold at a reduced price.

Red, the colour of blood, identifies first aid services such as the Red Cross. Also, until the 19th century, red was used in many of Europe's military uniforms.

Red conveys anger and aggressiveness, such as in "to see red", and "red anger". It also conveys other emotions such as "red with embarrassment", "red with shame", or "he went red".

Green

In the Middle Ages, green was considered the colour of calamity and evil, and was associated with the Devil itself. It symbolized superstition to the point where one avoided dressing in green.



In occidental culture, over time, people gradually dissociated green from evil. It became a symbol of fate and randomness, both positive and negative.

In some circumstances, green is associated with instability, uncertainty or ephemerality, be it in relation to love, hope, youth or games. One need not think of gambling tables that have been green since at least the eighteenth century, billiard tables, ping-pong tables, tennis courts, football and base fields. Instability, randomness, victory and defeat all dress in green.

Among green's virtues: a calming effect on the nervous system, a feeling of relaxation, an anti-stress prescription. Green creates a reassuring ambience, a feeling of comfort and a link with nature.

Green evokes nature, health and a number of other thoughts. Some expressions we use attest to the symbolism of green: to give someone the green light (permission), to be green behind the ears (inexperienced), to be green with envy (jealous), to have a green thumb (be a good gardener).

Violet

A combination of red and blue, colours that display diametrically opposed personalities, violet and other hues in its family, such as mauve and purple, variously wrap themselves in cloaks of mystery, richness, refinement, malaise, trouble or provocation. The violet family suffers from a split personality that has always generated very different reactions.



The history of dyes has been marked by purple, a crimson substance extracted from some species of molluscs and used, in days of yore, to colour the garments worn by emperors. Hence the expression *purple prose* used to describe ornate writing.

The religious world associates violet with the Passion of Christ. Easter rites include the use of complementary colours – violet and yellow – symbolic of Lent and the return of spring with its yellow crocuses and daffodils.

In the days of the British Empire, mauve was the only colour allowed to

complement grey, black and white during periods of half-mourning. The gloomy connotations attached to the colour may well explain the aversion of fashion designers for mauve until the middle of the nineteenth century.

During the sixties, the violet family of colours became very popular. Considered unconventional and provocative, colours in the violet range stood as the symbol of a generation of youths in search of freedom. Some still have those vivid prints in oranges and magenta!

Black

In decoration and in fashion, black is par excellence the symbol of elegance and modernity. We instantly think of formal dressing and luxury objects; black represents wealth, refinement, sophistication, and even mystery.

Black has long been associated with religious cloth; it also evokes dignity, power and even threat. Black is the symbol of authority and in clothing its severity is often used to portray a seriousness deemed necessary in uniforms, such as in policemen, guards, lawyers or even judges.



Its gravity also holds negative connotations: we relate it to austerity, and by tradition, associated to death, mourning, and even gloom.

Modern language often expresses a seriousness associated with the colour black, however, it is the ideal complement for shots of colour or for neutral tones. To create a refined décor, or distinguished wardrobe, black is an essential element to create drama, mystery and formality.