## **FUNDAMENTAL PROPERTIES OF COLOR**

There are basically three: hue, value and saturation.

Hue is the quality by which a color is identified, that is, the specific name given: green, bluish, ocher, gray, etc. It is conditioned by the wavelength of the light. To refer to the tone of a color, the terms can also be used hue and tint.

The value refers to the degree of lightness or darkness of a color. Other terms for denominate value are brightness, luminosity and splendor.

Pure colors have their own luminosity, some more than others, from yellow, that it has the maximum, to the violet, which is the one that has the least; but we can also increase or decrease the value or luminosity of any color by adding white or black, although in this case the purity of it and even its hue will be affected.

Saturation is the measure of the purity of a color. It is also called chroma. Colors can be composed of complex mixtures, in uneven quantities. The greater or lesser degree of color mixing that modifies one fundamental, it makes a color more or less saturated. When a tone approaches fundamental color has a high degree of saturation, and a pure color has the máximum degree of saturation.

A pure color is a very intense pictorial color.

Attenuation is the decrease in intensity, the change of a pure color in the direction to the absence of color (black, gray, white). A pure color can lose its intensity by dimming with gray or a complementary color, by dimming with white (light hazy), by blackout dimming with black (hazy darkening). But also in the mix of neighboring pure color shades you can produce noticeable attenuations.

If we fade a color, we cloud it. We only talk about a broken color when the dimming has been produced by mixing two complementary colors.

## Scope of kinship

The terms color scope, color family, gender are also common. Thus, when talking about green it refers either to the middle green, or to the family of colors of green, to which belong all shades or shades yellowish green, blue-green, olive green, etc. The color scope, or the color family changes when so does the predominant color feel in blends. For example, we can mix a medium green (50% cyan blue and 50% yellow) with white, yellow, black, blue, even with other colors such as violet or orange, to some extent and keeping it green. That's why we say that the green color family is very broad. On the contrary, yellow has a very small color range, because it is enough to add a moderate amount of another color so that it no longer seems yellow, but greenish, or orange, brown ...

# **Complementary colors**

Are the colors found at diametrically opposite ends of the chromatic circle. Thus, yellow is complementary to violet or violet blue, blue is complementary to warm red and magenta is complementary to medium green. As we see, a primary color has as its complementary to the color that results from mixing the other two primary in equal parts, but the other colors that are among those already mentioned also have their respective complementary; just look at our twelve-colored chromatic circle to check it out. In this way we see that the bluish green has as its complementary to the carmine, which is between magenta and warm red, yellowish green has as complementary to aviolerated red, which we vulgarly call "purple", which is between magenta and violet, and orange has as complementary to the blue overseas, located between violet and cyan blue. Complementary colors have the property that they override each other when mixed in the appropriate proportion, reaching a blackish gray. Thus, we know that you can achieve sour colors not only by mixing black and white, but also by mixing a pair of complementary colors with each other.

## **EMOTIONAL EFFECT OF COLORS**

It has always been known that color has an important influence on people's mood, and this quality has been used in the artistic creations of all time. Important thinkers like Goethe tell us that color produces an important and determined effect on the sense of sight, its mediation in the mood and an effect that is directly linked to the moral. According to him, << experience teaches us that different colors give special moods. >> << The colors on the plus side are yellow, reddish yellow (orange), yellowish red. They predispose an excited, vivacious, combative humor. The colors on the negative side are blue, reddish blue and bluish red. They create an uneasy, soft and nostalgic sensation. >> Let us therefore say that red is not only the color of the most chromatic force, but also possesses the properties of a living, fiery, energetic expression, full of strength. If we call it fiery, squeaky, penetrating, then we live it. The blue shows sweetness, points to the distance and is cold. Yellow is always clear and brings with it some radiant. But this color can also have some awkward when dirty or somehow negativized. Green is, in its different shades, a vegetative color, and is pleasing to the eye. Orange gathers in itself the warm and the clear, has a solar character. The psychophysical effect of color is well known in all epochs that we call expressive or expressionist. Another thing is the symbolic character of color, which varies according to the codes and values of each particular great culture.

#### Warm colors and cool colors

With warm and cold we also refer to specific sensations, and we use words comparatively to give name to an emotional value that is typical of color. The force corresponds the heat, to the weakness the cold. Warm are yellow, but especially orange and red. Among the cool colors are the bluish green, blue-green, blue and violet blue. To the contrast of these chromatic groups we call warm-cold contrast. Medium green and reddish violet are mediating colors, that is, they are between warm and cold. Orange or orange red is considered the warmest color, and overseas blue is considered the coldest color. We talk about warm and cold colors just like in music we talk about a major and minor tone. As far as colors are concerned, it is not an absolute division, but more or less. Red is at one end of the scale, blue at another. The ice is white blue, the fire of a boiling red. The other senses have lent their terms to the eye. Cold seems the sky, the breadth, the remoteness, all the devastated, rigid; warm the next, what grows organically, I live it. Colors, depending on their position on the cold or warm side, act directly on the feeling. Cold colors express arrorrorroting, estrangement, transfiguration, even distinction contained; warm approach, gathering, intimacy, earthly narrowness. The remoteness contains colors cooler than closeness. The Impressions, who watched life outdoors, preferred cold colors. When we say that a warm color advances, while a cold color rewinds, we are setting the effect that created color spaces. The Dutch painters of the sixteenth and seventeenth centuries consequently applied the air-color perspective using red and brown colors for the first term of the paintings, blue colors for the spatially distant and greens and olive greens for the mediation between closeness and remoteness. In contrast, 20th-century painters sometimes reverse the ruler and apply cool colors precisely to objects of the first term and warm to those in the background, in order to oppose the representative composition of space and give more importance to the surface of the painting.