

## DEFINITIONS

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**ELEMENTARY COLOURS** are the ideas we have of WHITE, BLACK, YELLOW, RED, BLUE, and GREEN that are absolutely pure.

*For example, Elementary RED is neither yellowish, nor bluish, nor is it whitish nor blackish. Elementary Colours serve as mental reference points which enable us to make judgments about the things we see as they appear more or less whitish, blackish, yellowish reddish, bluish or greenish. Elementary Colours are not physical – they are not paints, inks, dyes, or lights.*

**ACHROMATIC COLOURS** only have resemblance to the Elementary Colours WHITE and/or BLACK. They are the pure whites, blacks, and greys.

**CHROMATIC COLOURS** have some resemblance to one or two of the Elementary Colours YELLOW, RED, BLUE, and GREEN.

*The resemblance can be very slight, as with a bluish grey, but a bluish grey is still a chromatic colour. All chromatic colours have a hue.*

**HUE.** A colour's hue is its relative resemblance to the Elementary Colours YELLOW, RED, BLUE, and GREEN.

*Whiteness and blackness are not considered when judging a colour's hue. For example: a whitish 'pale apricot' and a blackish 'dark brown' would both have the same hue as a 'vivid orange' if the relative resemblance to YELLOW and RED were the same in each case. The relative resemblance can be the same even if the degree of resemblance is not. The orange would have a greater degree of resemblance to YELLOW and RED than the apricot and the brown, but all three colours could have the same hue.*

**NUANCE** has three dimensions: whiteness, blackness and chromaticness. A colour's nuance is its relative resemblance to the Elementary Colours WHITE and BLACK and the most chromatic colour of the same hue that can be imagined.

*Relative resemblances can be expressed in terms of percentages. A 'bright colour' might be judged to have 20% whiteness, 80% chromaticness, and no blackness; a 'dull colour' might be judged to have 40% whiteness, 40% blackness, and 20% chromaticness. In each case the percentage values add up to 100.*

**CHROMATICNESS** is one of the three dimensions of nuance.

*Chromaticness, as the degree of resemblance to the most chromatic colour of that hue that can be imagined, can be expressed as a percentage. For example, a scale of chromaticness for greens would start with an achromatic grey of zero chromaticness and end at 100% chromaticness for the most vivid green that can be imagined.*

**GREY SCALE.** The grey scale is a sequence of achromatic colours which vary in whiteness and blackness. The Elementary Colour WHITE is at one end of the sequence, BLACK is at the other end.

**GREY PARTNERS.** All chromatic colours have a ‘grey partner’, one of the achromatic colours on the grey scale.

*When a chromatic colour and an achromatic colour are butted together, the border where the two colours meet will be more or less distinct. A chromatic colour’s grey partner is the achromatic colour on the grey scale where this border is least distinct.*

**TONAL VALUE.** The grey scale represents a scale of tonal values. A chromatic colour’s tonal value is established by finding its grey partner.

*Tonal value is distinct from whiteness and blackness. Colours of different hue, but the same nuance, will not necessarily have the same tonal value. The degree of difference varies from hue to hue. While there is little difference between the tonal values of yellowish reds and yellowish greens of the same nuance there is a considerable difference between the tonal values of yellows and blues of the same nuance, especially yellows and blues that are highly chromatic.*

**COLOUR GAMUT.** A colour gamut is the range of colour appearances that can be achieved with a given physical process.

*The process inks cyan, magenta, yellow and black, when printed on white paper, deliver ‘the mostest for the leastest’ – a gamut that is generally satisfactory for the economical reproduction of full colour artwork or photographs. If it is desirable to extend this gamut to include more chromatic colours, additional inks must be used. These are known as ‘spot colours’. On the television and computer screens, the three phosphors that deliver the mostest for the leastest, as they are made to glow more or less brightly, appear yellowish red, yellowish green, and purplish blue.*