

Le Corbusier's Color Concepts

The most influential architect of the twentieth Century, Le Corbusier, first sketched the premises of a logically structured system for color design in the magazine *l'Esprit nouveau* in 1921. In 1925 and again in 1932, he pursued these ideas and refined them in writing. His purist architecture, much of which was constructed in this time period, shows that the ideas were applied in practice. The color schemes of the purist villas, the Salubra wallpaper collections of 1931 and 1959, and the color collection Le Corbusier developed with paint manufacturer Berger in the 1950s make the thoughts on color design explicit.

Le Corbusier's texts establish connections between specific pigments and colors based on them, and their effects on architectural space and its inhabitant. The spatial effects of color were termed physiological effects, emotional and associative effects were termed psychological effects. Color was assigned with specific functions: to enhance the perception of depth or weight, to create inviting atmospheres, to create unity, among others. Next, specific groups of colors, separated according to their pigments, were assigned to each of the functions. For Le Corbusier, color selection was a material-based, functional consideration.

Certain colours have the property of stimulating in a lively and dynamic way (pure colours of the spectrum and certain chemical colours); others are exceptionally constructive, more 'human' (natural colours, earth colours, etc.).

Le Corbusier, 1925ⁱ

Le Corbusier's color concepts relied on

1. "constructive" natural pigments to create pleasing atmospheres and to alter the perception of space
2. "dynamic" synthetic pigments to create highly contrasting, more emotional effects
3. "transitional" transparent, synthetic pigments to alter surfaces without affecting the perception of volume.

Pale, naturally pigmented colors - the light series of *constructive* colors - were used to create warmth, light and atmosphere. Being static in space, these were used to materialize bare plastered walls without affecting volume.

Deeper, naturally pigmented colors – the dark series of *constructive* colors - were used to enhance spatial effects or to camouflage elements. One wall could be made more visible by painting it lime white, the wall behind it gray or dark umber. The dark wall would recede or attracts less attention; the lighter wall would be made more visible by comparison. Color was used to classified objects.

If the palette was restricted to light and dark natural pigments, the effect was *constructive*. Color was then truly "a component of the ground plan and the section," as Le Corbusier wrote in 1936.ⁱⁱ Color made from naturally pigmented colors in this constructive function was a

Le Corbusier's Color Concepts

material used to warm the atmosphere and create space and volume. The broad bands of color in the Salubra I wallpaper collection from 1931 were all representative of this function.

Synthetically pigmented colors were used for their dramatic effects both on architecture and on its inhabitant. Bright colors made with synthetic pigments – imagine Kandinsky's palette – were used to stimulate exuberant emotions according to individual preferences. The architect needed to know that these colors could also affect space dramatically. "Blue creates space. The architect will take this into account. Red fixes the presence of the wall, and so on."ⁱⁱⁱⁱ Such colors were restricted to the small areas on the Salubra I keyboards - the designer's restraining hand was imposed to prevent deconstruction. In this *dynamic* function, color was not used to construct as much as to express emotions without damaging space or volume.

In its *transitional* function, color decorated the surface. Synthetic pigments applied in patterns or transparent glazes, such as the ones made with viridian green or madder lake, would not alter the perception of space, they would coat and modify the surface. The effect would be two-dimensional, since color in its transitional function was a property of the wall and not of the volume.

The wallpaper collection Le Corbusier designed for Salubra in 1931 included monochrome and patterned colors that fulfilled all of these functions.



Salubra 1931 Keyboard Space

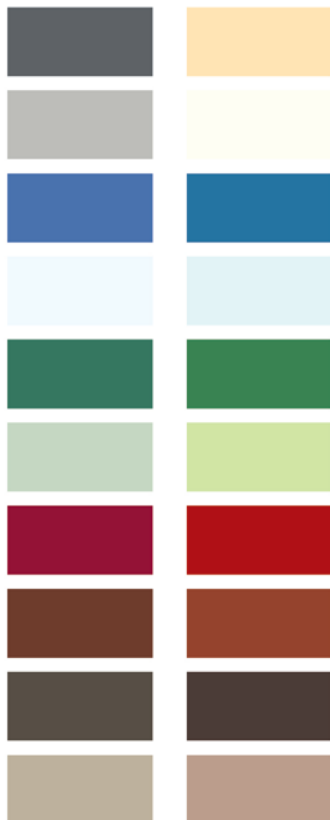
Three large samples of light ultramarine blue fulfilled the atmospheric function. Ultramarine blue is an optical lightener that widens dark spaces and makes them seem brighter. The atmosphere in a room painted with these colors would be light and elusive. The small samples showed colors for all of the functions, allowing for functional differences and personal preferences in color selection. Radiators could be hidden, windows framed, dominant walls placed, contrasts heightened, and compositions completed using the range of colors provided. The limited selection would, however, prevent excesses.

The second Le Corbusier Salubra wallpaper collection, dated 1958, while apparently radically different from the first, was logically aligned with the conceptual framework established by the first one. It included primarily synthetic colors. These were used to fulfill dynamic, emotional, and decorative effects in Le Corbusier's later architecture. The atmospheric and the constructive functions in the architecture of the 1920s had been fulfilled by using light,

Le Corbusier's Color Concepts

naturally pigmented colors and alternating them with darker ones to create depth, direct attention to the beautiful, and heighten the brilliance of the warm, white architecture. In the architecture of the 1950s, these functions were fulfilled with innate, ambient materials such as glass, brick walls, rocks, wood and raw concrete. The *dynamic* and *transitional*, decorative functions for color remained. They were fulfilled using more saturated, highly contrasting and mostly dynamic colors made from raw earth, minerals and synthetic pigments. The Salubra wallpaper collection from 1959 and the 1950s architectural color schemes still reflect the remarkable degree of coherence between theory and practice.

All of Le Corbusier's work with color demonstrates a solid knowledge of the effects of light on pigments:



“Some conditions of the environment accompany the use of colour. To exist genuinely, some tones call for full light (red); half-light kills them. Others withstand twilight, better than that; they vibrate intensely in it (some blues).

To fix rules would be perilous; however, the classification into two large categories of warm tones (tone & value) heads either toward the light side (warmth, gaiety, joy, intensity), or towards the shadow side (freshness, serenity, melancholy, sadness).”

Le Corbusier, 1932ⁱⁱⁱ

Indeed, our pigment analyses of wall samples taken from Le Corbusier's buildings have shown us that Le Corbusier followed these rules consistently. *Light* colors – those with a tendency towards red or yellow – were used in full light and on unshadowed surfaces. *Shadow* colors – those with a tendency towards blue or gray – were used for surfaces standing fully or partially in the shadows. Le Corbusier's color concepts were informed by the physical nature of the interactions between light and pigments.

Twenty of the colors of the Salubra wallpaper collection of 1931. There is a shadow (grayish) and a light (yellowish) variant for each important color: white/gray, blue, green, red, red ochre and umber.

ⁱ Amadée Ozenfant et Charles-Eduard Jeanneret, *La peinture moderne*, Paris, 1925, p. 165.

ⁱⁱ Arthur Rüegg, 1997 and 2006. *Polychromie architecturale. Le Corbusier's Color Keyboards from 1931 and 1959*. Birkhäuser, Basel, p. 7.

ⁱⁱⁱ *Ibid.*, p. 99.