

Architecture forgetting colour – Crystal Palace and impressionism

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ABSTRACT

The ephemeral architecture of the World Fairs was important for the architectural history of the twentieth century. When the architectural theoretician Sigfried Giedion in 1941 regards the conception of space in modern architecture portended in Crystal Palace he notes the iron and the glass but not the architectural colour scheme. The colour scheme of the architect Owen Jones may be regarded as an early example of impressionism – or neo-impressionism; movements which in painting were of great importance to later art movements including architecture. The Swedish architectural historian Elias Cornell emphasised the impact of the colour scheme on the perception of space in Crystal Palace in his doctoral thesis of 1952 and in 1977 the American architectural theoretician David Van Zanten uses the term impressionist colour for its colour scheme.¹ This paper discusses the significance of architectural impressionism by a comparison between the descriptions of Giedion, Cornell and Van Zanten using studies of impressionism and neo-impressionism.

ARCHITECTURE AS SPACE

In *Space, Time and Architecture* (1941) Sigfried Giedion uses a quotation from the German writer and politician Lothar Bucher to describe the interior space of Crystal Palace, built in 1851 for the Great Exhibition in London:²

“We see a delicate network of lines without any clue by means of which we might judge their distance from the eye or the real size. The side walls are too far apart to be embraced in a single glance. Instead of moving from the wall at one end to that at the other, the eye sweeps along an unending perspective which fades into the horizon. We cannot tell if this structure towers a hundred or a thousand feet above us, or whether the roof is a flat platform or is built up from a succession of ridges, for there is no play of shadows to enable our optic nerves to gauge the measurements. [...] If we let our gaze travel downward it encounters the blue-painted lattice girders. At first these occur only at wide intervals; then they range closer and closer together until they are interrupted by a dazzling band of light – the transept – which dissolves into a distant background where all materiality is blended into the atmosphere.”

Most often the Crystal Palace is described as a building of iron and glass. *Space, Time and Architecture* had a great influence on the view of nineteenth and twentieth century architecture in Europe and the United States, because of the new conception of space Giedion brought forward.

ARCHITECTURE BUILT OF PAINT

In 1952 the Swedish architectural historian Elias Cornell emphasised the impact of colour on the interior in his thesis on “the architectural history of international exhibitions”. In his description, where he uses the same quotation from Bucher as Giedion, the Crystal Palace is built of iron, glass, and paint.³ The Bucher-quotation is translated from German. In Cornell’s translation into Swedish the perspective does not fade “into the horizon” but it fades “into a blue veil” and it does not describe a distant background where “all materiality is blended into the atmosphere” but one “where all the plastic effect and even the lines disappear and only the colours remain”. Where Giedion perceives the great distance, a space which is not closed and definitively defined, Cornell has a conception of the presence of colour in a non-plastic veil.

Bucher was in London when the exhibition opened. In his *Kulturhistorische Skizzen aus der Industrieausstellung aller Völker* the perspective ends in *einen blauen Duft* – aroma, aura, bloom, flavour, smell – and all the *Körperhafte* – the solidity of bodies – and all lines disappear and *nur noch die Farbe übrig bleibt*.⁴ Cornell quotes some more lines which Giedion skips: “I had the impression –

and it was strengthened the longer I remained – that the strong material that architecture works with, was totally eaten up by colour. The building is not decorated with colour, but built of colour.”

The English architect Owen Jones, at this time known for his and Jules Goury’s work on the polychromy of Alhambra, worked out the colour scheme of Crystal Palace. He had no intention of blurring the impression of structure and space. The interior structure was intended to be painted in the primary colours of subtractive pigment-mixture – blue, yellow and red – in the proportion of 8:3:5 in order to emphasise the building elements seen at close range. Jones, influenced by the English chemist George Field (*Chromatography*, 1835, *Rudiments of the painters’ art; or a grammar of colouring applicable to operative painting, decorative architecture, and the arts*, 1850) and the French chemist and colour theoretician M. E. Chevreul, expected the bright colours to mix and evoke purple, orange and green at some distance and a neutral white or grey colour afar off. This of course was not possible, as Cornell remarks, since it was an additive mixture – light reflected from contiguous stripes of colours mixed on the retina – of the subtractive primary colours.

Although Jones, according to Cornell, wanted the structure to appear more fixed, dematerialized space seems to have been the main impression. Both Giedion and Cornell observe resemblance to the paintings of William Turner. According to Giedion, Turner “uses a humid atmosphere to dematerialize landscape and dissolve it into infinity”. The Crystal Palace realises the same intention, he writes, through the agency of transparent glass surfaces and iron structural members.⁵ According to Cornell, Jones “not only accepts the unlimited space” but makes colour an instrument to emphasise its aesthetic qualities. The colour theory and primary colours that he applied were principally the same as for the neo-impressionists in France one generation later, Cornell notes. But their conception of space was contrary to Jones’, he writes without further arguments.

IMPRESSIONISM AND NEO-IMPRESSIONISM

The term *impressionism* was coined in the scornful critic of the 1874 group exhibition in Paris – including Claude Monet, Paul Cézanne, Camille Pissarro and others – quoting the title of Monet’s painting “Impression – Soleil levant”. The impressionists practised open-air painting to catch the temporary and momentary light and colour glow so to say above the objects; a film of colour which unified the objects and the air surrounding them.

Their forerunner was Eugène Delacroix. A caricature reproduced in John Rewald’s *The history of impressionism* summarises the ongoing conflict between romanticism and classicism: Delacroix and Ingres duel; their shields say: ‘Line is colour!’ (Delacroix) – ‘Colour is Utopia. Long live Line!’ (Ingres).⁶ Ingres added colour to a structure of lines meanwhile Delacroix gave the preference to colour. In London Delacroix was, as were the impressionists Monet and Pissarro, influenced by the haze itself and by the paintings of William Turner, where not only the colour-haze was floating above the landscape, but the objects were dissolved into a colour-dust.

The Finland-Swedish philosopher and aesthetician Hans Ruin describes in an interesting way the characteristics of impressionism. He uses David Katz’s conception of the different *modes of appearance* (Erscheinungsweisen) of colour: *film colour* (Flächenfarbe, freie Farbe), *surface colour* (Oberflächenfarbe) and *volume colour* (Raumfarbe).⁷ The *surface colour* which seems to adhere to or belong to the surface of the object is, according to Ruin, transferred to *film colour* when, in impressionist painting, colour – not the object – is fixed by the painter. The film colour is perceived separately and seems to “allow oneself to immerse in it, like the blue colour of heaven”. It is soaring, quite transparent and “loose”. The transformation of surface colour to film colour means that the objects “to some extent are deprived of its materiality”, Ruin writes.

The *neo-impressionists* – Georges Seurat and Paul Signac – did as the impressionists use complementary colours and ‘pure’ colours (spectral colours) but they did not apply themselves to open-air painting, impressions of moments. Seurat obeyed David Sutter, who wrote: “One must look at nature with the eyes of the mind and not merely with the eyes of the body.”⁸ Seurat sacrificed the fugitive to the permanent, his friend the critic Félix Fénéon wrote in 1886. The neo-impressionists painted figures, separated from each other because of the difference in local colour. In impressionist painting the figure was suppressed; colour united all objects. To perceive the film colour, not the surface colour, means to forget about the figure. A blue cardboard-figure, for instance, maintains its blue colour in red light, partly because we imagine *knowing* what colour the figure is, partly because

the eye aims at colour constancy. Seen through the opening of a cornet of paper though the colour changes to red violet – it appears as film colour. In this sense the impressionists tried to paint the ‘pure’ impression, not the colour influenced by memory. The neo-impressionists constructed their paintings. They divided the colours into points of ‘pure’ colours juxtaposed in different proportions on the canvas; therefore they preferred the term *divisionism* to neo-impressionism or ‘pointillism’. At a distance the eye can not distinguish the separate points, and since the eye moves slightly light from adjacent points meet the same spot on the retina. The neo-impressionist “dot was the phenomenon of optical mixture”, John Gage writes in *Colour and Meaning*: “the light reflected from contiguous patches of two or more colours will mix on the retina to form a third colour, more luminous, it was claimed, than if it had been mixed beforehand on the palette.” Ruin writes about Georges Seurat’s “Une Baignade”: “the bodies remained bodies; they are not converted into an immaterial light and colour film. Figure lines and point painting have produced *volume colour* – a colour reminding of glowing bodies”. This is the third mode of appearance which Ruin applies. It is the colour of liquid in a glass, transparent but a distinct volume.

Seurat and Signac were influenced by the writings from Chevreul and his “law of simultaneous contrast of colours” (*De la loi du contraste simultané des couleurs*, 1839). The phenomenon of simultaneous contrast means that juxtaposed colours are perceived differently from colours seen isolated. Chevreul had been appointed to the Gobelins tapestry in the 1920s “to banish unforeseen and unwanted colour from the woollen threads and produce pure blacks by the removal of the subjective effects of simultaneous contrast”, John Gage writes.⁹ When Paul Signac came to see Chevreul at Les Gobelins in 1884 he was told that Delacroix had written Chevreul a letter as early as 1850. Instead of counteract the effects of simultaneous contrast Delacroix and later the impressionists emphasised the colour changes. “The impressionists, by representing objects together with the air that circulates around them, dissolving them in an atmosphere of light, had already dealt a mortal blow to the old conception of so-called ‘local color’”, Rewald writes.¹⁰ The *local colour* of surfaces is their colour in white light, seen in isolation. Unlike the impressionists, the neo-impressionists were interested in local colours. Seurat writes: “The means of expression is the optical mixture of tonal values and colours (both local colour and the colour of the light source, be it sun, oil lamps, gas, etc.), that is to say the optical mixture of lights and their reactions (shadows) in accordance with the laws of *contrast*, *gradation*, and *irradiation*.”¹¹

ARCHITECTURAL IMPRESSIONISM

The Crystal Palace was built in 1851. That same year Turner died. In France Delacroix’s struggle for colour at the expense of line continues. Seurat was not yet born. Owen Jones’ interior colour scheme was based on his studies of ancient architecture. He claimed that the Greek temples had been covered with colours – bright red, blue and gold – balanced to blend at a distance to a vibrant white; in the same way as in Crystal Palace.¹² Jones had investigated the polychromy of Alhambra together with Jules Goury – who in 1831-32 had spent time with the German architect Gottfried Semper in Greece. Semper shares the impressionist view on ancient colour. As early as 1834 he writes: “The recently excavated walls at Pompeii show how adept the ancients were in applying the brilliantly pure colours. And indeed, we begin to become accustomed to them. The ancients in their decoration knew no subdued, half-tones of colour. The blending and mixing took place not on the palette but on the wall, through the juxtaposition of variegated and graceful decorations that at a certain distance appear to the eye as intermixed, but that always retain a tender playfulness that has such a charming effect.”¹³ Semper considered colour “the subtlest, most bodiless coating [...] the most perfect means to do away with reality, for while it dressed the material it was itself immaterial”.¹⁴

What relation did the colour in Crystal Palace have to materiality and space? The different ways of relating Turner to Crystal Palace reveal the most interesting contradictions – added by colour to the conception of space and volume: Colour seems to define and dissolve at the same time. Giedion uses the verb *to dematerialize*: Turner “uses a humid atmosphere to dematerialize landscape and dissolve it into infinity”. But with the texts of Rewald and Ruin, which analyse the colours as much as the depicted objects and space, the impressionist painting – influenced by Turner – seems to start with a process of dematerialization which ends up not in infinity and total dissolution but in a new loose body. It seems to be an atmosphere of greater density, reminding of the Bucher *Duft*, which Cornell

translated into *slöja* – veil or fog. David Van Zanten writes that “the recession of the huge interior void was defined by the colors’ progressive fusing into a vibrant blue-gray haze”, an effect confirmed by contemporary sources he argues, quoting *Illustrated London News*: “the whole as in nature disappears into a neutral grey [...] the scene vanishes from extreme brightness to the hazy indistinctness which Turner alone can paint”.¹⁵ In his interpretation of the interior colour scheme he lets the void be palpable. Jones, he writes, “took the idea of atmospheric, impressionist color to its logical extreme: the scientifically balanced application of small areas of primary hues making vast iron and glass spaces palpable by atmospheric perspective while articulating the forms of their parts when viewed close-up”. Cornell on his part writes that the correspondence seen between the architects behind the Crystal Palace and Turner seems to come from their respective claim to express a *subjective* perception of space; the architects by emphasising the lines, the painter by dissolving all forms. They thus find, Cornell says, new “symbolic ways of expressing the aspiration for infinity or rather the unlimited”.

And in the end at least two questions still remain: Did the colours dissolve or materialize the interior space of Crystal Palace? For what reason did Giedion forget the architectural colour in Crystal Palace?

References

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