

SURFACE

by Richard MacCormac

This essay was first delivered by Richard MacCormac as the headline presentation at the opening night of the Surface Design Show at the Business Design Centre, Islington on Wednesday 1st March 2006.

Perhaps because I am an architect, I cannot easily separate the word 'surface' from a sense of substance and material, or from perceptions of form or volume which a surface might represent. A surface might be the outer face of a solid – stone or concrete – or it might only be a membrane, like the surface of a bubble or a plane of glass. A discussion of surface should not be superficial.

In the work of my practice, which I am going to talk about, in relation to this subject, there does seem to have been a shift towards surface as membrane, even towards the idea of dissolution of surface, though we continue to maintain our interest in substance or, paradoxically, the potentiality of the surface of glass to convey volume.

The quality of surface in masonry buildings is affected by how it is penetrated and what the corners are like. The sense of stretched surface characteristic of Venetian façades is a consequence of pulling the apertures out to the edges, something which Denys Lasdun understood with the angled slots which taughthen the façade of the Physicians' building in Regent's Park. In our Ruskin Library in Lancaster University the thinness of the curved external arcs of masonry is disclosed by cutting into them and by butting them into the portal frames at each end.

I became aware some time ago that there are two opposed ways of making a façade three-dimensional. The obvious way is to create a series of projections. Less obvious and more interesting to me is to create a planar surface which is cut into, a process which could be likened to etching or eroding. The latter maintains the sense of primary surface, the datum against which visual events are set.

In the new quadrangle (1986) for Fitzwilliam College Cambridge, for example, the 'frontispieces' which frame the entrances set out the primary plane which then cuts back into two layers the corners of which are marked by bay windows, a deliberate reference to Sir John Soane's house at 13 Lincoln's Inn Fields where the surface of the stone frontispiece dominates the original brick surface of the terrace.

At Balliol College Oxford (1992-2004) the phased project on Jowett Walk creates a primary surface along the building line of the Walk itself, a series of brick planes connected by walls. Special corner bricks at 45° minimize the apparent thickness of these frontal planes. Similarly in the façade of the new stone building for the BBC behind All Souls, Langham Place, non-loadbearing stone cladding is declared as a surface of stone, disengaged by its edge details, from the concrete construction that supports it (2006).

In each of three office projects – Victoria Street (1999, unbuilt), Clifton Street north of Broadgate (1995), and Building 1 at Paternoster (2001-2003) – glass bays and framed structures create frontal planes articulate by a series of recesses in contrast to the more conventional idea of projection. Glass in these examples is used not for its transparency but for the potential of reflective surfaces to create a sense of volume.

In the intermediate concourse at Southwark Station we worked with glass artist Alexander Beleschenko to create an elliptical cone wall forty meters long and seventeen meters high consisting of 630 triangles of blue printed glass. Here the surface appears highly reflective and crystalline when seen obliquely from the entrances at each end of the concourse. Seen frontally from the escalator emerging from the platforms, the cone appears almost transparent and the surface dissolved.

What I have described above so far are ambiguous visual characteristics of glass which defy a simple experience of surface. There are other media both traditional and modern which play with such perceptions.

For example, traditional washes and glazes are quite distinct in their effect from today's opaque colours. Coloured lime washes over lime plasters reflect light back through the coloured glaze. This can be very intense. The vivid colours – ochres, blues and reds – of Mediterranean villages are the consequence of layered, translucent washes, not just of strong sunlight. We used such washes in the interior of the Ruskin Library at Lancaster University. Another characteristic of glazes is an effect used in lacquers. The layer of transparency confuses focal length and creates an uncertainty about the location of the surface which is engaging to eye and brain. Turner understood how this worked and at the Royal Academy Summer Exhibition on 'varnishing days' would apply coloured glazes which upstaged neighbouring works by his contemporaries. Turner and Soane were part of a theatrical movement in the arts which included artists such as De Louthembourg turning to theatre to explore illusions of depth using scrim, still the basis of illusory depth in staging today.

When I was working on the Wellcome Wing of the Science Museum, there were two exhibitions at the Hayward which brought these kinds of perceptual experiment straight into the late twentieth century. One was of Yves Klein. Klein's use of saturated colour was so intense that it defies location – it seems to float. Technically one could also say that Klein's paintings are not really surfaces; what created them was a suspension of particles of pure pigment in an evaporative medium (an apparently very toxic one!) which left the particles 'high and dry'. The surface is microscopically three-dimensional and the quantity of surface much greater than a normal picture plane; hence this intensity.

Other artists whose ideas were important in the gestation of the Science Museum project were James Turrell, also trained as a psychologist and pilot, and Robert Irwin. A work of Irwin's which interested me was 'Scrim Veil' which was installed in Los Angeles in 1975. Here the scrim sets up three perceptual alternatives: the scrim itself is a finely textured rectangular surface. But its transparency reveals the surfaces of the three-dimensional space behind. Below the scrim a rectangular void is delineated by a black steel bar and black lines on the walls at each end which connect with the black line on the floor. This, in a sense, is the strongest definition of the picture plane but the real perspective behind won't adhere to it.

This is interesting in the work of Magritte where he somehow manages to bring a piece of cut-out sky into the surface of the picture plane, which brings me back to the Turrell whose sky spaces, usually rectangular rooms with a cut-out ceiling, literally seem to bring the sky down to close the space. Without it being intentional, we found this kind of effect in the oculus at the centre of our Cable and Wireless building near Coventry.

Turrell is best known for his studio and gallery based light installations in which combinations of light frequencies in an aperture have the uncanny effect of seeming to project the rectangular void out into the gallery space as a floating plane of light.

When we started the Science Museum project I imagined the exhibition floors floating in an aura of blue light consciously or unconsciously influenced by Klein and Turrell. I considered working with Turrell but time was short for such a collaboration and we did not have the budget to engage a major international artist.

What we did was to carry out a series of very carefully measured experiments in a studio in Amsterdam with the lighting consultant Rogier van der Heide (who now heads Arup's lighting division). Basically my idea was to see whether we could create some sense of indeterminacy in the boundaries of the space even though these were one-hour fire walls. We experimented with various densities of scrim suspended in front of the solid wall with continuous battens top and bottom. In these were reflectors, strip lights and blue filters throwing blue light evenly onto the solid wall behind. The scrim eventually chosen was just dense enough to attract focal length but transparent enough to convey the intense blue reflected behind, from a surface which defied location.

At the BBC, the idea for a glass façade emerged from the necessity of replacing the slate roof which formed a mansard on the east side of Broadcasting House with a superstructure of equivalent weight, rather than the Portland stone originally envisaged. The design of a light glazed attic led to the idea of a concave glass façade to terminate the axis of Regent Street directly behind the spire of All Souls – a kind of urban cyclorama. A polarity is set up between the assertive convex solidity of Broadcasting House and the receptive concavity and lightness of the suspended façade.

Solar control is achieved by an outer glass screen 1200 mm. out from the building envelope which also has a high thermal performance. The screen has been the subject of an extensive development programme to achieve solar protection and to create the appropriate daytime and night-time backdrop to the church and relationship with the stone façade of Broadcasting House.

The solar screen of laminated glass is etched in a pattern of vertical strips on the outer face and ceramic frit on the outward-facing surface of the inner laminate, with a grid of small squares on the same horizontal module as the etched strips.

During daylight the patterned areas of the screen will appear relatively opaque and comparable to the Portland stone of Broadcasting House. At twilight the façade behaves like a theatre scrim becoming relatively transparent as interior light levels exceed the level of daylight. The transparency can be reversed or varied by external floodlighting or by images projected on the façade.

To understand and verify this concept, modelling exercises were carried out with Rogier van der Heide using his laboratory in Amsterdam. These involved observations of the night-time visibility of floors, ceilings, stairs and furniture at various internal light levels. In particular, the model investigated how

transparent the façade would be if light levels on working surfaces in the circulation and break-out areas were reduced to 180 lux so as to ascertain the impact of internal lighting behind All Souls.

Exercises included the spire of All Souls to test various lighting relationships between the two extremes of strongly illuminating the spire against a low level of façade lighting, and setting the spire in unlit silhouette against a high level of façade lighting. The broader context for these ideas includes the floodlighting of the south front of Broadcasting House and its symbolic radio mast.