Aestheticisation of Pixelated Ornaments
Media façades and their Luminous Tweets

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Photography as credited

How has our city's nightscape evolved with the aid of LED technology? Are buildings becoming more famous for their night views than their daytime façades? **Thomas Schielke** examines the increasingly blurred boundaries between architecture and media façades.

During the day, façade structures with their windows and material combinations grant a specific building image to the public. However after sunset, electrical light becomes the medium for an architectural image. The light appearance sends atmospheric signals to the citizens: The unilluminated buildings look as if they are sleeping, static illuminated façades appear inviting and luminous stories shared by vivid media façades entertain the urban audience. In the last decade, media façades have become a widespread element for luminous tweets worldwide. They establish a network between the building owner and the citizens, sometimes driven by aesthetical debates, other times by commercial intentions to avoid traditional light advertisements. Media façades in Singapore's Orchard Road have become a driving force for branding new shopping destinations. In contrast to New York's Times Square, which is dominated by huge screens with advertisements, Singapore seems to look for an experience that takes not only the building but also an artistic facet into account.

The general pursuit of persuasion by way of big screens gives the impression that size receives a higher relevance than content, comparable with the large amount of trivial tweets in Twitter. Various media façades appear as monumental monologues repeating a fixed animation daily. A few façades use signals from the environment and transform them into a play of light and shadow. Others emerge as urban dialogues when buildings show combined moving pictures. Some even allow people to send tweets to the building to receive luminous re-tweets. They turn the city into a community following the dialogue between a citizen and the building. With the strong commercial background in Orchard Road, the building owners play with a sender mode transmitting direct or abstract advertisements more frequently than initiating an active dialogue with the consumers.

Sign Vehicles Made of Light

The trend to implement media façades may derive from the effect that media façades are regarded as attractive sign vehicles. They carry meanings with them, both in a functional context of denoting a mode of urban displays visible at night, and due to the rapid changes in LED technology, on a connotative level of associations including communication, cinema, interaction, vitality, or state-of-the-art technology. The polysemic interpretation allows the owner to cover multiple messages. Reading the cultural codes and the elements of contrast, brightness, colour, speed, and imagery opens a way to understand the message. The question, however, is: "Will this be an essential task?"

With Marshall McLuhan's media theory in mind we could even proclaim, "The light is the message." The medium "media façade" would be significant rather than the specifically displayed content. The major impact of media façades may originate from the television like urban screens that demand the attention of citizens. At night, the light is a strong element that creates in-depth involvement by its sheer presence. The dynamic media façades take over the static daytime façades. Some buildings might even be better known by their night views than their daytime façade. If electrical light has already changed the nocturnal city, to what extent will media façades transform an urban space with the large luminous veils enveloping buildings? Private television, traditional interior movie theatres and entertainment worlds have been turned outwards to the public through media façades.

Aestheticisation of Pixelated Ornaments

Many media façades often seem to envelop buildings with luminous wallpaper and thereby evoke the impression of a new ornamental style in architecture: the software adjustable ornament. The imagery dematerialises the daytime pattern at night to establish a new nocturnal scenography—ranging from modest transformation to deconstructivism. From Robert Venturi's perspective, this could even lead to non-architecture: "These electronic elements promoting flexible imagery—graphic, narrative, abstract, and/or symbolic—work as sources of ornament that appeal to the hype sensibility of our time and as sources of information, dynamically complex and multicultural . . . Here architecture becomes non-architecture."[1] For William J. Mitchell the traditional distinctions between architectural lighting design and computer graphics are beginning to disappear, as anything that lights up can be treated as an addressable, programmable pixel. Nevertheless, this development does not fully convince him: "Instead, the uses of the new medium remain in an archaic, skeuomorphic phase—much like that of Greek marble temples that imitated the forms and details of their wooden predecessors, or bronze axes that replicated the leather binding patterns of wood-handled stone weapons. We are still seeing horseless carriages, wireless telegraph thinking."[2]

In contrast to classic architectural ornaments deriving from natural forms like plants, the first media façades predominantly used pixels with a rectangular formation. Early projects based on window illumination took the build-

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2. ION Orchard, Singapore, 2009.
Architecture: RSP Architects Planners & Engineers, Benoy
Lighting: Lighting Planners Associates
(Photo: Benoy)

3. 313@Somerset, Singapore, 2010.
Architecture: Aedas
Media facade: Speirs + Major
(Photo: Speirs + Major)

ing composition into account. By comparison, the solutions originating from the light source LED started with points in lines within the Cartesian coordinates system and continued with planes. To avoid the technical look of bare LED points, designers invented new shapes for pixels, like discs or crystals, and initiated a debate about the use of the pixel. Similarly, the explicit technical posing of media façades produced a very archaic use of colours and required a learning process for a sophisticated combination of shades.

Luminous Pixels around Orchard Road

Play of circle and squares—Palais Renaissance: The desire to erect a grand residence for shopping led to a renewal of the façade which makes use of a strict grid with two layers of light pixels. Even though the media façade does not have a large spatial depth, this installation plays in an elaborate way with a three-dimensional effect. The front glass layer has small luminous pixels at the end of the tubular steel connections. The space between the square glass elements and the façade holds an array of round luminaires. These fixtures remind one of chrome top bulbs, which were used in theatres for mirror lights. The technique had the advantage of high visual comfort because the light did not cause glare. The light beams on the facade create a floating impression for the fixtures. Square prints on the glass and façade layer enhance the effect of a highly differentiated pattern. Grazing light from the top and bottom provide the general illumination. So-

phisticated colour changes grant the building a quiet and representative image and generate a modern transformation for a classic palais.

Curvilinear skin with different pixel intervals—ION Orchard: The lighting concept plays with the contrast of a net of LED dots and a curved field of light. Its freeform luminous skin emphasises the dynamic gesture of the mall and the colour-changing pixels and screens reinforce this image. The cross points of the square façade elements define the location for the light pixels in the wide net. Within that field, an LED screen enables public viewings for festivals under the treelike canopy at the urban plaza. The opposing entrance side is dominated by a big low-resolution LED facade with a rhomboid-shaped pattern showcasing digital artwork and advertisements. Video walls at the subway tunnel and an extensive luminous ceiling take on the image of fluid surfaces for the interior architecture.

White diffuse pixels—313@Somerset: The array of numerous cool white squares generates a counterpoint to the neighbouring colour-changing exterior lighting schemes. The integration of the media façade within the fritted glass cladding system achieves a smooth surface for the diffuse glowing pixels. The different sizes for the rectangular pixels and the play of a free arrangement within the facade panels create a vivid pattern on the façade. A number of subtle monochromatic themes are briefly interspersed with kinetic displays to indicate the

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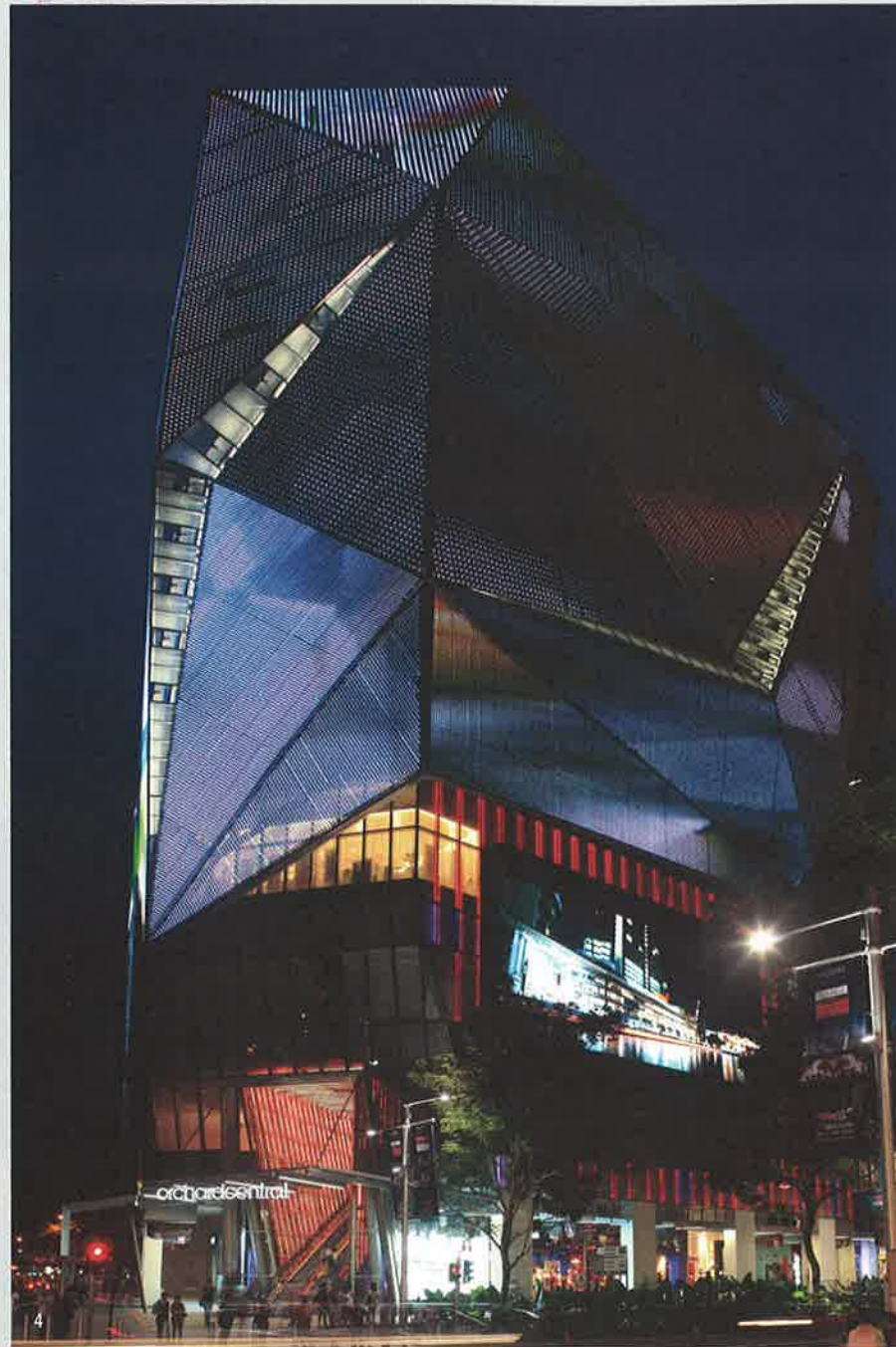
4. Orchard Central, Singapore, 2009.
Architecture: DP Architects
Media artwork: Matthew Ngui
(Photo: DP Architects)

5. HD and low-resolution output channels,
Wilkie Edge façade.
(Image: realities:united)

6. Wilkie Edge, Singapore, 2009.
Architecture: WOHA
Media façade: realities:united
(Photo: realities:united)

interior brands. But the option is also open for artists to create dynamic content on the facade. The low resolution appearance of the media facade avoids presenting advertisements in TV-like high resolution. The restriction to use only white light and play with an abstract pattern of pixels leads to a sophisticated night image. Using LED with relative low energy consumption is also part of the sustainability initiative of the building owner.

Folded membrane—Orchard Central: A luminous web consisting of hundreds of tiny pixels forms the background for featuring the works of artists like Matthew Ngui. In the daytime, the layer of LED tubes allows a vague glimpse of internal activities. At night, the linear facade structure forms a regular grid with clearly visible LED pixels. The lower part with the narrow layout of LED tubes seems to have a higher resolution than the upper membrane fields. Nevertheless, the pixel resolution of the gigantic canvas is sufficient to show content in a clear way, just broken by the gaps between the different triangular facets. Additionally, below the media facade, a rectangular high-resolution LED screen could be used for traditional television content and advertisements. Further on, the streetscape is enhanced by colour-changing lines integrated in the glazed main façade emphasising the vertical character of this mall and drawing the consumers upwards.

Amplifying advertisement—Wilkie Edge: Simply attaching the commercial media billboard to the building is a traditional approach. Wilkie Edge attempts to rethink the relationship of billboard and actual architecture on the façade: The large-scale curtain wall glass façade with a low-resolution matrix amplifies the content of the high-resolution billboard, thereby allowing the building façade to echo the colour and dynamics of the commercial screen in real time. Despite the low resolution of the façade, the passer-by is able to recognise the link to the images displayed on the video screen. Venetian blinds serve as a projection screen when the employees leave their office. The LEDs as such, are not visible on the facade, only their light is reflected on the blinds. This subtle detail emphasises the effect of light to a greater extent than it would be if the LED technology had been displayed.
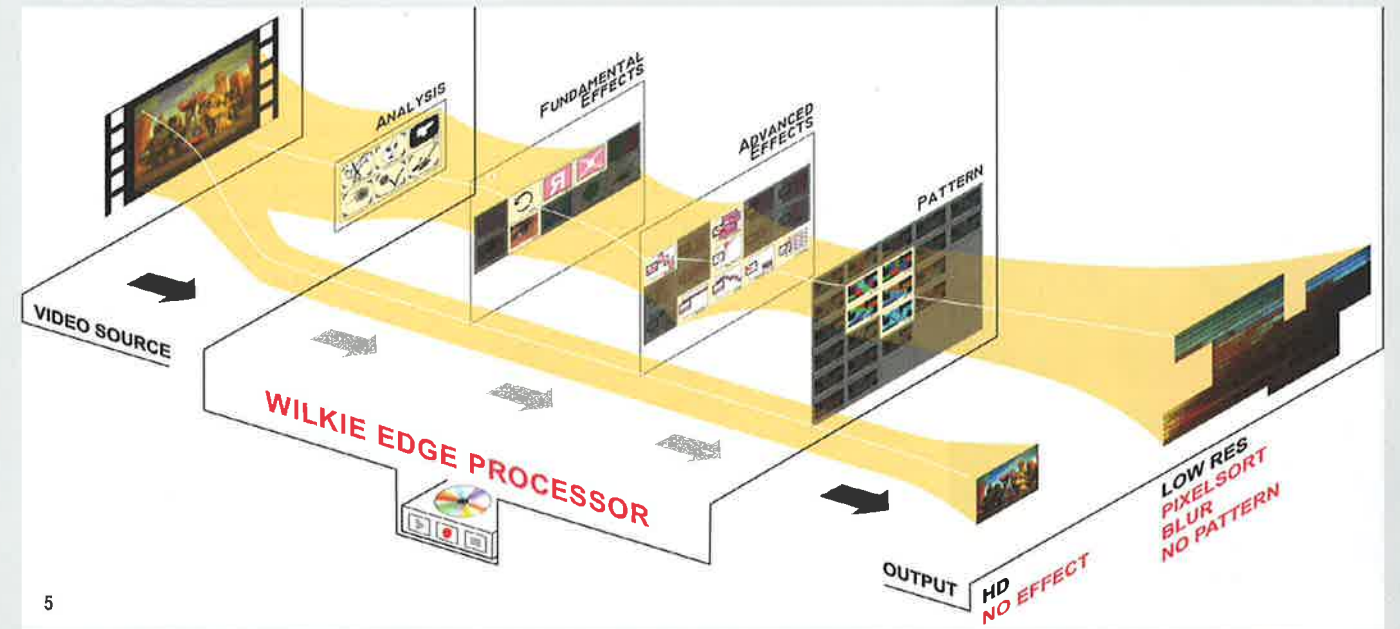
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Crystal mesh—Iluma: The traditional square pixel has undergone an ambitious design process at Iluma to appear as sparkling crystals both day and night. On the one hand, the pattern is reminiscent of modular facade designs in the 1960s and 1970s; on the other hand, it forms a futuristic look. The crystalline effect is based on the translucent polycarbonate module with thin, transparent lines running across, and the folded aluminium reflectors inside. During the day, the glossy crystals reflect the bright sky and form the impression of upscale diamonds wrapped around the building. The crystal pattern exceeds the idea of a monitor due to the fact that the active light elements are distributed in coherent groups across the entire surface, sometimes in small, sometimes in large intervals. The sparkling crystals brand the site with a unique icon of glamour.

Colourful luminous tweed—Knightsbridge: The corner façades of Knightsbridge try to combine the British origin for upmarket retail outlets with the desire to add energy to the junction. The herringbone pattern reminds one of tweed, which was once commonly worn for outdoor activities in the United Kingdom and is nowadays a popular pattern for suits and informal outerwear. Interesting colour effects were additionally achieved by twisting togeth-

er differently coloured strands into the yarn. In this case, the coloured patterned glass walls pick up the idea. During the day the building shows the classical tweed pattern. At night, a colourful luminous layer clads the retail centre and its animation forms a powerful image. The wide range of LED light colours exceeds the traditional colours for tweed. Saturated colours make an effort to generate a modern quality. Further, a high-resolution screen at the corner provides a display for high-resolution imagery.

Subtle balcony pixels—Pan Pacific Serviced Suites: Slight colour changing strips, freely arranged on the balconies, exude the exclusive and luxurious atmosphere of these serviced suites. This quiet concept forms a counterpoint to the vibrant shopping malls around. Slow colour changes of only a few balcony strips reveal a decent brand image in contrast to neighbouring buildings, which play with fast, large and colour-saturated screens to attract attention.

LED Technology as a Driving Force

The rapid development of LED technology in the last decade has led to major changes in media facades. Small strips of LEDs have been embedded in sophisticated facade elements to enable an integration of light in transparent façades. The fascination with the large

7. Iluma, Singapore, 2009.
Architecture: WOHA
Media facade: realities:united
(Photo: realities:united)

8. Close-up of crystal mesh facade, Iluma, Singapore, 2009.
Architecture: WOHA
Media facade: realities:united
(Image: realities:united)

9. Knightsbridge, Singapore, 2010.
Architecture: DP Architects
Lighting: DP Architects
(Photo: DP Architects)

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colour space for RGB LED installations induced numerous light projects where the display of modern technology has become more important than the visual content and the appropriate use of colour. Further, the tiny and powerful LED pixels opened the way for high-resolution screens—starting with plane screens and extending to three-dimensional screens to keep track of round architecture. First and foremost, installations include photovoltaic technique to convert the sunlight into nocturnal illumination to compensate the energy demand of the ever-growing media façades (e.g. GreenPIX, Beijing 2008). Parallel to the progress in lighting technology, engineers started to create new interfaces for their computer-controlled installations to facilitate public interaction. Mobile phones became an easy-to-use instrument to send text messages with or for which the keys can be utilised for specific functions. Additionally, mobile phones with a camera could even benefit from luminous façades with a QR Code for augmented reality (e.g. N Building, Tokyo 2009).

Bits of Light

The media façades have developed from temporary artistic installations into permanent interfaces for the commercial world for branding and consumerism. Hereby, the value of architecture is defined by its function and scenographic quality. With customers annoyed by traditional billboards and in environments with strict re-

strictions for advertisements, media façades—when combined with artistic animation—offer companies the chance to promote their products on a beautified messenger board. Whereas the corporate colours could link the brand in an abstract way, companies often prefer a more direct branding with the logo and specific clips. With a heightened awareness of environmental issues, media façades have to prove that they can also resist debates on energy and sustainability.

Media façades with their strong ambition for an impressive imagery have dissolved the difference between architectural lighting and graphic design. Influences from MTV-like cuts, movements and speeds are obvious in the façade animations. Whereas some projects appear as decorated sheds with dynamic pixelated ornaments, other buildings indicate a creative approach of merging architecture hardware and light control software. An authentic brand image requires that the malls with striking façades come up with an interior design of the same quality. Singapore will definitely explore its possibilities to reprogramme the environment with luminous software increasingly. ◢

A video presentation (Media façades—When buildings Start to Twitter) accompanying this article is available on YouTube video at *http://www.youtube.com/watch?v=2uaum8vg6oY*.

For more about the writer, *visit www.arclighting.de*.

10. Pan Pacific Serviced Suites.
Architecture: CPG Consultants
Lighting: LPA Lighting Planners Associates
(Photo: LPA)

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[1] Robert Venturi, *Iconography and Electronics Upon a Generic Architecture: A View from the Drafting Room* (The MIT Press, 1996), 210.

[2] William J. Mitchell, *Placing Words: Symbols, Space and the City* (The MIT Press, 2005).