

Architectural Manoeuvres In The Dark

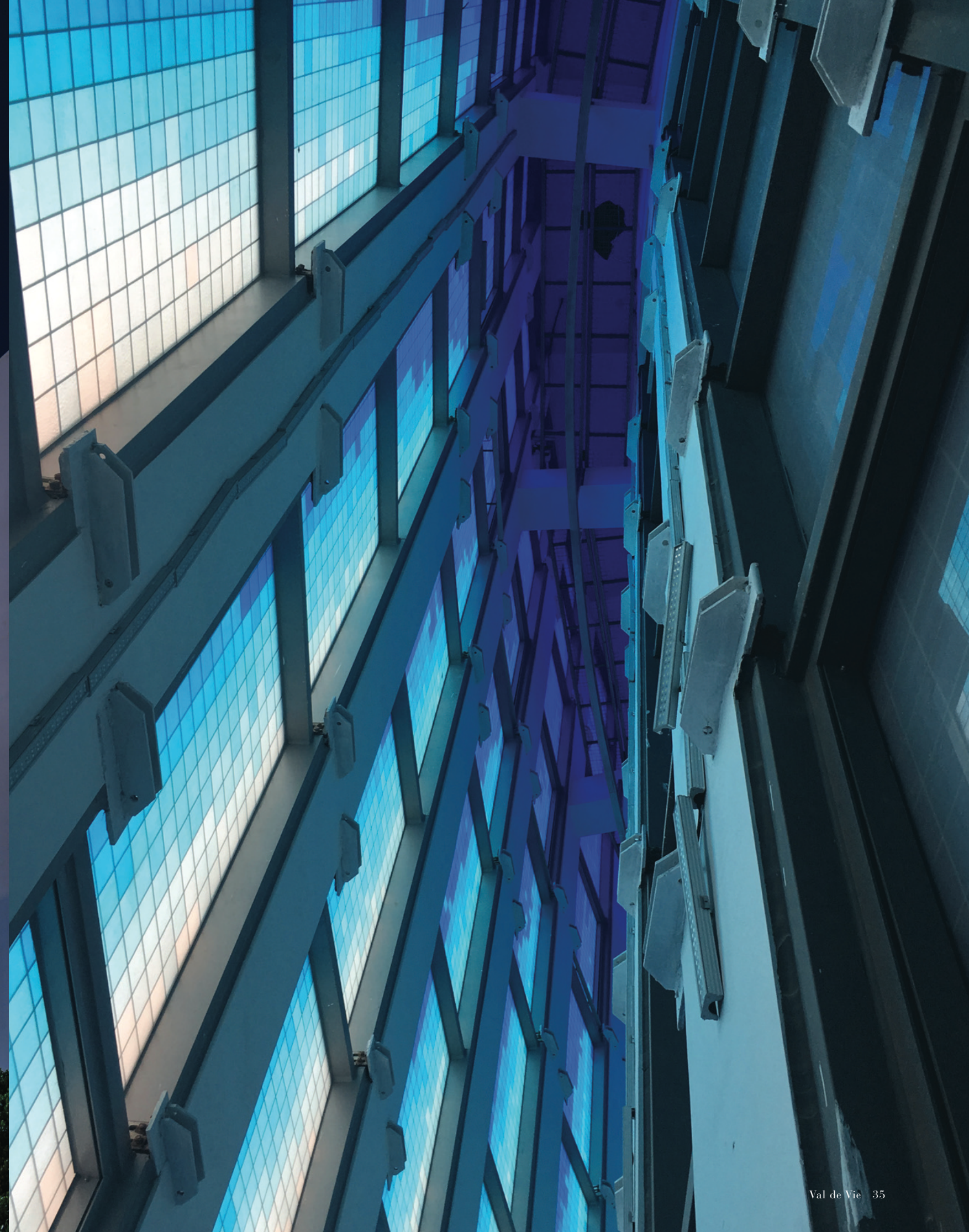
AS NEW TECHNOLOGIES FACILITATE ARCHITECTURAL INNOVATION, AN INCREASING NUMBER OF ARCHITECTS DESIGN BUILDINGS WITH IMPRESSIVE NIGHTTIME PERSONALITY.

BY MARTIN JACOBS

THIS PAGE AND OPPOSITE Come nighttime, a church in Luoyuan, China, glows from within, illuminated by lighting concealed between two façades. Designed by INUCE, the building's stained-glass façade comprises close on 108 000 pieces of blue glass. By day, the church's interior glows blue, illuminated by light flooding through these windows.



PHOTOGRAPHS: SHI KAI/INUCE



HAVING SUFFERED through almost two decades of rolling outages – load shedding, colloquially – relative to other citizens of the world, have South Africans developed a greater appreciation for the nuances of architecture after dark? Certainly, in the first 10 years of load shedding, when inverters and generators weren't as commonplace as they've become, we became accustomed to navigating our cities by moonlight, headlight, torchlight and candlelight. We became familiar with the architectural silhouettes of our neighbourhoods, be they the monolithic contours of apartment buildings and office high-rises or the erratic outlines of freestanding suburban homes. To what extent, though, did we notice changes to that architecture, buildings that look significantly different after dark from their daylight appearances? Buildings that have personality come nighttime, an identity forged not simply by humdrum exterior illumination but by a considered interpretation of lighting or moving parts?

Most architecture, as we know it, is designed to best be admired during daylight. After dark, when our vision is reduced, those same buildings by default have diminished visual appeal, for often the subtleties of their façades are lost to darkness and shadow. That's where exterior illumination steps in, floodlighting large surfaces, once again making material palettes visible and casting new shadows that themselves accentuate relief forms perhaps less visible during the day. Think of the ornate façades of Paris's Musée d'Orsay or Cape Town's City Hall. Consider too, post sunset, the vastly more linear forms of the Sydney Opera House or London's Southbank Centre. New York's Empire State Building, too, is an excellent example. It has the advantage that its uppermost floors have, for shortly over a decade, boasted 1 200 LED lamps (replacements to the previously affixed 400 metal halide lamps) that offer millions of variations of colour used to illuminate the building on a variety of notable occasions. But, given due consideration, it's the lighting rather than the architecture itself that lends these edifices nighttime personality.

By contrast, the Perelman Performing Arts Center, also in New York and completed earlier this year, proposes an entirely more contemporary solution to after-dark personality. A building that is most frequented by the public come nighttime, by its very nature, the Perelman Performing Arts Center should



PHOTOGRAPHS: LANCE GERBER/COURTESY OF THE ARTIST; IWAN BAAN

ABOVE By day, the monolithic Perelman Performing Arts Center, which opened earlier this year near New York's 9/11 Memorial & Museum, is a sober grey, suitable given its location. After dark though, the building glows like a paper lantern, the iron within its marble façade emitting an amber hue.

OPPOSITE *Three Half Lozenges*, by artist Phillip K. Smith III, is a permanent and programmable light installation in the Newark Museum of Art. Installed in the windows of a street-facing façade, the artwork's changing colours after dark add interest to an otherwise austere exterior.

design



be an edifice that has dramatic 'after hours' visual appeal. That said, located on the World Trade Center campus within metres of the 9/11 Memorial & Museum, an appropriate measure of sobriety was necessary for its daylight appearance. Designed by Joshua Ramus, founding architect of the city's REX design firm, the cube-shaped building, come dusk, glows from within like an enormous Isamu Noguchi lantern. Buildings glowing from within are nothing new. Here, however, the cube's exterior is constructed from almost 5 000 veined Portuguese marble slabs book matched to create both horizontal and vertical symmetrical patterns across each façade. 'During the day, sunlight passes through the façade, imparting the amber glow of the marble onto the interior. At night, this amber glow is reversed as the façade is lit from within,' Ramus says, explaining that it's iron within the marble that's responsible for the amber colour. He also explains that the linear lighting within the building that results in its glow is installed in a manner that allows for uniform illumination across each façade.

In the former fishing village of Luoyuan, China, a church designed by INUCE Architects reflects a similar conceptual approach to illumination and its impact on façades. Architect Dirk U. Moench's Church of Luoyuan is – like Ramus's building – all about its glow. 'The church's interior is illuminated by a huge window made from almost 108 000 individual pieces of stained glass, each 10cm² in size,' Moench says, explaining how his use of coloured glass also references Christian churches. 'At night, the stained glass is illuminated from within the void between inner and outer façades, transforming the church into a glowing beacon.'

With more than 1 412m² of glass surface area, the edifice is the largest stained-glass façade in China and, equally, one of the largest worldwide. What distinguishes it from most other uses of stained glass is not only its scale but its use of colour. The Church of Luoyuan's glass exterior comprises 21 shades of blue, which during the day, don't appear dissimilar to other buildings with windows treated to reflect the colours of the sky. Come nighttime though, when lit from within, the glass emits a subaquatic radial glow.

ABOVE 'We need to make sure we enhance rather than detract from the visual appeal of our city,' says the Lexington Parking Authority of the Helix, a public parking garage. Pohl Rosa Pohl Architects more than met the brief, delivering a perforated steel façade that, come nighttime, can be illuminated in a variety of colours. OPPOSITE Phillip K. Smith III's *Detroit Skybridge* is a permanent light installation comprising programmable LED lights. After dark, its shifting colour variations add *Blade Runner* appeal to a downtown Detroit street.

PHOTOGRAPHS: COURTESY POHL ROSA POHL ARCHITECTS; LANCE GERBER/COURTESY OF THE ARTIST AND LIBRARY STREET COLLECTIVE





THIS PAGE AND OPPOSITE By day, the Netherlands' historic Afsluitdijk floodgates are unremarkable, but come nighttime they offer a futuristic experience. 'Without cars on the road, the structures do not illuminate,' says Dutch innovator Daan Roosegaarde of *Gates of Light*, his project that rejects energy-dependent lighting in favour of reflective material that emits light only when illuminated.

PHOTOGRAPHS: COURTESY WWW.STUDIOROOSGAARDE.NET

The Church of Luoyuan is an unusual example of an architect involving himself in the design of a stained-glass window. Historically, such creativity would be outsourced to a craftsman or artist, as was the case with the Newark Museum of Art in New Jersey. Constructed a century ago, its mostly austere limestone exterior boasts a street-facing façade that, since 2017, undergoes a dramatic change come nighttime. Commissioned by the museum, American light artist Phillip K. Smith III has used three double-storey windows as a canvas for light for his permanent installation *Three Half Lozenges*. Utilising LED lights, Smith has created a colour choreography that includes gradating curves and lines as well as full fields of colour. 'The windows operate as a monumental light-based triptych at the scale of architecture,' says Linda C. Harrison, CEO of the museum. 'During the day, the façade remains its true, historical self. At sunset, the windows slowly emerge as full colour.'

Choreographing coloured light is key to many of Smith's works, dramatically so in his installation *Detroit Skybridge*. Sixteen floors above ground, a 30-metre-long skybridge (constructed in 1976) connects two of the city's historic buildings, the Guardian Building and One Woodward. By day, the bridge is rather anodyne, but come evening, Smith's 2018 installation becomes, as he describes it, 'a beacon for the beauty, creativity and innovation of Detroit'. Like something out of *Blade Runner*, the bridge's nighttime persona is futuristic, its moving panes of light and shifting gradients not only imbued with life, like a digital breath, but captivating for those in, or passing through, downtown Detroit.

Programmable coloured lighting transformed an even more unremarkable building – the Helix, a public parking garage – in Lexington, Kentucky. 'We need to make sure we enhance rather than detract from the visual appeal of our city,' says Gary Means of the Lexington Parking Authority. 'We would be shortsighted to present the most utilitarian solution.' To this end, Means' team collaborated with Pohl Rosa Pohl Architects on the exterior of the garage. Architect Clive Pohl explains how his studio designed a grid-like series of perforated steel elements for the street-facing façade. By day, the geometric panels merge with and break up the horizontality of the unattractive concrete building. After dark, however, programmable coloured lights illuminate the panels. What's significant about this project is that, come night, rather than illuminating the utilitarian façade, the backlit elements become the façade.

More accustomed in this day and age to rolling blackouts than we should be, as South Africans, we're well aware that illuminated edifices of any nature rely on electricity, require energy and place demands on natural resources. Dutch innovator Daan Roosegaarde's inspiring *Gates of Light* project proposes an alternative to illuminating architecture – rather incredibly, without using





Shutters on the façade of a Swiss apartment building hydraulically open and close, creating balconies, overhangs and screens in turn. Architect Manuel Herz considered that it's how the building's residents choose to live, day or night, that will determine its appearance.

PHOTOGRAPHS: YURI PALMIN

energy. The Afsluitdijk is a 32-kilometre-long dyke that not only protects the Netherlands against flooding but is of historical importance to the country. At its entrance are 60 monumental floodgates that date to the 1930s, designed by Dirk Roosenburg, grandfather of starchitect Rem Koolhaas. Wanting to raise national awareness of the buildings' cultural significance, the Dutch government undertook a restoration of the neglected floodgates, involving Roosegaarde. While the surrounds are largely unpopulated, more 20 000 cars pass between the buildings daily. Studio Roosegaarde fitted the floodgates with a retro-reflective layer – simply put, strips of highly reflective material that emit light when illuminated, much like discs fitted to bicycles. 'In the dark, the architecture of these structures is illuminated by the headlamps of passing cars, reflecting the light through small prisms,' explains Roosegaarde. 'Without cars on the road, the structures do not illuminate.' Driving through *Gates of Light* at night is a futuristic experience, the repeat vertical and horizontal lighting equal parts cinematic and otherworldly. But for architects, the biggest takeaway from this conceptual project should be that lighting the façades of public buildings need not require energy nor contribute to light pollution.

For some architects, imbuing a building with after-dark personality doesn't involve lighting but, rather, moveable parts. Several of American architectural firm Olson Kundig's rural homes incorporate double- or triple-storey moveable steel shutters or windows (some operated by hand cranks) that dramatically transform the homes' appearance, either when unoccupied or at night. Swiss architect Manuel Herz's Babyn Yar Synagogue in Ukraine similarly opens and closes, in this case, remarkably more like a pop-up book. But it's his Zurich apartment building *Ballet Mécanique*, completed in 2017 and home to five individually configured homes, that offers an unusual take on the shifts in a building's appearance from day to night. The building has façades comprising triangular shutters (or brise-soleil) with rounded edges. These shutters mechanically open to become balconies, roofs and shading, or privacy elements. Closed, they provide darkness and security. 'In a mechanical game, the building opens and closes over the course of the day, subtly reflecting the inner life on the outside,' explains Herz. 'The shutters' exterior surface is a mother-of-pearl colour, so when completely closed, the edifice appears uniform. But the inside of the shutters is coloured orange, red and blue, so when open, a multicoloured building is created.'

Herz's *Ballet Mécanique* is architecture that's constantly transforming and, as he describes it, 'living with its inhabitants'. Its exterior personality, whether day or night, is conceptually determined by its architect but, in reality, is shaped by the day-to-day lives of its residents. Concepts like Herz's and Roosegaarde's agitate an architectural status quo and deliver to architecture after dark pioneering technology and an element of surprise. More of this and our nighttime world will be a more exciting one. ▽

Lighting the way

TWO ARCHITECTS SHARE THEIR THOUGHTS ON THE IMPACT LIGHTING CAN HAVE ON ARCHITECTURE.

Come nightfall, is there a way to temper interior light for outdoors? In my projects, I deal a lot with direct horizontal light (think sunsets), so I regularly use screens. Screens are great because at night they become semi-translucent elements, filtering interior light outdoors.

What building is a noteworthy example of architecture that offers something different after dark? Renzo Piano's *Maison Hermès* in Tokyo is a great example of a low-tech way of achieving an external façade that dissolves in the evening – the interiors become visible, even if opaquely so, from outside.

– RENATO GRACA
Founding architect, GSquared Architects

What are your thoughts on lighting as a means of adding character to a building? How one lights a building provides an opportunity to highlight its form. Lit by an up-light, a stone feature wall's rough texture can be enhanced. Or a well-lit courtyard garden can cast plants' shadows onto its walls. One can create a focal point through illumination by lighting, for example, a cleverly-positioned sculpture at the end of a passage.

What should one keep in mind when creating atmosphere with lighting? Light brightness (lumen) and temperature (the colour of light or its k-value) are vitally important. Cooler bright lights are associated with task-related spaces, while dimmer warm lights evoke feelings of comfort – just think of a warmly lit cosy reading nook.

What building is a noteworthy example of architecture that offers something different after dark? Phillip Johnson's *Glass House* (with lighting design by Richard Kelly) embraces its surroundings through its entirely glazed façades. Positioned on a lawn surrounded by a forest of trees, by day, the building appears as a minimalist rectangular box reflecting its lush surroundings. At night, however, the home becomes entirely transparent, its warmly lit interiors both revealing internal feature walls and lighting the surrounding trees.

– BUCKLEY THOMPSON
Senior architect and head of lighting design development, SAOTA

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