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JAMES CORNER

“Landscape architects
are the unsung heroes
shaping the public realm”

SANTIAGO CALATRAVA

On his £1bn vision
for London

Neri & Hu

The importance
of being subversive

“It’s all about moving us forwards
in terms of community & wellbeing”

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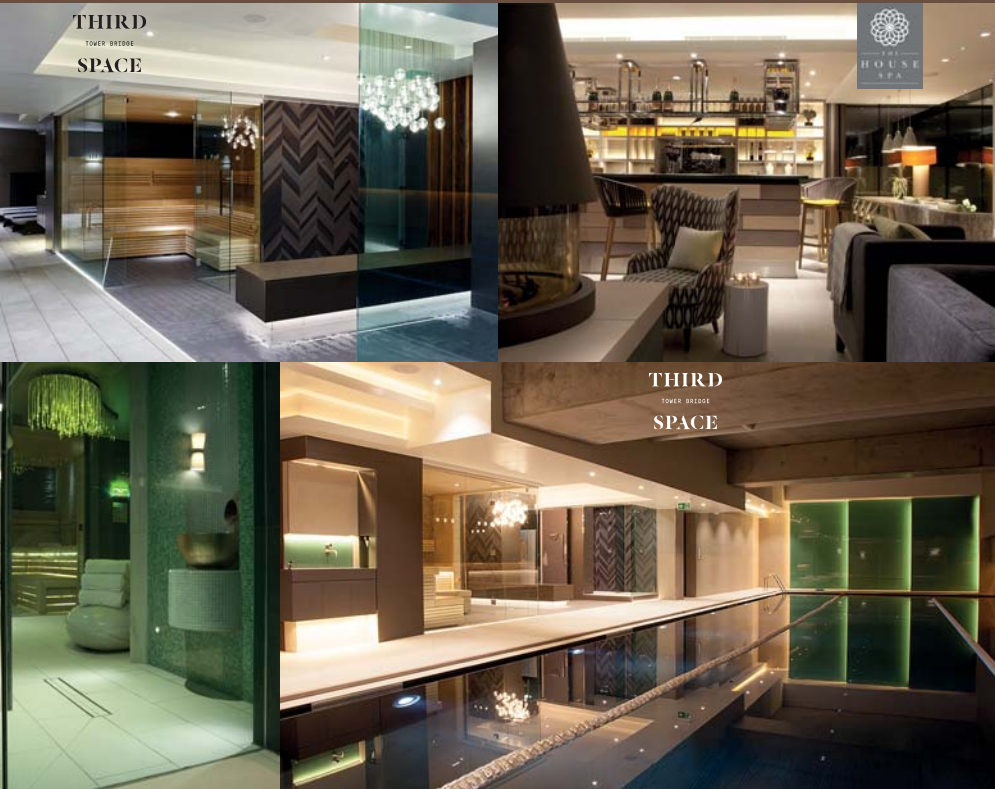


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“ Beautiful places linger in your emotional memory ”

The power of landscape architecture

Green space can transform the fortunes of a city, rewire our brains and change our mood and behaviour without us being consciously aware. The subtle art of landscape design has powerful, but often hugely underestimated influences on our world

Once in a generation, a vision comes to fruition that is so iconic, it defines an era and becomes the inspiration for a cascade of imitations. The High Line in New York is such a case and in this issue we talk to James Corner, the landscape architect who was Project Lead on the High Line, with his company, Field Operations, working with Diller Scofidio + Renfro and Danish designer, Piet Oudolf.

Corner is one of the leading landscape architects of his generation, yet doesn't share the same level of fame as architects of our best-known buildings. "Landscape architects are the unsung heroes who are doing the behind the scenes work shaping the public realm," he told us, "But many people don't consider this design; they assume it's just residual space that arrived there naturally."

But things are beginning to change. A growing interest in well-being, coupled with research which proves that upgrading the public realm controls pollution, improves health, and adds value to developments, suggest we'll see a richly deserved elevation of landscape architecture as an art form in the years to come.

The New York City Economic Development Corporation evaluated the impact of the High Line on property values, finding that between 2003 and 2011, the median market value per square foot within a five minute walk was a whopping US\$301 against US\$144 for properties just five to 10 minutes away. This increase representing growth of 103 per cent and 19 per cent respectively.

There are other big wins to be had: cities are competing to attract talent, so improving the public realm and making them great places to live can have a huge economic impact. In addition, good design of public space has been found to control crime and disorder, while enabling the exercise of democratic freedoms.



Creating places people love to be: High Line at the Rail Yards

Cities are competing to attract talent and avoid brain drain. Improving the public realm can have a huge impact

It's also political – Alejandro Aravena, in *CLADmag* 2016 Q2, said: "International standards recommend 9sq m of public space per inhabitant. Wealthy Chilean cities have 18sq m, poorer ones 2sq m. London has 44sq m."

This juxtaposition of hard economics with less tangible emotional benefits make investment in the public realm difficult to 'value'.

As Corner says: "Landscape is something experienced personally, almost subconsciously. People don't walk around paying attention, but a city or a landscape lingers in your memories and although you'll leave with fond recollections of a place, they're not precisely photographic. They're something deeper and more emotional."

Liz Terry, editor, CLAD @elizterry



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Landscape architect
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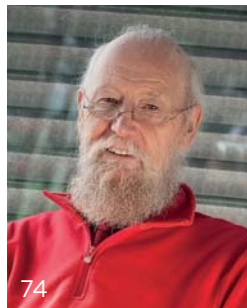
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Mike Davies on the Pompidou Centre

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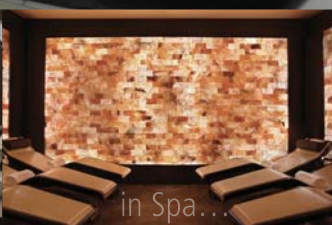
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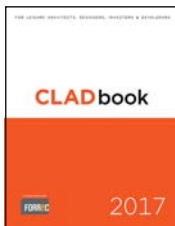
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Winning the Pritzker is a great joy and a great responsibility

**Rafael Aranda, Carme Pigem and
Ramon Vilalta** founders RCR Arquitectes

Rafael Aranda, Carme Pigem and Ramon Vilalta were selected as the winners of the 2017 Pritzker Architecture Prize.

The Pritzker award, which is widely regarded as architecture's highest accolade, honours a living architect or architects "whose built work demonstrates a combination of talent, vision and commitment, and who has produced consistent and significant contributions to humanity and the built environment."

The three architects, originating from Olot in the Catalan region of Spain, have worked together collaboratively since founding their firm RCR Arquitectes in their hometown in 1988.

Their notable leisure projects include La Cuisine Art Center (Nègrepelisse, France, 2014), Soulages Museum (Rodez, France, 2014), La Lira Theater Public Open Space (Ripoll, Girona, Spain, 2011), Les Cols restaurant marquage (Olot, Girona, Spain, 2011) and the Tossal-Basil Athletics Track (Olot, Girona, Spain, 2000).

According to the Pritzker judges: "Their work demonstrates an unyielding commitment to place and its narrative, creating spaces that are in discourse with their respective contexts."

"Harmonising materiality with transparency, Aranda, Pigem and Vilalta seek connections between the exterior and interior, resulting in emotional and experiential architecture."

This is the first time three architects together have been honoured with the prize.

"Their intensely collaborative way of working together, where the creative process, commitment to vision and all responsibilities are shared equally, led to the selection of the three

Their work demonstrates an unyielding commitment to place and its narrative



Rafael Aranda, Carme Pigem and Ramon Vilalta

individuals for this year's award," the judges said.

In response, Pigem said:

"It is a great joy and a great responsibility. We are thrilled that this year three professionals, who work closely together in everything we do, are recognised."

It is the second time that the Pritzker has gone to an architect from Spain, following Rafael Moneo who received the award in 1996.

Tom Pritzker, chairman of Hyatt Foundation, which sponsors the award, said: "Aranda, Pigem and Vilalta have had an impact on the discipline far beyond their immediate area.

"Their works range from public and private spaces to cultural venues and educational institutions, and their ability to intensely relate the environment specific to each site stands as testament to their process and deep integrity."

Jury chair Glenn Murcutt added: "They've demonstrated that unity of a material can lend such incredible strength and simplicity to a building. The collaboration of these three architects produces uncompromising architecture of a poetic level, representing timeless work that reflects great respect for the past, while projecting clarity that is of the present and the future."

The Pritzker Prize awards ceremony will take place at the State Guest House, Akasaka Palace in Tokyo, Japan, on May 20, 2017.



RCR designed a public space in place of the demolished La Lira theatre in Ripoll, Spain

What the jury said

"In this day and age, there is an important question that people all over the world are asking, and it is not just about architecture; it's about law, politics, and government as well. We live in a globalised world where we must rely on international influences, trade, discussion and transactions. But more and more people fear that, because of this international influence, we will lose our local values, our local art and our local customs. They are concerned and sometimes frightened.

"Rafael Aranda, Carme Pigem and Ramon Vilalta tell us that it may be possible to have both. They help us to see, in a most beautiful and poetic way, that the answer to the question is not 'either/or' and that we can – at least in architecture – aspire to have both; our roots firmly in place and our arms outstretched to the rest of the world. And that is such a wonderfully reassuring answer, particularly if it applies in other areas of modern human life as well."



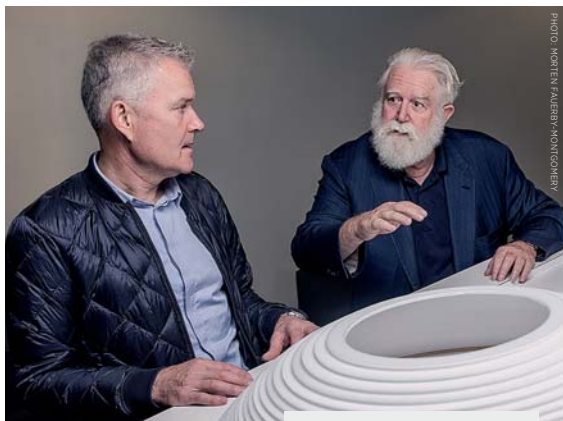
PHOTO: HISAO SUZUKI

RCR recently unveiled the steel-clad Soulages Museum in Rodez, and La Cuisine Arts Centre (right) in Nègrepelisse, both in France



“We will create an experience
of real colour and energy”

James Turrell artist &
Morten Schmidt co-founder Schmidt Hammer Lassen



Architect Morten Schmidt, left, and artist James Turrell are collaborating on an installation for the ARos Aarhus Art Museum, called *The Next Level* (below)

Spirituality, creativity and artistic freedom are driving a major collaboration between architects Schmidt Hammer Lassen and light artist James Turrell for the ARos Aarhus Art Museum in Denmark, the co-founder of the Danish practice has told CLAD.

Morten Schmidt said Turrell's vast installation is being fitted as part of the museum's €40m (US\$42.4m, £34m) expansion. The work – called *The Next Level* – will allow visitors to “experience real colour and energy” as art and architecture merge to create a new type of civic experience.

The project will see the addition of a 1,200sq m (12,900sq ft) underground gallery and a gigantic semi-subterranean art installation called the Dome, described by the team as “one of the most spectacular spaces ever built into an art museum.”

“The scale of it is incredible,” said Schmidt. “The director of our museum, Erlend Høyersten, is a very forward-looking person. He thinks that it's absolutely crucial for young people to be exposed heavily to art and to be engaged.

“Everything they see on TV is so pre-determined and without spontaneity that they're not using the artistic part of their brain enough. So he really wants them to come in and experience something that's real and memorable.”

Visitors to the attraction will face an experience in colour and light as they travel through a string of galleries and exhibition spaces, stretching almost 120m (393.7ft) below the ground, until they reach the inside of the spectacular Dome, which is 40m (131.2ft) in diameter and rises to a height of 9m (29.5ft) above ground level.

Schmidt Hammer Lassen are the original designers of the building, which opened in 2004. The architects also collaborated with





The Dome will be a semi-submerged installation on a huge scale

Turrell's typical focus on light and space is central to the expansion designs

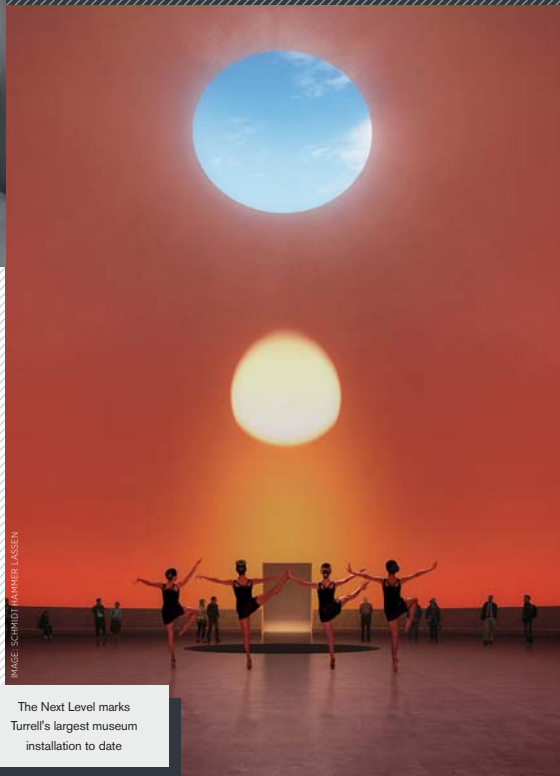
Danish-Icelandic artist Olafur Eliasson in 2011 to create Your Rainbow Panorama; a luminous circular artwork that hovers permanently on the roof of the ARoS Aarhus Art Museum.

Schmidt claimed the new installation, which will open to the public in 2020, has been conceived to create a spiritual experience.

"James Turrell is a very spiritual person, he's a Quaker, and he's also in tune with concepts such as reincarnation and the spirit world," he said.

"The funny thing is that he's very much into Rudolf Steiner and anthroposophy [an esoteric spiritual movement that teaches that wellbeing and an understanding of the spiritual nature of humanity and the universe can be achieved through scientific study]. I went to a Rudolf Steiner school, Turrell did, and the director of the museum did as well. So in that way we are a trio, and that shared educational background has lined our thinking with this project."

Turrell is one of the world's leading artists working with light and colours, with permanent installations in over 26 countries. The Next Level is his biggest project within a museum context.



The Next Level marks Turrell's largest museum installation to date

“In this very competitive world of hospitality design it’s paramount that everything we do is original”

Bill Bensley founder Bensley



Bill Bensley's latest resort project is on the site of a former university

For his latest Southeast Asian resort project, designer Bill Bensley has taken inspiration from an unlikely combination of themes: the work of pioneering French naturalist Jean-Baptiste Lamarck, the importance of higher education, Lewis Carroll's *Alice in Wonderland* – and mushrooms.

Bensley's typically whimsical design touches feature throughout the JW Marriott Phu Quoc Emerald Bay resort in the south of Vietnam – a project the designer has described as “perhaps my best”.

The luxury 243-room property is in the grounds of the 19th-century Lamarck University. The eponymous founder built the university to further the study of the natural world. The large complex is formed of many small, one- and two-storey buildings centred around a main street.

The buildings – which have not been used since 1943 – have been transformed into the hotel's suites and villas, where, Bensley says, “every guest feels as though they're in their own boutique, departmentalised hotel.”

“The key idea is to break down the scale of a large hotel into a series of smaller ones,” he told CLAD. “The idea of re-inhabiting, reusing and reinventing an old university is a cool one, in that

almost everyone loved their days in college. It was one's heyday, and to be able to re-live part of that joy on vacation, on a pristine beach, well, that is just totally a new experience.”

The design concept is focused on the process of learning and discovery and the influence of Lamarck – who laid the groundwork for Darwin's theory of evolution. Hand-painted walls depict flora and fauna, sculptures of animals are present in the buildings, and objects preserved from the university can be seen throughout the hotel.

“In this very competitive world of hospitality design it's paramount that everything we do is original,” said Bensley. “Creating layers and layers of stories that our guests can live seems a clear way forward.”

A key component of the resort is the Spa Chanterelle, with six couple's treatment rooms, a body treatment suite, a hair salon and steamrooms and saunas. Located in the university's old physical education department, the design is inspired by mushrooms – which Vietnam's French colonists believed have therapeutic properties, and which residents of Phu Quoc traditionally foraged from the jungle.

Mushroom shapes are found in the furnishings and stencilled artwork on the walls, and botanical



The old PE department has been transformed into Spa Chanterelle

illustrations adorn the ceilings, adding a surreal quality. References from *Alice in Wonderland* also feature heavily. In one corridor, asymmetric arches curve at angles to create a layering effect, echoing Alice's fall down the rabbit hole.

"Mushrooms provide a historically correct fantasy element that seemed to be a perfect match for this spa," Bensley said. "I've collected some 20 samples of dried, foraged mushrooms and these are on display at the entry to the spa and in a turn-of-the-century French shop cabinet. Unique touches like that are important. To coax guests from the comfort of their rooms, the spa has to be even more enchanting."

"The references to *Alice in Wonderland* are there because the book was published in 1865, the year the university was inaugurated."

PHOTO: AUSTIN ADRIANA FOR BENSLEY



The mushroom motif draws on both fantasy and history, Bensley says

“Creating an accessible public space is important commercially, but it’s even more important socially”

Chris Lee managing director **Populous**



Christopher Lee,
managing director at
Populous, is overseeing
the stadium development

The architect masterminding a new home for English football team Tottenham Hotspur – billed by the Premier League club as “the most unique sports and entertainment destination in Europe” – has lifted the lid on how the stadium will create an important hub for the local community.

Speaking to CLAD during a tour of the construction site, Chris Lee, managing director of architects Populous, said the key driver of the £750m (US\$932.2m, €879.4m) White Hart Lane project is the desire to create “a civic building that is physically and emotionally knitted into the local community.”

A plaza to the south of the 61,000-capacity ground will house restaurants, street food stalls, five-a-side football pitches and a microbrewery. There will also be a museum dedicated to the club and local area and an extreme sports centre with Europe’s highest climbing wall and a seven-storey diving tank. The club says the development will create 3,500 jobs and pump £293m (US\$364m, €343.5m) into the local economy each year.

“Currently Tottenham doesn’t have a centre,” said Lee. “We’re creating a space the size of Trafalgar Square that will be open 24 hours a day, linking both sides of the stadium.

“The great thing about football clubs is we, the fans, own them. The people who live here should think, ‘This is my club, I walk past it every day and I feel a part of it.’ Creating an accessible public space is important commercially, but it’s even more important socially.

“Someone from the club told me that this stadium’s competition isn’t the Emirates [the stadium of rival team Arsenal, also designed by Populous], it’s the High Street. The aim is to get fans to come earlier, dine with us, and experience the stadium. On many levels this approach to the community is what’s changed most in the last 15 years of stadium design.”

Lee explained how the design team drew inspiration from the old stadiums of England and Europe to create a facility with an electric match-day atmosphere. A tight atmospheric bowl, which places spectators in the north and south stands just 5m (16.4ft) away from the action, and the addition of a 17,000-seat single-tier stand – the largest in the UK – will generate “a wall of sound” that reverberates around the ground. Expert acousticians have optimised the sound within the stadium bowl.

“One of the things Daniel Levy [the chairman] was scared of was



creating a generic stadium," said Lee. "He wanted something with character and personality. The old White Hart Lane is such a lovely stadium and so quirky in its nuance. We wanted to incorporate the best bits of traditional English stadiums. That drove the thinking around the single tier, the steepness and the proximity of it all."

There'll be further innovative features, including the retractable 22-tonne grass field, which in 40 minutes can make way for an artificial pitch below in event of concerts and occasional National Football League fixtures. The stadium will feature a purpose-built glass-walled Tunnel Club, which allows guests a behind-the-scenes view of the players' tunnel, and a range of bespoke suites and bars.

When completed in 2018, it will be the largest club arena in London.



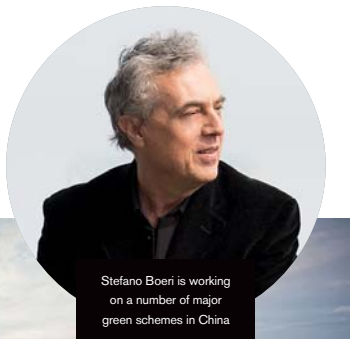
The purpose-built, glass walled Tunnel Club will give views of the players' tunnel

PROJECT

Nanjing Green
Towers, China

“We’re creating new spheres,
where people, trees and animals can
coexist in an environment of wellness”

Stefano Boeri founder **Stefano Boeri Architetti**



Stefano Boeri is working
on a number of major
green schemes in China

Italian architect and ‘vertical forest’ pioneer Stefano Boeri has unveiled his design for a pair of towers in Nanjing, east China, covered by 1,100 trees and 2,500 cascading plants and shrubs.

The Nanjing Green Towers complex will house a museum, a green architecture school, a private club and offices in one of the buildings, and a Hyatt hotel with rooftop pool in the other.

A 20m (65.6ft) high podium will support the towers and have shops, a food market, restaurants, plus conference and exhibition space.

Around 600 tall trees and 500 medium trees of 23 species will line the building façades, with plants and shrubs also covering 6,000sq m (64,500sq ft). The towers will be characterised by the interchange of balconies and green tanks to support the greenery, following the prototype of Boeri’s famous vertical forests in Milan and Lausanne.

Boeri says this urban forestation will regenerate local biodiversity by absorbing carbon dioxide and producing 60 kg of oxygen per day.

The project is being bankrolled by the state-owned Nanjing Yang Zi National Investment Group. It will be located in Nanjing’s Pukou District as a driver for the wider Yangtze River economic zone.

The project, scheduled for completion in 2018, is billed by the developers as “the first vertical forest in Asia,” although Boeri is also overseeing green schemes in the Chinese cities Shijiazhuang, Liuzhou, Guizhou, Shanghai and Chongqing.

THE ADVANTAGES

Boeri told *CLAD* how the vertical forest model promotes wellness and creates sustainable urbanisation.

“Research has enabled us to develop building technologies to bring trees high up in the sky, and irrigate them with recycled water,” he said. “This advancement, alongside ongoing analysis of the vegetation that can thrive in these environments, allows us to conceive unique buildings specific to their locations.

“The result is new spheres, where people, trees and animals coexist.”

Boeri said truly environmental architecture is necessary “to induce sustainability and a relationship of symbiosis between man, architecture and nature.”

He said: “One important method is the ‘de-mineralisation’ of cities – the multiplication of green surfaces to find a balance between construction and the natural environment. A green surface can reduce the air temperature, sink CO₂ levels and reduce noise.” ●



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Some 1,100 trees of 23 different species will line the building façades



Boeri's first vertical forests are neighbouring residential towers in central Milan (right), each with 900 trees and 20,000 shrubs





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Spiralling copper stairway stars at Denmark's dramatic Experimentarium



“We want to light a spark in children and young people, inspiring them to explore and understand our wonderful world”

Kim Gladstone Herlev

A Danish science museum dedicated to celebrating curiosity has reopened, wowing visitors with a 100m (328ft) long twisting copper staircase and walls that are partly built using recycled beer cans.

The Experimentarium opened in the town of Hellerup in 1991, but its original home was largely destroyed in 2015 when initial expansion work had already taken place.

The design brief of architecture studio CEBRA, who won the first architecture competition in 2011, was then adapted, and they rebuilt the centre with double the exhibition space and a more striking appearance.

“The aim of the design is a radical change of Experimentarium’s architectural expression,” said CEBRA founding partner Kolja Nielsen. “From previously being an introverted building, it now

appears as an extrovert, engaging and vibrant attraction.”

The building is formed of stacked boxes, using some of the wall structures and foundations from the city’s old Tuborg beer bottling plant. Large expanses of glass have been used to create a visual connection to the scientific universe inside the centre, while the perforated ‘beer can’ aluminium panels clad the lightweight façade – creating a pattern that illustrates how the flow of air and fluid changes when it meets resistance.

The completed structure, built at a cost of DKK880m (US\$126m, €118.3m, £100.3m) has a total floor

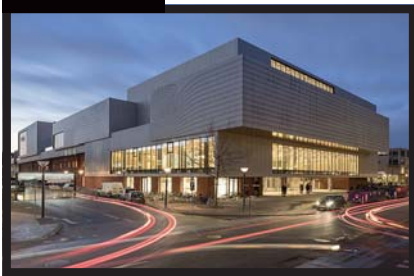
area of 26,850sq m (289,000sq ft). The interior of the building is dominated by the double helix staircase – inspired by the structure of DNA, built from 160 tons of steel and clad with 10 tons of copper – that spirals up through the building and leads visitors into four floors filled with 16 interactive exhibitions, including the “world’s first” interactive film theatre based on movement sensors.

“Curiosity is the core element,” said Kim Gladstone Herlev, managing director of the centre. “We want to light a spark in children and young people, inspiring them to explore and understand our wonderful world.”



IMAGES: ADAM JACOB

Perforated ‘beer can’ aluminium panels clad the lightweight façade



The double helix staircase is inspired by the structure of DNA



Sejima was tasked with creating a landmark to attract tourists



SANAA's Kazuyo Sejima designs mirrored museum dedicated to legendary Japanese printmaker



'The Great Wave Off Kanagawa' by Katsushika Hokusai

The life and art of the famous Japanese painter and printmaker Katsushika Hokusai is celebrated in a new Tokyo museum, design by SANA's Pritzker Prize-winning architect Kazuyo Sejima.

The Sumida Hokusai Museum, located in the ward of the same name, is the sculptural home for over 18,000 works created by Hokusai and his apprentices over 200 years ago.

Sejima was tasked with creating both a landmark to attract tourists and a community-centred building that finally gives the citizens of

Sumida an opportunity to learn about Hokusai and appreciate his art in one purpose-built place.

To achieve this she has designed a striking five-storey angular building partly divided by gentle slits, one of which creates a public pathway through the museum.

Aluminium panels lining the exterior have a mirrored quality that reflects the changing scenes of the surrounding downtown area, capturing local life in the manner of one of Hokusai's woodblock ukiyo-e folk tale prints.

The reflections also allow the museum to blend in with the

local park. This integration, and a design that creates multiple entrances to avoid the sense of the building having a front and a back, is intended to encourage passers-by into the building.

The splits in the façade, which include sloping glass windows, allow people on the outside of the museum to look in, while offering those inside views of the Tokyo skyline.

As well as the exhibition galleries, the facility includes lecture halls, workshops, a library and research centre; all dedicated to preserving and expanding on the artist's legacy.



The scheme will create a gateway for pilgrims travelling to the Grand Mosque

Foster + Partners win competition to design cascading hotel for Mecca's pilgrims

“The design follows a philosophy of ‘luxury with humility’ with an understated elegance throughout the development”

Luke Fox



Architecture studio Foster + Partners have been announced as the winner of a design competition for a new luxury hotel and serviced apartments in the heart of Mecca, Saudi Arabia – Islam's most sacred city. Over 3.7m people are estimated to travel to Mecca (known locally as Makkah) each year for the Hajj Islamic pilgrimage. The hotel project – overseen by the Jabal Omar Development Company – is a response to a rapid growth in visitor numbers, which has led to accommodation shortages in the city.

According to the architects, their winning design for the scheme will “create a new gateway” for pilgrims travelling along the route between Haramain Railway Station and the Grand Mosque.

The design concept is inspired by traditional Arab architecture, and reinterprets the city's dense building clusters in a way that “creates a new contemporary vernacular that respects its sacred location.”

Formed of a series of cascading vertical elements of differing heights linked by a

dramatic pedestrian ramp, the hotel will echo the region's mountainous terrain. The orientation of all rooms and apartments will optimise views towards the Holy Kaaba – the holiest site in Islam – with prayer and contemplation rooms overlooking the landmark.

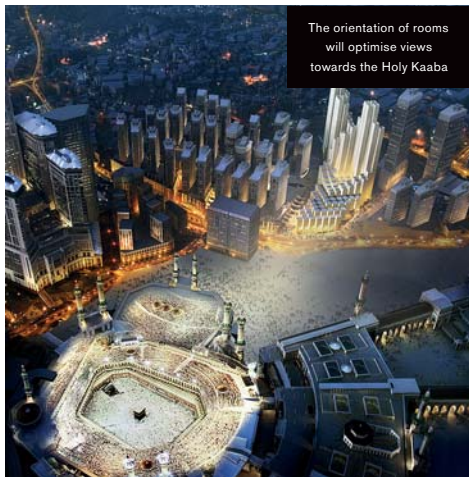
“Makkah is one of the most unique cities in the world, and as the home of the Holy Kaaba it presents a special challenge and honour for any developer and architect,” said senior executive partner Luke Fox. “Our design sets out to create an innovative building form that will be respectful of the scale and importance of the Grand Mosque.”

“Our endeavour has been to make the experience special and appropriate to its unique location.”

Foster + Partners will now collaborate with Jabal Omar to finalise their design.

This is not the first project being developed to cater for the huge number of visitors travelling to Mecca. Last year, London studio Mossessian Architecture won an invited competition to design a museum of the Islamic faith there, which will explore the history and practice of Islam and the life of Muhammad, who is believed to have been born in the city.

The orientation of rooms will optimise views towards the Holy Kaaba





The dome-shaped structure will frame views of the surroundings

Bjarke Ingels Group to design waterfront stadium for Greenland



“This will be a new centre of gravity for Nuuk”

Bjarke Ingels

The studio of Danish architect Bjarke Ingels have agreed to design a new indoor football stadium for Greenland.

BIG will create “a new gathering point” for the capital city Nuuk by creating a modern stadium on a disused plot of land, with several large windows providing views of the harbour, surrounding fjords and the bay.

The stadium is one component of the wider Cultural and Commercial Complex, which will also include BIG's forthcoming Greenland National Gallery of Art. That building, which the studio began developing following a 2011 competition win, was previously set to be located on far west coast of Nuuk.

Ingels pledged to design “a new centre of gravity” to bind the city together. He added the project could have the same impact in Greenland as the Sydney Opera House had in Australia.

For the design, BIG have been inspired by the culture and environment of Greenland and its natural phenomena, including the northern lights, waterfalls, icebergs and the waves of the sea.

The elegant dome-shaped structure – visible from all parts of the city – will frame views of the surroundings and shelter the stadium from the elements. The organic wooden form and snow-covered roof will evoke the image of a glacier or snowdrift.

The wider complex – funded by the Sermersooq municipality – will also feature a commercial centre. For this, BIG have proposed a radial distribution of colourful pitched-roof houses as a celebration of Greenland's traditional architecture. A circular courtyard will function both as common space where people can meet, and also as a circulation and parking space for the complex.

In a recent interview, Ingels argued modern-day stadiums “are dinosaurs” that lack individuality, because the same few studios win all the projects. He said: “It becomes this self-fulfilling prophecy where you have to be a stadium designer to design a stadium. And that means they're all the same.”



I'd love to achieve a strong local flavour to make the lodge look and feel authentically Rwandan

Teta Isibo

Rwandan design flair embedded in 'cultural and contemporary' forest safari lodge

Rwandan fashion entrepreneur Teta Isibo has been appointed by ecotourism operator Wilderness Safaris to bring "a vibrant Rwandan flair" to the interior design of its Bisate Lodge, which is due to open in one of the country's remote mountain valleys on 1 June 2017.

Isibo, the founder Rwandan studio Inzuki Designs, is

collaborating with Nick Plewman Architects, interior designer Caline Williams-Wynn, local textile experts and the country's National Ethnographic Museum to create a safari lodge that "takes time-worn customs and gives them contemporary relevance."

She will source locally-made products for Bisate's interior décor and other operational items such as uniforms and souvenirs to be sold once it opens.

The lodge is formed of six 91sq m (979.5sq ft) forest villas made from concrete, steel, timber, volcanic rock, bamboo, reed and papyrus. The complex is located 57 miles from Rwanda's capital Kigali on a steep valley in the Albertine Rift – one of the most biodiverse regions of the African continent. The site forms a natural amphitheatre overlooking active volcano Mount Bisok.

The architectural and interior design is rooted in Rwandan building traditions, taking its cue

from the Royal Palace of Nyanza. The spherical, thatched structures evoke the thousands of hills that dot the Rwandan landscape.

Many of the furnishings will be decorated using 'imigongo', a traditional art form unique to Rwanda that mixes cow dung with soils of different colours to paint geometric shapes. The use of black and white cow hides will also reflect the rural way of life in the villages, and volcanic stone in the fireplaces will evoke the adjacent Volcanoes National Park.

"We're using textiles and chandeliers with an emerald green colour, because they're reminiscent of the verdant greens of the rainforests, as well as the vibrant markets that dot the villages throughout the country", said Williams-Wynn.

Isibo added: "As a designer focused on fusing traditional craftsmanship with contemporary Rwandan design, the Bisate project is very exciting for me."

IMAGES: WILDERNESS SAFARIS



The spherical, thatched structures evoke local building traditions

Diébédó Francis Kéré wins 2017 Serpentine Pavilion commission with responsive tree-inspired design

Diébédó Francis Kéré, the award-winning architect from Burkino Faso, has been commissioned to design London's Serpentine Pavilion 2017.

The programme, which began in 2000, sees an architect who has never built in the UK create a temporary summer pavilion in London's Kensington Gardens.

The founder of Berlin-based practice Kéré Architecture has been inspired by the tree that serves as a central meeting point for life in his hometown of Gando. An expansive roof, supported by a central steel framework, will mimic a tree's canopy, allowing air to circulate

freely while offering shelter against London rain and summer heat.

There will be four separate entry points, with an open air courtyard in the centre allowing visitors to sit and relax during sunny days. In the case of rain, an oculus will funnel any water that collects on the roof into a waterfall effect.

"As an architect, it is an honour to work in such a grand park, especially knowing the long history of how the gardens evolved and changed into what we see today," said Kéré. "I am fascinated by how this artificial landscape offered a new way for people in the city to experience nature."



I believe that architecture has the power to surprise, unite, and inspire all while mediating important aspects such as community, ecology and economy

Diébédó Francis Kéré

IMAGES: KÉRÉ ARCHITECTURE



An oculus will funnel rainwater collected on the roof

We're excited by the brief of designing a cultural heart for the city – a space of public engagement that will spark creativity and discussion, and that will act as a theatre for ideas

Rem Koolhaas & David Gianotten



Rem Koolhaas

Rem Koolhaas and David Gianotten revealed as designers of Melbourne's next MPavilion

Architects Rem Koolhaas and David Gianotten of international studio OMA have been announced as the 2017 MPavilion in Melbourne, Australia.

The duo will work together to create the temporary landmark and events hub, located in Queen Victoria Gardens, which will host a free, four-month programme of talks, workshops, performances and installations.

The MPavilion project began in 2014. The previous designers selected are Studio Mumbai (2016), AL_A (2015) and Sean Godsell Architects (2014).

OMA, which was founded by Koolhaas



David Gianotten

in 1975, was described by pavilion organiser the Naomi Milgrom Foundation, as "a creator of modern architectural icons." Despite their international profile, this will mark the practice's first-ever completed Australian architectural commission.

"MPavilion is now a project of international significance and

we look forward to contributing to the architectural legacy it has engendered," said Koolhaas and Gianotten in a statement. "We're excited by the brief of designing a cultural heart for the city – a space of public engagement that will spark creativity and discussion, and that will act as a theatre for ideas."

Foundation chair Naomi Milgrom said: "Rem Koolhaas is one of the world's most provocative and influential architects.

"His contribution to the cultural landscape as an urban thinker, together with OMA's multi-disciplinary approach to architecture, reflects MPavilion's desire to inspire debate about the role of design in building equitable and creative cities."



The hotel is shaped to resemble a falcon – Qatar's national bird



Stepping into Mondrian Doha begins the first chapter of a wonderful story that unfolds around every turn

Marcel Wanders

Folk tales of One Thousand and One Nights inspire Marcel Wanders' lavish Qatar hotel

The famous Middle Eastern folk tales of *One Thousand and One Nights* are the inspiration for a lavish dome-topped hotel opening in Doha, Qatar.

Local practice South West Architecture and Dutch interior designer Marcel Wanders – working in the region for the first time – have collaborated to create the “fantasy-like” Doha Mondrian for hotel operator sbe.

Design features are inspired by the local patterns, ornate Arabic writing and historic souks synonymous with famous traditional tales from *The Arabian Nights*.

The hotel's public spaces feature patterned carpets, ornate stained glass, intricate mosaic tiling and full mosaic walls, giant columns decorated with golden eggs and a ‘tree of life’ comprised of flowers. The centrepiece of the 270-room hotel is a dramatic spiral staircase in the lobby atrium, designed as if it ascends into the sky.

Guest rooms are divided into five categories, but each contains its own Swarovski crystal chandelier and custom-built furniture “designed to mirror the desert.”

The building itself is shaped like a falcon, in reference to Qatar's national bird. It is topped by a large stained glass domed

skylight, with a Peony Tiffany Lamp pattern printed across it.

“The hotel is the embodiment of Arabia through a modern lens, which in turn mirrors the modern reality of Doha – the Qatari capital that has grown immeasurably over the past few years, transforming itself from a modest fishing village into a global visionary capital,” said sbe in a statement.

Wanders added: “Stories connect us to our history, our culture and to each other. Stepping into Mondrian Doha begins the first chapter of a wonderful story that unfolds around every turn.

“Conceptually, we have married local culture with a modern design aesthetic. While many themes are collectively layered throughout the hotel, each individual space tells its own tale. Guests may therefore have many different experiences and weave for themselves a collection of stories to share.”

Additional facilities include an entertainment floor with a nightclub, rooftop pool and skybar, a huge spa, and a vast wedding ballroom, which brides can enter inside a 24k gold sculpted caged elevator. Eight restaurants and bars will also feature.

Doha Mondrian will open in September 2017.



IMAGES: SBE AND MARCEL WANDERS

◀ THE WORST
VIEWS IN THE WORLD ▶

Banksy opens hotel overlooking West Bank barrier

British street artist Banksy has returned with his latest politically-minded project: a nine-room hotel located next to the barrier wall separating Israel from the Palestinian territories.

The Walled Off Hotel, located in the Israeli-controlled part of Bethlehem, has been opened as both a genuine business venture and a piece of protest art.



Banksy's aim is to encourage dialogue and revive the economy



Work by Banksy and other artists features throughout the Walled Off Hotel



The design is themed like an English gentlemen's club

Work by Banksy and other artists, a themed bar and interactive exhibits all feature. The hotel directly overlooks a stretch of the West Bank barrier, and is described by Banksy as having the "worst view in the world."

According to *The Guardian*, Banksy wants to attract jobs and tourists to the city, whose economy has been badly damaged following tight Israeli travel restrictions.

The artist has said the hotel is "decorated to resemble an English gentlemen's club from colonial times" in recognition of the historical role Britain played in the region.

Art works in the guest rooms include a caged painting of a

vase of flowers, a picture of an Israeli border policeman and Palestinian in a pillow fight and security cameras attached to the walls like mounted trophies.

Banksy's aim is to encourage dialogue, and the hotel will feature exhibitions by Palestinian artists. He has said people from all sides of the Middle East conflict are welcome to stay, and the project is not affiliated to any political group.

Some of the artist's most famous stencils have appeared directly on the West Bank barrier wall, including a picture of two children with bucket and spade standing beneath a hole in the wall, revealing a tropical paradise beyond.



IMAGE: PORTUGOS

Visual Reality, AR and holograms may feature in the stadiums of tomorrow

Is this the eSports arena of the future?



“Congregating together to share experiences and memories is in our DNA, and eSports fans are every bit as passionate as fans of traditional sports”

Brian Mirakian

eSports may be included at the Tokyo 2020 Olympics



The popularity of eSports competitions – in which opposing players compete at video games played online, often with thousands of digital spectators following the action – has grown at a huge rate in the last decade.

Now sports architects Populous are developing physical, purpose-built arenas in which the digital battles of the future can be hosted.

Brian Mirakian, the director of Populous' Activate design agency in the Americas, told CLAD the arrival of eSports arenas “is not a matter of if, but a matter of when.

“You can see we’re building to a point where physical venues will be needed to house these competitions,” he said. “We firmly believe every great sport has a cathedral, and eSports arenas are no different. Congregating together to share experiences and memories is in our DNA.”

Mirakian said the practice has been having conversations with clients across its global offices and “the construction of the first large purpose-built venues, and adaptation of existing ones, will happen sooner than we think – possibly in the next 3-5 years.”

He added the districts around arenas could be dedicated

to retail zones and food and beverage amenities for eSports fans – unlocking commercial opportunities “365 days a year.”

Inside the stadiums, Populous imagine that high density wifi networks will allow fans to utilise augmented reality to follow the action and communicate with one another visually. Meanwhile, holographic projections can project parts of the digital action onto the pitch – with the footage simultaneously broadcast in real-time to other stadiums all over the world.

Mechanical roofs and moving walls and seats will allow for multiple configurations, meaning a venue can host day-long championship events for tens of thousands of people, or feeder events attended by no more than 2,000.

“The technology can allow us to do incredible things,” said Mirakian. “We can track the biometric data of the players, and transmit that to the fans. You could choose a player to follow and feel their heart beat pulsating in your seat at pivotal moments. It’s the desire of every sports fan to be as close to the athlete as possible – in the future fans looking for a premium experience might not want suite or a loge box, but something more immersive.”

Hong Kong's ambitious plans for US\$32bn sports district

The developers of a 28 hectare sports complex in Hong Kong have released new renderings showcasing the project, which is being considered for approval by the territory's Town Planning Board (TPB).

Located on the former site of the Kai Tak airport in South East Kowloon, the Kai Tak Sports Park has previously been described by the government as "the most important investment in sports infrastructure in recent decades". Plans for the project include a

50,000-capacity stadium that can host international sporting events, a public sports ground, an indoor sports centre, a 60,000sq m retail and dining area and more than eight hectares of public open space with landscaped gardens, jogging trails and a waterfront promenade.

Local design practice Leigh & Orange and Australian sports specialists Jackson Architecture have led the design of the scheme.

The Environmental Protection Department have backed the project and pre-construction

works have already taken place.

The TPB is reviewing a request to relax building height restrictions so the stadium can have a retractable roof that also "adds visual interest."

The government believes the park will promote health and activity, while supporting elite athletics and attracting international events.



IMAGE: LEIGH & ORANGE ARCHITECTS

The park is designed to boost public engagement in sport and activity

Verdant Taikoo Place park will offer escapism from frenetic city life

Construction has begun on a large-scale public space in central Hong Kong, designed by landscape architects

Gustafson Porter + Bowman, which will bring dense tropical vegetation and flowing water features to the heart of the concrete jungle.

The 6,400sq m project is being developed as part of the HK\$15bn (US\$1.9bn, £1.8bn, £1.5bn) Taikoo Place scheme being overseen by Swire Properties in Quarry Bay.

The developer is demolishing and rebuilding two office towers and adding an elevated walkway designed by Hugh Dutton Associates.

For the park, the landscape team are planting lush vegetation and 70 trees – including 53 of a native species grown to raise awareness of Hong Kong's spiritually symbolic Fung Shui woodlands. The public space will form a sequence of areas



“Taikoo Place is a cohesion of work, enjoyment, culture, and nature. As landscape architects it is a privilege to be able to transform such a large space between existing and new buildings”

Sibylla Hartel, Gustafson Porter + Bowman partner



IMAGE: ABB

The park will evoke Hong Kong's spiritually symbolic Fung Shui woodlands

ranging from small intimate places around water, where people can gather and socialise with friends and colleagues, to more open areas suitable for events such as jazz concerts and outdoor markets.

The largest of these spaces, Taikoo Square, is designed to create the impression of a series of terraces and is typified by two large longitudinal pools connected by a cascade and a small water table. Water features will be

sculpted through 3D modelling to allow the water to “move in exciting ways” through the site.

The park will be defined by bands of brown and white granite extending into the surrounding streetscape and Taikoo Place tower.

The entire project is expected to be completed by the end of 2021.

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“There was a pronounced need for something of this magnitude”

Steen Savery Trojborg



The route is elevated 5m (16.4ft) above the city's overcrowded roads

‘World’s longest’ cycle skyway promotes green transport and active lifestyles in Xiamen, China

Danish architecture practice Dissing+Weitling have designed a 7.6km (4.7 miles) elevated bicycle route – billed as ‘the longest in the world’ – in the heart of the Chinese city Xiamen.

The ‘cycling skyway’ has been built to decrease traffic congestion and promote greener and more sustainable forms of transportation, as well as more active and healthy lifestyles. It was designed and completed in only six months.

The route is elevated 5m (16.4ft) above the road, just below the Xiamen's bus rapid transit line, and crosses five major residential areas and three business zones. Eleven entry and exit points allow access to public transportation, shopping malls and public buildings. The width of the skyway, 4.8m (15.7ft), allows cyclists to travel alongside each other and prevents congestion.

“As in most Chinese cities, Xiamen's infrastructure is solely focused on cars and buses, which makes it very difficult and hazardous to bicycle along the city's main arterial routes,” said the studio in a statement. “The vision for

the new skyway is to inspire people to prioritise the green alternative, the bicycle, instead of the car.”

Dissing+Weitling collaborated with local firms CSCEC Steel Structure and JSTI Engineering on the project.

The studio's CEO, Steen Savery Trojborg, told CLAD: “There was a pronounced need for something of this magnitude. A safe bike path that gives its users a joyful experience of overlooking the city was an obvious way to facilitate mobility and relieve infrastructural tension in this area of the city, while at the same time promoting cycling.”

“We took much care in designing the route so that it fits the bike riders’ physical abilities and is comfortable to use.”

The architects have designed elevated bicycle lanes across the world, including Copenhagen's famous 230m long ‘Bicycle Snake,’ which opened in 2014. They are developing similar projects in Singapore and California.

“We want to see clever urban planning that reduces potentially hazardous infrastructural situations and creates positive urban side effects,” said Trojborg.



JIN KONG / KONGKONG

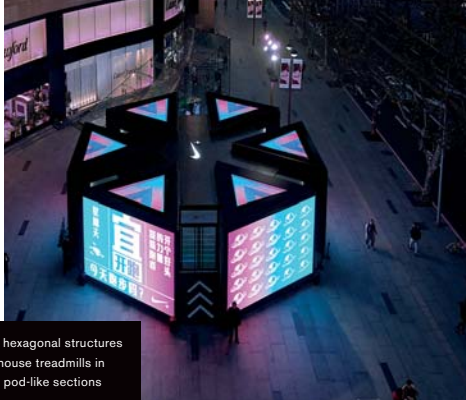
The skyway was designed and completed in just six months



Also by Dissing+Weitling: Copenhagen's ‘Bicycle Snake’



IMAGES: COORDINATION ASIA



The hexagonal structures house treadmills in pod-like sections

'Extraterrestrial design' and passion for running collide at Nike's futuristic pop-up gyms



With an ethereal, out-of-this-world design, stepping inside the main hub of the Nike+ Run Club takes you far away from the busy, chaotic streets of the city

Tilman Thürmer

Chinese architecture and design studio Coordination Asia have completed a series of sci-fi tinged pop-up running hubs for sports giant Nike in Shanghai's Times Square.

Created for the Nike+ Run Club – a community which brings people together to explore their cities through running – the hexagonal structures house treadmills in pod-like sections, intended to create a kaleidoscopic interior.

LED strips of light on the floor and ceiling build up to create a sense of momentum as runners prepare for their workout, "wrapping participants in a temple-like setting devoted to the running experience."

Runners' live performance statistics are displayed on colourful electronic screens both inside for them, and outside to draw attention from passers-by.

Aside from running, Nike is using the hubs to host training professional sessions, equipment demonstrations and healthy living events.

The design team wanted to create "a fully-fledged experience inside an extraterrestrial setting," particularly

during the colder months when pop-up gym services may be more appealing than a run outdoors.

The choice of location – outside department store Lane Crawford on Times Square – is intended to maximise interest. Anyone can pre-register online to use the hubs, or sign in at the similarly-designed information hub nearby.

"When it comes to grabbing the attention of customers, nothing beats a shareable, livable, one-of-a-kind experience," said the studio in a statement. "The need for a strong brand-customer connection has never been more prevalent, and what better way to connect than in-person?"

"The hubs are a haven for those serious about running – from seasoned pros to beginners. We created a space where talk can become action and people can become athletes."

Coordination Asia founder Tilman Thürmer added: "With an ethereal, out-of-this-world design, stepping inside the main hub of the Nike+ Run Club takes you far away from the busy, chaotic streets of the city."



Nike believes pop-up gyms may appeal more than a run outdoors



The work of Oscar Niemeyer (above) and Roberto Burle Marx (left) is renowned both in Brazil and internationally



IMAGES MELIÁ HOTELS INTERNACIONAL

“The hotel also has a Clarins spa, two restaurants, a swimming pool, a gym and a terrace overlooking both the sea and Marx's verdant garden”



Brazilian interior designer Debora Aguiar has created all the communal areas in the re-designed Gran Meliá Nacional Rio de Janeiro Hotel



IMAGE: OETKER COLLECTION

Oetker Collection's forthcoming Palácio Tangará hotel

Two Niemeyer landmarks revived as luxury hotels

Two landmark Brazilian buildings designed by the late Oscar Niemeyer and featuring gardens by renowned landscape architect Roberto Burle Marx have been revived as luxury hotels.

The first is the Hotel Nacional, located on São Conrado Bay in Rio de Janeiro. The striking cylinder skyscraper was originally opened in 1972, and became a popular hangout for celebrities such as James Brown and Liza Minnelli. Despite being a national heritage site, the building was abandoned over two decades ago and fell into disrepair.

Now hotel group Gran Meliá has acquired the 33-storey property, renovating it as its flagship in Brazil.

Many of the original architectural details have been retained.

Brazilian interior designer Debora Aguiar has created all the hotel's communal areas, including the rooftop, while US-based Studio VOA revamped the 413 guest rooms.

The hotel also has a Clarins spa, two restaurants, a swimming pool, a gym and a terrace overlooking both the sea and Marx's verdant garden.

The second Niemeyer project set for a new lease of life is the

Tangará Ranch in São Paulo. The building was first constructed in the 1940s, when wealthy Brazilian businessman Francisco 'Baby' Pignatari commissioned it as a gift to his fiancée.

However, Baby's marriage ended, and his original plans for the ranch were never completed. Instead, the property was abandoned for decades and eventually demolished in the 1990s.

Now hotel group Oetker Collection has stepped in to re-create Baby's original palace, albeit reimagined as a glamorous 141-room hotel, for its first property in the Americas. Renamed Palácio Tangará, it will open in June 2017.

B+H Architects, Bick Simonato and PAR Arquitetura are overseeing the restoration and renovation, while interior designers William Simonato, Luis Bick and Patricia Anastassiadis will design the guest rooms and public spaces, "inspired by 1940's Brazilian glamour."

The rooms will overlook the verdant 26 acre park, designed for Baby by Marx with lagoons, checkerboard lawns and geometrically tiled walls.

Shaolin's flying monks blasted into the sky above mountainous amphitheatre

Latvian practice Mailitis Architects have designed an amphitheatre with a unique wind tunnel for a band of levitating monks.

The Shaolin Flying Monks Theatre has been built on Songshan Mountain in central China – a Unesco World Heritage Site home to the Shaolin Monastery, traditionally considered to be the birthplace of Zen Buddhism and Kung-Fu martial arts.

The monks who live on the mountain develop skills in many scenic arts, all of which will be demonstrated in their new 230-capacity arena, which is designed to resemble a mountain and a tree.

The most dramatic performances will come when the monks take flight; the vertical wind tunnel

blasting them high into the sky.

"The architectural image pays respect to the beauty of surrounding nature and the historical heritage of the site," said Mailitis Architects.

"The building method combines modern and ancient technologies. A laser-cut steel superstructure supports stone steps handcrafted using local quarry resources."

There are four functional zones: the stage, the three-storey interior area, the wind tunnel's engine room and the mountain-like exterior surface, which has the stone stairway built into its side.

Summarising the project, the architects said: "The temple is an attempt to build a landmark by creating a mutual respect between history and future, nature and scientific development, and Eastern and Western philosophies." ●



The Shaolin Flying Monks Theatre before a show



The vertical wind tunnel, created by manufacturer Aerodium, (above) shoots monks into the air during flying routines (left)

Snøhetta's International Centre for Cave Art opens in Lascaux with full-size replica of 'Sistine Chapel of Prehistory'

Visitors embark on a journey 20,000 years into the past, says Kim Megson



“The building feels like neither landscape or architecture”

Craig Dykers, Snøhetta founder

A dramatic new museum celebrating some of the world's most famous prehistoric cave art has opened at the Lascaux Cave complex in France.

The E66m (US\$70.3m, £56.2m) International Centre for Cave Art is located in the town of Montignac-sur-Vézère, at the foot of the hill where the Lascaux caves – adorned with the highest concentration of Paleolithic cave art in Europe – were discovered in 1940.

Within the new centre, designed by Norwegian architects Snøhetta and scenographers Casson Mann, is a sensorily authentic replica of

the caves called Lascaux IV.

Developed through advanced 3D laser scanning and casting technologies, and recreated to a tolerance of 1mm, the facsimile has been recreated by the Périgord Facsimile Workshop (AFSP) with the same humidity, light, sound, smell and 16°C temperature as the UNESCO-protected original.

Over two years, 25 artists hand painted 900m (2,900ft) of resin rock reproductions, using the same pigments the prehistoric painters used 20,000 years ago to recreate 1,900 cave paintings.

Visitors to the centre ascend from the lobby to the building's rooftop,

where there is a panoramic view of the surrounding valley. In groups of no more than 30, they then descend a gentle slope, as if retracing the steps of the four young boys who discovered the original cave, and then enter the facsimile.

After journeying through the caves, they enter a bright outdoor transitional Cave Garden – the stark difference in atmosphere and light creating a juxtaposition with the underground world. They then enter four linked exhibition rooms, including a 3D theatre, which explain the environmental and cultural context that paved the way for the creation of the cave art,



A near-perfect replica of the Lascaux caves has been created by the design team and local artists





IMAGE: ERIC SOLE



IMAGE: ERIC SOLE

The centre's experiential galleries answer some questions about the cave art, and provoke others

and the techniques and equipment which was used to create it.

"There's a massive amount of knowledge about Lascaux, but also many different interpretations of how it came to be and no real, definitive answers," Casson Mann founder Roger Mann told CLAD. "Our goal then was to provide context to these questions, to move people and to give them room to explore the permutations of what they have just seen inside the facsimile.

"Despite the centre being built around a replica, the visitor experience is designed to be one of magic and authenticity."

Snohetta's building, conceived with local firm SRA Architectes, is a low-lying glass and concrete structure designed as "an incision, or a horizontal fault that accentuates the line between the surrounding valley and Lascaux hill."

The walls, roof and interior and exterior floors use the same type of concrete to create a distinctive monolithic appearance.

"The building feels like neither landscape or architecture," Snohetta founder Craig Dykers told CLAD. "It occupies space and likewise you occupy it. You walk on the roof, it feel as though it's yours and you own your experience. It's very connected to the earth we stand on, and it mediates between the municipal context of the nearby town, the agrarian landscape of the immediate surroundings and the paleolithic cave within."

He added that by framing the experience of the cave replica with contemporary design, the trap of artifice is avoided, because while the visitor understands they are in the presence of a reproduction, they still feel its impact.

Lascaux IV complements Lascaux II – an original replica of the cave that opened in 1983 – and prevents that attraction from becoming overcrowded. There is also a Lascaux III – an 800sq m (8,600sq ft) mobile replica of the cave that is taken around the world. ●



IMAGE: JOHNNY + GRAZIA

A 3D cinema experience takes visitors into the heart of the original Lascaux cave, which is now closed



IMAGE: ERIC SOLE



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A portrait of Jeanne Gang, a woman with short brown hair, wearing a dark blue sweater, sitting at a wooden table. The background is a warm, brown-toned interior with a lamp and a framed picture.

Jeanne Gang studied at
the University of Illinois
and Harvard Graduate
School of Design

“Understanding science is so important.
People are denying climate change. It’s a crisis”

JEANNE GANG

Design should be used to make a social difference, the award-winning architect behind the American Museum of Natural History's new wing tells Magali Robathan

‘D

esign has the ability to manifest change in the world,” says Jeanne Gang.

“It’s not just about doing a building, it’s figuring out what power it has to make a positive difference. You could just design a building and stop there, but unless you understand what its potential could be, what’s the point?”

I meet Jeanne Gang, founder of Chicago-based architecture and urbanism practice Studio Gang, in Berlin. It doesn’t take long in her company to realise that these aren’t just empty words. Gang believes passionately in the power of design, and says that she will only take on projects with the potential to act as a force for good.

“That’s the reason I work,” she says, simply. “Although it gives me a thrill to see something come to physical reality, it’s all about moving us forwards in terms of community and wellbeing.

“It’s not about manifestos. It’s about trying to understand the world that we’re all inhabiting; trying to make sense of it and put our work in the place where it can actually do something.”

Since launching Studio Gang in 1997 (after a stint working for Rem Koolhaas at OMA), Gang has built a name for herself with a range of projects

that look to nature for inspiration and straddle her interests in ecology, cities and communities.

One of her highest profile projects, Aqua Tower in Chicago (the world’s tallest tower by a female-led practice), is set apart from most skyscrapers by its organic form, and was designed to help migrating birds avoid fatal collisions and to reduce wind tunnel effect at the base of the tower.

The Nature Boardwalk at Lincoln Park Zoo in Chicago transformed a neglected urban pond into an ecological habitat teeming with life, while the Writer’s Theatre, in the Chicago suburb of Glencoe, Illinois, aims to ‘bring people together across boundaries’ in an open, transparent building, clad with cedar, glass and concrete.

Current leisure projects include the Eleanor Boathouse, which recently opened in Chicago; a masterplan and dolphin sanctuary for Baltimore’s National Aquarium; the Solar Carve tower in New York (designed with the sun’s path in mind, so parts of the tower are carved out to prevent sunlight being blocked from the adjacent High Line); a plan to create a new district for the Black Ensemble Theatre in Chicago; and the expansion of the American Museum of Natural History in New York.

Studio Gang’s work with the American Museum of Natural History (AMNH) sees the practice design a major new \$340m wing for the museum.

The six storey Richard Gilder Center for Science, Education and Innovation, will provide more



We're a group of people who are curious about the world and so we want architecture to resonate with its time and place

space for exhibitions, learning, laboratories and open storage for the museum's collections, and will feature an insectarium, a butterfly vivarium and an immersive theatre. The centrepiece is the dramatic cavernous Central Exhibition Hall (described by the *New York Times* as 'part Dr Seuss, part Jurassic Park'), which is flooded with daylight from above and features a series of concrete connective bridges and balconies.

One of the key aims of the new wing is to allow visitors to experience the museum as an active scientific and educational institution as well as a place for public exhibitions – the AMNH offers classes from preschool up to teacher training and PhDs in science education.

"It's so important for people to understand science right now," says Jeanne Gang. "You've got people denying climate change. It's a crisis.

A WOMAN WITH A MISSION

Gang studied architecture at the University of Illinois and Harvard Graduate School of Design, and then started her career in the Netherlands, with OMA. After working under Rem Koolhaas for two

years – where her projects included the celebrated *Maison a Bordeaux* – she moved back to the US. In 1997, aged 33, she set up Studio Gang in Chicago.

Studio Gang is a collective of 91 architects, designers and thinkers' with offices in Chicago and New York. It's a highly collaborative, research-based practice that works closely with a diverse range of experts, both inside and outside of architecture.

The practice has an active research arm, and Gang writes for a variety of publications – recent articles include a piece on managing mining of the deep seabed for *Science* magazine and an essay on transitioning zoos and aquaria for the 21st century for *Minding Nature* magazine. She has also taught at Harvard, Yale, Princeton, Rice, Columbia, and IIT.

"Teaching, exhibitions, independent research and my writing are fuel for our projects," says Gang. "These articles and research topics take very different tracks from architecture, and are not necessarily specifically related to a building, but they inform a lot of our work.

"We're a group of people who are curious about the world and so we want architecture to resonate with its time and place."

The architectural model of the Gilder Center shows the modern curved buildings in between the older museum buildings





A view of the entrance of the Gilder Center (left); Studio Gang's design aims to 'reclaim the physical heart of the museum'

Gang is also known for her deep interest in materials, and describes material research as her 'playtime'. This interest started at a young age. As a child, growing up in a small town outside Chicago, she was "always making stuff," she says.

"I just liked to make space and build things, to work with materials, to test them, try and break them," she continues. "One exercise I get students to do is taking a material and asking them: How does it break? How does it fail? You learn so much about a material when you try to wreck it."

On childhood road trips across the US in the family station wagon, Gang's love of the natural landscape deepened. "My earliest memories are from these road trips, filling up my suitcase with a rock from every place we visited," she explains. "I still have a collection of rocks, pine cones, earth and birds' nests. The things that nature produces are just incredible."

One of these trips, Gang remembers visiting the Mese Verde National Park and marvelling at a site of abandoned Native American dwellings built into the hillside. "It just blew me away, the way it combined landscape and architecture," she says.

Studio Gang's first project was the development for a new college theatre at Rock Valley College in Rockford, Illinois. Gang drew from nature to create a flower-like retractable roof for the theatre, consisting of six petal-shaped panels that open in fine weather (and close in bad weather so the show can go on). It was a stylish solution and impressive feat of engineering that marked the fledgling practice as one to watch.

Since then, the team has refused to be pigeonholed, working on projects across a range of



sectors, including leisure (theatres, boathouses, museums, a concert hall), residential, community and education, as well as several innovative temporary installations (including a piece for Design Miami 2014 that used Swarovski crystals to evoke the melting polar ice caps). Along the way, the practice has picked up numerous awards, and last March Jeanne Gang was awarded Architect of the Year at *The Architectural Review's* Women in Architecture Awards.

AMERICAN MUSEUM OF NATURAL HISTORY

In November 2015, the American Museum of Natural History (AMNH) revealed plans to expand, with a new wing designed by Studio Gang. Exhibition design is by Ralph Appelbaum Associates and Reed Hilderbrand are responsible for the landscape design of a portion of the adjacent Theodore Roosevelt Park.

You learn so much about a material when you try to wreck it



THE WRITERS THEATRE

GLENCOE, ILLINOIS, US

Built for the Writers Theatre group, this performing arts centre opened in Glencoe, Illinois in February 2016.

The theatre is spread across a village-like cluster of distinct volumes around a central hub, and features a glass-clad lobby which glows in the dark at night to beckon people in. The 36,000sq ft (3,345sq m) complex includes rehearsal rooms, a second-floor gallery and three performance spaces – a main stage, a 99-seat black box venue and the lobby – designed to be intimate and easily configurable.

WRITERS THEATRE PHOTOS: STEVE HALL, CHRISTOPH BILSON



At night the Writers Theatre glows from within, attracting the interest of passers by and drawing people inside

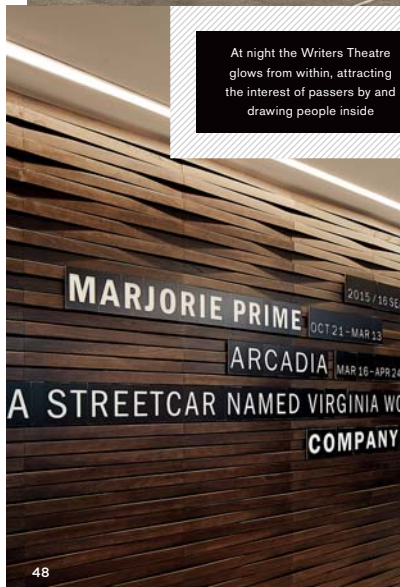
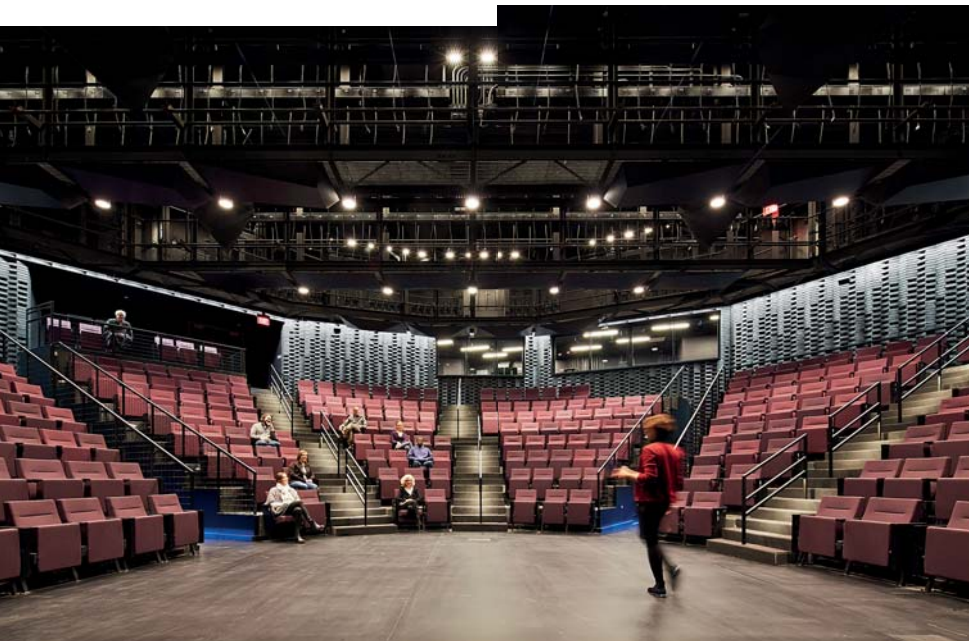


PHOTO: ©GALILEO TVAN



The staging has been designed to maximise intimacy between actors and audience. The lobby acts as a multi purpose space (below)

"I'm excited about projects where the organisation is on the verge of change, and the Writers Theatre was one of those. They were operating out of the back of this tiny little book store. The performances were getting more and more well known regionally and nationally. They needed the architecture, the building, to help them get to the next level.

The theatre needed to operate on this other level; being a place for the community to unfold. It's a civic space. Usually theatres are just these black boxes that are closed off and not visible to the outside world. Our design expands the time people spend talking to one another"

JEANNE GANG

Studio Gang approached the project by “trying to figure out the DNA of that organisation, and what was needed there,” says Gang.

“There are 25 buildings on that campus, and they are all glommed onto each other in a really ad hoc way,” she continues. “In my experience visiting the museum, I’ve got lost a lot of times. I realised that with a couple of very simple moves we could clarify the organisation, [the various buildings] would become much more connected, and it would make it easier for people to consciously plan their journey around the museum.

“Our new wing is almost like an ‘inny’ belly button, going way into the centre of the campus to connect to this circulation concept. Once we did it, it was an obvious thing to do, but no one had thought of it before; they just kept adding on to the side of the building.”

The design of the central exhibition hall, with its undulating walls and bridges that bring to mind natural landscapes, followed on from that starting point, explains Gang.

“Because we were studying the flow in the building, we started thinking about flow in nature, and looking at all of those landscapes and materials that are about flow, like ice and canyons and geology,” she says. “It ended up taking on this identity that gives people a sense that there’s something to discover.”

BALTIMORE AQUARIUM

Four years ago, the National Aquarium in Baltimore sought out Studio Gang to help with their quest to rethink aquariums for the future. The National Aquarium, which opened in 1981, is

housed in a building on Pier 3 of Baltimore’s inner harbour. A separate building on Pier 4, the Marine Mammal Pavilion, opened in 1994 and is home to the aquarium’s colony of dolphins.

When ocean conservationist John Racanelli joined the National Aquarium as chief executive in 2011, one of the first things he did was stop the stunt-filled dolphin performances that were part of the aquarium’s offer.

“John Racanelli really wants to make the transition from being an entertainment venue to becoming a conservation organisation,” explains Gang. “We’ve been working with them for a number of years to make that happen.

“At a time when we really need science and education about the ocean, aquaria have tended to be based on an entertainment model. You pay to get in, you buy plastic trinkets from the gift store, you watch a dolphin jump through a hoop. Having them perform in that way doesn’t tell you anything about the natural behaviour of dolphins or about the animals of the ocean.”

PHOTO: ©GALLY HEAN

Jeanne Gang writes for a range of publications. She is currently teaching at Harvard Graduate School of Design

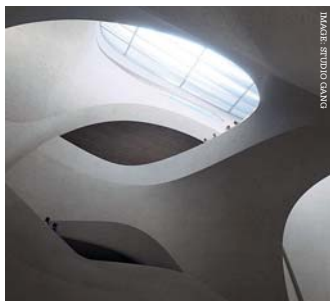


IMAGE: STUDIO GANG

The Gilder Center’s curved interior walls

I have a collection of rocks, earth, pine cones and birds’ nests. The things nature produces are incredible



"The design for Aqua uses architecture to capture and reinterpret the human and outdoor connections that occur more naturally when living closer to the ground. Its distinctive form is achieved by varying the floor slabs across the height of the tower, based on criteria such as views, sunlight, and use"

JEANNE GANG



PHOTO STEVE JALIL © BERENSON BLISSING

AQUA TOWER

CHICAGO, US

Completed in 2010, the 82 storey, 876-foot Aqua Tower in Chicago combines a hotel, offices, rental apartments, condominiums, and parking, and features one of Chicago's largest green roofs.

The irregular, sculpted shape of the tower was inspired by geological forms, and creates outdoor terraces, maximising views and solar shading and allowing residents to interact easily with their neighbours. The undulating shape also helps to prevent bird collisions, along with the fritted glass etched with grey marks that make it easier for birds to see it.

The undulating shape of Aqua Tower effectively 'confuses' the heavy Chicago winds, helping to stabilise the building

"In zoos they used to have elephants in tutus. We don't do that anymore."

Last summer, the National Aquarium announced that it plans to move its dolphins from captivity into a seaside sanctuary by 2020 and Studio Gang released details of its strategic masterplan for the organisation.

Gang's strategic masterplan identifies opportunities for sustainable growth and aims to improve the layout of the aquarium, connect it to the harbour, transform the experience it offers and provide more facilities for conservation work and education. The plan suggests connecting existing facilities on Pier 3 and Pier 4 via an urban wetland based on the tidal meanders of the Chesapeake Bay, which could attract wildlife and increase biodiversity. And then there's the longer term plan, which sees Studio Gang working on ideas for the dolphin sanctuary, as well as uses for the Pier 4 building.

"It's a very complex thing," says Gang, of the sanctuary. "It would be the world's first dolphin sanctuary, so there are lots of questions to be answered. How do those animals survive? If you do an oceanside sanctuary they could be subject to hurricanes, and so on. There's a lot of work going on around all of that right now."

A BUSY YEAR

2017 is turning out to be a busy year. As well as the American Museum of Natural History and National Aquarium projects, the practice is working on a summer installation for the National Building Museum in Washington DC. Their temporary structure will follow James Corner Field Operations' Icebergs, with previous collaborations including The BEACH by Snarkitecture (2015) and the BIG Maze by the Bjarke Ingels Group (2014).



Studio Gang's strategic plan for Baltimore's National Aquarium sees existing facilities linked by a new urban wetland

Studio Gang have collaborated with the National Building Museum in the past, including a 2003 exhibition which saw marble puzzle pieces hung in tension from the museum's vaulted ceiling.

The practice is also currently working with the Black Ensemble Theatre in Chicago on a plan to create a new district that could include a café, education space and residential units.

"The idea is to build a district that is free to be anything. A kind of safe space, but also a dynamic engaging space," says Gang.

More generally, Jeanne Gang says she is looking at the bigger picture of the work she takes on.

"I've been trying to connect the dots in my own practice," she says. "It's this interest in materiality and structure and space on the one hand, with whole communities and our desire to make a difference in the bigger society on the other."

"I'm trying to pull those two ends together." ●



In zoos they used to have elephants in tutus. We don't do that anymore



National Building Museum's Summer Block Series

As CLADmag was going to press, Studio Gang revealed the first details about the interactive installation they are creating for the National Building Museum's 2017 Summer Block Series in Washington D.C.

The intricate structure, called Hive, will be formed of 2,700 wound interlocking paper tubes of different sizes—from several inches to 10ft high. They will feature a reflective silver exterior and vivid magenta

interior, "creating a spectacular visual contrast with the museum's historic nineteenth-century interior and colossal Corinthian columns."

Soaring to the uppermost reaches of the museum's Great Hall, Studio Gang's creation will feature three interconnected, domed chambers reaching 60ft in height. The tallest dome will feature an oculus over 10ft wide.

By utilising the catenary shape, each chamber will balance structural

forces and support its own weight, while attaining a height that enables a unique acoustic signature.

"You almost feel like you're in an outside space because of the distance sound travels before it is reflected back and made audible," said Jeanne Gang, who revealed the domed form is inspired by built structures such as Eero Saarinen's Gateway Arch in St. Louis and Filippo Brunelleschi's Dome at the Florence Cathedral in Italy.

THE NATURE BOARDWALK AT LINCOLN PARK ZOO

CHICAGO, US

For this project, completed in 2010, Studio Gang designed a boardwalk and nature trail around a 19th century pond in Lincoln Park Zoo, as well as a curved wooden pavilion, which acts as an open air classroom. Studio Gang used the project to improve the water quality of the urban pond and transform it into a thriving ecological habitat.



PHOTOS THIS PAGE: TOM HARRIS PHOTOGRAPHY



The Nature Boardwalk runs around the pond, passing through educational zones that highlight the animals, plants and habitats

"We were asked to design a pavilion for the Nature Boardwalk at Lincoln Park Zoo. They just wanted to do a pavilion and call it a day, but when we started looking at the site we realised there was much more to it. We said: Let's take over the pond itself, which was picturesque but smelly, dirty and unsustainable.

We put a team together who were able to address habitat, environment and water quality, and by redoing the pond with this more biodiverse habitat it became a magnet for all kinds of plants and animals. It's this incredibly wild space right in the middle of the city.

The pavilion itself is made out of bent wood; it's beautiful. Without the architecture the spot wouldn't be the magnet for people the way it is now. This shows the potential a building has to inspire change."

JEANNE GANG

JAMES CORNER

CEO • JAMES CORNER FIELD OPERATIONS

When you think of a landscape, you think of romantic green gardens and hedges and flowers, right?" James Corner asks, intently.

"But a landscape is so much more than that – it encapsulates society, politics and our own existence on a planet where we're bound by natural forces. It's how we give form to our land and cities. Ultimately it's how we identify with places."

Corner, it's fair to say, is a man who knows the subject inside out. As one of the world's foremost landscape architects and theorists, he's worked

Landscape is something personally experienced, almost subconsciously

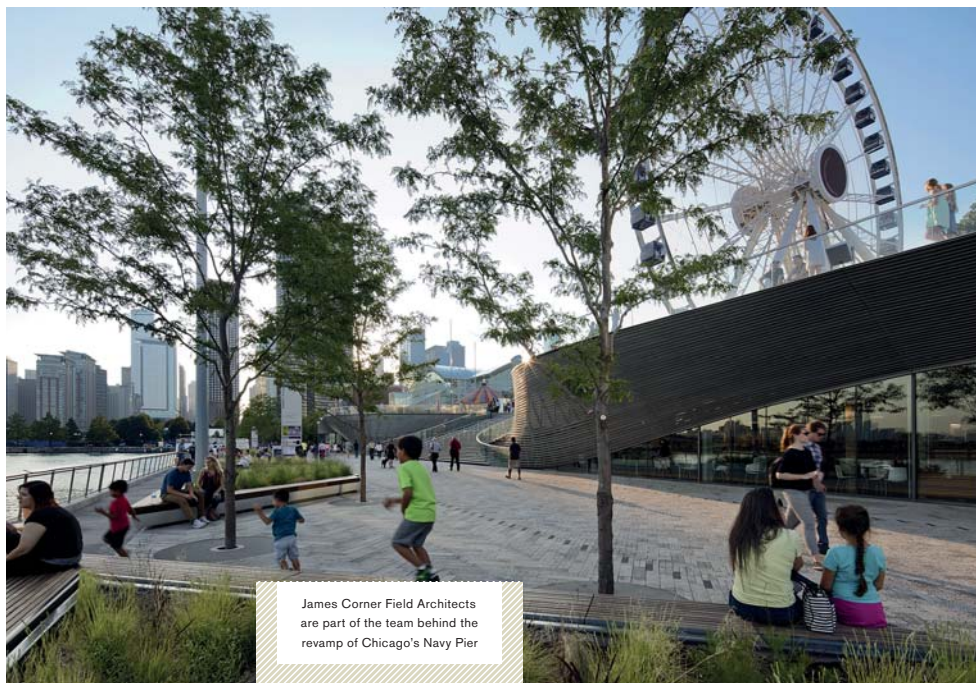
on projects as varied and celebrated as Chicago's redeveloped Navy Pier, London's South Park at the Queen Elizabeth Olympic Park and – most famously – New York's High Line, along an elevated section of disused Manhattan railroad.

Forthcoming projects masterplanned and designed by his practice, James Corner Field Operations, include the redevelopment of Seattle's central waterfront and protective seawall; the transformation of a former military base in San Francisco, into a 14 acre stretch of parkland; and the creation of a 10-mile "linear park, urban trail and living art destination" running below Miami's elevated Metrorail tracks, known as The Underline.

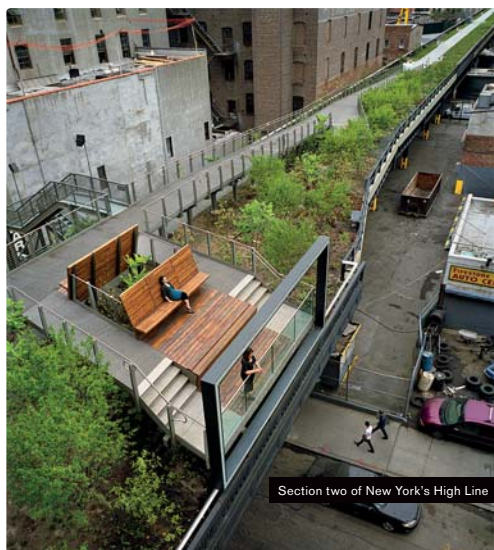
FROM MANCHESTER TO MANHATTAN

I meet Corner at the rooftop bar of one of Barcelona's fancier hotels, where he's in town to judge the annual Rosa Barba International Landscape Prize. The view extends across the cityscape; an ocean of clustered rooftops – none more striking than Antoni Gaudí's fairytale-like Sagrada Família – that gradually fade into a horizon dominated by a sweeping mountain range. ▶





James Corner Field Architects
are part of the team behind the
revamp of Chicago's Navy Pier



Section two of New York's High Line

IMAGES COURTESY OF JAMES CORNER FIELD ARCHITECTS



Cleveland's Public
Square features a
new park by JCFO



It's an apt location for our interview, because urban landscapes are Corner's great obsession.

"I'm fascinated by the interplays between city and nature, between the garden and geography, between small scale and large scale, between art, imagination and something more tangible," he says. "I had this double experience growing up in Manchester in England; on the one hand enjoying life in the city – nightclubs and bars and museums and street life – but also exposure to big nature. So we'd travel to the Lake District or the Peak District and go camping and climbing, hiking and parachuting. I was very active in the outdoors. I think that double relationship of being urban but understanding and appreciating big nature has conditioned my interests."

After graduating from Manchester Metropolitan University in the early 1980s, Corner began working on urban landscape projects, including Liverpool's fondly remembered International Garden Festival Park. Next came a move to America to study a Master's Degree on the subject at the University of Pennsylvania. He later became a professor there and developed his own brand of "landscape urbanism" – a theory



James Corner's Icebergs installation for the National Building Museum's Summer Block Party Series

of urban planning that places importance on the design of a city's landscape – its public spaces and infrastructure – rather than just its buildings.

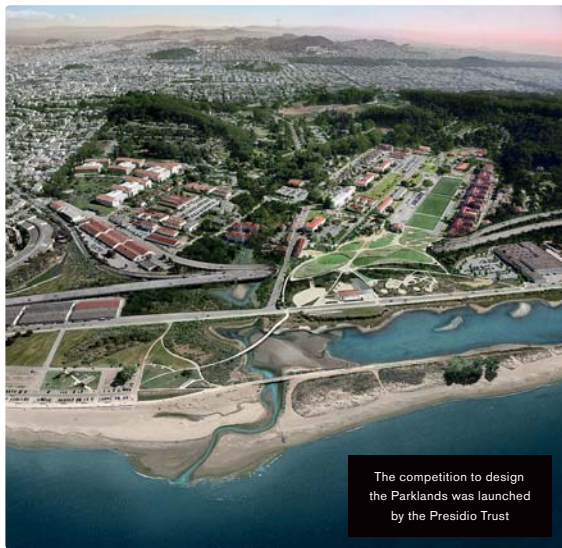
Around this time Corner chartered a light aircraft with pilot and photographer Alex MacLean, and together they set off on an expedition across America. MacLean took aerial pictures, Corner made maps and reflected on the sprawling vistas below – "a world of grid cities, axial cities, radial cities and collage cities." His reflections on how we work the land, and how that informs the organization of our cities, led to a seminal book called *Taking Measures Across the American Landscape*. Later it inspired his work as a landscape architect.

Scale is important to Corner. In the 18 years since he formed James Corner Field Operations in New York, he's worked on projects large and small, from vast urban districts, complex post-industrial sites and major environmental resiliency projects to intimate and well-crafted gardens.

At one end of the scale is Freshkills Park, the studio's 30-year transformation of an 8.9sq km former landfill site – once the world's largest – into a green space three times larger than Central Park. At the other end is their installation for last year's



The Presidio Parklands project will link an existing park with the San Francisco Bay, with the park covering a major roadway



The competition to design the Parklands was launched by the Presidio Trust

Presidio Parklands

Following an international design competition in 2014, Field Operations were selected to develop a 14-acre 'tunnel top' parkland bridging the Presidio with the nearby Crissy Field, the Marsh and the larger bay in San Francisco. The proposed 'Presidio Point' will choreograph the best vantage points with dramatic new pathways, overlooks, lawns, gardens and social spaces, creating a 'shared living room' for the city.

CORNER:

🌿 This is a culturally and environmentally intense project. Everybody who lives there is enormously attached to this piece of land. We want to create an environment people have passion for. We are actually trying to design something that is exceptionally restrained, while amplifying the views and vistas and the experience of being in and around the bay 🌿



Section one of the High Line

“Landscape architects are the unsung heroes who are really doing the behind the scenes work shaping the public realm”

National Building Museum Summer Block Party – an ‘underwater world’ of climbable icebergs crafted from recycled construction materials. (Corner: “It was first suggested that we create a green maze or a Japanese Garden. I thought ‘fuck that – let’s do a more vital form of landscape.’”)

PHILOSOPHY

I ask Corner to summarise the practice’s philosophy. What unifies his work?

He contemplates for a moment. “We design places that are beautiful, but I also like the fact that they’re doing something more,” he says. “They’re adding value for the ecology, environment, people and economic development. They’re also provoking the imagination.”

“I think of us as choreographers or conductors or film directors. We coordinate all the different experts and specialists to produce something that’s wholesome and authentic.”

Despite their success, Field Operations are not a household name in quite the same way as architects Bjarke Ingels Group, who were the 2014 Block Series designers, or Diller Scofidio + Renfro, who collaborated on the High Line. Do landscape architects receive the recognition they deserve?

“We sometimes feel as though we’re in a 1950s TV series in regards to our relationship with architects,” he replies. “They’re the 50s husband – dominant and frontal and vertical and visible. And we’re the stereotypical ‘good wife’. We’re not really seen, but we’re the ones who make things happen, who resolve a lot of the problems and add real long-term value.”

“Landscape architects are the unsung heroes who are really doing the behind the scenes work shaping the public realm. But many people don’t necessarily consider this as design; they assume it’s just residual space that arrived there naturally.”

Such subtlety, Corner concedes, is often not a bad thing, even if it prevents those creating beautiful or impactful landscapes from having their moment in the sun.

“Some of the best public spaces have a simple anonymity,” he says. “They don’t call attention to themselves. They’re voids, but they’re still carefully thought through in terms of surface, mood and character.”

“Landscape architects who try to be foregrounded often create work that calls too much attention to itself, dates very quickly and isn’t always that deep or lasting.”

LIVING THE LANDSCAPE

The fact is, despite our propensity for calendars and inspirational posters featuring luscious landscape shots, such environments – where texture, sound and smell is crucial – are harder to represent than buildings.

“The things that I’m talking about don’t always photograph very well,” Corner explains. “And yet you live them in a profound way.”

“The deeper part of landscape is something personally experienced, almost subconsciously. Walter Benjamin once said something like ‘buildings and cities are aesthetically received by a society in a state of distraction.’ He means that people don’t walk around paying attention.”

“But a city or a landscape lingers in your memories.” He gestures at the view around us. “You’ll leave with fond recollections of Barcelona, but they’re not precisely photographic. It’s something a little deeper and more emotional.”

THE HIGH LINE

By Corner’s own admission, there is a double play in his work, and his philosophy too. While he appreciates and practices subtlety, some of his best known projects are inspired by a sense of





James Corner Field Operations
were selected to design
Seattle Central Waterfront
in September 2010

The plans aim to reclaim the waterfront as a public space



Seattle Central Waterfront

Field Operations have designed a comprehensive framework plan for 1.5 miles of the waterfront. With the removal of the Alaskan Way Viaduct and the reconstruction of the Elliott Bay Seawall, the plan works at multiple scales to re-centre the city and shape a new public realm.

CORNER:

The opening up of the waterfront to new public uses will radically transform Seattle. Even the less obvious stuff is exciting. We've designed the seawall as a fish habitat corridor. Its texture will encourage algae and rockfish – a food for the young salmon that will migrate along the wall. We'll also lift the beach level to create shallow waters for them. It's largely hidden, but it's enormously important

INTERVIEW: JAMES CORNER

the dramatic. Take the High Line. What began as a plan for "a sort of melancholic stroll on a piece of industrial infrastructure" transformed into what it is today when he realised the key was "to theatricalise the everyday".

The park was subsequently designed to provide a stage for "the joys, pleasures and dramas of public life." Since opening it has become a regular point for marriage proposals, wedding photos, birthday celebrations, community events and public gatherings. It's even been reported that Elizabeth Diller is planning an opera to be performed along the 1.5 mile route.

"We've borrowed the landscape of Manhattan and created a journey," Corner explains. "Because you're 30ft above the street and you're crossing over bridges, you get these amazing views and vistas that are little surreal. You can see the Statue of Liberty, the Empire State Building and the river, all from this elevated perch. You hear birdsong and see butterflies and insects. There's this pulsing sense of life brought into play."

"But the biggest draw is the people-watching sexiness of it all. People just get a kick out of being up there with other people. Sometimes it's about you being the voyeur, sometimes it's you being the exhibitionist. There hasn't really been a space before where people can just come out and be with others in an informal way. That's the magnetism."

Corner admits his team "never foresaw the glitziness of what came" with the High Line. He credits its success to then mayor Michael Bloomberg and the founders of the Friends of the High Line, who fought a neighbourhood "that wanted to tear the railroad down" rather than build a park.



“Sometimes it's about you being the voyeur, sometimes it's you being the exhibitionist”

In 2016, two years after the final phase was completed, the High Line was visited by over seven million people, making it one of the city's most popular destinations. Developers have been drawn to the postcode, commissioning showy residential buildings from the likes of Zaha Hadid Architects and Bjarke Ingels, who has hailed the High Line as "one of the greatest things to have happened to New York in the last decade."

The success has inspired a host of copycats. Sydney, Seoul and Singapore are among many places investing millions to transform disused viaducts, overpasses and railways into linear parks. Corner's own project under Miami's Metrorail, called the Underline, also shares some

DNA with the High Line, although he's quick to point out the differences between them.

"Miami doesn't have the same density or intensity as Manhattan, so the idea is different. If the High Line is an urban promenade for strolling, like a garden in the sky, the Underline is more fast-moving. It's about health and fitness, cycling, basketball, running and rollerblading. The similarities come from the ways in which we're working to bring drama to the everyday and encourage people to spend time outdoors."

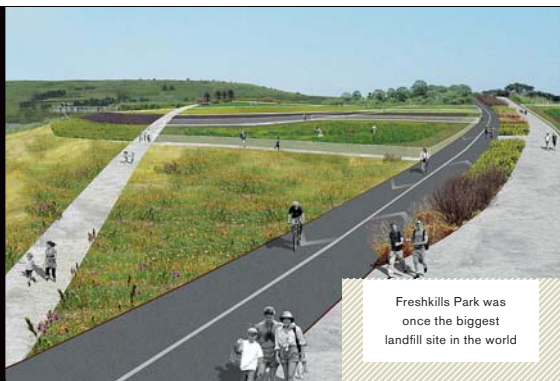
Perhaps surprisingly, he warns against "every city thinking they can have their own High Line." I ask him why. "It doesn't always make sense in every context," he says. "The High Line was expensive, and it's still expensive to maintain today. It is a chore frankly for people to go up 30ft in the sky. With elevated structures there are safety issues. There's a lot of complexity to it. It's only a good idea when the context actually make sense."

PLATFORMS OF TOLERANCE

What Corner doesn't doubt is that creative and public spaces are more important than ever.

"Cities are economic machines and they need people," he says. "So they have to retain residents, businesses and tourists. Young people today have a choice. They could go and live in London or Chicago or Miami or Hong Kong or Barcelona. So to keep them, you need public spaces that really appeal to them. We need to create desire."

As well as keeping residents happy, Corner believes well-conceived parks and squares are "conducive to more tolerance at a time when democracy is being challenged".



Freshkills Park was once the biggest landfill site in the world

Freshkills Park

Over 1,200 acres of closed landfill and 450 acres of important wetland will be framed by spectacular views of downtown Manhattan from hilltops. Once the world's biggest rubbish dump, Field Operations will guide the transformation of the site from landfill to 2,200 acre parkland over the next 30 years.

CORNER:

“We're using state-of-the-art ecological restoration techniques in an extraordinary setting for new forms of recreation, public art, and environmental remediation”



The Miami Underline will see the creation of a linear park, urban trail and living art gallery

The Miami Underline

The 10-mile long linear park will be anchored near the north end of the Miami River, close to the financial district around Brickell Avenue, and to the south by the Dadeland South Metrorail Station. With a width ranging from 70 to 170 feet, the leisure-filled corridor will transform undeveloped land beneath the metro line, forging a relationship with existing neighbourhoods, parks, canals, and the river.

His argument is passionate: "Great public spaces allow people to be exposed to other people. They attract people from every walk of life, and that can reduce prejudice or fear of others.

"You become more tolerant of the fact that diversity and pluralism is part of cosmopolitan life in any city. Design that welcomes and showcases that is a great, great thing."

Corner points to his own work on Cleveland's six acre Public Square, which his practice designed as "another stage for public life" by bringing together four quadrants that had previously been separated by two big roads.

"There was a lot of fear that there would be big riots last year in the square ahead of the Republican National Convention [where Donald Trump accepted the party's nomination to run for president]," he expands. "People were expecting vandalism and damage and fights. But afterwards, a reporter from a local newspaper wrote an article about just how amazing it was, because while people turned up and there were public speeches and protests, it was all done with great respect. He extended the hypothesis that that respect came because of the square.



James Corner Field Operations have designed a new park for Cleveland's Public Square

CORNER:

We're trying to dramatise activity, creating the feeling that going out to cycle or rollerblade is cool and fun. I want to encourage activity by making it the sort of the place where you'd choose to go for a run or go for a ride

"Our design emphasises the sound of water, the shade from the trees, the openness of the views. The quality just led to a sense of 'this is an open platform to say what I want and protest, but I am no way induced to violence.'

"This goes back to the feeling that you're in an environment that commands a certain amount of respect. If you design a trashy place it will get trashed, if you design a special place it will encourage a special atmosphere.

"It's an issue of ownership. Whose territory are you in? Is it really public or does it feel it belongs to somebody else? To what degree do you feel isolated or part of a community? Fearful or joyful? All of these emotions are created by the context."

This is heavy stuff, certainly far beyond mere "hedges and gardens", and as our interview draws to a close I tell myself to be more aware of the public spaces I interact with every day.

"It's a lot to think about, but really it's just about trying to make the world a better place," Corner laughs, perhaps reading my mind.

"If you can capture the imagination, provoke desire, stimulate interaction and bring fun to people's lives – what could be more perfect than that?" ●

Stephane Malka shows the power of parasitic architecture with eco-friendly 'plug-in' extensions

The French architect says his innovative model of construction is faster, cheaper, better for the planet and perfect for creating leisure spaces

The studio of French architect Stephane Malka have unveiled the latest iteration of their 'parasitic architecture' concept, with an ambitious plan to graft extensions, bow-windows and loggias onto one of Paris' lacklustre and poorly-performing 1970s buildings.

The project, called Plug-In City 75, will transform an apartment block in the French capital's 16th arrondissement by 'plugging in' custom-made prefabricated elements to the outside of the structure.

Old windows, bad insulation and the presence of heat bridges mean the building's energy consumption is high, while the flats inside are dark and gloomy.

Now the co-owners have commissioned Malka to optimise the properties using his own brand of parasitic design – an environmentally-friendly and economical solution to creating living space in urban areas short of space for new developments.

While Paris' property law has been relaxed to lift planning restrictions, particularly for rooftops, it still does not allow the height of buildings to be raised. Therefore, grafting elements to expand outwards is one of the most practical solutions to finding more space.

Each inhabitant has requested the ideal surface area they require for their apartment. Those on the ground floor will be extended outwards, using modular prefabricated boxes built from bio-sourced natural wood and attached to the existing façade of the building. The top of these boxes will then become a private terrace for first-floor residents.

This pattern of cubes will be repeated up the building, with each differently-sized box allowing for two levels of extension – one covered interior space, and one interstitial terrace, balcony, box garden or loggia for the floor above.

The lightness of the wood, made from wood particles and chips, will allow flexibility when it comes to



Stephane Malka

You plug in a box when you need leisure space and then you unplug it

the best bet is to add to what is already there by attaching to rooftops, blind walls and façades.

"Parasitic architecture is a faster, cheaper, simpler and more ecological approach, and it can create a new dynamic inside the city."

While Malka's work has mostly been applied to residential projects, he said the concept has many potential leisure applications. Low-cost music venues, eateries, bars, shops, sports facilities and museums could be brought to busy cities without the need to first tear down old buildings to create space.

"This model can work on any type of façade, except for glass," he said. "Imagine on a blind wall you could attach a bar just made from these plug-in units."

"You could even use it just for temporary events. You plug in a box when you need some leisure space, then you unplug it and move it somewhere else." ●

installing the mini-structures on site.

"The accumulation of extensions on the façade divides the energy consumption of the building by four, down to 45KWh per square metre per year", Malka told CLAD. "Thus the building is transformed and adapted to the real needs of its inhabitants."

"The truth is our cities cannot hold any more people, so we need more space. But instead of tearing everything down and building taller,



Modular prefabricated boxes will be grafted onto the building's existing exterior



Parasitic architecture is quick to build, and Malka said Plug-In City 75 will be completed in Q1 2018



Sanrio Hello Kitty Town, Malaysia



Happy Magic Watercube, China



Centara Grand Mirage Beach Resort, Thailand



Qingdao International Tourism City, China



Wanda Nanchang, China



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A SENSE OF PLACE

From a busy urban gym to a resort that channels the spirit of a nearby mountain, these Asian spa and fitness facilities take their design cues from the local environment, finds Christopher DeWolf

When curator Hans Ulrich Obrist was in Hong Kong this year to unveil a show about Zaha Hadid's early work, he mused about the role of context in the late architect's work. "Often radical architecture does not only grow out of a desire for experimentation, but it also responds to a constraint," he said. He was referring specifically to the late architect's unrealised 1983 plan for a leisure club on Hong Kong's Victoria Peak. Hadid's vision called for a structure that first burrowed into mountain caverns, then exploded out into jagged, gravity-defying shards that floated above Hong Kong's jam-packed cityscape. "It was an answer to an extreme urban condition," said Obrist.

Drawing inspiration from a site's surroundings is a natural strategy for many architects, but it can be particularly valuable for those who design spa, wellness and fitness spaces. A mountain spa that reflects the stone and trees of its natural setting adds an extra layer of relaxation to the experience. An urban fitness centre that serves busy workers might need a different approach altogether. Here are seven spa and fitness projects that take a cue from their environment.

The awkward site was used as a starting point for the design of this Bangkok retreat



□ CASA PREMIUM RAMA 2

By the time the developer of a luxury housing estate in suburban Bangkok had finished dividing up the property into spacious villas, the only land left for a clubhouse, pool and fitness centre was an odd triangular site next to a carpark. Not exactly the most scenic place for a retreat.

Architects PODesign decided to use the limitations to their advantage. "What we tried to do was maximise the site as much as we could," says lead designer Bunjong Kiatsingnakorn. "We created this triangle-shaped building with a reception and seating area on the lower part, and a fitness area on the upper part that looks down on a courtyard with the swimming pool in the middle."

It's an approach that uses the site's dimensions to great effect, with sharp angles creating a sense of drama throughout the complex, which spans a total area of 470 square metres. The lower wing of the V-shaped structure is a sheltered, open-air pool with a deck clad in warm wood, while the other wing contains lounge areas and a gym. The pool canopy's concrete roof runs seamlessly into the frame of the gym, like a paperclip that's been folded outwards.

Sharp angles create
a sense of drama
throughout the complex



Locally quarried stone was used to evoke the landscape in China's Yunnan province



Kengo Kuma

We tried to express the power of the earth in the architecture



YUNFENG SPA RESORT

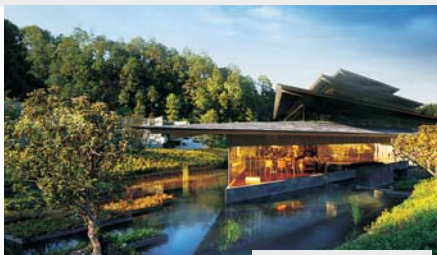
Kengo Kuma decided to channel the spirit of a nearby mountain when he was commissioned to design a spa resort near the city of Tengchong, in China's southwestern Yunnan province. "We tried to express the power of the earth in the architecture," says Kuma.

The Japanese architect selected six types of locally-quarried stone, including slate, marble and lava, ranging in colour from grey to beige to ochre. He then arranged them like pixels, giving the resort a dynamic, textural appearance that evokes the surrounding landscape without exactly imitating it. Stone found its way into other features, too, including a private plunge pool inside the courtyard of each villa.

Kengo's design was accompanied by the work of several other architects and designers, including Singapore-based Canadian landscape architect Colin Okashimo, who traced a waterway through the site that emerges and disappears under stone walkways and terraces.

The villas cascade down the mountain slope in a fashion similar to Yunnan's hillside villages. Okashimo says he was inspired by the Chinese theory of five elements – earth, fire, water, metal and wood – and designed five pools around the site to reflect each one.

Inside, Singapore's LTW studio created furniture and finishes inspired by Yunnan's indigenous tribes, known for their distinctive craft techniques, which are reflected in the fabric of the throw pillows inside each villa, along with the fabric of the feature wall behind each bed. The ceiling of the villas is made of interlaced strips of wood that bring to mind the woven hats typical of Yunnan.



The resort's main building has windows overlooking one of the five elemental pools

Minimalist white passageways
lead to 21 treatment rooms
whose glass walls open onto
the lush internal garden



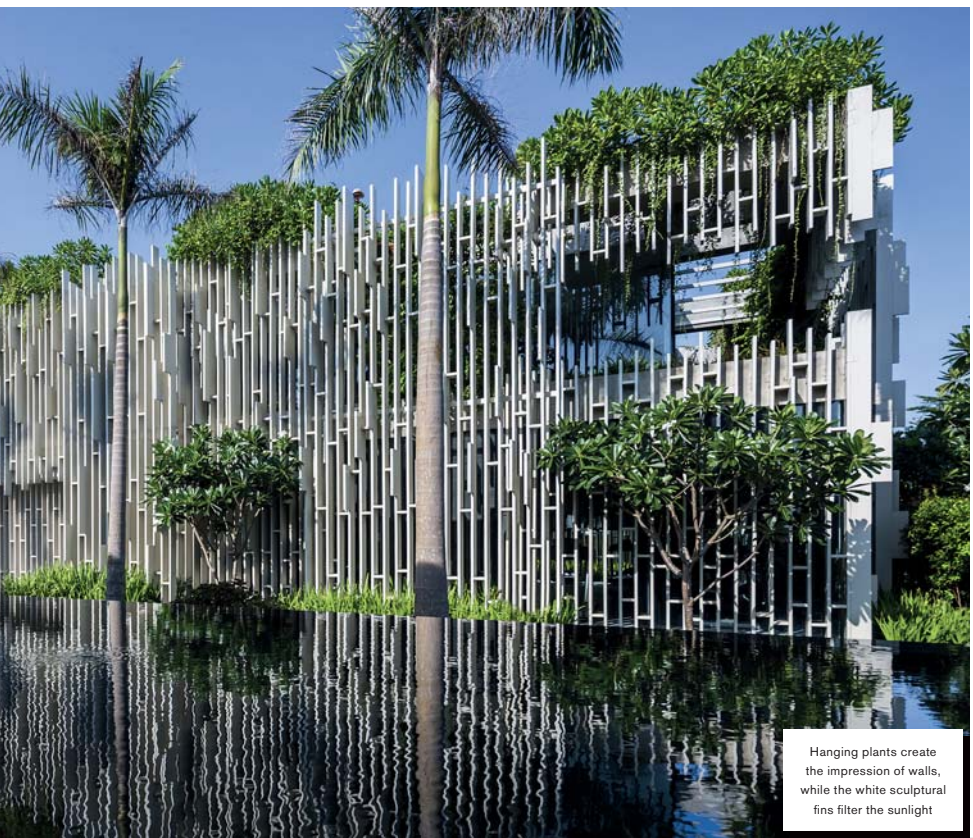
■ NAMAN SPA

There's a reason why traditional Southeast Asian architecture was characterised by stilt houses and permeable interiors: firmly sealed walls are a disadvantage in steamy tropical climates. That's a lesson put into practice by Vietnam's MIA Studio in its design for a day spa in an upmarket resort in Danang. Renowned bamboo specialist Vo Trong Nghia had already completed three structures at the spa, and while MIA used different materials, they created something no less connected to the natural world.

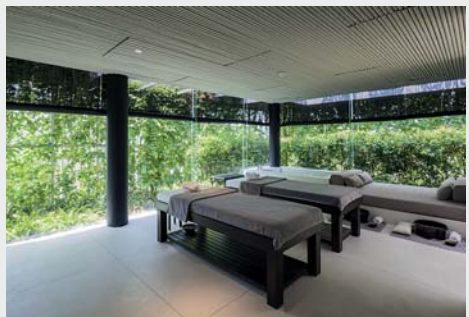
Clad in metal fins that filter the sunlight, the spa is essentially outdoors, with walls of vegetation that spill into a central courtyard. Minimalist white passageways lead to 21 treatment rooms whose glass walls open onto the lush internal garden. The building includes massage rooms, a gym, meditation facilities and yoga studios, as well as an outdoor pool in the courtyard. Though Danang has a hot and humid coastal climate, the fins and greenery form a screen that shelters the interior of the building from direct sunlight while allowing for cross-ventilation that keeps it cool throughout the day.

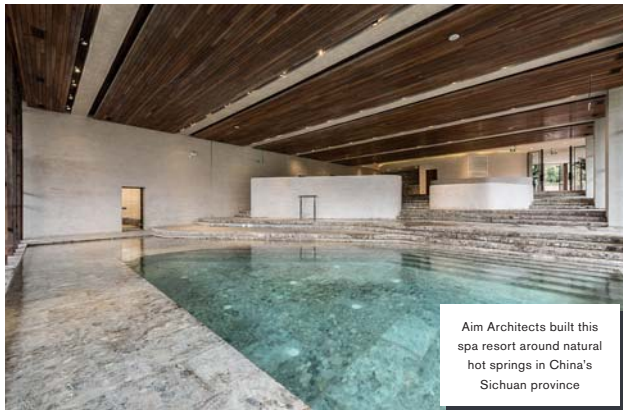
The Naman Retreat in Danang, Vietnam, features walls of vegetation





Hanging plants create the impression of walls, while the white sculptural fins filter the sunlight





Aim Architects built this spa resort around natural hot springs in China's Sichuan province



RUFF WELL WATER RESORT

The landscape surrounding a new spa resort project in China's Sichuan province was all the inspiration needed for Shanghai-based Aim Architects to design an ethereal complex that seems to disappear into the forest. "It is a place where water has shaped the land. Rivers have carved out the valley and water naturally springs from the earth in warm water wells," said the architects in a statement.

A small hill in the centre of the site guided the design of the resort. The main facilities wrap around the hill, with detached buildings connected by a roof. Exterior walls are clad in timber and clay, while local river stone made of compressed pebbles, which gives it a terrazzo-like appearance, is used for floors, paving, pools and benches. A series of pools dot the remainder of the site, linked by stone pathways through a pastoral setting. Some are housed indoors, where the cool texture of river stone plays against the warm hue of stained timber, while one outdoor pool is surrounded by blue pebbles and sheltered by a sharply angled canopy of timber and rusted metal.



**Rivers have carved out the valley
and water naturally springs from
the earth in warm water wells**



Local river stone has been used for floors, pools, paving and benches throughout



The centre features a gym and space for yoga, dance, table tennis and massages



A black and white colour palette was used across the centre, with the odd pop of colour

Peng Zheng



We wanted the users to become the protagonists of the space – people with colourful sportswear

TIMES PROPERTY ACTIVITY CENTRE

Is it ever possible to truly relax at work? That was the challenge faced by C&C Design Co. when it was hired to create a 550-square-metre leisure centre inside the offices of a Guangzhou property developer. Lead architect Peng Zheng decided the space should not be a retreat as much as a gathering place where people could socialise and unwind together after a long day at work.

The centre is divided into six areas, with rooms for table tennis, massages, yoga and dance, a gym and changing facilities. “We wanted to open the space as much as possible so people could see each other and have the opportunity to chat,” says Peng. To that end, he created a space that looks as energetic as the activities it hosts. That included fun details like oversized locker numbers modelled on sports jerseys, but also a black-and-white palette that allows a few limited colours – lavender yoga mats, canary yellow seating – to pop out. “We wanted the users to become the protagonists of the space – people with colourful sportswear,” he says. “We didn’t want the colour of the space to distract from the people.”

Peng left the ceilings exposed, not necessarily to an industrial aesthetic, but to keep the space as open as possible while facilitating inevitable repairs to the overhead pipes and ventilation ducts. By minimising materials, he says he was able to minimise waste – an important issue in China, where overbuilt infrastructure has led to mountains of construction rubbish.



The underwater spa treatment rooms feature large windows looking out into the water



Richard Hywel Evans

■ HUVAFEN FUSHI SPA

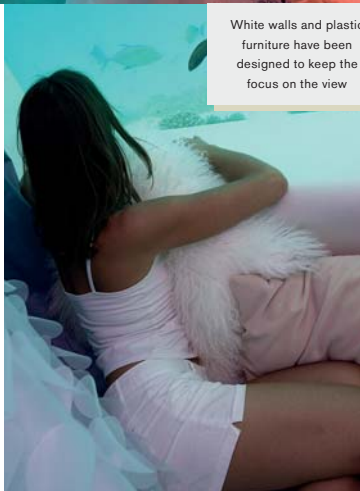
It's luxury enough to spend your days floating above the crystalline lagoon waters of Huvafen Fushi in the Maldives, but the resort's spa takes things to another level entirely. The spa is located underwater – the first of its kind – so you can watch fish swim by as you enjoy a massage. "It's like having a rub-down in Dr No's office," a reporter from *The Independent* enthused.

Originally designed along the same lines as the resort's 43 thatch-roofed bungalows, Studio RHE was hired to refresh the spa in 2007. "The previous timber themed design really detracted from the incredible and calming experience of the space," said founder Richard Hywel Evans at the time. "Our challenge was therefore to create a truly breathtaking area that focuses maximum attention on the sub-aqua environment and filtered light."

The new interior focuses attention on the spectacular view from the windows, with clear plastic furniture, sheer curtains around each massage station and an LED-illuminated recessed ceiling that creates a soft glow throughout the spa building. A white-and-blue terrazzo floor helps balance the space.



White walls and plastic furniture have been designed to keep the focus on the view



Our challenge was to create a truly breathtaking area that focuses maximum attention on the sub-aqua environment



The architects embraced the small space and worked to give it a homely, cozy feel

PHOTOS BY HASPALI SPA, SAKAKI HOSHI / SYUNICHIRO SANO



We considered the outside of the private room as external and the room as a house

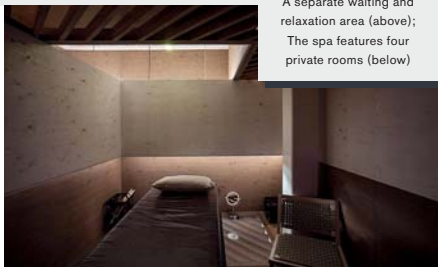
■ HASPALI SPA

When Three Ball Cascade Architects were hired to design a new spa in Okayama, a mid-sized city in the south of Japan, they soon realised they had a problem. "We have four private rooms in a 90sq m space, so every room is very small," says Syunichiro Sano, the project's architect. "I could just barely put in a bed, a small desk and chair."

Spas are meant to be relaxing places, of course, so Sano's challenge was to find a way to stop this small space feeling cramped. That's when he realised he needed to think of each private room as an individual unit, not a subdivision of a larger space. "We considered the outside of the private room as external and the room as a house," he says. That allowed him to go beyond the limited size and think about all of the things that make a home cosy – things like "light, colours, shapes of aperture, vanishing points of connected parts," he says.

Each of the private rooms contains a platform that echoes the genkan, a traditional Japanese foyer in which outdoor shoes are exchanged for slippers. Inside, staggered walls creates an interesting texture while allowing light through in various unexpected places. "We had to make the walls as thin as possible, so we used a 30mm structural plywood and an oil finish," says Sano. ●

A separate waiting and relaxation area (above); The spa features four private rooms (below)



In conversation with **Mike Davies**

Forty years after the Pompidou Centre opened in Paris, Kim Megson meets one of the architects behind the project to discover how a young and radical design team managed to create a cultural landmark like no other

Back in 1977, a new cultural building caused quite a stir when it opened in Paris. Some of the world's greatest architects, including Oscar Niemeyer and Philip Johnson, hailed it as a revolutionary piece of work. Critics called it a monstrosity.

What none of them could have predicted was that, 40 years on, the Centre Georges Pompidou would be one of the world's most popular cultural buildings – receiving an average of 3.8 million visitors a year. Its famous steel skeleton, 'inside-out' configuration, exterior caterpillar escalators and colour-coded utility pipes are recognised by people across the world.

To celebrate the 40th anniversary of this architectural icon – created by Richard Rogers, Renzo Piano and a talented team of architects, designers and engineers – CLAD speaks to Mike Davies, an integral part of the Pompidou story and a founding partner of the Richard Rogers Partnership (now RSH+P).

How did you become involved with the Pompidou Centre project?

I had started an architectural practice called Chrysalis with two British friends – Alan Stanton and Chris Dawson – and we had a lightweight structures firm out in Los Angeles. The ethos of America at the time was all about autonomous living, being off grid and not relying on orthodox networks. Our fascination was with inflatables; at the time, the last thing we wanted to do was traditional buildings. We carried out 53 projects in four years, 27 of which were built. Some of them were really way out – including the world's largest mirror dome.

It was a great time. We used to go and watch Jimmy Hendrix, Janis Joplin, Crosby, Stills and Nash and a radical dodgy group called The Rolling Stones. Everyone and everything in LA was creative and there was a buzz everywhere.

Then one day I got a phone call from someone I'd met in London in Architectural Association circles called Richard Rogers. He'd spoken to me some years before because I had some expertise in inflatables and lightweight structures.

He called at 4.30am – he'd forgotten the time difference – and explained that he and Renzo Piano had won this enormous competition in Paris. 'The problem is, they think we're a huge architectural machine, when really it's three



Mike Davies with the original competition model of the Pompidou Centre from the 1970s

THE BUILDING CONCEPT WAS RADICAL, THE CONSTRUCTION WAS RADICAL AND THE DESIGN DETAIL WAS UNLIKE ANYTHING ELSE SEEN IN FRANCE

guys and a dog in charge,' he said. 'Would you guys be prepared to join us?'

Our visas in the USA were running out, so we all met around the pool to decide if we should leave for Paris. Eventually we thought, 'what the hell, let's go for it'.

I arrived in Paris on 19 February 1972; it was -9 degrees. I'd rented an apartment with a stone floor and it was like living in a fridge. When we all met up, I remember us looking at each other and saying, 'Oh my God, what have we done?'

So our Paris experience started with a shock. In the end it turned into six wonderful years.

Where did the design concept for the Pompidou Centre come from?

All our team were wary of building monuments – especially one to a president – because most of the time with projects like this clients

wanted something self-consciously grand and iconic, rather than functional and challenging.

Our concept, expressed in Richard and Renzo's competition drawings, was different. It wasn't really a building. Instead it was a Meccano set – a machine that could adapt continuously to varying events and uses over time.

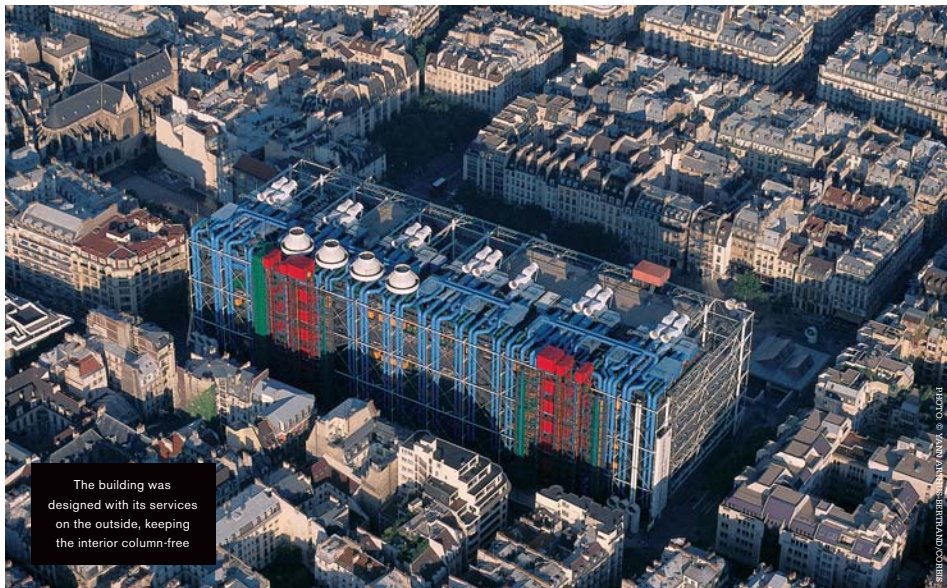
Every other art museum at that time was a basilican building with rooms and halls connected to other rooms. Curators were faced with wrestling with the issue of achieving the vision and layout they wanted in a building they were heavily constrained by.

With Pompidou, the basic idea was a loose-fit flexible space where the building did not constrain what you wanted to exhibit. It had to house a permanent collection of modern art – one of the finest in the world – and temporary ones from all over the planet, so adaptability

was fundamental. Each open, loose fit floorplate was the size of two football pitches, with no columns. That was a total departure.

We designed the Pompidou Centre on the basis that its users didn't know what would happen to it in 10 years' time. So we separated the served and servicing areas to create a clean, neutral user space. The piping and services were all grouped outside on one façade, with the opposite façade being dedicated to feeding people in and out of the huge useable spaces within the building. This 'served and servant' approach has been a common characteristic of our practice ever since – for example, with the Lloyd's of London building in London.

Finally, we were great lovers of Gustave Eiffel and we wanted to make a fine steel building in the great French tradition, which had virtually disappeared, and which we wanted to revive.



The building was designed with its services on the outside, keeping the interior column-free



Davies in the RSHP-designed Leadenhall Building, where the practice is now based

PHOTO PAUL MCILLOUGH

How did people respond to the design?

There was a terrific fight with the French architectural establishment, who resisted the notion of foreign architects doing a national building. We weren't registered with the French Architecture Institute, but there we were, designing a grand national project with the French president as our client.

There were incredible diatribes against the Pompidou, funnily enough including one featuring exactly the same words used against the Eiffel Tower when that was first proposed.

The concept was radical, the construction was radical and the design detail was unlike anything else seen in France, so there were lots of professional critics and many sceptical officials. We were menaced with court action.

The obstructive dam broke after nearly three years, when they realised that it was too late to stop us. By then we had created the biggest hole in Paris and steel was rising out of the ground.

There was a wonderful government project leader, Robert Bordaz, who was a friend of Georges Pompidou. He was a legendarily safe pair of hands and a master at defending against political attack. He dealt deftly and elegantly with all our opposition. Without him, the Pompidou Centre would never have been built.

What are your memories of the opening day?

A few months earlier, Georges Pompidou had died and the budget had been immediately frozen by the new president. We were 86 per cent through the budget when that happened, so we ended up going down to the local hardware shops to buy paint to finish the building.

The opening had a strange atmosphere. The new president, Valéry Giscard d'Estaing, an aloof man of the right, was very unlike the left-leaning Pompidou. He opened the Pompidou Centre with a grand speech, but

without mentioning either the building or its architects. That was quite an achievement!

There were huge queues, but nobody was on our wonderful public piazza, which was entirely fenced off and inaccessible. It took six months to get the barriers removed. The attitude was: 'Mr Rogers, this is a national building, we can't have the public coming up to the front doors!'

Richard had to go to the top of the political establishment and the police, explaining that the piazza was meant to be open to everyone and the building was consciously designed for the common man – a symbolic manifestation of the new open society in France.

What is your personal view of the Pompidou Centre today?

The acid test is if you go 'wow' when you go into your own building. I think we did with the Pompidou Centre. I still find the lacy façade and rocker beams spectacular and beautiful.

The Pompidou
Centre in numbers

The building
extends over
10 floors of
7,500sq m each

2,210sq m for
galleries displaying the
collection of the Musée
National d'art Moderne

15,900sq m
for temporary
exhibitions



2 cinemas
(315 and 144 seats)

A performance space
(384 seats) and
a lecture theatre
(158 seats)

A 10,400sq m
public reading library
for 2,200 users

2,600sq m
for the museum's
own research library



The famed escalator is
housed in a glazed tube
and offers spectacular
views across Paris



L-R: Pierre Boulez, director of IRCAM; Robert Bordaz, director of the client body; Richard Rogers; Renzo Piano

A HISTORY

- In 1969, President Georges Pompidou decided that the vacant site of the Plateau Beaubourg should be used for the construction of a multidisciplinary cultural centre. An international design competition was held, with 681 submissions received.
- The jury, chaired by the architect and engineer Jean Prouvé, chose a design submitted by a team of three: British architect Richard Rogers and the Italians Renzo Piano and Gianfranco Franchini.
- Piano and Rogers alone oversaw the management of the project, with a team including Mike Davies and Arup engineers Edmund Happold and Peter Rice.
- The centre opened on 31 January 1977.
- After 20 years, the centre's then-president Jean-Jacques Aillagon announced a major state-funded renovation of the Pompidou Centre. The gallery spaces were expanded and the live performance spaces were improved. Around 100,000sq m (1 million sq ft) of floor space was reconfigured by the time the building reopened on 1 January 2000.
- At present, between 3.5 and 3.8 million visitors visit the centre each year. Now, a new US\$108m (£101m, £88.3m) facelift, overseen by Piano, is planned, including the replacement of the famous exterior escalator.

From www.centrepompidou.fr/en

INTERVIEW: MIKE DAVIES

PHOTO © GREGORY HEYERMANSON / OUTLINE
REINVENTING + RECONSTRUCTING SHEDS

IT'S STILL TRUE TO RICHARD'S COMPETITION- WINNING VISION OF A BUILDING FOR ALL PEOPLE

It's still radical and young people still love it. The moment it opened it was taken over by students, and that friendly occupation has never really stopped.

For me, the Pompidou Centre is as exciting now as it was when we first built it. It remains true to Richard's competition-winning vision of a building for all people.

I also still love the underground building I was in charge of that is part of the centre – the Institute for Research and Coordination in Acoustics/Music. I had a wonderful time creating it for the French composer Pierre Boulez, who'd returned to Paris to lead an open research centre for avant-garde musicians. It features the world's most acoustically flexible studio space – a 400-person experimental studio.

What impact do you think the Pompidou Centre has had?

There was popular public acclaim after the centre was built, and at the same time professional art gallery scepticism.

It was more radical than any other art museum on the planet and it looked like a piece of technology. Most people in the art world wanted more cool concrete surfaces, discreet lighting, neutral spaces and discretion. We were the Johnny Rottens of the business, rather than the Simon Rattles.

But the building continues to cope with any curatorial vision and is uplifting and bubbling with life. So it's been immensely successful. Few venues have significantly exceeded its visitor numbers, apart from the Millennium Dome – now the O2 Arena – the world's most successful entertainment venue. It's nice to have been involved with both.





PHOTO: PAUL MCLAUGHLIN

Mike Davies and Richard Rogers, who first worked together on the Pompidou Centre project

What inspires you, apart from architecture?

Anything interesting is a passion. My problem is I've got too many passions. I have been an amateur astronomer all my life and in my spare time I build large telescopes and observatories. I love sailing, I rock climbed for many years and I'm an eclipse chaser. My wife and I go where we are told to go to by the movement of our solar system, rather than by a travel agent. The universe says, 'right, you need to be on this little atoll in the South Pacific for two and a half minutes,' and that's where we go.

A total eclipse of the sun is one of the rare moments when a human can actually watch the earth, moon and our solar system visibly moving. You witness this huge eye in the sky staring down on the world.

You're famous for dressing only in red. How did this begin?

It started in California in the late 1960s. This was the era of the Beatles – nobody was in grey suits. One day, walking on Hollywood Boulevard, I saw an incredible electric purple velvet suit in a shop window and smitten, I bought it straight away.

In Paris I used to travel from my flat by train to the Pompidou site in my purple suit. I thought the French women were quite bold, because I always got my bottom pinched on the Metro. One day Pierre Boulez said, 'I admire your courage for wearing this incredible colour – and even more for demonstrating your homosexuality in public.' I asked him what he meant, and he said: 'Do you not know this is the code colour for the homosexual

community in Paris if you're incognito?'

So I found out that it wasn't the ladies who had been pinching my bottom on the Metro, it was the men! Being happily married to a wonderful French lady, to avoid confusion I went to the local sports shop and bought three pairs of bright red golf trousers. That's when I started wearing all red.

It makes it easy to break the ice at parties, and you waste no time wondering what to wear in the morning. I have a red car, red telescopes and I draw with red pens.

My clothes have started thousands of conversations and they tend to cheer everybody up, including New York immigration officers – which is quite an achievement!

Forty years of performance art in a conservative world have been an unmissable pleasure. ●

ray hole architects - Practice Profile

ray hole architects is a specialist international, award winning architectural practice with over 25 years' experience gained through delivering a broad portfolio of visitor attractions and experiences - *wildlife (animal and botanic), cultural, science, industrial, educational, man-made heritage and natural history, sports, brandlands, museums, themed environments, hotels and restaurants* – across a range of locations and a rich diversity of cultures.

Our belief is that creating 'architecture' is a very important criterion of a much broader responsibility, providing the means by which greater value can be created for our clients, stakeholders, end users, society in general and the environment. We strive to achieve this through realising achievable, yet technically innovative and sustainable design solutions. Our projects are informed by active exploration of as many influences as possible which allows us to develop a design attitude which differentiates our approach to completed work. This combination of attitude and understanding has provided us with opportunities to play an influential role of redefining the UK and International visitor attraction sector.

We have a proven track record of working on projects ranging from; the multi-billion pound London Paramount themed resort at Ebbsfleet to the Volkswagen AG Brandland – Autostadt, Wolfsburg; from the first UK based Kidzania at Westfield, White City to the Rainforest House for the Herrenhauser Garten in Hannover; from the Gold Medal and RIBA Award winning *Snowdon Summit Building – Hafod Eryri* - to the Heritage amusement park at *Dreamland, Margate* and the re-masterplanning of *ZSL London Zoo*.

Equally, maintaining an understanding of cultures and trends within the visitor attraction sector itself is fundamental to our ability to deliver relevant, engaging, commercially sound, operationally efficient and enhanced revenue generating facilities.

Our membership of client trade bodies (private, public and institutional) and regular attendance and active participation at attraction industry conferences, UK Government sponsored International trade missions and keynote talks is crucial in developing our inclusive knowledge base, as is our highly specialised in-house and Chartered RIBA Practice CDP program.

Our completed projects and enviable client list demonstrates our versatility and growing reputation for applying our expertise and delivering world class, sustainable projects regardless of the challenges imposed by budgets, timeframes, multi- stakeholders, sensitive environments and subject matter.



**RIBA Award Hafod Eryri – Snowdon Summit
Gold Medal for Architecture T Alwyn Lloyd Memorial Medal**



BHSTS Master Plan
Brighton



Fashion Hotel
Dubai



Rainforest House
Hannover



Int. Sports Village
Cardiff



**Ripleys BION
Museum**
London



VW Brandland
Autostadt



Bentley Pavilion
Autostadt



**Marwell Wildlife
Cafe Graze**
Hampshire



London Paramount
London



Grand Pier
Weston-Super-Mare



Restless Planet
Dubai



Railway Station
Castellon



Kidzania London
Westfield, White City



Dreamland
Margate



Sports Campus
Newcastle



VW Pavilion
Autostadt



**Master Plan
ZSL London Zoo**
Land of Lions



**Balloon
Apartments**
London



Gorilla Enclosure
Durrell Wildlife



**Lingfield
Racecourse**
Surrey



**Snowdon Summit
Visitor Centre**
Wales

ray**hole**architects

...museums brandlands cultural attractions botanic gardens
zoos safari parks visitor centres themed attractions mixed
development heritage centres science centres hotels restaurants...

SANTIAGO CALATRAVA

The world of contemporary architecture is far from short of controversial characters. But even in this sometimes polarising industry, few people split opinion quite like Santiago Calatrava, the Spanish architect, engineer, sculptor and painter disparaged by some and hailed as a visionary by others.

Everyone has an opinion, because love them or hate them, Calatrava's stylised neo-futuristic structures are impossible to ignore.

From the Museum of Tomorrow in Rio de Janeiro to Valencia's City of Arts and Sciences, the Milwaukee Art Museum in Wisconsin and the World Trade Center Transport Hub in New York, Calatrava's work dominates city skylines around the world. His signature white skeletal forms, often representing natural organisms, have become as identifiable to him as curves were to the late Zaha Hadid.

The problem, at least in the eyes of his critics, is the cost it takes to achieve his complex visions. The transport hub infamously came in at a whopping US\$4bn – twice its original budget – while the Valencia project was plagued by soaring cost overruns, delays and legal battles over structural problems, including a leaking roof and falling tiles.

Controversial and colourful, Santiago Calatrava is one of the world's best-known architects. He talks to Kim Megson about the merging of art and technology, building for the public and his £1bn vision for London

In 2014, a Spanish political party was ordered to pay Calatrava damages after cataloguing alleged flaws in his buildings on a website titled 'Calatravatelaclava' – loosely translated as "Calatrava bleeds you dry." In an interview with *The New York Times*, the president of Bilbao's architectural association complained that "rather than searching for functionality or customer satisfaction, he aims for singularity."

These slings and arrows have had little obvious impact on Calatrava's career. On the contrary, the accolades keep on coming, including a lifetime achievement award from the Leading European Architecture Forum in 2016, and the European Prize for Architecture the year before.

In the jury citation for the latter, architect Christian Narkiewicz-Laine described Calatrava's buildings as "powerful works of art; inspired by a master's gifted hand and sculpted by a superior, critical eye; immensely evocative and fiercely intellectual." Cities want to work with Calatrava, he added, because "by building inspiring architecture for the public, he has added much to the definition of what is civic realm."

The stream of high-profile projects shows no sign of slowing. From the United Arab Emirates' falcon-shaped pavilion for the 2020 Dubai Expo, to a tower that will outmuscle the Burj Khalifa as

A man with dark, wavy hair, wearing a dark blue suit, white shirt, and patterned tie, stands in a modern, brightly lit interior space with white architectural elements. He is looking upwards and to the right with a thoughtful expression. The background shows a large, open space with white structural beams and a curved ceiling.

**I want to use
engineering to
push the limits
of expression**

PENINSULA PLACE

Size: 1.4 million sq ft (130,000sq m)

Cost: £1bn (US\$1.2bn, E1.1bn)

Executive Architect: Adamson Associates

Structural engineer of record: Meinhardt

As the gateway to Greenwich Peninsula, Calatrava's Peninsula Place "signals the intent and ambition for this whole new district." Knight Dragon is jointly spearheading the development with partners the Greater London Authority and Transport for London.

London mayor Sadiq Khan has said the project "will create a new cultural district for Londoners and visitors from around the world." He added that it proves "London remains open to investment, trade and the very best talent from around the globe," even as the British government embarks on negotiating its exit from the European Union.

Three curving 30-storey towers are the centrepiece of Calatrava's design for Peninsula Place

the world's tallest, the next big budget project is always just around the corner.

Now, after years of speculation and false starts, 'a Calatrava' will be built in London.

Peninsula Place

The project in question, Peninsula Place, is a vast underground station, transport hub and leisure zone for Greenwich in South East London. The

site will serve as a gateway to the world's most popular entertainment venue, Richard Rogers' O2 Arena – formerly the Millennium Dome – and the new £8.4bn Greenwich Peninsula district beyond.

As you'd expect from a Calatrava project, it is monumental in both scale and budget. Billed by Hong Kong developer Knight Dragon as "a unique cultural destination," it will have a surface area of 1.4 million sq ft. The price tag? A cool £1bn.

The complex will be formed of three 30-storey towers – housing offices, apartments and hotels – that rise in the shape of a crown. These will surround a 24m-tall glazed winter garden, topped by a triangular glass roof that can open to the elements.

It is into this space that people will ascend from the underground station, before being led along a 152m-long Galleria of columns towards Peninsula Place's leisure facilities – a theatre,



GREENWICH PENINSULA

According to developer Knight Dragon, Greenwich Peninsula is London's largest single regeneration project. The company is building 15,720 new homes in seven new neighbourhoods, wrapped by 1.6 miles of the River Thames.

A major film studio, a new design district, schools, offices, health services, public spaces and a 5km running trail are also being created. Architecture firm Allies and Morrison have masterplanned the £8.4bn (US\$10.3bn, E9.7bn) project, and Marks Barfield, DSDHA, Alison Brooks, Duggan Morris and Skidmore, Owings & Merrill have all designed buildings there.

Knight Dragon chief executive Richard Margree told CLAD: "Arts and culture is embedded in everything, including the buildings. That was the particular appeal of choosing Calatrava to design Peninsula Place, with his artistic, engineering and architectural background.

"Creating a community doesn't come about because people write it on a masterplan and say it will be great here. You've got to passionately believe in it. You have to build a sense of civic pride into neighbourhoods, otherwise you end up with dormitory towns. We're doing something very striking where form meets function rather beautifully. Everybody who visits here, lives here and works here is welcome in the public spaces we're creating."



cinema and performance venue, bars, shops and a wellbeing hub. Outside, a new Calatrava-designed land bridge will link with a public park alongside the River Thames.

A grand gesture

I meet Calatrava following the project's glitzy London launch – an event dramatically, or perhaps ominously, soundtracked by a series of movie

theme tunes, including Star Wars. In person, he is calm, polite and happy for the big secret to be out in the open. Despite what has presumably been a long day of difficult questioning – I'm the last journalist to meet with him – he speaks quickly and passionately about Greenwich. In fact, I can barely get a word in edgeways.

"This project is very important to me," he says, gesturing at the large model of his design that

dominates the room. "There is such potential here. Greenwich is an area of architectural and industrial archaeology. From the top of the towers, you will see the most beautiful fluvial landscape and feel how vibrant London is."

He became involved in the project over 18 months ago, when Knight Dragon invited him to design a grand gesture for Greenwich Peninsula and "a special place of the arts and for the public."

"That was enormously appealing to me, because for more than 35 years, 80 per cent or more of my work has been public buildings, and I have done many transport projects and bridges too," he says. "Most architects would think carefully before taking on a project like this, and I was no different, but I soon felt I could contribute something to this place."

Calatrava believes Peninsula Place gives him a chance "to build for people who don't usually have the opportunity to go to public places that are nice and beautiful."

"I want to make them feel 'this is my place, and it's been made for me'. The goal is to celebrate the area and deliver important things to an important city, but also to humanise the building as much as possible. If we achieve this, it will be like giving a concerto for someone who is hearing good music for the first time."

During the design phase, Calatrava would regularly fly from Zürich to London City Airport, "just seven minutes away from Greenwich". Looking down at the city landscape from the plane, he formulated ideas to be expanded later, often while drinking coffee by the Thames.

Peninsula Place will occupy a challenging site. There is a protected park nearby. The existing underground and bus network has to be integrated into the project. The orientation of the

hub will have to be perfect to cater for hundreds of thousands of visitors travelling to the O2 – a "very important landmark that should not be overshadowed," says Calatrava.

For inspiration, Calatrava considered London's gothic heritage, its garden cities, and particularly the structures built by two of his heroes, Isambard Kingdom Brunel and Joseph Paxton, the designer of London's Crystal Palace.

Then, he thought about the Greenwich

Meridian Line, where the western and eastern hemispheres are divided.

"In Spain, if you're a 10 year old kid you learn about 'El Meridiano' and it seems fantastic! Now I am building at El Meridiano," he says, with feeling. "We want to impress a child with this design and find elements that excite them. I want them to think, 'Wow, this is where the Meridian Line passes through!' Because that is an extraordinary fact, that many people in London have forgotten."

L-R: Santiago Calatrava,
Knight Dragon vice
chairman Sammy Lee and
London mayor Sadiq Khan

PHOTO COURTESY OF KNIGHTDRAGON © ASHLEY NINGHAM



The Calatrava-designed
bridge will link Peninsula
Place to a new public park
on the River Thames



Calatrava's vast building will serve as the gateway to the new Greenwich Peninsula district

We want to impress a child with this design and find elements that excite them. I want them to think, 'Wow, this is where the Meridian Line passes through!'

"We want to recall these kind of childhood ideas and memories, and give them form."

To achieve this, Calatrava's bridge will act as an enormous sundial, with the vertical mast cable landing on the Meridian Line, "showing a kid that the shadow at noon goes always to the north side."

Foldable frames and moving parts

The huge moving shadows and openable glass cupola demonstrate the kind of movability that is a regular feature of Calatrava's work.

The Museum of Tomorrow's roof is lined with photovoltaic solar panel 'wings' that follow the position of the sun throughout the day. His New York Transport Hub has a 355 foot-long operable skylight that opens every 11 September to let in sunlight for 102 minutes – reflecting how long the 2001 terrorist attack lasted, from the time the first jetliner hit the trade centre until the collapse of the second tower.

Even the buildings that don't physically move are

designed as if poised to take flight at any moment.

"From day one, movability has been important to me," Calatrava explains. "It was the subject of my doctoral thesis. The industrial technology available today means we can create this sense that architecture is no more an aesthetic and firm thing, but rather something that transforms, something alive, something new and poetic.

"When I speak to you, I am gesticulating with my arms and hands. When wind blows, trees move and water ripples. It's the same with my buildings. They are not static. By transforming, they can adapt with time and capture an instant. For example, they react to the weather. With Peninsula Place, if it's cloudy and cold, I close the roof. If it's sunny, I open it."

He laughs. "This is good, because a friend told me if you don't like the weather in London, you just wait 10 minutes and it will change."

Calatrava originally trained as an artist, before the discovery of a book about Le Corbusier

inspired him to study architecture at university in Valencia. Later, he enrolled at the Swiss Federal Institute of Technology in Zürich to study a second degree in civil engineering.

Art and architecture

It is this confident merging of disciplines that has propelled him to superstardom. In his citation for the European Prize, Narkiewicz-Laine remarked: "Calatrava regularly traverses the lines between art and architecture; his buildings are frequently called sculptural, while his sculptures and paintings are like sketches of buildings."

This duality becomes apparent as we speak. One moment, Calatrava the engineer provides lengthy, technically rich explanations about the impact of forces and dynamic acceleration. The next, Calatrava the artist tells me about the poetry of the built environment.

I ask him if he considers himself an architect or engineer first and foremost.



Peninsula Place's 80ft-high Galleria will feature a range of pavement cafés, shops and restaurants

Greenwich Peninsula's Upper Riverside features five towers and a 5km sculptural running trail



"For me, it is about how I can use engineering in a way to signify a place," he replies. "This is the way I have been with building with technology. I want to use it to push the limits of expression."

"The possibilities of technology are fascinating because we can trust it. People hang in single-cable cable cars every day, and they are relaxed. They go in an elevator in a very, very tall building, but they have no worries. Technology can help us towards a new architecture."

Warming to his theme, I'm introduced to a third Calatrava – the philosopher.

"You know, there is no difference between art and technique, nor between architecture and engineering. Both serve the art of construction."

"An engineer uses technique, which comes from the ancient Greek word 'technikē'. But the Greeks also have the word 'technē', meaning art. The worker – 'tektōn' – has a skill, which is used to achieve art. The ancient Greeks – who were very rational – said 'a man who is capable of moving me through the creation of an object must be possessed by the Gods.' Their word for this type of divine possession was 'enthousiasmos' – the root of the word 'enthusiasm'."

"When an object is beautiful, it moves you and you feel uplifted. That is because there someone created it with enthusiasm, to express something."



**My buildings
are not static.
By transforming,
they can adapt
with time and
capture an
instant**

This is what we want to do here in Greenwich."

For all his passionate words and evident delight in building in London, some people won't be prepared to give Calatrava the benefit of the doubt. Given the controversies of the past, that's hardly surprising, and I suspect a part of him has come to terms with this.

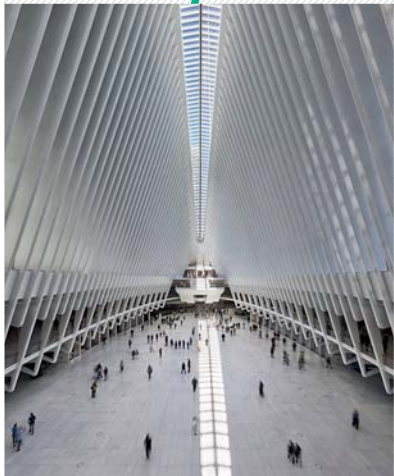
In previous interviews, he has defended himself vociferously (telling Co.Design: "There is so much vulgarity in the everyday, that when somebody has the pretension to do something extraordinary for the community, then you have to suffer"). However, when I ask him what he has learnt from his past projects, and how he feels about the criticism, he remains philosophical.

"I'll give you a brief example [of my thoughts]. At the age of 82, when he was completely deaf, Goya, the great Spanish painter, left Spain and went in exile to Bordeaux. Then, suddenly, he moved to Paris, where nobody knew him and where he could only communicate by writing in Spanish. Even the French culture minister asked 'why has this man moved here?'

"Well, he went there, deaf and alone, to learn photography. From around this time there is a small drawing by Goya of an old man, bent over with two walking sticks. It is titled 'Aun aprendo'.

"It means 'I am still learning.'"

Calatrava in 7 projects



The World Trade Center Transportation Hub

NEW YORK

Also known as the Oculus, this project, which opened in early 2016, represents the most integrated network of underground pedestrian connections to mass transit lines in New York, and also doubles as a light-filled public gathering space and retail zone. The striking design was inspired by the image of a bird released from a child's hands.



The opera house at the City of Arts and Sciences



The museum's skeletal roof soars above a public plaza



The Museum of Tomorrow

RIO DE JANEIRO

Completed in 2015, this museum explores the future of Rio and how it will evolve in the next 50 years, looking at climate change, population growth and "the fields of matter, life and thoughts". The 30,000sq m (323,000sq ft) white-clad complex features a cantilevering roof supporting a series of large mobile wings. The lower level contains the lobby, museum store, educational facilities, an auditorium and a restaurant. Public gardens, a pedestrian walkway and bike paths are located around the museum and a vast reflection pool extends from the front of the museum to the bay, creating the impression from afar that the museum is floating.

City of Arts and Sciences

VALENCIA

Calatrava designed several elements of this landmark cultural and architectural complex in Valencia, which opened in 1998 and has since been named as one of the 12 Treasures of Spain. Calatrava's contributions include a planetarium and IMAX cinema, an opera house, a landscaped walking trail, a cable-stayed bridge and a science museum designed to resemble the skeleton of a whale. The project has received much praise, but construction delays and significant cost overruns also caused controversy.



The UAE pavilion is modelled on birds' wings

The UAE Pavilion

DUBAI

Inspired by a falcon in flight, this pavilion will represent the United Arab Emirates at the Dubai World Expo in 2020. The wing-shaped structure is expected to cover up to 15,000sq m (161,500sq ft) in the centre of the 200-hectare exhibition zone. It will include numerous exhibition areas, an auditorium, food and beverage outlets and VIP lounges, and is expected to meet LEED Platinum sustainable building standards.

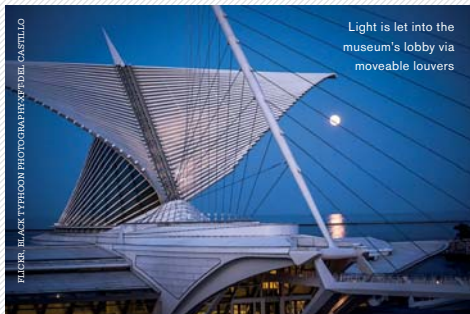


The project broke ground in October 2016

The Tower at Dubai Harbour Creek

DUBAI

This US\$1bn (£943m, £814.9m) project is set to be the world's tallest when completed; its 828m (2,700ft) overtaking the Burj Khalifa "by a notch." The tower, part of the new Dubai Harbour Creek district, will be supported by an intricate network of cables, descending down its entire length. These have a double purpose as at night they will light up using both dynamic illumination and movement lighting. An observation deck with rotating balconies and elevated landscaping inspired by the mythical hanging gardens of Babylon will feature near the top of the structure.



Light is let into the museum's lobby via moveable louvers

Milwaukee Museum of Art

MILWAUKEE

The museum complex is an architectural landmark, comprised of three buildings designed by three architects: Eero Saarinen, David Kahler and Calatrava. The Spanish architect designed the Quadracci Pavilion, which includes the Windhover Hall, with a vaulted a 90ft (27.4m) high glass ceiling; a moveable sunscreen with a 217ft (66.1m) wingspan that unfolds twice a day; and a pedestrian suspension bridge connecting the museum to the city. The project was completed in 2001. ●



The Margaret Hunt Hill Bridge opened in 2012

Margaret Hunt Hill Bridge

DALLAS

One of many sculptural bridges designed by Calatrava, this crossing, completed in 2012, is a major component of Dallas' urban revitalisation efforts. In order to celebrate the Trinity River and highlight "its enormous capacity to bring new development to Dallas", Calatrava transformed the area into a central gathering place. The structure features a 400ft (122m) high steel arch, connected to the bridge's platform by 58 sculpturally twisting cables.



Streetmekka Viborg will see a windmill factory transformed into a centre for street sport and art

GAME CHANGER

Danish charity, GAME, is using street sports and culture to create teenage utopias out of derelict industrial buildings. Kath Hudson speaks to the creators



Imagine a place where teenagers can gather to ride their skateboards, shoot hoops, flip off the walls, practise graffiti, mix tunes or make an animation. Welcome to Streetmekka: a concept which is breathing life back into abandoned warehouses, while giving teenagers a blank canvas to participate in their favourite activities.

Danish NGO, GAME, was set up in 2002 with the aim of bringing about change by social integration through street sports. Two €3m facilities are already up and running in Denmark: the first site opened in Copenhagen in 2010, followed by Esbjerg in 2016 and two more are set to open next year, in Aalborg and Viborg.

"Prior to launching GAME, I was chair of Denmark's biggest basketball club, but hardly any immigrants came, which didn't match the identity of the sport, or reflect the community,"



The main challenge is how to put street sports into a building, while keeping the edginess of the sports and the rawness of the street

Tue Hesselberg Foged



Simon Prahm founded GAME in 2002 with Martin Schultz and George M. Goldsmith

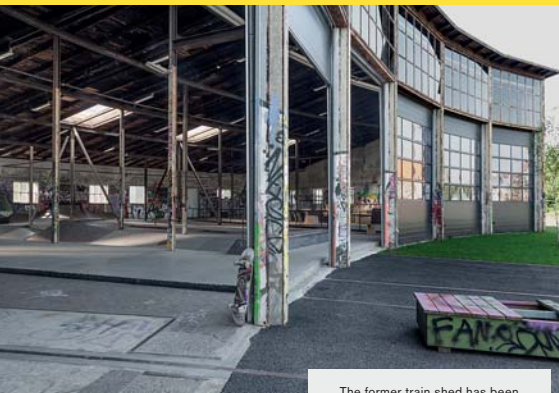
says GAME chief executive, Simon Prahm. "Streetmekka has been designed to make street sports and street culture – which have a broad appeal among young people – widely accessible, both in terms of location and price."

GAME went about the design process in an archetypally Danish way, by asking the target market to build their dream centres out of Lego. Skateboarding was the number one request, along with street soccer, parkour, bouldering, street basketball, street dance and yoga.

Keeping it real

Danish architects, EFFEKT, won the competition to design the facilities in Esbjerg and Viborg. EFFEKT co-founding partner Tue Hesselberg Foged led the projects and says the architecture has to be inventive in order to support the concept. "The main challenge is how to put street sports into a building, while keeping the edginess of the sports and the rawness of the street," he says.

"We needed to create a new typography," he continues. "During the design process, we were thinking less about how it will look and more about how it will act. So we pared down lots of the design features, to make it more minimal and pragmatic. Rather than make it look cool, we made sure it can be used in a cool way."



The former train shed has been repurposed and is now home to facilities for skateboarding, football, parkour and basketball



ESBJERG

Streetmekka Esbjerg is based in an abandoned railway depot. Although a beautiful steel and wood structure, it didn't immediately lend itself to the purpose. "It was one of the oldest buildings in the town, but almost a ruin," says Foged. "The municipality didn't want to lose it, but didn't know how to use it either. One of the biggest challenges was that it wasn't really

suitable for skateboarding, because there were lots of columns inside, and it would have been expensive to insulate it."

EFFEKT came up with the idea of using the old building as an unheated parkour facility and creating new buildings from rough, industrial materials to keep the rawness. "This retained the old building, while giving the client double the square footage for the same budget," says Foged.

VIBORG

"This was a run-of-the-mill, 20-year-old, factory on a post-industrial site. It's super ugly, with no windows and doesn't work at all from the outside," says Foged. "But inside is a different story. It is a wonderful, expansive space which we envisaged turning into a coloured street, with asphalt, and punching windows into the concrete walls to bring in light."

The two ends of the building have been covered with a plastic, translucent façade, which as well as being

a striking architectural feature, lets in light, acts as a sound barrier and also serves as a giant canvas for budding visual artists to display and project their art.

"This equips the building with a completely new exterior and makes it possible to pull in more daylight, while improving the connection to the exterior space," says Foged. "Targeting a broad demographic audience from across a variety of cultural backgrounds, gender, age and interests, our goal was to create an open and welcoming building, lowering the threshold for involvement and engagement."



The translucent façade lets light in and acts as a sound insulator and a canvas for displaying art

Streetmekka Viborg will feature indoor street football and street basketball pitches



We were constantly having to invent new solutions to problems, as we were working with old ruins, a low budget and high ambitions



In order to make the concept work, the price needed to be low. Prahm is proud of the fact that annual memberships cost less than 10p a day. "The whole goal is to lower the barriers and we know that money is sometimes a barrier," he says.

Foged agrees affordability is all important and was taken into consideration in the design. "All buildings in Denmark have to meet certain environmental standards, but I think what makes this most sustainable is the social inclusion aspect," he says. "We have created a cheap building, with cheap maintenance, which can offer cheap membership and therefore even the poorest people can come."

Consultation was part of the development process, with a youth representative for each activity, but EFFEKT went further in involving the target market. "We were constantly having to invent new solutions to problems, as we were working with old ruins, a low budget and high ambitions," says Foged. "We ran a co-creating workshop, where we designed furniture which could stand on the uneven floors, got the materials sponsored and then got the community to build it. So the furniture was free, the network was engaged and the users were given ownership."

Rolling it out

In Copenhagen, 30 per cent of the members of the facility are immigrants, or refugees, and 16 per cent in Esbjerg, which is well above the percentage of immigrants in each city. In less than a year, Esbjerg has become the most popular sports club in the city, with more than 3,600 members and 40,000 visits a year.

"At 3pm it looks like all the young people in Esbjerg are heading there on scooters, skateboards or with basketballs under their arm," says Prahm.

Having achieved such pleasing results at home, GAME is now looking to export the concept to Lebanon, where places to play are in short supply. "Sports club memberships fees are around £80 to £100 a month, so the majority of people can't afford to go," he says. "Added to this, there is literally no place for play. Beirut used to have 12 per cent public space, but now it's down to 0.5 per cent. The roads are blocked by cars and there isn't even space on the sidewalks for rope skipping."

Beirut will likely have a scaled down facility, costing between €100,000 and €0.5m. "It's expensive to rent or buy buildings, so we are looking at creating a makeshift portable facility," says Prahm. "I'm in talks with an architect about creating something out of shipping containers and we're also looking at steel structures with tarpaulins."

Financed by contributions from municipalities, private housing companies and ministries, GAME needs the centres to be self-sustaining. They are created so they don't need many staff – users are expected to respect each other and the facilities. GAME also partners with organisations to run specialist sessions, such as Street Movement, which offers parkour training.

Going forward, Prahm is hoping other organisations will follow their blueprint: "We're always ready to share what we do. We've developed compendiums and training tools and are partnering with another Dutch organisation to develop and disperse methods of creating public play."



Copenhagen-based practice JAJA Architects are turning a 1960s building in Aalborg into a 'thriving and dynamic street laboratory'

AALBORG

JAJA Architects won the competition to repurpose a 1960s laboratory in Aalborg into the fourth Streetmekka, which will open next year. The building's former experimental hall will host bouldering, parkour, basketball and soccer, and the laboratory wing will be used for activities with practical requirements, such as dance, the sound studio and street kitchen.

An outdoor area has been organised into a

gigantic streetscape, with a calisthenics area, parkour track and a bouldering rock. The façade of the building will become a living canvas for street art.

"Inspired by the beauty of the existing building, we have strived to preserve its industrial magic and generate an environment which invites the users to play with new forms of movement, social meetings and surprising happenings. Our aim has been to create a thriving and dynamic street laboratory," says Kathrin Gimmel, partner at JAJA Architects. ●



JAJA's design includes spaces for resting and viewing as well as the sports facilities





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LYNDON NERI

Husband and wife team Neri and Hu work from Shanghai, creating spaces that surprise and intrigue. Lyndon Neri talks to Magali Robathan about working in China, their upcoming projects and challenging the status quo

How would you sum up Neri & Hu's philosophy?

We're interested in being subversive and always questioning things. We deal with the notion of blurring the public and the private, the old and new. We're constantly challenging the refined and the rough. People need these contrasts to understand and appreciate differences in society.

What are your thoughts on hotel design?

The problem with hotels today is that guests just go into their rooms and close the door behind them. They ask if the light is okay, if the stationary is nice. They crave comfort; there's no sense of questioning what's there. It's all about providing luxury in a decorative way – better wall coverings, a beautiful chair. Those are good, but they're not enough.

We like to question what's taken for granted. I often wonder whether the privacy of the hotel bedroom should be truly respected, for example. Could the room be open, so that natural light can filter down from above and guests don't always have to turn on the light in their rooms?

Hoteliers will tell you that hotel bedrooms need to be totally blacked out. In the old days, people were very happy in their homes because their rooms weren't blacked out and they learned to live with the land; when morning came, they woke up. Nowadays, with blackout curtains, we sometimes don't wake up until 11am, then at night we can't sleep so we take sleeping pills. We are becoming abnormal beings.

I also think that maybe our notion of personal space should be challenged. We're trained to think that we need to be separate. When we come home from work, we close our front door, we make sure we have our privacy. We have a garden so that we can separate ourselves from our neighbours, and the length of our garden tells people how rich we are.



Lyndon Neri co-founded Neri & Hu in 2004



Lyndon Neri and Rossana
Hu met while studying
architecture at the University
of California, Berkeley

New Shanghai Theatre

Completed in November 2016, this project saw Neri & Hu revive an old 1930s Shanghai theatre with bronze and stone details. Neri & Hu sought to restore the original character and grandeur, which had been stripped away by a series of insensitive renovations.



I think we need to feel part of a community. Why is the community of the internet so important? Because we have a need to be connected to other people. Sometimes this celebration of isolation makes us insular and I think that's dangerous.

A few years back, you said that Chinese architects were a bit lost because of the pace of change in the country. How are things now?

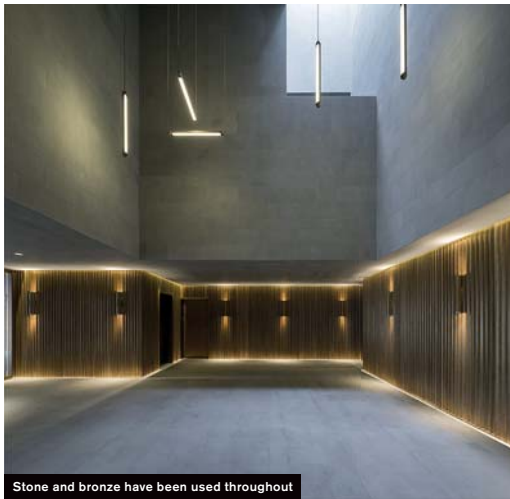
It's better, because things have slowed down. When I made that comment five or six years ago, everyone and their grandmothers were winning projects. You could come to China without architectural experience and get buildings built. It was scary. People are being a lot more careful about who they hire now.

How would you sum up the architectural scene in China right now?

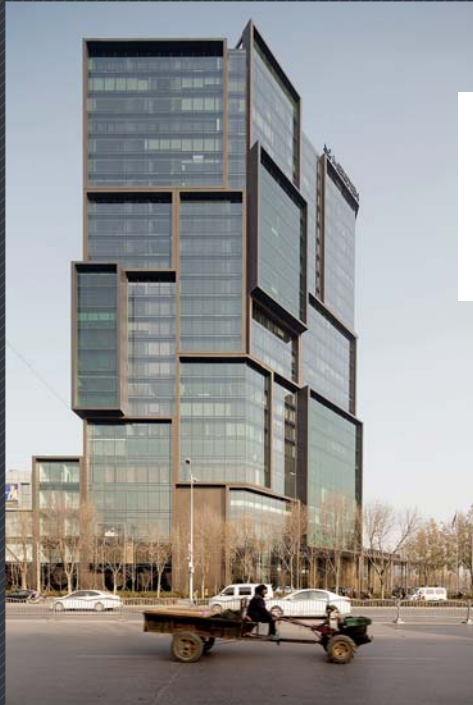
There is a growing seriousness. Younger generations are leaving the country earlier and earlier – before they used to go to graduate school abroad, but now they're going to colleges in the US to study architecture. A lot of parents are even sending their children to prep school abroad because they understand that in order for China to be a significant player they have to be engaged with the world and learn the language and culture.

Simplicity is no longer seen as a bad thing in China. Preserving the old and trying to understand context are no longer seen as negative. It's not just about building bigger,

PHOTOS: THE SPREAD, PIERO PEGEMAUITE



Stone and bronze have been used throughout

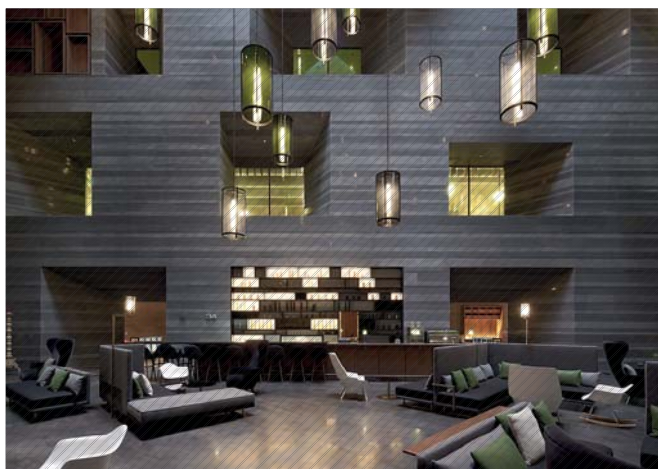


Le Meridien Zhengzhou

For this project, Neri & Hu came up with the concept of the building as an 'archive' of new and old objects for travellers to discover. Each of the cantilevered stacked boxes that make up the exterior represents an archive, with local history and culture represented internally by artworks, the materials used and the layout of the spaces.



The inspiration for the atmospheric five-storey atrium came from the nearby Longmen Caves. Skylights allow natural light to filter down





Chi-Q, Shanghai

Owned by chef Jean-Georges Vongerichten, the Chi-Q Korean restaurant is in Shanghai's historic Three on the Bund building. Neri & Hu were responsible for the interiors, and used dark colours, charcoal wood slats and dramatic lighting. The atrium houses a communal dining table, with other diners eating in half sunken seating banquettes.

PHOTOS THIS SPREAD: JIM WEBER/EN



shinier, better buildings. Another change is that people aren't just interested in the city now; a lot of people are going back to the provinces and the villages.

The Le Meridien hotel in Zhengzhou was a major project for you. How did that come about?

When we were approached by Le Meridien to do that project, we were asked to do the interiors for a building that was, in my opinion, commercial looking and hideous. I respectfully said, 'if you want us to do that, we're not the architects for you'.

The client was shocked, because he wanted us. He said, 'I've already poured the foundation, what can I do?' I said, 'fine, we won't change the structural formation or the floor area ratio, but allow us to change the way it is seen. The building was so nondescript, it could have been anywhere in the world. We wanted to design something modern but contextual.'

Our idea was to design something around the concept of an archive of the history of the area. We were inspired by the idea of the mountains and the cave people of Zhenzhou.

The design of the building features a series of glass boxes; the idea is that they are archival boxes that contain the history of the area. The atrium was inspired by the historic Longmen Caves nearby. We wanted to reflect that history, and that's how the large, cave-like atrium came about.

On the ground, we created a whole new landscape. It's like a bamboo field; a forest of bronze columns.

Can you tell us about the hotels you are designing for Ian Schrager?

We're working on three projects for Ian Schrager in China – Edition hotels in Shanghai, Wuhan and Xiamen. The Shanghai project is the one that's really going forwards at the moment.

The hotel will celebrate the 1920s Art Deco history of Shanghai. It's in a historic property of that period; Ian Schrager really wants to refurbish that building and make sure that the decadence and the play of material in its richness will be glorified. The five-storey building has a tower, which will house the rooms, with all of the F&B in the main building.

What else are you working on?

We're doing a Louis Vuitton hotel in Miami's Design District. It's an interesting project because it celebrates the home and questions the notion of domesticity. Each of the hotel's bedrooms is like a little house inserted into the concrete shell of the building. This project will take around two years.

We're designing a beautiful 19 room resort in the mountains of Moganshan, which is about an hour and half from Shanghai. We're also designing a six room villa resort in the mountains

Shanghai and London-based interdisciplinary architectural design practice Neri & Hu Design and Research Office was founded in 2004 by Lyndon Neri and Rosanna Hu. The firm works across architecture, interior design, masterplanning and product design.

Recent projects include the New Shanghai Theatre, a renovation of a historical building in downtown Shanghai that was completed at the end of last year. Neri & Hu used bronze and stone to create dramatic spaces inside.

Other notable leisure projects across China include Le Meridien, in Zhengzhou; the Waterhouse Boutique Hotel at South Bund, Shanghai; Xi'an Westin Hotel in Xi'an, China; the Hub Performance and Exhibition Center in Shanghai; and the Chi Q Korean restaurant, also in Shanghai.

Both Neri and Hu studied at the University of California, Berkeley, with Hu completing her master of architecture at Princeton University and Neri completing his at Harvard University.

Neri & Hu Design and Research Office



The Hub Performance and Exhibition Center, Shanghai

Completed in 2015, the Performance and Exhibition Center is part of The Hub mixed use complex in Shanghai. It was designed by architect Ben Wood, with Neri & Hu responsible for the interiors. The design was influenced by natural landscapes, particularly forest canopies and rock formations.





Xi'an Westin Museum Hotel

In China's ancient capital, Neri & Hu have designed a 300-bedroom hotel for Westin that is modern, but references the historic architecture of the area. The exterior is clad in dark stucco and stone; inside wooden slatted canopies allow light into the interiors.

PHOTOS THIS PAGE: PIERRO PIGNARANTE





PHOTO: PIERRO BERGNALTE

The Waterhouse, Shanghai

The Waterhouse is a four-storey boutique hotel built into a Japanese Army headquarters building from the 1930s in Shanghai's South Bund district. The lobby features the original concrete and brickwork, creating a 'rough and raw' feel.



DANIELA MENNER: BERLOVA PIERRO BERGNALTE



of Wenzhou, between Shanghai and Taiwan. We're building all of the architecture and space out of the local river rocks.

We're working with Alila on the brand's first city hotel, in Malaysia – we've taken up the top seven floors of a residential tower – and we're also designing a new hotel in Shanghai for Thai brand Sukhothai. The brand is all about hospitality, tranquility, the idea of using artisanal products, of crafting.

In Thailand you have the tropical weather, you have lots of space around you, so landscape is integral.

In Shanghai, there's hardly any landscape anywhere and so our biggest challenge was how to make the interiors of the hotel respect the small amounts of landscape you can see in the urban jungle that is Shanghai.

We achieved that through exquisite detailing. We put mirrors in the bedroom so that when you're in bed the plants outside are reflected into the room. We created the bathrooms so they feel more like a primitive hut than a hotel bathroom; as though you have to first go outside to get to it.

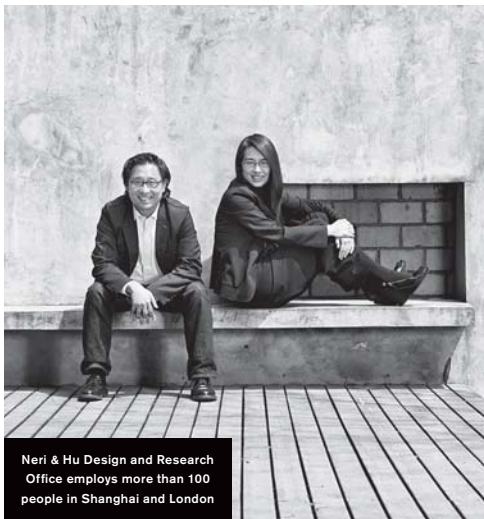
What will the next 10 years bring for Neri & Hu?

We've been concentrating on designing buildings in the city for a long time, but now people are approaching us to do projects outside of the city. We're exhilarated by this. We currently have five or six projects in the villages or in the mountains.

We've also gone international. A lot of people are approaching us to do projects in Europe, and we now have a London office.

We're very excited and positive about the future. ●

PHOTO: ANDREW ROWATT



Neri & Hu Design and Research Office employs more than 100 people in Shanghai and London

shenzhen

CITY OF

Shenzhen's skyline
has been completely
transformed in the
space of three decades



Shenzhen is growing at a spectacular rate, and leisure is at the heart of many of its new developments. **Christopher DeWolf** takes a look

CHANGE

Last February, when Tobias Berger took the stage at a Manila art fair to introduce the Old Bailey Galleries, a new contemporary art centre he runs in Hong Kong, the German curator gave the audience a bit of cultural and geographic context – starting not with Hong Kong but with Shenzhen, the Chinese mega-city just across the border from Hong Kong. “Shenzhen is the most exciting city in the world right now,” he enthused.

It’s easy to see why. While Hong Kong struggles with the same problems as any economically mature city, its sister city is growing at a spectacular rate. Home to an estimated 18 million people, Shenzhen is China’s richest city, with a per capita GDP of US\$23,749 – higher than a number of European countries, including Portugal and the Czech Republic. And it’s as close as a city can get to being a blank slate. When it was founded as a Special Economic Zone in 1980, it was a rural backwater. Hong Kong investors and state owned enterprises opened factories, and migrants from across China soon flooded in to work. The seeds of China’s modern-day industrial revolution were planted in Shenzhen.

Now it has moved onto yet another stage of development. While suburban factories produce the world’s sophisticated electronics, the city centre has been taken over by service

industries – especially tech firms such as Tencent, maker of China’s ubiquitous WeChat app, and market-leading drone makers DJI. A huge network of designers take advantage of open source hardware to create new products at an astonishing rate.

Vast projects are the norm in Shenzhen. Supertall skyscrapers are popping up in new business districts all over the city, like the 350-metre Hanking Center Tower, designed by US-based firm Morphosis, which topped out last December. Even public utilities are ambitious: Danish firms Gøttlieb Paludan Architects and Schmidt Hammer Lassen Architects have designed the world’s largest waste-to-energy plant for a site on the outskirts of Shenzhen – a circular structure that will be covered in 66,000 square metres of solar panels.

Leisure is front and centre in many of the new developments. “After such huge growth they’re now realising they need to improve it by focusing more on quality of life,” says Jacob van Rijjs, a founding partner of Dutch firm MVRDV. In many cases, it’s private and state-owned developers that are leading the way; companies that once built factories and cookie-cutter housing estates are now building sophisticated lifestyle developments.

OCT Group is one example. In the mid-1980s, it developed a large swathe of land into a working-class industrial enclave; two decades later, it hired local firm Urbanus to convert one of its old factory zones into a creative hub called OCT Loft. With

MVRDV’s Xili Sports and Cultural Centre has been designed to create a dynamic public space with multiple layers



IMAGE: MVRDV



When people came, they were surprised it was so raw



Liu Xiaodu, co-founder Urbanus



little money but lots of creative freedom, the architects focused most of their energy on the public spaces, replacing concrete with brick, planting trees and building steel canopies to provide shelter and a coherent visual identity. "When people came, they were surprised it was so raw," says Urbanus co-founder Liu Xiaodu, who worked on the project with his partner, Meng Yan.

It turned out to be a hit – something completely unlike the giant shopping malls that were becoming common in Shenzhen in the 2000s. A few years after the initial renovation, OCT commissioned Urbanus to expand the cultural district, this time with a larger budget. It now spans 150,000 square metres, including design studios, bars and restaurants, shops and 3,000 square metres of exhibition space. The firm is now working on converting B10, a former industrial block, into yet another art hall, which will add 8,200 square metres of exhibition space to the district.

Another state-owned enterprise, China Merchants Group, is doing something similar in the former industrial district of Shekou. Pritzker-winning Japanese architect Fumihiko Maki won a competition to create a cultural hub in the formerly industrial neighbourhood of Shekou that will house a new V&A gallery (see p116). Elsewhere in Shenzhen, MVRDV is working on an athletic centre and theatre (p114); Mecanoo, has designed a complex of three cultural centres and a book mall (p117), while KSP is

The OCT Loft development includes a range of interesting public areas that link the studios, bars, restaurants, shops and exhibition spaces

designing a new art museum and library (p116).

Urbanus has finished the design for a neighbourhood sports and cultural centre, which stacks each of its facilities on top of one another in a Jenga-like tower, with outdoor public space in between. Meng Yan says it was a response to a brief that called for 38,000 square metres of floor space on a 5,700 square metre plot. "I realised it is a rare opportunity to develop a stacking hybrid building with vertically articulated public spaces," he says.

Most of these projects are enormous: Mecanoo's cultural centres and book mall spans 99,000 square metres. KSP's Shenzhen Art Museum and Library will contain 15,000 square metres of exhibition space – larger than London's Tate Modern and New York's Museum of Metropolitan Art, and about the same size as Hong Kong's much-hyped M+ Museum.

Each project makes an effort to break up their structures into different volumes with plenty of public space in between. Reinsch says it's a way to avoid creating yet another one of the overwhelming megastructures that are so common in Shenzhen. "For us, as architects, it's not just about space, but about creating an environment for social interaction," says Reinsch. "The scale in China can be a problem, because you don't have human-scaled spaces. The challenge is to create spaces that make you feel comfortable, not lost."

SHENZHEN: LOOKING AHEAD

Sport and leisure projects taking shape in the city by MVRDV, Mecanoo, Maki & Associates and KSP Jürgen Engel Architekten

MVRDV's Xili Sports and Cultural Centre features a theatre-amphitheatre, a basketball-badminton arena, a multifunctional arena and a pool





Xili Sports and Cultural Centre

MVRDV

Last year, MVRDV won a competition to design a new 105,000square metre sports and cultural centre and theatre in the fast-developing neighbourhood of Xili in the western part of Shenzhen, on a riverside site located in between a metro station and a mountain park. "It connects the city to the mountains – if you want to go for a walk, you get out of that metro station and walk through this site," says MVRDV co-founder Jacob van Rijs. The project is expected to break ground by the end of the year.

For van Rijs' design team, the most natural solution for the space was to turn it into a 'sports village' with distinct venues linked by public space. Among the facilities are a theatre, a basketball and badminton arena, a multifunctional arena and a swimming pool. Each makes use of its rooftop space: the green roof of the theatre can be used as an outdoor cinema or amphitheatre, for instance, while the multifunctional



MVRDV co-founder Jacob van Rijs

arena is capped by a soccer pitch.

The site's emphasis on connectivity is best represented by its most unusual feature: an elevated running track that threads through the site, connecting each of the buildings. "The ribbon ties it together," says van Rijs. "It frames the public space and the buildings, but it will also be a fun thing. We had to make sure the slopes of the running track were not too steep so they could be used by everyone. It's about keeping people happy and healthy, and bringing people of all backgrounds together in one building."



Design Society is a collaboration with the V&A

Shenzhen Sea World Cultural Arts Centre

Maki and Associates

China's first major design museum – called Design Society – is the centrepiece of an ambitious plan by state-owned China Merchants Group to transform the portside industrial district of Shekou into an upscale residential, business and entertainment district. Run by Dutch architect Ole Bouman in collaboration with London's Victoria & Albert Museum, the Maki and Associates-designed Design Society museum is part of a new cultural complex, also designed by Fumihiko Maki. It is slated to open later this year.

Along with the museum and its exhibition spaces, the complex will include a 350-seat auditorium, a restaurant and a multi-purpose hall.

Located near a waterfront park, the complex has three projecting structures and a large external staircase that threads through the development. "The structures are sort of an homage to the surrounding context – we call it the trilogy of city, park and ocean," says Yasuko Okuyama, the project's lead architect. Each volume is positioned to take advantage of sweeping views around the development, while channelling visitors into the three public plazas within it. "We wanted to have some kind of open space that does not intrude with our project design; what we call a ma in Japanese terms, which means a mitigator or an intermediary space."

Next to the cultural complex is Sea World, an entertainment district known for the Minghua, a ship purchased from the French government in 1973 that's now filled with bars and restaurants. Okuyama says her team wanted to reflect the area's nautical theme by cladding the complex in materials that evoke an ocean liner: white granite for the podium, white aluminium for the three volumes. Each internal plaza has a different character; one is clad in red stucco, another in green granite, and another with reflective ceramic tiles.

Shenzhen Art Museum and Library

KSP Jürgen Engel Architekten

When KSP partner Johannes Reinsch first started visiting China, he noticed its vast, sprawling cities had a lot of space – but most of it was designed to encourage you to buy something. "At the moment, a lot of public spaces in China have this very commercial aspect to them," he says. "It's tiring. You want space where you don't always have pressure on you."

In 2015, his team entered a competition to design an art museum and library for a 74,000 square metre site in Shenzhen's outlying Longhua district, and they jumped at the chance to create what Reinsch calls "an urban cultural axis" that links the complex to the adjacent neighbourhood with a sheltered plaza. The entire structure is elevated on a stone podium, giving it sweeping views of the surrounding area, with a grand staircase that Reinsch expects will be a popular place to sit.



IMAGE: KSP

KSP took a deliberately minimalist approach to the cultural complex. "But we didn't want it to be too brutal," says Reinsch, so they clad the entire structure in glass to give it an ethereal appearance. Most of the glass is matte and protected by a layer of opaque inner walls in order to prevent the building from becoming a greenhouse in Shenzhen's hot, sunny summers. "Our approach is not just to make a shape and have the client pay the air conditioning bill," says Reinsch.

Inside the art museum, a series of terraces lead visitors to the exhibition spaces, each of which open onto a vast central atrium. The library, which sits across the plaza, is focused around a reading room with space for 1,000 people – an acknowledgement that 21st century libraries function less as repositories of books than as peaceful public spaces for study and contemplation. The complex is currently under construction.



Johannes Reinsch, KSP partner

The reading room can seat 1,000 people





The four aluminium-clad sculpted forms that make up the complex will create shaded spaces that can host a series of public events



Friso van der Steen, director of international projects, Mecanoo

Three Cultural Centers and One Book Mall

Mecanoo

“Size can be intimidating but, like with everything, you get used to it,” says Friso van der Steen, Mecanoo’s director of international projects. The brief called for a public art museum, science museum, youth centre and a book mall – a kind of large-format bookstore interspersed with smaller retail spaces. The site fell between a large plaza and a high-density residential area, so the challenge was to design something that wouldn’t sever the link between



Natural light will flood the interior spaces

The youth center will feature a restaurant



the two. “That’s why we wanted to break up our volumes from the beginning,” he says. “We shaped them into arches and rounded volumes so they would act as an opening between the square and the residential development.”

Each component was designed as a separate structure clad in red aluminium panels. “We wanted it to look like a seamless skin, with windows sliced through it in diagonal stripes, supplemented by the occasional large window,” he says. Each panel is slightly different in order to accommodate the building’s form, whose triangular gaps resemble a house of cards. The angled edges aren’t entirely

aesthetic: they shelter the public spaces between each volume from the harsh summer sun and rain.

Compared to the sleek, metallic exterior, “the interiors are totally different,” says van der Steen. Narrow cuts in the façade flood the interior with diffuse natural light. A palette of raw concrete and wood reveal the structure of the load-bearing façade and 40-metre core, which creates a large amount of unobstructed open space inside each volume. “We didn’t want to hide the building’s structure and make an empty shape,” he says. “You can really appreciate the construction.” The project is on track to be completed next year. ●

HIGH ACHIEVERS

From a glass slide a thousand feet up to a gravity-defying staircase to nowhere, these observation structures are as impressive as the views they offer

SPIRALLING UP

Project: Observation Tower, Camp Adventure

Location: Gissselfeld estate and forests, Denmark

Architect: EFFEKT

In January, Copenhagen architects EFFEKT won planning permission to build a 45m (147.6ft) spiralling observation tower in a preserved Danish forest.

Located in Gissselfeld Klosters Skove, one hour south of the capital, the structure will be part of Camp Adventure, an existing sports facility with tree top climbing paths and aerial zip lines. The tower will link to the rest of the attraction via a connected walkway leading visitors on a 600m journey around the forest.

While detailed design information has not yet been released, the architects said the tower will be set "gently and respectfully" against its beautiful backdrop. A continuous ramp will swirl from the bottom to the top, making it as accessible as possible.

The walkway will make the forest more accessible, and provide views across the Gissselfeld estate



Christophe Benichou designed the Tip-Box as a 30th birthday present for a fellow architect friend



IMAGES: CHRISTOPHE BENICHO

TIPPING POINT

Project: The Tip-Box

Location: Pic Saint Loup, France

Architect: Christophe Benichou

It's just a concept at this stage, but we like this one so much we just had to include it.

Designed by architect Christophe Benichou, the Tip-Box is a precariously balanced cube, set at the top of the Pic Saint Loup mountain in France's Montpellier region. The cube, which is angled downwards, contains seating for hikers to rest and enjoy the dramatic views.

"Its structure directs the visitor's eyes towards the foot of the cliff and virtually projects them into the void," says Benichou. "That lay-out gives them an ambiguous feeling of a motionless fall or imminent take-off.

"It is a praise to the void and an ode to vertigo."

The cube appears to be about to tip over the edge of the cliff. It provide a space to rest and take in the views

ATTRACTIONS

The structure appears to defy gravity. Its red-brown colour is a reference to the ironstone found locally



STAIRWAY TO THE SKY

Project: Vlooyberg Tower

Location: Tielt Winge, Belgium

Architects: Close to the Bone

Architecture practice Close to the Bone have blurred the boundary between a stairway and an observation tower by building a gravity-defying monument in a Belgian forest.

The studio were commissioned to build an observation point in the municipality of Tielt-Winge, after a popular wooden lookout tower was destroyed by arsonists.

The brief called for a new landmark that could survive the elements and attack from vandals.

Their solution was Vlooyberg Tower, a huge corten steel stairway that raises up from the ground seemingly without support.

"Instead of a conventional construction with a spiral staircase, we conceived a suspended volume without too many decorative frills," said the studio in a statement.

"Modelling the Vlooyberg Tower was a war against its own weight."

The tower is more than 11m (36ft) high and is built on a galvanised sub-structure clad in weathering steel, a reference to the red-brown colour of the ironstone found in the region.

To ensure the structure would be strong enough and would not sag, Close to the Bone manually calculated the forces acting in each element and selected a suitable form and dimensions. As a result, the tower weighs less than 13 tonnes.

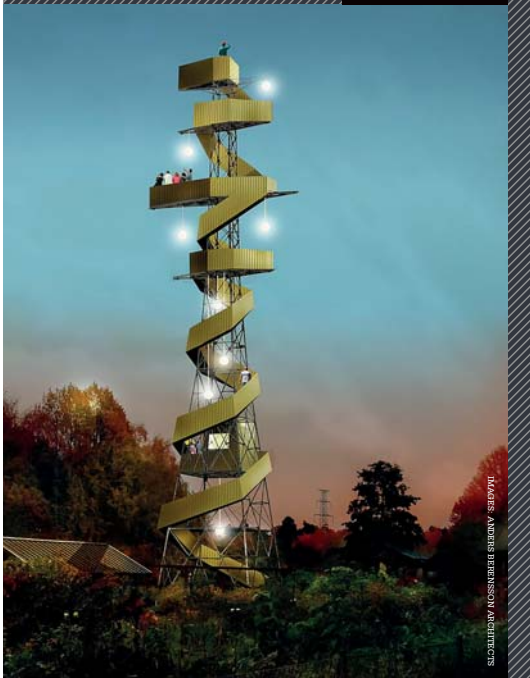
A railing wall functions as a structural beam that makes the steel structure strong and stable enough to withstand the forces acting on it, while two shock absorbers stop the tower from vibrating under foot.

The structure was fully prefabricated and assembled on site section by section in just half a day.



IMAGES: CLOSE TO THE BONE

The wooden stairways and platforms have been designed as a contrast to the original metal pylon towers



IMAGES: ANDERS BERENSSON ARCHITECTS

HIGH VOLTAGE

Project: 'Power Tower' proposal

Location: Stockholm, Sweden

Architect: Anders Berensson Architects

Swedish firm Anders Berensson Architects have been commissioned by the country's Royal Court to investigate the future of 12 disused pylon towers in one of Stockholm's national parks, with a view to transforming them into community structures.

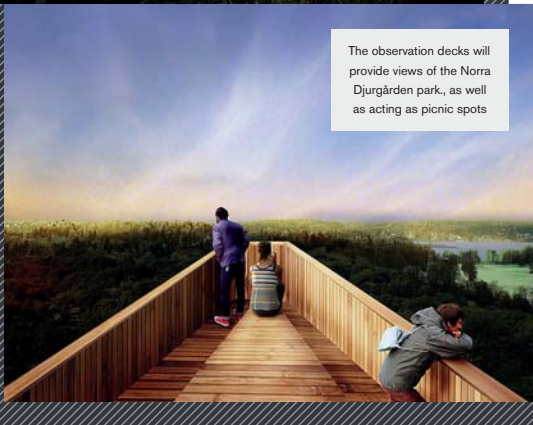
The result is an innovative proposal to turn at least two of the structures into 'Power Towers' – observation points with panoramic views of the Norra Djurgården park.

"The towers are constructed to carry heavy power lines over the park's treetops, making them strong enough to hold platforms and high enough to give a great view," said the architects. "The added stairs and platforms are made in wood to reduce weight and to contrast to the old structure."

The towers have been designed with a kiosk in the lower levels that can sell food and drink for picnickers during the summertime. Platforms up the structure would provide ample space for visitors to sit and enjoy their food.

The proposal is currently in the concept stage, but the architects have said they are seeking funding to turn the vision into a reality.

The observation decks will provide views of the Norra Djurgården park, as well as acting as picnic spots



ATTRACTIONS



The platform is located at the top of the ascent from the Vettefjord, offering views of the dramatic scenery

IMAGE: EIVIND RYLAND



POINTS OF VIEW

Project: Utsikten

Location: Gaularfjell National Tourist Route, Norway

Architects: Code Arkitektur

Norway's famous network of architecture tourist routes is set to get a new viewpoint attraction in June – a concrete triangle slab balanced on a dramatic mountainside.

Designed by Norwegian architects Code, the Utsikten (the View) is being built on the Gaularfjell National Tourist Route (NTR). The NTR project began in 1994, combining the 18 most spectacular roads in Norway with architectural attractions designed to complement scenic highlights, such as viewpoints and resting places.

"Utsikten is yet another example of innovative Norwegian tourist route architecture that adapts to steep terrain and challenging landscape elements," says Per Ritzler, media and international relations officer for National Tourist Routes in Norway.

The viewing platform, which is in the final stages of construction after building started in 2014, will

offer clear views of the mountains and fjords ahead and provide paths for visitors to walk along and even under the structure.

However, building Utsikten has not been easy, with no electricity, phone reception or internet access at the construction site, as well as unpredictable weather at the high altitude and roads that can be challenging for transporting materials.

Code won the competition to design the attraction in 2008. An amphitheatre, toilet facilities and parking facilities are also being built at the site, which is 700m (2,297ft) above sea level.

"Our ambition is to make a functional object that exploits the qualities of the site to a maximum by establishing several and various viewpoints and ways of moving around," says Code architect Eivind Nygaard.



Code Arkitektur's viewing platform balances on the edge of the Gaular mountain, 700m above sea level

ATTRACTIONS

HOLLYWOOD THRILLS

Project: Skyslide

Location: Los Angeles, USA

Architect: Gensler

Last June saw the opening of the Skyslide, a nerve-testing glass slide located 1,000ft above the ground near the top of Los Angeles' Bank Tower.

The slide was created by architects Gensler and is part of the OUE Skyspace LA attraction – California's tallest open-air 360-degree observation deck and restaurant.

The 45ft (13.7m) long Skyslide links the 70th and 69th floors of the building. Just 1.25 inches thick, riders feel like they are descending through thin air.

Singapore investor Overseas Union Enterprise (OUE) bought the tower in 2014 for US\$367.5m (£332.m, £274m). While the building will mostly be used for offices, the company believes the Skyspace attraction can draw 500,000 visitors a year, generating US\$12.5m (£11.3m, £9.3m) in ticket sales alone.

"The Skyslide boasts a safe, thrilling experience unlike any other in the world," said OUE's Lucy Rumatir, president and CEO for the Americas. "Guests of all ages will have the opportunity to transform their view of Los Angeles as they glide down, gazing at unparalleled views of the city."



The OUE Skyspace LA provides 360-degree views of the city, as well as the glass slide. It opened in June 2016





Adventurous visitors
to the Sky Walk &
Observation Deck can
descend the structure via
a 101m-long slide

ABOVE THE TREES

Project: Sky Walk & Observation Deck

Location: Czech Republic

Architects: Franek Architects

Construction has been completed on a meandering 'Sky Walk' and observation deck towering 55m (180ft) above a forest valley in the Czech Republic.

Local studio Franek Architects created the dramatic timber and steel structure for a ski and wellness resort in the mountains near Dolní Morava.

The Sky Walk provides a constantly shifting view as you climb to an altitude of 1,116 metres above sea level. There are a number of ways to ascend the tower, including an accessible

wooden ramp for strollers and wheelchairs, and it is possible to descend via a winding 101m steel slide with side windows.

Netting at the very top is suspended across a loop in the walkway, creating a hammock with stomach-churning views below.

"We wanted to create a new kind of experience," says lead architect Zdeněk Franěk. "There are constructions of a similar size, but ours takes on an abstract form that suggests the flight of a nocturnal butterfly whose path is seemingly chaotic."

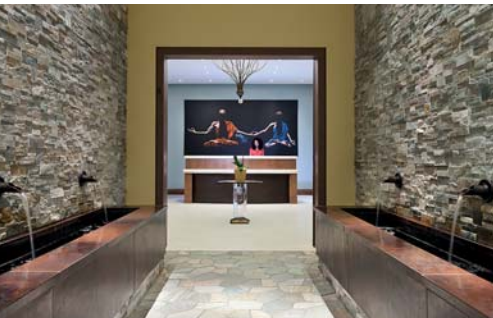
The structure – formed of 550 cubic metres of timber, nearly 400 tonnes of steel and over 40,000 pins, clamps and bolts – was largely assembled by hand, as local safety and construction laws limited the use of machinery allowed on the mountain. Assisted by a crane, workers had to climb the structure as it grew taller.

The Sky Walk is available for visitors to the Dolní Morava Relax and Sport Resort, which offers a range of summer and winter adventure activities. ●



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• Lasvit's sculpture, entitled Neurons, responds to music with light sequences

Lasvit's Neurons illuminates Prince Mahidol Hall

Mahidol University's Prince Mahidol Hall has installed a glass lighting sculpture designed by glass and lighting design company Lasvit.

The sculpture uses state-of-the-art LED technology designed to welcome visitors with variable lighting.

The sculpture, entitled Neurons, responds to music played in the concert hall with varied light sequences and colours, turning rhythms and melodies into visual experiences. Its composition is harmonious within the rules of symmetry, despite its random appearance, and was designed as a visual counterpart to the inner conventions of music.

It uses advanced LED light bulbs inside hand-made artistic glass components

to create an illusion of movement that brings the installation to life.

Lasvit designer Jana Růžicková said: "The design is directly inspired by the motto of the Mahidol University – the Wisdom of the Land. Our goal was to deliver a timeless design that would fit into the building's contemporary Thai architecture."

Richard Ralphs, principal of Pre-College and Boarding at Mahidol University, said: "We've worked very closely with Lasvit to create this stunning feature that puts the brain, the spirit and the light into the hall of the university."

CLAD-KIT KEYWORD

Lasvit

Our goal was to deliver a timeless design that would fit into the building's contemporary Thai architecture
Jana Růžicková, Lasvit



MIT researchers create material with the best strength-to-weight ratio in the world

We've translated these two-dimensional materials into three-dimensional structures

Markus Buehler, MIT

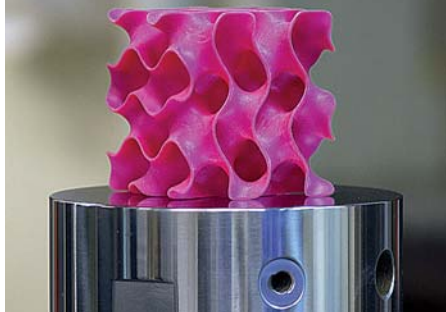


A team of researchers at the Massachusetts Institute of Technology (MIT) has created a new material by compressing and fusing flakes of graphene. This new material has 10 times the strength of steel with only five percent of its volume.

The new material has a sponge-like configuration and a geometric shape resembling coral.

The researchers found that the unique formation of the three-dimensional form was more crucial than the material itself. This suggests that a variety of lightweight, strong materials could be created from different sources using the same geometric features.

Markus Buehler, head of MIT's Department of Civil Environmental Engineering and the McAfee Professor of Engineering, said: "What we've



done is to realise the wish of translating these two-dimensional materials into three-dimensional structures."

Discovered by University of Manchester professors Kostya Novoselov and Andre Geim, graphene is one of the strongest known materials, and the world's first two-dimensional material.

In its original form graphene is 200 times stronger than steel and one million times thinner than a human hair.

- The material is created by compressing and fusing flakes of graphene

CLAD-KIT KEYWORD

Graphene

David Rockwell reveals collaborative collections

While each collection is unique, the products have been conceived for designers to use in a wide range of settings

David Rockwell, Rockwell Group

New York-based designer and architect David Rockwell has collaborated with a number of agencies to launch new lighting, seating and flooring collections for the hospitality industry.

Rockwell created the lighting collection with Turkish lighting design company Gaia&Gino. The collection features three designs: Twist, Ribbon and Leaf.

For seating, Rockwell collaborated with bespoke furniture design company Stellar Works to create an elegant seating solution based on the timelessness of the school chair.

Ethereal Beauty is a collection of bespoke carpets exploring patterns found in nature using soft, tonal textures.

The collection was inspired by artistic representations of the natural world. Ethereal Beauty marks Rockwell's fourth collaboration with Shaw Contract Group.

Rockwell said: "We are thrilled to be working again with two of our favourite long-time collaborators, Maya Romanoff and Shaw Contract Group, and extending



- Rockwell worked with Gaia&Gino on a lamp collection inspired by nature

- It's Rockwell's first furniture collection

our first furniture collection, Valet, with Stellar Works. While each collection is unique, the products – from the new arm and side chairs for our Valet collection for Stellar Works, to our Cozy woven wool wallcoverings for Maya Romanoff, to our new Ethereal Beauty carpet collection for Shaw Hospitality – have been conceived for designers to use in a wide range of settings."

CLAD-KIT KEYWORD

Rockwell Group



- Stellar Works was a collaborator



Marc Fornes uses curves to create strength with new Under Magnitude sculpture



Aluminium, when fastened to neighbouring pieces, assumes a curved shape and a high amount of structural strength
Marc Fornes, TheVeryMany

Marc Fornes and his architecture studio TheVeryMany have created a new sculpture for the atrium of the Orange County Convention Centre in Florida.

The sculpture, Under Magnitude, is both familiar and abstract, and was influenced by clouds, coral and other sea-life.

It is made from 4,672 ultra-thin pieces of perforated aluminium, curved by hand and riveted together to create its unique shape. Each stripe is less than one millimetre thick, but is strong enough to be walked on.

It was created using 'structural stripes', a unique method invented by Fornes that uses curves to create strength.

Fornes said: "The material of Under Magnitude is aluminium, which is cut from flat sheets, but when fastened to neighbouring pieces assumes a curved shape and a high amount of structural strength."

Fornes was inspired by a soap bubble experiment by German engineer and architect Frei Otto, which found that bubbles blown up to the size of a room are more structurally viable than boxes.

CLAD-KIT KEYWORD
Theverymany



• The installation is made from ultra-thin aluminium pieces



Princeton researchers find marble preservative in human bones

Researchers have developed a low-cost treatment to preserve marble.

The research, led by George Scherer and Enrico Sassoni at Princeton University, found that hydroxyapatite, a calcium compound found in bones and teeth, could preserve marble from the effects of time and environmental exposure.

The treatment consists of calcite and a saltwater solution that reacts with marble to create the hydroxyapatite.

When applied, the solution is absorbed into the marble and binds cracks in the surface, making the marble stronger and more resistant to environmental elements that cause deterioration.

Scherer's laboratory has been researching the preservative potential



You can put hydroxyapatite into those boundaries to strengthen and hold it together
George Scherer,
Princeton University

of hydroxyapatite for a number of years as it has valuable properties like being non-toxic and fast-acting. It's able to penetrate deep inside marble cracks and react in just 24 hours.

Scherer, professor of civil engineering at Princeton, said that the hydroxyapatite treatment acts as a glue. "You want to put something into those boundaries to strengthen and hold it together, and that's what the treatment does well."

Additional testing to see whether the compound is strengthened with the application of electrical currents and alcohol is currently being carried out.

CLAD-KIT KEYWORD
Hydroxyapatite

Eness creates interactive LED wall panel

LUMES have the ability to react to time, the weather, movement, vibration, audio or even skeletal and facial recognition

Nimrod Weis, Eness



Award-winning Australian multimedia design company Eness has released a wall panel that transforms ordinary surfaces into creative, interactive spaces.

The light-emitting wood panels, named Lumes, seamlessly integrate into existing surfaces to create an immersive environment. Lumes uses motion-activated sensors to trigger animation and can detect distances, responding with larger animations as people get closer.

The first panel has been installed at the entrance of Cabrini Hospital's Paediatrics Ward in Malvern, Victoria.

The animation on display at the hospital has a child-friendly design and features falling raindrops, animals peeking from behind grass and launching rockets.

The animation is customisable and can be adapted following installation.

"LUMES have the ability to react to time, the weather, movement, vibration, audio or even skeletal and facial recognition," said Nimrod Weis, co-founder at Eness.

Eness is hoping to further develop the technology so that animation will



respond to heat and sound as well as touch and motion, and will also be expanding its material palette beyond wood, canvas and acrylic.

Eness envisions Lumes forming immersive environments in a range of architectural projects including leisure, commercial, tourism and hospitality spaces.

- Eness installed its first Lumes panel inside a children's hospital

CLAD-KIT KEYWORD

Eness

Carlo Ratti reveals digital shading canopy for climate control and beautiful shadowing

International design and innovation office Carlo Ratti Associati, in collaboration with Dubai's Museum of the Future, has developed a digitally-operated reflecting canopy to provide shading, climate adaptation and green energy generation in cities.

Sun&Shade is part of the museum's 'Reimagining Climate Change' exhibit.

The canopy uses an array of mirrors that automatically track the sun. Each mirror moves on a double axis to reflect the sun's rays away from the ground – allowing the control of the level of shading and natural cooling underneath. Reflected rays are then concentrated on a photovoltaic receiver that generates electric power.

"In developing Sun&Shade we were inspired by the Middle Eastern tradition of shadowing in architecture and public space", said Carlo Ratti, founder of Carlo Ratti Associati.



Sun&Shade was inspired by the Middle Eastern tradition of shadowing in architecture and public space

Carlo Ratti, Carlo Ratti Associati



"Sun&Shade aims to bring this concept to the next level, allowing shadowing to be digitally controlled."

Ratti said the technology has the potential to significantly boost clean energy production.

- Sun&Shade: traditional architectural shading gets a digital twist

CLAD-KIT KEYWORD

Carlo Ratti Associati

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