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September 2019

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Costco saves Britain's heritage
Three exemplary housing projects
Alan Jones on his past and the future



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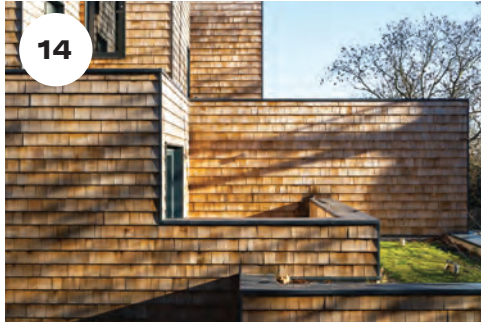
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Which housing project convinces you? Like the healthy office idea – or the new president's ambitions? Write to us: letters.ribaj@riba.org

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Royal Opera House | London



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The Royal Opera House,
Covent Garden, London.

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The solution

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Covent Garden has been home to the Royal Opera House for over 260 years. It is a venue that has seen some remarkable 'firsts': the first indoor spotlight, the first time the piano was played in public in England, the first performances of many of Handel's operas, and the first 'ballet d'action', a work with a story told through dance.

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1: Buildings

We're in trouble, aren't we? In this housing special issue all three of the schemes in Norwich, Cambridge and London that have been completed this year have coincidentally taken 11 years to design, receive planning permission and get built. These gestations lead back like architectural geological strata to the 2008 financial crash of course, and are more to do with money than anything else. But if we are to expect the downturn that many economists are predicting at the end of this year (as we go to press Germany is teetering on the edge of recession) and the trend repeats itself, it could mean that the homes you are designing now with happy visions of a glorious housing-crisis-free sunlit future in your head won't be

occupied until 2030. That's a chilling autumnal thought.

There are upbeat signals here though. Councils like Norwich at Goldsmith Street can now bridge the cycles of private housing investment by continuing to build through them, and perhaps build-to-rent tested by Bryden Wood is more boom-and-bust-proof than market housing. Mole's Marmalade Lane may have taken a while, but the kids certainly love it. Yet if that doesn't sound positive enough, take solace in our Tech feature that an unlikely low-cost American retail giant rescued some of Stevenage's architectural heritage, or start by turning the page and escaping to the fairy-filled island garden around Stirling-shortlisted Cork House. ●

ONLY ON RIBAJ.COM

It has a friendly look about it – and with its short, chunky 'legs' you can almost imagine it setting off for a trundle around the grounds

Pamela Buxton
gets some cultural
diversity in
Dulwich: [ribaj.com/
dulwichpavilion2019](http://ribaj.com/dulwichpavilion2019)

Below Marmalade Lane, page 20.

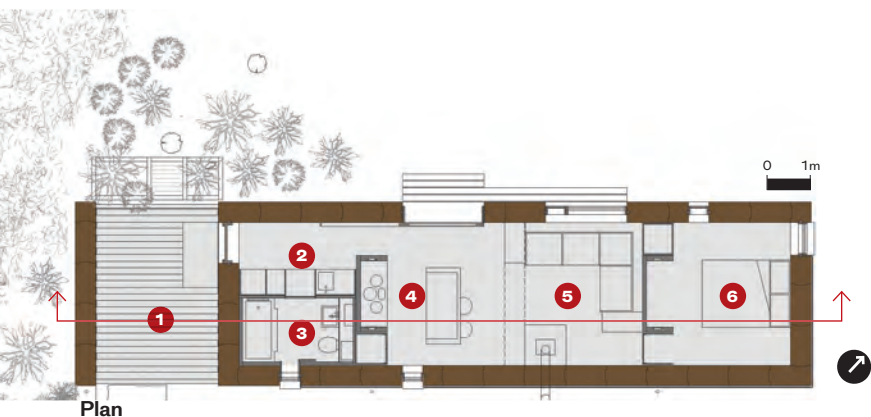


DAVID BUTLER

Imagination uncorked

Cork House is a living demonstration of thinking outside the norm – sustainable, research made reality, a radical approach to materials and manufacture. And it's charming

Words: Eleanor Young Photographs: David Grandorge



Dispel any ideas that this house made of cork is a quirky project, or some sort of gimmick. No, it is a radical rethink of building technology, starting with the wall, and overturning our normal processes of construction from manufacture of the cork blocks to assembly. What began as a research project became an iterative process that included construction and ended with this dwelling, as lessons from data and experience have been looped into this little house. And it is a magical and natural set of spaces that are a delight to be in.

So perhaps it is not surprising to see it shortlisted for this year's RIBA Stirling Prize. But it has been a long journey, led by three architects: starting with the research by Oliver Wilton and Matthew Barnett Howland and collaborators, and ending with a home for Barnett Howland and Dido Milne. A 44m² spill-over annexe to the family house on an awkward riverside site in Eton – it was primarily built, block by block, by Barnett Howland.



Left A bountiful flowering garden at the back of the main house leads to the loggia entrance to the Cork House which elegantly resolves an awkward junction between two gardens.

Opposite Borrowing masonry corbelled forms for the cork blocks resulted in pyramidal roofs, effectively held down by the rooflights.

Client Matthew Barnett
Howland and Dido Milne
Architect Matthew
Barnett Howland with
Dido Milne and Oliver
Wilton
**Structural and fire
engineer** Arup
**Whole-life carbon
assessment** Sturgis
Carbon Profiling
Component 3d modelling
RK CAD
Building contractor
Matthew Barnett
Howland with M&P
London Contractors
Research MPH
Architects, The Bartlett
School of Architecture
UCL, University of Bath,
Amorim UK and Ty-Mawr
Lime, with consultancy
from Arup.

At the heart of it all was a big idea of going back to first principles in construction. What, asked Barnett Howland, if we could replace the complexity of the wall with a 'single, solid, bio-renewable material'? Could one material handle the elements, vapour control, insulation, structure? Any architect knows that the build up of a wall with double skin, insulation, ties and vapour control easily loses both its promised performance and the integrity of each element in the complex whole.

The research found that cork in buildings had performed all these functions, sometimes for many decades, and it had long been used commercially for insulation board. It still looks good after 20 years, but it could last for centuries, hazards Barnett Howland. Added to this, the cork oak, or *quercus suber*, contains 45% suberin, a waxy constituent that forms a natural hydrophobic vapour barrier. This combination of qualities suggested the material might work as a system in itself. And infrequently harvested (9-10 years), the trees foster a biodiverse habitat. It all made a very strong case for the use of cork.

Now what was needed was to make cork into a building material with good compressive strength. Heated and stewed in its own juice, cork can make a fairly solid block. And if the building was made of blocks imagined as 'insulative stone' then there were plenty of masonry examples of how it might be put together, with courses of blockwork more or less articulated and a roof of stacked corbels



From above the diagram of a series of beehives seems most obvious.

PHIL BROOM

Could one material handle the elements, vapour control, insulation, structure?

Bottom left The loggia acts as a tunnel connection between the gardens, as well as a protected porch for the Cork House.

Bottom right An apparently narrow entrance corridor works hard housing coats, ladder to reach the sleeping mezzanine and a pantry space for food preparation and washing up.

IN NUMBERS

44m²
gia

619
kgCO₂e/m² whole life
carbon emissions over
60 years

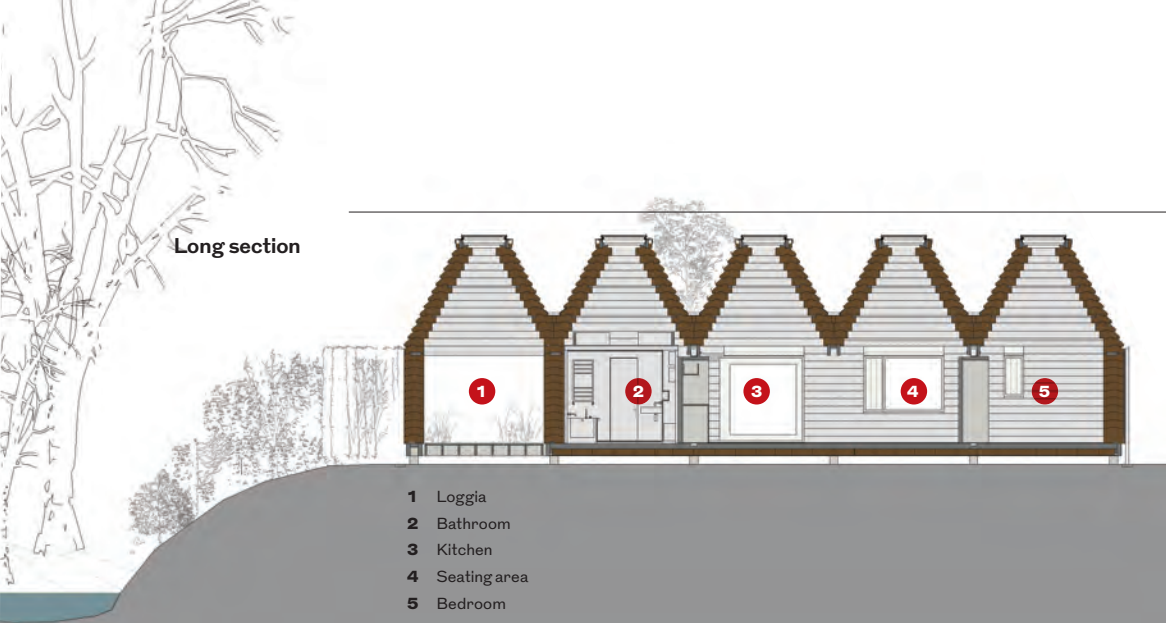
1,268
cork blocks

of cork. Timber ring beams at eaves and floor level and supports for the lateral load at the valley joints led to the stepped pyramid roof with its echoes of ancient Mayan pyramids.

The first structure to be built under the project was only 2m high. Nicknamed the hen coop, it used timber dowls and lime mortar but this seemed too complex. A bid for more funding saw the development of a construction system. At first, fitting the blocks together relied on cork's sponginess to lock it in place but making and disassembling these proved slow and almost impossible. Instead a friction fit between the flat surfaces of the weighty cork blocks was settled on. Design geometries were adjusted and after three months in the UCL robotics lab, Howland Barnett had reduced the time needed to cut each block from 15 minutes to five.

The second prototype was the cork cabin, testing for buildability and performance. At





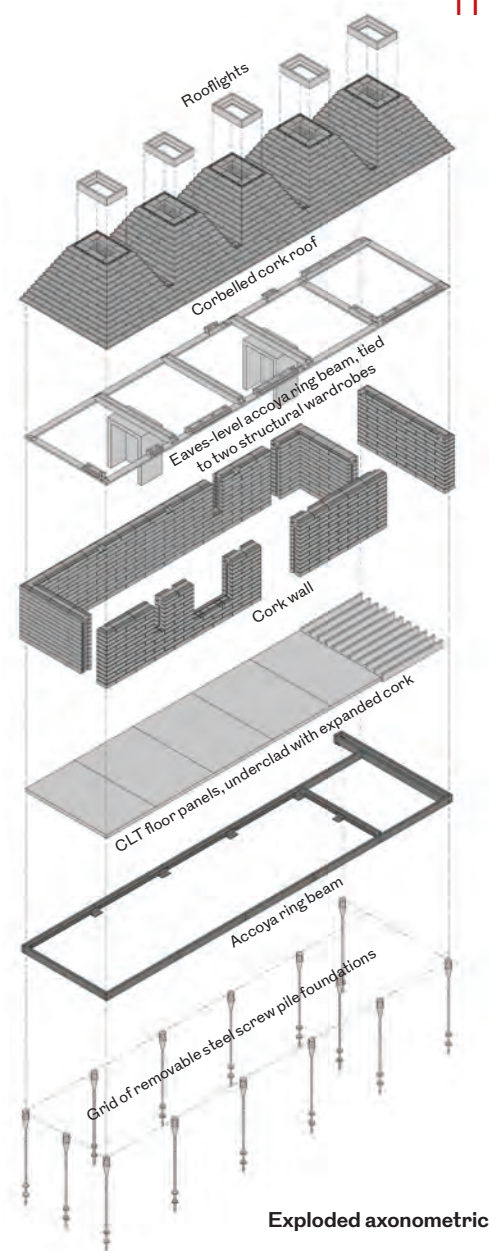
13 kg the blocks can be comfortably handled and positioned by two people, or by one with long arms. Then they need to be knocked gently into place. The gable that had graced the front of the pyramid was ditched as over complex, requiring form work and tricky shaped blocks. There was detailed thermal and moisture modelling, and pressure testing following thermal imaging. The air leakage level was just okay but was halved after a rebate between blocks was added with expanding foam tape to improve air tightness. Leaving it out in the rain was not so good, after six months water was seeping into the underside of the roof, via the 15% of fissures that cork is riddled with. So timber weatherboards were added to shed the water. On the walls, a degree of penetration is combated with gravity.

Impossible in a normal build, these refinements are par for the course as part of a research project. Barnett Howland describes

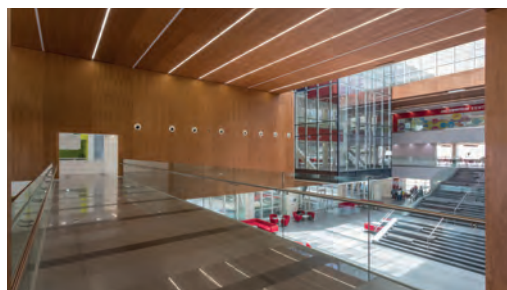
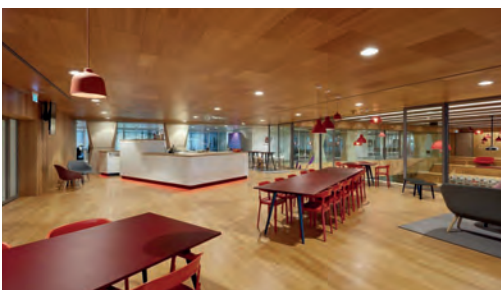
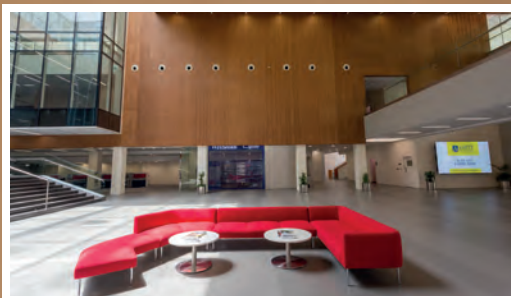
them as de-risking the build for the Cork House – which all three architects insist is not innovative in itself. But the next step of constructing a large building seems at least like the proof of concept. With 1268 blocks needed, a CNC milling machine took over the cutting, block types were numbered corresponding to the plan, and Barnett Howland went into his garden and started building. Another tick – addressing the skills gap.

The two big questions affecting wider applicability concern longevity and fire performance. The answer is that we don't know. But after testing, BRE gave the cork Class A for fire penetration and B for spread of flame. The material could have been treated or lined but that didn't fit with the big idea. So this single storey building has sprinklers, and its back boundary wall is clad with class 0 cedar.

The other question, how it feels, is easier to answer. The five volumes, each with their



own pyramid with rooflight on top, have quite different treatments. The first is open on two sides, a calm verandah that offers both prospect and refuge at the knuckle of two garden spaces. Next is a hard working volume with a pantry-corridor, bathroom and sleeping mezzanine in the fragrant, lofty roof above. Then the double volume of kitchen and living space with a big window on the garden. Here, where the eye travels further, you most notice the beautifully copper-encased services and sprinklers against the dark of the cork. Finally comes the double bedroom with windows, internal and external, where the head on the pillow can turn and look out when the sky is not enough of a view. Every room has a sense of cave-like protection with a warm airiness. It is a place to be when the doing is done for the day. And after years of research there is no doubt it feels doubly like that for Barnett Howlett and Milne. ●



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Battersea Arts Centre site
Words Jan-Carlos Kucharek
Photograph Fred Howarth

At 26, Fred Howarth is the youngest photographer we have featured. Having worked at Haworth Tompkins in his year out after his degree at Oxford Brooks, he pursued a Masters in Architecture at Westminster in a film-based unit. The interest in photography had its nascence long before, however, when he and a university colleague started with a grand tour of Europe's architecture and ended up processing the shots in a blacked-out bathroom in their student digs.

Haworth Tompkins encouraged his interest and, while making use of visualisation

skills honed during his studies, it also let him pursue photography by doing the practice's site shots. Howarth returned to Battersea Arts Centre more than 20 times during its construction. 'Once the building is finished the process shots are forgotten, but I've always loved them,' he tells me. It's ironic he chose this project, because given the firm's penchant for stripping back and revealing, there's a sense that the finished building might not look much different – but Howarth begs to differ. 'That day an operative was laying insulation and the dust that was thrown up caught the light in an amazing way. It was a fleeting, incidental moment that won't be repeated. It was lovely to capture.'

Perhaps not as lovely as Zumthor's Kun-

sthaus in Cologne, which he is keen to shoot in the future, and definitely not as lovely as Frank Lloyd Wright's 1924 precast concrete Ennis Brown House in Los Angeles, which, it seems, Howarth has a life aim to photograph. 'It features in the 1959 film *House on Haunted Hill* and there's a reason for that. Taken in the wrong light it's as intimidating as a Mayan temple but on a sunny day it's impressively light in feel. Film's like that. It changes buildings.'

And maybe not just buildings but cities. Howarth is deeply fascinated with LA. In film, Toronto is frequently used as a stand-in for New York, he tells me, but LA has a singular quality all of its own: 'No other city can play LA in films. It only ever plays itself.' ●

Long walk home

Extremely slow progress with a disjointed site led Loromah Estates to self-build with multi-disciplinary Bryden Wood. The result is an intelligent enclave of private rentals

Words: Hugh Pearman Photographs: Jocelyn Low

Somehow I'd never got to see the famous Walter Segal-designed late 1970s self-build development in Lewisham, Walter's Way. It had certainly never occurred to me that the concept of these timber-framed homes, straggling down a steep hill on a plot too awkward for conventional developers, might be a model for a large new build-for-rent development nearby. Such is the case however, though having now seen both, it's clear that you can't push the analogy too far. Churchwood Gardens by architect Bryden Wood is an intriguing exercise in making a relative-

ly high-density housing development on a landlocked hillside site in south London.

Private sector build-to-rent is part of the housing mix that, while growing in importance, tends to receive scant attention. Usually developers want to sell their flats and houses sharpish, ideally off-plan, bank the profit and move on to the next project. Rental is often a last resort when flats don't sell, usually because they are released onto the market at a time of economic uncertainty or oversupply. But there is a different approach. The developer behind Churchwood Gardens,

IN NUMBERS

£14m
construction cost

8,270m²
site area

71
homes

9
buildings

11
years in design, planning
and construction

Credits

Client/project manager
Loromah Estates

**Architect, structural,
civil and services
engineer** Bryden Wood

Contractor
Wicklow Projects

**Health and safety
advisor** Pierce Hill

Project Services
Landscape Davis

Fire engineer Jeremy
Gardner Associates

Planning consultant
Frost Planning

Site plan



Right Adapting to an existing landscape, Churchwood Gardens maximises the potential of the steeply sloping site.







HUGH PEARMAN

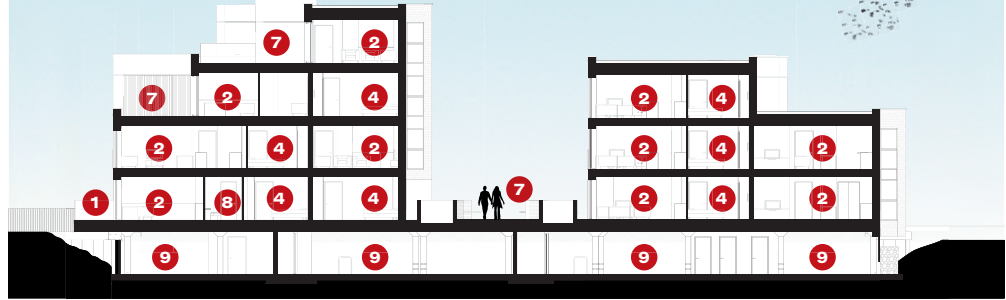
Loromah Estates, is a small, long-established family business, active from the post-war years onwards. It operates slowly and deliberately. It doesn't like selling its properties. It prefers to hang on to them, rent them out, and design them accordingly.

MD Lissa Napolitano says her market is often young and mobile: renting suits them for a while, then they'll trade up – perhaps wanting to buy, or starting a family. So tenancies are relatively short – two or three years, say. The flats and their fittings and equipment must be robust, easily maintainable, capable of rapid turnaround between tenancies. No landlord wants to be forever fixing faults, nor does any tenant want them. This kickable-design approach, however, does not have to mean lowest-common-denominator design. Quite the contrary at Churchwood Gardens which is spacious inside and out, well landscaped, clearly upmarket.

The story of the backlands site is a long and convoluted one, going right back to the early 1950s when Napolitano's father joined the family firm and bought some properties here in the part of Lewisham called Honor Oak Park. By the 1980s he wanted to redevelop them. He had accumulated a decent L-shaped site with access – but for a landlocked slice of the site, like a ransom strip, owned by someone who refused to sell for a long time. Nobody else wanted it because only Napolitano had access. Then Loromah bought another large chunk of adjoining



Block 3 and 4 section



Left Nearby Walter's Way with its Segal Method self-build homes was a design inspiration.

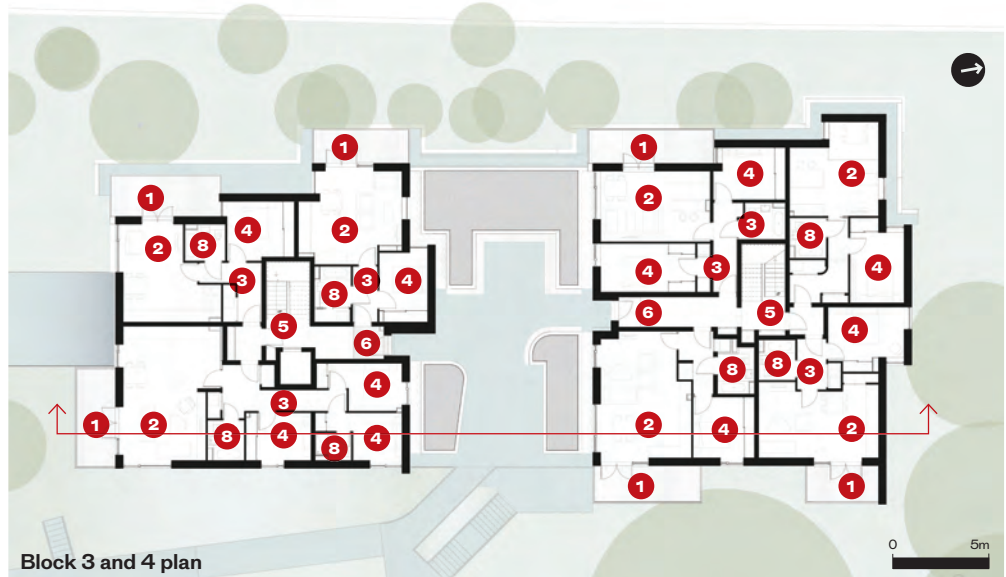
Right Forms of the blocks are broken down to preserve views through the site. Green roofs help blend with the landscape.

Below left Brick-clad smaller entrance pavilions.



DON LEWIS

- 1 Balcony
- 2 Kitchen/living room
- 3 Hall
- 4 Bedroom
- 5 Stairs
- 6 Entrance
- 7 Terrace
- 8 Bathroom/WC
- 9 Undercroft parking



Block 3 and 4 plan

It likes to rent its properties, and design them accordingly

Right The pavilions have generous balconies and terraces.

Below Cedar shingles cover facing elevations.

land. Various schemes came and went over the years. Local residents got a campaign going against any development on the site.

Bryden Wood started work on its scheme – landscape-based, the 71 homes distributed around seven informally-arranged cedar-clad pavilions and two brick entrance ‘lodges’ – in late 2007. Planning permission came on appeal in 2010. Further delays – including a spell when travellers moved onto the site – finally ended when Loromah, flummoxed by high tender prices, decided to grasp the nettle and build out the scheme



itself, using its own contractors. In that sense it was indeed a self-build, if not quite on the house-by-house Walter's Way model. Bryden Wood, being a multi-discipline practice of architects, engineers and designers, also helped to streamline the process.

The end result, after all these years, is an agreeable and intelligently planned enclave. It is the diametric opposite of that curse of the private housing market, permitted conversion of office buildings with no planning oversight, some of which are creating the 21st century equivalent of the Victorian ‘rookeries’. In contrast, this is built according to London Plan requirements and according to the National Housing Federation's good practice guide. It feels generous. There are green roofs and banks of photovoltaic panels. Daylighting is good, through full-height glazing. Balconies are large. The topography helps, of course: with the pavilions kept relatively low, existing buildings further up the hill can look right over them to the distant views. Rainwater runoff is dealt with through SuDS (sustainable drainage systems). And there's an on-site concierge/handyman to deal with all the usual little issues on such estates.

It is by no means perfect. I find the cladding mix of cedar boards and shingles a bit odd (apparently shingles are used where properties face each other, boards where they face open areas but I can't see why this distinction is necessary). There are various ancillary structures, some rather intrusive. It is very much designed for car access (doubtless to avoid parking overload on the surrounding streets) although they have gone to considerable expense to use the slope to hide the cars beneath some of the buildings. I saw it in its recently-completed state and it will

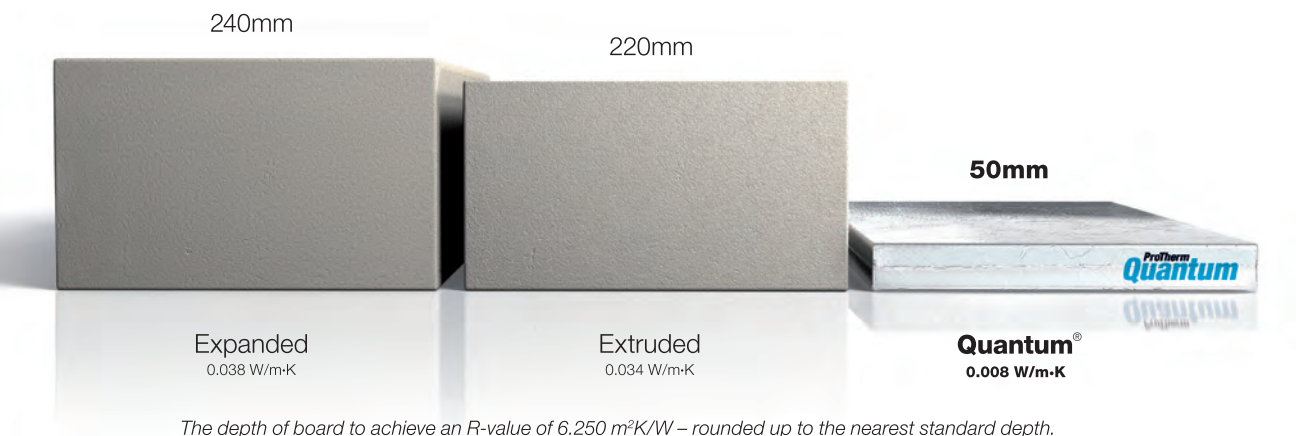
make a big difference when the new landscaping matures. But think of the alternatives. As Bryden Wood director Paul O'Neill observes, rental accommodation in London isn't known for its character or quality, and here they had the opportunity to offer both.

As towns and cities densify, backlands such as this inevitably come up for development sooner or later and the key is to keep as much as you can of the character of the area. This does that. Many theoretical studies have been done on suburban densification. Here, I would suggest, is an exemplar, working in an often-overlooked sector of the market, by just the kind of small and committed developer/builder that should be encouraged. ●

Below Cedar boards address the open areas.




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Communal space, resident input to the design, and sacrosanct private space – Mole Architects' Marmalade Lane scheme is a model of developer co-housing

Words: George Grylls Photographs: David Butler





IN NUMBERS

42
homes

0.97ha
site area

4,300m²
gross internal area

£8.3m
construction value

£1,930
cost per m²

42/ha
density (dph)

Left Planting on Marmalade Lane blurs the boundary between garden and street

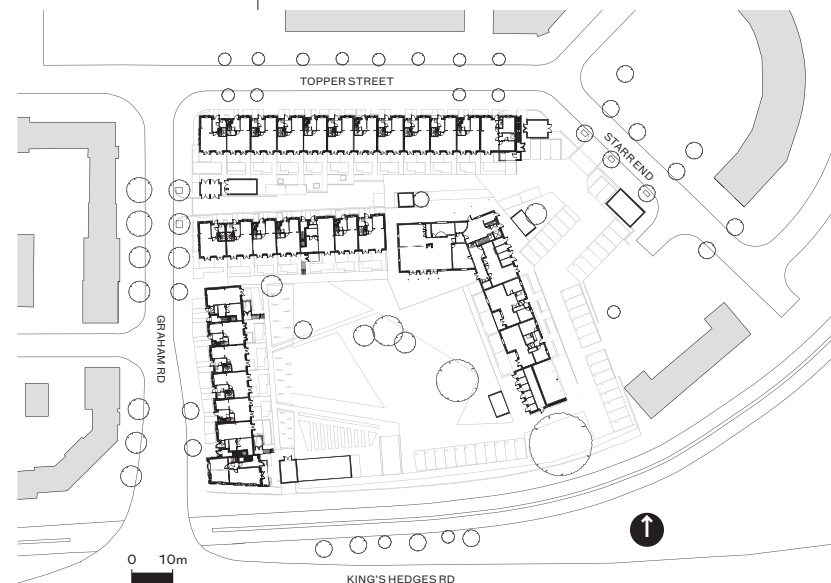
If good fences make good neighbours, then what happens when there are no fences at all? The terraced houses on Marmalade Lane are packed together cheek by jowl. Yet each brickwork property marks its territory not with a wall, but with an outward-facing bench.

'People have to figure out what level of privacy suits them,' says Meredith Bowles, founder of Mole Architects. 'My hope is that people make their houses their own.'

Privacy, it seems, is over-rated. Six months into this radical Cambridge experiment in co-housing, there is not a screen, hedge or fence in sight. In fact, the toys on the pocket-sized lawns spill out into the pedestrianised street. Goalposts, cricket bats, coloured chalk — a whole trail of life links the front doors to the cobbles. A fearsome bundle of energy called Oscar demands every newcomer's name. He scoots past at a joyous pace.

'We put kids into all the CGIs as a hope,' says Bowles. 'It's amazing to see it actually occupied in this way.'

Marmalade Lane is a product of chance. Following the recession in 2008, Cambridge City Council found itself short of developers. But the city was still growing, and a belt of land on its northern fringe needed filling. With no buyers keen to take on the risk, a plot of land known as K1 became a petri dish, which the council would fill with an entirely new culture in the vague hope that something different might grow. There were plenty of co-housing groups who wanted the opportunity to put their beliefs into practice. What was to be lost by giving them a go?





'It was the far-sightedness of Cambridge City Council that made it happen,' says Jonny Anstead, head of developer TOWN. 'They were determined to do something more progressive with the land.'

So began a truly collaborative effort. The K1 co-housing group worked with developers TOWN and Trisvelhus, who in turn appointed Mole Architects to create something that went beyond the old mantra of buy, build, sell. Perhaps there is no greater evidence of the project's success than the fact that Francis Wright, a Marmalade Lane resident and K1 co-housing member, is about to take a new job at TOWN.

'Where we lived before it was hard to connect with people,' says Wright. 'Here it's just designed to facilitate interaction. TOWN is really thinking back to Victorian streets.'

Marmalade Lane is something of a misnomer. The estate is much bigger than the name suggests. Think of a horseshoe wrapped around a wild flower meadow. A

Think of a horseshoe wrapped
around a wild flower meadow

Above The high-ceilinged hall of the common house looks out onto a meadow.

Below Hall and houses together with shared communal space.



three-storey block of flats runs along one side of the common land. The two other sides are filled with the pitched roofs of terraces of cream, ochre and orange brick houses. One of these terraces backs onto the estate's eponymous lane — a lively jumble of bird feeders and potted plants, displaying all the signs of a well-loved and well-lived space.

At the end of Marmalade Lane (which incidentally sounds like a Beatles lyric) is the 'common house', which stands in for a traditional village hall. This is the estate's beating heart. All residents are welcome here at any time to stew teas, to rent a guest room or to peruse the noticeboard advertising curry nights and crafternoons. In the main hall of the common house, the zinc roof has been sliced open by a skylight which, situated directly above the electric piano, gives a reverential direction to the frequent yoga classes.

Mole Architects pushes variety in its design far enough to dispel boredom, but not so far as to undermine the contiguous whole. At

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Left The development is surrounded by ample cycle lanes and displays a healthy disregard for residents' cars.

Bottom left Tangerine, cobalt and maroon doors provide a breezy counterpoint to grey brick.

Below left Facades avoid uniformity while creating a sense of unity.

Bottom right Three storey block with inset balconies.



one end of the estate I-beams hold the apartment block's overhang in hot white tension. At the other end, you have quaint dormer windows. Structure is exposed judiciously, not dogmatically. And despite the visual variation, there are some constants underneath. All 42 properties are triple-glazed and use a closed panel timber frame system that ensures maximum thermal efficiency. Surrounded by ample cycle lanes and displaying a healthy disregard for residents' cars, the estate has an inherent ecological advantage.

'Building in terraces is always going to be more cost effective and more energy efficient,' explains Bowles.

But terraces also have their disadvantages. With so much shared space (including a small gym, allotments and a workshop) and so much shared activity, there is a danger that, after a long day at work, hot and irascible, a Marmalade Lane resident might come home to find a neighbour standing outside their three-bed, reminding them that tonight is a meeting of the parent's association, and that they have agreed to chair, so if they wouldn't mind coming along, it's getting on for seven and the meeting was supposed to start at half-six.

'Actually there's a whole continuum of engagement,' says Wright. 'My husband, for example, doesn't really like big social occasions. He gets involved by going out early in the morning and managing the gardens. There's no pressure to take part.'



Cohousing creates community. However, co-housing is not commune living. Personal space is sacrosanct. You realise that when you go inside one of the flats, and the children's play outside recedes into the background.

'We specified to the architect that it had to build to a much higher soundproofing than required,' says Wright. 'We can't hear neighbours' arguments.'

This is the sort of careful detail that speaks of collaborative design. Cambridge City Council entrusted ordinary residents to make decisions about the space they wanted to live in. In turn Mole Architects has been malleable — converting some attics into an extra room, while leaving others with planning permission to build up in the future. To each their own.

'Our view is that it's from working with your customers that you build something better,' says Jonny Anstead from TOWN. 'It's more time-consuming. But there's greater reward.'

In a sense, Marmalade Lane is a rebuke to rampant developer culture. But more importantly it's an example of people taking responsibility for the buildings they want to live in. When councils allow people to care about design, invariably, they do.

'People's desire to do things for themselves is pretty universal. As is people's desire for the contact of others,' says Bowles. 'I think this project is absolutely replicable.' ●

Apartment section

- 1 Balcony

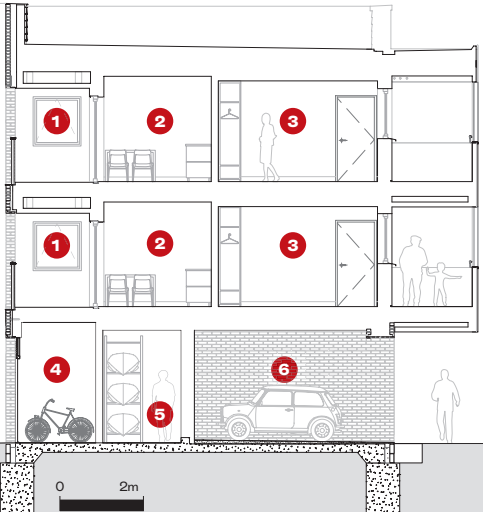
2 Kitchen/dining

3 Bedroom

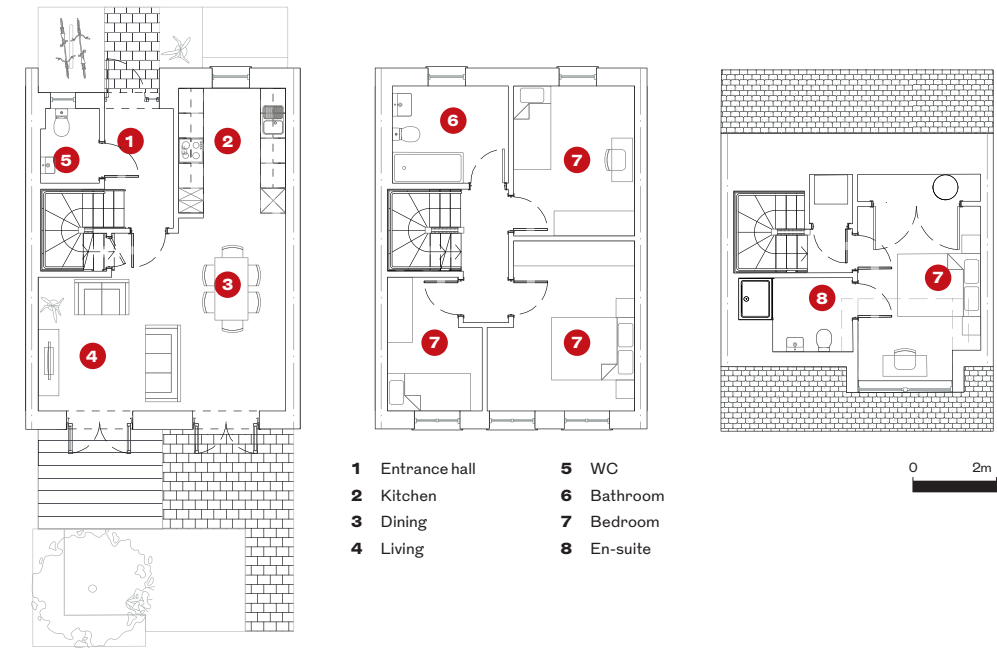
4 Store

5 Boat store

6 Car port



House plan (type B)



Below Being flexible about what the residents wanted was an important part of this project.

It's about people taking responsibility... when councils allow people to care about design, invariably, they do

Credits
Commissioner
Cambridge City Council
Client
TOWN and Trivselhus
Architect
Mole Architects
Structural engineer
Elliott Wood
Civil engineer
Elliott Wood
M&E engineer
Hoare Lea



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Morality tale

Mikhail Riches' Goldsmith Street is everything social housing should be, but Right to Buy could scupper its fine intentions

Words: Isabelle Priest Photographs: Tim Crocker



Right The seven rows of terraces are now complete, with a further 12 flats due in the second phase at the top corner of the park.



Left View along Goldsmith Street of one of the apartment blocks. Each has its own external space and front door.

You've probably seen Mikhail Riches' Goldsmith Street, Norwich in the press: it's on the Stirling Prize shortlist of six. But before we get into the details of what makes it an interesting and deserving project, there are two things you need to know.

The first is that this 93-dwelling scheme, of 45 houses and 48 apartments, is 100% social housing – not affordable, not shared ownership, not with separate private and social playgrounds, just good old social rent housing that Norwich council built itself. The second crucial fact is that even though residents only finished moving into their new homes in June, they can immediately purchase them through Right-to-Buy – with a government discount. There is some ringfencing of what Norwich spent to build them but if the value of the homes goes up, the council will have to observe discounts of up to £82,800, which means the maximum allowance has more than doubled since 2012.

The backdrop to the project is that Norwich City Council has a housing waiting list of about 4,000 people. On top of what it already provides it needs to build an extra 270 homes a year, 240 of which must be socially rented while 30 can be shared ownership. Although the council owns a quarter of the city's total stock, roughly 15,000 homes (a quarter privately rented, the rest mainly owner occupied), before 1984 it owned 25,000, which was then 50% of the total. And it still loses about 150 homes through Right to Buy every year, so just to stand still it needs to build 420. Between it and housing

IN NUMBERS

93
homes in phase 1

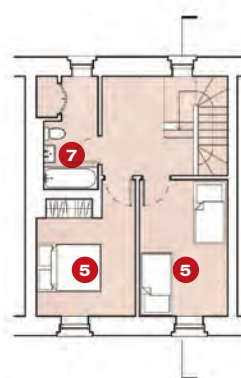
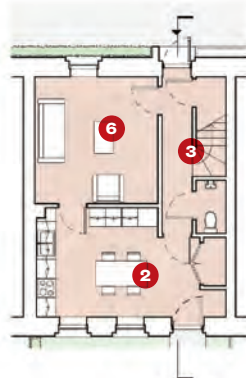
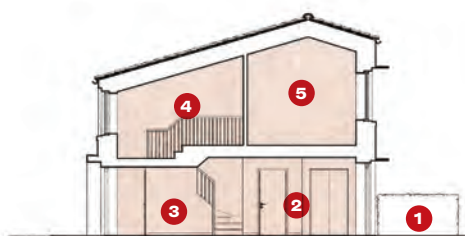
8,058m²
gla

£14.9m
construction cost

£1,875
cost/m²

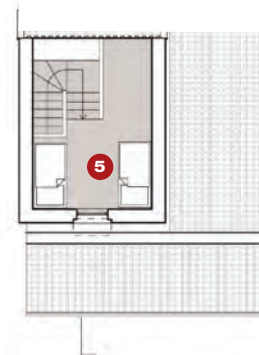
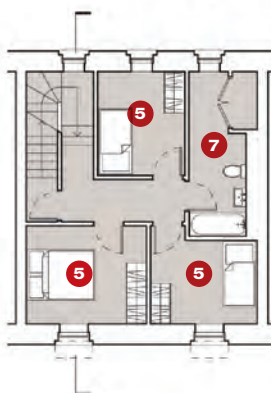
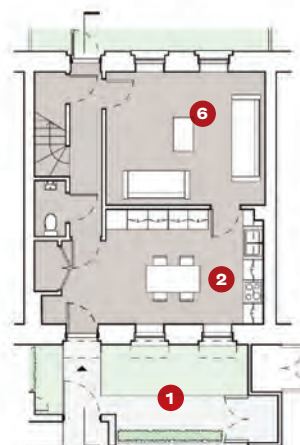
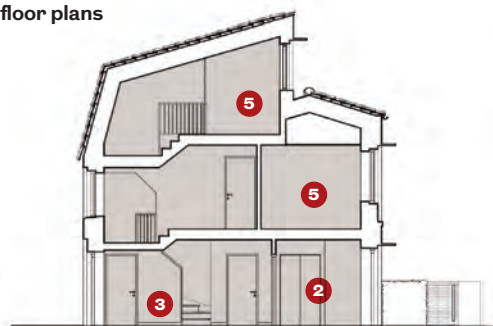
29kg/m²
Estimated total CO₂
emissions equivalent

House type D section and floor plans



- 1 Front garden
- 2 Kitchen-dining room
- 3 Rear hallway
- 4 Landing
- 5 Bedroom
- 6 Living room
- 7 Bathroom

House type C section and floor plans



0 1m



associations, the council plans to provide 180 in 2019.

The figures are a long way off meeting demand, but Goldsmith Street's contribution was made possible by legislation that acted concurrently and in opposition to the increased discounts available to council tenants buying their homes: the 2012 Housing Revenue Account Reform that gave local authorities greater control over their income, debts and finances. It was the first piece in a jigsaw of restructuring that has led to some councils once again building socially rented housing rather than relying on housing associations to build affordable homes for them, as they had done for years.

When the RIBA competition for Goldsmith Street was launched by Norwich council in 2008, this had been the planned approach. The local authority backed the competition to instil a level of quality and ambition, but it would be the responsibility of two housing associations to deliver the 100 homes. The competition received 105 responses, from as far away as Japan. Mikhail Riches' scheme won because its proposal for 14m wide terraced streets based on the layout of the cherished Victorian

Norwich council decided to complete the scheme itself rather than relying on housing associations

Golden Triangle area nearby won a casting vote from a former tenant of the sheltered housing that once stood on the site – and because it was the lowest rise and had the greatest number of houses. But the credit crunch happened, and Norwich was unable to sell the site. It remained vacant until 2013 when, enabled by the 2012 legislation, the council decided to complete the scheme itself and called up Mikhail Riches again.

In the intervening years, however, the council had become interested in Passivhaus, particularly as a means of tackling the fuel poverty which is one of the priorities on its corporate plan. It had already started work on developments of two, eight and 10 Passivhaus homes, and asked Mikhail Riches to amend the original passive solar design to Passivhaus certification.

'At that point we had done a scheme called Clay Field in Suffolk which was passive solar,' explains Annalie Riches, founding director, Mikhail Riches. 'BuroHappold had done the post-occupancy and discovered the houses performed really well. Even with less stringent airtightness and U-values they had reduced fuel bills significantly for residents... But Passivhaus wasn't really known in this country. We hadn't had much experience in it, so it was a massive learning curve.'

The houses were already designed in south-facing terraces with 15° pitched roofs to avoid overshadowing in winter and get light into the rooms in low sun, but there were extra considerations, from no letterboxes in front

Credits

Architect Mikhail Riches
with Cathy Hawley
Client Norwich City Council
Contractor RG Carter
Structural engineer
Rossi Long Consulting
M&E Greengauge
Building Energy
Consultants
Passivhaus consultant
WARM Low Energy
Building Practice
Landscape architect
BBUK Studio
Quantity surveyor
Hamson Baron Smith
Project manager Mer
Construction Services
CDM co-ordinator
Goddards CDM
**Approved building
inspector** Build Insight
CAD software used
ArchiCAD

Below White surrounds on the windows make them look like eyes on friendly, if a little sad, faces.

doors to having to redesign the gas supply and soil pipes because of airtightness and cold bridging.

'We were introduced to Passivhaus by Hastoe Housing Association – advocates who have done a number of schemes,' says Andrew Turnbull, senior housing development officer at Norwich. 'Then Broadland Housing took us to see theirs in north Norfolk and what won our councillors and senior managers over was speaking to the tenants who said it was a fantastic environment to live in. They talked anecdotally about health benefits including reduced asthma and eczema.'

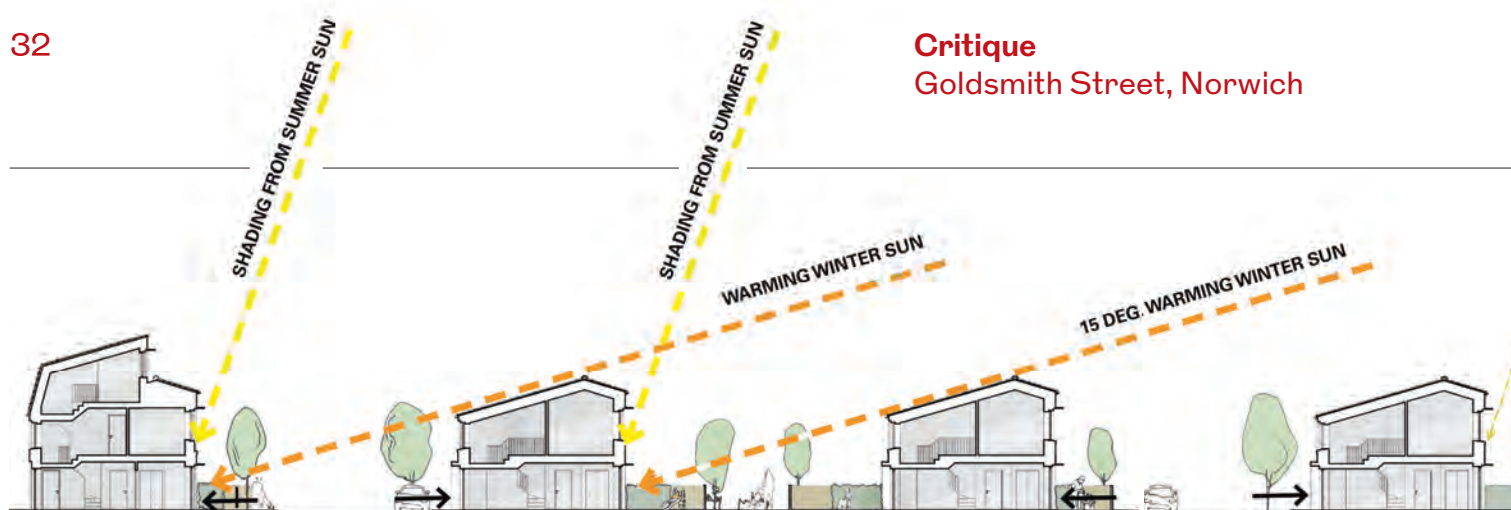
'One of the other things was the quality aspect, that you don't get a performance gap with Passivhaus. It does what it says on the tin and you hold the contractors to it

throughout construction so there's no getting out of it.'

Approached from Midland Street, off the main north-west thoroughfare out of the city centre, Goldsmith Street describes a series of seven terraces laid out east-to-west over a two-bay grid that reconnects routes and opens up what had been culs-de-sac. The estate unravels on a non-uniform 1.2ha plot that had been earmarked for development for a long time. It squeezes behind a stretch of tiny 1990s houses in the foreground and several mid-rise 1960s blocks of flats either side, some on their own mini ville radiuse landscaped settings, some in rows, as well as a flint walled church to the rear.

Within this, the estate is split in two by Greyhound Opening, a central avenue that leads between the





Above Sectional diagram showing how the shape of the roofs allows year-round sun to warm the houses.

two-storey terraces, past a pair of mesmerising large-leaved tumbling Indian bean trees on a green to the right, through to the site-width terrace at the back. Bookending every row of houses are taller three-storey, hipped-roof blocks of flats. Each apartment has its own front door, opening in plan onto a mega structure of closed-off twisting staircases which removes the need for communal areas that require maintenance and can be a source of conflict. These are all one-bed with their own terrace whereas all the houses have two bedrooms except for five wider dormered four-bed ones.

‘Originally we designed two-bed apartments and three-bed houses, but the bedroom tax came in and they were removed in response to that,’ explains Riches.

There are roughly two types of houses. Those entered from the south have a landscaped front garden and those entered from the north don’t, butting straight

up to the pavement with internal plantation window shutters provided by the council instead. All, however, have their own rear gardens, which back onto further resident-only closed-off landscaped alleys or ginnels, wide enough for children to play in, visible to parents over and through the slightly lower than standard slatted fencing. In one, children have put up a basketball net, in another hopscotch markings are fading. The spaces have been used for community barbecues and get-togethers too. Where possible Mikhail Riches and the planners have tried to get rid of cars and roads to foster a sense of community, replacing them with street gardens full of plants, flowers and young trees. The whole estate only has 70% capacity for parking and much of it seems empty.

The houses themselves are built with longevity in mind – a fabric first approach of textured buff brick, glossy black pantile roof tiles, triple glazed aluminium

Right Planners were concerned about privacy for the north-entered dwellings so the council decided to provide them all with indoor multi-adjustable shutters.



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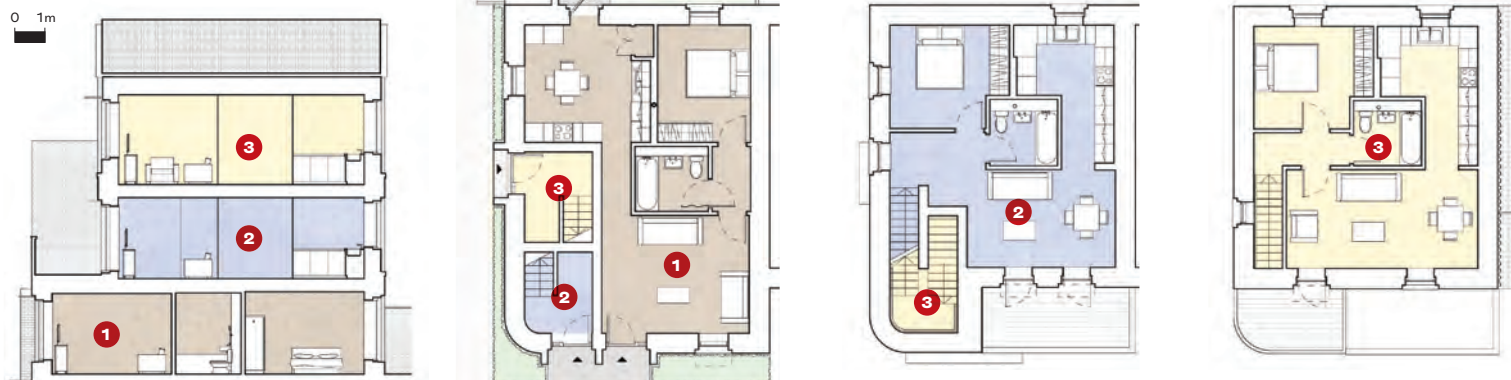


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Typical flat block: section and ground, first and second floor plans


windows and Cadisch mesh electricity boxes, bin store panels and garden gates as well as tiny individual window brises-soleil. As you walk around the estate the most crucial corners are curved, streets are tree-lined, bollards are solid timber, flower beds are tucked into any in-between space and there are 15 front entrance colours to allow each house or apartment owner to identify themselves by their chosen colour. Despite a £1m value engineering exercise mid-way through the project, there is also enough special detailing to give the architecture itself some extra character – ghost window recesses, scraped out pointing and brick balcony balustrade perforations. The things that were dropped to bring the scheme into the £17.3m total cost include the rear brick facades, replaced with render; zinc roofs replaced by tiles (far more appropriate for the Dutch-influenced Norfolk context); and ceilings in the bedrooms, so they are now open to the rafters, and more convenient for the council when residents move out.

It's impossible not to realise the houses and estate have been built with the uttermost respect for residents, community, architecture, context, wider environmental agenda and architects as well (it was even procured through traditional contract). The place looks and feels lovely. There have been, though, extra costs involved – it is estimated Passivhaus added 10-15%. But compared with many locations in the UK, the £1,875/m² construction cost is very reasonable. Happily, the council wishes to build more using 2019 legislation that has lifted borrowing caps, and get closer to meeting the annual 420 home deficit. It's good news for the housing crisis.

Yet there's an underlying hopelessness to this project. Norwich City Council has gone above and beyond what's usual to create better spaces and communities, with

lower maintenance and upkeep. The ginnels are brave. It will have benefits beyond social housing, allowing Norwich planners to demonstrate to private developers 'the impossible' they can achieve too. But ultimately the whole scheme is a big risk for the council, which may not reap the rewards of its long-term view if the residents do choose to buy their homes. The council cannot use all the money paid to build more, and nationally 40% of ex-council homes end up in private rental with far higher rents – paid sometimes by the local authority itself.

It hurts to think of the grand effort and ambition that built these houses being exploited so easily and cheaply by politics. Councils should be building council houses, they should be able to provide local people with local homes and they should be constructing and designing them using quality materials and innovative ideas, ready for a different environmental future. But right now it doesn't make that much sense. There needs to be protection. It could start with scrapping Right to Buy for new-build homes. ●

- 1 Ground floor apartment
- 2 First floor apartment
- 3 Second floor apartment

Below The ginnels were considered a risk for the council as unmanaged space, but they are being adopted by residents.

It hurts to think of the grand effort and ambition that built these houses being so easily exploited by politics



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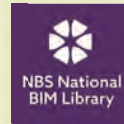
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Sixties superstar



The hyperbolic glory of Felix Candela's only UK building re-emerges in its refurbishment as a retail warehouse open to the public

Words: Isabelle Priest Photographs: Stavros Sotiriou

I'm visiting Stevenage on one of the hottest days of the year, making my way on foot from the train station. The sunlight is blinding, reflecting off every 1960s concrete surface around. The new town's famous road network is melting. Its pedestrian and cycle system is fully exposed to the sun; I have to pause in the foot tunnels for respite. I'm weaving up and down in channels between and beneath a grid of dual carriageways, unsure where to turn or whether I will be able to follow my Google Maps route without having to run across a motorway.

At my destination, a blanket of unnatural looking, pristine newly laid turf is being watered round the clock. I've emerged on the edge of Gunnels Wood Road into a zone of fast-moving cars and single-occupier office buildings surrounded by parking lots. Fujitsu's £60m campus is just behind me. In the hottest week of the year I'm here to see one of my most hotly anticipated buildings of 2019. A frenzy of activity heralds this evening's opening. Caterers are fluttering between marquees, architects have descended to co-ordinate finishing touches, tradesmen are making last minute fixes and company directors are flying in from the US and Spain. You won't believe what has brought about this excitement: Stevenage's new Costco.

It's fair to say that new Costco outlets are not usually on RIBA Journal's radar. There

Main image The former line of loading docks is now a colonnade.

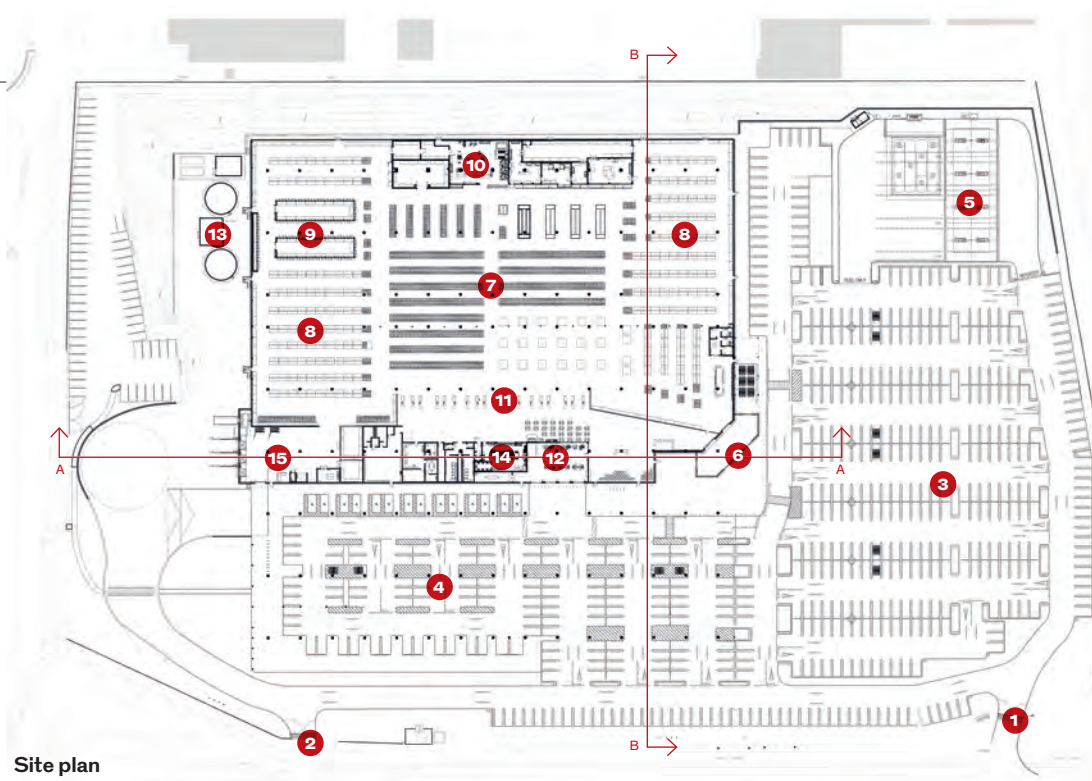
Right The new entrance juts out from underneath the hyperbolic paraboloid roof.



are 29 in the UK and the company, which is originally American, has been building nearly one a year for the past decade. But this one is different. Rather than commission its long-term architect Broadway Malyan to build yet another boxy store from scratch using a steel portal frame, two years ago Costco asked the practice to investigate the possibilities of taking on one of Stevenage's most architecturally important and radical concrete buildings: the grade II listed, 15 x 8 bay hyperbolic paraboloid warehouse designed by Mexican architect Félix Candela Outeriño for John Lewis in 1963. The reasons for this decision remain a bit mysterious but are likely to do with the building's prominent and car-accessible location.

Seen from the roadside, Americanised in that Venturi-esque way with a huge angled billboard above the entrance and newly painted white, the building is bristling. Ten thousand Costco warehouse club members have joined before even getting a glimpse inside. And whereas refurbishments of listed buildings are often slow, this one was surprisingly uncomplicated and quick – though at 12 months rather than the usual 22 weeks, it's still been shockingly long for Costco. A building that was previously private, designed for the turning circles of lorries and supply chain logistics, is now open to the public for a £28 annual membership fee. Ahead, all the bricked in ends and dock levellers have been stripped away to reveal a purist freestanding geometrical vision of the roofscape. The first third of this is now a vast car park canopy that's ready for the burning heat of today and extreme rainfall and weather conditions of tomorrow. The rear, which incorporates some of the 1963 warehouse as well as a taller but otherwise identical 1970s addition, houses the store.

Félix Candela was born in Madrid in 1910 but after completing his studies emigrated to Mexico at the age of 26, a casualty of Franco's regime. Santiago Calatrava is among those he taught, and in the Americas, where he spent much of his career, he is known particularly for the sense of geometry he applied to the design of thin-walled hyperbolic concrete shells. His subtle touches advanced the style and technical achievements of hyper archi-



Site plan

- | | |
|---------------------------------------|---|
| 1 Parking entrance | 9 Refrigerated shelving |
| 2 Lorry entrance | 10 Bakery, rotisserie, fishmonger and butcher |
| 3 External parking | 11 Cashiers |
| 4 Covered parking | 12 Car tyre service |
| 5 Petrol station | 13 Sprinkler system water tanks |
| 6 Two-part building entrance and exit | 14 Café |
| 7 Seasonal low-stacked items | 15 Staff entrance, delivery and back of house |
| 8 4.5m high shelving | |

Instead of building a new box, Costco took on a grade II listed hyperbolic warehouse



Right The rhythm of hyper shells and clerestory windows give newly painted concrete glory to the car park below.

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The saw-tooth roof profile to Gunnels Wood Road: the membrane capping has been patch-replaced at this end.



texture significantly. Although many of Candela's curved structures seem to have no flat surfaces at all, his understanding of shapes allowed him to cast them using straight pieces of wood, eliminating the need for expensive formwork.

The Stevenage building is Candela's only UK work and was completed with Yorke, Rosenberg and Mardall. Its 6.3m and 9.7m tall square concrete piers support slightly off-centre vaulted inverted pyramids, themselves connecting laterally but inclined to the north side, creating gaps for clerestorey windows that create a serrated roof profile. The daylight, stark on days like this, casts changing shadow shows on the shuttered concrete surfaces that make the shell concrete roof appear curved.

Broadway Malyan's brief was to come up with a pre-purchase plan for adaptive reuse of the warehouse, which remained in John



Above The other Venturi-esque addition: a petrol station at the rear.

- 1 Two-part building entrance and exit
- 2 Car tyre service
- 3 Café
- 4 Staff entrance, delivery and back of house
- 5 4.5m high shelving
- 6 Covered car parking

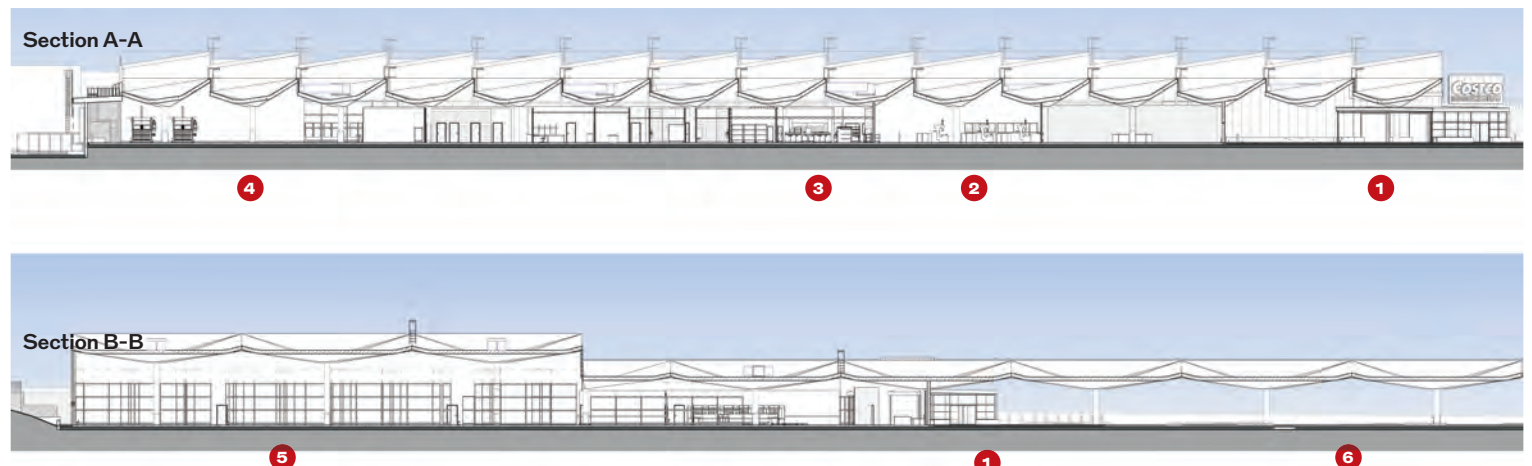
Credits
Architect
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Client
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Structural engineer
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 Faarup Associates
Building control
 Butler & Young
Main contractor
 JF Finnegan

Lewis's ownership but was operating at 20% capacity after the partnership relocated its warehousing to more up to date facilities in Milton Keynes. The objective was to repurpose the 155m x 142m building to accommodate Costco's standard and much smaller 13,000m² template and layout. This was achieved by splitting the site into 45 bays of covered parking and 75 bays of shop floor, each bay about 175m². The project received planning in December 2017 and Costco bought the site roughly three months later.

'Betterment in terms of performance was also the aim,' explains Broadway Malyan project architect Chris James.

The building was mostly in reasonable condition – the benefit of having had a single owner over its 54-year history. On site, the architect's first move was to reduce the built area to the original listed concrete vaulted frame. It demolished two ancillary offices, a storage facility and an incinerator as well as metal mezzanines, non-original suspended ceilings and ad hoc elements inside. The next step was to remove all the side curtain walls, except the rear western full-brick elevation, exposing the primary freestanding structure. The rear store, enclosed by new off-white corrugated Kingspan KS1000 cladding, is similar to Costco structures elsewhere.

Much of the focus was on the roof itself. Fortunately, the original lower section had been redone by John Lewis relatively recently and required only patch repairs, whereas the higher area was dilapidated, leaking and poorly performing with only 6mm thick cork insulation. The roof covering was consequently stripped back to concrete and prepared with 30mm thick high performance



Protherm Quartum insulation board suitable for sloping surfaces and Sarnafil Lead Grey felt-backed membrane, which was applied using an adhesive hot weld system. The finished membrane has a dirt repellent lacquered top coat, is treated with fire retardants and has a life expectancy of 40 years. Drainage, which is carried through the centre of the columns, also had to be resolved across the roof as a lot of blockages had to be cleared.

On the underside of the roof, the structure and columns were also found to be in fair condition, mostly just requiring making good. The exception was an area of three bays that accommodated taller lorries at the southern east corner of the original 1963 structure, which had to be supported by a new white-painted steel frame because of its more precarious condition. Otherwise the main works involved painting the concrete all-over white, which had been started by John Lewis without proper listed building consent and was incomplete.

Other major works involved the concrete floor, which was worn by heavy traffic. Broadway Malyan decided to pour a new topping slab – 200mm on the low-bay area and 120mm on the high-bay area, except where it had to be removed for refrigeration units. This new slab has helped resolve an 80mm level difference between floors as well as allowing flush thresholds throughout, an important aspect for the retail function.

The architect had intended to replace all glazing on the site, but cost and time savings became necessary after the discovery of significant amounts of asbestos added four weeks to the build programme, so only the single glazing in the retail area has been replaced with double glazing. Some panels have, however, also become services outlets, including 16 ventilation units and spandrel panels for pipework. Much of the plant machinery is hidden in the sunken parts of the hyper roof.

In the car park, the original single glazing has been retained but protected with an additional membrane. Artificial lighting is surface fixed in runs beneath the north lights – LED strips in the parking area, pendants above the shopping aisles inside. Likewise, a sprinkler system, needed because there is no compartmentalisation, is attached to the underside of the concrete shell roof, serviced by two beautifully gleaming 9m tall water tanks outside.



Above Pendant lighting and a new sprinkler system track across the ceiling inside, aligned with the aisles.

IN NUMBERS

£19.54m
total contract cost

14,429m²
GIFA

£1,354
cost per m²

611
parking spaces

Below The bakery, rotisserie, fishmonger and butcher are at the rear where ventilation and refrigeration unit servicing is directed to plant on the roof through clerestory openings.



Conversion of this warehouse has made it Costco's most historically and architecturally important building in Britain and the company has, unexpectedly, done a service to Stevenage and to architecture. The project also shows a good retrofit can be done quickly and cost-effectively (£1,345/m²) with the right architect, client and mutual ambition.

There are a few gripes. The new store cladding could have been made of sturdier stuff, but it does at least have a conceptual logic showing what is new and what is not. But overall the project is well resolved, sparkling as it is in the sunshine. It is impressive that Costco saw the opportunity in taking on such a project. We need more companies to do the same for similar historically significant buildings facing uncertain futures, particularly retail giants that have fallen back on building steel portal frame boxes over the past 20 years. It would change the urban edge experience immeasurably.

The dual simplicity and complexity of the architecture, enhanced by Broadway Malyan's interventions, make the building just the kind of place where I'd want to do my shopping, joining the many others voting with their feet. It's tranquil, special and has, as James intended, a 'wow factor' as well as abundant practicality – but next time I'll probably arrive by car. ●

A modern office interior featuring a dark grey carpet with a geometric pattern. In the foreground, there are two white, sculptural chairs and a small blue elephant-shaped stool. The background shows a desk area with two white chairs and a large window looking out onto a city street. The overall atmosphere is clean, bright, and professional.

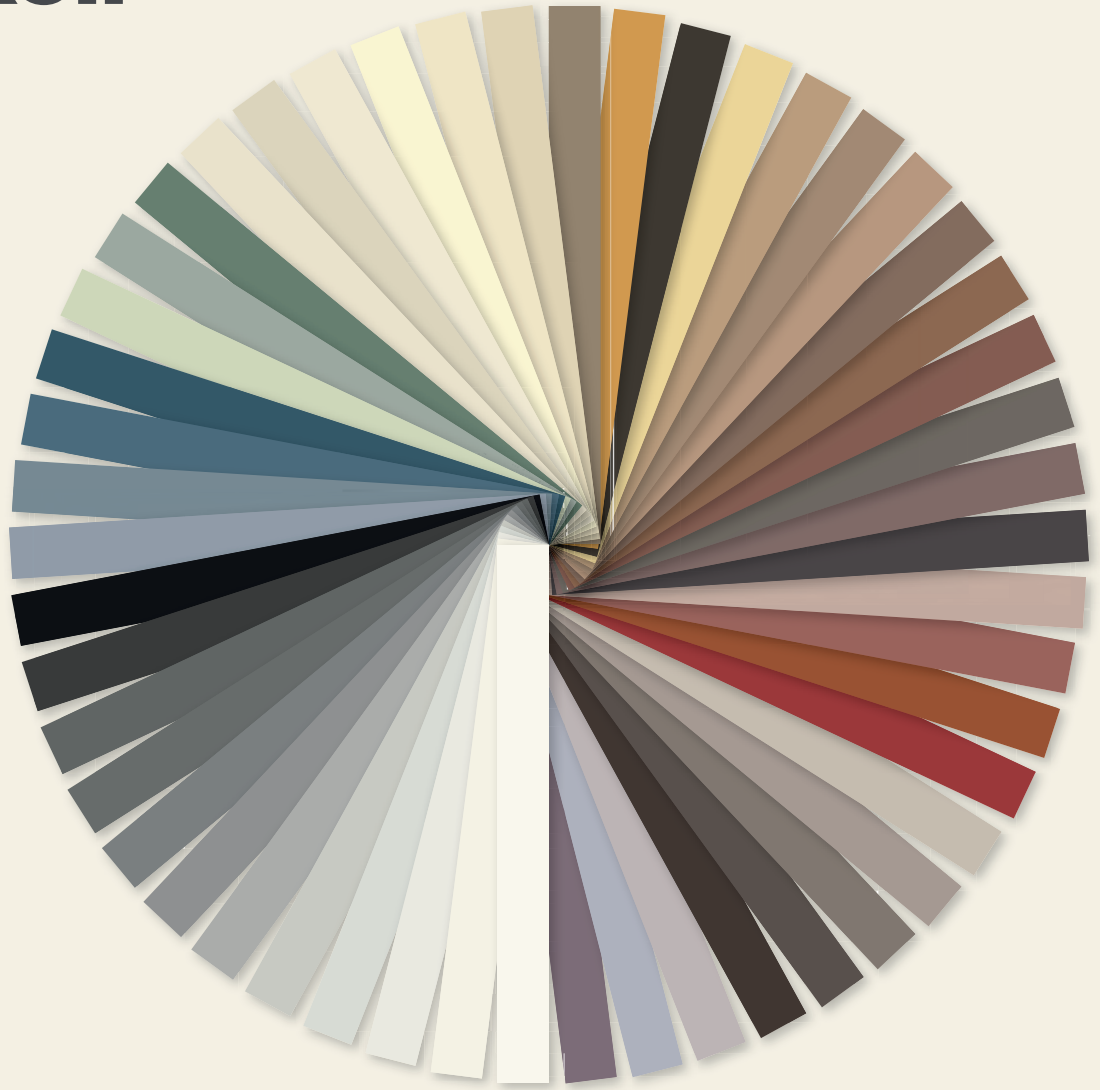
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50 colours design. The new colour project for decorative grouting of tiles, mosaics and natural stone and co-ordinated sealing of floors, bathroom fittings and shower cubicles.

The unmistakable style of Piero Lissoni can be seen in the new colour palette, with its contemporary feel.

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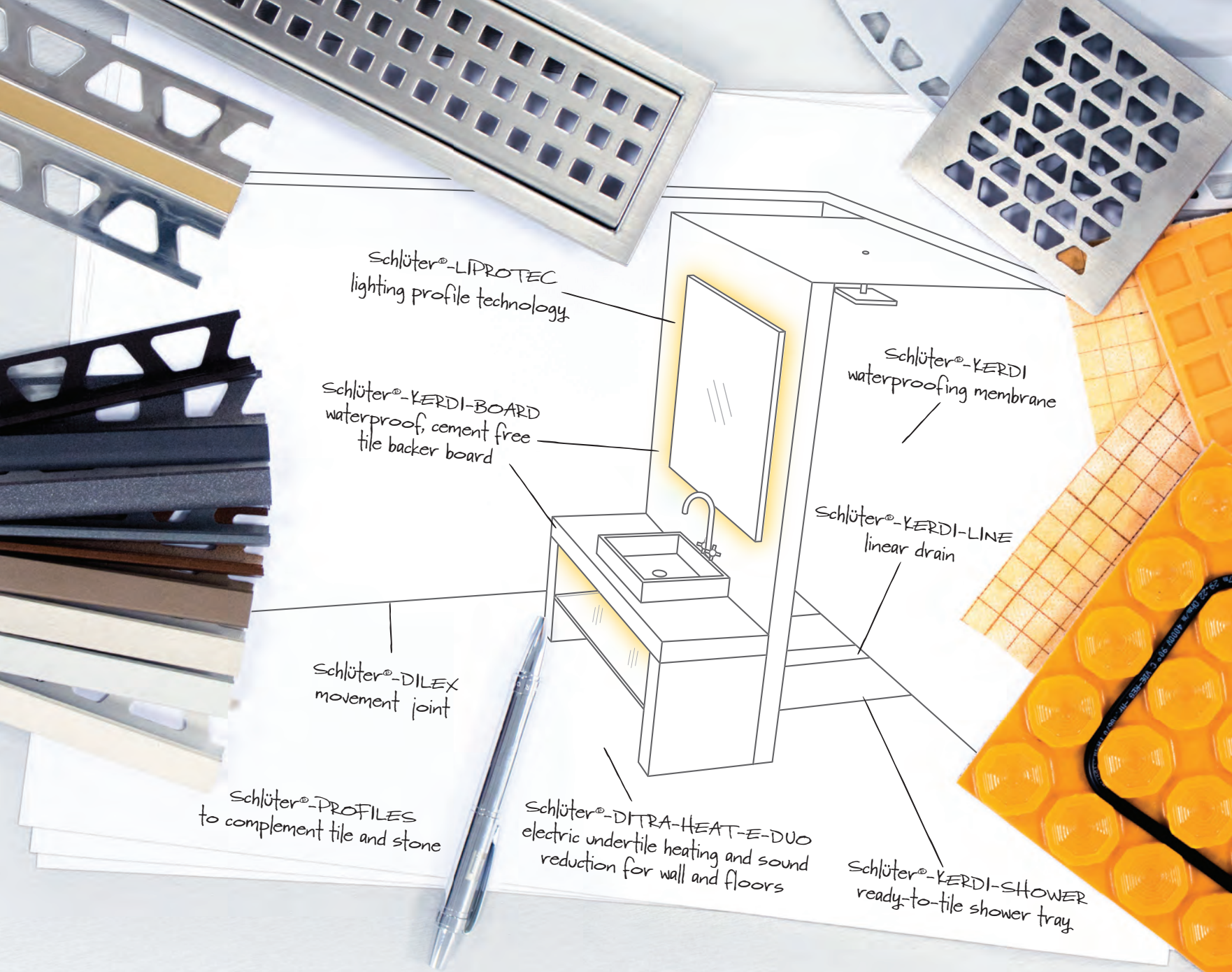
From the most minimalist style to the most over-stated elegance, the wide choice of colours, the chromatic continuity or the combination of different hues, together with the attention to detail, blend to highlight the extreme elegance of

the Fugabella® Color and Silicone Color project.

With its sober, refined style, this colour palette derives from the impeccable taste that characterises the aesthetic choices of the designer and architect Piero Lissoni.

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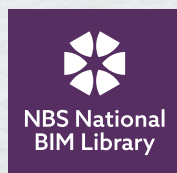
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2: Intelligence



Architecture for
social purpose



Inclusive
environments

Matthew Dalziel



What is enough? Matthew Dalziel, co-curator of the Oslo Architecture Triennale, talks about degrowth and libraries for sharing more than books

The 7th Oslo Architecture Triennale opens on 26 September
www.oslotriennale.no

How did you get involved in the triennale?

It was an open call. Neither I nor Maria Smith (one of my co-curators) is that convinced by architectural cultural events, but the brief asked 'what is the relevance of architecture to the future?' and we didn't have an answer. On one hand it's massively significant as one of the oldest activities, on the other architects are losing their agency, building is bad for the environment and most architects' work is carried out for the 1%, contributing to social injustice. We involved Phin Harper and Cecilia Sachs Olsen, a cultural geographer with an arts and performance background.

What's the big theme?

It's how acting as an architect in the 21st century should be different from acting as one in the 20th century – ie that we can't solve problems by using the same kind of thinking we used when we created them. The title is 'Enough: The architecture of degrowth'. The term degrowth includes schools of thinking in economics, feminism and environmentalism. It says success should be measured in wellbeing or balance rather than cold hard GDP or capital creation. It's a term that's in the air, it helps that the weather is more erratic but it's still quite new, we've had to invent a word for it in Norwegian.

What is the programme?

We want to bring people into the conversation through transformative multi-sensory events. It's about emotive experiences that change the way people behave rather than lectures. We are turning three main venues into what they could be in future: a library, playground and theatre. So the National Museum of Architecture will become a real-life lending library where visitors can explore the architecture of a degrowth economy – models, materials, artefacts, devices, including a three-person vacuum cleaner designed for collective housework – and use their library card to borrow half of them. Instead of a catalogue, we'll produce a collection of short stories that respond to the theme by such writers as Will Self, architects and others in between.

A triennale is usually about growth, cultivating tourism, and consumption. How does that work with the degrowth theme?

We want to minimise the impact of the triennale. The library installation is made out of the exhibition that is already there. We also have a company publicly auditing the impact of the event on the environment. We are seeking ways of creating appropriate cultural events that don't squander resources – it's about 'enough' – which can mean plenty or just the right level.

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David Rudlin seeks a balance for planning: ribaj.com/masterplanning



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Design, construction
& technology

Techno master

Philip Yuan's practice combines sensuous architecture with world-beating technology

Neil Leach

Forget what you previously imagined about China. Shanghai could not be further from the old western perception of takeaways, cheap goods and people in Mao jackets riding on bicycles.

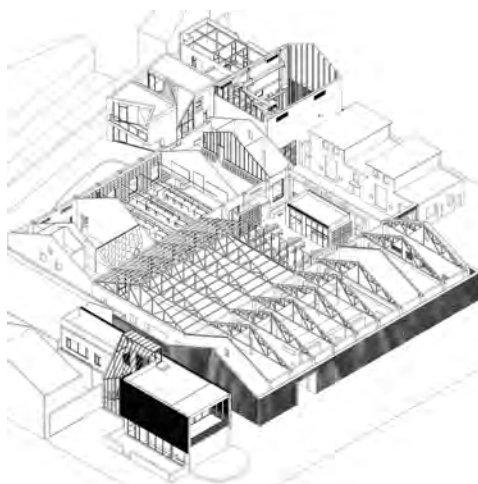
After landing at the stylish new Pudong Airport, you are whisked away in a Maglev train (268mph max operating speed) that makes Britain's fastest train, Eurostar e320 (186mph), look distinctly sluggish. Then from the magnificent colonial-style buildings of the Bund, many of them designed by British architects in the 1930s, you can gaze across the Huangpu river at the astonishing skyline of the Pudong district, with its pulsating, animated LED facades, the symbol of the new China. Think that the Shard (302m) is tall? Forget it. At 629m, the Gensler-designed Shanghai Tower is over twice the height. Overall, Shanghai is a lot faster, larger and more technologically advanced than many in the west could ever imagine.

In this technologically charged, futuristic environment the architectural practice Archi-Union, run by Philip Yuan, appears to be quite at home. In fact, there are effectively two practices – Archi-Union itself, one of a wave of highly accomplished emerging architects in China, and Fab-Union, its in-house experimental wing that tests the latest design and fabrication technologies.

The Archi-Union offices are a 30-minute taxi ride from the centre of Shanghai in the

Above Philip Yuan, principal of Archi-Union and Fab-Union, and a professor at the College of Architecture and Urban Planning, Tongji University, Shanghai.

Below Axonometric of the Archi-Union offices, which are in a former factory. The roof of the central portion of the factory was removed to create a courtyard.



grounds of a former factory, not dissimilar to the 798 Art District in Beijing. The first view that you have of the office is the exquisite undulating Silk Wall (2010) surrounding the premises. The wall itself belongs to a pre-computational era, and displays Yuan's familiarity with conventional local construction practices. Indeed, although he was subsequently exposed to a computational culture as a visiting professor at MIT, he had a traditional education in China, and as a young architect worked in a standard Chinese office. Yet he has managed to create an ribbon of simple concrete blocks as sensuous as any fabricated using advanced western technologies.

This early project stands in contrast to Chi She, a gallery in the West Bund that was renovated in 2016. There, as opposed to the crafted nature of the 2010 project, bricks were laid using a robotic arm, representing the next highly computational phase of the office.

Behind the Silk Wall is Archi-Union's of-

NINGJUE LYU

fice, an Aladdin's cave of technological wizardry. An entrance courtyard opens before you with a plasma-cut steel table placed in the middle. It was fabricated by a local ship building company, for which Yuan recently designed some offices. Behind that is a vaulted structure, designed in collaboration with Philippe Block using RhinoVault software, and constructed by researchers and students from ETH Zurich, MIT and Tongji University, where Yuan is professor of the College of Architecture and Urban Planning (CAUP). Archi-Union is such a fusion between academia and practice that it is not always so clear where one ends and the other begins. Many of the staff are postdoctoral researchers and former Tongji University students.

Entering the main building, the visitor is greeted by a giant 3D printed wall. The experimentation continues in the main office space where 100 architects sit at their computers surrounded by injection moulded and 3D printed furniture. The furniture is viewed as a proto-architecture, intended to test the practice's latest ideas at small scale before implementation in actual buildings.

To the rear of the main building are Fab-Union's experimental labs, although many of its hoard of 24 robotic arms are housed in a separate facility. The pièce de résistance, however, is the giant fabrication hall that houses two large KUKA Quantec



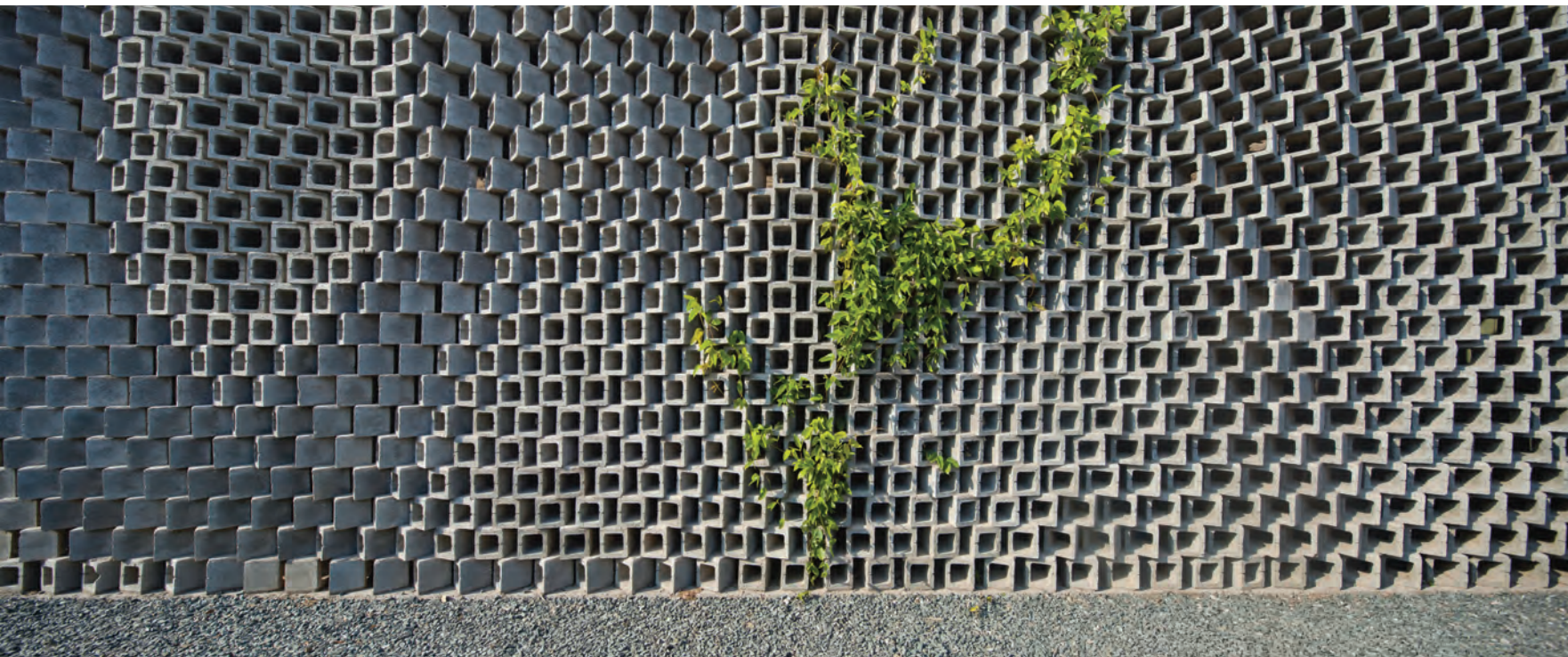
Above Fab-Union main fabrication hall with two KUKA robots suspended from a gantry. The gantry is often used for off-site prefabrication of building components for projects such as the Inkstone Community Centre, Sichuan Province.

Below Silk Wall, Archi-Union offices, Shanghai (2010). Construction workers were given simple, analogue templates to lay the blocks.

Archi-Union is such a fusion of academia and practice that it is not clear where one ends and the other begins

ZHONGHAI SHEN

FAB-UNION TECHNOLOGY





What a Viu



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Left Inkstone House Cultural Centre, Sichuan Province, China (2018). A robotically controlled band-saw was again used to cut the beams, while sections of the brick wall were robotically prefabricated by Fab-Union.

Above Model of In-Bamboo Community Centre, Chinese Pavilion, Venice Biennale 2018. Yuan's architecture is a blend of an inspired reinterpretation of traditional Chinese forms and the latest computational design and fabrication techniques.

Nano R1800 robots suspended from a customised gantry and used for robotic fabrication. Most schools of architecture would be happy to own a single robotic arm; even the best have nothing quite like this. It is in this experimental hi-tech wonderland that Philip Yuan has built a reputation as not only one of the most talented emerging architects in the world, but also as one of the most technologically advanced.

But what's interesting about Archi-Union is that its designs are not compromised by using these technologies. In fact, it is hardly noticeable that its buildings are fabricated robotically. Who would have guessed, for example, that the beams for the In-Bamboo community centre (2018) in Sichuan Province, which is made of traditional materials and has an incredibly hand-crafted look, had been cut in one continuous curved line using a band saw end effector attached to a robotic arm?

Another example of this fusion of traditional forms and hi-tech construction is Archi-Union's Inkstone House Cultural Centre, also in Sichuan Province. The design is based on the curvilinear forms of the traditional inkwell used for Chinese calligraphy, but the curved timber beams used in its construction were also cut using the same robotically controlled band saw. This is digital craftsmanship at its finest and, evidentially, most precise.

At the back of the Archi-Union complex

HAOCHEN

TIANSHOUYANG

is Philip Yuan's teahouse (2010), an early exploration of the potential of ruled surface concrete construction. This in turn inspired the design of his larger Fab-Union Space gallery (2015) on the West Bund, a concrete structure inside and out, one of the most successful of Yuan's works. When I last visited the gallery, it housed an exhibition of Steven Holl's designs complete with quaint watercolour paintings that, by comparison, looked as though they came from a previous millennium.

In front of the teahouse is a pool traversed by two bridges also designed using Rhino-Vault and constructed as part of the academic collaboration between Tongji University, ETH Zurich and MIT.

Bridges are something of a specialism for Yuan. Over the past three years he and his students have 3D printed four full-scale bridges as part of yet another groundbreaking venture in which he has been involved: the DigitalFUTURES series of annual inter-

Yuan is at home working both with traditional materials and the most advanced design and fabrication technologies

Below Fab-Union Gallery Space (2015), West Bund, Shanghai. Archi-Union's development and refinement of an innovative idea from one project to the next is often very noticeable.

national workshops, conferences, exhibitions and PhD programme. He has also published a dozen or so books.

Overall Yuan, the mastermind behind Archi-Union and Fab-Union, comes across as an energetic individual, a mix of academic and architect, writer and practitioner, who is at home working with both traditional materials and using the most advanced design and fabrication technologies.

As China begins to develop its own new highly innovative strand of architectural design and construction, in the context of a culture that is a curious mix of old world values and contemporary, westernised lifestyles, Yuan is playing a crucial role. I wouldn't be surprised if he were to be the next Chinese architect shortlisted for a Pritzker Prize. ●

Neil Leach teaches at Tongji University among other institutions. He received a NASA grant to develop a robotic fabrication technology to print structures on the moon.



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Learn, network and create at UK Construction Week 2019

Innovative materials and methods, thought-provoking seminars and CPD opportunities



With a focus on innovation, modern methods of construction (MMC), sustainability, the digital revolution and diversity in the workforce, UK Construction Week is now in its fifth year and will once again be held at Birmingham's NEC from 8-10 October.

For the second year running, the Material District exhibition is entirely dedicated to innovation in materials for architecture and design and features products made from recycled plastic,

Above Materials Expo at the Surface & Materials Show.

A match-making service will help you find exactly the product you need from the global marketplace

bamboo, glass, and coffee grounds. Whether you're looking for innovative cladding, coatings or flooring, a match-making service will help you to find exactly what you need from the latest products in the global marketplace.

MMC is a strong theme this year. Full-scale builds will be erected onsite with live demos of houses being assembled, BIM demos and simulations hosted at the MMC Hub. Examples of MMC-built structures at the show include a modular care annexe

for the healthcare sector, a SIPs residential building, a factory-finished modular bathroom pod, and offsite solutions for the education sector.

Take some time to visit the Timber section, where timber frame, SIPs and CLT will all be on show. And while you're there, try your hand at wood-bending with trained architect and eco-friendly artist Charlie Whinney – see what wonders you can create with a strip of ash and a simple steam machine.

Brush up on your knowledge with a packed three-day CPD programme. With more than 150 hours of CPD content available, this year's programme will adopt a different theme for each day of the show, tackling fire safety, health and wellbeing and sustainability. Learn about the strengths and weaknesses of different timber construction methods, and the impact of acoustics on wellbeing and carbon in the supply chain.

Don't miss the insightful line-up on the UKCW main stage throughout the show, with a raft of keynote talks and panel discussions as industry experts, commentators and disruptors discuss the most pressing issues affecting our industry today.

On day one, join George Clarke, architect and television presenter, and Mark Farmer, CEO of Cast Consultancy, for a seminar entitled MOBE: Changing the way we



Join George Clarke for a seminar on changing the way we design and build homes

Below Presentation at the Timber Focus Theatre.

Above The main stage at UK Construction Week 2018.



design and build homes, as they discuss inspiring the next generation to design and build homes in the UK and overseas.

On day two, join BBC presenter Steph McGovern, Simon McWhirter of the Active Building Centre, Joanna Ward of the All-Party Parliamentary Group for Cycling and John Alker of the UK Green Building Council to debate: 'What can the architecture, construction & engineering industry do to help tackle climate change?'

And if you ever fancied swapping jobs, don't miss Coventry University's immersive construction site experience. When did you last get to run a building site? The university's site simulator is hailed as one of the most powerful experiences of any construction show.

UK Construction Week is free to attend and includes multiple sections: Build, Building Tech, Civils, Energy and HVAC, Surface and Materials, and Timber. It also features the newly launched Concrete Expo (8-9 October only) and Grand Designs Live (9-10 October only).

Single registration gives access to all areas of the show. For further information visit: www.ukconstructionweek.com

UK CONSTRUCTION WEEK | 2019
8-10 OCTOBER | NEC | BIRMINGHAM



Health, safety
& wellbeingDesign, construction
& technology

Nice day at the office

Offices designed for wellness help employers compete for staff or developer-operators attract entrepreneurial tenants

Matthew Thompson

Service-sector workplaces measure success by attracting and retaining the best people, so the question for architects designing them is how to match corporate strategy to worker wellbeing.

Where demand for white-collar skills outstrips supply, employers need to explore marginal gains to compete for the best talent. Beyond the usual wooing tactics – salaries, staff benefits, working culture, flexible management policies, fundamental purpose and geographical location – they are increasingly seeing the value in workplace design.

In the time it has taken for the term 'digital native' to embed in the zeitgeist, corporate strategists' planning and architects' wishful thinking have gradually aligned under the gravitational pull of research exemplified by the WELL standard. Dilbertesque work spaces with poor environmental controls do affect productivity. Generous spaces, daylight and natural colours and finishes can improve staff wellbeing and thus, the theory goes, retention and performance. Together, the net gains begin to look better than marginal.

UK HYDROGRAPHIC OFFICE, TAUNTON

Six years ago, these were issues facing the self-funding government agency. Architect AHR responded with crisp answers.

The UKHO has a proud 225-year history producing navigational charts for the Royal Navy and mariners across the globe. It moved its headquarters from London to Taunton during the Second World War, where it re-

The multi-award-winning UKHO headquarters building, designed by AHR.



mains to this day. Over time, though, its cluster of buildings had become increasingly tired and ill-suited to its constantly evolving work, especially with the advent of the digital era.

UKHO wanted to evolve from a product-centric publisher to a data-centric 'marine geospatial information agency', on the same Taunton site. This required it to recruit and retain new teams with up-to-date skills. Aware of the government's smarter working guidelines, it had an opportunity to completely transform not just what it produced, but how it did so too.

Workplace design was at the heart of this. If UKHO was to thrive in its new digital groove, the building itself would have to help to attract and retain staff, allow them to work in a beautiful and creative space, and nudge them into previously untapped crea-

tive collaboration. Jo Funnell, UKHO's new build project manager, recalls benchmarking business as usual as part of their preparatory research.

'We wanted to analyse the split of time between meetings, scribbling on wallboards, on the phone, and sitting at desks,' she says.

With a clear idea about the needs of existing staff, UKHO went out to tender with a brief that called for a single building capable of adapting to long-term future change and that allowed staff to operate flexibly as one team. It required lots of break-out and mingle spaces, and a restaurant and wellness centre. Despite a workforce of 850, the brief only required 750 desks. This was not to restrict future growth, however. As Funnell clarifies, 'It was specifically 750 desks, not people. Any extra capacity would be easily supplied by the meeting rooms and informal work spaces.'

AHR's Bristol team won the job. The practice's Keynsham Civic Centre, a similar-sized publicly funded project, had just been crowned BCO's Best of the Best, and so it was well qualified. Funnell recalls the interview clearly.

'They walked in with a little concept model and it was exactly how the building ended up. They had fully understood our brief and how our organisation was going to work.'

The BREEAM Excellent building, which

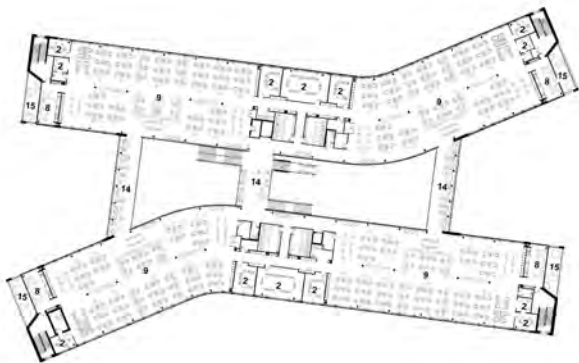
UKHO knew its new HQ
would have to help attract
and retain staff with a
beautiful and creative space

DANIEL HOPKINSON (3)

Intelligence Workplace

Below Wide bridges with seating and telecommunications equipment span the atrium, fluidly linking the floorplates on either side to encourage collaboration and ad hoc exchanges.

Right A welcoming entrance: in the bright and generously proportioned atrium the acoustics are well controlled by the larch cladding and baffles.



opened in January, addresses the brief serenely without resorting to gimmicks. A flared H in plan, it features identical naturally ventilated two-storey wings open to a full-height, fully glazed, snaking atrium. Wide bridges with seating and computer screens span the void to link floorplates and receive the sweeping centrepiece staircase. With lift and rest rooms at the junctions of the H, the wing-ends house balconied tea points that look out onto, on one side, the generous staff car park and, on the other, the subsidised staff kindergarten, all set in nicely maturing landscaped approaches.

Inside it is bright, calm and comfortable, the effect of sophisticated M&E strategy integrating well with the architecture. Five large fig trees complement the branded colour scheme, which, from bottom to top, symbolizes the journey from seabed to surface. The acoustics are impressive, especially in the atrium where the dominant larch cladding and ceiling baffles nullify the noisy reverberation typical of such spaces. In the work zones, members of staff have considerable control over their workstations, able to open manual vents to the exterior if too hot, turn on a task light, and adjust their desks, even to standing height.

A quadrant on the ground floor furthest from the reception area is a great area for socialising and taking time out. There is a subsi-

dised 100-seat restaurant that spills out into a sheltered patio, and the wellness centre, which includes a gym, sprung-floor fitness studio, changing rooms and showers.

AHR's tactics for addressing the UKHO's smarter working ideas are elegantly resolved too. For example, the clear-desk policy is handled with centrally located lockers. Adam Spall, AHR's regional director who worked on the project, explains: 'There are still departments organised in certain fixed locations, but the building now affords staff the flexibility to work in different teams.'

In the spirit of collaborative working, no one has a separate office. Open-plan, stand-up meeting 'scrum areas' – a concept imported from the IT sector for quick team updates – screen work zones from the atrium void. The bookable and first-come-first-served meeting rooms have been named by the staff according to the seas, oceans, straits and passages of the world, with graphics carefully harvested from the UKHO's own marine geospatial data sources.

Connections between floor plates are legible, attractive and free-flowing, perfect for encouraging one-team super-collaboration. The circulation spaces are wide and well equipped enough to generate ad hoc interaction.

Although the building did not target the WELL building standard, it feels as though

it did. The abundant daylight, natural ventilation, wellness centre, views to nature, incorporation of plants, finishes and colour schemes all rock a biophilic vibe, setting it up for a long life. The layout and M&E strategy are designed to adapt according to need as UKHO reinvents itself for the digital age, all comfortably within BCIS cost benchmarks.

With a Soft Landings process still going on behind the scenes and a post-occupancy evaluation pending, it's too soon to tell whether it's ticked all the boxes. One thing is for sure though: the staff were chomping at the bit to move in. The design fits the corporate strategy like a glove.

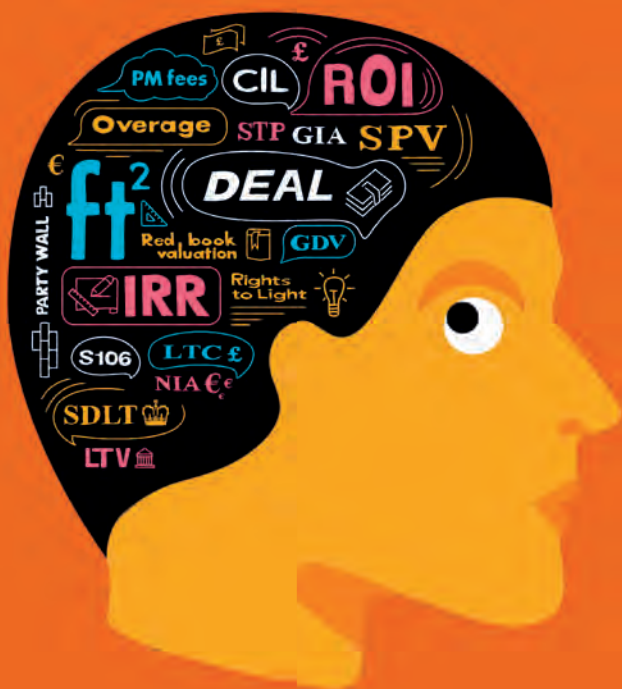
Below A buffer between atrium gallery and work zones: one of the stand-up 'scrum' areas in action.



GUERRILLA TACTICS

UNDERSTANDING THE DEVELOPER MINDSET

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Speakers include Meredith Bowles, Mole Architects; Sophie Goldhill, Partner, Liddicoat & Goldhill; and John Kinsley, John Kinsley Architects.

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An army of developer-operators is revolutionising the office sector with turbo-charged business facilities

WORKPLACE AS A SERVICE

Designing for owner-occupier clients like the UKHO is one thing. Achieving success at the other end of the scale takes a different approach. Three just-completed projects (shown here and overleaf) illustrate the range.

Setting up in business in the information age is easy: an idea, a laptop, an internet connection, and away you go. It frees you from a fixed location and excessive liabilities, letting you take freelance, gig-economy risks that a decade or so ago would simply not have been possible. Bye-bye 9-to-5 rat race; hello work-life balance.

For a short while, the downsides that came with this agility and flexibility – no capital muscle, exclusion from the central business district heart of the commercial action, and isolation from professional networks – delayed its uptake.

However, an army of developer-operators like the Workspace Group, Second Home and The Trampery have stepped into the breach. Mainly London-based, they are the leading edge of a worldwide co-working and flexible workplace-as-a-service wave revolutionising the offices sector.

They typically remodel buildings in well-connected urban locations, selling flexible co-working memberships or office leases to self-employed freelancers, start-ups and microbusinesses. Much more than just landlords, they offer turbo-charged 'business centre' facilities that include cafés, showers, bike storage, bookable meeting rooms, break-out spaces and services such as super-fast digital infrastructure, 24-hour access, as well as opportunities to socialise, network, get business support and learn with fellow tenants.

In all of them, the needs of the target market, often young and niche, is key. As well as fun and affordable office space, this market is looking for wellness, a distinct identity, and a mutually supportive community.

Getting the building design right is an important ingredient in that quest, which is why these projects are an increasing source of work for millennially attuned architectural practices. The jury is still out on the extent to which resultant design strategies actually improve productivity and worker wellbeing, but their commercial appeal is unquestioned, reflected in the strong continuing growth of this sub-sector.



A stripped back design at Brickfields by Witherford Watson Mann.

Brickfields

Brickfields is owned and operated by the Workspace Group, a 30-year old FTSE-250 real estate investment trust (REIT), and was designed by architect Witherford Watson Mann, winner of the 2013 Stirling Prize and recently nominated for the 2019 prize.

Built on the foundations of a former factory in Hoxton, the subtle, sympathetic, durable design makes good use of the lozenge-shaped plan to flood five floors of generous workspaces with daylight.

Eschewing the bright colours and gadgety quirkiness of some the competition, which might have been overwhelming in such a large building, the business centre provides offices that are well-appointed blank canvases for users to stamp their own mark on.

Tenants and, indeed, users of the co-working spaces, will enjoy bookable meeting rooms and a robust, high-speed business communications infrastructure.

The aesthetic in the reception, café, mingle spaces and full-height, day-lit galleried atrium is restrained industrial elegance revealed in natural colours and raw finishes. Stripping back the design in this way widens its market appeal, affording the user community a suitable stage on which to meet, bond and be greater than the sum of its parts.

The Gantry

The Gantry is an ingenious workspace development built on an abandoned steel structure attached to the former 2012 Olympics Broadcast Centre, which itself was re-



cently reinvented as Here East, a campus of innovative companies, educational institutions and cultural organisations.

Operated by London-based social enterprise The Tramperry, its profits will go towards supporting the local community, which will no doubt be an important factor for would-be tenants. Architect Hawkins\Brown had the idea of building a series of self-contained, lightweight, deck-access modular studios on the structure as a way of reusing it without breaching the gantry's structural capacity.

Conceived as a cabinet of curiosities, each studio has been creatively clad in an individualistic mix of materials to pay homage to local pioneers and industries, fitting in with the project's overall socially responsible commitment to place. A central two-storey 'village hall' provides a shared lounge and co-working desk space, a hub for staging free courses and building a sense of community.

The resulting vertically stacked village, with its pleasant views over the Queen Elizabeth Olympic Park and relationship to Here East, is a potentially attractive ensemble, perfectly matched to its target market of local creatives and young entrepreneurs.

The fun design has a serious role in attracting young entrepreneurs

Top The Gantry: a cabinet of workplace curiosities at Here East, London.

Below Frei Otto/biophilia mash-up for millennials: The ETFE-protected facade lets plenty of daylight in past the houseplants to the eye-catching interior at Second Home London Fields.



London Fields

London Fields in Hackney is owned and operated by Second Home, a social business on a mission to support creativity and entrepreneurship by providing new kinds of workspaces. The building's attention-grabbing, unashamedly fun design converts a largish Victorian temperance hall that most recently had been an education space and cinema.

Madrid-based Cano Lasso Architects was responsible for the common areas, co-working desks and small offices, where the dominant trope is daylight, accented with bright colours and unusual materials. The opaque ETFE facade is certainly striking, as are the Matta-Clark-like light tunnels that pierce floorplates top to bottom. Curvilinear shapes and plentiful houseplants complement the abundant daylight, all nods to the nascent theory of biophilia.

The fun has a serious role. As well as being a magnet for the building's target market, it ties in neatly with the enterprise's USP – an integrated nursery, designed by emerging London practice Kennedy Woods. Running a business while juggling toddler-care is a huge issue for the young tenant cohort, one that London Fields addresses head-on. ●

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Business, clients
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How to rise above it all

The first decade of your career sets the foundation for future progress. But decisions then and throughout your working life are often only understood with hindsight. As we put out a last call for entries to this year's RIBA Journal Rising Stars award, in association with Origin, we asked some of the judges about pivot points in their careers. We also asked them to touch on some of the issues that 2018's Rising Stars told us concerned them: routes into the profession, diversity, collaboration, social awareness and mental health

Peter Morris, founding partner and managing director, AHMM

The milestones in Morris' career are intimately connected to those of the practice he founded with three friends from architecture school. The way AHMM works as a practice – individual responsibilities in a collective endeavour – was set up in their fifth year of study.

Morris' first major project as a business owner was an unglamorous extension and refurb for some barristers. It taught him a huge amount about contract administration and working with contractors. 'The stakes felt incredibly high,' he says. But he came out unscathed. 'It was a job well done,' he is happy to say, but it was also messy – not one to publish.

Walsall Bus Station at £4 million felt like a step change, a punt by the Midlands client on a young firm, technically complex, a tight budget for a tricky client on a new building type for the practice. He found himself 'dealing with really difficult people – basically bullies'. It was a new thing learning how to recognise this as a problem and deal with it.

'It was very stressful,' Morris admits. 'I felt very very under pressure.' His main strategy for dealing with that was to turn to his three partners. 'We are very supportive of each other. Sometimes you need to vent, share, get advice.' He sees the complex nature of architecture making stress almost

Below The Barbican shop which AHMM's Peter Morris worked on with his long term clients at the Barbican arts centre in London, alongside his role as managing director.

Opposite top Mshereib Downtown Doha Project in Qatar was all about co-ordination and people, says Buro Happold's Sarah Prichard.

Opposite bottom First 'real' project for Simon Henley, offices for Talkback in central London.

inevitable: 'Waking up in the middle of the night with a cold sweat is difficult to avoid.' But he has been lucky with his partners and wants others in the business to feel that too.

Putting support structures in place has become one of his responsibilities as managing director of this firm, which is now 500-strong. Like the size of the practice this job crept up on him to some extent. It is all about doing things you are good at and might enjoy, he explains. 'At the start when we did a business plan I was the only one who knew how to use Excel... it is about recognising what your strengths are.' In the mid 2000s he took a course at Cranfield on growing your business and that formalised his role. 'It is important for us to be in control of the business.' And this too is a design job in his eyes. Running projects is a small part of his role now, though he has continued to work with some clients such as the Barbican. Here the major projects might be over but little ones – such as the shop – continue.

Morris might like to do more projects, but his role allows him to address other things with his team – like education and access to a career in architecture not just for those with connections. Also flexible working, the gender pay gap and gender representation at all levels of practice, and environmental and community initiatives. And his hand on the finance and the strategic direction of AHMM seems to have paid off for the practice.



ROB PARRISH



Sarah Prichard, UK managing director, Buro Happold

Sarah Prichard intended to be a historian. At school in Ireland she did maths, physics, applied mechanics and history. But she plumped for engineering – for its creativity and ability to make an impact. ‘I can always read history in the evening,’ she consoles herself.

She went straight into Buro Happold from university. As a woman in a company of engineers in the 1990s she admits she was unusual. But it didn’t seem to matter. ‘I didn’t notice it affecting my career moves or working on exciting projects,’ she says. That might be down to some encouraging leaders.

But she also got to work on exciting projects because of the field she specialised in – vibrations and dynamics. ‘I specialised because someone left and I had a PhD in material science,’ she says, ‘though I never felt I got an easy project’. She was always having to challenge architectural layouts and tell clients they couldn’t have things – that the microscope couldn’t cope with the shake of footfall for example. ‘It was hard talking about things that people couldn’t perceive.’ But she liked really complex projects and getting people to understand technical implications.

She points to a couple of projects that taught her a huge amount. One was taking over a small school in Dorset where she had to sort out a buildability issue; working out what had gone wrong and the decisions that led to it taught her about rectifying mistakes. Battle scars make you a better person and manager she says. A strong collaboration with architect Bblur on Slough Bus Station involved working out what was possible when holding up the wavy form of a diagrid.

She did a three year stint in Qatar, leading on significant site works for 25 of the buildings on the Mshereib Downtown Doha Pro-

ject. And her promotion within the practice accelerated. She came back to the UK to lead the firm’s largest engineering group in 2015. A company restructure consolidated all those engineering departments into a single group and shot her in to head it, with 625 staff from 75. That expanded to engineering and operations and in 2018 she became managing director. ‘It was all quite fast,’ she comments.

Simon Henley, principal, Henley Halebrown

Finishing architecture school in the 90s recession left Simon Henley with little choice in his mind. He sent off CVs but no decent jobs were forthcoming. ‘It felt like good jobs with good architects were just not there,’ he says. And clients at the practice where he was working were offering some small jobs on the side, so there was an opportunity.

There were many interior jobs in the first few years but it was on offices for TV production company Talkback that he felt he and the practice were getting into the real stuff of architecture: history, climate, materials. ‘It felt it did justice to what it might be like working in the future, while learning from the past.’ And this was recognised with an RIBA Award



HENLEY HALEBROWN

and the cover of Architectural Review.

As one of four partners originally (now he is one of two), there were lots of hands to take on work. He taught and later wrote. He found writing on other people’s work easier than his own. He pitched a book on car parks to a major publisher and found himself writing on how the typology had been a testing ground for avant garde architectural ideas. Invited to write on brutalism, he concluded that it emerged from a time of compassion. ‘Now we legislate for diversity but are less generous and democratic than in the past.’ He asserts that the social value buildings deliver is as objects that are ‘empathetic’ and work for people – not the employment or engagement that is more typically measured.

His career, and the firm’s progress, has been in incremental stages. ‘We don’t do many competitions. We don’t really hold our breath and stop and see, it is through dialogue with people.’ Chadwick Hall, last year shortlisted for the RIBA Stirling Prize, showed how such discussions could make for significantly better design, there on the unloved typology of student housing.

Henley sees success in the small things. ‘We are often talking about the efficiency of buildings, the net to gross, and I like arguing for very little internal, and plenty of external, circulation.’ He is doing so on a primary school project, arranged around a courtyard with covered walkways: ‘More teaching space and lovely spaces and connections for the children every day.’ ●

Peter Morris, Sarah Prichard and Simon Henley will be joined as judges for RIBA Journal Rising Stars 2019 by Louise Wyman, director of design development for the West Midlands Combined Authority, and one of last year’s Rising Stars cohort, Kieren Majhail of BDP



Rising Stars closes for entries on Monday 9 September.
Enter at ribaj.com/enter-rising-stars

Ahead of the game

Innovation and the pursuit of excellence has kept Caesarstone at the forefront of engineered stone

When it comes to materials for architecture and design, nature has been incredibly generous. Designers get to choose from an impressive resource of natural materials: wood, glass, paper, metal, textiles – and of course stone. It's not surprising that people seek to have these materials around them but they are not always perfect and sometimes nature can do with a little help. Research and development has found ways to enhance and improve them, making them more durable and flexible to apply. Engineered stone in particular is the best example of how science and innovation have been able to improve on the original.

The basic principle behind engineered quartz or stone composites – several terms are used for this product in addition to brand names – goes back to surfaces created by the Egyptians and Romans among others. Roughly speaking, crushed stone particles of varying sizes are bound together with adhesive – and there are various ways to physically or chemically bond the material. In the 18th century, the Venetians created terrazzo, adding stone pieces – often including marble – to poured cement flooring as it was curing. Terrazzo is experiencing another surge in popularity – reflecting widespread interest in hard surfaces that has continued into the 21st century with no reduction in their use in commercial and residential projects. Italian expertise in this area has played a key part in its development, and Italian stones are deservedly sought-after. Italy can claim to be the spiritual home of marble in particular, its quarries producing famous varieties such as calacatta and carrara.



Below Caesarstone's design team are focused on creating trend-leading surfaces

Above Exploration of materials is key when designing engineered stone



The 1970s heralded the modern era of engineered stone. A new product category emerged thanks to the introduction of revolutionary manufacturing technology, which reimagined the process. The raw material – a mix of crushed stone and other bonding materials – is subjected to vibration and compression while vacuums remove the air from the mix as it travels along a moving belt. The material is then heated and resulting sheets cut as required. As well as using crushed stone, materials such as glass, mirror or metal elements can be added to create more decorative products, and pigments used to extend the colour palette.



'We are always listening to the consumer, trying to know them better and better'

Left The award-winning 4601 Frozen Terra is a contemporary take on terrazzo

Right 4043 Primordia is the latest addition to Caesarstone's Metropolitan Collection



Crushed stone typically makes up around 93% of the finished product, with quartz or marble being the most popular. Quartz is naturally much harder than marble and the resulting engineered stone surface reflects that durability. This is why quartz is the predominant material on the market today and outsells marble and granite in many parts of the world.

Compared to solid natural stone, such as limestone, engineered stone has a much-improved resistance to temperature changes and chemicals, giving it a distinct advantage especially in kitchens. It is stable – easier to clean and highly resilient, unlikely to crack, discolour or change in appearance as it ages.

Critically, due to a few leading players in the market, the aesthetic quality of quartz has advanced significantly and the material is now available in myriad colours, patterns and textures, many of which offer unique and authentic beauty. This provides a much-needed alternative for designers and consumers that are increasingly sophisticated and style conscious.

Caesarstone was founded in 1987 and initially most of the leading companies were using similar equipment and manufacturing methods. However, Caesarstone's research and development team was already exploring the potential of the new material, looking for a way to disrupt the market. The team sought to maximize both the aesthetic appearance and technical performance of its slab designs trying out new ideas in technology and composition. Working with researchers from Technion

(the Israel Institute of Technology) they made a breakthrough – a new solution to binding the material, the first in the market – that started to widen the gap between Caesarstone and its competitors.

By the time Mor Krisher joined the company as design director in 2009, the company had further extended its lead by developing its own machinery. 'This was the first time we could leverage the appearance of the slab and offer something aesthetically different from the others,' he reflects. 'The first collection to result from this innovation was Supremo. In design terms this really changed the market and directly led to the launch of the Supernatural collection which is now central to Caesarstone's business worldwide.' Now a collection of 17 designs, Supernatural was launched in 2012. It was a technical challenge for the company but Krisher was reluctant to compromise: 'It's very hard to implement something completely new on the production line, but we were aiming for the growing natural trend so we had to have the best natural look.' The Ultrnatural collection followed with three new designs in 2014, building on the success of the growing Supernatural set.

Caesarstone's products are now equally sought-after by professionals and consumers, used in a huge range of contexts, from cladding museums [or similar] to kitchen countertops – a reflection of the product's unrivalled quality and reliability. With its exclusive cutting-edge technology, weathered and irregular patinas and tones, reminiscent of urban materials such as

poured concretes and plasters, have been achieved in quartz for the very first time. As well as exploring natural finishes in its Supernatural and Ultrnatural collections, it also leads the industrial trend with the Metropolitan collection, with its more durable alternative to concretes offering an authentic tactile as well as visual appeal.

Krisher's pursuit of excellence is unrelenting and his team keeps a close eye on the activities of competitors as well as the appetites of consumers. As designers they are always looking to create and innovate but this is tempered by their quest for perfection and attention to detail. New designs are regularly launched but only when the company feels they are right, and ready. Speaking of the addition of the Empira White design earlier this year, Krisher explains, 'Empira White was developed to answer to a need for something clean, a brighter and whiter design. In response we developed a new kind of technology that creates a unique veining design against a white, clean background. We are always listening to the consumer, trying to know them better and better,' he stresses. There are still plenty more ideas Krisher's team is keen to explore but the Caesarstone ethos remains unchanged, a rigorous process aiming to create a product that has to be the best in the market. ●

 **caesarstone**

Stand tall. Talent should be recognised. Put yourself forward or nominate your colleagues and collaborators now

RIBA J, in association with Origin, is on the hunt for construction's Rising Stars, those reaching for the sky in architecture and the built environment

Judges:

Louise Wyman, director of design and development, West Midlands Combined Authority

Sarah Prichard, UK MD, Buro Happold

Kieren Majhail, Rising Star 2018 and architect associate, BDP

Simon Henley, principal, Henley Halebrown

Peter Morris, founding partner and managing director, AHMM

RISING STARS 2019: ENTER NOW

Do you think strategically, push materials to the limits and design better ways of working and building? If so, we want to hear from you.

Last year our stellar judges identified nine of the most talented, socially aware, promising practitioners of the rising generation to join the third cohort of RIBA J Rising Stars. They are social warriors, layering extra curricula activities on top of practice – from building apps to becoming a mindfulness practitioner or finding situation-changing solutions to homelessness.

Thousands of architects, clients and influencers have seen the Rising Stars' stories here in RIBA Journal, on ribaj.com and through our social media channels, giving the talents of those Rising Stars a boost for the coming years. This year it could be you or someone you work with.

Deadline: 23.59 Monday 9 September 2019

Winners will be profiled in the RIBA Journal and on ribaj.com, and invited to an exclusive Class of 2019 party and round table

RISING STARS

Enter at ribaj.com/enter-rising-stars



3: Culture

Big ideas

Huge infrastructure projects can bring huge opportunities



Hugh Pearman Editor

Let's think big. Let's move away from this or that bit of architecture and consider what is the greatest spur to new building: physical infrastructure. Make a track from somewhere to somewhere, a line across the landscape, and at its nodes and intersections, in its curves and crevices, buildings appear.

We've seen this since Roman times: the bridging points across the river which became the place to pause, militarily and domestically. At one such place those points became London and Southwark, with Westminster on another island to the west. Later canals and railways duly generated their junctionvilles. In the 1990s the places chosen for the Jubilee Line extension stations were in the same habitable zones the Romans and native Britons knew: Crossrail follows the pattern. Today the virtual leads to the actual: most motorway and major road intersections now physically display the ever-huger built outcomes of the online economy. Martin Pawley's Big Sheds prophecy has come to pass.

Whether or not the present government cancels the HS2 railway project, a huge amount of preliminary work has been done. A swathe of buildings around Euston Station

Make a line across the landscape and in its curves and crevices, buildings appear

has been demolished to make way for the much-enlarged station and new lines. Excellent blocks of council housing, paid for by HS2, have been built further north in Camden to replace those being demolished to widen the tracks. If you follow the course of the line up through the Chilterns and into Birmingham, numerous worksites are active, properties have been bought, utility diversions are under way, yards prepared for earthmoving kit. It has already created lots of places to build. If it proceeds, in the area around the Curzon Street terminal in Birmingham alone it will generate 4,000 new homes, 600,000m² of commercial development and new cross-city public transport links.

You could solve the housing crisis in time-honoured fashion by dotting such routes with new or expanded settlements. And it's better than what usually happens which is bypass suburbs to market towns – an excuse to build lots of low-density car-dependent new housing estates. Better examples are promised by, for instance, the new spine road and revived railway through the 'Oxford-Cambridge corridor', which could also be called Greater Milton Keynes. Public transport connectivity is key. We are in a climate and biodiversity loss emergency: leave such places to the lowest-common denominator volume housebuilders and nothing will be done to tackle this.

And after (or instead of) HS2? HS3 of course, now 'Northern Powerhouse Rail'. This is intended to finally provide the capacity and speed between the great Transpenine cities, from Hull to Liverpool. With it comes the planned 50 million tree Northern Forest, and with both comes huge opportunity to build well, and to address the north-south post-industrial economic balance.

Seems obvious, doesn't it? Big infrastructure investment that leverages everything else. An optimist says: Utopia is within our grasp. A pessimist replies: money, politicians, nimbyism, inertia. Well, we can hope. ●

ONLY ON RIBA.J.COM

Luckhurst enjoys exploring the idea of corridor 'dread' – the sense of unease that long hotel corridors create in films such as *The Shining*

Pamela Buxton leads us through Roger Luckhurst's new book: ribaj.com/corridors

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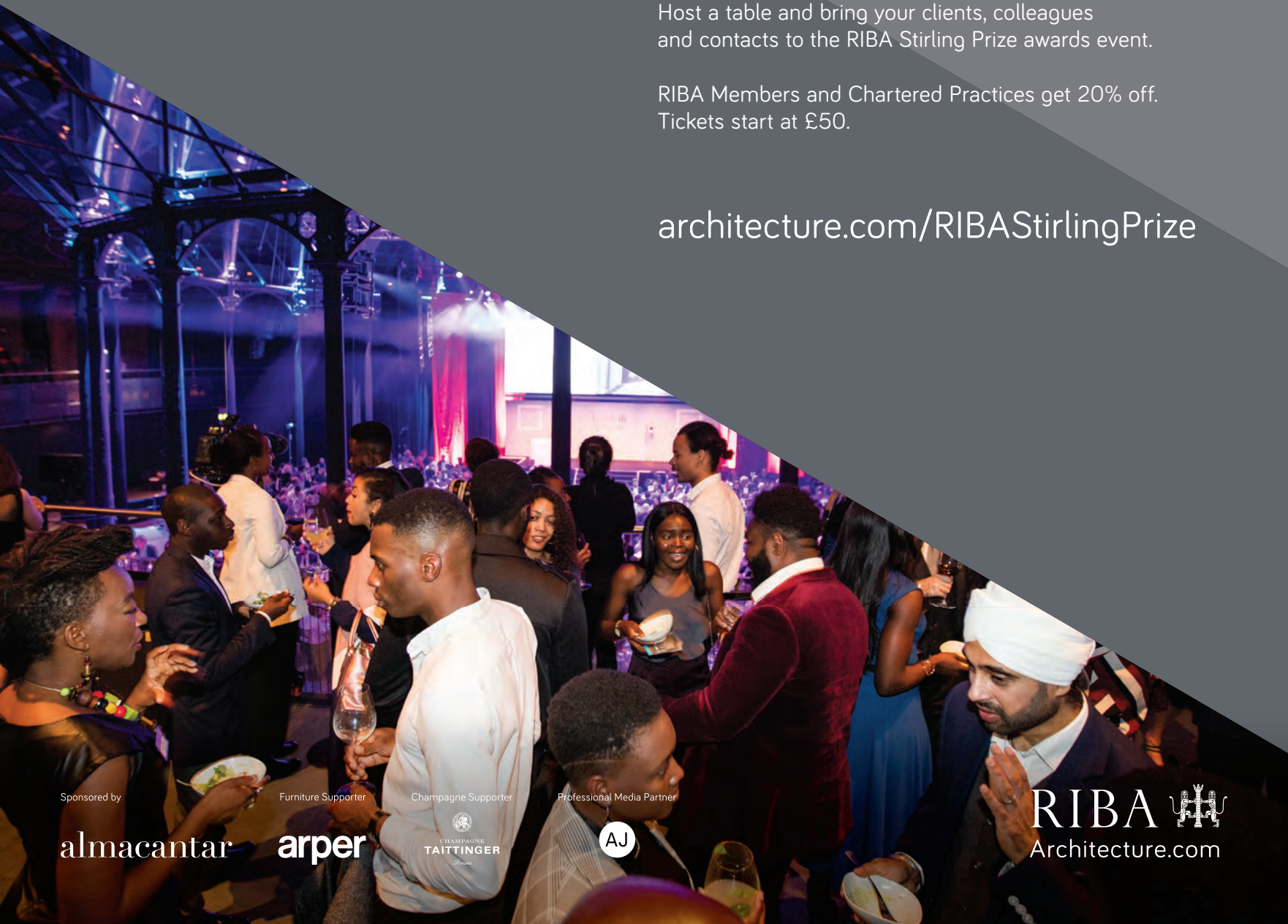
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Gothic horror

William Beckford ended up inhabiting his own imagination. He didn't like it



Will Wiles

In 1825 William Beckford was called to the deathbed of the man who had built his extravagant and unique country house at Fonthill in Wiltshire. 'House' is too domestic a word, though. What Beckford had summoned into existence was Fonthill Abbey. This vast heap of wild gothic imagery had been designed by James Wyatt from 1796 onwards and had as its centrepiece an immense and unprecedented tower, 276 feet tall.

It was the tower that weighed on the conscience of the dying contractor. He told Beckford that he had never laid down the foundations specified by Wyatt. The whole thing might collapse at any moment.

Beckford might have been more upset had he not sold Fonthill three years earlier. He passed on the warning to the new owner, John Farquhar, who thought he was exaggerating. The tower collapsed before the year was out. No one was hurt. Even Farquhar was less upset than might have been expected. 'On being informed of what had happened,' James Lees-Milne writes in his 1976 study of Beckford, 'he said he was glad, for now the house would not be too large for him to live in.'

In his magisterial architectural history *Life in the English Country House* – first published in 1978 and recently reissued by the Folio Society – Mark Girouard writes of the curious effect the growing importance of

'Some people drink to forget their unhappiness,' Beckford said. 'I do not drink, I build'

libraries and picture galleries had on the design of grand houses in the mid-18th century. As the aristocracy went on their Grand Tours they were eager to show off the fruits of their connoisseurship. The library swelled from a small private study into a large living room and entertaining room. The books and works of art gathered by the aristocrats were exerting their influence on the whole form of what they built, destroying the prevailing classical balance and encouraging new forms.

This coincided with the rise of the gothic as a legitimate alternative to Palladio, and pointed ultimately to Fonthill Abbey, part a container for art, part an artwork itself, the product of a chaotic impulse to pursue an idea. Beckford was not an aristocrat, but he was a man of considerable consequence. His father had made a vast fortune on the back of slave labour in Jamaican plantations, the income from which continued to gush into William's hands. If he had more settled habits he might have lived a life of untold comfort.

But he was restless and troubled. In 1782 Beckford wrote *Vathek*, a gothic fantasy which more devoted readers of this column might remember was the subject of one of my Architectural Association book clubs several years ago. It concerns a depraved 8th century caliph crazed by power and the pursuit of knowledge who, among other excesses, builds an immense tower. It was a great success. After years of travel, Beckford found a more concrete output for his creativity than writing. 'Some people drink to forget their unhappiness,' he said. 'I do not drink, I build.'

But as idea turned to reality, he soured on Fonthill Abbey. It was cavernous, inhospitable, impossible to heat or staff and horribly expensive. 'Oh what a fatal abode!' he complained, according to Lees-Milne. 'Here it smokes, there the wind blows in (and so would the rain if it were raining); every tower is a conveyor of rheumatism.'

After the Abbey's disposal and collapse, Beckford's only regret was that he had not seen the tower fall. It was, perhaps, one of the clearest examples of a literary impulse applied to architecture, and Beckford a unique example of an author who was briefly confronted with the unique fate of having to inhabit his own imagination. A rather gothic fate, as it happens. Fortunately for him, the story had an end, and a spectacular one. ●

Will Wiles is an author. Read him here every other month and online at ribaj.com

PLANT PLUG

My previous column talked about the possibility of rewilding patches of underemployed urban greenery, which might save cash-strapped councils some money while bolstering biodiversity. I've since discovered that there is a charity which promotes exactly this: Plantlife, which can be found at www.plantlife.org.uk

New president Alan Jones talks about his commitment to improving social mobility, sustainability and putting architects first

Words: Hugh Pearman Portrait: Aidan Monaghan

The boy done good

Alan Jones rolls up silently to Clement's Café near Queen's University Belfast in his BMWi3 – an electric car (with a frugal petrol engined back-up generator) for someone much concerned about the global environment. Not that he wants to waste electricity either. In mid-July he left a signed Post-It note above the light switches in the RIBA staff café at Portland Place, querying why the lights were on, it being a sunny day, and why not save the planet? He'd already turned them off. It seems the note caused a bit of a flutter.

He's coming to terms with the fact that, in his new role as president, what he says carries weight, be it in an elegantly scrawled note or in a tweet. 'I'm inclined to be mischievous but I've got to be a bit careful what I say now,' he remarks, slightly sorrowfully. Expect no social media pile-ons, then, but expect him to be

his own man with his own, often humorous, voice. Balancing the personal with the gravitas of office is a trick he's rapidly learning.

The 78th president of the RIBA (also, crikey, the 21st I have met in office) comes to the job with a mix of experience that, in theory, equips him to cover all the bases: employment in highly-rated practices, operation as his own boss, and a distinguished career in academia. The first president in the RIBA's history to hail from Northern Ireland, a council house kid, for him social mobility in the profession is hugely important and he's social mobility champion for the Institute. He is keen to show you where he comes from, literally and attitudinally, and he's artlessly proud of having made it to the top job. If he can be president of a profession, he reasons, the system can work: but finding the way

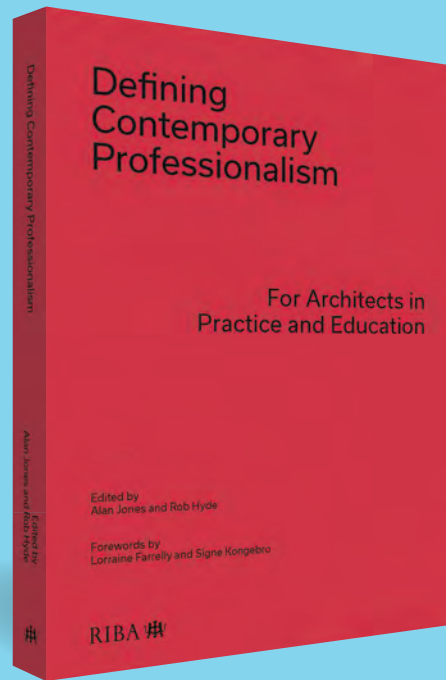
Alan Jones at his self-built home in Randalstown.



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meets

through is getting tougher. He was born in 1964 in Londonderry/Derry, the family later moving to Coleraine, thence to Ballymena and Templepatrick. He grew up, then, during the era of escalating sectarian conflict. He trained at Queen's University Belfast, doing his year out with Kennedy Fitzgerald (Joe Fitzgerald recalls that his first task there was to reorganise the drawings store).

Then came the jump to London with his wife Laura. He worked for Hopkins for seven years on such key projects as the second phase of the Schlumberger building in Cambridge and the pioneering low-energy Inland Revenue HQ in Nottingham. This was followed by a spell as an associate at David Morley Architects working on Lord's cricket ground buildings. Their children Isaac and Gideon were both born in London. Then the family returned home to Northern Ireland where he has run his own practice since 1998, occasionally collaborating with others such as

Glenn Howells on the 2006 Alley arts centre in Strabane. 'I was interested in seeing how I could make architecture in Northern Ireland – with economy: cheaply but well,' he says. 'The contribution that architecture can make to the lifting of a society.'

He returned for another reason, however: to take up an academic post at Queen's, his alma mater. He has stayed there ever since, being joint head of architecture between 2008 and 2016 and becoming a professor in 2019. Even his RIBA presidency will also be a research project for Queen's, on the nature of engaging the profession.

Coinciding with the start of his presidency, he has co-edited with Rob Hyde of the Manchester School of Architecture the book 'Defining Contemporary Professionalism: for architects in practice and education' from RIBA Publishing. Jones and Hyde have marshalled a field of 60 contributors, which in academia is like herding cats. No mean feat.

This in-depth look at the profession should be required reading.

Back to much-transformed Belfast, and we find we're going the wrong way. 'Here's a remnant of the past,' says Jones as he makes the U-turn, indicating a police station compound surrounded by high mesh anti-rocket screens. 'When I was growing up and studying architecture, this was inspiration.' He means it – this was urban context for him, and in his thesis project for the Lisburn Road he developed the use of mesh screens as veiling for a research institute. 'Looking back on it now, it was a study of Belfast, done through a particular building type.' Well, he wasn't wrong: the mesh veil became quite an architectural thing and still is, look at Carmody Groarke's ghostly enclosure for Mackintosh's Hill House (RIBA, August 2019).

Soon we're humming along in the i3 on the M2 out of Belfast, heading for Jones' home and studio in Randalstown, some 20 miles



The self-builder relaxes: Jones' house from a low-cost economy.

We should be paid about 20 per cent more – how do we get there?

west of Belfast in County Antrim just north of the freshwater inland sea of Lough Neagh. In town we stop by the Grade A listed Old Congregation Presbyterian church which Jones is keen to show off: a fine galleried oval church of Georgian origin, modified sensitively in the early 20th century. Behind the trees next door to this is the house he built for himself and his family in 2005, in the conservation area around the church. Deliberately recessive, set back behind the original line of the church, a high thermal mass in-situ concrete structure clad in Eternit slates, it is a simple barn of a building placed in a garden. To London or south eastern UK eyes this set-up might seem to indicate an affluent existence. Jones demurs. 'I come from a low-cost economy,' he points out. 'This cost £300,000 all in, for site, construction and fit out.'

The family are all home and wander in and out, including a couple of dogs and a kitten. We sit in the studio and Jones expounds his philosophy. He has talked to a number of previous presidents, he knows the score, he knows how hard it is to get much visible done in the two years you have at your disposal. 'All I have to do,' he says, 'is deliver my election promise: architects first.' As to why he wants to BE president – to the extent of running for the office twice – it's all about not standing still, he says. 'What should I be doing at this point? What's next? How can I have the maximum positive impact? So it's time for the next thing: to step up to the plate.'

He emphasises the mutual importance of the two main roles of the RIBA – the cultural outreach side and the trade-union side, so to speak. It's never just about protecting members. He quotes one of his predecessors who he consulted: 'The role of the RIBA is to create the conditions in which both architecture and architects can flourish. It has to be both.' The RIBA climate emergency action plan should work on both fronts, he muses: the expertise of architects in this field providing a vital voice in the public debate.

'How do we enable individuals to be better, to be happier, to be more profitable, for

themselves and for the businesses and institutions they work in?' he asks, pointing out student debt and architects' low pay. 'We should be paid about 20 per cent more – how do we get there?' Being properly paid allows not only proper design attention, hence better buildings, but also acquiring new skills and having more time for family. 'It's an upward rather than a downward spiral.'

There has been a fair amount of upheaval in recent years at the RIBA, culminating in 2018 with the sale of a large stake in RIBA Enterprises to clear the institute's accumulated debt, the largest financial transaction in its history. So is Jones expecting a steady-state presidency, no surprises? He laughs raucously. 'Ben Derbyshire's slogan was 'change is necessary'' he says. 'Mine could be: 'change is constant'. We'll never reach steady state. If we did, that would be a mistake. There are so many facets of the industry, of becoming and being an architect, that are in flux. It's a broad front.'

It's all about making structural change, he concludes, and goes back to improving social mobility – which in turn will much improve the institute's overall diversity. His previous work on this has now led to a social mobility

action plan approved by Council, so he will hit the ground running on that one. 'It's not just about getting people into the profession. It's about access into, up and through the profession, to director level. Equality of opportunity.'

How to pull all this together? Increase the status of the profession and its rewards, get away (for instance) from the design architect/delivery architect split? 'This is the golden thread, keeping control all the way through. It links with the idea of the elevation of the architect. It comes down to responsibility. That is the route to meaning. You have to be prepared to take on the responsibility.'

And clients have to be prepared to grant it, of course. He's ready for the struggle. 'It's a lot of hard work, but it's exciting, and I'm optimistic,' he says. He's wearing a slogan T-shirt. It reads: 'Risky Business'. You get the impression that Alan Montgomery Jones knows exactly what he's letting himself in for. ●

Below At home with his architecture and his dogs.



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Bauhaus bonanza

Modernism's effect on Britain is examined in an RIBA exhibition celebrating the Bauhaus centenary

Isabelle Priest

It can't have escaped most architects' notice that 2019 is the Bauhaus founding centenary year. So far we've witnessed a new museum in Weimar and a Gropius biography by Fiona MacCarthy but there are exhibitions taking place across Europe and another new museum in Dessau will open this month. The RIBA's contribution, *Beyond Bauhaus*, opens on 1 October in London.

The exhibition, co-curated by Pete Collard and Valeria Carullo, will look at Bauhaus through the lens of 1930s Britain – the architects who came to work here, what they built and how they influenced British culture and architecture. While many of these architects and their built works are well-known – Walter Gropius, Marcel Breuer and László Moholy-Nagy – the exhibition will also document more nuanced ways modernism came to the UK; how ideas were spread and what effect they had on architects already here, and the

Below Village College, Impington, view of the end of the classroom wing, 1939, by Maxwell Fry and Walter Gropius.



Britain would have felt at the centre of everything

impact Britain had on the émigrés too.

With exhibition design by Chilean practice Pezo Von Ellrichshausen (previously of Sensing Spaces at the Royal Academy), the first part of the show is about the origins of modernist architecture in Britain, how architects here learned of and adopted Bauhaus ideas. 'People had to go out of their way to find out what was going on,' explains Collard. 'Britain would have briefly felt at the centre of everything.' Publications, exhibitions and research trips will give a sense of the movement of people and fluidity of ideas. Architects travelled to mainland Europe to see buildings but there were also lectures, and the *Beyond Bauhaus* curators are recreating one Breuer gave at the University of Hull in the late 1930s, using a list of glass slides found on the back of his notes for the talk. The notes will be presented alongside digitised images sourced from Breuer's archive at Syracuse University in New York.

The second section of the show considers the impact these ideas had on buildings, particularly houses. Completed private houses for progressive clients include *New Ways* by Peter Behrens, and *66 Frognaal* by Connell, Ward & Lucas. But Britain had a complex relationship with modernism; when Gropius and Breuer arrived, they didn't walk into a lot of work and it is impossible to draw its evolution as a straight line.

The final part leaps forward to post-war Britain up to 1966. It explores how ideas conceived before the war came to be enacted on a larger scale. *Span Housing* plans will be shown, in which it is possible to see the aesthetic and ideological influence of Eric Lyon's year spent working with Gropius in the way the layout engages with the landscape. There is also the example of Mary Medd (nee Crowley), whose work with David Medd in schools design for Hertfordshire council introduced the standardised grid system and prefabricated elements that became a template for school building until the 1980s.

Indeed, the exhibition will particularly draw on the role pioneering women architects had in the history of Bauhaus in Britain. Alongside Sadie Speight and Betty Scott, Elizabeth Denby developed a prototype for an



Above Pezo von Ellrichshausen's colour study for the *Beyond Bauhaus* exhibition design.

off-the-shelf home called *All Europe House*, which was presented at the Ideal Home Show in 1939. Its design, carried out with Godfrey Samuel, drew on research from the Netherlands and Scandinavia and put into practice manufacturing information that Denby had gathered as part of her work for MARS which connected architects to fabricators and collated information about the latest improvements in technology.

Overall, the exhibition will come together as a 'forest' of columns, each containing its own mini exhibition with its own narrative. Inspired by Bauhaus itself, Pezo Von Ellrichshausen's design will be bold and colourful as well as blur the distinctions between the fine and applied arts, just as Bauhaus did. The curators hope to recreate the sense of discovery involved in their research, so visitors will feel as if they are unearthing the material from the archives themselves.

Much of the work will be 2D but there will be ephemeral objects too, including the menu from Gropius' farewell dinner in 1937 before he left for the US. Listing the artists, politicians and members of the cultural elite who attended, it provides a glimpse of that society as well as the high esteem in which architecture was held at the time. It is also evidence of Britain's respect and gratitude for the people and ideas that flowed from the continent as they still do. ●

Beyond Bauhaus: Modernism in Britain 1933-66, RIBA, 66 Portland Place, London, 1 October 2019 – 2 February 2020, free entry

RIBA goes underground

Wednesdays are getting weird at No 66 with The Architects Underground, the RIBA's live creative magazine

Hugh Pearman

What is 66 Portland Place, the grade II* listed 1934 home of the RIBA, for? Exhibitions and events of course, talks and debates, awards ceremonies, cafés, a members' bar, meeting rooms, Clore Education Centre, the world's best architectural library incorporating the wonderful Robert Elwall Photographs Collection, one of the finest architectural bookshops in the world – we take all these for granted. But what else can the place do?

Starting on the evening of Wednesday 11 September, Grey Wornum's old place will host a weekly club night. This is The Architects Underground, and it's fair to say that it will be... unusual.

The aim is to do more to tempt in both members and the general public. Hence the bar and, now, this. Every Wednesday from 6pm a very wide mix of creative arts will come together 'under the roof of architecture' as the organisers put it. It's conceived as a weekly live magazine, free to RIBA members and all students, £15 for anyone else.

The Architects Underground is the brainchild of Rob Dickins, chair of the British Architectural Trust – cultural wing of the RIBA. His background is Warner Music and the Brits television show, plus a raft of museum and cultural charity positions. He has put together the programme with Caralinda Booth, also with a music industry background, now embedded at the RIBA for this purpose.

It's a work in progress but here is what's

going to happen on opening night. The main event is 'Giles Martin – Sgt Pepper at Abbey Road'. Giles is the son of the legendary 'Fifth Beatle', producer George Martin. He has remixed the classic album Sgt Pepper's Lonely Hearts Club Band for its 50th anniversary and will be telling how he approached what is close to being a sacred work, for the first time in public outside the music industry.

The rest of the opening 'magazine' includes New London Architecture boss and serial entrepreneur Peter Murray (a former editor of this magazine) looking ahead to 'Future London', and Pati de Souza presenting 'architecture news of the week'. De Souza, a recent AA architecture graduate, describes herself as a 'puppy creative'. In her recent article on architecture.com she says: 'While the RIBA is known for its distinctive force within architecture, The Architects Underground is completely unique to what has ever gone on in that building, and in my opinion, pretty cool. If the metropolitan institution is the voice of reason, then The Architects Underground is the jester that brought a sparkly, shapeshifting, trojan horse to the feast.'

The Trojan Horse analogy (one she's used to describe her own design work) is telling: after all, the aim of that military-subterfuge device was to conquer the unsuspecting city. The only downside I can see is the bit about the total destruction of Troy but it was certainly great for the Greeks.

With this comes food, drink (a new



Above This must be the place – No 66 goes all fusion-culture.

architect-named cocktail every week, not necessarily alcoholic) and MC Omari 'Motion' Carter of the Motion Dance Collective. Fair to say that this won't have much in common with your average BIM seminar.

The organisers are by their nature informal but underlying the larkiness is a serious endeavour: for architecture to sit comfortably alongside the other creative and cultural arts. The Underground is intended for architects, designers, clients and friends. Dickins talks of bringing 'new life and energy' to the building. 'In an age where many people are locked into their own space via computers, phones and social media, I wanted to create a communal space, where like-minded people with a love for the arts can enjoy a great night out with entertaining and thought provoking programming as well as a social meeting place. Architecture and especially the architect will be the common thread throughout.'

Future main speakers will include Anna Liu on Tonkin Liu's nature-inspired architecture; African art/music collective Noir-Wave in collaboration with fashion designer Samuel Ross creating a concept for a new co-habitation space incorporating sustainable African architecture; Oscar-winning movie special effects master Paul Franklin who created the folding Paris-scape of Christopher Nolan's 'Inception'; and veteran cultural pluralist Sir Christopher Frayling sharing his lifetime love of Spaghetti Westerns.

Keep up with all this (and book) via architecture.com/architectsunderground. ●

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RIBA COUNCIL ELECTIONS

Results of the 2019 Council elections

were announced on 29 July 2019 at www.architecture.com/elections



The members starting their term on the RIBA Council from 1 September 2019

Valeria Passetti Vice President Membership | Alfred Munkenbeck National
Maria Smith National | Fraser Middleton RIAS North | Jane Larmour RSUA
Andrew Claiborne East | Jonathan Greenfield East | Mark Benzie South
Mark Shipton South | Victoria Adegoke Student | Maryam Al-Irhayim Student
Lewis North Associate

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Prof. Mette Ramsgaard Thomsen, Centre for Information Technology and Architecture, KADK Copenhagen

Learning from the product designer mindset
Bruce Bell, Founder, Facit Homes

Client strategies in Design for Manufacture and Assembly
Russ Edwards, Lendlease

Balancing standardisation and customisation in modular housing
Speakers include Amber Beare, Urban Splash and Carl Vann, Pollard Thomas Edwards

Punching above your weight through collaboration
Tomas Stokke, Co-founder, Haptic Architects

Disrupting the procurement landscape? Lessons on Integrated Project Insurance
Case study Derby Silk Mill by Bauman Lyons. Contributions from architect, client, contractor, insurer and construction lawyer

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Martin Pearce

1965 – 2019

Teacher and practitioner, author of many books, who most loved the small and crafted aspects of architecture

LORRAINE FARRELLY



I have known Martin Pearce, who has died unexpectedly at his home on the Isle of Wight, for over 30 years. We met at Portsmouth School of Architecture in the mid 1980s where we were both studying for our diplomas.

Martin was an exceptional teacher of architecture and a fine architect. A

lecturer at Portsmouth since the 1990s, he led the history and theory course for over 10 years. As I often said by way of introduction: 'What Martin doesn't know about the history of architecture, from the Middle Ages to the present, wasn't worth knowing', and while he had an exceptional grasp of what makes architecture, and in particular great architecture, he always delivered his understanding with great personal insight and no little amount of wit.

Martin travelled extensively for pleasure as well as to support the UIA (International Union of Architects) where he advised international schools. He enjoyed all aspects of architecture and its global influence from Beijing to Portsmouth and while the big was always interesting he was really drawn to the small and the crafted. He loved theories of architecture and how they manifested themselves through the design process. This, coupled with his capacious memory of historical precedence, enabled him to see above and through the 'why' of architectural ideas and place them in context without the baggage of confusing visual clutter. Martin's passion for architectural education saw him contribute to the RIBA Studio programme at Oxford Brookes University, an essential pathway which facilitates students to qualify while working in practice.

Martin will be remembered by thousands of students who heard him talk about the architects and architecture

he most loved, many of which have contacted me since his death expressing their sadness but also saying how much he inspired them and positively influenced their view of the global architectural landscape.

Away from teaching Martin has spent the last 20 years reconstructing two beautiful barns on the Isle of Wight where he put into practice many of his thoughts on the pragmatics and craft in architecture. He was never happier than when he was there and while many would turn to builders or contractors to help realise the vision Martin did it the hard way, by himself with enthusiastic help from his children Tom and Ellen and his wife Lorraine depending, of course, on the weather and the time of night!

Martin loved writing and wrote books for Wiley-Academy, including *University Builders* and *Bridge Builders*. His critical pieces on contemporary architecture included several for *Architecture Today*; his last was published earlier this year on the Templeman Library building at the University of Kent by Penoyre and Prasad. Martin had also written on Design Engine's work since the practice started in 2000 which led us to get to know him very well. His book 'Building Stories' used our work to illustrate key themes in architecture which he employed to form the cornerstone of his history and theory lecture series at Portsmouth. It is a beautiful, informative and thought-provoking book and one of which Martin and the practice are very proud. The following words from the book eloquently capture many of his heartfelt feelings about being an architect and the impact of buildings on the people that use and created them: 'Buildings tell stories in many ways. They are the stories of those whose lives they touch, of the hands that crafted them, of those that conceived them and the ideas from which they were shaped.'

Martin is survived by his wife Lorraine Farrelly, head of architecture at Reading University, and son Tom and daughter Ellen. ●

Richard Jobson, Design Engine

IN MEMORIAM

Anthony George Henderson
ELECTED 1949, HAMPSHIRE

David Price
ELECTED 1967, KENT

Michael Henry Masset
EDWARDS
ELECTED 1973, SURREY

David James Warnaby
ELECTED 1989, WEST
MIDLANDS

Harry Charles Fallek
ELECTED 1953, ESSEX

To inform the RIBA of the death of a member, please email membership.services@riba.org with details of next of kin

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*Entry to The Architects Underground is free to RIBA members and all students
For non-members, tickets are available to purchase online*



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RIBA Spanning Suburbia



Suburbia for the 21st century

RIBA Journal, in conjunction with industry-leading manufacturer IG Lintels, challenged readers to rethink suburbia with a design for a home that meets the needs of contemporary suburban occupants, offering a cash prize of £2,000 for the winner and £500 for each of the three commended entries

‘Suburbs must change,’ begins our winning entrant in his introductory text. ‘But they cannot lose their sense of the wild.’ This statement encapsulates the shifting nature of suburban identity. It is a liminal zone between town and countryside, overlooked in more ways than one, where life is a constant negotiation between privacy and exhibitionism, convenience and compromise, conformity and self-expression.

Many notable architects, from Edwin Lutyens to Frank Lloyd Wright via Eric Lyons, Robert Venturi and Denise Scott Brown, have ventured into suburbia at some point in their careers, finding ample space there to explore and question what makes for suburban living and a good suburban home.

In conjunction with industry-leading manufacturer IG Lintels, RIBA Journal asked architects to follow in these illustrious footsteps with a competition, Spanning Suburbia. The brief was to rethink suburban living by designing a domestic house to meet the needs and aspirations of a new generation of suburban family.

Literally and metaphorically supporting these ideas must be the lintels themselves. We stipulated that the main construction material should be traditional brick or block, and the main structural support should be the steel lintel. Each entry had to incorporate at least three of a range of lintel features – such as the gothic arch, feature brick-slip lintel, corner lintel or bull’s-eye lintel (a full list is available on IG Lintels’ website) – all key products specified in well-designed residential homes.

The judging panel was made up of IG Lintels managing director Derrick McFarland; Taro Tsuruta of Tsuruta Architects, designer of the award-winning



Above A vaulted arched ceiling in the central living space of David Parsons’ commended Villa ME!

Produced by
the RIBA Journal
in association with
IG Lintels

Supplement editor **Michèle Woodger**
Design **Richard Krzyzak**
Sub editor **Gail Novelle**
Cover image
Suburban Loft by **Andrew Drummond**

House of Trace; Sandra Youkhana, co-founder of You+Pea; Gillian Horn, partner at Penoyre and Prasad; and RIBA Journal senior editor Jan-Carlos Kucharek, who led the discussions.

The judging involved an informative exchange of ideas, centred around a shortlist of 25 entries, approached from the diverse viewpoints of manufacturer, specifier, designer and critic. It was a jovial morning, with plenty of good-natured repartee. ‘Do you think that they’re using as many lintels as they can in order to impress us?’ mused Youkhana, considering one of the more outré examples. ‘Well if people take one look at it and say “that’s crazy”, but it gets them talking, then that’s not a bad thing,’ quipped McFarland. This is about shaking up suburban sleepiness, after all.

These entertaining diversions didn’t detract from the seriousness with which the panel considered the entries. The

judges were impressed by the range and ingenuity of the responses, which addressed a variety of timely issues. There was one winner, three highly commended and four further entries that were felt to deserve special mentions. The winning design, Tom Atkinson's Villa Trio, proposed a sophisticated and well-researched answer to the problems of densification and expressing individuality with a restricted palette. Michael Trentham and Leftos Dousis' special mention, A Piece of England to Call One's Own, tackled head-on the issue of low-quality cookie-cutter housing-development homes. Some, such as Andrew Drummond's highly commended Suburban Loft, proposed new typologies for aspirational modern living for homeowners used to a bohemian urban lifestyle. Other designs, such as Dave Parsons' highly commended Villa ME!, questioned how individuals live and interact in an intergenerational suburban home, exploring notions of privacy and selfhood through adaptable room layouts and modular living spaces. Influences – from punk to Palladio – were equally varied and fascinating.

The judges sought a winning design that was energy efficient, highly creative in its employment of a wide range of IG Lintel features, joyfully expressed the needs or aspirations of its occupants in novel, thought-provoking ways, and, importantly, were able to answer sensitively – in Taro Tsuruta's words – 'why have they made the decisions they have?' The competition stipulated that all longlisted entries must 'embody the utility, contingency and personality exhibited in the best suburban home design'. The selection did not disappoint, confirming the words of Renzo Piano: 'There is a kind of beauty in the suburbs.'

Judges



Jan-Carlos Kucharek, senior editor, RIBA Journal



Gillian Horn, partner, Penoyre & Prasad



Taro Tsuruta of Tsuruta Architects



Sandra Youkhana, co-founder, You+Pea

Housebuilders, take note



The Vanna Venturi house by Robert Venturi, 1962-64, helped redefine suburbia

We are delighted with the response to our challenge to 'rethink suburbia' and the many interesting interpretations of what suburban living might look like through the eyes of an architect.

It may be true that in the race to solve the housing crisis and build as many homes as possible, stylistic concerns have been forgotten. It may also be true that unavoidable densification and a chronic skills shortage mean it is easier (and more profitable) to build 'boxes'.

We believe the suburbs deserve more than that. On closer inspection, suburbia is home to a rich architectural heritage that deserves our attention and respect. We set this challenging competition because we strongly believe interest and variety can be brought to suburban projects without adding cost or delays.

Through our involvement in the judging panel, we really started to understand the diversity of suburbia, from stunning architectural schemes to traditional projects, and from single houses to scalable designs. The ambition and imagination of some of the entrants created an enthusiastic debate among the judges, and while a worthy winner was agreed on, others were rightly highly commended.

We were impressed by the fact that the eventual winner gave careful thought to the whole of the suburb and how the design might be built at scale. While individual and creative, the design has an air of humility and it's easy to see it as part of an interesting scheme by a large housebuilder.

Modern technology means there is no need to build suburban houses that all look the same. Architects can design unique homes to truly inspire their occupants, while staying within realistic, scalable parameters. Certainly if the nation's housebuilders were to embrace some of the designs submitted to this competition, it would be enough to make homeowners fall in love with suburbia again.



Derrick McFarland is managing director of IG Lintels

Winner Villa Trio: A Semi-Detached House for Chingford

Tom Atkinson



Tom Atkinson introduces his winning entry by pointing out that suburbia is changing. As such, his winning design, Villa Trio, is designed to be adaptable enough to keep pace with a changing suburbia.

The design is in fact a pair of semidetached homes intended for a narrow plot in 'bucolic' Chingford. Structurally and conceptually, Villa Trio rests on the prominent use of arched lintels: the home's defining feature is a repeatable arched base which accommodates mixed uses at street level. Garage, garden-centred living area or annexe flat – the design foresees changing needs with time. The uniquely envisaged ground floor, with customisations made feasible through the use of standardised lintel additions, is inspired by densely populated rural French towns, where courses of arches surrounding medieval town squares enable a range of commercial, public and private uses and offer protection from the weather. The arches create both

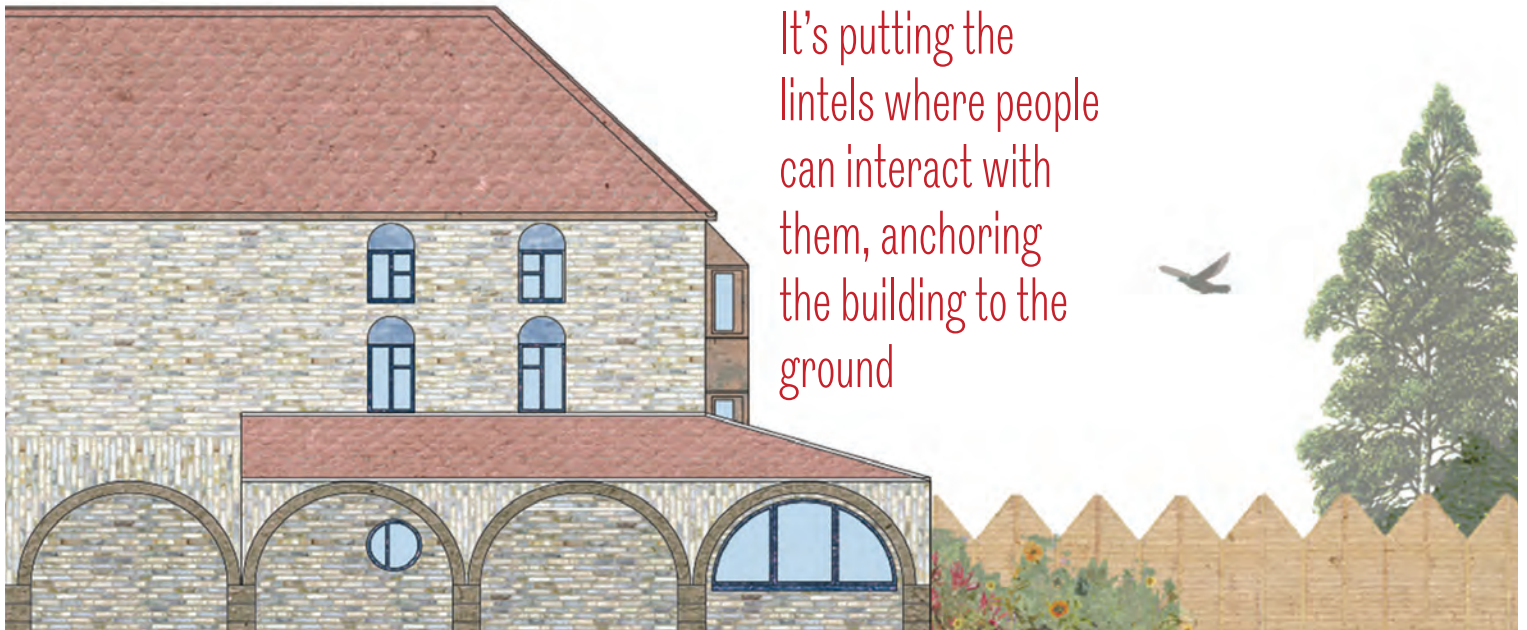
distance and coherence between the living areas and street, levitating the building yet mooring it down. 'It's putting the lintels where people can interact with them, anchoring the building to the ground,' said Youkhana. McFarland agreed: 'Atkinson's found the product that works, and he's made it repeatable.'

What the judges found 'really unique' and 'impressive' was the well-researched approach, combining historic references with an active and clear effort to engage with the wider issues of suburban housing development today. Referencing Ebenezer Howard's Garden City Movement, Atkinson's design envisages a new type of suburb, one which allows homeowners more flexibility and choices depending on lifestyle, but which is also diverse and dense. Villa Trio's footprint is deliberately small, with dimensions based on 19th century London workers' terraces, so space is gained vertically with double-height ceilings open

to the eaves. 'A new Suburban Villa must be adaptable, it must be grand and it must also be compact,' explained Atkinson. 'Villa Trio enables different sized houses to sit next to each other creating varied tenure possibilities...a repeatable array of layouts for housing developments is an attempt to counter suburban sprawl.'

'There's a good analysis of existing building typologies and an attempt to rework those into something new,' said Kucharek. Tsuruta agreed: 'He's found a practical application, a means of introducing variation, and envisaged the design as part of a masterplan. He's one of the only entrants to have done that.'

Bordering on postmodern, with its appropriation of medieval tropes and grandiose features such as a mansion-style staircase, this was an 'ambitious' approach to the challenges set by the competition; a 'really lovely' design which admirably 'looks beyond the site itself.'



It's putting the lintels where people can interact with them, anchoring the building to the ground

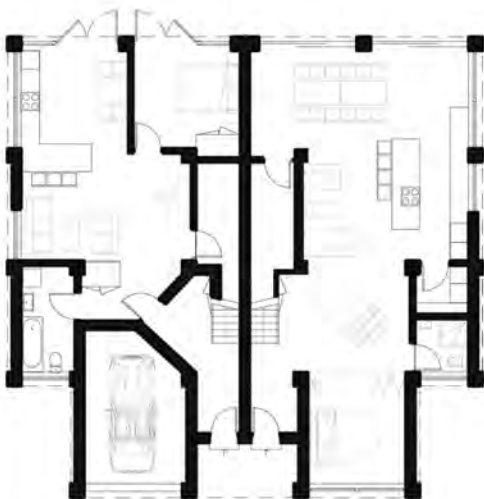
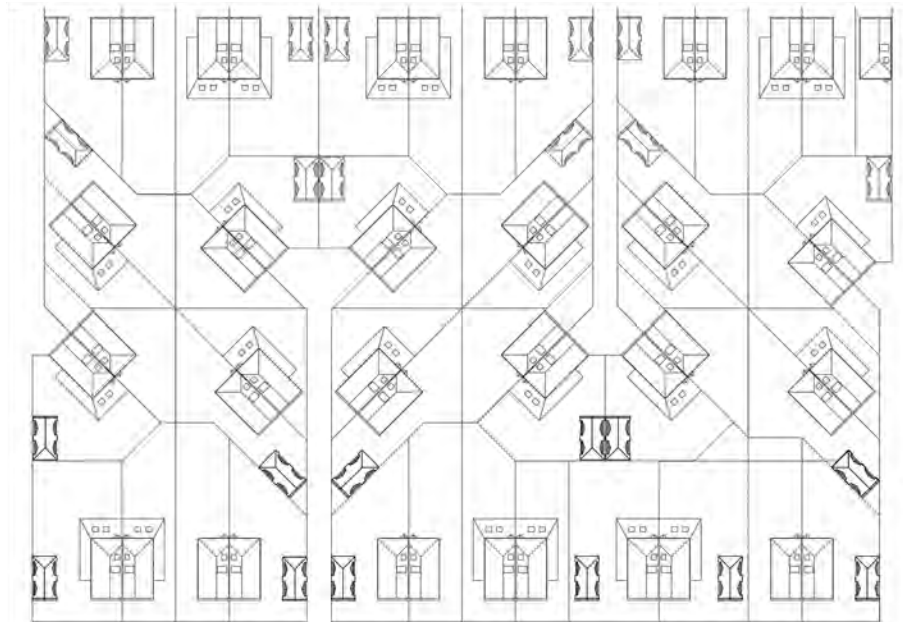
Left 'Suburbs must not lose their sense of the wild,' writes Atkinson.

Above A repeatable arched base at street level is inspired by medieval buildings in French town squares.

Right Villa Trio's design is envisaged as part of a wider suburban masterplan.

Below Ground floor plan of an annexe flat adaptation, including a bedroom, bathroom, reception rooms and a garage.

Below right Front and rear elevations showing different fenestration options and an optional garden stair, giving separate access from storeys above the annexe.



Commended Suburban Loft, Surbiton

Andrew Drummond

‘This one really makes a statement,’ said McFarland. ‘It’s dramatic, you just think – wow.’ In a 21st century update to The Good Life, ‘Thom’, ‘Margo’ and kids are swapping Shoreditch for Surbiton where he can ditch the motorbike for a BMW and she can plant vegetables.

Drummond’s design appropriates and updates familiar tropes of suburban architecture: traditional red brickwork and detailing; asymmetrical composition and massing; an oversized full arch entrance and feature bull’s-eye windows. Even the suburban mock-Tudor aesthetic has been acknowledged and upgraded to a more up-to-the-minute look by exposing the black steel frame structure. This design assumes that a new generation of ex-city-living professionals favour the aesthetic of the urban industrial warehouse conversions they left behind.

‘Suburban Loft is certainly designed to accommodate a polished lifestyle,’ observed Horn. The designs fully cater to the aspirational nature of detached suburban homes. Sun-lounge lintels facilitate multiple light-filled interior spaces, balconies and a courtyard garden. A self-contained bedroom/study wing can either be ‘rented on AirBnB, or as a nanny/manny/granny apartment’, states the description. This is a house for millennials who have come of age. The master bedroom leads directly into a pool – ‘Just like my one at home!’ quipped one of the judges – ‘open sliding doors and dive in, or dangle your feet in the cooling waters’. With its large, airy spaces, its conscious effort to maximise the use of, and prominently showcase, IG Lintels to best advantage, and its acknowledged intent to deliver suburban luxury, this was a smart and impressive response to the competition brief.



Above Segmented arches, bull’s-eye windows, sun-lounge lintels and steel frames combine to give an industrial aesthetic.

Left Gone are mock-Tudor beams, replaced by an exposed steel structure.

Below Suburban Loft plays up to homeowners’ aspirations for a polished lifestyle.



Sun-lounge
lintels
facilitate
multiple
light-filled
interior
spaces

Commended Villa ME!

David Parsons



'I like this one because it's just so mad,' said Kucharek. Villa ME!, intended for unsuspecting, leafy Chislehurst, generated the most conversation between the judges. Parson's concept is to balance the shared social needs of a 21st century family with individual needs for privacy and personal space.

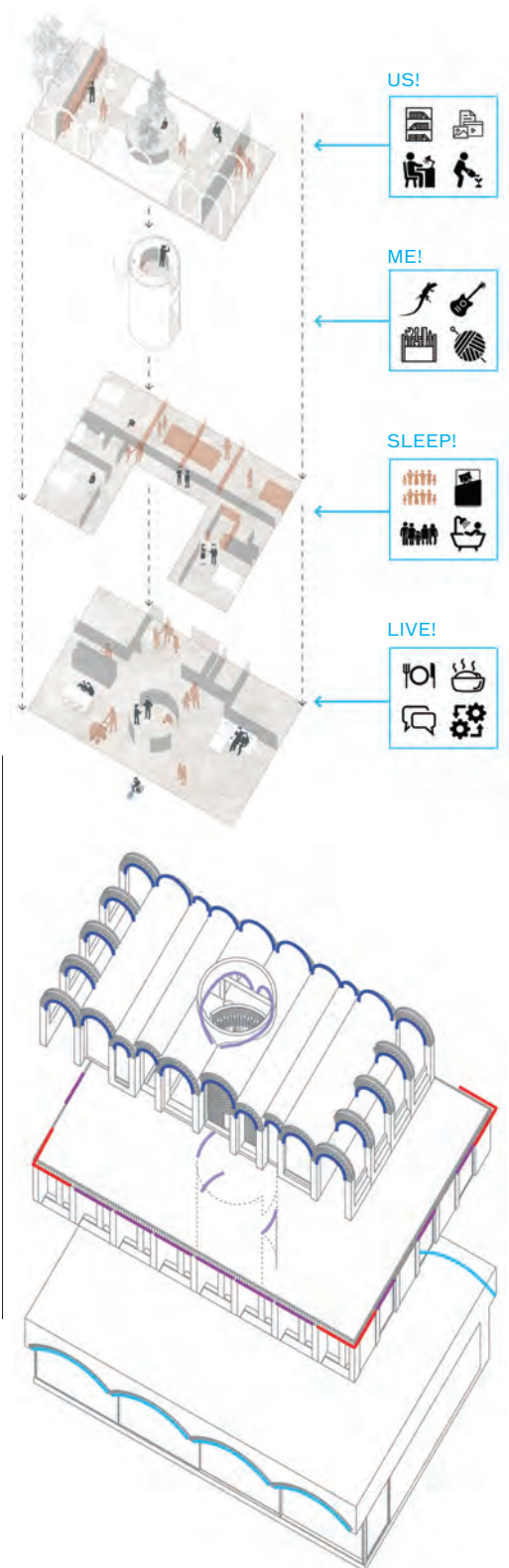
Based on a courtyard villa, its rooms are organised around a shared central area topped with a roof garden. This open space cuts through three levels, in which rooms graduate from public to semi-private to private. So far so good, but the judges were divided. Horn was nonplussed by the 'confusing' interior. Tsuruta pointed out that bedrooms divided by moveable partitions are hardly ideal for privacy

in an intergenerational house. But the 'unconventional' appearance – embracing the use of five different lintels (arch, segmental, bow, standard and corner) with gusto – was an even bigger talking point. 'Arches are very in at the moment,' Tsuruta began, before trailing off '...but it's kind of scary'. 'It is very excessive,' Horn agreed. 'It's like Basil Spence's University of Sussex meets MVRDV's 2000 Dutch Pavilion,' said Kucharek. Ultimately the judges agreed that this joyfully over-the-top stacking of lintels was 'exploratory', 'fun' and 'distinctive' – a celebration of excess that eventually worked in Villa ME!'s favour. 'It's a good example of an investigation into what's possible with the materials,' said Youkhana. 'It's encouraging to see something that's a little bit wacky.'

Above The exuberant vertical stacking of lintels resembles an expo pavilion.

Above right Rooms graduate from public to private in an exploration of privacy in a shared family home.

Right The design makes use of five different lintel types: full arch, bow, standard, corner and segmental.



Commended Dovecote House

Kenneth Fraser

Fraser's design impressed the judges for the unique and striking way it reinterprets Palladian principles and vernacular styles. 'I feel it deserves commendation because it's the one which works the most with the suburban typology. It's bringing variety,' said Tsuruta. Fraser draws on Rykwert's book *On Adam's House in Paradise*, which charts the typology of the four-square freestanding house: Dovecote House has four similar facades, arranged with an entrance facing the principal approach, and grander rooms facing the landscape.

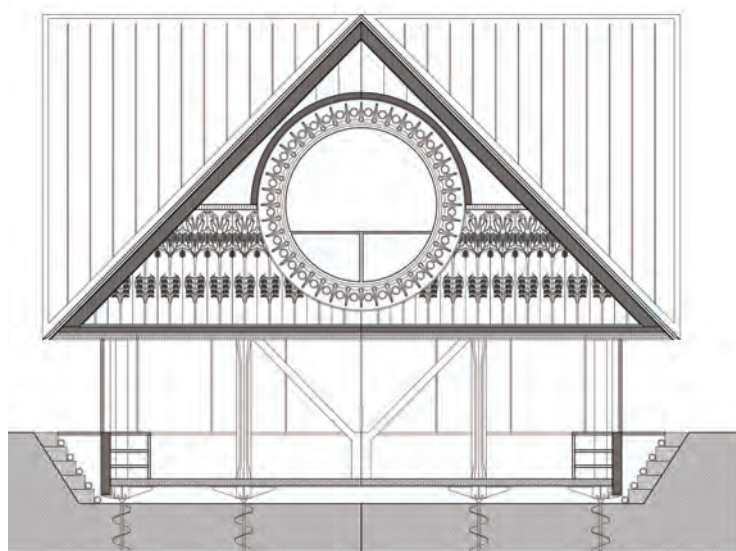
The proportion and form of the house is recognisable yet surprising: the exterior exaggerates typical elements of the familiar code, such as overhanging eaves and picture windows. Each of the four gables are treated with subtle differences, with varying patterns and depths of incision on the pargetting; Kucharek felt that it was 'really pushing the envelope'. An unfortunate drawback, however, was a lack of emphasis on feature lintels within the aesthetic; they are obscured within the gable ends, and the supporting images render their function unclear. Yet the judges agreed that this was a well-considered, original and 'standout' entry.



Above Axonometric indicating positioning of lintels within the structure.

Top The entrance faces the principal approach to the house; each facade has a feature window.

Right Each of the four gables are treated with subtle differences.



Special mention



Above A vaulted ceiling and a grand frontage reinforce the stable/coach-house typology.

Carlos Gris, Villa EQ

‘I rather like this one,’ said Kucharek. ‘It’s very simple. There’s quite a lot of elegance to it.’ Villa EQ is a modern reinterpretation of the stable/coach-house typology. The judges praised the way it combines traditional and modern elements in a bold and evocative way. A large postmodern window allows for expansive views over the surrounding area, framed by the arch of a grand frontage.

The roof, a course of arched lintels, integrates the brick materiality into the open-plan interior, while reinforcing the equestrian farm-building typology of the neighbourhood. Youkhana praised the hierarchy of different spaces: ‘I think it uses the changing scale of the lintels to try and draw you in,’ she said. It’s a ‘simple design which achieves complex ideas’.

Special mention



Michael Trentham and Leftos Dousis, A Piece of England to Call One's Own

Deceptively ordinary at first glance, Trentham and Dousis' designs aim to raise the standard of housing development homes, maximising the potential for replicability and allowing for customisation through standardised lintel 'bolt-ons'. Combining historical character with modern comfort, different lintels (Roman, full arch, or gothic) allow for alternative styles, while a choice of bricks (red brick, flint or Sussex stone) suits local contexts. These homes are not intended to be standalone – only when seen collectively do they acquire a certain 'presence'. 'They remind me of a row of 19th century gothic alms-houses,' observed Kucharek. 'I find them rather charming.' McFarland agreed. 'If all regional housing developers designed homes of this quality, we'd all be happy.'

Above An affordable, customisable, pattern-book suburban villa in different sizes, finishes and styles suits a range of aspirations and budgets.

Fahad Malik, The Millennial Villa

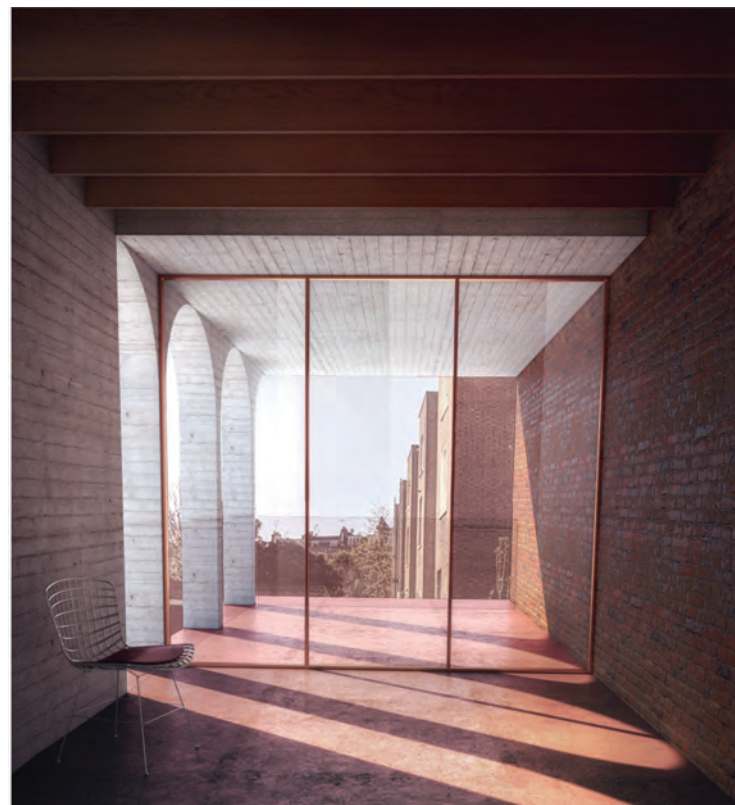
This entry was a deliberate subversion of the competition requirements, opting to answer this question instead: 'can the typology of an affluent suburban villa be developed for contemporary urban living?' The site is suburbia in reverse, a Victorian Ladbroke Grove estate that has now been subsumed into the city. Tsuruta found it 'aesthetically satisfying'. 'It reminds me of a modern-day Villa Rotonda.'

In keeping with the practice of portioning up Victorian houses into flats, the Millennial Villa is divided into eight self-contained units offering apartment living appealing to a younger generation. The design makes use of arched lintels to create deep terraces, resulting in a stark interior lighting effect which indirectly privatises the spaces. 'I don't think we should rule out gloomth,' Kucharek pointed out. 'The considered way that light enters the building is just as important as having lots of it.'





Deep terraces create a stark interior lighting effect which privatises the spaces.



IG Lintels brick slip soffit solution around the perimeter edge enabled a floating upper storey.

Steven Clarke, Floating Brick Monolith

Floating Brick Monolith is a live project at Chesham Bois, Buckinghamshire. Clarke impressed the judges for his design's honest approach: 'So often brick buildings are designed to look like they are loadbearing brick, when they are not' he writes. 'We were keen to demonstrate that in order to elevate the brick, lintels had to be used.'

The design is reliant on IG Lintels' brick slip soffit solution around the perimeter edge, to create the floating detail. 'It's an innovative use of a product which is generally employed in high-rise commercial settings but rarely in residential projects,' explained McFarland.

The judges praised the design for its use of locally sourced materials (Chiltern brick, clay tile and timber) as well as its environmental approach: it is naturally ventilated, with brick fins on the south east elevation for solar protection, photovoltaics/solar panels and a ground source heat pump. McFarland said: 'They've done their research and used the lintel in an unconventional way to find a practical solution to a problem, which is to be commended.'



Brick Slip
Feature Lintels

INDULGE IN DETAIL

The Optimum Solution to Complex Brick Detailing



One piece, prefabricated units
delivered complete with bricks
bonded for final pointing

Exchange

Climate plan

The news that RIBA Council has had the courage to join the global declaration of a climate emergency and to develop an action plan towards a net zero carbon environment is welcome indeed (RIBA Journal August 2019 p49).

It is crucial now that the focus is on the development of the action plan in detail. Reducing energy in use by two thirds within 10 years will require a high level of collaboration with government (national and local), the construction industry, and the professions. The action plan should include:

- Engagement with government to identify strategies to improve performance of key sectors: housing, public and commercial buildings.
- Public and private sector investment in training for both the construction workforce and design professionals.
- Improvements to standards and the building regs. These will be worthless unless adequate testing and performance assessment are built into the process.
- Recognition that radical solutions may be necessary.
- Design stage performance analysis combined with construction stage checks and post occupancy evaluation.
- Learning from the recent past – we must avoid repeating simple mistakes identified in excellent post occupancy building performance studies.
- Engaging with client groups, local authorities, community energy groups and citizens assemblies to identify their priorities.

This will be an extremely challenging task, but one of huge importance to the profession and society at large.

Brian Ford, emeritus professor
University of Nottingham



Cover star

Re August issue:
by far the best
cover yet, excellent
step change.
Entertaining,
colourful, eye-
catching.

Andrew Kenyon,
by email

We welcome letters but retain
the right to edit them:
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It's a wrap

Thank you for the latest issue of your journal which arrived today. As I unwrapped the plastic I thought of one of my other subscriptions – the National Trust Magazine. For the past year they have sent their publication wrapped in a product made from potato starch. As such, it is fully home compostable. Could a similar initiative be pursued by the RIBA J?

Ed Houlton, Stride Treglown, Plymouth

Editor: Yes! This issue of the RIBA J comes in just such a potato-starch compostable wrapper, as will future issues. As indicated on the wrapper it is important that readers do NOT put this in the recycling bin – garden compost and the food waste bin are fine, failing those general (non recyclable) waste. The wrappers will biodegrade.

Earn and learn

Having reached the age of 80 I am buoyed by the resurgence of apprenticeships ('Earn as You Learn', RIBA J July 2019), which is how I became qualified in 1963, having spent seven years on one day release at the Manchester Regional College of Art and three nights at the Manchester Technical College every week. The courses in those days required students to sit the RIBA external examinations in Manchester and to attend professional practice examinations at 66 Portland Place in London.

Working four days each week, I became immersed not only in study, but learning in detail how buildings are put together, how contracts work and the interaction between employers, site agents, tradesmen and materials.

In other words, upon qualification at intermediate and final examination stages, I was a well-rounded confident individual, with a good grounding formed from hands-on experience – qualities which many post graduates do not possess.

I have never understood why the 'day release' route of architectural education and qualification was abandoned and am very pleased to see its resurgence once more, through the 12 universities listed.

Long may it continue.

Peter Bowker, Mevagissey, Cornwall

We must avoid repeating simple mistakes identified in excellent post occupancy building performance studies

Something to get off your
chest? Write to us:
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Parliament Hill Fields Lido London, 1938

The interwar interest in health, exercise and fresh air made outdoor swimming an increasingly popular British pastime, especially in London which boasted 60 open air pools by the outbreak of the Second World War. The London County Council did more than any other local authority to encourage such pools, with its chairman declaring in 1937 the intention of turning London into 'a city of lidos'.

The LCC also coined the term lido, believing it would be 'enriching the English language by a word which may, in time, seem as much at home as earlier Italian introductions, such as concertina, ditto, broccoli ...'

Designed in 1938 by Harry Rowbotham and TL Smithson, Parliament Hill Fields is one of only four LCC lidos still in operation. It was the most expensive built by the council, prompting the Mayor of St Pancras to marvel at this 'aquatic generosity'. It was refurbished in 2005 with a new stainless steel tank and an improved filtration system. ●

Justine Sambrook

Into the Blue: the origin and revival of pools, swimming baths and lidos is a free display in the V&A + RIBA Architecture Display Gallery, Room 128a, Victoria & Albert Museum, London until 19 April 2020

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RIBA Journal
ribajournal.com
Published by RIBA
1834 Ltd
Registered office:
66 Portland Place,
London W1B 1AD

Reprographics by
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Printed by Warners
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Architectural Acoustic Finishes

Designed by architects Dexter Moren Associates, the five star Hilton London Bankside near Tate Modern & The Shard, represents the next generation of design-led Hilton Hotels.

SonaSpray fc was used throughout the magnificent underground ballroom for it's medium texture, speed of installation, superb acoustic performance & unrivaled environmental credentials.

Photo by Jack Hardy Photography



OSCAR
acoustics



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