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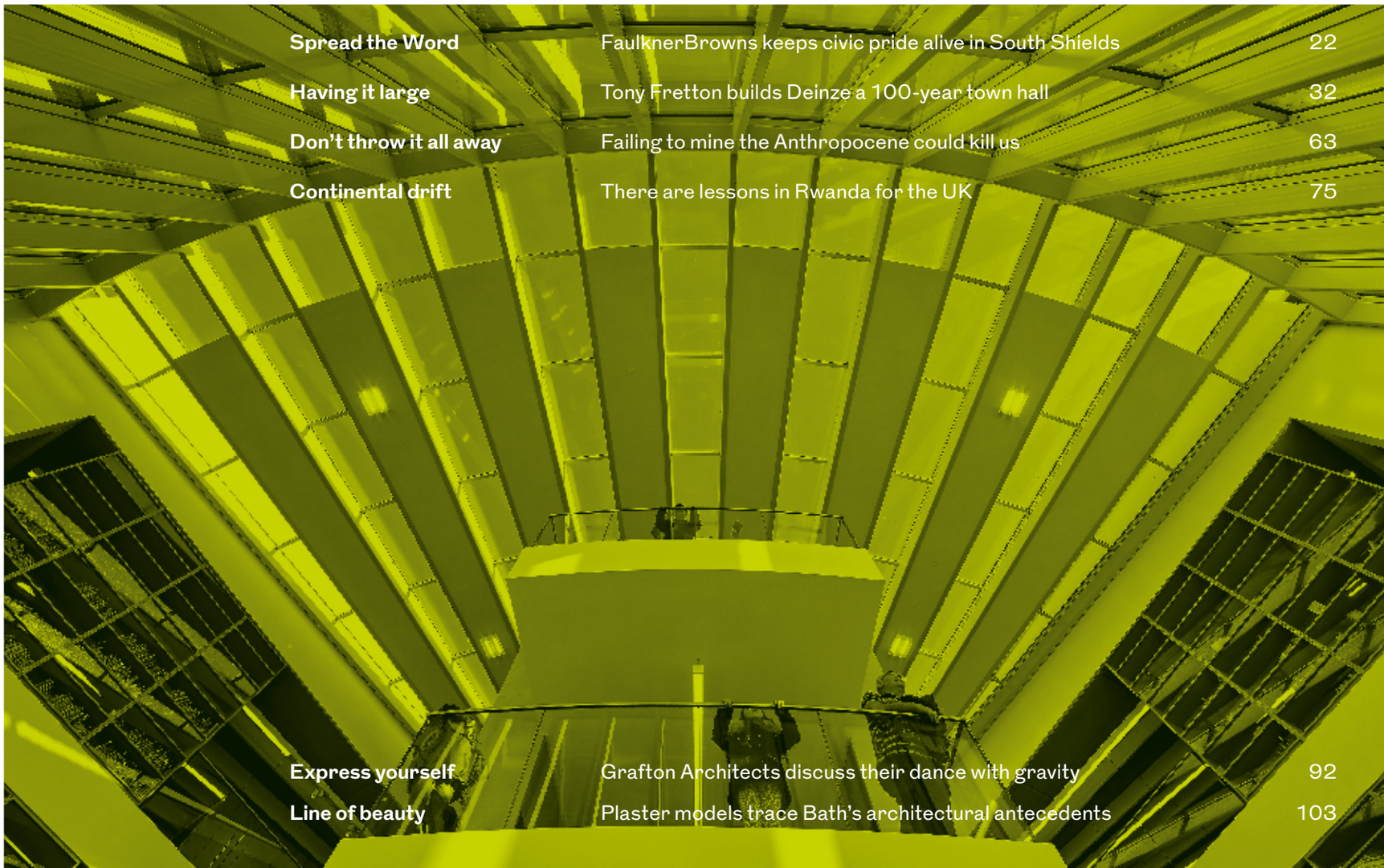

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Tennis on Tour with Judy Murray and Sport Court® PowerGame®

Grabbing the imagination of our children at an early age is crucial if we are to inspire them to achieve in either the arts, science or sports. The tennis world has sometimes been criticised for not making the sport available to children from all backgrounds. It's a situation that Andy Murray's mother, Judy Murray is keen to change. After all, Andy and Jamie Murray (both Wimbledon Champions) would be the first to tell you of their mother's encouragement and coaching at a very early age.

Any sport is all about access to the facilities and equipment enabling children to quite frankly 'have a go'. With this mantra firmly fixed as a route towards facilitating this initiative, Judy Murray decided that she wanted to actively do something about tennis at the grass root level in Scotland. 'Tennis on the Road' was about to be born, taking to the high roads and low roads around Scotland and bringing tennis to a whole new generation of kids. It would be an ambitious programme that would need the very best surface for the coaches and children to play on and one that could be assembled and disassembled easily as the 'tour' progressed through Scotland. The surface choice would be Sport Court® PowerGame® which is a Gerflor owned company.

Spearheaded by Judy Murray, and supported by the Lawn Tennis Association (LTA), the programme is about building a workforce across Scotland in order to give more adults and kids the chance to play and enjoy tennis. Featuring engaging and creative activities, 'Tennis on the Road' is tailored to appeal to parents, teachers, volunteers, students and sports developments teams. The programme focusses on how to deliver simple fun sessions with much of the content based on the types of games that Andy and Jamie Murray loved to play when they were children. 'Tennis on the Road' launched in October 2014 and has since delivered 27 roadshows and trained some 3,500 of a 'workforce'. At the heart of the programme are the games Judy Murray enjoyed with Jamie and

Andy when they were little. Judy and her coaching team will aim to give parents, coaches, teachers and volunteers the tools needed to get kids active and to help further kick-start and develop tennis in Scotland.

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At Saracen Primary School in the Possilpark area of Glasgow, 'Wimbledon' descended upon the school on Thursday 23rd June as this 'training tour' arrived just before the most illustrious tennis championships in the world got underway. They would benefit from playing on 11.4m x 6m of Sport Court® PowerGame® outdoor tiles in 'Evergreen and 'Purple', which is of course is a perfect match to the Wimbledon colours.

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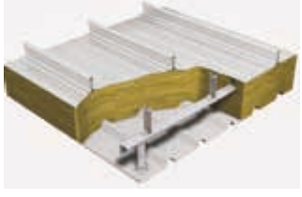

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1: Buildings

Why do we need to square the circle? The knights of the round table, fairy circles in a forest clearing, a group gathered round a camp fire, charred potatoes hotly split open, flames flickering, voices raised in song; there is something mystical, powerful (and equitable) about the intentional circle. You see it in landmark libraries. Oxford's Radcliffe Camera, Aalto's Stockholm, Manchester Central Library and now in South Shields (p22) – they bring the experiential power of being encompassed by knowledge, yet grounded in the centre. Building at scale, with cladding components delivered in large flat sheets, circles look like an indulgence. We are in the land of the compass versus the set square. Hold on, we are in 2017 with BIM, parametricism and all that. Perhaps we could use them to flatten the curves of wilfully complex forms and go back to the circle. ●

ONLY ON RIBAJ.COM

This is a quick way of construction that avoids many complications on party walls and temporary works

Eleanor Young uncovers the structural gymnastics of a new Maison de Verre: ribaj.com/buildings/eglon-house

FaulknerBrowns' The Word in South Shields, page 22.

HUFTON + CROW

The Crow's Nest, Dorset
AR Design Studio
Words Hugh Pearman
Photographs Martin Gardner

Take the basic form of a long, low house. Imagine it has been broken into pieces by the ground shifting. Take the pieces and reassemble them to make a different kind of house, visibly containing the memory of having been broken. This is The Crow's Nest, by Winchester-based architect AR Design Studio. It might seem just a whiffly architectural conceit but in a way this was what really happened. There was a house here that broke, just not this one. This house remembers the one that did, while simultaneously taking precautions against it happening again.

It turns out that coastal houses can be in danger even if they are not teetering on a cliff edge. Here on Dorset's Jurassic Coast near Lyme Regis, a long area of coastline is a landslip zone where cracks have an alarming habit of opening up in the ground some distance from the sea. At first the architects' commission was an extension to an existing holiday home for a young family with two children and a dog. But this was still at the planning stage when the home in question broke its back one night as the earth fractured beneath it. That was during the torrential rains of January and February 2014.

The architects – project architect Christopher Terry and partner Andy Ramus – found themselves with a new brief: build a new house instead. On the same site. And, obviously, make it strong. The appearance of fracture is therefore deceptive, as this little

There was a house here that broke. This new one remembers the one that did, while simultaneously taking precautions against it happening again

Below Idyllic, eh — but the pastoral scene conceals shifting ground remembered in the form of the house.

AR STUDIO (2)

Above The old house broke its back when the earth moved...

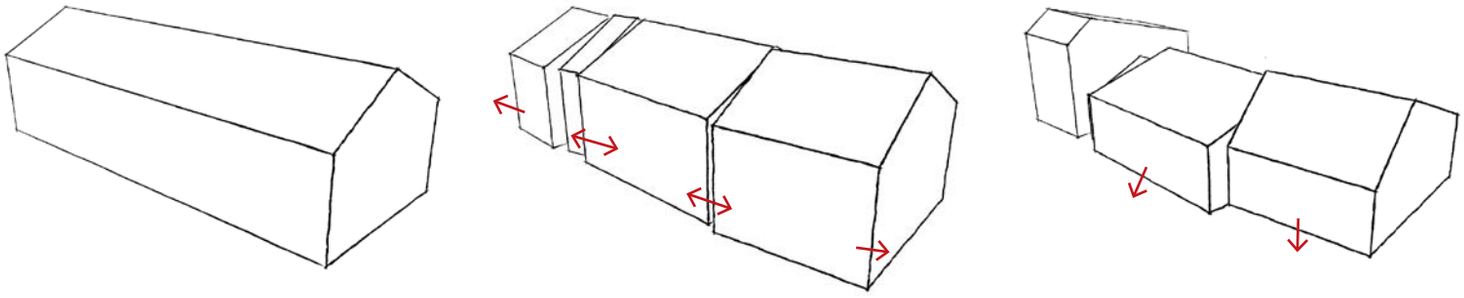
Left ...because the land slid like this.

Below The timber pod forms sit on an anti-seismic raft concealed in the grass plinth.

house with its central living/dining area and bedroom/bathroom blocks to each side is also an engineering solution to future structural failure, the engineer being Eckersley O'Callaghan. The architect describes it thus: 'A concrete slab was built into the ground, a series of strategically placed dwarf walls were then built on top of it. A floating structural frame was then laid on top of the walls to act as an adjustable raft in case of future movement. Beneath the frame, there are specific places for mechanical jacks to be positioned so the house can be securely re-levelled.'

So a new 'ground' has been made which is designed to be able to move, with the house constructed above that as a series of four linked, adjustable larch-clad timber-frame pods – with the odd steel beam where needed. This is a permanent building that borrows

How the 'broken' form evolved



Above A holiday home with verandah.

Left The central living area looks out to sea while firmly resisting sliding into it.

This is a permanent building that borrows ideas from temporary volumetric buildings

ideas from temporary volumetric buildings that require levelling on a firm base. The four pods consist of the entrance, main living space including kitchen, dining and living room (with panoramic views out over the sea via sliding glass and verandah); a two-storey 'tower' with family bedrooms and a single-storey guest wing to the east that can be closed off when not in use. All this sits with its back against a steep wooded slope.

From starting on site in December 2015 the house was completed exactly a year later. It is relatively modest but in its form it carries the expression of a trauma overcome. 'We hope it will last many generations to come – we're highly confident the engineering will work as expected and keep the house safe should any more land movement occur,' says the practice, and we hope it's not crossing its fingers. A clean break with the past, you might say. Nicely done, AR Design Studio.

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Madonna della Speranza church, Gallarate, Italy
Photograph Stefan Giftthaler
Words Jan-Carlos Kucharek

It might come as a surprise to the viewer to discover that the lady precariously launching herself into the void out of a steel and clear polycarbonate tube is in fact Our Lady of Hope at the church of the Madonna della Speranza in Gallarate, a dormitory town less than an hour from Milan. The hi-tech tunnel, which looks like a Pompidou Centre control sample, actually forms part of a curious external raised entrance sequence to an otherwise starkly brutalist 1978 design by architect Carlo Moretti; one jacked up dramatically off the ground via the 12 apostles, sculpted in dedicated relief on each of its concrete struts.

The church is one in a series of 40 captured by Milan-based Stefan Giftthaler, who decided to supplement the day job of fashion show and style magazine shoots with the more contemplative exercise of recording the city's modernist churches. Giftthaler tells me that Milan, in the country's industrial heartland, was widely bombed during the war, so there were a lot to choose from.

But even he was shocked when he first turned the corner to see this. 'The ramp up to the concrete box of the church was all white steel and grey rubber flooring,' he recalls, 'It looked like a set out of a Stanley Kubrick film.' But while the outside might be Clockwork Orange, the dark interior is more Eyes Wide Shut; a huge, blood red painted curtain beyond the altar viscerally screening the glazed east wall's sunlight from the eyes of its dwindling congregation. Given that dour context, the Madonna's break for freedom seems understandable; dashing along the catwalk, robes flowing wildly about her, ready to stage dive into the mist-softened car park of eternity. ●

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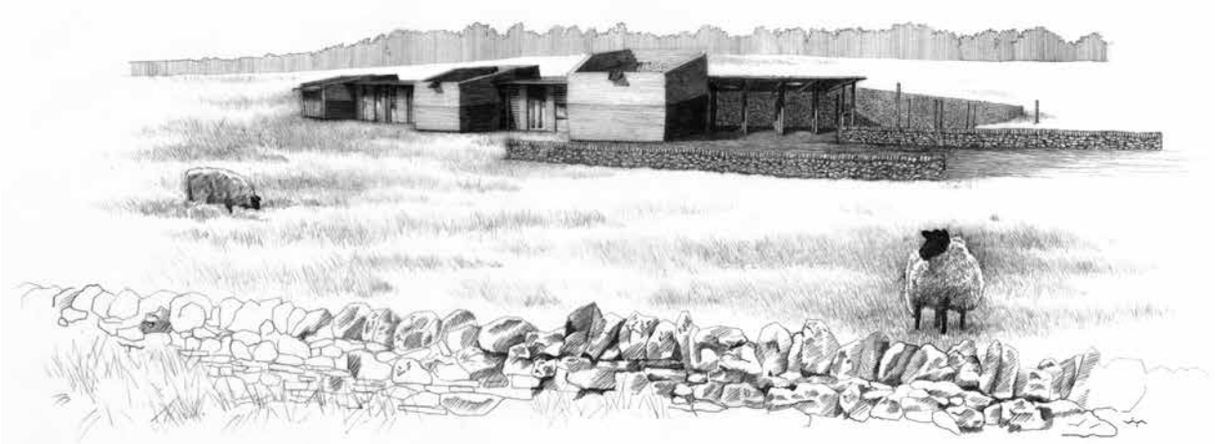
A song in its heart

The ballad of the music charity created by Annie Mawson and its new home adds a harmonious story to Sunbeams' collection of tales and tunes

Words: Eleanor Young Photographs: Simon Kennedy



Any story about Sunbeams music centre has to start with Annie Mawson. It is, after all, Annie Mawson's Sunbeams. She set up the charity for music therapy in the 90s, taking her harp out to disabled children, singing with them and using instruments to draw out the language and involvement that was sometimes hard to reach. To raise money she held concerts, using Cumbrian traditions and telling stories. The charity grew. Its new home, its first ever, is full of stories of the children who have used it and found themselves; and of the donors, trustees, musicians and subbies that built it who have been touched by those stories.

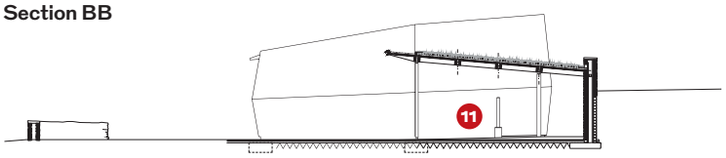
Sunbeams is also the story of young Newcastle practice Mawson Kerr, and particularly Will Mawson. He borrowed his aunt's charity for a thesis project, studying its needs and music therapy to come up with designs. His walls of thesis drawings caught Annie's

Above Pencil render.

Opposite A carefully calculated area of louvres are used to help layer the deep facade.

Below Arriving at Sunbeams, welcomed by Cumbrian slate and limestone.

Section BB



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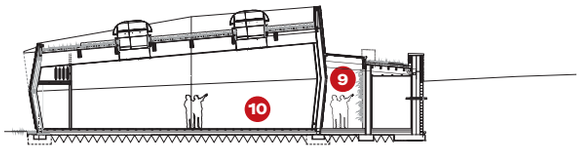

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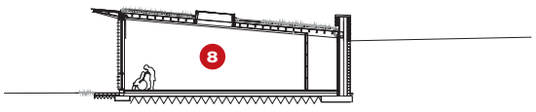

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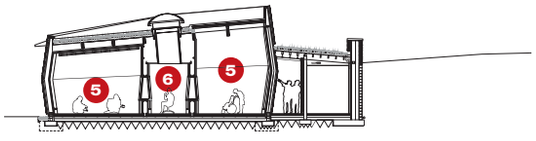

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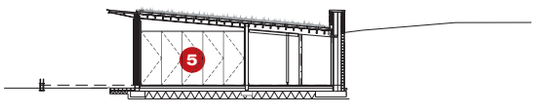

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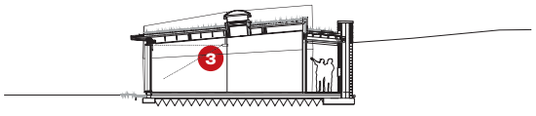


IN NUMBERS

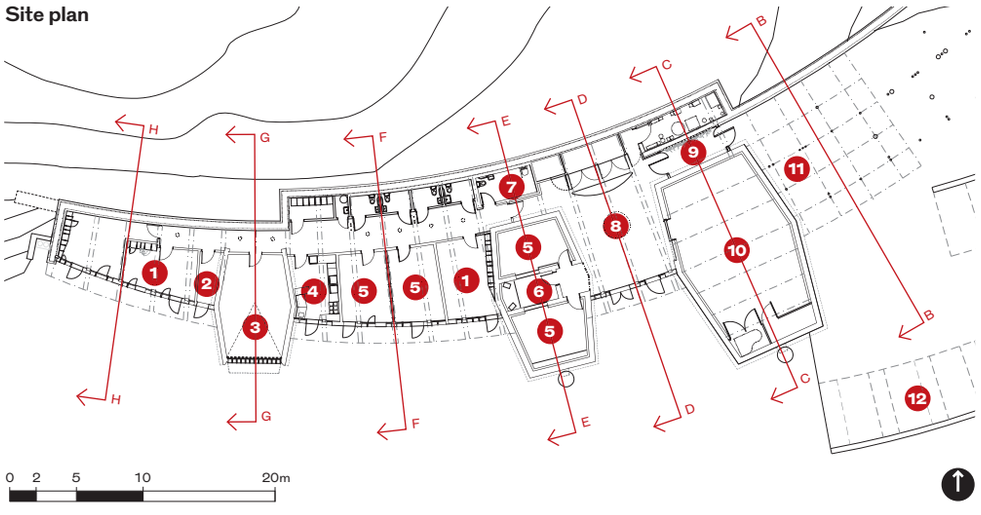
600m²
gross built area

£1.99 m
total project cost

£3,316
cost per m²

1 Office
2 Fire escape
3 Board room
4 Kitchen
5 Therapy room
6 Control room
7 Changing room
8 Foyer
9 Lobby
10 Hall
11 Porte-cochère
12 Parking

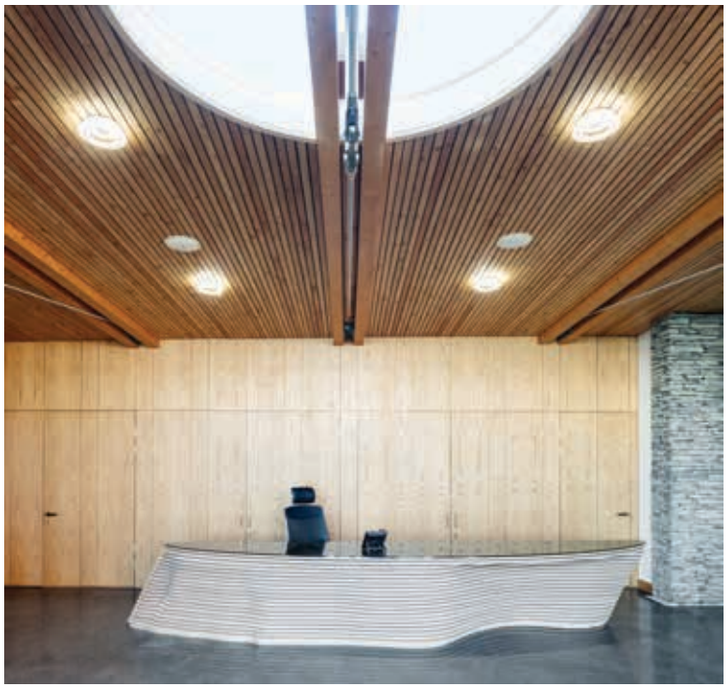
Site plan

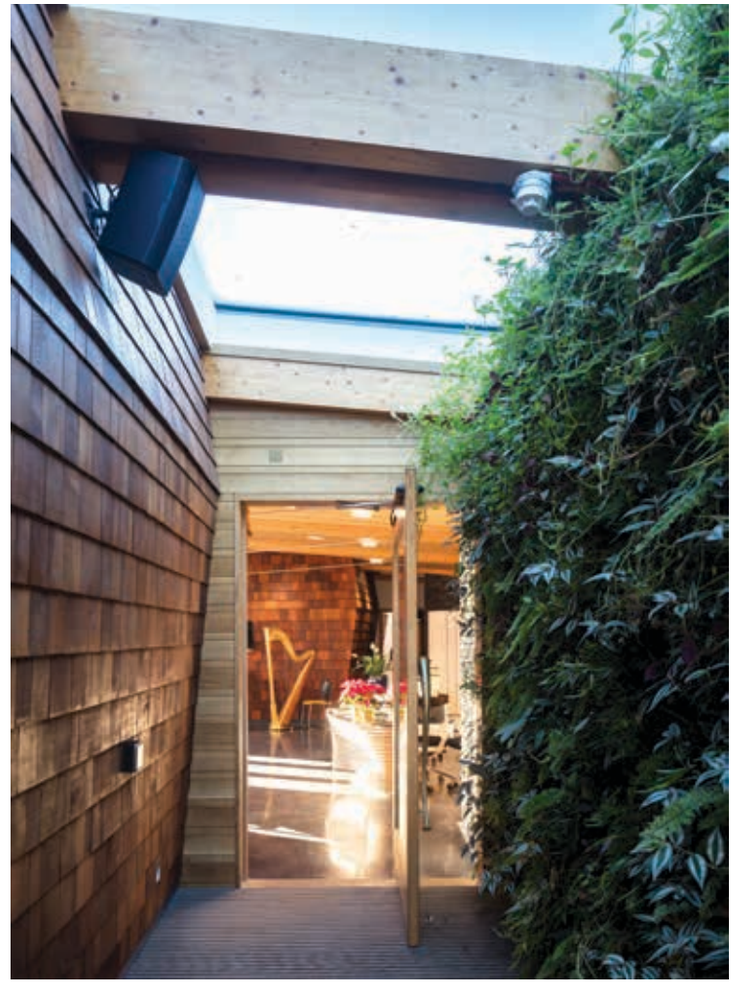


Music therapy room.

imagination and she set to work to realise them, where others would have seen an impossible task. First for just a shed, then something larger for the site; then, on a new green field by the edge of the A66 outside Penrith in Cumbria, a grand plan for a concert hall and therapy rooms. Her trustees nodded it through, perhaps thinking it would never get anywhere, but the land got donated and so too did the £2 million needed to build the core of this project. Will Mawson took the project into Napper Architects where he was then working, then out again as recession hit.

But I went to see Sunbeams not because of the stories but because of the architecture. So what have the two Mawsons and all their collaborators brought to life? The centre is dug into a gently sloping site against the busy A66 on one side and pushes out into the landscape on the other with facetted cedar volumes for the significant spaces of therapy rooms and concert hall. Shingles abound. The cedar shell drops rigorously down into the building with some surprising consequences – so the admin office has shingles on one wall and so does an escape route which becomes an unconventionally attractive space. A beautiful Cumbrian slate wall runs solidly through the length of the building, while above it a similar wall edges the green roof to give the sense of another, rougher, field amid the surrounding grass. The importance of natural materials was one of the





Above A grand rooflight bisected by glulam lights the depth of the foyer.

Right A planted wall makes a magical entrance.

things Will Mawson drew from his exploration of Rudolf Steiner inspired architecture.

The geometry of the building is unconventional, again the curves draw on Steiner thinking. But there is a lot going on. There are parallels with Gareth Hoskins' Robin House Hospice in Loch Lomond and the Trossachs National Park – in the situation, the timber and reaching out into the landscape. And Will Mawson has enjoyed a little structural play that enlivens the larger spaces. A composition of glulams and steel ties bisect a circular rooflight in the generous foyer; there's an almost musical play of columns on an equally generous canopy, which continue as harmonious sounding posts dotted around into the garden beyond. They're found again inside, lined up and doubled up Aalto-style. A verdant planted wall at the entrance between the two is unexpectedly magical for a draft lobby.

There was plenty of time to talk about the materials and ideas of the architecture as the design developed and funds were raised. But even as the builders broke ground Will Mawson was asking his aunt and fellow Sunbeams director Michael Lawson-Johnson if this was really what they wanted. With an idiosyncratic, passionate client (and fond aunt) to satisfy, this was not a project with a signed off brief – which left room for uncertainty. A few months on the charity is still delighted with its new space, views and the opportunities it brings. But it is clear that it will take time to grow into. The charity is busy, with over 50 projects – most of which will continue to be based in schools and homes. Even the regular programming of autistic children on Monday, Songs and Scones for Alzheimer's sufferers on Tues, etc, can leave the facility less than fully used. And quite how it is used also needs to settle. The free-flowing spaces seem perfect for Annie Mawson's very personal way of working but as the organisation grows, more separation between arriving groups and the admin areas may be needed.

Even as the builders broke ground, Will Mawson was asking his aunt and fellow Sunbeams director Michael Lawson-Johnson if this was really what they wanted

What is not lacking is space. The foyer lends an imposing sense of scale to the building. To one side is Glassical Hall (named for trustee Philip Glass); this can take an audience of 120 but also works for a smaller ring of children, parents and musicians – as I saw on my visit – or for dancers along the barres at the end. The suite of smaller rooms on the other side of the foyer creates more concentrated, intense spaces. The first is a sensory room of gentle lights and sounds. At the centre of the plan a high rooflight forms a vertical section that pulls you out of yourself, from the astroturfed floor up. Sandwiched in between is a recording studio – with some serious acoustic attenuation. It is one of the spaces that is already in demand for hire, which will be

PHILIP RIGBY

Left One user in a corridor of stories.

Right Sensory room

Credits
Architect MawsonKerr Architects
Client Sunbeams Music Trust
Main contractor Thomas Armstrong Construction
Structural engineer JS Engineering
Cost consultant Johnstons
Acoustic consultant DACS
Service engineer JH Partners

important to generating some extra revenue.

The form and details on Sunbeams music centre give away that this was a personal project with little value engineering. The protruding volumes may have morphed to rather more facetted shapes than the original eggs and there is no sense of excessive architectural indulgence, but the carry through on some elements (such as shingles coming into the building) would have been lost on more conventionally procured projects. Tougher questioning early on might have made a more taut project – this has had architectural, spatial and programmatic leeway. However, it has avoided the institutional and material meanness of many education, charity and healthcare buildings. It fits more into the cultural mould: generous, as its work is, in bringing out the best in people, adding an enriching dimension to their lives. From fund raising to materials, it is deeply rooted in Cumbria.

Will Mawson, knowing Annie Mawson's propensity for stories, has built them in, little vitrines along the slate wall, a place for mementos and prompts that naturally fill in for the many visitors the stories of the powerful effect of Philip Glass' music on one little girl, or how Gareth Malone came to record the 2014 Children in Need song with Sunbeam children, which gave them an official chart topping single. The whole building speaks of this deep understanding of the client and charity; the power invested in design by familiarity cannot be underestimated. ●

A large covered area at the entrance allows for gathering space.

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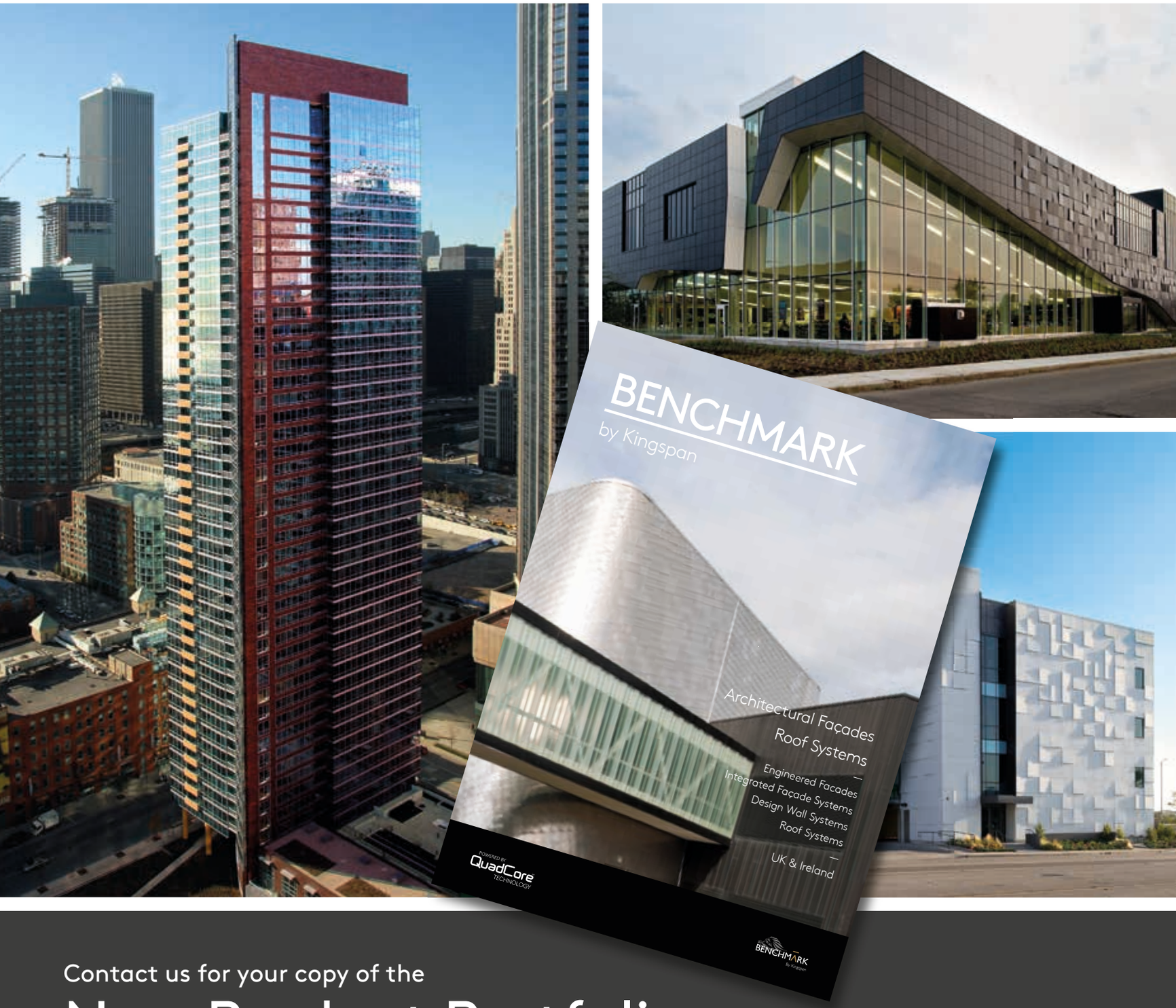
BENCHMARK
By Kingspan



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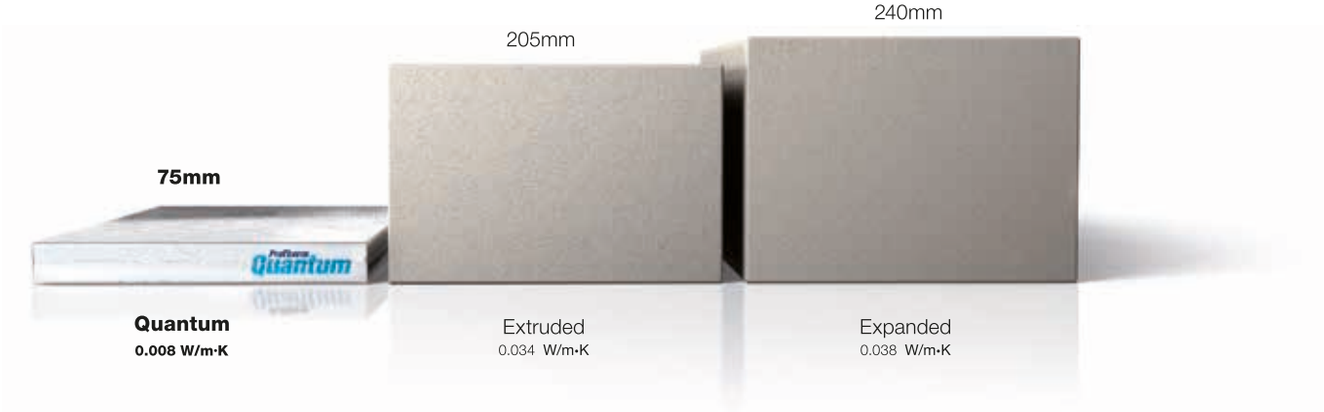

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A new public agora: the library atrium is a forum for events and activities.

Mind your language

Pivotal to South Shields' revival is FaulknerBrowns' The Word, which through ambition and rigorous geometry speaks strongly of civic pride

Words Hugh Pearman Photographs Rob Parrish

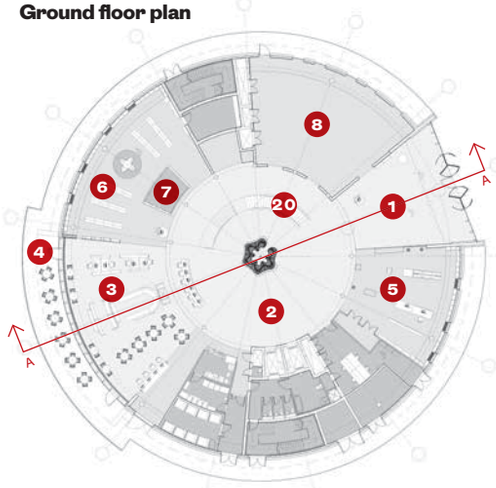
It is a central public library. But it is also the 'national centre for the written word'. Who so designated it? It seems nobody did except the client of this building, which is South Tyneside Council. But this mischievous naming reveals both ambition and a fully justified civic pride in a building that works beautifully as a social and cultural hub for South Shields and looks the part. It is known as 'The Word' for short. One winces, but never mind: there are even books to be found if you look hard enough.

The ship-builders may have gone from these parts, but not all the ships: the Port of Tyne is still busy. Nissan exports its Sunderland-built cars through here. The river mouth is a centre for prawn fishing. The nearby ferry still shuttles across the river between the two Shields, and from the north bank bigger ferries cross to Amsterdam. Set on a broad promontory between river and sea, with some fine civic buildings, linked to Newcastle and Gateshead by the metro, with a bit of a push South

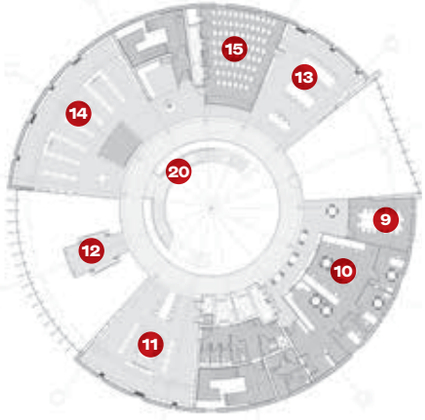
Right The river elevation flips into widescreen mode.

Section A-A

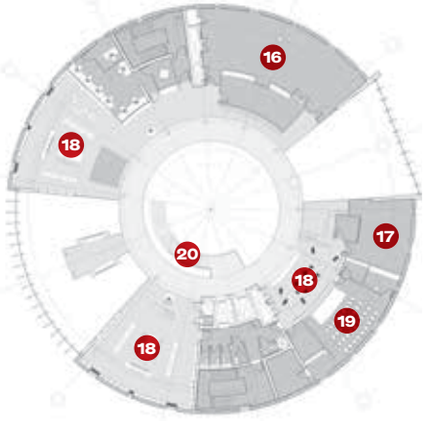
Ground floor plan



First floor plan

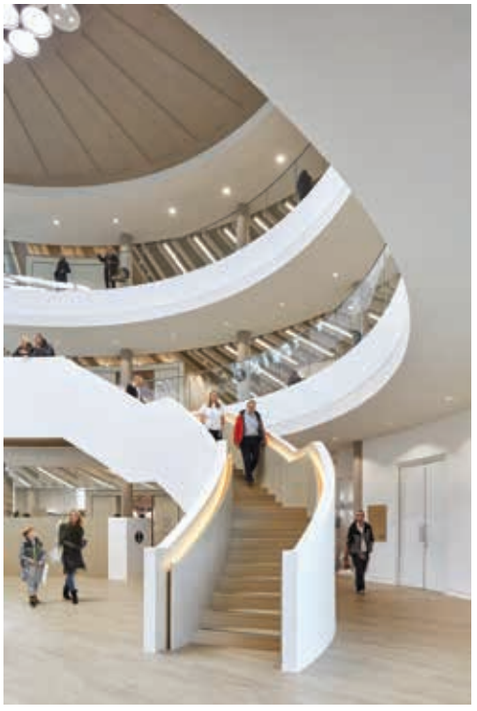


Second floor plan



0 2 5 10 20m

1 Entrance foyer
2 Atrium
3 Café/teenage zone
4 Café terrace
5 Shop and information
6 Adult fiction
7 Exhibition pod
8 Exhibition space
9 Meeting room
10 Staff offices
11 Local history
12 Observation deck
13 IT lounge
14 Adult non fiction
15 Community room
16 Open zone
17 Media studio
18 Children's libraries
19 StoryWorld
20 Atrium stair



Right A grand stair winds through the atrium.

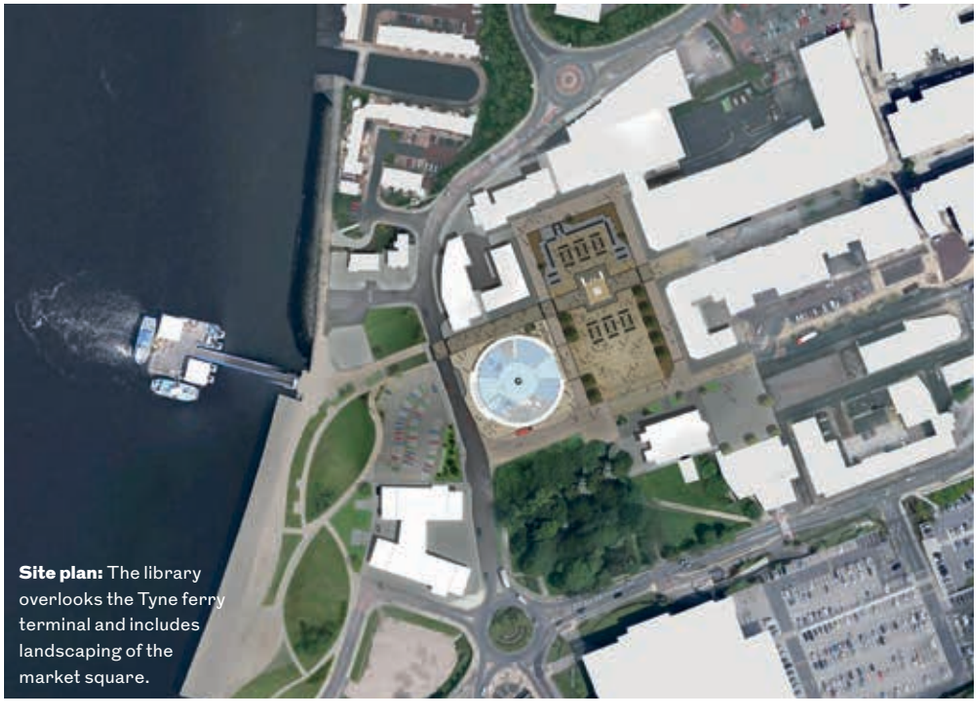
IN NUMBERS

£13.5m
construction value

4,115m²
gross internal area

1914.3%
rise in new borrowers

Credits
Client (public) South Tyneside Council **(private)** Muse Developments
Architect FaulknerBrowns
M&E consultant Desco
Structural consultant Curtins Consulting
AV/exhibition Sheridan Design
Main contractor Bowmer & Kirkland
Structural contractor Cidon Construction
M&E contractor Imtech
Terracotta rainscreen Teams/James & Taylor
Curtain walling Topside
Precast concrete Bespoke Concrete and Classic Masonry
FF&E Workpattern
Flooring Interface, Gerflor & Forbo
Glazed partitions Planet Partitions
Lighting: Hacel and Atelje Lyktan



Site plan: The library overlooks the Tyne ferry terminal and includes landscaping of the market square.

Above Yes, there are books. But there is also a view, and telescopes to see it through.

Shields could have a relationship to the big city somewhat akin to Leith/Edinburgh. But it has a way to go: it is still recovering, there are plenty of cleared post industrial sites. The push is now happening, with a £100 million regeneration project – South Shields 365 – under way in the centre. This library is the first, £13.5 million, instalment of that, so it carries a weight of expectation.

It is circular, a canonic form for a library. With public libraries being closed at a frightening rate across the country as the government slashes local authority funding, it is commendable that South Tyneside should go in the other direction. But such libraries have a rather different function nowadays. Therefore The Word can be seen as an architectural report from the front line, a pointer to the future of this building type. The circular plan makes it a pie-chart of new uses.

While nearly everything in this building radiates from the centre, books are not very apparent there, nor are they architecturally fetishised as at Mecanoo's Library of Birmingham (RIBAJ September 2013). Instead, the traditional library stock is pushed into the quiet areas around the perimeter. The first layer of accommodation on all three levels around the full-height circular atrium is what FaulknerBrowns' partner Steve McIntyre describes as 'the zone of instant gratification'. It was a first for me to find a row of 3D printers in such a place, but there they are, in a place called 'FabLab' (of course) which is all to do with encouraging young 3D product designers. There's also a wall of big screens which does much the same thing for graphic design. This makes sense in a town wanting to generate skills and employment in the creative industries. The 'Gaming Zone' equipped with classic Nintendo and Sega games is a bit more indirect, though the touchscreen information points – for instance one showing you all the live shipping movements in the area – more obviously inform. But most of what you find in this library is associated, even if loosely, with storytelling in all its forms. When I arrived, a group of women were busy at trestle tables at the base of the atrium, making what look like rag rugs based on characters in The Gruffalo.

> The Word can be seen as an architectural report from the front line, a pointer to the future of this building type

There is an exhibition gallery on the ground floor, at present running a show all about the films of Ridley Scott, a local boy. Inevitably there is a café and a shop. Higher up

you find the internal observation deck, 'The Lens' (sigh), looking out across the Tyne. It comes equipped with telescopes, as does another, open observation deck up on the roof. An attic storey was originally conceived as a restaurant but it turned out that the demand locally was for conference space: FaulknerBrowns is now fitting it out for that purpose.

There's more: various meeting rooms, one of which doubles as a performance space, as does the foot of the atrium. An immersive storytelling room on the top floor ('Storyworld', inevitably) where entranced children emerged from a reading (The Gruffalo again) that was also an audio-visual experience thanks to projection and sound systems. You have to pay for that, and there were plenty of takers. In today's library world, not everything is free. But the facilities are impressive – a complete TV and sound recording studio, for instance, is some asset in such a place.

But what of the architecture? I was impressed by its consistency. To properly achieve a circular building, as project architect Nick Heyward relates, you have to be completely rigorous in your radial geometry. Everything must line up, and here it does, right down to the single seam from the tubular moulds for the in-situ columns – each precisely placed at the correct radial point. The moulded concrete is pretty good throughout, especially in the building's Guggenheim moment, the slightly convex roof slab to the atrium, also radially moulded with a shallow pattern achieved with laser-cut shuttering. A circular cluster of light and sound fittings in the centre of this is visually rather good.

> To properly achieve a circular building you have to be completely rigorous in your radial geometry

It helps that FaulknerBrowns is the interior designer here as well as architect. Little things like recessed rather than projecting sprinkler heads, for instance, count for a lot – as does the way acoustic absorption materials are integrated properly into the interior design, leaving the concrete exposed to do its temperature-regulating stuff (cooling water pipes run through it). It also helps that this is the third large civic building in a row done by this group within the practice, the others being the Number One Riverside civic centre in Rochdale and Hebburn Central, another South Tyneside project. The team has developed a spatial and material language it clearly has confidence in, something you see in the staircase climbing the inside edge of the atrium – in steel lined with oak internally and white washable gypsum fibreboard externally. It

Books are not fetishised here, the conventional library shelving being pushed to the quieter perimeter of the drum.

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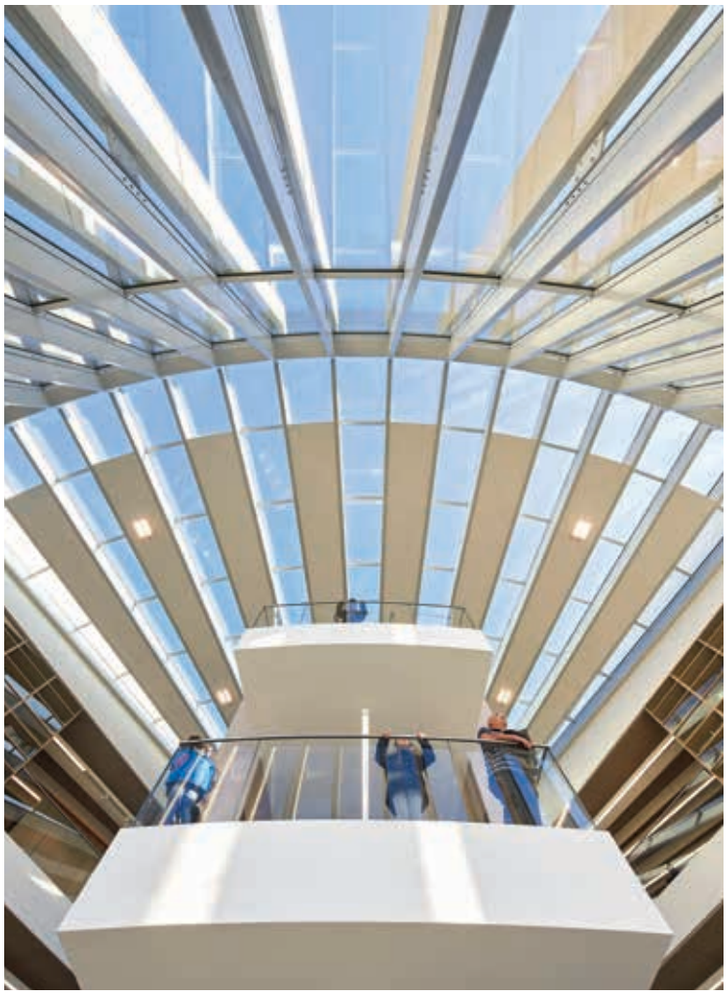

Left You can read this building like a book. Here it falls open at the viewpoint called 'The Lens'.

Below The flat full-height glazed portico plays the classical role of engaging the building with the market square.

achieves its aim of appearing to peel away from the edges of the floorplates.

Externally the visual metaphor – of pages of a book turning, expressed through vertical terracotta planks and fins above a rough-ridged black-concrete base – is kept subtle rather than strident, thank goodness. In-your-face symbolism can be wearisome, like all those wing-shaped airport terminals. Here they dial down the references (white is meant to reference local salt-making, black coal-mining, etc) so you wouldn't necessarily twig. The three harmonising colours of the terracotta are taken from the stone and paint tones of the small but commanding grade I listed old town hall in the market square behind. Said square has received high-quality hard landscaping in stone, while the removal of the previous building on the library site – a 1960s office block – allowed the architect to re-establish the blocked course of King Street, which leads from the Tyne ferry right through the market place and on to the North Sea coast. It is pedestrianised at this point, as is the whole market place, previously used as a car park.

Just as the observation deck with its increased glazing on the riverside elevation establishes a focal point on one side of the drum, so the full-height entrance portico does on the market square side. Here a concession is made that answers the question – how can a circular building command a corner of a rectilinear civic space? The answer is to break the circle at this point with a flat-fronted section. It might be all-glass but it is performing the same job as the portico of a Pantheon, mediating between geometries.

This is not to over-praise the building, just to point out that it accomplishes its civic position through time-honoured means. It all looks very simple and effortless but this clearly required great concentration throughout. Plenty of conceptually simple designs go wrong through lax execution. Not here – tight design and quality control are very apparent, down to the fact that 'back of house' service doors – always a problem in a building with no back – visually recede in the black base. The architect pays tribute to a committed public sector client, a design selection process run separately from the developer selection and contractors who bought into the approach. The end result – very popular with the public – deserves applause. Civic pride expressed through architecture is alive and well on Tyneside – that is what's nationally important. ●

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Belgian block buster

Tony Fretton's town hall is designed to last 100 years. Is the as yet surplus space – and its cost – an irrational burden or prudent planning?

Words: Isabelle Priest Photographs: Peter Cook

Left View towards the administration wing from the terrace adjoining the council chamber. Marie-José Van Hee Architecten's new jagged bank borders the River Leie.

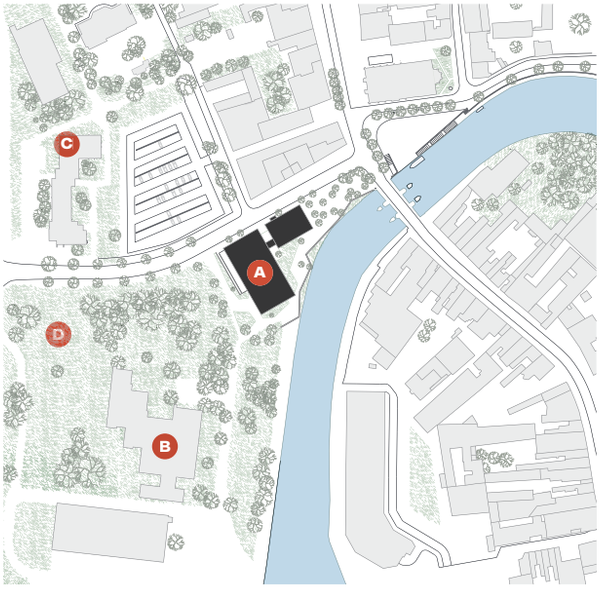
Below South elevation.

The modern Deinze City Council can only have been traumatised by its previous town hall. Its struggle with that 1840s classical, porticoed building jammed into the main market street of Deinze in Flemish Belgium, with poor circulation and little room for expansion, led it to commission a new home without those features – and one that the council wouldn't outgrow for 100 years.

Normally such an approach would be admirable – so many clients could learn from its emphasis on long-term investment, use, materials and timeless architecture. But put into practice here at Deinze's new Town Hall and Administration Building, where Tony Fretton Architects has extended the idea to its fullest interpretation, it looks over the top. One hundred years of inflated heating bills, 100 years maintenance, 100 years of additional material – the cost of which all is all borne now, before it is properly useful, on a site that was formerly a car park and has room for adding a wing or two in future. Civil servants are swimming in space – desks are 2-3m long, most non-facing and so far apart that an internal online messenger is essential. The CEO's office is the same size as a decent one-bed London flat, with as many rooms.

'There is a strategy here for 100 years,' says the city's head of planning, Peter Coppens. 'Every change that is coming has to be accommodated in the building. The evolution of the city is so rapid that we weren't going to build something that would need an extension in 10 years' time.'

As Flanders is already one of Europe's most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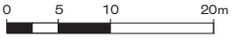

0
5
10
20m

IN NUMBERS

€16.7m
value

1,300m²
site area

8,000m²
gross internal area

populated regions, one wonders on which wider forecasts and measures Deinze based its predictions for the building's needs. Whatever they are, the city is positive it will need a big council with office space for at least 100 employees. Perhaps it foresees massive population growth for Flanders as a whole, or a mass relocation of people from the countryside (what will be left of it), other cities, such as nearby Ghent, or other countries – no one seems to say. If the city sustains its current growth of 1,000 new inhabitants in 2015 the size of the council's offices could prove right, but for the moment it administers not quite 31,000 people – it's a town by UK standards, the same size as Wisbech, say, or Warwick.

But the ambition and quality of investment taking place in Deinze is remarkable, as especially compared with its UK equivalents. Fretton's Town Hall is a durable, high-end building clad in Italian marble and fitted out with particularly exquisite travertine. Where was value engineering, and where is austerity?

This is provincial Belgium, the country's 78th most populous city in a total population of 11.2 million. Shops and restaurants close at lunchtime, old ladies with short dyed hair and metallic sheen down jackets pack out the cafés during the day to the tune of 48 clarion bells ringing every half an hour across the centre, and in the town's planning department – which recently decanted into its new 3rd floor office in the town hall to breathe and flex its fingers a bit more – city models are laid out like moveable pieces in a strategic game of chess. Deinze doesn't have an attractive historic centre by most Belgian standards, yet the city council has the determination to make it at least very habitable and comfortable by adding bridges, public buildings, hard landscaping along the river, and parks that punch well above the city's weight and size. Fretton's Town Hall completed last year, this year will see the opening of a new academy of arts by WIT Architecten and Lens°Ass Architecten, and next year a new cultural centre including a 450-seat theatre designed by Ghent-based Trans Architects and V+ will start on site, finishing in 2019.

'Flanders did not have a recession,' explains Fretton. 'The humorous part is that because the country had no

Below The new town hall responds to the neighbouring church in its materiality and the quotidian architecture of the street, as well as expanding the city along the picturesque river.

It is restrained and tempered at scale, yet in its fine details there is a perceptive architectural excitement and joy

federal government for so long [between 2010 and 2011], it had no austerity either. Everyone kept spending.'

The Town Hall, which cost around €16.7 million, is part of around €40 million overall spending that Coppens puts down to the council having saved a 'pot of money' – and stands in stark contrast to similarly sized cities in French-speaking Belgium that can look stuck in post-industrial decline. The idea of building a new town hall was first mooted in the 1990s. The open call competition was facilitated and launched by the Vlaams bouwmeester (Flanders' chief government architect) in 2009. More than 100 design practices entered, which were whittled down to 10 by the bouwmeester, then to four by the council: Ghent-based De Smet Vermeulen Architecten, Antwerp-based AWG Architecten, Paris-based uapS and Tony Fretton Architects.

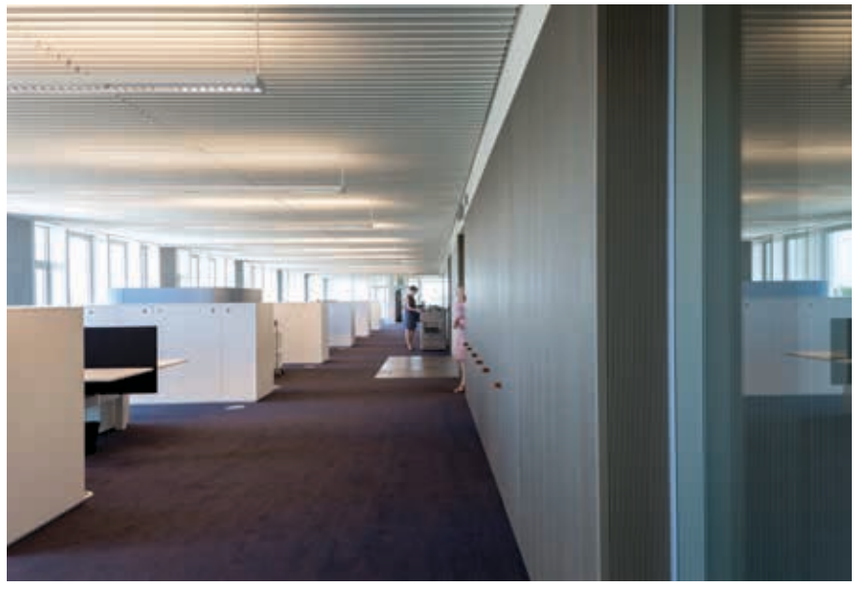
The brief was made for a spacious, light and flexible building that had great views, healthy workspaces, was a public place for citizens to wander around in at will and was representative of Deinze. In response to a city masterplan by Marie-José Van Hee Architecten in 2007, the town hall would be moved from its present location in the market street, to a car park along the river bank in front of the existing Deinze museum and art gallery, reorienting the city centre from its primarily north-south axis, to expand it east and westwards along the charming River Leie, and to make that the driving force of creating quality urban space with leisure and promenade. In the process, parking would be pushed further out to sideline cars' domination in the city centre, and green transport such as cycling encouraged.

Aside from the sheer size of the building, which Fretton argues is no business of an architect's to question, this is a hugely rational scheme. If you accept what it is, what the client thought it needed in terms of space (in the face of contemporary working practices), the Town Hall is exemplary and answers the client's brief. For starters, the stone and concrete exterior, slightly sober and puritanical, makes it feel Belgian in the best possible sense. It has a right to belong in its robust, quotidian surroundings of 1960s straight lines and large horizontal windows.

'The attempt was to make a real public building which embraced not only the qualities of the church opposite on the edge of the river but was also generous to the 60s buildings in the background,' explains Fretton.

At the same time, the Town Hall commands a site and form that give it a knowing presence. The 8,000m^2 building is split into two parts: the council chamber brought forward from the administration volume into the new public plaza in front, offset from the main city shopping street; a canopy above the entrance makes it welcoming. It is restrained and tempered at a large scale, yet in its fine details there is a perceptive architectural excitement and joy. It achieves its aim of reorienting the city, creating a new slightly grandiose public quarter with the 1970s museum and gallery, leisure centre, police and fire stations, and upcoming cultural centre fanning out into green space behind.

Inside, this rational and generous approach continues. Jutting into the new square and partly facing



Top The council chamber is fully glazed on two elevations to overlook the city centre and river. It will also be used for weddings and other public ceremonies.

Above Typical spacious office floor. The core contains WCs, a kitchen, archive and other stores.

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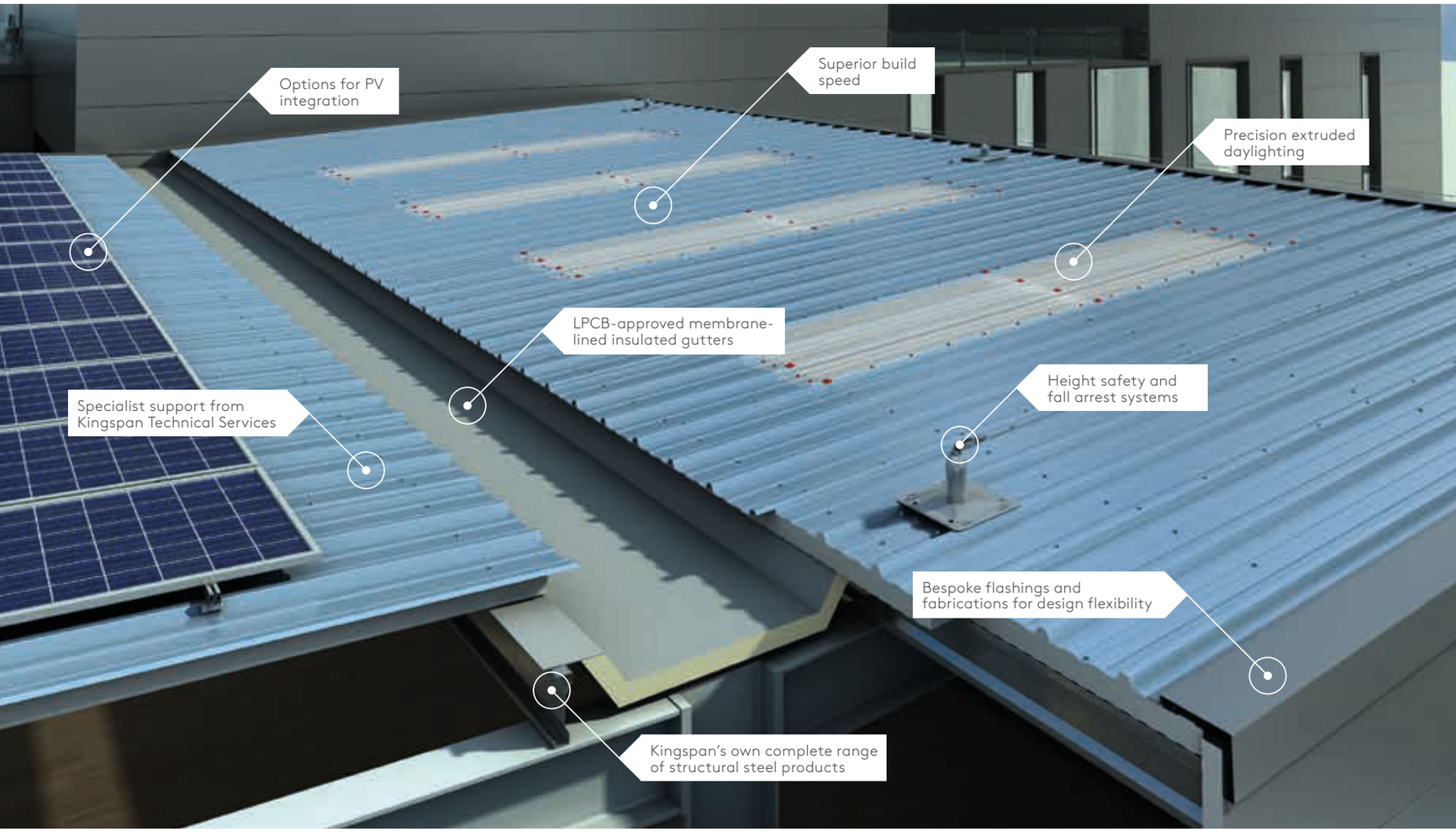

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In the five-storey administration wing, there are fewer and fewer public services the higher you go

the bridge and church, the building's two wings can be separated from each other programmatically. The almost independent smaller, lower frontispiece, which on the ground floor is the main public reception and gatehouse for the building, gently introduces the building into the city, with space and seating for citizens to mill around. From here visitors can either proceed towards the administrative building through a glazed connecting corridor, or ascend the stair with its smart cherry wood handrails to the double-height council chamber itself – which occupies the entire 250m^2 footprint of this pavilion-style building in the square. The scheme's layout allows the Town Hall to function separately from the administrative building behind out of office hours or at weekends. The move also distinguishes the chamber's functions from administration by becoming appropriately ceremonial for its additional uses including weddings and civil ceremonies. Sound in the elegant room is dampened by the carpet and leather clad columns to feel appropriately composed.

Meanwhile, in the five-storey administration wing, there are fewer and fewer public services the higher you go. On the ground floor are the civil affairs bureau for registration matters laid out in booths, public toilets accessible from inside and out, tourist information and an upcoming café that will animate the square. The first floor, which also connects to the chamber at this level, houses councillor offices, meeting rooms and a staff canteen/kitchen which opens onto a pleasant terrace overlooking the Leie. Social welfare offices (OCMW) and meeting rooms are on the second floor; the planning and environment department on the third; and ICT, communications and culture sit on the 4th floor alongside the mayor's office and secretary. The full-footprint basement contains a garage for the council's service vehicles, staff bike storage complete

Below The staff canteen on the first floor can be joined up with the council chamber for public events.

Left The two-storey connecting glazed pavilion between the council chamber and administration wings allows them to function independently when necessary.

with an upcoming drying room, rubbish store, and huge local government archives, one section of which is open as a library for public use.

This part of the structure is simple with two cores – one for public access opening onto a reception area each floor and one for staff. Architectural treatment is also continuous – removable walls, overhead ventilation, underfloor hot air heating, operable windows, full-height storage around the core with leather handles, brightly coloured carpets in the office sections and travertine with beautiful large aggregate in the public spaces. Surrounding the entire floorplate is a circumference of loggias that aid solar shading while creating an easily accessible space for civil servants to step out to for a breath of fresh air or an impromptu chat/private phone call. The major highlight, though, is the way the eastern most corner of the administrative wing seems to cantilever over into the middle of the river thanks to landscape architect Marie-José Van Hee's clever jagged rebanking of the river to 'remind her of the castle Deinze never had'.

'The plan has already proved the building's flexibility,' says Deinze's Coppens. 'In the original plans, we did not include the OCMW, tourism service or café because it wasn't politically correct to suggest this at the time, though we knew we would. When the administration changed, we easily absorbed them into the building.'

My questioning of the extensive space is not criticism. If course it's incredible – which office workers wouldn't want lots of space? How that comes together as a collective force working towards something is different, as well as the environmental implications and the cost to the taxpayer. There are a lot of single offices and while it is generous and plush inside the office floors in general there is an old fashioned quietness and lack of buzz. It's just a pity the same care couldn't have been given to the plant on the roof, which was left off the original drawings and, though not very visible in these images, with its aluminium enclosure, overwhelms the building at a city-scale among lower-rise buildings. ●

Credits
Client Stad Deinze
Structural and services engineer (UK) Arup
Structural and services engineer (Belgium) Bureau Bouwtechniek
Cost consultant Davis Langdon / Bureau Bouwtechniek
Landscape architect Marie-José Van Hee Architecten
Main contractor Strabag Belgium, Gent

Below The north side public entrance for visitors arriving by car.

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Eye Line 2017 – get drawing!

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Left Eye Line's 2016 third winner was Corina Tuna from The Cass with Living on Forest Fringes, Nepal. **Right** First winner in 2016, You+Pea's Sandra Youkhana and Luke Caspar Pearson with Tokyo Back Up City.

Already an annual tradition, our Eye Line drawing competition is now in its fifth year and is once again partnered by architectural visualisation expert AVR London. This is the prize that celebrates the art of the architectural drawing, not the project. It isn't a crit. We just want to see amazing drawings – originating in any medium or combination of media, anywhere in the world. And so do our readers – this is one of the most popular things we do. Enter now – and get your best work out on view.

We particularly want to see entries from practitioners as well as students, because the skill of communicating architecture to clients and the wider public through drawings is so vital to the design thinking and the character of the practice. Consider the watercolour concept drawings of Steven Holl or Sheila O'Donnell, or the almost fairytale-like renderings of Grafton Architects. Remember the incredible draughtsmanship of Sir Peter Cook and his Archigram colleagues, bringing us into their imagined worlds and leading eventually to real, extraordinary buildings.

Today narrative plays an increasing part, with the techniques of graphic novels and manga cartoons increasingly in evidence. Recent Eye Lines have seen an explosion of colour after a period of dystopian darkness. We haven't yet succeeded in getting random flocks of birds banned, but we're working on it.

We don't mind how the image is produced and, while we need to know what it depicts, the project details don't concern us. We want you to imagine worlds we want to inhabit.

Typically, Eye Line entrants produce entries built up in layers using various techniques, often including hand drawing and colouring as part of the mix. Others work exclusively by hand, some exclusively via keyboard. One year a winning student entrant 'drew' with an old manual typewriter.

We are especially happy to partner again with AVR London, which celebrates its tenth anniversary this year. Working with the best architects internationally on creating beautiful architectural illustrations and immersive virtual environments, it also has a knowledge and love of drawing in all its forms.

So, practice directors! Encourage your best colleagues to enter, not forgetting yourself. And teachers! By now you know your students with the best drawing skills – make sure they enter. Winning entries will be published in the RIBAJ August issue and exhibited in London's Anise Gallery, and winners will be invited to join a congenial celebration of the art of architectural drawing there, courtesy of AVR London. Judges will be announced shortly. ●

RULES

We want to find the best representations of a building design or concept through visual means. Any medium is allowed – hand-drawn or via keyboard, collage or any combination or overlay of methods. It can be ultra-detailed, close to abstraction or photo-realistic, whatever: it's up to you.
The work must have been produced within the three years up to the closing date of Monday 12 June 2017, and must not previously have been entered for Eye Line.
Individual and joint entries are equally allowed, from practitioners, students and teachers.
Entries should be two-dimensional artworks – we will not consider movies or photographs of models – but within that constraint we will judge all methods and media equally.
There is a maximum of three individual pieces per entry, to be sent as medium-resolution JPEGs via a file-sharing service. They can be all from the same project, or different projects.

Information required

Title of work (if applicable)
A short description of the author(s) of the work
Size of the original work
Date it was done
Organisation where you work or study
Email, postal address and phone number

Deadlines

Monday 12 June: Submissions
Late June: Judging and shortlisting
August: Winners and commendations announced in special issue of the RIBAJ
September: Celebration party

Get sending in your work right away – and encourage your friends and colleagues.
Download entry form at ribaj.com/buildings/eye-line-2017-get-drawing
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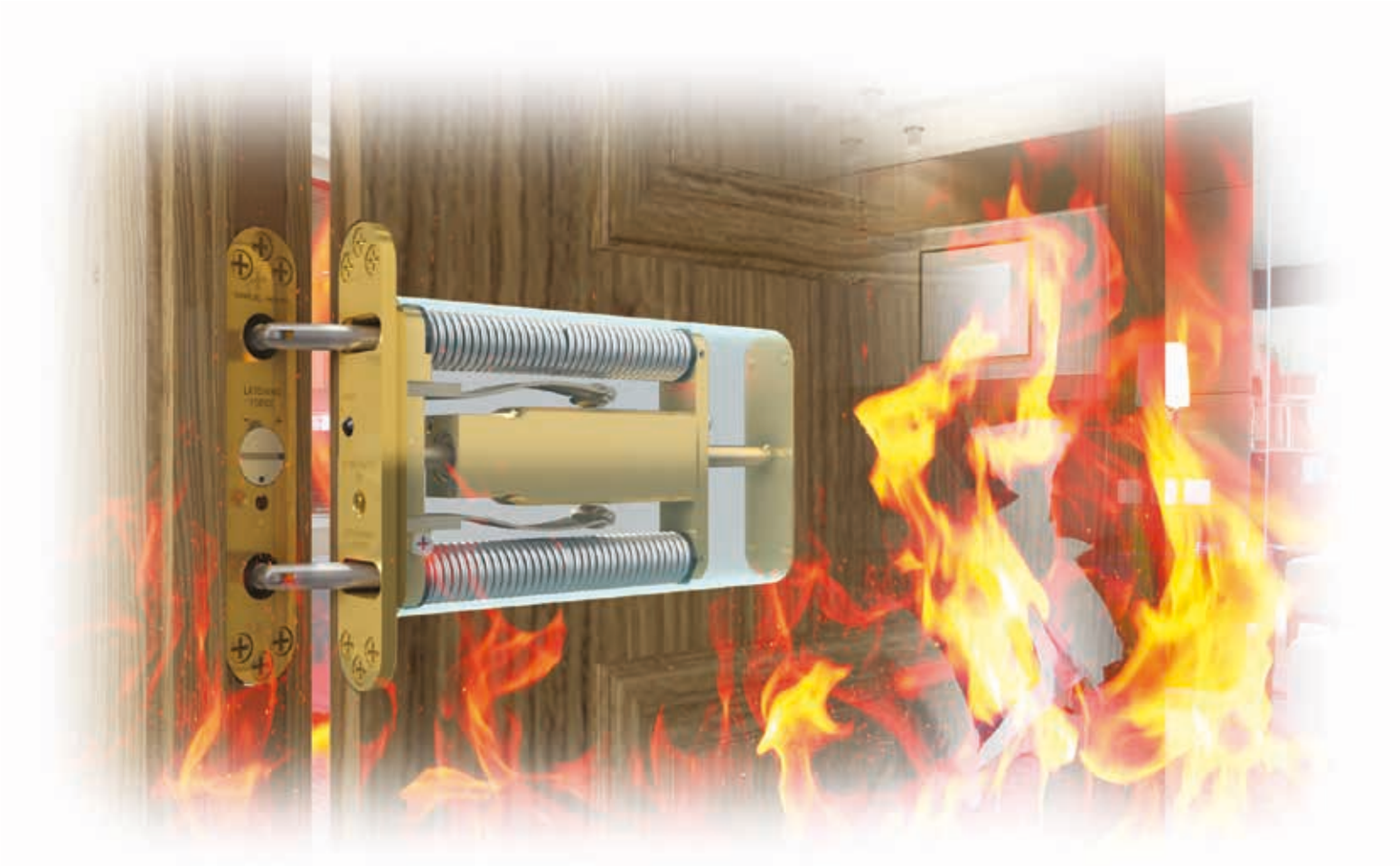

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Under the skin

This time, Jaguar Land Rover's commitment to performance was about not cars, but environmental excellence

Words: Jan-Carlos Kucharek Photographs: Simon Kennedy

It's been two years since Jaguar Land Rover's £100 million factory on the outskirts of Wolverhampton started production, but it's only now that it seems to be reaping the benefits of its design. Built to construct over 450,000 engines a year for the firm, the 185,000m^2 BREEAM Excellent facility, designed in two phases by Arup Associates, recently scooped CIBSE's Project of the Year Award in its Commercial/ Industrial category – an accolade that was based on the buildings' democratising and sustainable design and monitored performance in operation.

JLR took on Arup Associates because it wanted a showcase facility that – as it claims about its new engines – would exemplify a commitment to performance and the environment. JLR felt the 'one stop shop' service that Arup offered them would best help to achieve the objective. Key to this was excellent building fabric performance and the adoption of low and zero carbon technologies, along with a comprehensive energy management system. Here, offsetting the highly conditioned nature of the factory floor, are naturally ventilated, daylit office and social spaces, extensive grey water recycling and the largest PV array on a UK building, providing enough energy to power 30% of the facility. The factory is a benchmark for industrial buildings and was the standout winner of the award.

The accolade was partly due to Arup Associates' strategy to integrate production and administrative functions. 'Most factories have no connection between blue and

Looking west to the reception area, the admin spire divides the machine hall (foreground) from the assembly hall beyond.

The factory is a benchmark for industrial buildings and was the standout winner of the award

white collar workers, so we wanted to change that by connecting the assembly halls and machine rooms with admin and reception areas to allow views through from one to another,' says Arup Associates project architect Sean Macintosh. 'They're broad moves, but they're done at scale so they're impressive for that reason,' he adds.

Since the actual cost of the building is dwarfed by that of production line technology, it's no surprise the design was predicated on its demands. That accounts for the 30m column spans, which allow room for the production line kit and carry the massive steel Vierendeel trusses that form the distinctive saw tooth roof that defines the elevation. Macintosh says Arup 'initially considered a number of curving roofs but JLR is a risk-averse client, so it settled on the 'tried and tested' saw tooth profile', its north-facing roof lights allowing light to pour onto the factory floor.

In an effort to keep costs down, Arup went for off-the-shelf systems discreetly brought together. For elevations to the assembly and machine halls, the firm chose a standard Euroclad Europanel vertical joint insulated panel system in Prisma, interspersed with recessed panels on the roof gutter line in Anthracite. 'We really liked the rhythm the huge monopitches created,' Macintosh explains. 'But were interested in the recesses between them as a scaling device to give a sense of elevational hierarchy and articulation – as well as co-ordinating with the overflows to the symphonic roof drainage'. Proprietary systems, he adds, were vital to stay within budget: 'Prefabrication was all for both walls and roof; we wanted to ensure the financial argument was strong enough to ensure elements didn't get value engineered out when it went through the D&B mill.'

But within that demand the objective was also to see how well they could make the fabric perform. Given the high energy demands of the building, the reality was that standard facade systems would yield 'diminishing returns' in terms of performance; so where it could, Arup looked to using innovative systems that offered greater energy savings per square metre. It was interested in the pioneering use of the customised building facade Colorcoat Renew SC Transpired Solar Collectors. Developed by Tata Steel and University of Swansea's 'Specific' Innovation Centre, the 'solar cladding' system combines a double-skinned envelope to pre-heat air with ventilation fans that draw it into the building and use it to offset the internal heating load. Because of the ventilation demands of the staff areas in the spine building on the south side of Phase 1A of the development, it was decided to employ the Colorcoat Renew SC here, as the pre-heating of make-up air would significantly affect its energy consumption.

While the most visible element is the external steel skin, work goes on in the cavity behind it, an area fed by special perforated

Below Defining the roof gutter zone with recessed and different colour cladding lends scale to the massive facade.

Below The service/admin spine is naturally ventilated with air exhausted at high level.

ARUP

Cut through of the service/admin spine. Office areas are conditioned using the stack effect.

ARUP

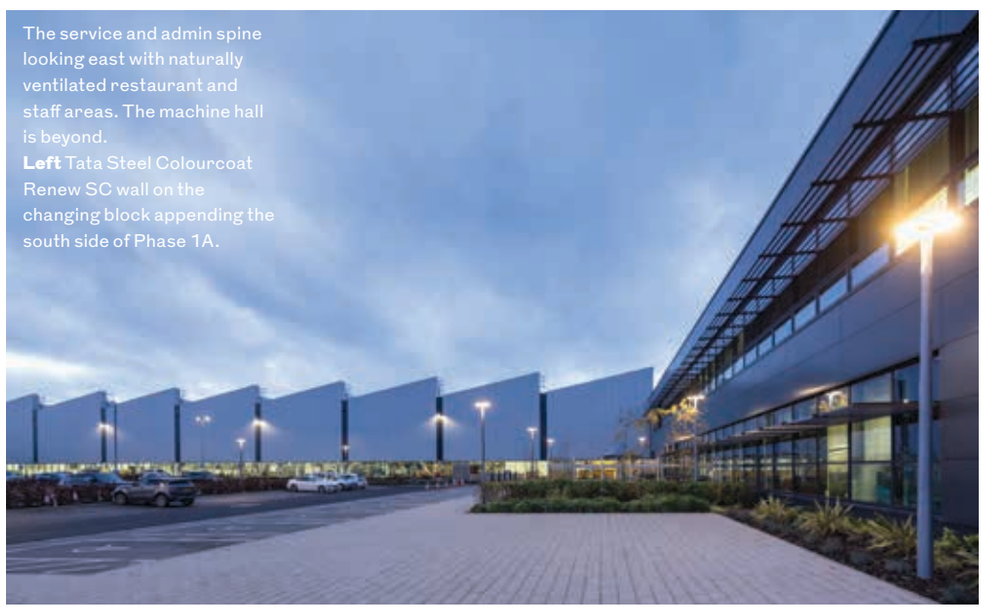
collector panels on the cladding surface. With the skin heated by the solar radiation, and ventilation fans creating negative pressure in the air cavity, solar heated air is drawn in via the surface perforations. The design of this and the framing system behind it not only controls the amount of air flow passing into the cavity, it also maintains a consistent draw across the surface and ensures that cooler air beyond this heated boundary is not introduced into the air stream.

The warmed air is then drawn off at high level and ducted into the building via a connection to the HVAC intake. Tata Steel claims that, with air entering the building at a temperature of 16-38°C, the system reduces or even eliminates conventional internal heat load during the day. At JLR, the system was installed on the south spine wall of Phase 1A, the pre-heated air fed into the HVAC air handling units for the banks of changing rooms. The south facade produces optimum performance and here could accommodate the collector sizing of around 120m^2 – a factor of the air volume intake and the expected temperature uplift. This spine building was also operational 24 hours a day and offered the best opportunity to make full use of free heating. Overall the Colorcoat Renew SC system aims to generate CO_2 savings of 1 tonne per 5m^2 of solar collector. It must be working: Arup Associates' Macintosh says its performance here encouraged it to specify it in the subsequent phase of the factory's expansion.

Aside from the facade, to raise the EPC rating from the design brief up from 'B' to 'A', Arup Associates looked to the roof; where in all, the firm installed an array of 21,000 photovoltaic panels generating a peak capacity of 5.8MWp and with an eight and a half year payback. Producing savings of over 2000t CO_2/year, it is, says the firm, one of the largest rooftop installations in the UK.

Rowan Crowley, managing director of CIBSE Services and chair of the judging panel, who awarded the building its 'Best in Category', says the completeness of the submission was what swung it for the firm, calling it 'a thorough and detailed evaluation that was soundly based in engineering'. Additionally, the whole building had been modelled in BIM to the extent that the model formed part of its operation and maintenance manuals. 'BIM seems to remain a somewhat fractured process in the industry,' says Crowley. 'Here it was used not just to co-ordinate the building to look good and perform well technically, but to connect it all the way through to the facilities management strategy on the client side. It was great to see this achieved.' ●

ARUP



The service and admin spine looking east with naturally ventilated restaurant and staff areas. The machine hall is beyond.
Left Tata Steel Colourcoat Renew SC wall on the changing block appending the south side of Phase 1A.

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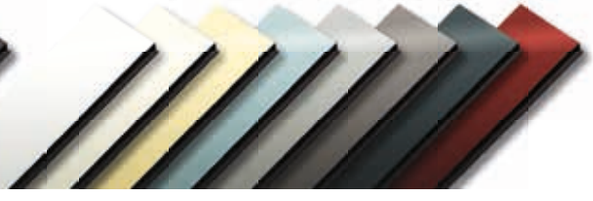

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SCHÜCO

The Schueco Excellence Awards for Design and Innovation, in association with the RIBA Journal, have become something of an institution, bringing together those who work with Schueco systems from across construction in a celebration of the best in design and collaboration.

Now in their fourth year, the awards recognise the work of architects, specialist contractors and fabricators in developing and realising Schueco facade, window and door systems to deliver excellent buildings.

The judges will be looking for creativity, innovation, technical skill and collaboration.

This year there is a new improvement category for individual homes so the awards truly span all sizes, from the large to small scale. As well as homes, the awards are looking for commercial buildings, cultural projects, or those spanning health and education. In addition there is a special category to recognise the particular contribution of specialist contractors.

RICHARD BRYANT

Below Precisely handled glazing against a new concrete structure: 2016 Schueco Excellence Award winner the Albert Sloman Library & Silberrad Student Centre, University of Essex, designed by Patel Taylor working with specialist contractor HW Architectural.

EDMUND SUMNER

Left Winner of last year's Judge's Special Award, Crab Studio's Drawing Studio at Arts University Bournemouth.

Right Winning home: the 'extraordinary' Le Petit Fort, Jersey, by Hudson Architects 2017, winner of the Individual House Award.

EDMUND SUMNER

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The 2017 winner and commended projects will be showcased in a dedicated supplement in the July issue of the RIBA Journal and recognised at a special awards lunch on the 42nd floor of The Leadenhall Building, in central London, on 22 June.

Categories

Commercial building
Cultural building
Education building
Health building
Refurbishment project
Residential development
Individual house
Individual house improvement
Steel project
Specialist contractor

Judges

Pankaj Patel, director, Patel Taylor Architects
Cindy Walters, director, Walters & Cohen Architects
Steven Kennedy, associate principal, Grimshaw
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Chris Macey, group CEO, Wintech Group
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2: Intelligence

Where people live

External management

Ian Vincent

Architect Ian Vincent has spent 30 years working his way up from the architects department at Daventry District Council to becoming its chief executive in 2010. With that career path, how does he think planning might change for the better?

Can we get a potted history of your trajectory to becoming chief executive?

I moved to Daventry's architects department in 1985. Later I moved to the engineering department and then ran a large team in the estates department with 7,000 homes and many public buildings. By 1996 I was running all three. As chief exec I manage over 300 staff, another 150 contracted out and liaise with executive officers and elected members on things like housing benefit and council tax. If I can take anything from my training it's that being an architect helped engender a sense of project leadership and direction.

So what kind of projects are going live in the Daventry area?

The biggest is the 4000-home mixed-use residential development with Christ Church College Oxford, which has owned tracts of land around Daventry since the Reformation. Working with Barratt, the council is trying to make sure that it's as sustainable as it can be. It's helped by the client having seen North West Cambridge – it's keen to create a similar sense of place.

And is this the project where you're proposing to build a canal?

We're 3km from the Grand Union canal and wanted to create infrastructure not only as an ecological buffer but to bring something special to the town itself. The new canal will end in a new urban basin with development around it. Narrow boats will be able to navigate it and moor there. It's £25 million, but it's creating something that will completely alter the public realm of the town. With all the people that will use it, commercially we expect a 15-20% uplift in value of development facing onto it and 10% for sites behind it. We really think it will be an urban asset.

With your long experience of the planning system, what do you think needs to change?

Legislation seems to be good at getting planning consents but not houses built; the recent White Paper just seems to propose forcing the developer to reapply for unbuilt consents sooner, which is more work for the planner as well as the developer. Ideally your approach would be: 'If you don't build it out, someone else will'. Also, we've too many developers saying projects are not viable. We apply national tests to these and they tend to favour the developer rather than the LA- even in an affluent town like Daventry. The tests should be devolved to LA's to take account of local conditions.

And how would you like to be remembered?

It's been 10 years in development so I think it would be driving through Daventry's Town Centre Vision- if I get to see that to the end I'll be very pleased.

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Dale Sinclair embraces the robot ribaj.com/intelligence/digital-futures

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External management

Feedback is good for business

If it's positive, it's good marketing; if it's not, learn from it

FLASHFORWARD

Above Bennetts Associates' relationship with the Royal College of Pathologists spans 25 years, and flourishes today with a commission to design it a new headquarters in Whitechapel, east London.

Right This library refurbishment is Stride Treglown's 20th project in the last 10 years for the University of Reading, a mutually beneficial relationship.

Matt Thompson

Dabbling in client feedback is not easy for architects. Apart from being a bit wishy washy, it diverts resources from earning fees. It doesn't fit well with their training, which casts them as superhero guardians of the public good. In this rose-tinted world, customer service is implicit in every flex of their professional muscle, so why would they do more?

The RIBA's Client Liaison Group suggests this presumption is misguided. Its research shows that what differentiates architects are the so-called softer skills of management, collaboration, leadership, listening and understanding. In other words, it is not what they do – which is taken for granted – so much as how they do it that makes architects stand out. As the client pays the fees, to neglect these skills might be reckless.

To be clear, client feedback is not post-occupancy evaluation. It is confirming how you run your business and processes, and geared to improving your service. RIBA president-elect Ben Derbyshire describes it as 'the bedrock of ethical practice'. Making claims about future performance without feedback has a whiff of dishonesty about it. That aside, it definitely makes it harder to improve, and you can forget about being able to give a quality guarantee under ISO 9001, for example.

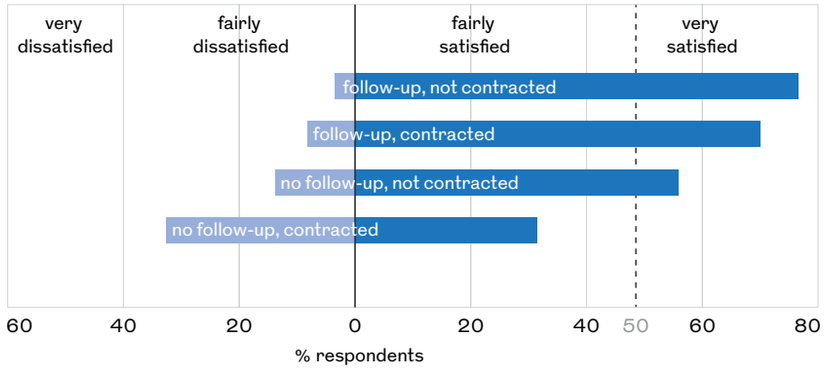
Last year, the RIBA's Client Liaison Group carried out a profession-wide client satisfaction survey. One of its stand-out findings was to do with follow-up. The results showed that a fair proportion of architects simply walked away at the end of their contract, with ne'er so much as a backward glance. They paid a penalty, apparently: their overall satisfaction ratings were on average significantly worse than those for architects who stayed around.

Keep us in mind

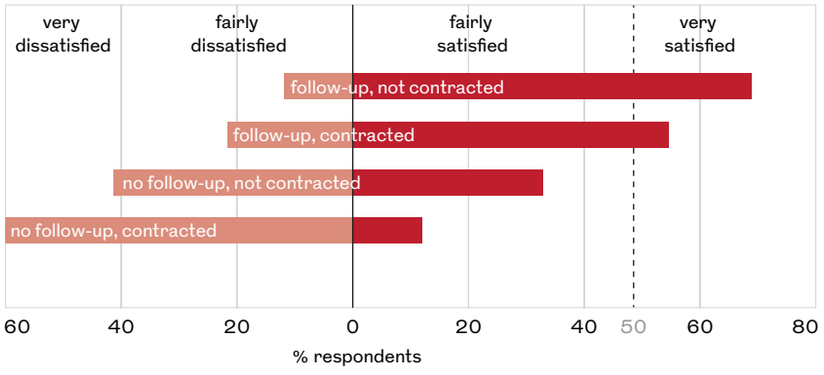
Since architects depend so heavily on repeat clients and recommendations, the immediate benefit of post-completion feedback is simply to remind clients of your existence. With up to 80% of Sheppard Robson's work coming from existing clients, resting on your laurels is an unacceptable risk. Andrew German, director of practice, says, 'With the passage of time, clients see other buildings,

> With the passage of time, clients see other buildings, meet other designers. Their memory quickly becomes rather fuzzy if you're not careful

Design performance



Process management performance



Neutral ratings ('neither satisfied nor dissatisfied') are not displayed

We've got logos and ethos all over the place, but we need to explore the pathos

meet other designers. Their memory quickly becomes rather fuzzy if you're not careful.'

Although the practice reviews its projects quantitatively as part of its QA system, German finds informal feedback during the course of projects to be more valuable. For him, though, process issues are indistinguishable from the end-product. You need to demonstrate exceptional quality in both. In that sense, client feedback blurs with post-occupancy evaluation.

For Bennetts Associates, feedback is spliced into its corporate genome – and in any case is now demanded by its QA system. With two thirds of its business coming from repeat clients, the process is ingrained into the workflow. A senior architect sits down with the client at the end of Stage 2 and then again at the end of the project. Findings are written up under six question headings and considered at management meetings, where lessons are absorbed and actions decided on.

Bennetts Associates has always understood the importance of smooth management. When starting out, it employed a project manager to oversee the design programme and administration on its first big job. Now it's all in-house, the weight given to it is no less intense. As director Denise Bennetts says, 'We focus on getting the process right to concentrate on the important thing – the architecture.'

Showing you care

Simon Trew of Stride Treglown is in charge of ISO 9001 compliance. Using an online survey, it has centralised the collection of feedback, doing so once a year. He rates it as a tool for harvesting quotable endorsements but admits that they struggle to extract value-adding lessons. He prefers the more personal, informal approach, which allows them to sniff out new work. But he finds the process useful for busting the myth of arrogant architects. 'As a profession, it behoves us to show that architects can be bothered and do care.'

GARETH GARDNER

The scariest thing for clients is the unknown. Continuous learning allows us to narrow the margin of unknowns

Sheppard Robson worked on BBC North, which won the BCO's Test of Time Award 2016, testament to a good working relationship.

So much for larger practices. What about smaller ones targeting the private domestic market? Producing mostly private houses but ambitious to spread into other sectors, Clapham-based Granit Architects is remarkable for videoing its clients in situ, daytime tv style. As well as new client bait, the resulting information becomes in-house training.

The problem for Granit is the reluctant response. Permission to video private clients is at the expense of a £100 restaurant voucher. It is worth it, though, according to James Munro, architectural director. 'Relationships are inevitably tested during a project. Feedback forces you to acknowledge when things go wrong. It also generates goodwill in past and future clients.'

Promote your pathos

The charismatic Phil Coffey of Coffey Architects is disarmingly straightforward about where his youngish, evolving practice is at. With a high-profile track record of mostly private domestic work but ambitions to leave all that behind to join the major league, he only has one repeat client. Feedback is squarely in his sights. He equates it to the ethos, pathos and logos model of classical rhetoric. Applied to the practice of architecture, logos is what you do, pathos is what you're like to deal with, and ethos is your moral character. As he says, 'We've got logos and ethos all over the place, but we need to explore the pathos.'

Looking beyond the usual wins from feedback, he sees potential for mid-stream feedback to communicate more effectively with the client. Questions can emphasise, for example, the difference between design iteration and a client instruction. That way, he says, 'it begins to crystallise in clients' minds exactly what it is we do'.

Facit Homes employs architects but is a one-stop shop, making as well as designing homes for private customers. In that sense, every client is a new client, and so one might think there is less incentive to seek feedback. Director Bruce Bell disagrees. 'Since we have no intention of doing any other kind of building, we are very motivated to learn from feedback and apply that learning.' He sees his job as eliminating uncertainty for clients. 'The scariest thing for them is the unknown, right? They're standing at the edge of the abyss, terrified they'll lose their life's savings. Continuous learning allows us to narrow the margin of unknowns. That's a relief for them.'

Comfort for clients

Feedback has innumerable benefits for architects. Handled intelligently, it allows them to improve professionally. It gives lie to the stereotype that they are interested only in the architecture and devil take the hindmost. It is an opportunity to nudge clients towards a better understanding of what architects do and thus appreciate their value. It generates positive testimonials, helping them sell their services. And if you improve management processes, it frees you up to design.

Clients tend to be nervous and risk averse. While architects' websites parade the quality of the end product, that's only half the equation. A great piece of architecture can easily hide corrosive relationships and a financially ruinous process, so clients also want reassurance that architects are good to work with.

Simply knowing that an architect engages in serious feedback gives some peace of mind, no doubt swaying clients' hiring decisions. It would be much better, though, to see what previous clients had experienced. A properly policed, cumulative, averaged scoring system would fill an information black hole. It would even the playing field, allowing new entrants into exclusive sector 'fishbowls', as Simon Trew puts it. Adopted across the profession, it would drive up standards.

The rest of the commercial world has the Net Promoter Score system, which evaluates customer loyalty based on responses to the question, 'How likely is it that you would recommend our service?' Adapted to reflect the complexity of what architects do and moderated to iron out bias, it is time for architects, led by the RIBA and Constructing Excellence perhaps, to do something similar. ●

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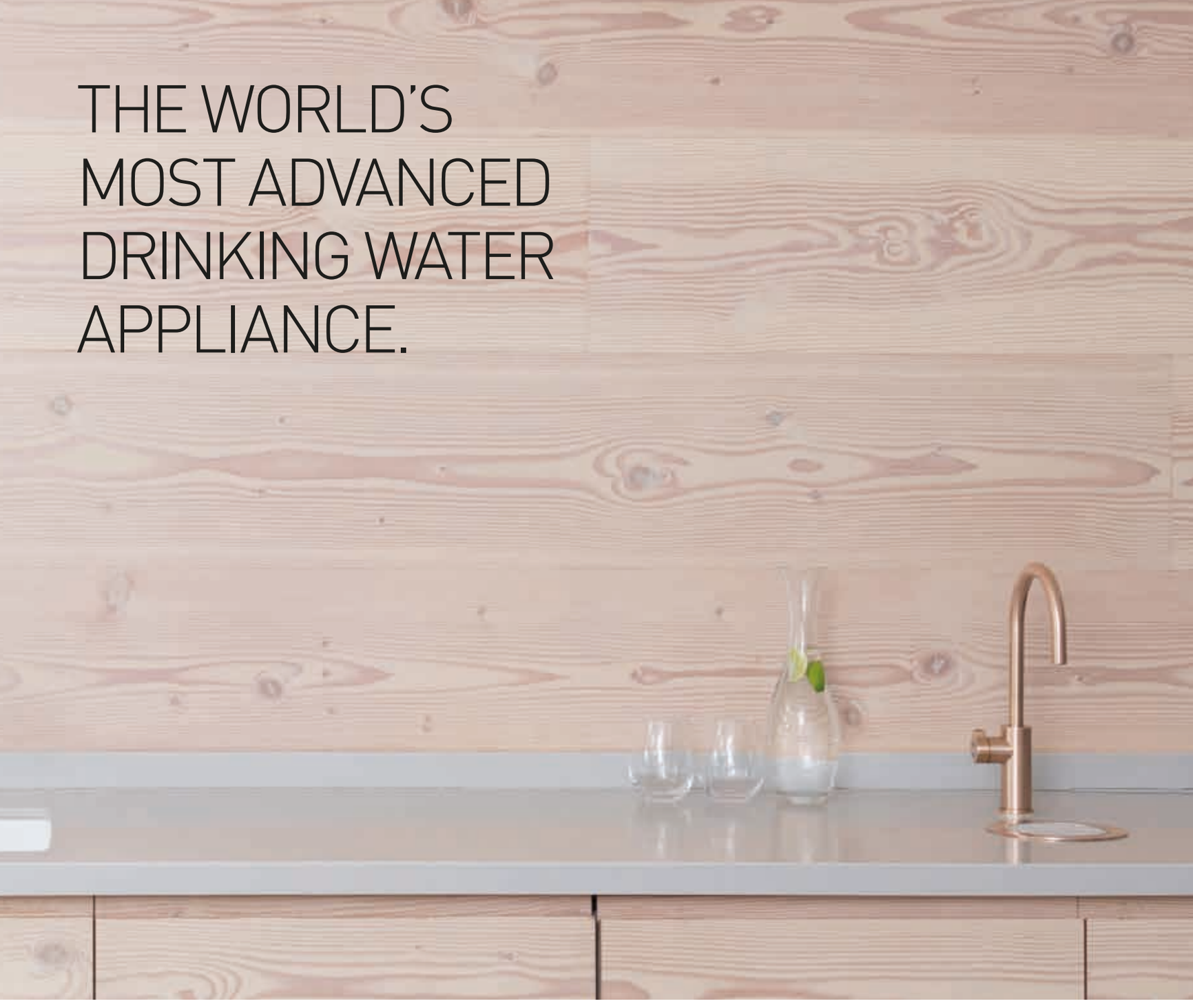

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Schools put to the test

Schools are being squeezed by more pupils, decaying stock and funding pressures. Where does that leave construction?

Brian Green

The National Audit Office publication on capital funding for schools has beamed attention back onto the urgent need for greater investment in the buildings in which youngsters in England are educated.

Not only does the report highlight the stiff challenge to find places for rapidly growing numbers of school children, it also places in stark relief the effort needed to bring large numbers of crumbling schools up to scratch.

It suggests that £6.7 billion in hard cash is needed 'to return all school buildings to satisfactory or better condition'.

Politics naturally adds its own layer of complexity to an already testing task. The detail of the report clearly suggests the job has been made that much harder because the government's flagship free schools initiative is gobbling up more of the funding pie than was originally planned or expected. The 2010 estimate was to spend £900 million on opening 315 free schools. By March 2015 it had spent double that and opened 310.

This all comes at a time when capital funds are tight for schools. The capital budget for the Department for Education, which funds English schools, has fallen dramatically. In 2009-10 it was £7.4 billion. It fell to £3.6 billion in 2011-12, but has increased since and in 2015-16 it was £4.8 billion. Even that is 40% down than the 2009-10 level.

Barking's Riverside free school (primary) by Surface to Air working with Portacabin

On these figures it looks like an uphill struggle for those eager to see a quality educational environment in which England's youth can flourish. And the inevitable known and unknown turbulences that Brexit will create within the construction industry, such as uncertainty over the labour supply, will add further to the task.

That said, for those looking to deliver that quality environment – the architects, engineers, builders and managers – it is both a challenge and an opportunity to shine.

The National Audit Office (NAO) says there was a 599,000 net increase in school places between 2010 and 2015 and a further 420,000 are needed between 2016 and 2021. One has to assume the low-hanging fruit has been picked, so the route ahead will be tougher.

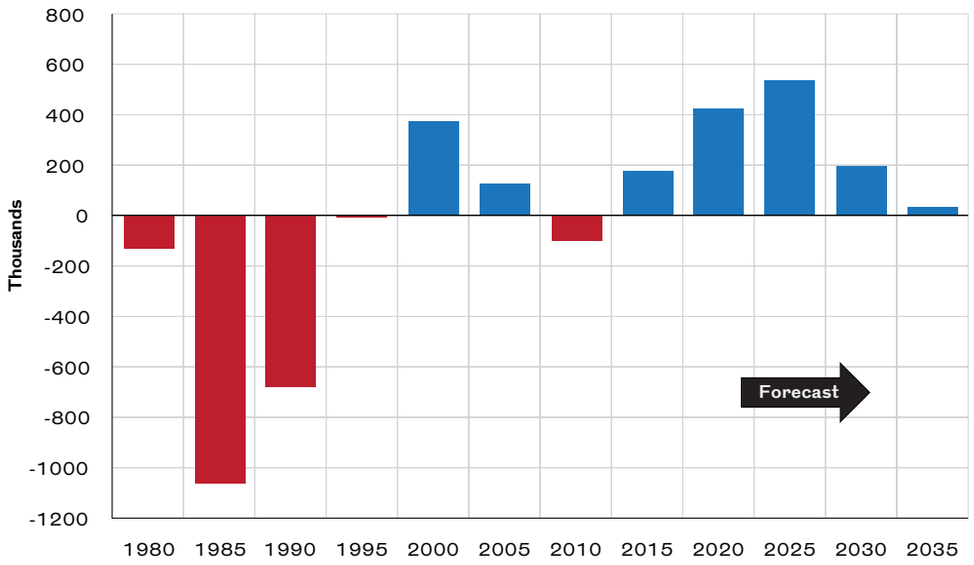
Standing back, and looking simply at population estimates and projections, you might be forgiven for thinking that a nation as rich and resourceful as the UK should be able to take in its stride a fluctuation of less than 10% over a decade in the school-age population, as the data suggests.

But when you look at Chart 1, the real scale of the growth in actual numbers of children makes the size of the job ahead loom much larger. The nation hasn't faced such a sustained growth in children for decades.

Then you have to consider that it's not just about accommodating a rising overall

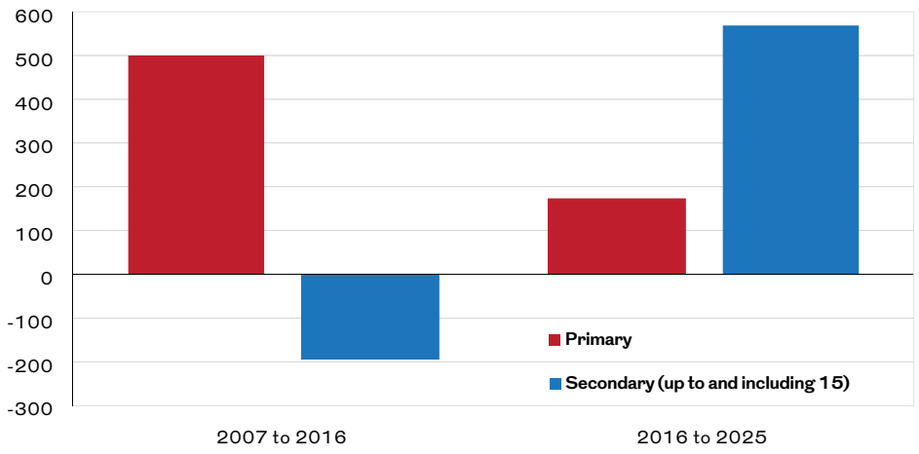
School leaders have perverse incentives to let their buildings fall into an even worse state of repair – so they qualify for replacement

Change in number of 5 to 19 year olds in England over the previous five years



Source: Office for National Statistics
Notes: Data taken from population estimates and projections for England

Increase and projected increase in primary and secondary children in English state schools



Source: Department for Education, National pupil projections, July 2016
Notes: Data taken from Table 1: State-funded schools
Full-time equivalent number of pupils (aged up to and including 15) by type of school (000s)

number. Populations shifts, so there may be some areas seeing school numbers fall, while others have to accommodate far more than the average. Furthermore the rise in primary and secondary school places is far from even, indeed the number of pupils aged up to and including 15 at secondary schools fell between 2007 and 2016 (see Chart 2).

Then there's the cost. The NAO found that local authorities on average spent £10,900 to create a new primary place and £15,000 for secondary. With upward pressure on costs and the low-hanging fruit already picked, it is a fair assumption that future school places are likely to cost more.

The need for more and better school buildings is, though, not just a function of accommodating extra pupils. It also rests heavily on the quality of the existing stock.

About 60% of the 62 million m^2 of England's 21,200 state-funded schools was built before 1976. A study of England's education estate in 2014, the Property Data Survey Programme, found that older buildings tend to be in significantly greater need of repair. That bill is estimated at a hefty £6.7 billion.

Interestingly, the NAO report notes that school leaders have perverse incentives to let their buildings fall into an even worse state of repair – so they qualify for replacement.

For those who witnessed the boost in spending on new schools in the early part of the 21st century, this whole state of affairs in which we find ourselves might seem baffling. How much more is needed to bring the nation's schools up to scratch?

To provide an insight into the potential scale of the challenge that lies ahead, just look at how large the surge in spending was a decade or so ago. It led to construction work on state schools and colleges – not including universities – hitting £6.5 billion in 2010 alone. At its peak, public sector work on schools and colleges represented almost 9% of all new-work construction, compared with a shade over 1% in 1988.

It is unlikely in these austere times that sufficient funds will be found to reach those dizzying heights again. There will also be resistance to build to what were regarded as the lavish standards seen in the Building Schools for the Future programme. But huge sums will be needed to cope with the surge in pupil numbers even if the buildings achieve the less expensive standards of the current Priority School Building programme.

The RIBA last year made a solid case for investing in great design in its #TopMarkSchools report. Indeed, if the number of school places is to be delivered and the buildings are to be of a suitable standard, great design appears to be an essential ingredient.

Smarter thinking linking to smarter design and smarter construction will all be needed, not just to keep costs down and provide buildings that work well and inspire the young to learn, but to compensate for the likely skills shortage that may well be exacerbated by leaving the EU and its unfettered supply of talent.

Indeed if labour shortages become a far greater constraint, as they may, the case to replace schools rather than repair them might well become more appealing, not just for school leaders keen to rid themselves of out-of-date buildings, but because new build tends to be far less labour intensive than repair and maintenance. ●

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If you're looking for inspiration, ideas, innovation or suppliers Retail Design Expo is the place for you

This image and right
Designer pavilions at Retail Design Expo 2016.

Retail Design Expo has become the definitive annual expo for architects, designers and heads of property and formats working for and within the retail, branding, hospitality and leisure sectors. The show provides inspiration, ideas, innovation and potential new suppliers from around the world. In addition to 270+ suppliers, an outstanding free conference programme features a star-studded list of speakers in more than 75 retail design and marketing sessions.

Supported by RIBA Journal, the event, alongside its co-located shows RBTE and Retail Digital Signage Expo, will bring together over 17,000 visitors from the UK and overseas. These include top retailers, brands, architects, retail designers, marketers, visual merchandisers, shopfitters, and product and service providers, all under one roof for two days of networking, learning, sourcing new suppliers and exploring new business opportunities.

Presentation briefings

The conference promises inspirational dialogues and idea exchanges courtesy of thought-provoking panels and sessions by speakers on the industry's hottest issues.

A highlight at this year's programme will be the presentation by Deb Caldow, head of innovation at Costa Coffee, and Michael Fern, director at Edge. They will reveal the 'launch of a new Costa Coffee store design'.

Another must-go-to session will be the presentation by Sonal Vaja, senior store design and development manager at Post Office, and Jonathan Rhodes, head of insight at Linney Group. They will share 'how the Post Office made retail design work across 11,600 stores.'

With vast experience in store planning and design solutions for global luxury brands, Federico Shilling, head of store design and development at Thomas Pink, will deliver a morning keynote session on the second day of the conference. Shilling will share his experience on 'challenges of rolling out a new design concept across all Thomas Pink stores'.

The panel discussion on 'The Store of the Future' will be an invaluable addition to this year's conference and should not be missed. Guests will include Jon Tollit, principal at Gensler, Andy Turnbull, creative director at The Honest Brand and Richard Ash, CEO and founder of Green Room. They will share their insights and address questions such as: How will the store function? What will retailers focus on? What retail design trends should you be paying attention to? How will digital integrate with the physical? Is augmented reality the next big thing in retail design? They will also reveal how to provide services and experiences based on the personal preferences of customers.

Exhibitors

Retail Design Expo's 270+ suppliers come from all relevant sectors, including lighting

designers and manufacturers, surfaces, materials and flooring companies, fixtures/fittings suppliers and shopfitters. Exhibitors include large and small companies from not just the UK but Italy, Canada, Germany, France, Switzerland, Spain, Austria, Republic of Ireland, The Netherlands, Sweden, Hong Kong and the USA. Many exhibitors will be launching new products and services the show – visitors will be the first to witness a raft of new innovations, ideas, materials, structures, fixtures and fittings.

Student Awards sponsored by ITAB
The Retail Design Student Awards make a welcome return to Retail Design Expo 2017. The scheme celebrates, encourages and promotes the future stars of retail design. Students have been working to live briefs from Adidas, Majestic Wine and Pret A Manger, and are being mentored by top-class designers. The winners will be announced at the show in Theatre 1 at lunchtime on 8 May.

Innovation Trail & Awards sponsored by 20.20
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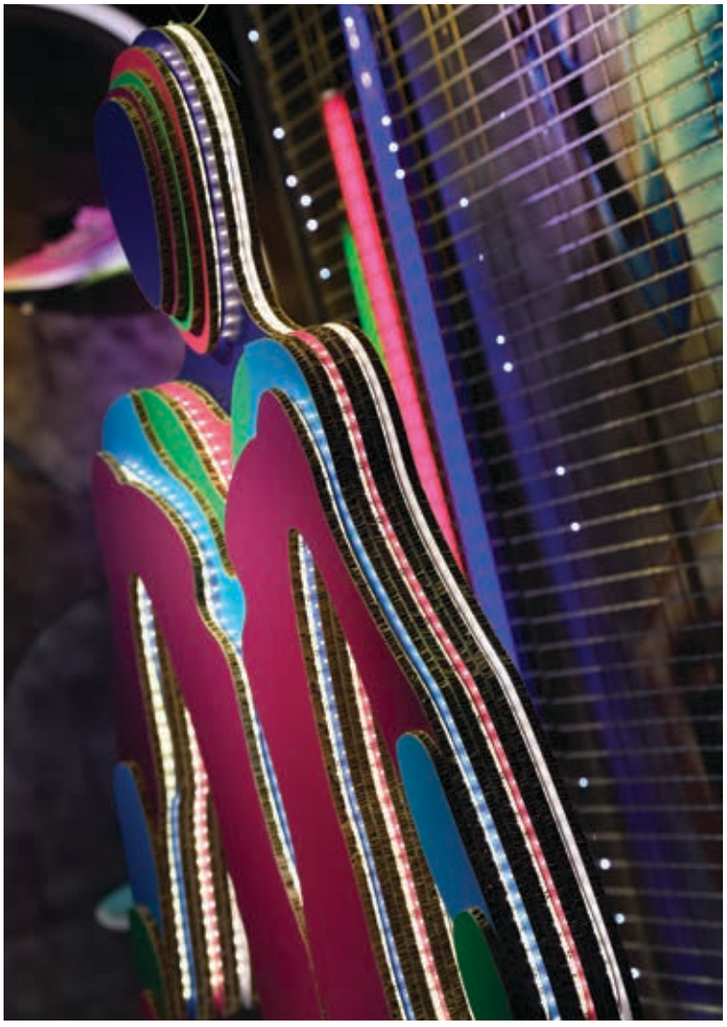
Right and above Stand at Retail Design Expo 2016.

Above left Jon Tollit, principal at Gensler.



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1) Compared to linoleum flooring systems according to a MasterTop study by BMG Engineering AG. 2) Test report P-BA 219/2015e, Frauenhofer IBP. 3) 50 years when properly applied, maintained and with periodic re-topping. All figures provided are based on an actual case from multipurpose commercial building of real estate developer Koteng Eiendom AS in Trondheim, Norway.

Climate

Designing & building It

A matter of living or dying

In the first of a series on reuse, Duncan Baker-Brown explains the urgent need to end our throwaway culture and meets some pioneers

Duncan Baker-Brown

Since building the Waste House at the University of Brighton in 2014, I have done extensive research into the impact our design decisions have on the consumption of our planet's natural resources. Humankind is creating about 4 million tonnes of waste material a day, and the construction industry is involved with about 40% of this problem – or opportunity, as many people are beginning to realise.

Like many architects over the past couple of decades, I have been looking for alternative strategies to the linear 'take, make and throw away' one. The most high profile positive solution over the last 40 years or so has of course been 'sustainable design'. However for many this concept is just about being 'less bad' and feeling guilty about our very existence. In 2002 Michael Braungart and Bill McDonough published Cradle to Cradle. This seminal text proffered a different, positive, approach where the design of methods, processes and things set up 'closed loop systems' and eventually the holy grail of a circular economy – a world where things are designed for perpetual reuse where they are part of a huge organic 'biosphere' or synthetic 'tech-sphere' – just like the natural world.

Over the past 15 years or so many books have been written speculating on the huge potentials associated with this alternative approach. But few feature actual projects. For example, if Apple designed products for a circular economy, it would only have to mine for resources for a single year to provide 100 years' worth of product for sale or lease, or 're-manufacture' as it is known. Humans are nowhere near functioning as a circular economy, and have covered our planet with the detritus of our existence – cities, intensive farming, air-borne radioactive pollution, landfill sites and oceans of plastic.

In my book I argue that while we wait for a truly circular economy to materialise, humankind needs to clean up the mess we have made over the last century through mining, making and consuming stuff without a thought of the end of life consequences on our environment. We must now try alternative approaches, and quickly. I believe designers could come to the fore here. Over the last year, I have interviewed over 50 designers, architects, manufacturers, and suppliers from around the world. All are coming up with inventive strategies that encourage everyone to 'mine the Anthropocene' (the current geological epoch created by human activity): to work with what already exists, has already been mined and processed. Of course architects will play a major role unpacking 'traditional' design and procurement strategies that will ensure our future buildings and cities are 'material banks for the future' and that they are 'designed for re-manufacture'. I believe this new approach of re-working/working with/adapting, will legitimise the recycling and reuse of stuff, often dismissed by Braungart as 'merely slowing down the inevitable route to our oceans'.

> If Apple designed products for a circular economy, it would have to mine resources for just a single year to provide 100 years' worth of product

But does it make financial sense today? How do you sell the idea to a hard-nosed developer focused on short-term gain? I asked myself these questions when deciding how to make the content of The Re-Use Atlas interesting to practitioners in today's post-liberal 'linear' economy. Four chapters in the middle of my book cover design case studies that take the reader on key steps (recycling, reuse, reduce, closed looped systems) towards closed loop systems. Case studies were chosen that addressed the challenges for all of us considering sustainable solutions to design problems.

Over four articles I will discuss is detail case studies from each of the four steps, starting with recycling, in this case with training shoes and football kit made from ocean plastic and illegal fishing nets.

Detail of Adidas x Parley showing the green net.

Unloading 75km of illegal gillnets from the Sea Shepherd.

Best foot forward

Adidas training shoe and football kit, developed in partnership with Parley for the Oceans

'When I started Parley in 2012, the forecast was that by the year 2048 the oceans will die, leading to irreversible damage to our planet. Turns out this was too optimistic: actually we have 10 years to spin things around,' says Cyrill Gutsch, designer and creative entrepreneur, founder of Parley for the Oceans.

German-born Gutsch set up New York-based Parley for the Oceans in 2012. By April 2015 it announced its first commercial partnership, with sportswear giant Adidas, making training shoes out of ocean plastic waste. Gutsch says the fashion, sports and tech industries can create trends which 'have the power to shift thinking and behaviour – sometimes even overnight. Technology and fashion are perhaps the fastest change agents there are'.

If we only have a decade to clean up our oceans, then we have to change behaviour quickly, Gutsch believes. Marrying major brands, their huge marketing budgets and customer demographics with environmental challenges is his way of doing this. He will focus on consumables and brands that create environmental problems in oceans. He hopes people buying products made of ocean plastic waste will be fascinated by the stories associated with them and so behave differently.

Parley has attempted to 'take ownership of the supply chain' with Adidas. In June 2015 Parley held an 'Oceans. Climate. Life' launch event at the United Nations in New York. Gutsch and his Adidas partners could have shown images of the destruction that 100 years of plastic production has caused. Instead they presented the first training shoe made entirely from ocean waste. The upper was made with nylon, salvaged by Parley partner organisation The Sea Shepherd, which for 110 days chased a deep sea fishing trawler that had been poaching rare fish off the coast of West Africa. The Sea Shepherd then salvaged the trawler's 75km of illegal gillnets and took them back to port. The story caught the attention of the press and social media to such an extent that within 18 months Adidas and Parley had 500,000 of the 'Ultraboost Uncaged Parley' in production. Made from ocean plastic collected from the Maldives, the first commercial shoe was produced in November 2016, and the firm expects to produce one million by the end of 2017. Football kit and swimwear has followed.

The story caught the attention of the press and within 18 months Adidas and Parley had 500,000 of the 'Ultraboost Uncaged Parley' in production

Adidas x Parley mixing up ocean waste plastic and illegal nets.

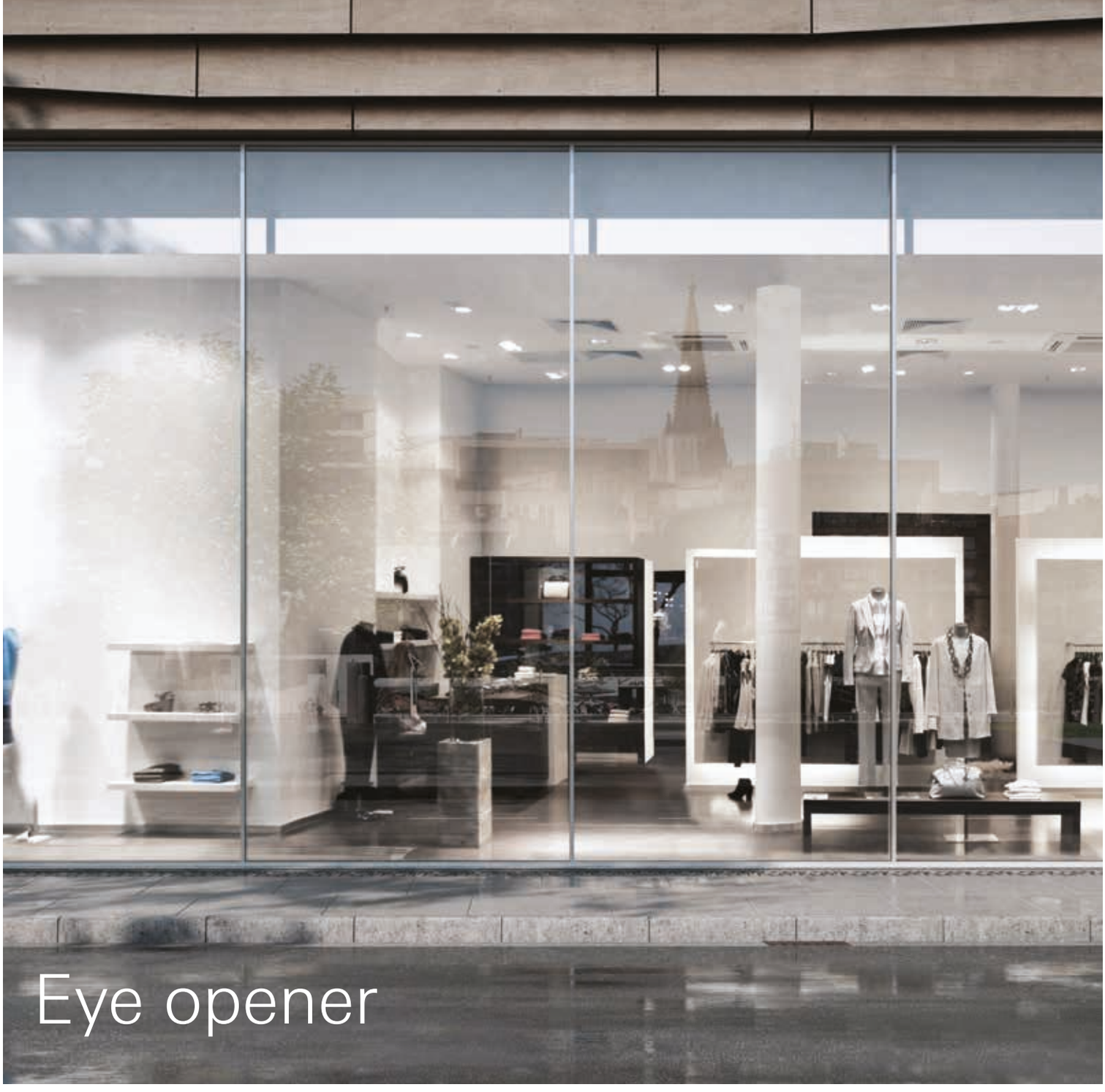
The idea is actually pretty straightforward. By marketing popular products made from materials that have interesting narratives, companies will encourage consumers to learn about the problems associated with the materials used (for example, ocean plastic waste) and, crucially, to feel part of a positive response. It's hoped consumers will then return their shoes to Adidas for reprocessing, and avoid them becoming waste.

This is only the first step. Parley for the Oceans is also investing in the teaching and research required to replace 'dumb' 20th-century plastics with bio-plastics and other materials that will eventually compost, making the nutrients that feed ecosystems rather than polluting and destroying them.

Parley creates products with a clear narrative; a story to tell that is enticing and intriguing. This idea must strike a chord with architects. For the most part we specify the materials that contractors source to deliver our ideas. If we can reconsider what we value, identify new material flows and not rely totally on the manufacture of band new materials and products, our practice of architecture will contribute to reducing the huge amount of so-called waste created every day.

My next article will consider architectural projects re-using stuff discarded by others while navigating the onerous obligations of a standard NEC contract. ●

Architect Duncan Baker-Brown is author of The Reuse Atlas: A Designer's Guide Towards a Circular Economy



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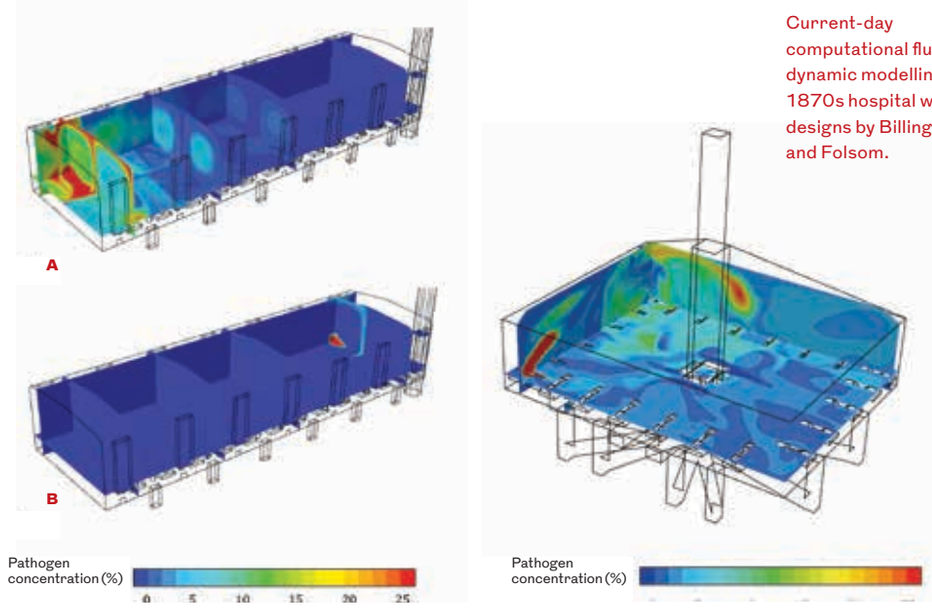


Current-day computational fluid dynamic modelling of 1870s hospital ward designs by Billings and Folsom.

Natural climate control is no new idea, says Alan Short in a new book – we can reclaim it from the air-con age

Ricardo Moreira

'How did we get here? Why are our buildings made as they are today,' asks Professor Alan Short in his fascinating exploration of the history of environmental design practice and their contemporary exemplars, discussing well-known case studies from his own architectural practice and gathering key findings from his previous research, publications and post occupancy evaluation.

His book, The Recovery of Natural Environments in Architecture, draws on seemingly distinct disciplines – such as physics, chemistry, history of architecture, art, literature and philosophy – to frame the context of modern environmental design as a science with its roots in Ancient Greece via active study and implementation in the early 19th century. Importantly, it explores how then-novel scientific understanding of the impact of climate on humans led, in the 20th century, to the unintended consequence of the dominance of manufactured artificial environments and boom of the nascent air-conditioning industry. With the advent of mechanical ventilation, it argues, came a loss of the 19th century's rich understanding of natural ventilation, which it then tries to uncover.

Detailed examinations of the rise and dominance of both air conditioning and Modernist architecture-driven glass buildings are enlightening, based on economics, psychology and philosophy, as is the review of its preceding natural ventilation science. It may be a surprise to many that the thinking and understanding of natural ventilation of complex buildings was quite advanced given the analysis tools available at the time. Some mid-19th century challenges were similar to those of today – whether technical, financial, procedural or even relating to ego battles, whose narratives may still be familiar to the profession. With the benefit of hindsight and today's modelling tools, the author revisits some of those 170-old designs to test whether those 'magic arrows' – which were already present back then – behave as planned (see above).

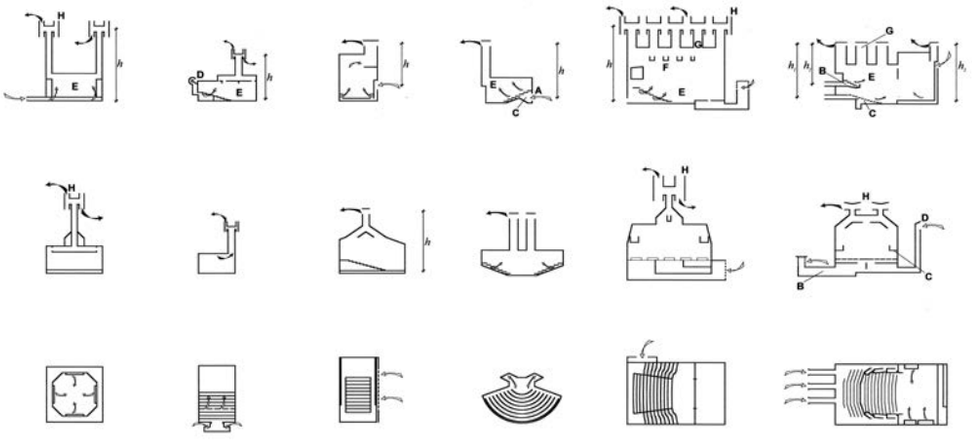
The Recovery of Natural Environments in Architecture – Air, Comfort and Climate, by Alan Short
Routledge, £39.99, PB 392pp
ribabookshops.com

This well structured book is easy to read and, instead of concentrating large chunks on individual case studies, the author brings them in when relevant. The flexible chapter structure allows the author to explore his specific interest in what are arguably some of the most challenging building types for natural ventilation and passive design – multi-storey offices in urban locations, theatres, hospitals and laboratories – while interspersing informative historical, scientific and architectural practice facts, making for a detailed and engaging narrative.

Short believes that environmental design should not be 'dumbed down' for an architectural audience. Unlike his predecessor Billings in 1884, who provided 'almost no mathematical equations or unfamiliar technical expressions to suit the intended audience of aesthetes,' Short demonstrates his designs through dynamic modelling, computational fluid dynamics and the results of physical tests, commissioning and operational evaluations. He feels a practitioner should 'systematically gather evidence from field and practice.'

The book's approach points to a mind driven by challenges: how to make passive downdraft cooling work as designed, how to make challenging building types like theatres and hospitals work passively, how to get around the urban heat island effect. And, in truly academic fashion, it promotes publishing building information candidly, 'warts and all'. Indeed, failure (although usually partial) is discussed in several case studies in a refreshingly honest way.

Below Illustration of the author's approach to translate investigation and experimentation into practice by developing a taxonomy of natural ventilation options for theatres.
Right Alan Short's Queen's Building at De Montfort University, Leicester.



Should we be getting away from an obsession with indoor air quality?

But while this inquisitive and evidence-based approach reflects the author's academic background, it does not make the book less accessible. Instead it provides support for a cause that is often discredited by the profession through lack of substantiation. In fact, it would have been good to see more of that evidence, specifically data on the longer-term, monitoring of the buildings discussed, breakdowns of energy use, more discussions on shoulder seasons, and monitored data of successful performance.

One could ask how many mainstream projects get the benefit of research funding for design and POE like Short's Queen's Building for De Montfort University in Leicester did, of enlightened clients and support from universities. But the case studies raise interesting and very relevant questions: are our thermal comfort assumptions appropriate? Should occupants 'dress for the [climatic] occasion'? How can we get away from crude design temperature targets which do not take into account weather or culture (the 'thermal delight' concept is fascinating)? Will occupants become more willing to avoid mechanical mode to achieve carbon reduction targets? Is Passivhaus becoming less relevant in future climate scenarios? Should we be getting away from an obsession with indoor air quality?

The role of architects is shown as central, due not least to the significant implications of environmental design to space configuration of such building types as hospital wards, auditoria and offices. Practising architects will have their own views on the author's designs, but as an environmental designer looking at his case studies, I cannot help but admire an architect who is happy to predominantly shape his design on passive strategy drivers.

Short asks: 'Could the principal obstacle to the Recovery be 'taste' even more than perceptions of comfort?' It is a valid question; stylistic laziness is responsible for a lot of unnecessary CO_2, evidenced by the ubiquitous fully glazed facades of apartments directly facing busy roads or other buildings. And the question is understandable from an architect who has sometimes been criticised for his stylistic choices. But environmental design can be realised in all sorts of architectural styles and tastes. The main obstacle, in my view, is fear of failure, of deviating from standard practice with its ensuing liabilities. Short confirms this suspicion by concluding that 'the majority of building designers [assemble] proprietary products within a predetermined price range, which enables investment formulae to be solved. But architecture is ultimately led by thinking designers.'

Obstacles to novel natural ventilation solutions such as building insurance, fire codes, planners, conservation officers, etc, appear in the case studies. Another challenge in typical practice is the lack of desired, but rarely successfully accomplished, close collaboration between architects and engineers. The book traces this split in professions back to the mid-19th century, but exemplifies in the case studies how they can work together, alongside the role of the 'thermal modeller,' as long as there is general buy-in for – or at least willingness to explore – a natural ventilation approach. And the responsibility of the traditionalist and 'historicist' M&E engineers is not forgotten, inflexible in their practices and 'devoted to the technology of making artificial environments.'

Although the book will tend to attract design professionals, it is equally accessible to lay audiences, providing plenty of ideas to spark curiosity about the subject and leaving them eager for more detailed case study information – which although scarce in the text is thoroughly referenced.

The word 'Recovery' in the title means that the promoted practice is neither a novel idea nor one that will come from business as usual. It requires effort to get there – scientific testing, understanding of history, climate and building physics; in short, thinking and challenging. This book is a highly instructive document to help us on that journey. ●

Ricardo Moreira is managing director at sustainability consultant XCO2

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Designing & building It

Page of consents

A children's hospice in a nature reserve and a huge university expansion are among our recent approvals

Jan-Carlos Kucharek

There's a lot going on in London, with regeneration of former industrial sites figuring heavily. Piercy & Company's new 'pro-working' Camden development for Fora mixes commercial let with hotel to create something that's as much event space as workplace.

Lyndon Goode's residential development on Fish Island will also provide start-up space for East End artists and hipsters, while in Essex Swan Housing Association will place its own HQ in a new retail centre, replacing an existing one. In Barnet, meanwhile, a children's hospice sits in a nature reserve as a peaceful setting for its important work.

Beyond the capital, Glasgow University is building a massive campus as part of a £1billion regeneration. And, on a smaller scale, Carlisle cathedral's former refectory turned library is gaining an extension by Feilden Fowles. Less novel than novel gothic.

THE FRATRY PROJECT, CARLISLE

Client Carlisle Cathedral
Architect Feilden Fowles
Total area Existing 650m² New build 185m²
Planning authority Carlisle City Council
Planning ref 16/0722

In what represents 'the most significant physical intervention on the cathedral site for 150 years', this £3.4million project (with a Heritage Lottery Fund grant of £2million) is both a refurbishment and extension of the grade I listed Fratry at Carlisle Cathedral, which was originally built in the 1500s as the monastery refectory. It now houses one of the largest cathedral collections of 17th-18th century books in the country.

A new, single storey, entrance building to the north west of the Fratry will replace the long disappeared West Range while the Fratry Hall will be refurbished for exhibitions and events. A link structure and the refurbishment of the undercroft for teaching and learning activities completes the scheme.

Feilden Fowles' building, which will also define a new cloister space, has been inspired by the dropped arch on the western gable of the Fratry, creating arched forms within a fine rectilinear frame. The formal approach looks slightly counter-intuitive, but the firm says the combination of the two geometries will create subtle shadows across the facade throughout the day.

GILMOREHILL CAMPUS, UNIVERSITY OF GLASGOW

Client University of Glasgow
Architect AECOM & 7N Architects
Total area 85,000m² (total scheme 2million m²)
Planning authority Glasgow City Council
Planning ref 16/01208/DC

The permission in principle for this huge masterplan provides a framework for significant expansion of the university's campus on the site of the former Glasgow Western Infirmary in the city's West End. It will provide learning, teaching and research spaces in a new mixed-use quarter, which, the architects say, 'will integrate the historic core of the campus with the neighbourhoods to the west and form a new frontage to Kelvingrove Park to the south'.

AECOM leads the team, which includes Simpson and Brown, Muir Smith Evans and Spaces That Work. They will deliver the project in phases governed by design guidance developed by AECOM and Edinburgh-based 7N. This will cover form, height, massing, frontages, articulation and materials.

The £430million first phase will be developed over the next five years. This is the first tranche of funding for a £1billion project to refurbish and extend Glasgow University's estate, which will be one of the biggest educational infrastructure projects in Scotland's history.

LAINDON CENTRE, BASILDON, ESSEX

Client Swan Housing Association
Architect Pollard Thomas Edwards and CF Møller
Total area 5.66ha
Planning authority Basildon Council
Planning ref 16/01594/FULL

This proposal for a large site running along Basildon's High Road might finally turn that thoroughfare into more of a high street. Swan Housing Association has received permission to redevelop the site of the 1970s Laindon Centre with a retail-led, mixed-use scheme. It will deliver new shops, head offices for the housing association, a new health centre, apartments and larger family homes.

The site has a troubled past, with five previous owners in the last 20 years. Swan acquired the site in May 2016 and brought the architects on board. With the housing association intent on making the Laindon Centre its HQ, it's hoped this will prove to be the key incentive that will drive the project forward.

3-6 SPRING PLACE, CAMDEN, LONDON

Client Fora
Architect Piercy & Company
Total area 4,940m²
Planning authority London Borough of Camden
Planning ref 2016/5181/P

Client Fora aims to carve a niche for itself in the world of commercial start-up offices with its 'pro-working' concept. This takes the best of the hotel experience and applies it to the work environment to create a 'resident experience'. Spring Place in north London's Kentish Town is one of two permissions of this nature for the client.

On a complex site adjacent to London Overground lines, the architects are creating offices designed around the metaphor of a house, with 'different zones for working, thinking, collaborating and socialising'. 'Residents' will be looked after by hotel-style concierges managing modern board rooms, wellbeing studios, fully equipped communal spaces hosting curated events, and even boutique hotel style wet rooms.

The industrial look of sawtooth roofs and steel cladding coincides with the industrial nature of the site, making use of the complex volumes created by the triangular plan. Part of the common and workspaces will extend under the arches to lock it into its site and take full advantage of its Victorian past.

NOAH'S ARK HOSPICE, BARNET, LONDON

Client Noah's Ark Hospice
Architect Squire & Partners
Total area 2,240m²
Planning authority London Borough of Barnet
Planning ref 16/5151/FUL

This new facility, providing on-site care and support for children with life-limiting or life-threatening conditions and their families, will be the only children's hospice serving central and north London and Hertsmere. Noah's Ark supports around 150 children and their families at home and in the community, but this facility will help bring this up to 450.

The brief sought an inspiring space for palliative care, allowing young people and families to connect with others in a similar situation, while letting the children be just that and not patients. To that end, the proposal sits in a 3ha nature reserve, providing interaction with the landscape for kids and their families as well as staff and visitors.

It is effectively a cruciform of two wings with a short central spine separating them. Within the wings are the more private hospice rooms looking out to the landscape. The wings connect back to the spine, which acts as a barn-like entrance and 'light-filled, vaulted hall', with common social spaces under its timber pitched roof.

While Noah's Ark chief executive Ru Watkins is pleased with the decision, he caveats it: 'We believe that, given the paucity of land available for such schemes, this will prove to be the last hospice built in London.'

FISH ISLAND VILLAGE, HACKNEY WICK, LONDON

Client Peabody
Architect Lyndon Goode
Total area 1,770m²
Planning authority
London Legacy Development Corporation
Planning ref 16/00103/REM

Lyndon Goode's five storey building has a ground floor café, bar and restaurant with 16 one, two and three bedroom apartments on upper levels. It is part of a larger live-work development in Hackney Wick on a piece of land that Peabody bought on Fish Island in 2014. The 580-home development includes buildings designed by Stirling Prize winners Haworth Tompkins and Pitman Tozer.

The building's herringbone patterned facade was inspired by street art that the firm found on the site. Lyndon Goode propose a trabeated facade with a set back ground floor on the north elevation, creating a small colonnade for al fresco dining. On the south side, recesses denoting the residential and commercial entrances at ground level become balconies above.

A key aspect is the 4,500m² of accommodation for local artists, designers and start-ups, providing 'a raft of high specification, purpose-built, affordable living and working space'. The tenant, the Trampery, operates entrepreneurial spaces all over London, but this is its largest project to date.

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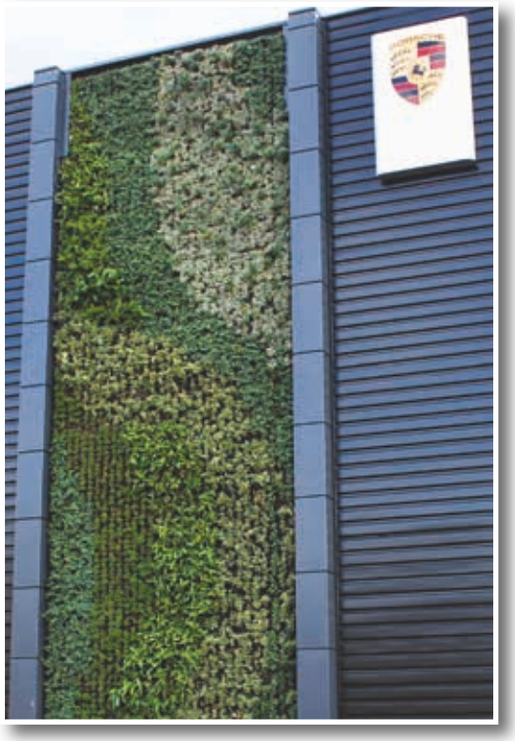

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Where people live

RISING STARS
RIBA J origin

Learning from Rwanda

In a new series in which RIBAJ Rising Stars 2016 set the agenda for their generation, we start with a community build in Rwanda

Edward Dale-Harris

I was at the Cass Design School when it lost many of its workshops and downsized its courses, forced towards more laptop-based education. As a consequence I found it hard to get off the computer and engage with the people and materials in the design process. I felt abstracted from the real thing. How could I find work that would engage the users of the space and design for them? How could I really understand the materials sourcing and processes? It all seemed so far away. I wanted to quantify all the material and energy in a system of making, and know what is the real cost?

So I volunteered. I cold called and emailed various charities. I offered them my services for free. I booked a flight. I went to Rwanda with charity Reach to stay with a priest who reconciled traumatised victims and culprits of the 1994 genocide.

Since then I've been four times to volunteer for Reach. The third time I helped build a low cost rammed earth house. I spent three months working on it, on site most days. I worked alongside the beneficiary, his family and the cooperative. I got to know how they lived. We worked together to build this house.

The purpose of the project was reconciliation. It was restorative justice: 20 released prisoners volunteered to build a house for one of their surviving victims, who had lost their house, family and everything. They would also work alongside six of their other victims.

The group was formed through Reach's three month reconciliation programme during which they would give their testimonies of what happened during genocide. Some begged for forgiveness. Others managed to forgive them. Importantly, this was a two-way process. Witnessing this social transformation of people once enemies to becoming friends was simply remarkable. Who would have believed that this kind of reconciliation was possible?

It was restorative justice: 20 released prisoners volunteered to build a house for one of their surviving victims, who had lost their house, family and everything

This simple 35m² house had more soul and meaning to it than any other. The building embodied so much shared effort and energy. The time and the materials were all given freely. It was through this time spent together on a shared endeavour that the group could practise reconciliation into the long term.

Buildings are built for different reasons. Some for money, some through necessity, some for reconciliation.

The UK has a building culture with a deep disconnection from its users. Most of our housing is provided on a large scale. Complex and unclear regulations force this work into the hands of professionals in large companies. Housebuilding doesn't have to be that complicated. Self-build, small scale DIY housing should be encouraged. I would challenge anyone to get involved in community self-build projects. There is so much to learn and gain socially, environmentally and economically. ●

EDWARD DALE-HARRIS

Jean Bosco compacts one earth block with the Makiga block machine, Ntarama, Rwanda, November 2014.

To find out more about RIBAJ Rising Stars, a scheme to reward up and coming construction professionals, visit ribaj.com/rising-stars-2016
Rising Stars 2017 opens for entries in June

Internal management

Designing & building It

Digital: it's not optional

Excited or anxious, you've no choice but to embrace it. Where can you turn for help?

By Dale Sinclair

Across the globe taxi drivers are protesting against the march of Uber, which has transformed city travel. London black cabs have been part of the resistance to technological change. They are also resisting the cycle highways which are bringing greener, and ironically faster, ways of travelling across the city – underlining that change comes in many guises. When autonomous vehicles become commonplace (something that seemed like sci-fi a few years ago) there will be further disruption. Car manufacturers are looking to a driverless future where they sell mobility not cars. City planners are beginning to grasp the impact of city centres without garages or parking spaces. The effect on our cities will be transformational.

A wave of new technology is upon us including big data, artificial intelligence and machine learning. Transport points to what the architecture profession will face as new digital technologies and tools are leveraged to their full potential and remorselessly change how we design and construct our cities and the buildings within them. Some architects are resisting BIM, riding out the remainder of their career in an analogue world. For most this will not be possible. Betting against technological change is a major gamble. Architects can't stick with analogue when everyone around us is in a digital, data-driven space with real-time simulations and analysis.

The DfMA (designing for manufacture and assembly overlay to the RIBA Plan of Work) observed that the vast majority of our concept designs were predicated on 100 year old technologies such as dry-lining and the steel frame. Practices at the leading edge have already left BIM behind and are delivering projects using many different digital technologies. Stage 4 of the Plan of Work is being transformed by new design to manufacturing technologies. Architects can, and are, leading this transformation. We need to provide the thought leadership that will consign traditional construction to the bin and drive new workflows that will radically reduce costs and time. On-site robotics and large-scale 3D printing are not far away.

At Stage 3 of the Plan of Work, co-ordination is possible using many 3D technologies. Immersive technologies are being harnessed at stage 2. While various applications may seem like novelties to some, they are already business as usual to other designers. The death of 2D is not far off.

Those who embrace these new technologies will provide new ways of designing and delivering projects. Those who don't will be unable to compete on time or quality and will need to focus on the creativity centred on stage 2, although even during this crucial stage it will be difficult to compete when rivals are able to provide instant cost information from their designs driven by models linked to faster workflows with fewer iterations and reduced project risks.

The RIBA Digital Task Group, chaired by David Miller, distils and disseminates knowledge on current and emerging digital topics. Over the next few months we will give you insights into aspects of this in RIBA Journal and on ribaj.com. We want to encourage every practitioner to jump on the digital bandwagon and enjoy the ride – before it's too late.

Even those enthusiastically engaging with the digital agenda will not be immune to the challenges. Inevitably digital technologies will drive new business models. Many clients are looking not just for successful buildings but for rock solid asset information that will reduce operational and in-use costs. The RIBA Plan of Work 2013 sowed the seeds for these life-cycle orientated changes, including better project outcomes, but few architects are embracing them. The next wave of transformation, driven by Digital Built Britain, will focus on radically improving organisational and societal outcomes. These appear to be goals worthy of architectural values and training yet we seem reluctant to lead innovation in this space.

> Those who embrace these new technologies will provide new ways of designing and delivering projects. Those who don't will be unable to compete

Disintermediating the design process will open up many new opportunities and possibilities. A substantial amount of work is to be done if the RIBA and its members are to rise to the challenge. CPD must become whole life learning. We must accept and embrace the breadth and scale of change that will occur. The RIBA Digital Task Group hopes this series of articles will act as a wake-up call to those resisting and as a catalyst to others to move towards the challenging but exciting digital future. ●

Dale Sinclair is RIBA ambassador for collaboration and technical, and a director of AECOM

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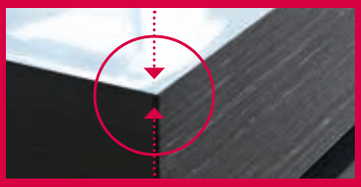

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External management

Fear of flying

... but Maria Smith just can't stop herself checking in

HOLLY EXLEY

Maria Smith

In an ideal world, projects would conclude with the outrageous power and precision of a harrier jump jet, but the reality is more like a 747 barrelling along a spectrum of crappiness, and success is not careering off the end of the runway.

At the beginning of a project we don't need to be so grounded. We can go forth with the hapless optimism of drinking Guinness at 6.30am in an airport pub. Both we and the client present cheap perfumed versions of ourselves, agree duty free prices, and try desperately to ignore the unique stench of an airport toilet feminine hygiene bin that, deep in our souls, we know foreshadows things to come.

Stepping over the threshold onto the plane, we pass responsibility for our lives into the hands of the pilot with adolescent acne like a septuagenarian partner hands over projects to junior staff once the wooing boozy lunches are over. In a pathetic attempt to compensate for ignorance, we get a CPD in how to take our heels off before throwing ourselves down an inflatable slide that doubles as a raft, in case we don't know our duties under CDM. We listen quietly even though we know it's all drivel. Then before we know it we find ourselves crammed into a constrained position, hurtling along at 160mph, praying the engineers can get us through this. Concept design is noisy and morbidly exhilarating. At this point the tell-tale signs of the crap ahead is all coming at us so fast and furious, like a nightmare version of the flying windows screen saver, we just hold hands, console ourselves that at least we'll die together, and brace ourselves for detailed design.

As the seatbelt sign comes off and the engine sounds settle into that grating consistency we can almost forget to hear, the detail design daemons take up their pick-axes and start to chip away at our crass designs. The delightful farce of planning begins. Like the smiling stewards who grin sadistically and for some inexplicable reason command we enjoy our flight – who enjoys their flight?! – planning officers, planning policies, planning committees and all the agents of the planning gods do everything in their power to scupper our plans. Rights to light carve into our platonic forms like safety plastic knives through margarine. Bulky proprietary details scrape against our wilfully naive cardboard model like a skreeky window blind that just won't shut. Our dumb aspirations are dryly sucked out of our souls, leaving behind designs resembling skid marks in a vacuum toilet. A baby screams, or is it the M&E engineer? A salty, nasty but oddly compelling smell wafts up our nostrils. Is it a fart filtering through the complementary fleece blanket? Is it aeroplane food? Or is it the stench of impending value engineering?

The descent begins. We can't pop our ears quick enough to keep up with the plummeting budget. Fuel is running low and the exhaustion of being up all night has put that weird vomit taste into our mouths. The end is in sight but the worst is still to come. Landing gear is mobilised. The lights go off. Drastic consequences invade the mind. Our lives flash before our eyes: concepts drawn lazily, building regulations loosely interpreted, project managers chopped up into little bits and buried in a mass concrete foundation.

Then suddenly, thud! The wheels grind into the runway with the ferocity of a thousand concrete mixers, the wind roars past like the guttural growls of a contractor signing up to outrageous liquid and ascertained damages, the plane jerks back and forth alarmingly like a scaffold just asking to feature in a notifiable incident. We're on site. We're thrust forward against our seatbelts and the pressure makes us pee a tiny bit. We're racing along the spectrum of crappiness, careering out of the Stirling Prize zone, out of the RIBA national award zone, out of the RIBA regional award zone, out of the Hot Dip galvanising awards zone, right for the Carbuncle Cup. At some point the balance between the residual momentum of the plane in the air and the engines driving it forward on the runway switches. We stop feeling terrified and start feeling angry. We contemplate the passport control of snagging. We taxi endlessly, waiting for death or practical completion, whichever comes first. Through the window we can see another queue of people waiting to board the next flight, and with the mislaid determination of a teenager vowing never to drink again after their first hangover, we pity those sad little images of our future selves. ●

A salty, nasty but oddly compelling smell wafts up our nostrils. Is it a fart filtering through the complementary fleece blanket? Is it aeroplane food? Or is it the stench of impending value engineering?

Maria Smith is director of architecture and engineering at Interrobang

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Above your station

The sculptural atrium roof of Birmingham New Street station called for an ingenious waterproofing solution

A soaring 24m high atrium, roughly the size of a football pitch and covered in inflated ETFE bubbles, forms the centrepiece of the £750 million refurbishment of Birmingham New Street station.

The arcing roof structure, designed by London-based architect AZPML, is formed from a series of sweeping wishbone lattice steel arches, each clad in white tensile PVC fabric and supporting the teardrop-shaped cushions of ETFE.

The roof of the existing 1960s building, the Pavilions shopping centre, had to be demolished to create a hole for the new atrium. The reinforced concrete structure, divided into nine discrete sections with movement joints in between, posed a serious challenge for the scheme's designers, headed up by lead consultant Atkins.

'The challenge was to keep the building stable with a large chunk taken out of the middle and the addition of a stainless steel facade around the outside of the building,' Stephen Ashton, engineering director at Atkins, told RIBAJ. 'The new steel frame for the atrium had to span a moving structure and these changes in loading altered the way the building moves.'

Atkins utilised 3D global stability analysis software to make sense of the constraints, based on initial designs by AZPML and structural engineer AKT II.

The atrium roof structure channels only vertical loads into the building, the steel arches stand on special bearings on the tops of the existing columns, designed to take horizontal movement of up to 75mm. The columns were strengthened with concrete 'jackets' to increase their vertical capability.

An ingenious waterproofing solution was required for the areas of the roof that surround the atrium, developed by roofing contractor Briggs Amasco in collaboration with SIG Design and Technology, which assisted with the supply of roof waterproofing systems across the project.

A new 600mm concrete upstand separates the atrium roof from the main roof. Outside it, the existing flat roof deck had a series of mastic asphalt falls retrofitted onto the surface, designed to channel rainwater through various outlets.

To design a new 'truck deck' around the atrium, with new sloping falls and outlets, it was necessary to first determine the amount of existing asphalt and the datum of the concrete slab below. Scans through the substrate were carried out using ground-penetrating radar, normally used to scan geological conditions, to avoid the need to core potentially thousands of holes through the existing waterproofing.

The atrium roof is just part of a huge roof strategy.

Tony Lawther, operations director at BriggsAmasco, told RIBAJ: 'This data was correlated with GPS location markers across the surface to give us a digital map of relative thicknesses across the roof. It allowed us to design the falls with the minimum economic amount of new product.'

The quick-setting mastic asphalt Flexiscreed, supplied by SIG, enabled the contractor to remove the existing waterproofing layer and install the new layer straight away. 'It was vital to allow us to keep the fully operational building dry, we had 140,000 commuters a day passing through the concourse directly below. A cement screed would have prevented access for about three weeks,' says Lawther.

Flexiscreed is manufactured from selected bitumens, limestone filler and specially graded aggregates. It is designed to provide drainage falls as well as a stable base for the specified roof waterproofing system in modern fast track construction projects.

SIG also supplied around 10,000m^2 of temporary waterproofing to cover targeted areas of the station concourse floor during the atrium roof installation. The Armourplan PVC single-ply membrane, typically used in roofing applications, was considered resilient enough to support site traffic as well as prevent water from penetrating through the concourse to the station platforms below. ●

View showing the station's complex roof landscape surrounding the ETFE atrium roof.

NETWORK RAIL (2)

The new overlaid roof at Layfield Primary School in Yarm.

A lesson well learned

A Yorkshire primary school found an economical solution that succeeded in resolving the problem of its leaking roof

Not long after completion, the Foundation Stage and Children's Centre building at Layfield Primary School in Yarm, north Yorkshire, started leaking. Water ran down internal walls and damp patches spread across ceilings.

'We had problems with water ingress. We had to replace carpets and lots of ceiling tiles,' says the school's business manager, Sarah Powell.

Fortunately the problem has now been solved with the help of SIG Design and Technology, which specified its SIGnature Torch on System to remediate the leaking roofs once and for all. By avoiding complete stripping of the failed roofs, this strategy provided significant cost savings.

The leaking roof area consisted of two pitched oval roofs with a flat roof below. SIG's investigation identified the cause of the problem as the oval roofs, where inadequate detailing around the perimeter upstands and at the intersection with the lower roof had allowed water to ingress and find its way through, beneath the flat roof and down the walls into the school.

'It was a constant battle for the school,' says Ian Dryden, SIG national specification manager – bituminous membranes.

Both flat and pitched roofs needed to be remediated. It was clear that the 450m^2 flat roof was damaged beyond repair and needed to be stripped right back to deck.

A new roof was then added using the SIGnature system, specified with the self-adhesive SA VCL Vapour Control Layer, tapered insulation, SIGnature 25 Underlay and SIGnature AA Capsheet.

However SIG managed to find an economical solution for the 250m^2 pitched oval roofs, which enabled the contractor to leave the original single-ply roof in situ beneath the overlay, rather than stripping and disposing of it – saving an estimated £60+ per metre.

SIG worked with contractor Roofix Ltd to install the SIGnature system as an overlay. To address the issue of potential plasticiser migration between the old and new roofs, a 300g separation fleece was fitted on the original roof, followed by a mechanically fixed SIGnature25 underlay and a fully torch-bonded layer of underlay and cap sheet.

The second, crucial phase was the correct detailing of the junctions with the flat roof and the upstands around the roof perimeter. Roofix Ltd found a way to close mitre cut and bend the GRP trim insitu to fully encapsulate the upstand as an alternative to the original failed metal capping.

'Good tradespeople come up with good solutions,' says Dryden, who praised the time and care that went into the detailing.

Thanks to the craftsmanship of the contractor, the repairs were completed over the summer holidays in an aesthetically pleasing manner that came in under budget and – importantly – fully warrantied. 'This ticked all the boxes from the client and the local authority's points of view,' says Dryden.

The proof has been 18 leak-free months since the repairs. 'We've had no problems whatsoever ever since,' says Powell. 'It's a massive relief to have had no further disruption caused by the numerous water leaks to providing our services.'

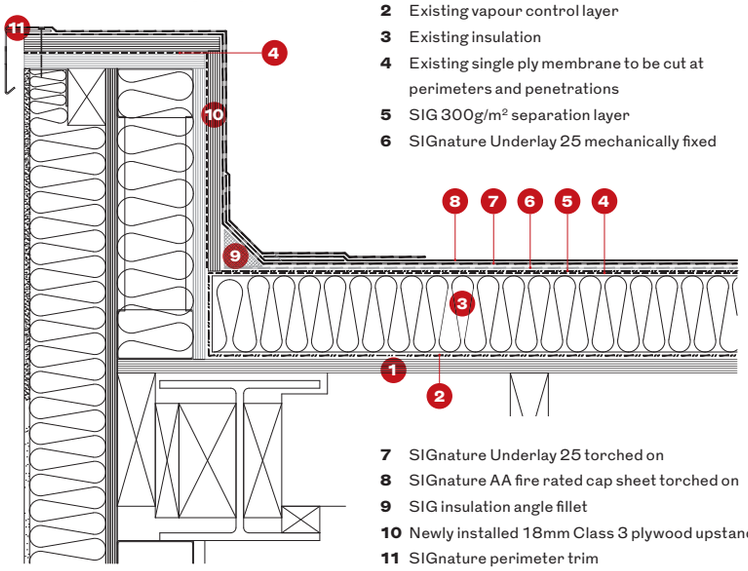
SIGnature Torch on System

Designed for new work or overlays, this bituminous roofing system comprises fire rated torch-on cap sheet, underlay and vapour control layer and is suitable for warm or cold roofs.

There are three underlay options with the potential for either 20 or 25 year warranties:

- SIGnature Underlay25 – A polyester carrier, reinforced, SBS, torch applied intermediate or base layer. Twenty-five year warranty when used with the SIGnature Fire Rated Cap Sheet.
- SIGnature Underlay20 – A glass tissue carrier, reinforced, SBS, torch applied intermediate or base layer. Twenty year warranty when used with the SIGnature Fire Rated Cap Sheet.
- SIGnature UnderlaySA (Self Adhesive) – An elastomeric self-adhesive, polyester fabric reinforced underlay, coated with SBS modified bitumen. Twenty-five year warranty when used with the SIGnature Fire Rated Cap Sheet.

Section of roof and parapet



Top The existing roof before remediation. Bad drainage and detailing led to water ingress into the school's interior.

Left After installation of the new roof all these issues have been resolved.

Opposite Before remediation general ponding is evident at the upstands to the oval roofs.

Left After remediation parapet detailing is well sealed and robust.

HOW TO AVOID FAILED ROOFS

Following best practice can avoid costly repairs to failed roofing:

- Consult a waterproofing specialist as early as possible during the design stage
- Specify a roofing system that is fire rated and CE marked
- Ensure design details and execution are undertaken by a company that is competent and experienced, with a proven track record, and is covered by PI insurance
- Spend time getting the interfaces detailed correctly, particularly those between different materials and around perimeter upstands
- Make sure all the products and the installation are covered by warranty
- Use approved contractors who are reputable and solvent (warranties depend on the company being in business)
- Ensure manufacturer's inspection of the installation – even the best products can fail with poor installation and detailing.

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On top of your subject

Specifying flat roofs provides a perennial challenge, but many problems can be headed off with the right questions

When we carry out surveys and inspections we come across so many design and installation faults that could have been avoided if more time was spent at the front end designing them out

Flat roofs have been a challenge since before Le Corbusier put pen to paper, yet architects still struggle to understand the specific issues involved and make the correct specifications.

In an effort to help bring them up to speed, SIG Design and Technology has published a free online Flat Roof Specifier Checklist covering the 14 key questions designers need to ask to identify any potential issues on a waterproofing project.

The answers generated can be used to inform ongoing discussions with a roofing specialist, and narrow down choices in the correct order – saving both firms time and, potentially, money.

Ross Finnie, sales director at SIG Design and Technology (pictured above), explains why the checklist was set up: 'Flat roofs might not sound sexy but they are so vital to the function of the building envelope. When we carry out flat roof surveys or inspections we come across so many common design and installation faults that could have been avoided if more time was spent at the front end designing and costing them out.'

SIG supplies a complete portfolio of different flat roofing systems and products, which gives it a unique ability to understand projects from every angle, he adds.

The checklist is divided into three sections: Employer's Requirements, Design Factors and Buildability.

Employer's Requirements covers durability and design life, guarantee period and sustainability, while Design Factors deals with subjects such as aesthetics, structure, drainage insulation, interfaces with other elements and cost. Buildability covers programming, sequencing, protection and cost.

A mistake architects frequently make is to simply specify a system they have used before, says Finnie, either because they didn't encounter a problem with it, or they liked the finish, without properly considering the new context and requirements.

'In other cases, they go to a manufacturer and ask for a single-ply solution, then the manufacturer recommends their best single-ply product, when in fact one of several alternative treatments might have been more effective,' he says.

This guidance is accompanied by a series of blog posts that explain each of the topics in more detail, with impartial advice and case studies.

For example, the Employer's Requirements section on design life points out that different waterproofing solutions have durability statements certificated by the British Board Of Agrément, or European Technical Approval Guidelines, which can be used to differentiate types of product.

A roofing product with a durability statement (design life) of 30 years installed on a building with a 60-year design life is likely to need replacing twice. However, the durability statement for Hot Melt is up to 60 years, so from a design life point of view it might be the preferred solution.

The blog that covers Design Factors points out that the chosen construction method for a building is often a good indicator of the ideal roof structure and waterproofing solution.

Lightweight steel-frame structures, used in commercial or industrial units, or lightweight timber frames, used in residential low rise, give less freedom with roof loading and might favour a more lightweight roof structure and finishes.

Conversely, high-rise residential, public and civil buildings, constructed using dense masonry, might benefit from a heavier roof structure, to increase longevity and protection. ●

Read the blog posts and download the free checklist from this link: bit.ly/flatroofchecklist

8 steps to a '#PerfectRoof'

RiverWalk by Stanton Williams Architects

1 The Right Products

2 Design Expertise

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3: Culture

It was a cunning plan

What would George Gilbert Scott do if he was alive today?

HOLLY EXLEY

Hugh Pearman Editor

Two young architects are struggling to get work. It's 1835, the RIBA is just one year old, the nation is racked with mass unemployment and like any architects setting out on a career, they want to establish two things: their reputation and a reasonably steady income. But the 24-year old George Gilbert Scott (for it is he) and his 23-year old assistant William Bonython Moffatt have a plan. The government had just decreed a nationwide building programme of workhouses to help tackle joblessness and the poverty it brought. Scott had worked on one of these for the Poor Law Commissioners, and reckoned that not only could he produce better designs, but so many of these buildings were needed that a resourceful architect could surely land a respectable number of commissions.

What's fascinating, as Scott recounts in his posthumously-published autobiography, is how he and Moffatt set about their task. The workhouses were procured and invitations to tender published locally. So they haunted Peele's Coffee House on London's Fleet Street, because it carried all the country papers. When they spotted likely competitions in the classified ads, off they would go – in the cheap seats on the outsides of night coaches, this being pre-railway age – to look at the sites and get the competition brief from the people involved. Then it was back to London, the drawings would be done double-quick, back to Peele's, off on the coaches again. They travelled huge distances and divided the country between them – Scott doing east and north, Moffatt south and west.

> Not only could he produce better designs, but so many of these buildings were needed he could surely land a respectable number of commissions

Their strike rate was high. Scott and Moffatt worked together for 10 years and built some 50 workhouses. Some were basic, some surprisingly lavish architecturally in a Jacobethan style – Scott even admitting that he got a bit too ambitious sometimes. Several survive, usually as parts of hospitals as at Lichfield and Belper or converted to housing. Scott developed an extendable collegiate approach of buildings laid out around quads, with an entrance gatehouse/porter's lodge.

This relentless focus on a particular area of bread-and-butter work served its purpose but was obviously time-limited. Scott's wife Caroline never cared much for the increasingly extravagant Moffatt, he and Scott parted company, and Scott won the prestigious competition for the Nicolaikirche in Hamburg. He started to become famous and was later president of the RIBA. But he remembered those mad days of youthful overwork fondly.

Are there lessons in this? For sure – they certainly met Malcolm Gladwell's '10,000 hours of practice' theory of greatness, though I wouldn't recommend that kind of sleep-deprived, relationship-straining existence to anyone. Scott and Moffatt found a way of generating work, first by identifying what and where it was, then by steadily improving designs that were a cut above others on offer, bringing dignity and planning clarity which could be scaled up and applied elsewhere. And Moffatt, Scott admiringly recalled, was adept at presenting a scheme. Their project worked. How could we can apply that level of thinking and determination today – to the housing crisis, say? ●

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Are robots our friends or our enemies? Could a robot do your job? Would you live in a robot? And: How do you feel about objects having feelings?

Pamela Buxton makes friends with robots: ribaj.com/intelligence/making-friends-with-robots

The countryside offers the chance to redeem ourselves, to build a new life and absolve ourselves of the sins of the city

Charles Holland considers the escape routes: ribaj.com/culture/rural-utopia

Help us live in harmony

Propose a creative solution for multi-generational living using SterlingOSB for the chance to win £2500

CRAIG AUCKLAND (2)

How will society be living in the decades to come? Will the unaffordability of land make independent home ownership untenable? Will there be more imaginative ways for families to make best use of their property assets by proposing novel solutions for how they might be used or adapted?

Those are the questions being asked of architects in SterlingOSB/RIBAJ's MultiGen competition.

We're asking architects to take on the structural potential of SterlingOSB and to propose new modes of adapting a home to make multi-generational living viable on one site. It might be anything from a home that you're extending or appending to, out or up; or a new structure in a suburban garden connected by a subterranean passage to the existing home – a 'granny' or even student annexe.

We're looking for unfettered, imaginative proposals for how future generations might be able to live together on the same footprint, at higher density, while allowing for the independence that three or four generations might crave; not just a extension but a return to real, shared, multi-generational living, driven by modern economic realities and innovative, fresh thinking.

With cash prizes for the award winner and commended entries, they will also appear in a special supplement published in the October 2017 issue of the RIBAJ. ●

Top Stonewood Design's Pod Gallery outside Bath creates an extended living 'pod' attached to an existing home but hidden by the walls of the neighbouring barn.

Above Extended and autonomous, Pod Gallery's timber structure is distinct from the barn walls and roof.

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CRITERIA

The family property or housing can be of your choosing. You will be looking to increasing the usable area of any family property by up to 35m² to create an additional independent unit. The design could provide a home for a young adult, student, worker, or middle-aged or elderly individual using the intrinsic structural properties of SterlingOSB.www.norbord.co.uk

How you choose to extend or append to that property is up to you, but any proposal should allow for separate access to the new structure – either internal or external. As this is blue sky thinking, proposals will not need to accord with current planning guidance or regulation; but they should aim to be accessible, sustainable, healthy and viable.

JUDGING

Chaired by the RIBAJ, judges will be looking for imaginative uses of SterlingOSB and innovative spatial propositions as key criteria of the judging process. Any proposal should consider structural, acoustic and thermal demands of higher density living. Prefabrication, panels or CNC fabrication can all be considered. Other materials may be used to both clad and fit-out the proposal but structural integrity is to be predicated on the use of SterlingOSB.

The winning proposal will be the one that, in the minds of the judges, produces a solution on the chosen site that is spatially innovative and which best accommodates the various demands of intergenerational living while making best use of SterlingOSB's properties.

ENTRY FORM

Please go to ribaj.com/multigen-comp

Submissions

Entries must be include the following and be laid out on no more than two A3 sheets, supplied electronically as pdfs:

- Plans, including north point
- Sections explaining space and function
- Elevations showing the look of the intervention
- 3D axonometric showing construction methodology
- Any optional supplementary images you consider helpful

Notes

- The jury's decision is final
- First prize: £2,500, three commended submissions: £250
- No correspondence will be entered into by the organisers or the judges regarding feedback on entries
- Shortlisted entries will be notified in writing
- Shortlisted entries will be invited to the prize giving event on 28 September 2017

Deadline for entry: 20 June, 2017

On the treadmill

It's an office Jim, but not as we know it

HOLLY EXLEY

Oliver Wainwright

'What are you grateful for today?' asks a sign at the entrance to the San Francisco offices of tech company Heroku, carved into the panels of artfully distressed timber that line the back of a free-form amphitheatre. A table of Lego bricks stands nearby, while on a putting green in another corner of the open-plan office floor programmers take a break from coding the future of cloud platforms. Hammocks swing above beanbags in the meeting room, while a big steel staircase leads past a kitchen stocked with jelly beans and kale snacks, to a penthouse yoga studio.

'The tech world has an extreme desire for identity,' says Louis Schump of Rapt Studio, the creative agency behind this warehouse-cum-playground – a place where life is curated by full-time 'vibe managers'. 'The biggest concern is about defining oneself as non-corporate, even if you employ 20,000 people. Clients come to us with the same mission statements and the same Pinterest boards, yet they're all saying they're unique, so our role is to craft a narrative for them.'

He conceived Dropbox's 300,000ft^2 office as a 'radially expanding village,' every element designed to 'maximise the experience of what being a Dropboxer should be'. For gaming app Twitch he took inspiration from computer games: one meeting room looks like a garage, with the urban whiff of Grand Theft Auto; another is Zelda-themed, with elaborate wooden thrones. 'These people type and click for a living, so there's a need for tactile stuff,' he adds. 'They want real materials, everything artisanal and locally sourced.'

> You can stand, perch, slouch, swing or run while you type (yes, there are treadmill desks), and pop for a meeting in an Airstream caravan or simulated noodle bar

In the competitive market to ensnare the best techie minds, Silicon Valley companies are increasingly turning to the design of their workplace to stand out from the crowd and offer that extra little something, beyond the all-you-can-eat buffets.

The current buzzwords are 'choice' and 'mobility'. The Airbnb offices are a hymn to the former, offering working environments from a stepped terrace of beanbags to a dimly-lit library straight out of a gentleman's club. You can stand, perch, slouch, swing or run while you type (yes, there are treadmill desks), and pop for a meeting in an Airstream caravan or simulated noodle bar.

At Samsung's new headquarters in San Jose, movement is the driver. 'If you sit down for more than 20 minutes, you get dumber,' says Scott Wyatt of NBBJ Architects, which is designing vast HQs for tech giants around the world. He says the brain achieves optimum cognitive function when you are walking outdoors, so the Samsung office floors are separated by outdoor terraces through which employees must stroll to reach other departments. Google's campus is designed around meandering footpaths for al-fresco meetings.

Bucolic wifi-working is the idea behind Frank Gehry's rambling Facebook HQ, which features a 3.6ha park on the roof above the aircraft hangar-like spaces below, designed with flexibility and customisation in mind. It's a rough and ready aesthetic, with raw steel columns left unpainted, still displaying the contractors' spray-painted markings. 'We're only 1% finished connecting the world,' says my young guide, 'so we wanted the building to look unfinished too.'

The flexibility philosophy infuses Google's London flagship too, designed by AHMM with a system of 'hackable' meeting rooms, built from modular cassettes which can be taken apart and reassembled within hours – although quite how often any company needs to rebuild their meeting rooms remains moot. Apparently not wacky enough, AHMM was replaced on Google's London outpost by Bjarke Ingels and Thomas Heatherwick, who promise 'Silicon Valley startup garage meets London train sheds'.

So what am I grateful for today? That I get to sit in a chair and work at a desk, free from a dizzying menu of curated workplace vibes. ●

Oliver Wainwright is architecture critic at the Guardian. Read him here every other month and at ribaj.com

CREATURE COMFORTS

Many of the Bay Area tech offices are cluttered with strange homemade canopies suspended above programmers' desks. The reason? Many coders don't like high ceilings, but prefer the feeling of being in a cosy cave. According to cognitive research, while lofty high ceilings are beneficial for creative thought, low ceilinged spaces are better for mathematical tasks.

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Civil liberties

Architects have much to offer their communities. Should volunteering be part of the job description?

HOLLY EXLEY

Jane Duncan

The business of business should not be about money. It should be about responsibility. It should be about public good, not private greed – Anita Roddick, founder, Body Shop

Everyone benefits when architects volunteer in their communities.

Richard Rogers has spoken of how architecture's civic responsibility has been eroded in 'an age of greed', saying: 'We have a responsibility to society. That gives us a role as architects not just to the client but also to the passerby and society as a whole.'

The truth is that wider public awareness of 'what architects do' will only happen if architects themselves show more awareness of public needs.

As citizens we can influence social conditions; we can even be the cause of positive social change, and many of us want to make a contribution to our social fabric.

As architects we understand and appreciate the social consequences of our work and have respect for the responsibility to a community that is part of any new project. But do we have a social responsibility that extends beyond design and delivery?

The principle of public interest design is embedded deeply in the history of architecture, indeed in the RIBA's charter and charitable objectives. Since the market downturn, there has been a growing discussion of socially responsible design characterised by attitudes that value justice, equality, sustainability, inclusion, participation and collaboration within increasing numbers of practices that intentionally engage in social issues. Should we be giving a portion of our time or financial resources to bring a larger benefit to society?

People give their time because what we get back enhances a sense of purpose about ourselves, our communities, and our lives

Global businesses certainly understand the convergence of social and commercial interests, and now dedicate significant resources to social responsibility initiatives, as consumers gravitate towards brands that align with their personal values. Providing value to society is increasingly an integral component of successful business strategies.

Socially responsible design practices however often arise from small-scale individual or collective efforts to address local needs and concerns. This pragmatic approach recognises the constraints of time, money, evaluation, and engagement, but seeks to find ways to address specific needs and create better socio-spatial relationships. Architects have an enormous opportunity to use their expertise for community service other than by volunteering or donating money. Our critical thinking skills can also be valuable in designing an organisation or setting strategic goals and implementation plans.

We should surely all be prepared to take a role in influencing the built and social environment beyond our projects. I have worked pro bono for 15 years with my local community action group, leading teams to create a social, environmental, transport and economic vision, and helping to implement the proposals. I believe that the people involved give their time because what we get back enhances a sense of purpose about ourselves, our communities, and our lives. And I am now on first name terms with the leading officers of my local authority and local developers.

Public interest design is breaking down barriers, embracing architects, planners, landscape architects, and other professionals and creating new models of design and practice. Creativity and social responsibility are parts of the same mission and the rewards for the communities in which we work and for ourselves are significant.

Your participation matters.

Just being an architect is an act of social responsibility. Even the strangest concoctions of our imaginations have to do with humanist values – with people, society and context. We're all part of the human fabric – Frank Gehry ●

@JaneDuncan/PRIBA

TAKE YOUR SEAT ON THE RIBA COUNCIL

Chartered, student and associate members are invited to apply to serve on the RIBA Council for the session beginning September 2017. Nominations open on Friday 7 April and can be accepted up to 5.00 pm on Friday, 19 May 2017.

For more information and to apply visit architecture.com/elections

Grafton Architects' expressive structures are now being heaped with honours. But, as Yvonne Farrell and Shelley McNamara point out, they draw on a decades-long dialogue

Words: Hugh Pearman Portrait: Alice Clancy

Critical mass

We're jammed into a corner of a University College London student café, right by the Bartlett. Since no other space is available, we make our own next to a cash machine by moving a very light spare table and some incredibly heavy odd-shaped, doubtless architectural, wooden stools. Yvonne Farrell and Shelley McNamara of Dublin's Grafton Architects settle right in with their cups of tea. They have taught architecture all their lives: they are used to such places.

Farrell and McNamara have been meeting their clients in London. In an hour they'll be lecturing but before that they want to have a quick look at the Peter Cook 80th birthday exhibition. They are exceptionally busy people, but there's nothing remotely hurried about them or their conversation. Especially when it comes to discussing what kind of architecture it is that they do, exactly.

Style doesn't really come into it, unless you regard their often (but by no means always) massive raw-concrete structures as brutalism. It's more visceral, or perhaps geological, than that. 'We are drawn to the work of Lasdun – at the Bocconi University in Milan we talked about the thing erupting out of the ground,' says McNamara. But that's only one reference. They are equally drawn to the Alhambra – the way a great weight of masonry can be made to seem weightless. 'Structure is dissolved by light,' says Farrell.

They have been heaped with honours lately, receiving the inaugural RIBA International Prize last November for their Universidad de Ingeniería y Tecnología (UTEC) university in Lima, Peru – the Irish president and poet Michael Higgins has just visited it, they report – and being appointed this January to direct the 2018 Venice Architecture Biennale.

There's more. The day we meet, they have been awarded the Jefferson Foundation Medal for architecture (previous recipients including Mies, Pei, Gehry and Hadid). The citation cites their success 're-imagining a contemporary version of Thomas Jefferson's Academical Village' as embodied in his University of Virginia. It refers to Bocconi and UTEC, of course. The work in this field continues in faculties now under way for the London School of Economics, Kingston University and the University of Toulouse. But when the phrase comes up, it's a different kind of 'academical village' they have in mind – ideas developed in a collegiate atmosphere which can, as in Dublin in their early years, expand across a whole city.

Often cited as the Year Zero of a number of Irish practices, including Grafton and O'Donnell + Tuomey, is the formation of

Conversational to-and-fro: Grafton Architects' Yvonne Farrell, left, and Shelley McNamara.

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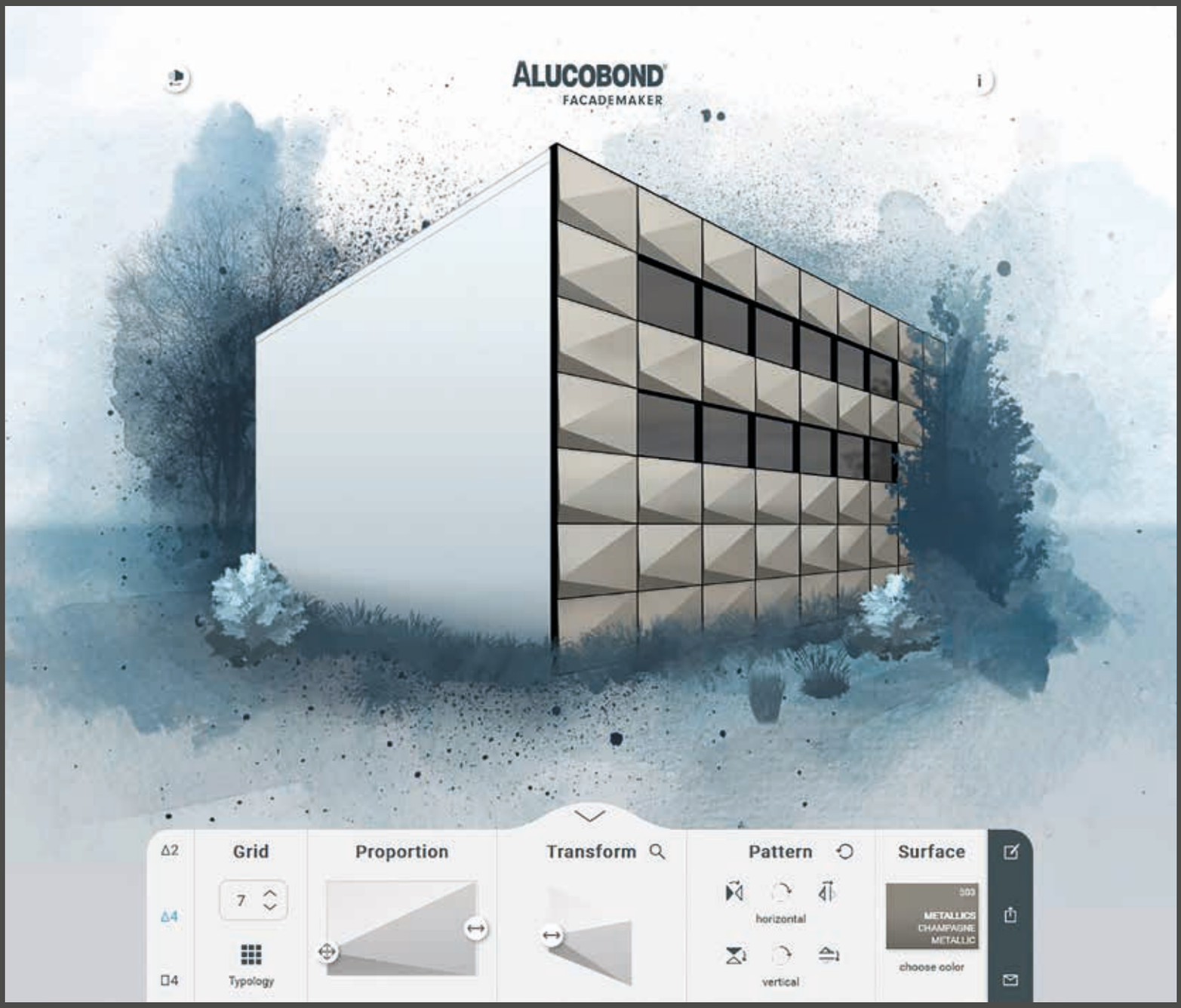

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The Irish relationship of town to country – with landscape and architecture being inseparable – was important

the Group 91 collective of young architects which – and this is still amazing – managed that year to convince the authorities to let them rescue the blighted Temple Bar district of Dublin. Rather than massive clearance for a new bus terminus as originally proposed, sensitive refurbishments, interventions and public spaces turned it into a new cultural quarter (even though it later became raucous and slippery with noisy drinking establishments – no fault of the architects).

But, as Farrell and McNamara point out, this didn't come from nowhere – there was a history to them before 1991 and it goes back to the time they and their colleagues spent at University College Dublin (UCD) in the early 1970s (they graduated in 1974). 'There was a 20-year conversation,' as Farrell puts it, which began with often English-sourced UCD teachers such as Ivor Smith, Ed Jones, Chris Cross and Mike Gold, and then continued through both practice and teaching. This was the milieu in which the new Irish architecture was formed.

From this dispersed academical village, Grafton was set up in 1978 as an optimistic five-person co-operative practice, the others being Shay Cleary, Tony Murphy and Frank Hall. The cast changed over time as people came and went, then came Group 91 and the Temple Bar work, and then independent practice resumed. Through their teachers and mentors, the pair had worked for London practices a little ('There weren't many people in Dublin we wanted to work for then,' says McNamara) but they saw their futures back home. 'There were fields to be ploughed,' as Farrell puts it, meaning that they felt that architecture in Ireland was in need of new impetus, following the waning of the original modernist generation and the necessary hard questioning of their urban approach. For both, the Irish relationship of town to country, the fact of landscape and architecture being inseparable, was important.

Above Grafton's new faculty for the LSE south of Lincoln's Inn Fields..

It's tempting to say that now is Grafton's moment, but McNamara corrects this: there have been a series of 'moments' for the Grafton team – such as their first project at Trinity College Dublin, then one at UCD, which led onto Bocconi ('that was big, and not many people had heard of us at that point') and that in turn to UTEC in Lima. With their collective background, they are emphatic that their various honours are for all their Grafton colleagues, not for themselves as individuals. The Grafton Christmas card is always signed by everyone, and the practice is now 27 strong (having been as small as eight during the recession), with two other directors, Gerard Carty and Philippe O'Sullivan, who have grown up with the practice.

Internationally, Grafton's star has been in the ascendant since 2002, when it won the competition for Bocconi and exhibited it at the Venice Biennale of that year. This was a huge leap in scale. It opened in 2008 – it was, they say, an incredible inauguration day, as they stood there watching the public flood in. One old lady whose home overlooked the site was at first reluctant to go in, but eventually did. 'The structure is immense and

Below The Bocconi University building in Milan – 'erupting out of the ground'.

BRUNETTI (2)

IWAN BAAN (2)

it embraces you,' is the translation of what she said. That could be a handy summary of Grafton's architecture, as is a phrase they also like to use, 'a dialogue with gravity', which comes (possibly – they laughingly argue about this) from a Japanese dance company they saw perform in Dublin which had a piece with that name.

Whatever, it is to do with poise. 'I think it's true to say that underneath the 22m cantilever of the Aula Magna, the Big Hall, in Bocconi, is one of the most important spaces for us to be in, because you feel something hovering, but it's also weight suspended. You're more alive – it's some kind of pivotal moment,' says Farrell. McNamara recalls Ruskin, and the idea of weight resting on a visibly active support.

There's a lot of this conversational to-and-fro, little challenges from one to the other, often accompanied by laughter, which you realise is the essence of this creative relationship, which began when they met at college decades ago and which continues unabated. Questioned about their approach to design, Farrell and McNamara happily admit that they often disagree and also – in the Stirling manner, as it happens – invite design ideas from the whole studio. It's not just a matter of weight and the pivotal moment. It's also to do with the idea of solid surface meeting the ground, the fact that not everything in or around a building has to be on display all the time, that discovery can be delayed and directed.

Above Interior of UTEC in Lima.

Below Lima comes to Kingston? A lighter precast assemblage for Kingston University's 'Town House'.

Farrell describes UTEC as 'a carved mountain' but they baulk at the idea that this is their default architectural technique, or that they are sculptors. Their Town House building for Kingston University, they point out, is all about the assembly of precast components. Nor will they be trapped into defining themselves as either accretive Goths or perfect-object classicists – 'the Kingston University Town House is Gothic, the University of Toulouse School of Economics is classical', suggests McNamara.

And so – after the promised lightning visit to the Peter Cook show – they're off into the lecture theatre. I'm left with the impression of a rare kind of practice, based on mutual support and a strong sense of the poetics and the possibilities of building. It augurs well for the challenge of Venice next year. ●

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Holding the line

Deanna Petherbridge draws in ink. In her late 70s, she is fierce in defence of the pen. As for CAD – 'it controls you'

Pamela Buxton

For nearly half a century, artist Deanna Petherbridge has been creating meticulous monochrome drawings inspired by everything from complex geometric patterns to Manchester's industrial heritage and vernacular architecture from around the world.

Manchester's Whitworth gallery is displaying 40 of these drawings to coincide with the publication of a monograph on her work.

Buildings, cities and landscape are recurring themes, but Petherbridge does not, she says, draw architecture. Instead, she describes her work as conveying 'a situation of architecture and landscape' in which she is increasingly interested in expressing the experiential qualities of architectural spaces.

Petherbridge is an impressive figure with a long and varied career. From 1995-2001 she was professor of drawing at the Royal College of Art, where she set up the Centre for Drawing Research. Now in her late 70s, she has, in addition to her work as an artist and academic, designed costumes and sets for ballets, curated exhibitions, and written extensively – books include her acclaimed 2010 publication The Primacy of Drawing: Histories and Theories of Practice – while travelling widely around the world and undertaking numerous residencies along the way. When I met her at her north London studio, she was about to head off to India on another drawing mission.

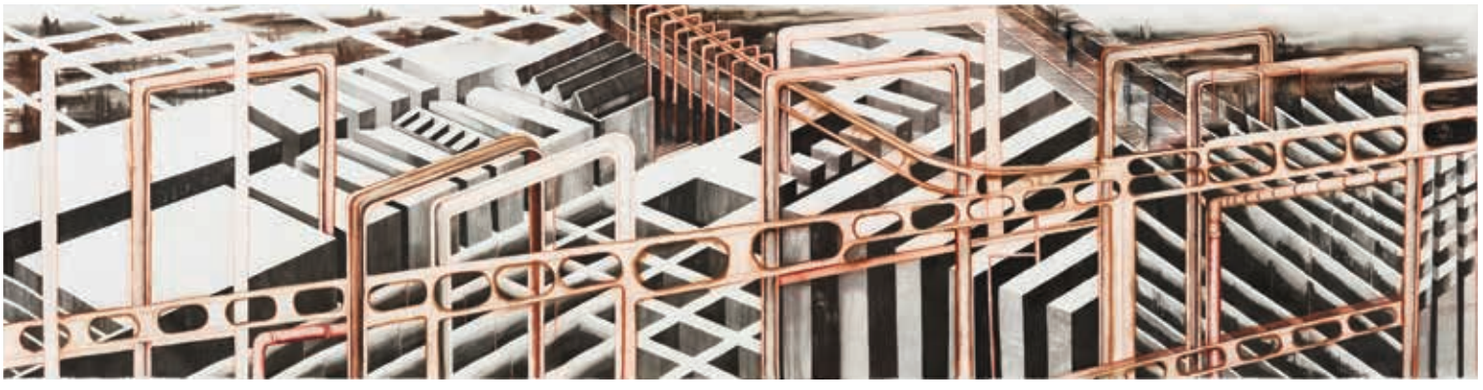
Above Fragility of the Aegean 1981.

Her passion for drawing is tangible. She never draws from photographs ('that would be death') or pre-plans her often large-scale works, which can take months, even years, to complete. Instead, the composition emerges as she draws using just pen, ink, wash and a 'hard edge', working to a soundtrack of baroque and classical music.

A fellow of the RIBA, she is inspired by buildings' formality, their potential for repetition and subtleties of change, and their ability to function as analogies and metaphors. While she admires the stripped back modernism of contemporary architects such as David Chipperfield, and the house designs of David Adjaye, she has long been fascinated by vernacular architecture, having journeyed through Europe, India, the Middle East and Far East. Indian temples in particular have

She never draws from photographs ('that would be death') or pre-plans her often large-scale works, which can take months to complete

Below Taming the Bay (Melbourne) 2003.



been recurring subjects of her drawings.

Her focus has shifted over the years. Her work in the 1970s was often concerned with geometries, taking inspiration from Islamic designs in particular to create mind-bogglingly complex patterns. These showcase her virtuoso ability to make space appear to pop out three-dimensionally from the flatness of the paper. Her extraordinary cityscapes from that era seem to evoke the relentlessness of urbanisation, formed from assemblages of building components, sometimes from all manner of perspectives.

Petherbridge has also long been interested in how buildings convey a sense of place, and the Whitworth exhibition includes work from the Manchester Suite, a collection of drawings made during her six-month residency at Manchester Art Gallery in 1982, a time when regeneration was threatening the city's Victorian architectural heritage.

With their frequently impossible multiple perspectives, her extraordinary drawings do not seek to faithfully reproduce a particular architecture. Her work increasingly goes beyond the visual potential of building form to consider how people inhabit buildings.

'I've moved away from abstracted views to working with an experiential architecture to encourage people to feel they've walked into the spaces.'

The drawings are often, she says, about ambiguity. Sometimes they can be read as an analogy of social conditions, with clashing new and old architectures suggesting, for example, the uneasy relationship between traditional and more modern ways of life, or the imposition of colonialism. Turning Tables (1989) uses spatial imagery to suggest the control and exploitation that lies behind the practices of some big businesses.

Above Destruction Homs 2016 triptych.

Below Rhetoric of War 2013.

Warfare and conflict has been a recurrent theme throughout her career, notably in The Iron Siege of Pavia (1973-5) and The Concrete Armada (1982). She recently completed a major new work, the Destruction of Homs (2016), a large-scale piece on the impact of war in Syria from a drone's eye view. In this triptych of a shattered urban landscape, the multiple perspectives are used to convey the dislocation and carnage of the conflict, the expanses of white untouched paper contrasting sharply with the surrounding detail of collapsed buildings and suggestive of the total destruction wreaked by the bombardments.

Petherbridge relishes the freedom of her work. 'Unlike an architect, who has a brief, I have marvellous freedom, inventing, following and destroying my own briefs,' she says. 'It's very labour intensive. And very pleasurable.'

She does, however, worry about the loss of value placed on drawing as designers increasingly rely on computer-aided design – particularly the loss of the immediacy and sense of scale that drawing on paper encourages.

'You're always at second or third hand – the [computer drawing] system has been set up by someone else. You think you're controlling it, but it's controlling you.'

Her use of ink, which can't be erased, makes the act of drawing extremely tense and exciting, she says, adding that the challenges of such a technique and even the drawer's own 'ineptitudes' can be very helpful in encouraging the creative process.

While the book is something of a career retrospective, her work is very much continuing. 'I feel so happy when I'm drawing,' she says.

'Unlike an architect, who has a brief, I have marvellous freedom, inventing, following and destroying my own briefs'

Deanna Petherbridge
Until June 4, The Whitworth, University of Manchester
whitworth.manchester.ac.uk

Deanna Petherbridge: Drawing and Dialogue
A new monograph published by Circa Press

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Noble lineage

For its birthday, Bath's famous Royal Crescent traces its classical heritage in models – as far back as Rome

Eleanor Young

Somerset House. Model by Timothy Richards.

In celebrating the 250 years of the Royal Crescent, Bath Preservation Trust has turned its own slices of the building over to models of its classical antecedents. It might seem predictable, but in it lies a prescription for the future of the city that Bath Spa University's chancellor Jeremy Irons has accused of becoming an 'unused antique', while others protest at the chipping away of one of only two World Heritage cities in Europe.

With model maker Timothy Richards based in the city, this is the moment architectural curator Amy Frost has been waiting for. Richards' work shares the rich warm materiality of plaster with some of the world's most famous classical buildings. His models are presented in the two small exhibition rooms in one of the most visited tourist spots in Bath. The show traces classicism from the large-scale urban project of the Pantheon, though Palladio's Villa Rotonda to its adoption by Britain's upper classes following their Grand Tours. The country house style which stemmed from the cradle of democracy moved on to the town house, with the same columnar pomp but less space. Homes in nearby Queen's Square were the first to be finished that were united by a single palatial composition.

This display of classicism's adaption to more constrained circumstances doesn't go beyond the cluster of miniature Royal Crescent models. This popularisation of an elite style seems naturally continued in those 1970s estates with white columns alongside the garage and front lawn. But this exhibition thinks far beyond the application of classical symbols.

From his base on one of the city's hills, Richards looks towards Royal Crescent, the serried ranks of Georgian terraces and occasional lofty spires. But below it is the industrial strip and 'enterprise zone' that snakes alongside the River Avon. From here new flats, by Studio Egret West among others, are building into his view, and the consciousness of many in the city. More are to be added at South Quay, by Penoyre and Prasad, also at height.

Richards has been absorbed mastering the intricate details of classical architecture and looks up to see that scale lost in the new buildings around him. Like Frost – who as part of Bath Preservation Trust is an authoritative voice in the city – he wants something better for Bath; one that would do well to be informed by the principles of scale, composition and attention to the materiality of classicism. He believes that, like a surgeon, architects and planners should be guided by a dissection of what works. The beauty and joy of Bath's historic buildings should be demanded for those of the future. 'A city like this should demand the highest quality of design, craftsmanship and materials,' says Frost.

Plans alongside the exhibition include talks to engage those beyond the tourists who are likely to be drawn to this simply captioned exhibition; like Professor Robert Tavernor on the country house as a city. If councillors, planners and developers don't come then some of their voters and consumers surely will, and those of the future. 'You only see things once for the first time,' says Frost, gesturing to the beautiful model of the Pantheon at the exhibition entrance. With careful study perhaps the impression left might be enough to inform the future of this city. ●

The country house style which stemmed from the cradle of democracy moved on to the town house, with the same columnar pomp but less space

From Rome to the Royal Crescent
1 Royal Crescent, Bath, until 4 June. no1royalcrescent.org.uk

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Inette Austin-Smith 1924 – 2017

Pioneer for women architects when there were very few, whose legacy is a practice that thrives today

Inette Austin-Smith, who in 1949 set up Austin-Smith: Lord with her husband, has died at the age of 92. Inette and Mike were a compelling architectural team who achieved many accolades in their lifetimes, earning a great reputation within the profession and by doing so became role models for several generations of architects.

She was born Inge Griessmann (anglicised to Grierson) in Nuremburg, Germany, to Jewish parents. In 1936 the family moved to Highgate, north London, where her father opened a very successful woollen business. Inette first entered Reading University to read Fine Art and Dress Making, but on meeting a family friend, the architect and politician (Baron) Alfred Charles Bossom, she turned to architecture. She felt architecture was well suited to her logical and practical mind. Throughout her career she frequently recalled Bossom's guidance that 'it is very important in architecture to remember architecture is 49% about being creative and 51% about being a businessman and being organised'.

Inette joined the Architectural Association in 1942 when it had been evacuated to Mount House in Monken Hadley, Hertfordshire. She was a strong student who achieved consistent high marks in projects that included an arts centre in Dulwich, an accommodation block in Norwood, London, and a new pier on the south coast. After the war the school made inspirational trips to Sweden and Norway that influenced her later work. At the AA she met John Michael (Mike) Austin-Smith, to whom she became engaged while still a student. Her parents insisted that she complete her course before the couple married.

Upon leaving the AA in 1947, they both completed a town planning course before going into employment, Inette at Middlesex County Council Schools Department and Mike for the London County Council Schools' Department. In 1949, while both in full time jobs, they set up the practice JM Austin-Smith & Partner based in their London flat. Later, they moved the office to a room in a woollen warehouse provided by Inette's father.

The practice's first work was varied, including schools, factories, warehouses, offices, shop fitting and residential projects. There was a factory for Silentbloc polymers in Crawley, West Sussex (1954), sheltered housing for the elderly (The Twitten), also in Crawley (1962), and new offices for Hunting Aerosurveys, Borehamwood (1958). In 1953, the Austin-Smiths were nominated architects of the year by the Architects' Journal.

Inette mainly worked on schools and residential schemes, and took responsibility for the finances and administration of the practice. She was particularly proud of a school for 80 deaf children in Heston, Middlesex (1956), which used prefabricated timber sections; and a primary school at Ghyllgrove in Basildon completed in 1964. The Austin-Smiths learnt the importance of involving clients closely throughout the design process. By understanding what her clients really wanted, she enabled the practice to produce buildings that were highly appreciated and generated repeat business. The practice grew steadily.

Inette was one of a small number of women architects working in London in the 1950s and 1960s and paved a way for future women architects to follow. She spoke of the reaction she received from contractors as a woman and the importance of remaining professional and proving your skills by performing well. She became a Fellow of the RIBA in 1957, a member of the Council of Industrial Design between 1972 and 1981 and an honorary member of the American Institute of Architects in 1978. She and Mike both retired from the practice in 1981. Mike Austin-Smith sadly died in 1999 during its 50th anniversary celebrations, but Inette thrived in retirement in Cornwall. 'I must learn to act my age,' she told one interviewer in 2014, but happily she never did.

Inette and Mike Austin-Smith's legacy is a highly successful architecture practice which today has five partners and over 50 employees. She is survived by a daughter, Sue Smith, born in 1952. ●

Hannah Durham is a partner at Cullinan Studio. This obituary draws on material collected from an oral history recorded in 2014 by her, Yasmin Shariff and Samantha Lee as part of the AA XX 100 project

IN MEMORIAM

JOHN HYWEL EVANS
1952, NEWPORT

PETER JAMES KIRKHAM
1957, MINEHEAD

MICHAEL JOHN LIVINGS
1970, CAMBRIDGE

ANN NOBLE
1972, LONDON

TIMOTHY MARTIN BRUCE-DICK
1972, LONDON

ALAN CRONSHAW
1998, BRIGHTON

JEFFREY PARKINSON
1952, LEEDS

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Cloister of San Pedro de la Rua
1170, Estella, Navarra, Spain

Romanesque art arrived in Spain from France along the pilgrimage routes to Santiago de Compostela, specifically through Catalonia, Aragon and Navarra. It spread in the north of the peninsula, while architecture in the south was still heavily influenced by Islamic culture. A great number of Romanesque churches were built in the 11th and 12th centuries, featuring stylistic varieties according to the region; many were characterised by remarkable sculpture, and some also contained fine frescoes. The church of San Pedro de la Rua, on high ground overlooking the medieval city of Estella in Navarra, was built in phases from the 12th to the 17th century. The cloister, built around 1170, is one of the most remarkable parts of the church even though two of its galleries were destroyed in the 16th century. Its sculptural decoration combines the iconography of the Pilgrims' Way with motifs of plants and fantastic creatures, while the twisted columns seen in this photograph provide a stunningly original support to the central set of arches of the west passage. ●

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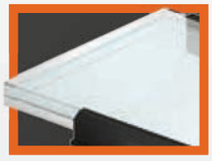

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