OMA rocks Brighton
Grafton goes to Kingston
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Profile: Denmark’s Dorte Mandrup
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Time, perhaps, to talk about orthogonality. Remember the late 20th and early 21st century years of Blobism? The swirls, the swoops, the Mr Whippiness of it all? That formal approach, visually exciting and constructionally costly, was not killed stone dead by the financial crash of 2007-8 as many hoped – it is still an option chosen by certain people, organisations and states with an eye to the ‘icon’. But as several of this issue’s buildings demonstrate, the right angle has reasserted its dominance. OMA, the Dutch practice founded by Rem Koolhaas and others, was never averse to an icon but generally played with subverting the cuboid. So it is at its ambitious new building at Brighton College with – surely – a clear homage at one end to Will Alsop in his box-on-struts phase. In Manchester, Stephenson Studio’s new Oglesby Centre – rehearsal spaces for the Hallé Orchestra and public meeting-place – are an object lesson in how to proportion, colour and texture a building of interlocking boxes. And RIBA Royal Gold Medallist Grafton Architects has given Kingston University a building that is a homage to the right angle worthy of Paul Rudolph. Which brings us to ACME’s take on the Wealden Oast house. Non-orthogonal, as the original oast houses were. An abstracted take on rural functionalism. But you know what? All these buildings are contextual, in the broadest sense. Take a look. Work it out. •

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Buildings

House

Round our way

ACME has reinvented the traditional Kentish oasthouse as a truly original work of architecture

Words: Tszwai So  Photographs: Jim Stephenson

Below  Bird’s-eye view of Bumpers Oast, a new family house in Kent.

Right  Bumpers Oast is unmistakably reminiscent of the round Kentish oasts.

The oldest known oast in England is believed to date back to the 16th century, but the ones with beguiling roof forms, at times pyramidal, at times conical, are mostly creations from the 19th or early 20th century. Though admired for their picturesque quality, the oasts were utilitarian structures housing the kilns to dry hops. Gone are the days when families brewed their own beer for profit, and many have been converted into dwellings.

Perhaps one of the earliest examples of architects exploiting the oast house aesthetic in a different typology was the late 19th century school built on the Glen Tanar estate in Scotland by the Victorian eccentric and cofounder of the AA, George Truefitt. Truefitt gave no hints of their source, but the two enormous pyramidal roofs crowning the school, each topped with a ventilating cowl, resemble the English oast houses. A recent reference is Caring Wood in Kent (RIBAJ, November 2017), a large country house with a striking angular roof designed by James Macdonald Wright and Niall Maxwell.

Although oasts are not unique to Kent, the county is especially known for them. In the countryside, one spots many funnel-shaped roofs crowned with cowls rising above the treetops.

Still in Kent, in a village just north from
the High Weald Area of Outstanding Natural Beauty, an open field dotted with detached houses emerges. One of them is a modest two-storey red brick building with white-painted casing window and terracotta ceramic tiles at first floor level, known to the locals as Bumpers Hall. Bumpers Oast, ACME’s 300m² new family house, sits behind.

First impressions play on the native psyche: a cluster of reddish volumes unmistakably reminiscent of the round Kentish oasts but without the cowls. Overlooking a grassy paddock to the east, the building sits serenely on a brownfield site previously occupied by a stable and a ménage, with a row of tall trees immediately to the west.

ACME’s involvement began in 2013 when the client, a planning consultant, ditched a design by a different architect featuring gables, a chimney and a large (also quite Kentish) cat-slide roof. ACME presented three radical proposals. The first two, a circular single storey disc and an undulating green roof building that merged with the earth, sought to make the building invisible in the landscape. The third option was the most audacious and evocative: a reimagination of the oast composed of five conical roofs, almost 13m in height, with three floors.

The client opted for the oast lookalike. ACME began by drawing circles on plan: quatrefoil, cloud and lined up in a row. In the end it arrived at a central circle 6.6m in diameter, intercepted by four smaller circles of 4.9m diameter, with a gap separating each smaller circle from another. All five have cone-shaped roofs. The original intent was to form a group of cylinders with majestic cones clad entirely in brick, thereby unifying the walls and the roofs, but this proved impractical. Eventually the client and the architect settled on local clay tiles.

The seemingly monolithic appearance is nuanced by six different shades across 41,000 tiles. The colours blend subtly from dark red at the base to orange in the middle and bluish-grey near the chamfered rooftops.

The interior is a medley of dreamy spaces. Entering through a slit between the roundels you are greeted by an oval dining table in the middle of the larger central circle, on a floor of polished concrete. Double-height glazed slits between the turrets help create the feeling of being in an external courtyard. Looking up, one’s eyes travel some 40ft towards the small circle opening to the sky, inviting all kinds of whimsical thoughts: the hole topping Zumthor’s cave-like 2007 Bruder Klaus Field chapel; standing at the bottom of the pitch-black well in Tarkovskys 1962 film Ivan’s Childhood; or simply a giant telescope reaching out to the cosmos. The enormous cone also has a practical purpose as a ventilation stack in summer when the ground floor windows and doors are all open.

On the ground floor, the parlour and kitchen each occupy one turret with no door separating them from the ‘courtyard’. The other two accommodate an en-suite guest bedroom and the study. A stair following the curve wall of the central circle leads to the galleried first floor landing which is finished.
with a parquet floor and connects the upper chambers. One contains a chill-out space, the other three are bedrooms for the family. Each has an en-suite and a workspace as well as a small staircase leading to an attic where the bed is found. The conical walls inside the treehouse-like bedroom spaces are lined with large nailed-up overlapping plywood tiles. The bark-like scales spiral until they touch the rooflight at the apex, through which one could count the stars at bedtime. Square windows look out to the surrounding trees. The circular layout would have defeated many carpenters, but not these Kentish ones, who are familiar with installing oast-house-friendly built-ins, including curved plywood cupboard doors. In fact, the whole process was full of serendipitous moments, had the client picked one of the other options, it would have changed the trajectory of the project. The decision to evoke a different ambience in the private spaces, for example, was for cost-cutting as the architect had initially intended to clad the entire interior with plywood, but the builder recommended whitewashed plaster.

There are interesting parallels between ACME’s Bumpers Oast and David Leech’s ‘A house in a garden’ in Dublin, completed in 2017. Both are based on a typology entrenched in the local subconscious – in Leech’s case, the 1940s suburban house. Each created something familiar but unique through brilliant manipulations of their chosen archetype – a task that if done badly would result in pastiche. Both houses explored the local builder’s skills and materials for economical but maximum results. They are too contextualised and poetic to fall into the Po-Mo genre, too idiosyncratic to wear the critical regionalist badge, nor are they trying to revive anything so cannot be labelled historicist. Both are truly original works of architecture 20 years into a century where modernism is still the orthodoxy. It is possible that the Instagram-genic Bumpers Oast might fade into oblivion in a world so indulged in consumption of architectural imagery, but it is one of the great houses of the past decade.

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**Buildings**

**Photograph**

Battersea Power Station: Energy Revolution

Photograph: Joás Souza

Words: Jan-Carlos Kucharek

Captured in black and white in a languorous long-exposure before the redevelopment began in earnest, the 10 seconds that London-based Brazilian photographer Joás Souza allowed to take this shot of Battersea Power Station is a luxury he would never have afforded himself in his hometown of Salvador. Having been held at gunpoint there four times, personal safety was more of an issue, and required certain logistics. ‘If I visited a building I would first scope it without a camera at all, and on the day I would hire a security guard when I was doing the shoot’. And he lingered no longer than absolutely necessary: ‘I just learned to be quick and precise!’

Since moving to London in 2005, he’s revelled not only in the sense of personal freedom he feels – ‘here you have to look for trouble’ – but in the capital’s position on the doorstep to Europe, where a short flight takes you to different climes, societies and architectures. As a citizen of a relatively new country – whose process of freeing itself from colonial rule resulted in Niemeyer’s modernist city and the human feat that is Brasilia – it’s the urban juxtaposition of ancient and modern that he experiences here that makes living in his adopted city so exciting.

Just before scaffolding cloaked the power station in 2014, Souza’s nine years of living here attuned him to sense a change in the fabric of the city significant enough to merit recording the view – to see that a piece of old London was passing and being transformed into something new. ‘I thought about the coal that powered the station for 50 years and wanted to contrast it with the trains in the foreground, now probably running on nuclear powered electricity’, he adds. ‘And to simply read something so huge, monolithic and static against another speeding past.’
Manchester’s Ancoats district, just north-east of the centre, was the heart of the city’s huge industrial expansion from Georgian times onwards. Framed by two canals – the broad, beefy transpennine Rochdale and the narrow, delicate local-connections Ashton, both corridors for early 19th century and later mills – it has been the focus of intense redevelopment in recent years. Mills are converted, new residential blocks inserted, and in the New Islington quarter you find the wholesale redevelopment managed by Urban Splash (originally masterplanned by Will Alsop) which stretches between and links the waters of both canals. On Blossom Street a few blocks north-west of there, however, you find a different kind of conversion and extension. This is the Romanesque 1859 former church of St Peter’s by Isaac Holden, which until 2013 was abandoned and near-derelict. It is now a rehearsal and education centre for the Hallé Orchestra. Its new Oglesby Centre extension by Stephenson Studio is placed right in front of it. Yes, a new building between the grade II listed church and its (relatively recent) parvis, Cutting Room Square. That might sound a bit mad and indeed the 2016 RIBA competition for the £4.2m extension attracted its share of raised eyebrows. Other entrants were Caruso St John, FCB Studios, Flanagan Lawrence and Jamie Fobert. But it was Manchester boy Roger Stephenson’s practice that got the thumbs-up from the judges, including Sir Jeremy Dixon, Niall McLaughlin and the Hallé’s representatives. It must have helped Hallé’s new home

Stephenson Studio has extended the Manchester-based orchestra’s church premises in brick and steel

Words: Hugh Pearman Photographs: Daniel Hopkinson

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that Stephenson’s practice had previously delivered the city’s well-regarded new building for Chetham’s School of Music.

So you expect some oddness – church on square with modern frontal extension – but when you go there, it makes a surprising amount of sense. First, with streets right up to it on the other three sides, there was nowhere else to expand. Second, there was no entrance, grand or otherwise, being obliterated as the church with its original side entrance had not addressed the square at all. In the past other buildings had butted up to it and left their marks on its largely blank brickwork on this end, so different from Holden’s richly modelled flanks, apse and campanile. Third, the new long thin ‘Roman’ burnt-red handmade bricks achieve an excellent colour match for the old church, the massing and parapet levels respond well to it, and the campanile becomes a point of focus as you enter the building from the square. As the stair rises through an atrium to the main rooms on the first floor, there is the tower looming right above you through the glass.

In fact the Oglesby Centre gives the church an entrance to the square it never previously had. It opens up to it – via a structurally ambitious corner cantilever visually carved out of the block – with a public café at ground floor level and a new link from there cut through the enormously thick brickwork of the campanile base to the previously restored main body of the church, with its slender iron columns helping the orchestral acoustics.

The other key material here is Cor-ten oxidising steel, used to express the form of the large first-floor rehearsal room. Cor-ten is too often used in the wrong places, just as a fetish product. Here there is a clear rationale for its use: just as so much of this part of Manchester is red brick, so also there was always a good deal of exposed ironwork, with factory water tanks very visible. The steadily darkening steel, on its journey from orangy to cinder-brown, sits just fine with the brickwork and its dark lime-mortar recessed joints.
Buildings
Music centre

The RIBA Journal March 2020 ribaj.com

joints. A consciously industrial rather than ecclesiastical aesthetic, it is detailed with a concealed gutter to avoid rust streaks down the brickwork below.

The Hallé Orchestra, for all its illustrious yet frequently chequered history since Sir Charles Hallé established it in 1857, had no permanent base of its own to rehearse in until the St Peter’s project. The church thus performs much the same role that St Luke’s church in London’s Old Street does for the London Symphony Orchestra which is associated with the Barbican.

The brief asked for rehearsal, performance, education, administration and support spaces for the orchestra and choir, plus the public café space (a second largish rehearsal room could with difficulty have been added but, perhaps fortunately for the overall composition, this was dropped). Although the building steps forward from the church, it also digs down: the basement (daylit from pavement lights) is a cellular layout that includes a large practice/education room, offices, instrument store, plant room, café kitchen and toilets. The excavation caused a literal wobble moment during construction when the campanile was observed to move fractionally, about 15mm, due to soil dynamics. It was quickly stabilised but the construction team still quiver slightly when they mention it.

The big rehearsal space – intended for smaller ensembles than the full-orchestra volume of the main church – is for recording use as well, and like the practice rooms is acoustically isolated in a box-in-box arrangement. It’s a well-proportioned space in which the usual wall and ceiling acoustic treatment is subsumed into the architecture. The architects – Stephenson working with co-directors Keith Hamilton and Justin Risley and associate partner John Boardman – wanted a less timber-dominated interior than at Chetham’s so went for an almost country-house aesthetic of light oak timber panelling up to a certain height, flush with white plastered surfaces above that. Usually, it is not a blank box: a row of tall triple-glazed windows, zigzagged for acoustic reasons, looks out over the square and provides external evidence of activity within.

The acoustic can be varied to some extent with thick felt moveable drapes set in apertures behind the panelling. Necessarily low-speed silent air handling comes from rooftop plant concealed behind the wall upstands.

There is a sense of proportional rightness to the massing of the building. Deference to the church is apparent, but not subservience: the new building is confident in itself, if muted in tone. It plugs into the church firmly without overdoing the glazed links. It’s a satisfying thing when architects design proper boxes, but then Manchester has got plenty of precedents to draw on. •
I zone out. When I come round, I find myself in what can only be a Remembrance Day service. A schoolgirl is standing before a teenage orchestra singing Vera Lynn’s (There’ll be Bluebirds Over) The White Cliffs of Dover. On the wall behind, below a hundred wispy pink fabric pendant lights, a huge screen is showing slow-moving drone footage of England’s south coast against a glorious blue sky with twinkling waves and gleaming cliffs.

Former Conservative MP Nicholas Soames, Winston Churchill’s grandson but more recently notable as a fairly pro-EU thorn in Boris Johnson’s side, is coming up to speak. I have heard them and us analogies in abundance – an object from the Continent, a brooding spaceship, a strange Dutch visitor – as well as a dose of stereotypes about the Dutch being single-minded and architects all dressing in black roll-necks.

I’m at the open day for OMA’s anticipated £55m Sports and Sciences Building for Brighton College, to which the architect has enticed an array of journalists from all over Europe. We’re two weeks from MPs ratifying the UK’s Withdrawal Agreement from the EU and I’m perplexed. How have stories from the Second World War, such as the seaplane containing Dutch ministers landing nearby in 1940, been woven into this supposedly futuristic building’s narrative? It’s weirdly nostalgic. I get the impression it’s not how the architects might have sent off a radical sports and sciences building either. Sprinter Colin Jackson, who although retired is arguably more relevant than Soames, is standing silently in the crowd, waving only on request.

The complex is declared a departure from the ‘set of polite buildings’ (by British architects) the school had completed when this one was commissioned after a competition in 2014. But with this backward-looking display about Britain, what might we expect? Listening is causing me an existential meltdown. That the next song is from Rocky doesn’t help.

OMA won the project, says headmaster Richard Cairns, because the school wanted a sports building with lots of glass and the British architects it spoke to said that couldn’t be done. However, its chief architect Ellen van Loon tells me that it emerged that it was the only practice which took the school’s original three-part brief – one block of generic classrooms, the science department and all sports facilities – and combined them into one mega multidisciplinary building, in that OMA way.

How have Second World War stories ended up in the building’s narrative?

Brighton College was founded in 1845 and is located east of the city centre in a primarily 19th century white-stuccoed residential area. It occupies a rectangular plot, with the extended gatehouse facing the road to the south (RIBAJ March 2015). Most of the buildings cluster in an increasingly compact collegiate

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**Back to the future**

OMA’s new sports & sciences centre for Brighton College seems stuck in a bit of a time warp – and the client more so

Words: Isabelle Priest

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**IN NUMBERS**

- 7,425m² GFA
- £55m budget including demolition costs

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**Left** Two level entrance with cantilever and dancing column framing the entrance much like Will Alsop’s Peckham Library of 2000.

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Above: The new building viewed from the cricket pavilion. Larger sports ‘cells’ on the ground floor with the science classroom ‘cells’ floated above.

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Left: The rooftop is not as naturalistic as originally intended. The bar and artificial turf give the feel of a sponsored champagne terrace at the races.

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How have Second World War stories ended up in the building’s narrative?
"I liked science at school," says van Loon. "I wanted people to walk through the corridors and see experiments taking place in the classrooms, to encourage curiosity as well as uptake in them, particularly among girls."

In form, OMA wanted a ‘contextual’ building. It experimented with scale, looking at the residential terraces, interpreting each as a cell. The building had to be long and fit with the flat roofscape of the terraces opposite as well as the stepping roofs elsewhere in Brighton. Externally, each function – sports hall, gym, classroom – is expressed as a unit, glass bounded by charcoal grey GRC cladding. This tactic made planning easier.

The approach to the building is towards the built-up end of the campus and bridges the one-storey difference with the playing field by creating two entrances. The first is a slow stepped concrete ramp that scoops people up to a viewing platform and into the atrium where the opening event took place. The other is an inconspicuous doorway at lower level that leads to the changing rooms and the swimming pool on one side of a wide corridor.

Upstairs, rooms unfold around spacious circulation intended to effortlessly draw people up from the atrium to the champagne terraces on the roof and those sea views. Further on, still on the ground floor, past a stair to the science department above, an avenue separates the 25m running track from a gym and exercise studio. The multifunctional sports hall occupies the full width at the end, where the outdoor field provides a backdrop for indoor activities. Doors opening between the two allow their functions to overlap. From the gym you get glimpses of the pool below.

Upstairs are van Loon’s spaces for creativity – corridors that are break-out spaces and exhibition spaces, as well as the biology, physics and chemistry classrooms and laboratories. Everything is high-tech, every material is manmade, sharp. The place smells rather toxic. To the third floor there’s another stepped ramp that gives the building its external expression of stepped cells to mimic the townhouses. It was intended to be sloped, but became too steep, so three classrooms are not wheelchair accessible. I’m promised the school has a sophisticated room system to accommodate disabled pupils or redistribute them should someone become temporarily disabled, yet it is an odd decision.

On the semi-accessible roof is another, two-lane 50m running track, squeezed between railings and a roofscape of plastic light domes. The physics extractor vents are disguised by a rooftop bar and there is artificial turf instead of the original planned grass. It’s the ‘Brighton bling’ that the school wanted, to counter an over-austere look it was afraid of. To the third floor there’s another stepped ramp that gives the building its external expression of stepped cells to mimic the townhouses. It was intended to be sloped, but became too steep, so three classrooms are not wheelchair accessible. I’m promised the school has a sophisticated room system to accommodate disabled pupils or redistribute them should someone become temporarily disabled, yet it is an odd decision.

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interior choices such as the seaside stripe sofas, pebble seats, light fittings and wayfinding words from ‘pool’ to ‘lido’ and ‘cinema’ to ‘kino’ that grate with the architecture.

That’s not to say the architecture is spot on. The entrance steps are heavy. The ‘dancing columns’ and greyness under the cantilevered portico are bleak. And I don’t buy the reference to stepped terraces as an excuse for inaccessible classrooms. The building looks cumbersome from the field, especially compared to the amiable scale of the campus elsewhere, but I don’t share other journalists’ dislike of the street elevation – it mostly neighbours an industrial park.

Who’s at fault? It’s difficult to know. In many ways this is more of the same from OMA. So little changes conceptually it could have been built any time in the past 20 years. It lacks the firm’s usual magic, but it does provide fantastic facilities (the cinema is particularly good) and is bold for a British private school, although the state sector has been doing the all-in-one thing for years. The running track must remind you of Zaha Hadid’s Evelyn Grace Academy, even the zigzag angles. Perhaps OMA didn’t want to deploy its utmost sophistication here, and judging by the sentimental, backward-looking opening event, who could blame them? Some nuances of public schools are no doubt lost on the architect, but one Dutch journalist told me it all looks Harry Potter to them. What does it say to be a foreign firm building in Britain right now? •
Be the catalyst for change

The climate emergency will dominate Futurebuild’s keynote sessions and discussions, while the halls will be showcasing ways to build smarter.

**Setting the agenda**

Futurebuild’s highly-regarded Arena programme is returning for 2020, bigger and better than ever before, with the climate and ecological crisis leading conversations. Following a three-day progression, the discussions will be led by politicians, academics and industry shapers.

While conversation in the Arena will focus on the biggest issues facing the built environment at a macro level, six keynote stages located across the event will look at the specific challenges impacting buildings, offices, energy, interiors, resourceful materials and critical infrastructure. This programme of solution-driven sessions will share the latest thinking and research, to educate, inform and inspire visitors to make a positive change.

The buildings keynote stage will explore the latest thinking and initiatives in building quality and performance. Opening the programme on day one (3 March) is the RIBA Sustainable Futures Group which will host a session on delivering on sustainability with a greener RIBA Plan of Work.

Beyond the stages

Around each keynote stage will be an exhibition of innovative brands, offering unique solutions to the challenges discussed in the company knowledge programmes. The exhibition will feature some of the largest headline brands in the sector, alongside SMEs and start-up organisations, creating a dedicated platform to connect these companies with forward-thinking specifiers and buyers.

Of particular interest to architects and designers will be the buildings section, which is expanding for 2020 to include two new showcases areas; the whole house retrofit zone and the digital impact zone. Here, visitors will have the chance to discuss the various refurb and retrofit solutions, both current and in development, as well as the latest developments in digital construction. The hugely popular RIBA Bookshop will also return, as a vibrant space for book signings from a number of RIBA selected authors.

Innovation running through the whole event, Futurebuild has announced the UK Research and Innovation Transforming Construction Network Future Build Plus. Together, these organisations are unleashing and nurturing the construction sector’s innovative potential by working with industry and academia to drive change in how we build our buildings. They want to ensure we build safer, healthier, more affordable, more energy efficient buildings which deliver better outcomes for those who use them and for wider society.

**Tackling the climate emergency lies in all of our hands**

Recent climate change demonstrations and government declarations make one thing clear; we must all come together to take action against these challenges that face us. Put simply, without collaboration, we will fail.

Against this backdrop, Futurebuild 2020 (03–05 March, ExCeL London) will inspire, inform and inspire visitors to make a positive change.

Futurebuild, said: ‘The responsibility for tackling the climate emergency lies in all our hands and we must collaborate in order to find solutions to secure our future. Futurebuild 2020 provides the perfect platform for forward-thinking decision makers across the built environment to come together and play a key part in driving positive change.’

“Innovation to us is more than just futuristic concepts, it’s about sharing the latest thinking and ideas, processes and solutions, products and materials. All these things coming together under one roof at Futurebuild 2020 will inspire people to do things differently and create real change.”

For more information about Futurebuild 2020, the home of innovation, visit www.Futurebuild.co.uk.

**Left** Over 500 hours of structured learning across four compelling conference programmes and six keynote stages - all free and CPD accredited

**Above** Discover the latest technologies to fulfill your zero-carbon strategies

**Below** Futurebuild 2020: An agenda setting conference with a world class knowledge programme and innovative and inspiring brands.
Room for a view

...or two. Grafton Architects’ Town House for Kingston University is all about space, light, breezes and outlooks. It helps you think.

Words: Eleanor Young  Photographs: Ed Reeve
Kingston’s Town House is a remarkable building for a modest university. Quite how that has come to be lies in the team behind it. Kingston University vice chancellor Steven Spier is architect-trained. You don’t get many of them. His director of estates is an architect; so is the project manager. The actual architect of the building is RIBA Royal Gold Medallist Grafton Architects. Spier is surprised himself when he realises what an architect-infused team he had. ‘It is all that stuff that architecture gives you – we believe in it,’ he says.

The RIBA competition brief for this student work space and library, with dance department, was set with aspiration that has been carried through – unusual for a client in what is often a quality-cutting world of higher education estates, where many good ideas end up engineered to sameness. You can’t accuse Kingston University’s Town House of that. The volumes are big enough to take your breath away but are inhabited and unexpected, keeping you on your toes. Logical plans become complex interlocking volumes. Grafton’s Yvonne Farrell says so, but study the plans yourself and visit if you can: she is quite right. As Nicholas Hare Architects’ Student Centre for UCL shows, a relatively open brief enables exciting architecture.

One of those things that architecture gives you, that Grafton has talked much about, is ‘freespace’ – on which it pinned its curation of the Venice Biennale in 2018. Space and light yes, but it also encompasses views, air movement and sunshine and moonlight. On paper it tends to ephemeral fummery. In concrete you can feel how Grafton can claim your mind works differently if there is space above your head. It starts with the compression and release of the entrances, set in the corners of the building. Here the edges of the concrete floor plates above your head keep a lid on the first floor spread out before them, a commanding position that also gives views up into the library through internal windows. The courtyard is cris-crossed with routes, students cut through it to the bike park or, at a high level, between library and dance studios, perhaps leaning on the balustrade to spot a friend. It has space for 269 seated but is more likely to be used for a student fashion show than a lecture, says Spier. Its orientation is one of the products of a special part of this project, the adjudication committee. This was the group of competition judges – including Spier, architect John Jenner and university governor Nancy Cogswell – which selected Grafton Architects. They met at key points in the process to wrestle with big questions and ask difficult questions. Importantly, they were separate from the project or finance committee.

But the most radical element of the building is the loggias that edge it on the three sides. They might appear in photographs as a well done exercise in facadism: extended brises soleil, that give the facade presence onto an expanded street-side strip of green. At third floor the concrete staircases up the façade continue, starting staircases. Stage lighting brings a stage to life on the last day.

The central staircase has a commanding presence of concrete climbing the building, timber stairs inside them, this draws you upwards but the vertical impetus is offset by the ‘courtyard’ – an auditorium of oversized steps ranged to face into the building. Those perching on the steps are framed by an 8m gap between super-sized sliding doors. From the refuge of the steps staff and students have the prospect of the whole ground floor spread out before them, a commanding position that also gives views up into the library through internal windows. The courtyard is cris-crossed with routes, students cut through it to the bike park or, at a high level, between library and dance studios, perhaps leaning on the balustrade to spot a friend. It has space for 269 seated but is more likely to be used for a student fashion show than a lecture, says Spier. Its orientation is one of the products of a special part of this project, the adjudication committee. This was the group of competition judges – including Spier, architect John Jenner and university governor Nancy Cogswell – which selected Grafton Architects. They met at key points in the process to wrestle with big questions and ask difficult questions. Importantly, they were separate from the project or finance committee.

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Anyone who has been keeping up with the climate impact of the embodied carbon of our buildings would feel uneasy walking into a building that so revels in its concrete construction. Grafton’s position is that the concrete has to justify itself, pointing to the reduction in waste of using precast, prestressed compared to in situ concrete as a ‘lean’ structure. Blast furnace slag made up 36% of structural elements, reducing cement use. Grafton director Gerard Carty describes the structure of the floor plates as ‘car park decks’, the fins of the double T beams ensuring maximum span capacity. Open library seating flows through the building, gently ordered by the structure. ‘We wanted to show the weight and order of elements,’ says Carty. The grid is at 6.4m centres facing the street but stepping back into the depth of the building the spans increase in length to accommodate the 12m wide performance space and 15m wide courtyard.

Internally, the concrete is moderated by joinery that lines the deep reveals of doors and internal windows and sits in between the internal double glazing designed for acoustic separation. From this – or the co-ordination of lights and detectors gracing the concrete soffits on the joints of the double T beams – you wouldn’t know that this was a design and build project. There is much praise for the contractor team from Willmott Dixon, and Kingston – with £111 million spent on the estate since 2014 when Grafton was appointed and at least one more major building to commission – is a client worth pleasing. It no doubt helped that Grafton Architects’...
The RIBA Journal March 2020

Critique
Kingston Town House

The Kingston Town House team came over every week from its Dublin base.

Vice chancellor Spier has been involved in a number of new builds during his ascent of the academic ladder. But at Kingston he sees the building as an answer to a particular problem. Like many less well-known universities, Kingston was caught on the hop when the cap on student numbers was lifted and establishments known by reputation could hoover up more students than ever before. Town House is about attracting students and it is also about serving a different kind of student to those at more elite universities, those who may not have local student halls and are perhaps living at home. Spier sees this sort of work space as the right of students at Kingston as much as those at Russell Group universities and of real value to them.

‘Here, students have complicated lives and families, and this is a way to draw them in,’ he says. ‘People like being here in a community of students. We try and keep them here on campus.’

Fix your eyes on...

Mechanically fixed brick slips

- ‘A’ Fire Rated
- BBA Certified
- Patented Design

Top right: The underside of the slab alternates structural T-bars and very controlled lines of lights etc. Beyond the glass are wires for vines to grow.

This image: Kingston sees the Town House as a public face for the university, giving more space to the street and adding a public café on the ground floor.
Hotel guests sleep soundly thanks to Granada Secondary Glazing

Granada’s secondary glazing enabled restored grade II* listed hotel Kimpton Fitzroy situated on a busy London road to give guests peace and calm while retaining its original character.

Granada’s secondary glazing can reduce noise levels by as much as 80% – 54 decibels and can substantially reduce heat loss.

Situated in Russell Square in the heart of London, the historic grade II* listed Kimpton Fitzroy London Hotel opened in 1900 as one of the first purpose-built hotels in London. Originally designed by the architect Charles Fitzroy Doll, much of the hotel’s opulent interior was the inspiration for Doll’s later designs for RMS Titanic.

After extensive restoration, it reopened in 2018 as a modern luxurious 5-star hotel while retaining its important architectural splendour.

The primary windows could not be changed due to the building’s listed status and the owner’s desire to retain them to preserve the building’s original character.

Granada Glazing’s aluminium secondary glazing was specified to attenuate external noise and create a quieter, more comfortable experience for patrons in both the 554 individual custom finished guest rooms and the 19 new luxury suites.

Working with London-based Architects, Granada Glazing designed, manufactured and installed a bespoke system using two and three pane horizontal sliding windows, balanced vertical sliders and heritage hinged units to blend unobtrusively with the existing primary windows.

Powder-coated in a white high gloss finish, the slimline aluminium frames utilised 6.4mm acoustic laminated glass, crucial in meeting the required noise reduction level. Granada’s secondary glazing can reduce noise levels by as much as 80% (54 decibels). In total 900 units were manufactured and installed, improving both acoustic and thermal insulation.

Due to the hotel’s central London location, noise insulation from traffic using the busy main road was a key requirement in this major renovation project. The primary windows could not be changed due to the building’s listed status and the owner’s desire to retain them to preserve the building’s original character.

Granada Glazing partners with architects and specifiers on the design, manufacture and supply of high quality commercial secondary glazing for all sectors and building types across the UK.

For more information on how we can assist with your project or to book Granada Glazing’s RIBA Certified CPD, please telephone 01909 499 899 or email info@granadaglazing.com.

To hear the difference that Granada’s Secondary Glazing makes, please visit here: https://www.gsecg.com/kimpton-fitzroy-hotel/
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In other words, Polypipe Advantage gives you more. Making the complex simple.

Add value to fabrication, visit: polypipe.com/polypipeadvantage

Has anyone at MAD contracted coronavirus?
At present, no. There was a drama when one member of staff realised later that they had been in a meeting in January where there were people from Wuhan, but they didn’t get the virus.

What measures is MAD taking to avoid contracting or spreading the virus?
Our Beijing office has remained closed since the holiday on 3 February and all our staff (90 architects and 10 others) are working from home in self-quarantine. Usually everyone works in the office so we are using a remote working software called Splashtop to access the server. Most staff are using their personal computers, otherwise the office has lent them one. We have a meetings system and each project team has a WeChat group (like WhatsApp). Staff log in every day between 9-10am and then they manage their workload/time.

Does MAD have any projects in Wuhan? How is the virus affecting daily work?
The practice doesn’t have any in Wuhan or Hubei province, but it has around 25 projects at different stages in many other cities in China. However, all construction sites are closed, so site visits aren’t possible, nor are new project visits. We’re expecting that to continue until at least March. Beyond the homeworking, it isn’t affecting us too much. No one can do any international travel because airlines have cut flights but our Rome and LA studios are operating as usual.

What is happening at a wider level in Beijing?
During the holiday, it was incredibly empty. There weren’t cars or people in the streets. The only places you’d see people was in supermarkets stockpiling food and in pharmacies buying medicine and face masks. People are going out as little as possible, grocery shopping perhaps once every two to four days and walking their dogs every four days. Some are having groceries delivered to avoid going out at all. Since last week the roads are a bit busier and people have been for walks more; it seems to be getting a bit better.

Do you anticipate a financial impact on MAD’s business as a result of the virus?
We don’t see any immediate impact, but it is only a couple of weeks since the end of the holiday. We expect potential projects to have delays rather than get cancelled. The latest is that the virus may peak mid-late February and should be finished by April. We are reviewing the news every day and for the moment the office will be closed for at least another week. People have faith in the government and medical teams, and we salute the people on the front line in Hubei province.

POLYPIPE ADVANTAGE
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Distinctive designs for London’s Entrances

Boon Edam was tasked with selecting the right entrance products that focused on usability, security and design for London’s refurbished Devon House.

In the London Borough of Tower Hamlets, adjacent to Tower Bridge in the prominent position looking over the River Thames, is Devon House at St Katherine Docks. Built in 1989 and forming part of a historic redevelopment by an Act of Parliament, it sits surrounded by shops, restaurants and bars with enviable direct transport links close by, including transport by boat. Devon House underwent a full refurbishment in 2009 internally and externally that included a brand new reception space and terrace with prime views over the river. The new reception area is presented as a social space, almost mimicking a coffee house with its relaxed atmosphere. A refurbishment by Blackstone demanded distinctive design features, and the gold tones that stand out against the warm browns of this project are symbolic to Blackstone’s previous refurbishments.

Great relationships form beautiful projects

The lead architect refurbishing Devon House was Stiff + Trevillion – a west London based practice established in the 1980s, with an impressive portfolio of commercial, restaurant and retail projects. Having worked closely with the firm on previous and current projects – including Blackstone refurbishments – there was an established relationship and good understanding of the firm’s ambitions for Devon House.

‘From the outset, it was clear what the requirements were from Stiff + Trevillion,’ said Andy Collins, specification manager for Boon Edam UK. ‘Having collaborated with the practice on a number of occasions, we already understood their design intent.’

Framed revolving door with a minimal feel

When Boon Edam was brought into the project at Stage 2 of the design process by Stiff + Trevillion, the client had already decided that the entrance would consist of one revolving door. With a predicted net internal area of 92,819 ft² over multiple floors and a variable design occupancy, it was our responsibility to help formulate the best entrance solution for possible density increases and rising footfall.

For smaller buildings, it is common to only require one revolving door that has the ability to cope with busy periods. In this instance, the choice of door came down to design. It was decided that a four wing Type One Tourniket would be the most suitable entry, meeting both throughput and aesthetic requirements. A Type One inherits a slimline 18mm soffit from the slab rather than in the canopy.

Adaptable security with design intent

Along with the Type One Tourniket installation, it was understood from the beginning that Devon House would be designed with adaptability and growth in mind. We were aware of the design capacity of the building from very early on regarding the project. The building capacity helped to dictate the number of lanes needed around the entrance. We also had to consider the access requirements of the Disability Discrimination Act, which led to a wide lane set up on the east and west sides of the reception area. A wide lane configuration would allow disabled users to leave and enter through a similar type of turnstile.

Consideration also needed to be made for peak times. As this was a workplace, we understood these to be the start and end of the working day – and lunch time, which would also have to cope with bi-directional traffic with users leaving and entering the building simultaneously. The aesthetics of the lanes match our business edition Lifelines, whereas the construction is stainless steel and coated with Black RAL finishing.

Devon House had to be designed with adaptability and growth in mind

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A Type One Tourniket is a hybrid of the standard revolving door (Tourniket) – such as aluminium framed profiles. This hybrid door allows for the drive to be located under the slab rather than in the canopy.

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The construction industry is a critical moment. Thanks to sector-specific innovation using digital technologies, today’s wasteful practices are about change forever. It will unify our fragmented industry, knitting together many separate systems into one.

We’re whizzing up a recipe of ingredients – BIM, virtual and augmented reality, algorithms, AI, machine learning, advanced manufacturing, robotics, 3D-printing, autonomous plant, reality capture, smart sensors, IoT, 5G networks, and so on – into a primordial soup, zapping it with enabling conditions, and hoping to serve up a new super-efficient, sustainable architecture.

Below the Jaguar Land Rover Advanced Product Creation Centre designed by Bennetts Associates demonstrates that moving towards standardisation can produce striking sustainable architecture.

**WHAT IS THE SINGULARITY?**

The technological singularity is a hypothetical future point in time at which technological growth becomes uncontrollable and irreversible, resulting in unforeseeable changes to human civilization – Wikipedia.

**Tech’s new dawn?**

In an 11-page overview of technology’s promised golden future for construction, we examine automation, mass customisation and designing for whole building life. First, the possibilities and barriers to realising digital’s full potential recently appointed Mark Farmer, author of the influential Modernise or Die report, on modern methods of construction (MMC) tsar. Concurrently, the venture capital community has started a gold rush. According to the Wall Street Journal, investment in ConTech (construction technology) totalled over $4.3bn in the first half of 2019, blurring the fruits of the transformation – as ‘crude’, its detractors. Paul Karakusevic of Karakusevic & Partnersargues that MMC makes ‘forever subordinate to narrowly defined efficiency’, with ‘direct material consequences for long-term sustainability and societal wellbeing’. Among its unintended consequences, he argues, is that MMC makes buildings less adaptable over time, de-skills communities, and does nothing to make housing more affordable.

Not all it’s cracked up to be?

Professor Stuart Green from the School of Construction Management and Engineering at Reading University, is similarly sceptical, but for other reasons. The current agenda is ‘over-hyped’, he says, with effectiveness ‘forever subordinate to narrowly defined efficiency’, with ‘direct material consequences for long-term sustainability and societal wellbeing’. Among its unintended consequences, he argues, is that MMC makes buildings less adaptable over time, de-skills communities, and does nothing to make housing more affordable.

Jane Burry, dean at the School of Design at Swinburne University of Technology, Melbourne, Australia, and co-chair of the Fabricated building places’ conference for the triple bottom line. As she says, ‘There’s been a lot of hype around the Google acquisition into the construction industry. It will only want the low-hanging fruit, the straightforward deliverable buildings. It’s not morally bound to design the whole city for us.’

Even if these fears are misplaced, the dream-of-future faces some pretty stiff obstacles. While the technology is forging ahead in astonishing ways and at breakneck pace, its adoption is slow and thinly distributed because dyed-in-habits and ill-suited processes stand in the way.

That’s the polite way of putting it. Kelly
We fear taking on uninsured risks and resist efficiency because it might eliminate the variations that allow us to turn a profit.

None of this is news, but pressure to change has come to a head. The Construction Leadership Council’s 2018 Procuring for Value report, backed by the government of the day, called for an ‘outcome-based, transparent, and efficient industry’ and said the Construction Sector Deal would not be possible without procurement reform on the basis of whole-life value and performance. If we are to ‘get out of our own little bubble’ and think of ourselves as part of a much bigger system, we need a whole new framework with the right insurance, what would you do with it?’

David Miller, vice president of industry strategy at ClearEdge3D, is blunter. According to him, the industry is in a serious mess: ‘And 95% of that weird, nasty, adversarial S&M stuff we live with day-to-day as our normal operations, he says, and never meet facilities managers, he says, and only meet the contractors, meaning we still have to fight with that!’

David Miller stresses the need for architects to ‘get out of their own little bubble’ and think of themselves as part of a much bigger built environment system. ‘The danger is that a giant digital tech behemoth armed with big datasets, AI, and almost limitless processing power, does for clients ‘in 24 hours’ what might take Gleeds six months. That’s a paradigm shift that few in the construction industry as a whole, let alone the architectural community in particular, could compete with.’

Implications for architects

The proposed singularity mirrors the future plotted in the book The Future of the Professions, by Richard and Daniel Susskind, which predicted the professions’ obsolescence through routinisation, automation, and mass customisation. That appears to be happening.

The threat, of course, is that it happens all at once. As Graham Harle, global CEO of Gleeds, said recently about the need for R&D, the great danger is that a giant digital tech behemoth armed with big datasets, AI, and almost limitless processing power, does for clients ‘in 24 hours’ what might take Gleeds six months. That’s a paradigm shift that few in the construction industry as a whole, let alone the architectural community in particular, could compete with.

Jamie Johnston, head of global systems at Bryden Wood, a practice heavily invested in the Transforming Construction agenda, is much more optimistic. ‘With BIM and super-planned design and manufacture it’s different. That’s not wild speculation; that’s next year!’

David Miller is somewhere in between. ‘After all,’ he says, ‘We thought that design information would be automated by 2010, but we still have to fight with that!’

The future is always distributed and uncertain. If it happens at all, the ‘singularity’ is likely to be gradual and incremental, requiring considerable change in skills, composition and business models, but is nonetheless manageable.

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Could AI be your superpower?

For generative design, automation needs a new breed of data-savvy architects to set the rules

Words: Matt Thompson

Automation is a vast generic descriptor that applies to many processes in both the physical and the virtual realms. A key principle is that it reduces or obviates the need for human participation. Provided it is properly verified and validated, and the return is worth the investment, it can add significant value. This is because it dramatically speeds up processes, improves accuracy and has the potential to bring down costs.

A prominent example of this comes from the Rapid Engineering Model (REM) software, developed for Highways England by Bryden Wood. It automates the design and location of overhead signage gantries for emergency slip ways by drawing down geolocated data from third-party sources. Bryden Wood’s Jaimie Johnston explains the advantages: “What traditionally took a team of people six months, our software can do in a couple of days. That’s not just slightly better – it’s a net good.

It is useful to distinguish between automation that allows the creation and elaboration of data (for example configuration, optimisation, generative design, BIM), and that which allows data to be translated from the virtual to the analogue or physical worlds (visualisation goggles, robots, 3D printing) or vice versa (cality-capture scanning and measurement technologies).

This article is about automation that allows the creation and elaboration of data for design efficiency and effectiveness. Beyond architectural and engineering design, this includes interoperability, project management, communication, reporting, and even regulatory and code compliance.

What links all these use-cases is data, the golden thread that, in a proposed singularity, is equal to $1 trillion to $1.7 trillion annually. The construction industry-sponsored life cycle cost estimation (LCC) is a perennial problem. ‘Everyone’s continually reinventing the wheel, which is clearly wasteful,’ he says. Bennetts tries to improve the situation using information management processes but recognises how limiting it is not to cross-reference to others...

One of the most successful applications of automation in design is the SDG Tracker. Although it is a relatively recent development, its potential is huge. The tracker is a real-time, interactive tool that allows architects and other professionals to see how their projects are performing against the United Nations’ Sustainable Development Goals (SDGs).

Above: A revolution in speed and accuracy for Highways England: The Rapid Engineering Model automatically generates BIM models. In this visualisation a section of motorway is overlaid with data analysis results showing gradient, curvature, verge width, size grading, visibility, quality, value, and societal outcomes.

The world of Construction Technology (ConTech) demonstrates that processing power, whilst still a limitation, is large enough to admit some tantalising future prospects. The Boston Consulting Group predicts that by 2028, full-scale digitalisation could help the industry save an estimated 12% to 20%, equal to $1 trillion to $1.7 trillion annually.

Onwards to singularity

The variety of innovation is breath-taking, leading inexorably towards the singularity. In this future, design will have switched from computer-to-human-aided. The role of architects in design and compliance will increasingly distil into governance. Rather than designing and refining project-specific designs, they will continuously improve generic rules that underpin designs.

Some businesses – notably Specelle and Hypar – are already providing the enabling platforms. Anthony Hauck of Hypar explains, ‘We’re trying to capture the idea that expertise can be recorded and reapplied in multiple contexts. If this looks like nullifying your business model, it shouldn’t. It simply allows you to reach more clients. After all, he says, ‘Probably the vast majority of building world-wide currently goes up without the intervention of any licensed professionals at all.’

The point is to step away from blank slates at project inception, which says Gavin Pike of Bennetts Associates and the Get It Right Initiative, is a perennial problem. ‘Everyone’s continually reinventing the wheel, which is clearly wasteful,’ he says. Bennetts tries to improve the situation using information management processes but recognises how limiting it is not to cross-reference to others...

With a change of mindset as much as of contracts, the industry can overcome its copyright jealousy.

Below: Screened from the free, open-source PRISM app collects data about housing from around London to allow users to rapidly configure options on a 3D model."
Implications for architects

The automated future means rethinking business as usual. If it hasn’t already happened, the designs of the future will almost certainly be crowd-sourced. As David Miller says, “Your baby is actually a shared endeavour, the designs of the future will almost certainly be crowd-sourced.” 

As generative design matures, architects’ involvement will be in partnership with the software provider, either directly or by taking advantage of their open-source platforms. “If there’s a glitch in the project model,” says Jaimie Johnston, “you don’t fix the model; you fix the rule set so it only ever gets better.”

While it will relieve the drudgery of reinventing wheels, generative design will also reduce the number of hours you can charge. This time can be redirected into better early-stage optimisation with the help of configurators. Johnston again: “It makes lots of options appraisal easy so you will get more and better architectural variation.”

Emma Hooper identifies those ‘pretty-bad models’ and the BIM information exchange at Stage 4 as the big problem. The space between design and site is “a black hole that sucks down information,” she says. Her advice is to adopt the IS0 19650 series, always think about the end use and work backwards, archiving to make your output optimally robust and useful.

Gavin Pike recommends focussing on standardising digital approaches right across the design supply chain. “Anything less than that makes a mockery of the whole process.”

Architectural drawings will cease to have any value. David Miller sees this as a major challenge for the profession as gratification from the ‘visual endorphin hit’ of a beautiful working drawing has to be delayed until the building is complete.”

...
Same, but different

With MMC shifting construction from the site to the factory, mass customisation offers variety. But how to manage it?

Words: Matt Thompson

‘The singularity’ envisages a switch from mainly traditional on-site construction to mainly modern methods of construction (which go by various names including prefabrication, volumetric, modular, offsite manufacture) using design for manufacture and assembly (DfMA). In it, all that is left for the contractor to do is to prepare the ground and assemble the modules as they arrive on site.

The pre-manufactured value (PMV) of this move is well-rehearsed – safer, faster, less wasteful, better quality, more sustainable, and so on. Extracting the fullest possible benefit from it is less well understood, however, presenting designers and the supply chain with significant but exciting challenges.

Maximising PMV requires architects to value engineer their own output. It requires design to a level of detail that is capable of being manufactured. It means tessellating standardised kit-of-parts components to fit a standardised structural frame. It means early-stage planning in collaboration with the whole supply chain to optimise off-site production, delivery and on-site assembly along a purely digital workflow.

In short, it means emulating the 50-year-old manufacturing revolution that has transformed, for example, the automotive industry, with the benefit of being able to learn from its mistakes. The laggard, inefficient but vital construction industry will be transformed.

Of course, there is an elephant in the room. Construction has innate physical constraints and the baggage of centuries of stubborn habit and bureaucracy standing in its way. These legacy roadblocks are real and, in many instances, important facets of the
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Important to resolving the mass customisation paradox is the concept of platforms, a physical system with a digital twin to take its bespoke FABPOD into production. ‘Disappointingly, our best viable mass customisation offer boiled down to three options: cheap, standard, and expensive. It was a real revelation to me: architecture-to-product design is not a continuous spectrum – we have different ways of looking at the world.’

Globally, the industry and its investors sense that the confluence of technology, innovation, motivation, and societal need has hit a sweet spot. Starting with housing, they now hope economies of scale will allow more customisation without affecting commercial viability. Indeed, the sector is predicted to grow rapidly, reaching an annual value of $215 bn by 2025, equivalent to around £167 bn.

Recent deals include Japanese firm Sekisui’s hook-up with Urban Splash, Goldman Sachs’ investment in TopHat, and Softbank’s gargantuan $865 million punt on Katerra. Even the UK government is getting involved, with Homes England backing Ilke Homes to the tune of £30 million.

One danger, of course, is that the fixed overheads of a manufacturing model can’t so easily flex with property cycles. Another is that you just transpose what happens on site to the factory without fundamentally rethinking how value is added. This leads to what Daniel Hall, assistant professor at ETH in Zurich calls the ‘mirror trap’. His academic research identified three ways to escape:
The notion is seen to have immense social, economic and environmental benefits, and so the newly established Construction Industry Hub is exploring the idea with the Manufacturing Technology Centre. They have invited product suppliers to develop ‘kit-of-parts pre-engineered solutions’ that combine digital, design and manufacturing principles, supported by ‘a clearly defined dataset describing attributes and performance criteria’. The example they give is ‘plug-and-play mechanical and electrical components that fit into a manufactured, insulated and finished wall panel’ which can be installed on site ‘without the need for traditional crafts and trades’.

The system standardizes how kit-of-parts information is organised so that it can be easily understood by anyone who subsequently encounters it, regardless of their role or the tools they use to discover it.

Beneficial though moving offline is, it won’t have the required impact on productivity unless it is scaled up. In the realm of grand publicly funded social and industrial infrastructure projects, it should really offer extra value. The taxpayer will get more for less and the sector’s capacity will more likely be able to meet the major projects capital pipeline.

There will surely be teething trouble around intellectual property, standards, and rules, to say nothing of aesthetics. Nonetheless, with so much impetus behind it, as the UK government’s MMC tsar Mark Farmer put it recently: ‘The genie is out of the bottle. Change is coming.’

Implications for architects

One of the first things Farmer was keen to stress after his appointment as the MMC tsar in November 2019 was that architects should learn much more about MMC systems and DfMA. ‘The design profession doesn’t need to see it as a threat if it thinks intelligently about how it interfaces with technology and manufacturing principles,’ he said.

David Miller is clear that architects should influence what the mass customisation options are. ‘If we don’t engage, the system will produce ugly boxes. If we do, it could be quite special.’

Emma Hooper, information specialist with Bond Bryan Digital, thinks early collaboration is the root of success. ‘It’s not separate disciplines any more, but people with different bits of knowledge that you need to piece together at the right time.’

Cambridge University’s Dr Michael Ramage, director of the Centre for Natural Materials and academic advisor to the CDBB, wants architects to reframe how they think about design. ‘Work out what you can do for a construction factory that is different to a site. Ask yourself, “If I never printed a drawing again, how would I get my building built?”’

Andrew Anagnost, CEO with Autodesk, is convinced that more and more buildings will be fabricated off-site. Success will come if you have to have ‘tight quality control, model-based processes, tight flow control, and good logistics planning; you start to look like a manufacturing company,’ he says.

spin-off, vertical integration, or digital systems integration. Katerra, Boklok, Project Frog and Boklok, for example, are experimenting with some of these.

Get on the platform

An important part of resolving the mass customisation paradox is the concept of platforms, a physical system with a digital twin.

The notion is seen to have immense social, economic and environmental benefits, and so the newly established Construction Industry Hub is exploring the idea with the Manufacturing Technology Centre. They have invited product suppliers to develop ‘kit-of-parts pre-engineered solutions’ that combine digital, design and manufacturing principles, supported by ‘a clearly defined dataset describing attributes and performance criteria’. The example they give is ‘plug-and-play mechanical and electrical components that fit into a manufactured, insulated and finished wall panel’ which can be installed on site ‘without the need for traditional crafts and trades’.

Across the pond, Project Frog is leapfrogging ahead. It has just released a piece of software called KitConnect in collaboration with Autodesk that aims to enable the digital flows necessary to bring this systematisation into being. According to vice president Mike Ramage, the system standardizes how kit-of-parts information is organised so that it can be easily understood by anyone who subsequently encounters it, regardless of their role or the tools they use to discover it.

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With a modular solution from Wernick Buildings most of the construction is done offline, and out of the rain, so the chances of delays are reduced.

It isn’t just quicker, though. Building in a factory reduces waste, improves quality and reduces cost. So if you’re designing modern buildings, why not try a modern method of construction?
Can we close the whole life data loop?

Share your building data in digestible form and whole life design could let you better manage buildings, track reuse, share lessons and answer questions we’ve not yet thought of.

Words: Matt Thompson

We have a deep reserve of computing power at our fingertips. Astonishing innovations in digital automation afford us never-before-seen design capabilities. The case for switching to advanced manufacturing principles is compelling.

But in all this there is a crucial missing link: whole-life integration. If the industry continues simply to spew out projects without understanding how they perform in operation, it can’t improve. It will carry on shooting in the dark, aiming for good long-term value but never knowing if it hits.

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This non-combustible innovation goes beyond materials from landfill by designing-in adaptability and reuse, an important stepping stone to a circular economy. Championed by the Ellen MacArthur Foundation and the EU, practical tools that can help you to make the right design decisions for circularity are still maturing. Once again, turning the physical into digital is key.

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IGNO ™
From the range: BUILD FOR LIFE.

— BUILD FOR LIFE.
DNA says such quantitative feedback would ‘lock in and site-enable design on the basis of evidence rather than gut feeling’.

**Change is coming**

There is a groundswell of change underway. The UK Government is acting under its Transforming Construction agenda, and the whole-life value of public assets is one of the main focuses of its innovation funding drive.

The CDBB has laid out a vision for a National Digital Twin. The idea is that public infrastructure assets are instrumented with interconected operational avatars from which performance and value can be monitored. Goverened by the Gemini principles, CDBB says it could release £7 billion of benefits per year.

Tech companies are on the march too. Although their focus is smart asset management, it could release £7 billion of benefits per year.

**Making sense of the tsunami of data will require proprietary digital twins, which comply with ISO 14025 and EN 15804. It is also a member of the US Green Building Council LEED – Leadership in Energy and Environmental Design.**

**Implications for architects**

Neely recognises that the Transforming Construction vision might appear ‘unachievable’ but does not think that should stop the attempt, and he encourages industry leaders, including architects, to engage with the CDBB.

Bryden Wood has written about the potential of a building that learns automatically. ‘Machine learning and AI is going to come at us quite fast. It’s a difficult change, and you can see the resistance building already.’

Ramage savours the prospect of being able “to make use of someone else’s proven expertise”, which will accelerate improvements in how the industry operates.

Bryden Wood has written about the potential for more creative freedom from a truly circular industry. ‘If architects didn’t have to build everything with a 60 year life span, the building was likely to be re-purposed in 20 years, this gives unprecedented freedom.

Andy Neely puts it, ‘A perfect utopia of a sustainable and enabling people to flourish.’

‘It could improve the next generation of platform components. It could inform regulations, codes and benchmarks, perhaps even updating them automatically.

Kaldewei guarantees optimised life cycle costs through resource-efficient manufacturing, superior material properties and ecologically harmless cleaning products, as well as being 100% recyclable, made from natural raw materials: steel and glass. Kaldewei avoids the use of colour additives in production and in 2017 the company was honoured with the Green Good Design Award – one of the world’s most illustrious sustainability awards.

Kaldewei offers a sustainable material choice that supports the UK government’s carbon neutral 2050 target and provides eco-friendly bathroom designs.

**Sustainable bathrooms**

With over 100 years’ experience across four generations, Kaldewei is pioneering sustainable manufacturing, boasting a vast portfolio of over 600 shower surfaces, washbasins and baths, and over 150 design awards. Kaldewei is the perfect partner of choice for architects and designers in all aspects of sustainable bathroom design.

Kaldewei provides answers for design and compliance process and even, benchmarks. It could help to automate the design and compliance process and even, says Michael Ramage, provide answers for questions that we haven’t thought to ask yet.

Jaimie Johnston of Bryden Wood admits that collecting data about people in buildings is ‘a bit Big-Brotherly’ but does relate to a prospect of a building that learns automatically.

David Miller is sceptical that commercial.justices and intellectuals. ‘We could not get it in the way. ‘The data’s actually got a value, so suspect it won’t happen,’ he says. Gavin Pike is more optimistic. ‘Architects Declare, there’s a rejuvenated data purpose to encourage collective action. That may well drive more sharing.’

Let’s hope that happens. Closing the loop in these ways will complete the proposed singularity, delivering, as CDBB director Andy Neely puts it, ‘A perfect utopia of a successful society enabled by data to be efficient, sustainable and enabling people to flourish.’

Making sense of the tsunami of data will rely on AI, one feeding the other in a virtuous spiral of increasing usefulness from people, processes and connected devices. ClearEdge 3D and Airsquire capture architecture data as built digitally.

Town planning decision making, dovetailing nicely with Royal Town Planning Institute’s research into better, more accountable benchmarks. It could help to automate the design and compliance process and even, says Michael Ramage, provide answers for questions that we haven’t thought to ask yet.

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**Sustainable bathrooms you’ll keep on using**

Kaldewei’s steel enamel doesn’t just work environmentally for the planet, it is robust and yet stylishly smooth too.

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Kaldewei has been awarded the Environmental Product Declaration (EPD), which complies with ISO 14025 and EN 15804. It is also a member of the US Green Building Council LEED – Leadership in Energy and Environmental Design.

Kaldewei steel enamels are exceptionally robust, tough but with an extremely smooth surface that shows not even the tiniest scratches despite frequent use, leaving no place for dirt or bacteria to settle. Aggressive and ecologically harmful cleaning products, therefore, are unnecessary, ensuring that Kaldewei bathrooms remain as beautiful as they day they were installed.

Sustainability is an integral part of Kaldewei’s identity – in both its ethical and ecological commitment to the environment.

All of Kaldewei’s iconic Bathroom Solutions are supplied with a 30 year guarantee – an important aspect of sustainability – as well as being 100% recyclable, made from natural raw materials: steel and glass. Kaldewei avoids the use of colour additives in production and in 2017 the company was honoured with the Green Good Design Award – one of the world’s most illustrious sustainability awards.

Kaldewei offers a sustainable material choice that supports the UK government’s carbon neutral 2050 target and provides eco-friendly bathroom designs.

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Active Buildings: even better than passive
Active Buildings cost more to build but long term savings of money and to the environment make them a necessity
Words: Joanna Clarke

Below: PVs on the Active Building Centre. Thanks to the centre’s electric vehicle plug-in they have powered one Nissan Leaf for 20,000 miles.

How we generate enough electricity to meet a rapidly growing demand is a conundrum which is starting to influence how we design buildings. The move towards a decarbonised grid means we are looking to simultaneously divest ourselves of fossil fuels, from coal fired power stations and gas heating, and shift towards green renewables. At the same time our move towards electric vehicles is creating more demand, posing challenges for demand management on the electricity grid. Active Buildings, which not only generate their own energy but store it for release later, could potentially provide one answer.

Ever since designing the first Active Pod in 2014, I have been on a remarkable journey in government-backed innovation centres SPECIFIC and The Active Building Centre. Together we have been able to bring the concept of Active Buildings to life. These will support societal shifts in the energy sector, releasing pressure on the grid and saving consumers, landlords and business owners money on their energy bills.
Specify responsibly

Wraptite®

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Specify responsibly:
It’s what’s on the inside that counts.

Over the last three years, using data collected from both the Active Office and the Active Classroom at Swansea University – both of which use the Active Building concept – we have been able to monitor and evaluate the effectiveness and potential of technologies for Active Buildings. We have moved up in scale from a makeshift hut (the Pod) to a fully-fledged Active Housing development of eight houses and eight flats by Pentan Architects. It is the first of its kind and has an integrated PV roof, transpired solar collectors (TSCs), battery storage, air source heat pumps and mechanical ventilation and heat recovery (MVHR) systems. Residents are set to move in during the first half of 2020. Not only have we moved up in scale – data shows that operational carbon emissions from the Active Office were 3.5 times less than those of a standard office building of the same area.

Active distribution
Many architects are aware of how energy is captured through renewables such as solar or wind power, but how it is reserved long-term and distributed piecemeal according to need?

To manage energy in our two test Active Buildings, both have electrical (battery) and thermal storage capacity. We combine energy storage with smart controls to link export and import of energy to climate predictions.
and grid activity. Data capture from the systems enables us to optimise the performance of systems and develop predictive control strategies for the energy distribution. Our goal is to get to a point where we choose when we import and export energy based on the carbon intensity of the grid, or energy tariffs.

There are different strategies for energy export. We can choose to export when carbon intensity is otherwise high, reducing dependence on gas or coal, and import at times when the UK’s running off renewable energy. This can be complemented by sophisticated battery systems which can be charged using renewables. Our work with Swansea University perfectly captures this.

Another strategy we have tested is to charge our batteries during the day from solar energy and discharge into the university’s embedded electricity network at times of high electricity consumption and when the university is on a higher tariff, for example between 17.00 and 20.00, saving the organisation money by reducing use of high tariff energy. It’s led to significant savings, helping offset the initial investment in incorporating the technology.

Substantial savings
Active Buildings also offer huge potential for supporting mass electric vehicle (EV) adoption, aligning with the UK government’s strategy for there to be no new petrol or diesel powered cars and vans from 2040, as part of its Road to Zero Strategy. Professor Dave Worsley, founder of SPECIFIC and the Active Building Centre, has covered 20,000 miles in his Nissan Leaf over the last 12 months, all powered by energy generated through PV panels on the buildings – effectively, free fuel.

Change will be gradual and both business and consumers will need to be incentivised by our policy makers in order to absorb the upfront costs associated with rapid internal combustion engine scrappage and electric-vehicle introduction. It is easier to start with newbuilds, whether that be warehouses, schools, housing or offices, before focusing on the challenges of retrofitting existing structures.

Unfortunately, design decisions usually come down to initial capital cost, and this often stems from the client side. However, if architects are armed with all the right information and knowledge, they can educate clients about the advantages of Active Buildings. Whether local authority clients or private developers, they need convincing that the extra upfront cost will be worth the effort in terms of the whole life of the building and its carbon footprint. It can be a tricky argument to win. Every building is different and it can be challenging to incorporate all the technology needed to create an Active Building. Further, as technology advances, systems can become redundant remarkably quickly, and a fear exists among built environment professionals of incorporating solutions which will soon become outdated.

One obvious solution is robust legislation or regulation to ensure Active solutions are considered early in the design process. Sometimes compulsion is necessary to encourage better practice.

Active Buildings are proven to help balance energy import and export, easing demand on the National Grid and directly contributing towards net zero carbon in buildings. The inclusion of two or three technologies could shift your building to playing an active role in your clients’ bills and reducing its impact on climate change.

Joanna Clarke is head of design at the Active Building Centre.
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New traditions –
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We need to talk
As a voice of the profession, we thrive on its conversation

Hugh Pearman Editor

How splendid it was to jump on an LNER express at King’s Cross and – with a lot of wind-generated power that day humming down the catenaries to reduce our carbon production – speed to a meeting in Newcastle on Tyne. No conventional meeting: this was hosted by that fine practice MawsonKerr, among whose many accolades was the RIBA MacEwen Award in 2019. Its studio is in Charlotte Square, a modest survival of the old city in Grainger Town, just inside the original city walls, a short walk from John Dobson’s magnificent central station.

There the RIBAJ editorial panel assembled. We meet periodically to discuss what’s going on at the Journal and our various associated publications and activities, online, in print and live. We receive views and suggestions as you’d expect, getting feedback on what we do. Work works well, what could be improved or scrapped, what new avenues we might explore. We ask questions too. Our chair Mark Kemp, from PLACE architects in Launceston, Cornwall, is adept at taking the temperature of the profession – how business is going with the others in the room, what areas of work are expanding/contracting, how to smooth pathways into the profession.

It behoves us to know what the concerns of our members are. For this reason our editorial panel contains a number of practitioners from around the country as well as our editors/publishers and representatives from the Institute. Apart from being useful and engaged, they are an invigorating bunch to work with so I’m going to name them. After Mark with his Westcountry and national experience, step forward Una Breathnach-Hillgrärm (one of our Rising Stars) of McGregor Connell in Bristol; Grace Choi of Grace Choi Architecture, Newcastle; Yoshita Marriott of rg+p in Leicester; Chithra Marsh of Buttress in Manchester; and Natalia Maximova of Sheppard Robson’s Manchester studio.

For our Newcastle meeting we were joined not only by Will Mawson and Dan Kerr of MawsonKerr but also by a pair of early-career guests from the region, namely Shannon Walker of GBA Architecture and Jennie Webb of Medical Architecture, along with Amanda Kahn, director of RIBA North East. What, we asked, were the issues facing those entering the profession? It’s not giving away any secrets to say that the work/life balance was to the fore but so too was the question of which way to progress in architecture – as a general practitioner or as a specialist?

Then there were the matters of technical competence – fire protection in particular – seriously addressing climate change, and social mobility: the burgeoning apprenticeships route into architecture is strongly supported. It wasn’t just us journos listening: panel member Adrian Dobson, the RIBA’s executive director of professional services, was pitching in too.

It was an invaluable real-time encounter. In February we also ran a broader online survey of members canvassing your opinions of what we do. We really want you to email us with your views, no matter how trenchant: do so at letters.ribaj@riba.org. It’s good to talk.

ONLY ON RIBAJ.COM

In a room showing portraits of bewigged nobles and ladies in their finery, it is fascinating to learn about the role of portraiture as a powerful expression of female identity. Pamela Buxton sees power and illusion at play at the Tate: ribaj.com/powerandillusion
Celebrate key female figures in architecture and design

Dream ticket
What links the Met’s HQ buildings and Kublai Khan’s stately pleasure dome?

Where, exactly, is New Scotland Yard? The police headquarters wanders through central London, like a building in a dream. Most people, I would guess, still picture a bland mid-century office block with a revolving triangular sign outside it, a familiar backdrop to decades of outdoor press conferences. But since 2016 the Met has been in another New Scotland Yard, a refurbished neoclassical building of 1935. And here’s when things begin to get a little weird: this building adjoins the original New Scotland Yard, a slightly feverish proto-Jacobean creation of the late 19th century, which now houses government offices.

Still following? Good. Because there’s another kink. The original New Scotland Yard, all capillas and banded brick and stone, is now called the Norman Shaw building, after its architect. Not a lot of buildings get named after their architects, and until recently there was another nearby: the current New Scotland Yard, which was formerly the Curtis Green building, after William Curtis Green, taught Green at the Royal Academy Architectural School. The experience provides a valuable bit of advice for educators working today. In an autobiographical note written to his students, Curtis Green remembers Shaw as ‘too kind to be really helpful’, only making remarks such as ‘a beautifully drawn’ about his students’ work. But when he came across a ‘particularly revolting design’ and no words of honest praise could be found, he would say ‘I dreamt about your design last night’, and immediately move on.

This masterpiece of faint praise reminds us that dreams rarely involve much in the way of architecture. Let me clarify that. Dreams, naturally, are filled with buildings and rooms and places, which are the products of architecture. But they contain little of the process of architecture, the coherent organisation of space. One of the signature qualities of dreams is the illogical or variable interior, and the cinematic cut rendered in architectural space – we pass through a door in our childhood home and emerge into a wholly different place and time. When real buildings are called ‘dreamlike’, they are generally being described as afar, not inhabited. The Norman Shaw building, like a lot of the more fanciful works of the late 19th and early 20th centuries, has heady, oniric qualities when seen from the other side of the Thames, and is a routine place within. When the language of dreams is applied to interiors, the cosmetations are more negative. Endless corridors, illogical layouts, mazes of dead-ends. These are the qualities of a nightmare.

Is it even possible to design a building in a dream? I find that dreams often furnish what I imagine to be exquisite plots for novels, but when they are dragged into the cold light of the morning they are a mess of non sequiturs. What dreams excel at is atmosphere and imagery and unexpected combination. In literature, the most famous dream building is Kublai Khan’s ‘stately pleasure dome’ described in Samuel Taylor Coleridge’s poem Xanadu, which had come to the poet in an opioid sleep.

But the Argentinian writer Jorge Luis Borges relates a strange coda to Coleridge’s dome: A Persian history from the 14th century, translated decades after Xanadu was written and certainly unknown to Coleridge, states that Kublai Khan ‘built a palace according to a plan that he had seen in a dream and retained in his memory.’ So perhaps it can be done.

‘The first dream added a palace to reality,’ writes Borges; ‘the second, which occurred five centuries later, a poem… suggested by the palace.’ He continues: ‘Perhaps an archetypal fantasy, yet revealed to mankind, an eternal object… is gradually entering the world.’ It’s these mystical lines that come to mind when I consider the peregrinations of the police HQ. •

Timothy Soar
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It is not business as usual in the development and property industry. In late 2019 Mark Carney, then governor of the Bank of Eng- land, described climate change as shifting from being a corporate social responsibility to a corporate financial risk. 2020 started with the World Economic Forum meeting in mid-January, focused on a cohesive and sustain- able world. On 1 February Carney took on the role of United Nations Special Envoy for Climate Action and Finance. The greatest proportion of attendees at annual MIPIM international property event in mid-March were investors and financial institutions. In November over 30,000 delegates were expected to attend the UN Climate Change Confer- ence (COP26) in Glasgow. 

Green accounting, climate risk analysis and mitigation are increasingly common phrases in the financial media and within the sustainability reports of investors and lead- ing development companies. Mark Carney has begun to set up frameworks that stress- test banks and investment houses for ex- posure to risks caused by climate change and delivering zero carbon. The expected change from voluntary to mandatory for financial disclosures of climate related finance risk will push the management and investment of funds into more considered approaches towards a net zero emission global economy. As it becomes increasing transparent how and where funds are invested, pressure will further increase on executives and di- rectors to act to mitigate climate change for the good of their company, investors and the planet. The penny is dropping that invest- ment in property has to be carefully consid- ered, ethically and sustainably.

Some companies have been working to- wards such a goal for years. Developer Land- sec, for example, issues an annual sustaina- 

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‘Red-line-itis’ must end: architects can lead on ecological, ethical development

Phil Jones

Alan Jones

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Green accounting, climate risk analysis and mitigation are increasingly common phrases in the financial media and within the sustainability reports of investors and lead- ing development companies. Mark Carney has begun to set up frameworks that stress- test banks and investment houses for ex- posure to risks caused by climate change and delivering zero carbon. The expected change from voluntary to mandatory for financial disclosures of climate related finance risk will push the management and investment of funds into more considered approaches towards a net zero emission global economy. As it becomes increasing transparent how and where funds are invested, pressure will further increase on executives and di- rectors to act to mitigate climate change for the good of their company, investors and the planet. The penny is dropping that invest- ment in property has to be carefully consid- ered, ethically and sustainably.

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As I wait for Danish architect Dorte Mandrup inside the RIBA at 66 Portland Place, her retinue arrives ahead of her. When Mandrup herself comes through the doors I ask if she has been finishing a quick cigarette – and she laughs. No, she gave that up, she chews gum now, and lots of it. It is the way she talks, informally, throughout a long afternoon and evening lecture in London earlier this year, lightly giving away a little more of herself than you ask of her.

When Mandrup takes to the stage for her RIBA lecture it is no surprise that she chooses to focus on her landscape buildings. Powerful shapes in dramatic landscapes mean that the images of these coastal projects are instantly Instagrammable, appealing to the Dezeenification of international architecture. The Icefjord Centre in Greenland that projects out over a granite outcrop in a boomerang curve to peer over the calving nose of the Ilulissat Glacier; the Whale which surfaces above a promontory in Norway with a grey skin of natural stone forming a new piece of landscape; and work along the reserves and mud flats of the North Sea coast, a visitors’ centre with thatched roof and walls, and a lightweight office perched on a WWII concrete bunker turned exhibition space.

But she is keen to talk about the landscape, design, craft and materials that have formed them. And she can do this in detail. After the recession, as she was rebuilding her practice, she hired as CEO a lawyer and economist who is professionalising the office. Dorte Mandrup Architects now has a staff of 70 and its founder is free to do what she does best. ‘Now I am only designing,’ she says. ‘That is good for the office as I am not good at other things… I like to be in the process the whole way through.’

That means meeting once or twice a week on every project once it is under way – more when pulling together competitions. It means engaging closely with facade details: ‘They are more and more difficult with airtightness and insulation… You can see if people haven’t been working with the detail.’ So when questions come, at the end of Mandrup’s lecture, on where the waste goes from the Icefjord Centre, she can explain Greenland’s lack of sewage system as well as the best advice on dealing with birds pecking at the thatched roof of the Wadden Sea Centre (children take just as much apparently).

On the practice website you can see a remarkable number of competition near misses, like LA Brea Tar Pits museum in Los Angeles where they reached the last three, and a holocaust memorial museum in the...
Ukraine for which they came second. “You can see all the wonderful projects going to waste, but you put it into your backpack,” says Mandrup. The effort takes some toll though. “When I was at Henning Larsen you needed a plan and section. Now you need pictures of everything, client and jury are relating directly to the renders and it is all about a render that will capture. But you need an idea of detail, otherwise it doesn’t come alive.”

Mandrup had a few false starts on her career, studying medicine and art before architecture. And being an architect has not always been easy. “It was very difficult to establish ourselves. I was teaching half time and I would spend a long time on drawings, my then business partner was a little bit older than me and he wanted to make a living from it.” He left. The work eventually started to pay off in the early 2000s. Mandrup was making a living from it before the financial crisis. “I was paid every month.” But Denmark’s architects were hit hard in 2008. “After I was not paid for four years, I sold my house and lent the money to the practice,” says Mandrup. She had to live off that capital too. “We had to say goodbye to a lot of staff, going from 45 to 17. Very hard as in 2008 you knew people were not going to get a job afterwards. Then I just wanted to do architecture, do competitions and try to win.”

She has built a strong body of work in Denmark, from a series of low cost nurseries to IKEA’s Hubhult in Malmö, which on its 2015 opening was claimed as Scandinavia’s most sustainable office building with a BREEAM outstanding rating. Based in Copenhagen, one of the most proactive cities on climate emergency, and with a strong design interest in materials and nature, it is hardly surprising that Mandrup takes sustainability as a given. She does a fair bit of

Below Render of the Icefjord Centre, Ilulissat, Greenland, currently on site 250km north of the Arctic Circle. Its section twists so the roof can also be used as a viewing platform. This and the boomerang plan reduce the snow load by shedding it.
international travel – including for chairing the judging of the Europe-wide Mies van de Rohe Award – with a creeping sense of guilt. ‘The possibilities of materials, I am pre-occupied with that,’ she says. ‘A glass house is one of things I would like to do but can’t, it’s not ethical. There are materials that are amazing and beautiful, like copper, where there is very little resource left. And concrete has an allure – but you need to be very careful using it.’ A recent competition saw a hybrid structure of concrete and brick for the base and CLT above. ‘This kind of choice needs to be taken.’ Despite the pleasure of timber the practice has met resistance; people like to do things they have always done. ‘It is silly, we can’t keep doing it,’ she says. ‘Sustainability is about knowledge… there is not just one answer.’ She wants to talk about not building something you don’t need and being careful in space and area, as well as the importance of reuse – as at the reworking of Carlsberg’s Mineral Water Factory that the practice is completing this year.

Danish architects are a force across Europe and beyond, from Schmidt Hammer Lassen, which has just won a library building for Bristol University, to the ubiquitous BIG of Bjarke Ingels. Mandrup has no ambition to grow to this scale or that of her architectural heroes Herzog & de Meuron. ‘Growth is not everything, we could expand to 90, maximum 100,’ she says. ‘Beyond that you can’t oversee the design.’

Another thing that sets her apart from these peers is her gender. She has spoken out against being labelled as a ‘woman architect’. But yes, she does see that it has been a harder journey for her, with contractors, clients and other professionals primarily men and the preference for working with people like you. ‘It is hard to talk about without sounding like a victim,’ she says. But in fact she doesn’t. Her clarity and, at times, unexpected frankness make her a persuasive ambassador for a connected Danish European architecture. • See Mandrup’s RIBA Vitra talk at architecture.com/news/on/vitra-talk-dorte-mandrup.
Like all large heterogeneous groups, architects split themselves up into different factions. On each side of one of the most familiar divisions, members call themselves ‘modern’ or ‘traditional’.

This split goes back to the pioneers of modernism. Le Corbusier declared, ‘There is no longer any question of custom, nor of tradition.’ By the late 1940s, adherents of the variously-named new movement just called themselves ‘modern’. Jürgen Habermas, the philosopher of modernity, wrote, ‘Modernity revolts against the normalizing functions of tradition.’ And today the idea persists that tradition is the antithesis of what Habermas called ‘The Modern Project’. The sociologist Mike Featherstone records how ‘the modern becomes a praise-word and the not-modern becomes reduced to the blame-word tradition.’

As modernism became the established position of the vast majority of the architectural profession over a century, the idea that it might in some way be traditional has emerged. Renzo Piano could describe his work as, ‘a mature and totally new balance between … the future and tradition,’ or John Allan’s book on Berthold Lubetkin, could be subtitled ‘Architecture and the Tradition of Progress.’ The dilemma is, however, clear. Tradition had to be qualified with approved words such as ‘future’ or ‘progress’.

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Claiming to be traditional while maintaining a position that is definitively anti-traditional is a problem. To have a tradition of being radical is possible but a tradition that fights the very idea of tradition sits somewhere between an oxymoron and recognition of a battle perpetually lost. The mere fact that there is an ideology that can trace a clear line of ancestry for a hundred years and has physical expression with recognisable features, does suggest that there is something traditional about modernism today.

As the concept of tradition lies at the heart of this dilemma, it would be useful to understand it better.

Tradition has been given a bad name in the arts. It is often misrepresented as just history. But history is history and will always remain so and traditions happen today. They are also described as an attempt to restore the past. Restoring the past is not only impossible but the desire to do so would be a modern idea, traditions do nonetheless have a strong relationship with the past. There may be an attempt to copy something directly – to make a facsimile such as Mies van der Rohe’s Barcelona Pavilion – but generally they do not or simply cannot do so.

Traditions can change and evolve. Charles Dickens’ Christmas is not ours but there is a recognisable continuity between them. What matters is that the activities or the representations have an ancestry that has clearly been handed down and that this is understandable to those that take part.

As traditions are defined as something handed down from generation to generation, the question must be: how many generations does it take to make a transmitted practice into a tradition? The accepted sequence is three generations though this is not necessarily birth-to-procreation generations but can
be of a community or practice. So in a school it might be three five-year academic generations but defining generations in architecture is a bit more difficult. Possibly the time of education to the start of practice – say eight to 10 years – or the time from education to teaching – say 10 to 15 years. There is a history of attempts to shortcut this time span. Traditions have frequently been invented, that is given a false ancestry. Eric Hobsbawn’s Invention of Tradition records some of these with a degree of cynicism but fails to acknowledge that their persistence and power remain, even when the invention is known. It is only necessary for those that adhere to the invented traditions to accept that there could be a convincing ancestry. This made-up ancestry has to be very explicit and so inventing a tradition with novelty is unlikely to succeed until it has been practiced for three generations.

It will follow that traditions must in some way always be recognisable and particular. They cannot be hidden, as Richard MacCormac once described his work to me. Often as not, they are ceremonial or symbolic but they are always more than simply pragmatic and functional. In architecture they tend to be decorative or formal. That does not necessarily mean cornices and arches, it can simply be some feature that is particular and has a pedigree that is recognised by those who identify with that particular history. If we take some of the great icons of early modernism we can easily find their ancestors today. Most obvious are the successors of the line of inheritance that comes from Mies van der Rohe’s Farnsworth House. Long, horizontal strip windows and glass walls, for example, are signals that the designer follows a stylistic tradition. Indeed, the dogged insistence on the use of glass walls, in spite of their poor thermal performance, is indication enough that these types and features are not chosen just for their practicality, however much their designers may claim it, but are decorative references to a particular history.

The consistency of these and other, sometimes less obvious, types and features among the architectural community indicate something more than just individual inspiration or influence. These are recognised by members of the community collectively and follow the final definitive characteristic of traditions: traditions are one of the means by which a community identifies itself. Families have their own traditions, as do clubs, villages and towns, as well as nations, religions and professions. The architectural profession has one dominant ideological tradition, that of modernism or the desire to be conspicuously up to date. It matters little that the original principles of modernism were anti-traditional; in reality that is very hard to achieve. It is more likely that it will be the rejection of one set of traditions in favour of another. The familiar and now rather passé binary of ‘modern’ and ‘traditional’ is, in reality, one set of traditions ranged against another.

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The Architectural Review Foundation is pleased to announce the winner of the inaugural RIBA John Outram Prize. The RIBA John Outram Prize is a £25,000 prize awarded to an international architect or architectural practice whose work best exemplifies the qualities of the late Sir John Outram: outstanding architecture with a strong sense of place; a high standard of design and quality; a creative approach to materials and construction; and a clear, systematic and logical approach to the design process.

The prize was developed in partnership with the Architectural Review Foundation, the RIBA and the John Outram Foundation. The independent jury comprised: Sir Peter Cook CBE RA; Peter Zumthor; Rem Koolhaas; Michael Hopkins CBE RA; and Adam Puchstein. The independent jury comprised: Sir Peter Cook CBE RA; Peter Zumthor; Rem Koolhaas; Michael Hopkins CBE RA; and Adam Puchstein. The Architectural Review Foundation is pleased to announce the winner of the inaugural RIBA John Outram Prize. The RIBA John Outram Prize is a £25,000 prize awarded to an international architect or architectural practice whose work best exemplifies the qualities of the late Sir John Outram: outstanding architecture with a strong sense of place; a high standard of design and quality; a creative approach to materials and construction; and a clear, systematic and logical approach to the design process.

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Key learning aims include:

- The requirements of Building Bulletin BB101: Guidelines on ventilation, thermal comfort and indoor air quality
- The thermal comfort recommendations in schools and how to meet Building Regulations Part L
- The effects of thermal comfort use on both the learner and educator in a learning environment
- Daylighting and the impacts on health, wellbeing and performance
- Insulation solutions to meet thermal comfort and daylighting requirements within an education building

IN MEMORIAM

Robert Millar Maxwell 1922 – 2020

Architect, teacher and writer active in the UK and USA who was still writing at the age of 97

Robert (Bob) Maxwell, architect, academic and occasional jazz pianist, died suddenly on 2 January in his beloved Aix-en-Provence, basking in the sun, having been on good form during the Christmas/New Year run of parties and having just finished a chapter he was contributing to a book. He was 97, and had been closely involved with the development and interpretation of architecture throughout the entire post-war period and well into the 21st century.

Maxwell was born and raised in Downpatrick, in the year that Northern Ireland was created. From there, at the start of the Second World War, he went to the Liverpool School of Architecture, finally graduating in 1949 after war service in the army. As an Ulsterman he had not been conscripted, but had volunteered in 1944 in the hope, he said, of getting to see the baroque churches of southern Germany as part of the army of occupation. In -stead, he was posted to India, on his way to fight the Japanese. Atom bombs having suddenly terminated the war, he continued to lecture internationally as well as at the Royal Academy where he was part of the Architectural Forum group devoted to increasing the profile and knowledge of architecture there.

At Liverpool he had met and made friends with Colin Rowe, a huge academic influence; James Stirling, who asked for Maxwell’s help with his thesis drawings; and Douglas Stephen. There he also met his first wife, fellow architect Margaret Howell. Beginning his working career with Hugh Casson on the Homes and Gardens Pavilion at the Festival of Britain, he was later sacked by Casson’s partner Neville Conder for ‘undue formalism’, the acknowledgment of one part by another was to him not just architectural: it was ‘the essential ingredient of mannerism’, the acknowledgment of doubt and ambiguity.

Maxwell is survived by his three children by his first wife Margaret (marriage annulled 1973), Melinda, Amanda and Robert, by five grandchildren and by his second wife, architect Celia Scott. “ 
I’m looking forward to a milestone year for sustainability in the awards and the industry at large.

Alex Barnett

Clouded glory

Regarding the Rising Stars Award 2019 granted to Hugh McEwen last October (RIBA Journal, November 2019, page 124), is the RIBA aware that his achievement is indistinguishable from that of Catrina Stewart, his long-time collaborator and the co-director of their practice, Office S&M? Their achievement certainly merits an award but the fact that it goes to McEwen alone is bemusing to those that know them and should be embarrassing to the RIBA.

If the award (and the RIBA) is to be taken seriously then it is the duty of their judges to carry out the minimum level of research into a candidate, to give credit where credit is due and to avoid embarrassing symmetry. I know that it was given in good faith but it is important for the RIBA to realise that it comes across as offensive to many people in their wide circle of friends.

Jerome Finders, by email

Eleanor Young, executive editor, responds: thank you for raising this issue. Rising Stars is an RIBA Journal initiative aimed at identifying emerging talent. Hugh gave full credit to Catrina Stewart in his entry and his interview and she is credited in the first line of the piece. It is of course true that individuals frequently collaborate to produce their best work. We have accepted a joint nomination in the past to recognise this. We have also had more than one entry from individuals within a single practice.

This award was free for both Hugh and Catrina to enter individually if they had chosen to, or to request to enter jointly.

Correction

Light in a dark place (RIBA, February 2020) states that there was a murder on the opening night of the Margate Caves at a neighbouring house. There was a police presence that night at a neighbouring house (for reasons not known), but the murder happened a month after the opening.

Something left by your dust? We welcome letters... (RIBA Journal, February 2020, page 12)

We welcome letters... (RIBA Journal, February 2020, page 12).
The Odeillo Solar Furnace in France – the largest in the world – was built by engineer Felix Trombe and opened in 1970. The sun’s energy is reflected via a series of 9,600 mirrors and concentrated onto a point about the size of a cooking pot to create temperatures reaching 3,500°C. The furnace is used by space agencies including NASA as well as scientists and technology companies to ascertain the effects of extremely high temperatures on materials intended for use in nuclear reactors or space vehicle re-entry.

The photographer Alastair Philip Wiper visited Odeillo in 2012 to document the striking architecture of the furnace in large-scale colour images. Wiper’s work focuses on contemporary industrial and scientific buildings and offers a new interpretation of the ‘Functional Tradition’, an appreciation of the design of vernacular working buildings developed in the pages of the Architectural Review from the 1930s and epitomised by the photographs of Eric de Maré in the 1950s and 60s. Separated by more than 50 years, the differing perspectives of the two photographers emphasise our changing attitudes towards industrialisation and its impact. This photograph is on show in Forms of Industry. Wiper has also photographed Trombe’s first attempt at building a solar collector, in 1949 (RIBAJ May 2017). • Justine Sambrook

Forms of Industry: Photographs by Alastair Philip Wiper and Eric de Maré is on display in the First Floor Gallery, RIBA, 66 Portland Place, London W1B 1AD until 16 May 2020.
The slimmest frames
The fastest lead times
The clear choice