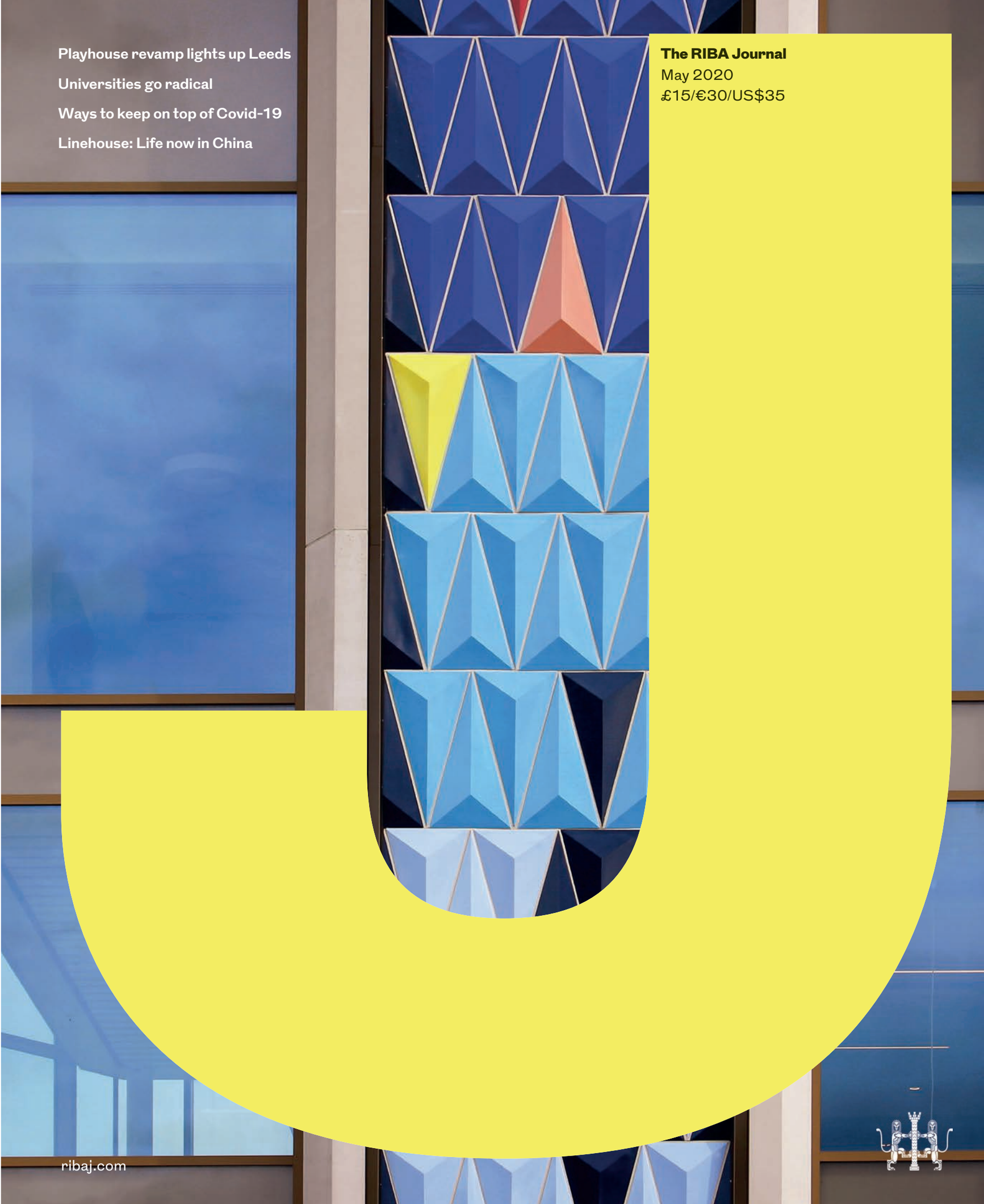


Playhouse revamp lights up Leeds

Universities go radical

Ways to keep on top of Covid-19

Linehouse: Life now in China

The RIBA Journal
May 2020
£15/€30/US$35

ribaj.com

Activate your RIBA membership or RIBAJ subscription for full access to **ribaj.com**

1 Buildings

HUFTON + CROW

Grimshaw has moved several of its model-making printers into the spare bedroom of partner Andrew Thomas

Several practices are 3D printing visor headbands for critical NHS PPE, says Stephen Cousins: ribaj.com/nhsvisors

2 Intelligence

WIKTORIA JAROSZ

3 Culture

DIRK WEIBLEN

On the cover
Facade detail on Leeds Playhouse by Page\Park, photographed by Jim Stephenson

PEFC
abc Average issue circulation 28,958 ABC audited June 2019
RIBA

How are you – and your practice – coping with the lockdown? Share your experience and tips at letters.ribaj@riba.org

Water Management
Silver How | Llanhennock | Monmouthshire

askACO

Discreetly detailed

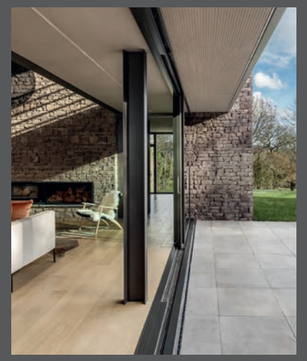
The mountains sit quietly with Grasmere village at their feet as people visit what is a former home of Wordsworth, ambling local routes as they have for hundreds of years, rewarded by expansive views across the lakes.

A modest fell in height, Silver How could be considered one of many in the Blea Rigg ridge. Were it not for Alfred Wainwrights Pictorial Guide to the Lakeland Fell that may have been the case. The new Silver How, like its namesake has a natural affinity to its setting. The house, demands quiet admiration, holding great confidence among its scenic Monmouthshire surrounds.

Location of case study
Silver How, Llanhennock, Monmouthshire.

Project requirements
Redevelop the original Arts and Crafts stable building into a beautiful, welcoming family home, seamlessly blending old with new within the rural location.

The solution
A new glazed wall opening the house to the adjoining courtyard, ACO Brickslot gratings removing surface water along the step-free threshold.



Silver How could have been just another house, but, as Wainwright afforded the mountain it's own chapter, the Arts and Crafts period stable has its own story. Simple ACO Brickslot gratings remove surface water along the discreet, level threshold which has been opened up with new glazing bringing the courtyard into a house developed with detail in mind.

We work in the design
We know the difference it makes.

WWW.ACO.CO.UK

1: Buildings

The long lead times of magazines for once have a benefit: here we are in May, and we can still show you some buildings that we and our contributors have actually been to see, before the global lockdown. The last full building visit we could (with precautions) undertake in the UK was back in mid March.

We have two very different new university buildings for you. Cullinan Studio's National Automotive Innovation Centre at Warwick University is not only a highly unconventional mix of research and design, industry and academia, but also the largest single building that famous practice has produced. In Durham, the Teaching and Learning Centre by FaulknerBrowns provides a raft of university-wide facilities on a highly sensitive site: we give you the historic and physical context. Crossing the Atlantic to continuing our occasional series of international houses, we bring you an intriguing timber and steel example from southern Ontario, Canada, by Toronto practice Partisans.

And we start with our cover story: a 1990 building in northern England, originally by the Appleton Partnership of Edinburgh, creatively re-worked and extended by Glasgow-based architect Page\Park. The Leeds Playhouse is back in business, and so are architectural ceramics.

ONLY ON RIBAJ.COM

The piece poses in an engaging and accessible manner the question about power-dynamics between different generations living together and shines a light on a social aspect of the housing crisis

Hugh Pearman introduces our Future Architects writing competition winners: ribaj.com/futurewriters

Below

Durham Learning Centre, page 26.

JACK HOBHOUSE

The stage is set

Page\Park's revamped Leeds Playhouse is ready to resume its starring role when normal life returns

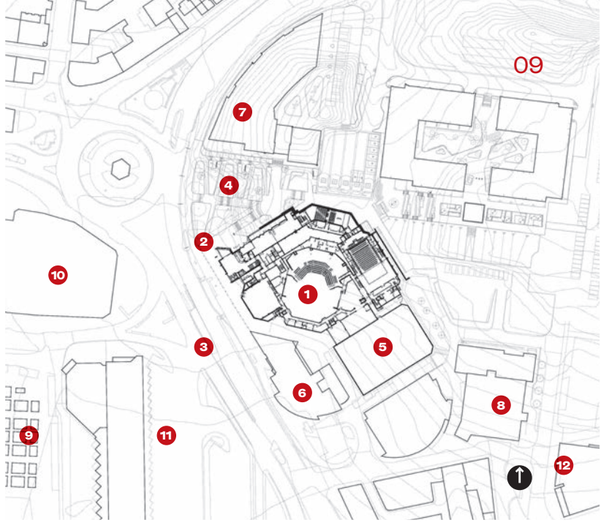
Words: Eleanor Young Photographs: Jim Stephenson

West Yorkshire Playhouse was built in the 1990s and underwent a transformation just before the upheaval of 2020 hove into view. Its significance for its home city, which has taken ownership of the theatre in its renaming as Leeds Playhouse, finds an echo in its importance to Glasgow-based Page\Park Architects, for which it was the first completed major cultural project beyond Scotland.

The playhouse sits in an odd position, on the fringe of the city centre, severed from the shops and markets by the trafficscape of parking and A61 ring road and with its face turned away from them. The sloping site meant navigating between entrances and the two auditoria was a complex business.

Its refurbishment came at a particular moment in Leeds history. ACME's Victoria Gate shopping centre (RIBAJ, December 2016) had completed, Channel 4 had pledged to move its HQ to the city, and the college next to the playhouse had finished a £60m campus, setting things up for a cultural quarter. Here was a chance to sort out the theatre.

Page\Park won not only this job, but another for Leeds town hall, so it seemed like a chance to break into the English market and



IN NUMBERS

£13.4m
Total contract cost

£2,078
GIFA cost per m²

6,450m²
Area

15kgCO₂/M²
Annual CO_2 emissions

Site plan

1 Leeds Playhouse
2 St Peter's Street entrance
3 St Peter's Street/A61
4 Playhouse Gardens
5 Production block
6 Skyline Building
7 Leeds City College
8 Leeds College of Music
9 Kirkgate Market
10 Victoria Gate development
11 Bus station
12 Northern Ballet

The new studio theatre, the Bramall Rock Void.

Left The tiled facade foregrounds the theatrical energy of the Playhouse, turning the building towards the city.

PAGE\PARK ARCHITECTS

widen its client base. Although the job was run from Glasgow, a Leeds team member and a Leeds office listed on the website make it look more settled in Yorkshire.

The practice's approach was to drive a new route through the playhouse, adding a foyer and lift to rationalise the layout and giving access to the mid tiers of the main auditorium for a more inclusive experience. It dug into the foundations to find space for the romantically named Bramall Rock Void, which is given a rough 'as found' treatment as a studio for experimental performances.

But the most visible expression of this improved accessibility and reorientation is the new facade in bright terracotta with Playhouse spelt out above. This replaces a rather defensive roofscape of 'vernacular' low slung tiled roofs which formerly faced the city. In researching the local area Page/Park found a strong tradition of faience here and at Burmantofts Pottery nearby. The bright panels enliven this section of the A61 and tell a tale – though you don't have to know that to enjoy them. Architects Eamon McGarrigle and David Wyllie, who worked on the project, say that the encouragement of their storytelling end user contributed to the concept of the facade as a piece of stage set, with black tiles used to represent the figures of actors and uplighters taking the role of footlights. Set into concrete precast panels they are alternated with glass, giving passing motorists a view into the life of the theatre – or at least the restaurant and café.

And when the lockdown lifts and theatres reopen, this end of town will come into its own, full of character and energy once again. ●

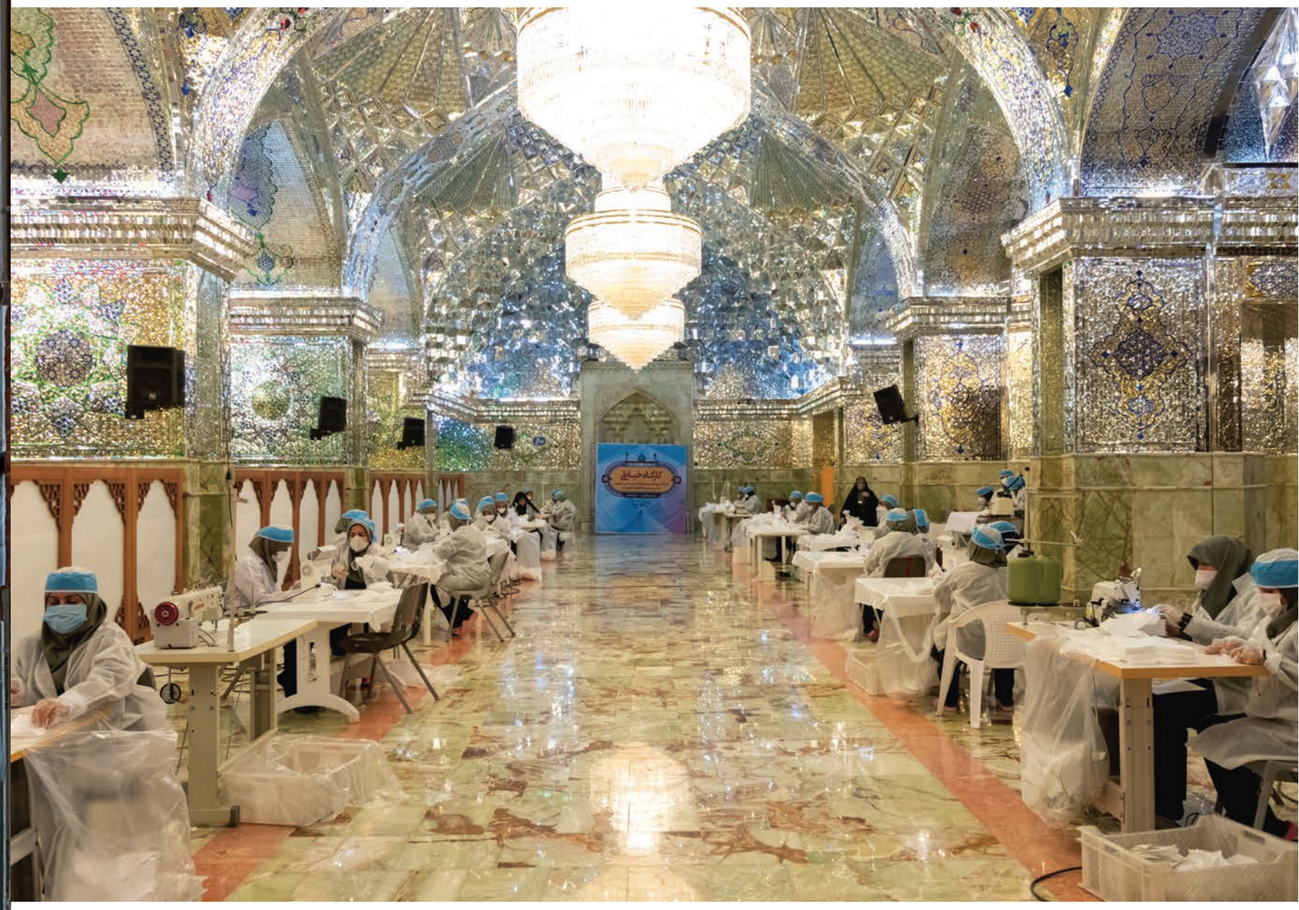
The bright terracotta panels tell a tale – but you don't have to know that to enjoy them

Above The colours and diagramatic certainty of the facade have been adopted by the theatre in graphics.

Below Rationalising circulation has brought the auditoria, entrance and cafés together.

Suppliers
Ceramic Tiles Darwen Terracotta and Faience
Ceramic tile support system Varla
Precast concrete Amber Precast
Metal cladding FCB Building and Roofing
Curtain walling Entec
Signage Letters Sovereign Signs

Credits
Architect Page\Park
Client Leeds City Council
End user Leeds Playhouse (Leeds Playhouse Trust)
End user advisor New Stages Ltd
Architects theatre consultant
Main contractor BAM
MEP engineer Max Fordham
Structural engineer Arup



Mask makers at the Shah Cheragh mosque, Iran, April 2020
Photograph Mohammad Reza Farbood
Words Jan-Carlos Kucharek

Four months after the first case of coronavirus was identified in China's Hubei province, the UK went into lockdown on 23 March 2020. By the time this issue went to press a month later, the virus had infected over 2 million people globally and killed more than 145,000 – 10% of that figure in the UK alone. The ongoing social distancing drive, which saw the economy almost grind to a halt and the government spend billions furloughing a sizeable proportion of Britain's workforce, has given everyone isolated at home plenty of time to pause and reflect.

Scenes of deserted cities across Europe are now familiar, and in the Middle East, things have followed a similar trajectory. Iran is the epicentre of the outbreak there, which originated in the pilgrimage city of Qom and, by mid-April, had resulted in 78,000 infections and nearly 5,000 deaths. In the attempt to stymie Covid-19, even mosques have been conscripted to help make surgical masks, produced perhaps with an intrinsic sanctity; noted and tweeted by associate professor of art history at the University of Massachusetts, Iranian Pamela Karimi.

For her, this FarsNews image of the Shi'ite Shah Cheragh mosque in Shiraz has special resonance. Her grandmother lived near the 14th century shrine, praying there daily; Karimi remembers her own childhood visits to its 19th century mirrored, kaleidoscopic prayer hall in starry-eyed wonderment.

It is usually considered good form, she tells me, to avoid praying near mirrors – maybe to foil human pride and vanity. But here at Shah Cheragh, the rule appears to be turned on its head. Atomised into a million shards, the agglomeration of reflections seems to cancel itself out, as if the pilgrim is invited not to stare at the looking glass, but through it; to no longer reflect on the venal body but see past it, on to the soul itself.

Gul House, clad in white oak and cedar, is located behind a historic home in southern Ontario.

Making waves

The bravado of this pavilion by Toronto practice Partisans belies Canada's reputation for unadventurous architecture

Words: Hans Ibelings Photographs: Jonathan Friedman

Eat, swim, sleep. That, in a nutshell, was the brief for a new building in the grounds of a historic manor house which is home to a family of five in Southern Ontario. With its indoor pool, kitchen and two bedrooms with bathrooms, the pavilion, Gul House, is a place to swim (a favourite activity of the mother), to cook (which the elder teenage son is passionate about) and to sleep visitors.

But these guest rooms can also become office and therapy space for the mother's practice, which is a likely option for the immediate future. In the longer term, anticipating that the youngest of the three children will leave home within the next 10 years or so, the whole building can become the heart of a bed and breakfast business. This would be a logical extension of the activities of the father, who sold his marketing company a couple of years ago and became a purveyor of high-end coffee and upmarket bread — so the breakfast part of the future B&B is already taken care of.

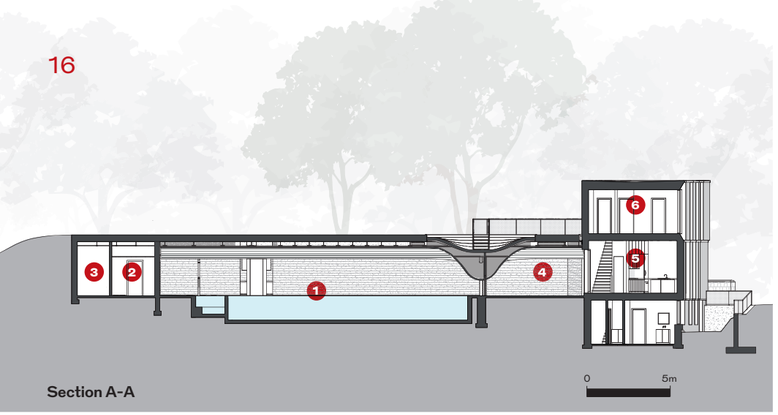
Above The building's all about the pool as a 'second home' in the garden. Its ceiling dips to allow an external stair to the roof.
Below The building slips into the landscape, the 'dominoes' only visible from afar.

Credits
Architect Partisans
Client Private
Structure Blackwell Structural Engineers
Interior design Mjölk
Wood ceiling Pure Timber
Wood cladding Brenlo

The loosely defined programme of the new pavilion is the outcome of the clients' involvement in the process and their broad-minded take on what architecture entails, not only to meet their immediate needs but future ones.

When the family moved here from Toronto a few years ago, they asked architect John Tong to enlarge the main house with an additional living room and to open up the kitchen. During the renovations the family lived in the adjacent cottage, another historic building, but when it burnt down they commissioned Toronto-based practice Partisans to design a new project on the same site.

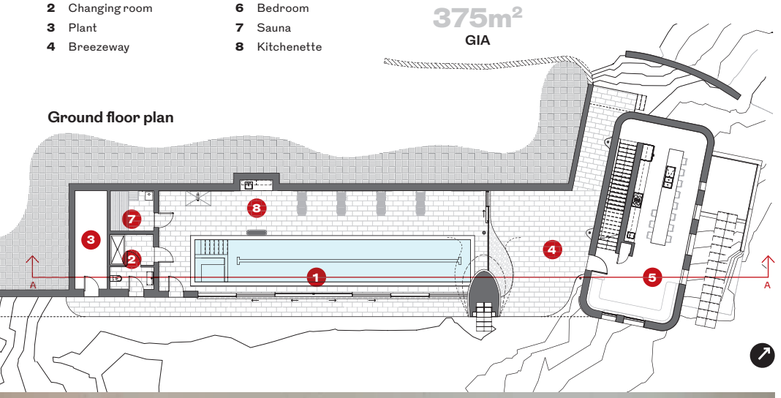
The location is subject to strict heritage and natural preservation regulations. The manor dates from the early 19th century, old



1 Pool
2 Changing room
3 Plant
4 Breezeway
5 Kitchen/dining room
6 Bedroom
7 Sauna
8 Kitchenette

IN NUMBERS

375m²
GIA



by Canadian standards, and the property is situated within the Niagara Escarpment, a landscape that has evolved over millions of years of erosion.

The pavilion had to stay within the perimeter of the previous cottage, somewhat limiting the novel architecture which emerges out of the sloped site. It consists of an elongated volume with the pool (and a sauna), and an adjacent stack of two dominoes, as Partisans' co-founder Alex Josephson likes to call them, containing the kitchen and bedrooms.

The pool building has one long facade, which is partly finished in wood, but is mostly a large, sliding glass wall. The underside of the roof is clad with wood as well, which continues in the wooden ceiling of the pool. The ceiling drops on one side to follow the roofline which is folded to let a seemingly levitating black steel stair cut through. The stairs in the fold lead to the roof terrace and a secondary entrance in the upper of the two wooden boxes with curved corners. Although part of the pavilion, the dominoes are also distinctively different, in the manner of the mythical centaur.

The two parts, dominoes and pool building, might have a similar skin but their presence is very different. Whereas the pool element manifests itself as a fluid gesture, the stacked dominoes are a solid object. Such duality can be found in other Partisans projects, for instance in the recently completed Gusto 501 restaurant in Toronto, a large rectangular Cor-ten steel and glass box whose interior is animated by two undulating screen-like terracotta walls.

Aside from the use of wood, the architecture of the Gul House avoids any reference to the traditions and conventions of building in the Canadian countryside. The pavilion is an urban building, which is appropriate for a site less than an hour away from Toronto, the fourth largest city of North America.

The pool ceiling not only drops at the end, it also has a long fold parallel to the pool, which is a very effective way to give the space a cave-like intimacy and to frame the view. It also conceals a massive beam that allowed for the large cantilever. To

Left The kitchen with its Douglas fir cupboards and Brazilian stone island.

The two parts have a similar skin but their presence is very different

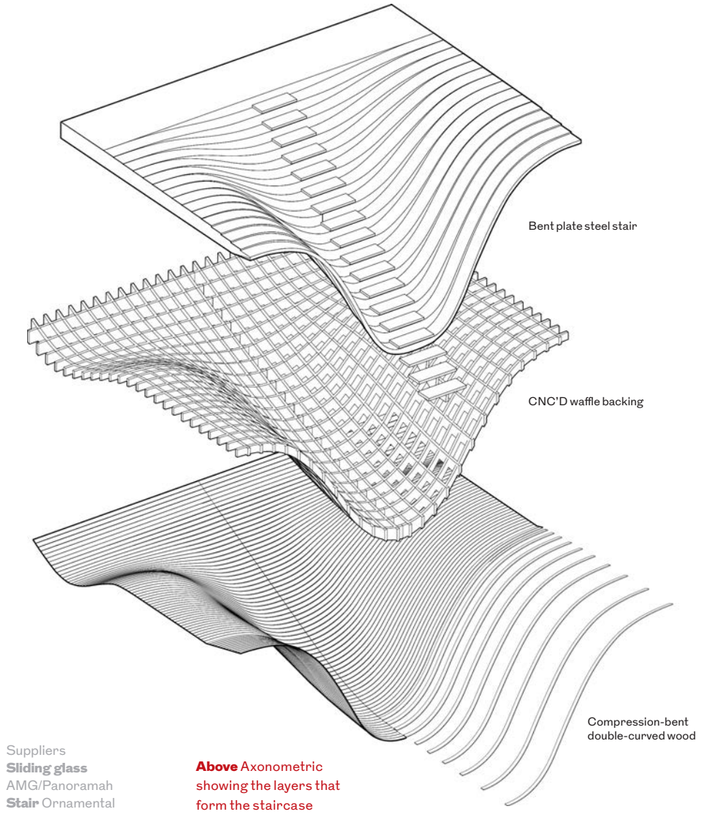
craft the ceiling Partisans used bent wood that is tailormade under high pressure to follow the required curves. This material, which is more commonly used in furniture than in buildings, is indicative of Partisans' approach to design.

For this practice, detail, furniture, interior space, architecture, and even urbanism are all part of one fluid continuum. Architecture might be conceived as a piece of furniture that can morph into an interior, an indoor space can become an urban interior. Architecture, ornament, structure and technique are deeply entangled, not unlike the way in which art nouveau everything comes together in total works of art. The objects Partisans designed for the ceiling of the new foodcourt of Union Station in Toronto are an example; these ear-like blobs integrate air conditioning, light, loudspeakers and acoustic insulation in what can be seen as either architectural ornaments, or ornamental architecture (see images at ribaj.com). They show that Partisans does not decorate its buildings, rather it constructs ornament and ornaments construction, in the same way as the centaur is an equine human, or human equine.

In a comparable way, the functionality of the basin of the swimming pool is just one aspect of it. As a reflecting pool it is also an ornament of the space; most of the time it is not used for its primary functions – swimming or lounging in the hot tub end.

The other part of the building contains a large kitchen on ground level, with a vast counter of Brazilian stone offering ample space for cooking and communal meals. A wall of built-in cupboards separates the kitchen from the stairs leading down to the basement and up to the two bedrooms, whose bathrooms, one with dark green tiles, the other pink, offer custom-made comfort.

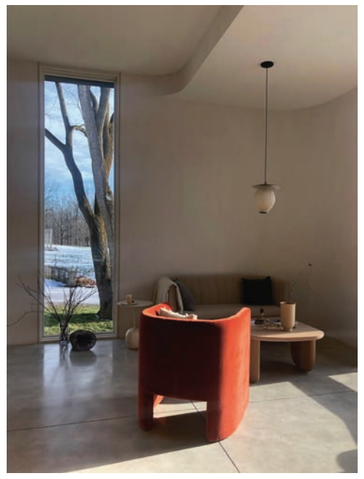
Both the pool house and the dominoes are completely efficient in their organisation. The only true folly in this project is the fold in the roof, which separates and binds the two parts, determines the pavilion's exterior expression and gives character to the interior



Suppliers
Sliding glass AMG/Panoramah
Stair Ornamental Ironworks
Doors/windows Marvin Windows and Doors
Lighting fixtures Lightform
Furniture Mjölk
Appliances Wolf/Sub Zero
Fixtures Vola, MPRO
Kitchen sinks ONO

Above Axonometric showing the layers that form the staircase fold in the roof, with its cold formed timber underside.

Below Safer spaces like this interior are combined with Partisans' maximalist approach.



space of the pool. The fold, a self-supporting thin shell structure of cold-formed wood, adds a crucial dose of chutzpah to this architecture. It is a kind of bravado which is typical of Partisans. Yet it is quite unusual for Canadian architecture, which too often succumbs to a regrettable better safe than sorryness. As a design office, Partisans distinguishes itself as being unapologetic about doing more, and making more, instead of less out of architecture. It is an maximalist approach, with an equally voracious attention for form, space, detail, finish, light and craftsmanship, and an eagerness to take on any kind of design project.

Partisans' insatiable lust for architecture and design has been fed so far with relatively small projects. Among its other realised works are a spectacularly curvy wooden sauna, the maelstrom of the interior of Bar Raval in Toronto, and several dynamic pieces of furniture and lighting. Like the pavilion shown here, each of these projects reflect an architectural ambition that exceeds the actual dimensions and programme, and it is exactly this aspect which gives Partisans' work power and promise. ●

Radmat®
building products

Blue40™

40 years. Guaranteed.

Award Winning Blue Roof Stormwater Attenuation Systems

AJ Specification Award winning project 'The Forge' in London E6 epitomises the way forward in rainwater management in the UK.

'*This project demonstrates good design team collaboration and joined-up thinking,*' said the judges. '*It responds to the city's challenge – of not being able to put things in the ground – and uses specification to turn the scheme on its head, with a high-quality outcome.*'

A key constraint of the original planning consent for this residential scheme was the site's limiting maximum discharge rate for surface water of 3.3 litres per second – resulting in the scheme sitting within what's known as a 'critical drainage area', and posing significant design challenges in terms of drainage.

Radmat's Blue40 Roof systems provided a key element of the source control and attenuation required by the sites Sustainable Urban Drainage System (SuDS) strategy; attenuating rainwater rather than draining it quickly.

A comprehensive roofing system incorporating waterproofing, insulation, blue roof and green roof systems all wrapped up in a single source guarantee that eliminates warranty risk or split liability – ***Radmat Blue40***.

Visit our website or email: techenquiries@radmat.com for further information.

www.radmat.com

The Forge, Upton Park, uses an innovative Blue40 Roof System that restricts and delays runoff from the site, equating to 60% of the equivalent green field flow rate.

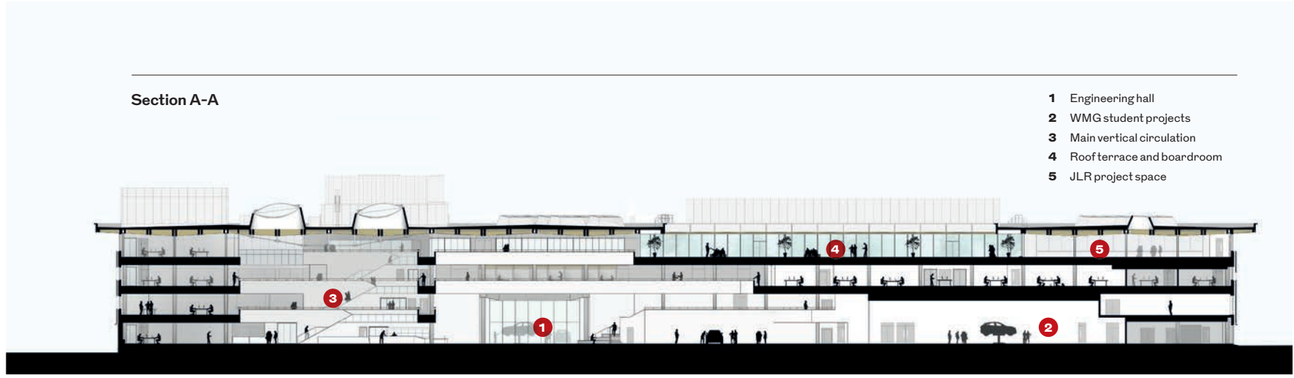
ARCHITECT: RM_A ARCHITECTS

Photo: Ben Luxmoore

Under one (big) roof

Cullinan Studio's National Automotive Industry Centre at Warwick shelters a raft of activities, from teaching to industry and research

Words: Hugh Pearman Photographs: Hufton + Crow



You certainly know where the entrance is – the NAIC's roof extends into a full-height porch.

IN NUMBERS

£85m
construction cost

17,800m²
site area

33,000m²
GIA

£2,575
cost per m²

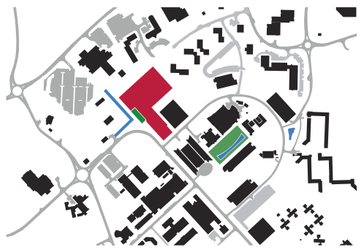
6
Cullinan buildings at Warwick University

Credits
Client University of Warwick; Tata Motors; Jaguar Land Rover; WMG
Architect and interior designer Cullinan Studio
Civil, structural and services engineer Arup
Fire engineer Buro Happold and Fire Guidance
Acoustician Buro Happold
QS and project manager Rider Levett Bucknall
Planning consultant Turley
Contractor Balfour Beatty
Interiors fit-out Penson
Specialist lighting Arup
Signage/wayfinding Maynard
Landscape architect Grant Associates

The National Automotive Industry Centre at the University of Warwick is not anyone's idea of a conventional university faculty. That is because it isn't. Instead, it is a hybrid of industrial building, university faculty and automotive research centre. It is also the largest single object that Cullinan Studio has ever completed, the latest in a series of buildings and public spaces that the practice has made at Warwick since 1992.

These now form a cluster, almost a campus within a campus for the Warwick Manufacturing Group or WMG. Founded in 1980 by the highly entrepreneurial engineer Kumar (later Lord) Bhattacharyya, the WMG is beloved of politicians of all colours as a bridge between academia and industry. Bhattacharyya himself died in 2019 but the project continues and the NAIC is named after him.

Its enormous oversailing timber-lattice roof forms a Cyclopean entrance porch via two full-height slender angled steel columns. Who said modern architects can't make a proper entrance? This is the grandest of grand porticos, set on a confluence of routes across the overall campus. The roof, engineered in glulam and CLT by Arup as a diagrid, sits over a very free plan inside. It is one of those buildings – a bit like Foster's Sainsbury Centre – that could have been conceived as a group of smaller units but instead opts to put almost everything into the one large hangar. Almost,



Suppliers
Timber Roof and mega panels Rubner/BinderHolz (timber supplier); B&K Structures (assembly subcontractor)
Concrete frame Northfields
Aluminium expanded mesh cladding Kingspan Benchmark (supplier); Speedclad (subcontractor)
Curtain walling Kawneer (supplier); Continental Glazing (subcontractor)
Resin floors Sika
Extra heavy grade design studio flooring Lindner / Domus Tiles
Glazed partitions Planet Partitioning

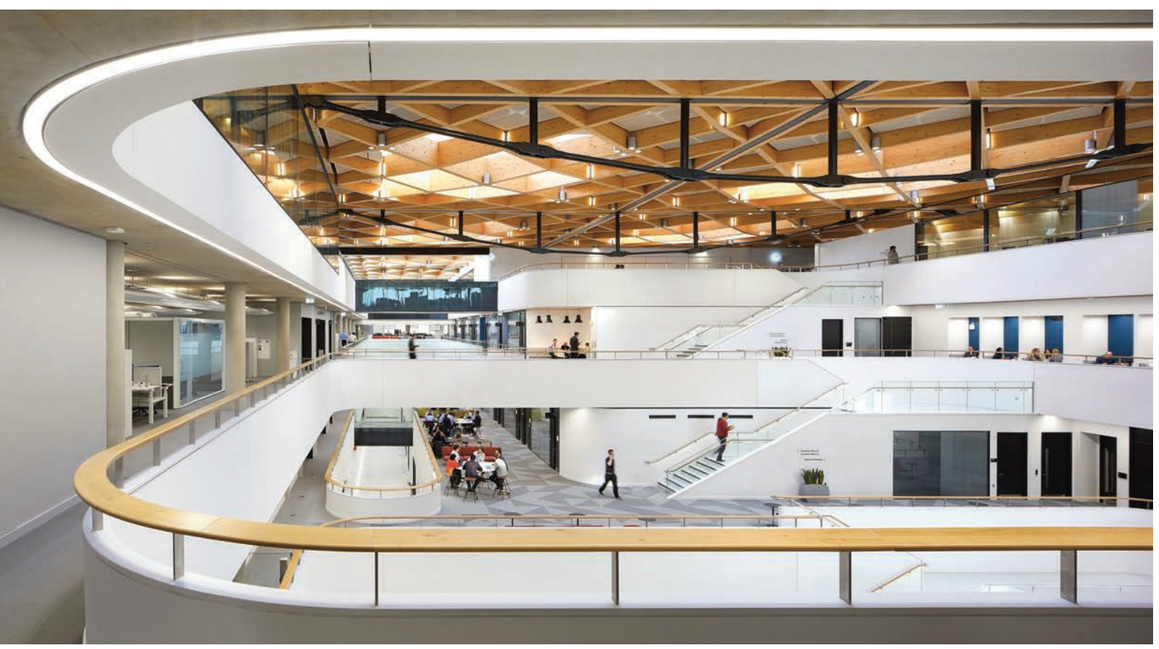
Left The entrance hall with glass wall on the left looking through to the engineering hall.

Below More than a touch of va-va-voom in the sweeping lines of the central 'collaboration hub'.

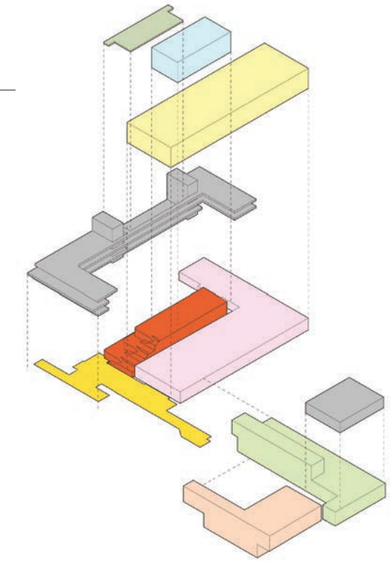
because there is a tail, a narrower wing that makes the whole complex into an L shape though on the ground this is not immediately apparent: the public facade with its sinusoidal perforated-aluminium cladding runs the full length of both wings. Round the back, where the building steps in sharply, is very much a back-of-house service area devoted to vehicle and materials movements.

There is a pedagogical as well as industrial-efficiency reason for this all-in-one approach. Research and development, design and prototyping for two manufacturers (Jaguar Land Rover and Tata, members of the same group but fiercely competitive and independent in outlook) is here an object of study for students and academics destined for a career in the automotive business. Two areas of the building are devoted to student learning.

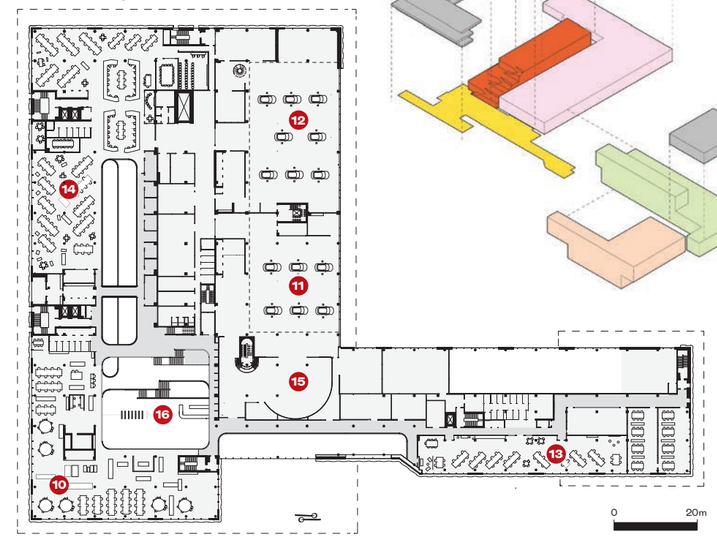
The University of Warwick is famously not in or even particularly near Warwick, being sited on the outskirts of Coventry. Coventry is at the heart of the Midlands motor industry where many new automotive buildings have sprung up in recent years. This one is at the front end of the process: here automotive futures are brainstormed. Although in the design studios (if you are



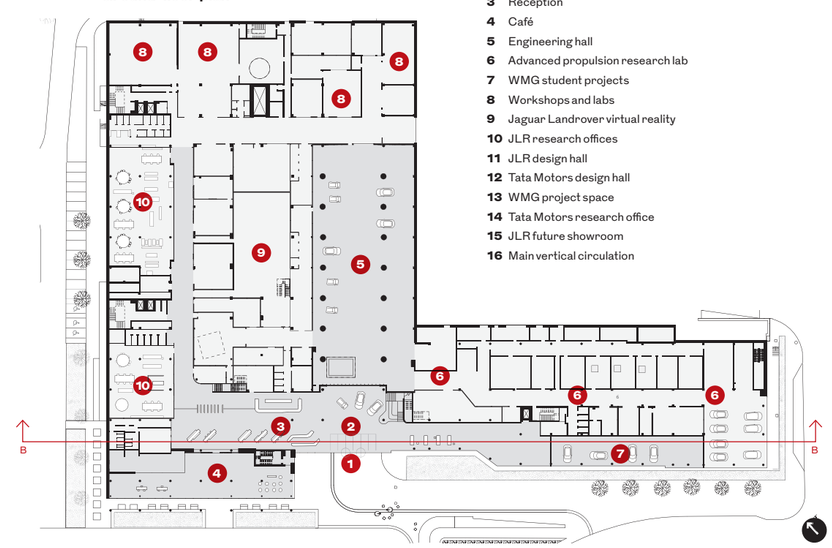
Right Axo showing how the one building shelters numerous different functions and activities. 'Collaborative hub' in orange, design halls in pale yellow, student areas salmon pink.
Far right A sense of movement is provided by the sinusoidal perforated aluminium cladding.



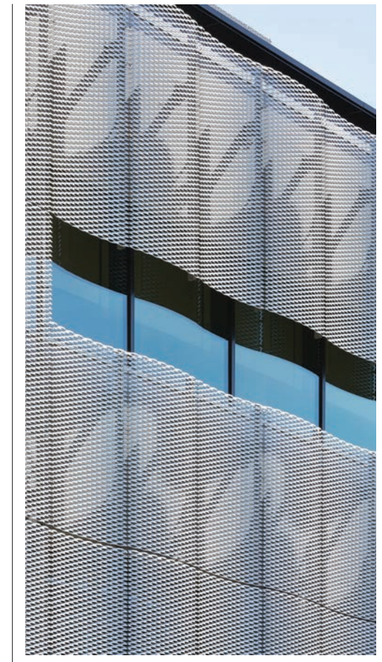
Second floor plan



Ground floor plan



1 Main entrance
2 Exhibition
3 Reception
4 Café
5 Engineering hall
6 Advanced propulsion research lab
7 WMG student projects
8 Workshops and labs
9 Jaguar Landrover virtual reality
10 JLR research offices
11 JLR design hall
12 Tata Motors design hall
13 WMG project space
14 Tata Motors research office
15 JLR future showroom
16 Main vertical circulation



lucky enough to be allowed into these deeply confidential areas as I was a few months back) you will find relatively conventional full-scale clay-modelled cars as well as some impressive computer graphics displays, a lot of work of the blue-sky kind is going on. We are, after all, in the throes of a new industrial revolution. The ultimate aim here is 'zero everything' – mobility with no accidents, emissions or congestion, but the process of getting there needs to speed up. So the original brief from those manufacturers was to provide a centre that would halve the time from idea to production. This is vital not only for the brands sharing the NAIC, but also the wider UK manufacturing sector.

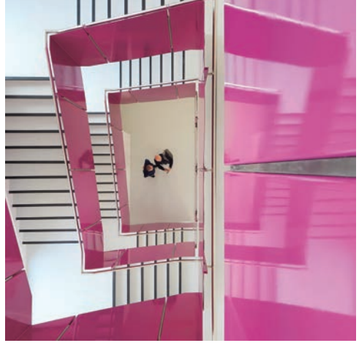
It is organised in areas ranging from the wholly public (café at the front opening onto the entrance atrium) to those for initiates only (the twin design halls). But there is a large chunk of the building which blurs this distinction. This is called the 'collaboration hub' and is where common technologies are shared. This part defines your impression of the building as you enter, the somewhat 1930s-feeling layers of floorplate peeling back, with radiused corners, to make a

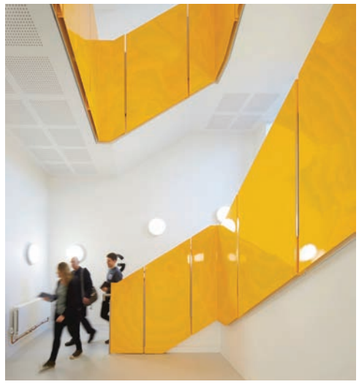
terraced office landscape. The stair linking these terraces is itself designed with inbuilt terraces where people can stop and chat.

The overall impression is a not-quite-clinical coolness with a quiet hum of activity going on, people purposefully moving around. Downstairs, as you wait in reception, there's a bit of a tease: a glass wall looks into the large 'engineering hall' where vehicles are worked on. In full view? Up to a point: as in hospitals, screens are drawn round any vehicles of activities deemed to be confidential.

You might think you were entering a better-than-usual large corporate headquarters or even hotel but the more you delve into it, the less like that it becomes. Having a full-size vehicle lift and a rooftop terrace you can drive vehicles out onto, for instance. There's a complete mock-up car showroom, too. This is a building that can seem very factory-like, especially towards the rear, but it also borrows tricks from museums and performance venues, having a related need for movement of large objects and display. Natural light and ventilation are important, and every level has access to outdoor terraces. There is a separate rooftop world: some of it concealed plant and ranks of photovoltaic cells, some inhabited. This attic storey contains meeting rooms and a boardroom opens into a terrace at the front of the building, overlooking the grand entrance.

As the design progressed there was a continuing discussion with the relevant automotive designers about the building,





Below A rare view inside one of the two top-secret design halls (hence the shrouds) where clay models are made up to full scale.

Right Jazzily colour-coded stairwells help orientate users within the building.

TATA

The brief was to provide a centre that would halve the time from idea to production

says Cullinan Studio's senior partner Roddy Langmuir. At one point his client toyed with the idea of a more obviously styled external carapace, something that visually announced its vehicular design function. Large buildings, however, are not like relatively small cars with their streamlined compound curves and sculpted glasshouses. Moreover, the budget per m² was relatively tight. The elevational studies finally crystallised into something fluid but not double-curved, rippling gently along. It is horizontally divided almost classically into three: bottom, middle, top. Behind it are walls made of prefabricated CLT 'megapanels'. The underside of the great roof shows that it is a composite structure, threaded with black-painted steel and held taut by shallow inverted bowspring trusses. Having the structural engineering on display is nearly always good but in this context has particular resonance.

Outside, the building has significant presence in a sprawling semi-rural university campus of inevitably variable quality and shifting scales. Inside the first impression is of a considerable generosity of space. The journey from public to private is curiously like a vastly-expanded version of a car dealership: swanky showroom and smartly-attired people at the front, moving to workshops, service bays and vehicle storage behind. It's all on a much more exalted level than that, and you don't find an academic function in that familiar typology, but there's an inevitable echo of that duality. Overall the feel is less 'university', more high-industrial, a typology seldom encountered in the UK but more familiar, say, in Germany where large family-run factories often have a strong design aesthetic.

It's also designed to be a necessarily adaptable building. What will the automotive industry become, as it adapts with speed to rapid change? The configuration you see here is deliberately capable of reconfiguration as desired. The only real constant, I would say, is that enormous Frank Lloyd Wright-ish roof and that, if you know its history, is a very Cullinan thing to do. ●

Durham shapes up

FaulknerBrowns uses geometry and texture to break up the impact of its sizable new block at Durham University

Words: Hugh Pearman

JACK HOBHOUSE

One can go slightly mad staring at the roof plan, it's like an old-fashioned primary school intelligence test

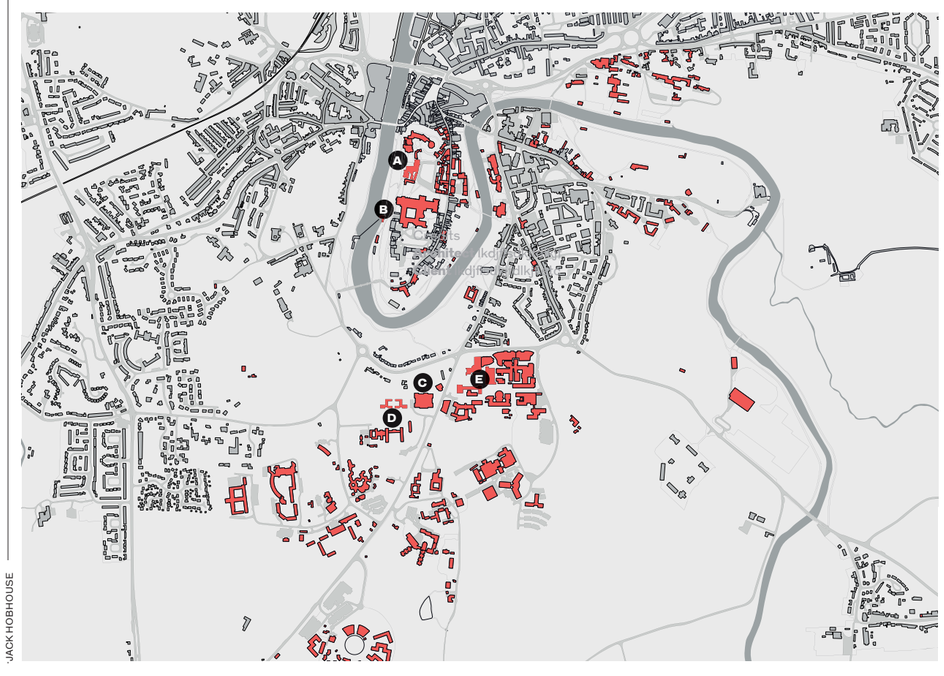
Left The roofscape is the key to the whole building arrangement, its modules turned this way and that to suit the uses inside. **Below** View south from the cathedral past older colleges on the historic peninsula to the university's newer expansion zone. **Bottom**: Durham city map with cathedral and university buildings shown in red.

- **A** Durham Castle
- **B** Durham Cathedral
- **C** Lower Mountjoy Teaching and Learning Centre
- **D** St Mary's College
- **E** Mountjoy Academic Campus

HUGH PEARMAN

There was just a scattering of students in this building which would normally have been much busier: as a result of the escalating Covid-19 virus pandemic Durham University had that very day, 16 March, suspended classroom teaching well ahead of the Easter break. Students were starting to head for home early. But enough people were using the place to get a feel for it. The lecture theatres and classrooms may have been deserted but the café in the central atrium was still operating, the pre-bookable group working rooms still mostly in use, the top floor touchdown areas for individual working reasonably well populated by individuals wanting lots of space around them. This was the last building site visit we at the RIBAJ were able to complete before our normal activities, along with everyone else's, were necessarily curtailed.

The chewily-named Lower Mountjoy Teaching and Learning Centre is a large new building that tries very hard to disguise its bulk. Architect FaulknerBrowns – responsible for the university's latest 10-year development masterplan begun in 2016 – allocated this prominent site for new all-university facilities, and got to design it. It is built on what was previously a somewhat indeterminate patch of green open space called St Mary's Field – because it is right next to St Mary's College, the first southerly 'hill college' expansion of the university. Designed by E Vincent



FAULKNERBROWNS

Harris in neo-Georgian manner in 1935, finally built 1947-52, that college set the tone if not the subsequent very varied style for the colleges-in-a-green-landscape postwar development that characterises southern academic Durham. Now the task is to densify the university for a much larger population, providing new facilities without losing that feel – especially as this site overlooks a conservation area, and is right next to the viewing corridor to the cathedral tower from Harris's portico of St Mary's (inexplicably just fractionally off-axis). Given the hilly topography of Durham and nearby buildings, it has a fairly visible roof.

The LMTLC is close to the much more recent main university library and directly across the road from a no less prominent smaller building: Daniel Libeskind's Ogden Centre for astrophysics, opened three years ago (RIBAJ, May 2017). The new building takes no aesthetic, organisational or material cues from the Libeskind, instead expressing a kind of companionship

Above The entrance in darker brick is flanked by two slightly projecting lighter wings but lacks presence. **Below** With Vincent Harris's St Mary's College proudly perched behind to give the old-school comparison, the LMTLC hunkers down on its tight site.

JACK HOBHOUSE (2)

DAVID CADZOW

Fighting its own symmetry, it's a bit like the insect alien in Men in Black, scarcely able to remain within its forcibly-obtained human skin

Credits
Client Durham University
Design architect and client-side consultant FaulknerBrowns
Delivery architect under design/build contract Space Architects
Structural and services engineer Buro Happold
Main contractor Galliford Try Construction

Suppliers
Bricks Randers Tegl handmade
Zinc roofing VMZINC
Curtain walling Schuco
Ceilings Armstrong/Ecophon/British Gypsum
Carpets Interface
Lighting Zumtobel/Thorn
Sanitaryware Ideal

via a plaza linking by pedestrian crossing to it and the rest of this mostly science-based site.

If the Ogden Centre is ultra-specialised, the LMTLC is quite the opposite: this is a building for any undergraduate student or any staff member from any part of the university for non-specialised teaching (there are no labs here, for instance, but massed ranks of computers and screens). Although it does contain its own specialist department – as well as the variously-sized general purpose spaces from the university's largest (500 seat) lecture theatre, via flexible classrooms and group study rooms down to individual library-like spaces. This is itself devoted to more progressive and effective forms of pedagogy: DCAD, the Durham Centre for Academic Development, occupies the eastern end of the second floor. The building practises what it preaches.

You have to admire the planning clarity of the steel-framed, brick-clad building. As project architect Hilary I'Anson and partner Andrew Kane explain, it is conceived as an assemblage of 11 'houses' in a grid of 12 – the 12th slot being the full-height atrium. Four 'houses' long, three wide, each is rectangular, setting up a module of 18m by 15m that can be combined (to make the large lecture theatre) or divided up. Each 'house' has an asymmetrical pyramidal roof in standing-seam natural zinc, the peaks sliced off to make triangular rooflights. The 'houses' are then rotated and handed one way or the other both to suit the internal configuration of spaces – it's an interestingly complex plan – and to articulate the external elevations.

One can go slightly mad staring at the roof plan, it's like an old-fashioned primary school intelligence test, but I think only three roof modules exactly repeat, once in each case. When it comes to the external walls, things are simpler. The longer flanks of each module receive most fenestration with the shorter ends treated as more solid 'gables'. Material variety is introduced in the brickwork: handmade Danish bricks in two colours, buff and brindled grey, the grey being used for the recessed elevations. The bricks are quite irregular in shape so give a randomly textured finish; this is enhanced on the large blank elevations by being organised into slightly projecting panels performing the task of blind windows, being the same proportions as the actual deep-recessed window apertures.

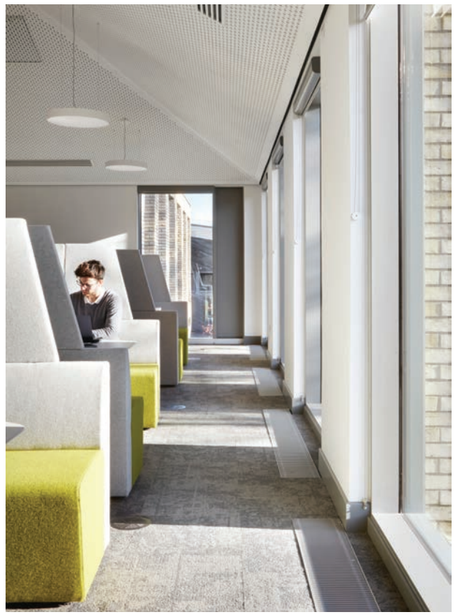
Above One of the implied planning blocks is removed to make the atrium court, lined with brick, with timber-clad stairs and with a café at its base. Photovoltaics also provide shading.

Below An earlier lesson in toplighting a Durham reading room – George Pace's masterly Palace Green Library of the early 1960s.

HUGH PEARMAN

While the vertical external elevations might not have much bearing on the experience inside with the exception of the atrium (which is treated as an external space, so brick-lined) that very varied roofscape certainly does. The top floor is like a reading room, the perforated acoustic finish to the ceilings rising into each truncated pyramid coffer to the rooflight. In a further twist, the geometry of the rooflight is then expressed in that of the built-in furniture beneath which varies from upholstered seating to tables. It's very different from the timber-lined south-east facing rooflight cowls, set on a diagrid, of George Pace's masterly early 1960s university library behind Palace Green, set midway between cathedral and castle. But there is something of the same intention here.

The approach to the building is a bit underwhelming. I found myself wondering: what would Vincent Harris have done here? He'd have unjumbled the roof, evened up the flanks and quite likely slapped a pedimented portico on the front, bish bash bosh. (In his acceptance speech for the RIBA Royal Gold Medal in 1951, as he was completing St Mary's College, Harris observed, I think affably: 'Look, a lot of you here tonight don't like what I do and I don't like what a lot of you do.') There is a nagging aesthetic conflict here between the fact that this is a symmetrical entrance facade (recessed entrance bay, flanking wings) on the front of a building,



This image Built-in furniture mirrors the triangular rooflights above. **Left** Freestanding study carrels on the second floor. Natural lighting and acoustics are excellent. **Bottom** The 500-seat lecture theatre, largest in the university, has access on two levels for rapid changeover.

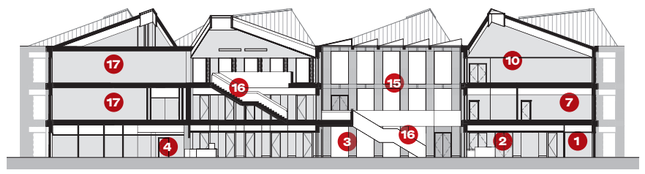
JACK HOBHOUSE (2)

set on a levelled terrace, that is broadly symmetrically planned but which is nonetheless fighting its own symmetry. It's a bit like the insect alien in Men in Black, scarcely able to remain within the forcibly-obtained human skin he has occupied. I think the LMTLC plan really needs either to burst out – were the site less tight one could imagine a different, looser, cluster of those clever 'houses'– or not be jumbled at all, more at ease with its axial nature and rectilinearity. As Pugin famously and morosely remarked of the undeniably spiky Palace of Westminster, a more successful hybrid: 'All Grecian, sir: Tudor details on a classic body.'

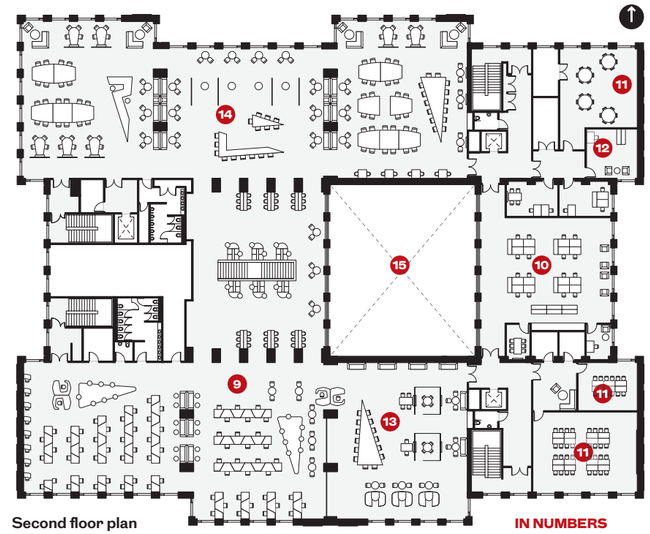
You approach across the plaza (which like much of the surrounding landscape, including a resited tennis court, is designed to absorb and manage rainwater). The centre entrance module is flanked by two largely blank brick elevations but for ground-floor windows into non-public spaces. You take a dog-legged path through a large draught lobby to emerge into a broad, relatively low-ceilinged reception area. Of course this is the compression before the release of the atrium beyond but there's something missing, and not just people on the day I visited. There is a large vacant corner module intended for a café or shop, but since there is a large café at the rear of the atrium already, it's not clear who will take this up. Never mind: if need be it will convert easily to other uses.

The atrium is a good one, a clear, simple inhabited

Long section



KRISTEN MCCLUSKIE (2)



Second floor plan

1 Entrance
2 Reception
3 Café
4 Kitchen
5 Lecture theatres
6 Collaborative classrooms
7 Conventional classrooms
8 Retail space
9 Individual study
10 Durham Centre for Academic Development
11 Experimental teaching and training room
12 Video recording
13 Study skills and learning support
14 Collaborative learning
15 Atrium
16 Main stairs
17 Plant and ancillary
18 Service area

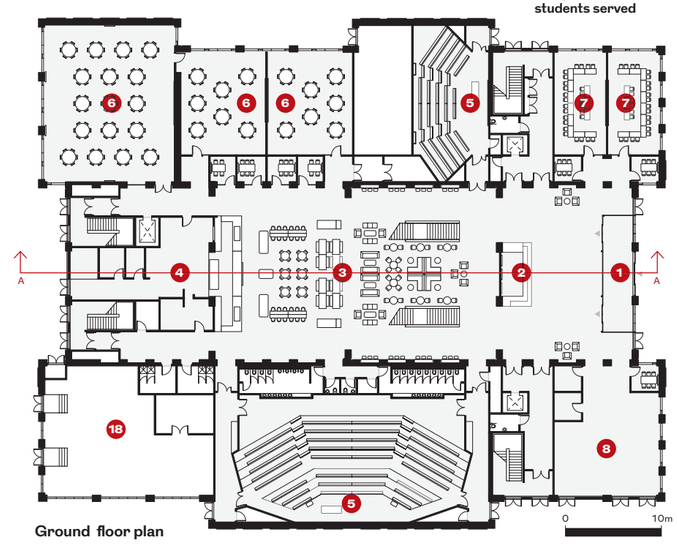
IN NUMBERS

£24.5m
construction cost

8,250m²
GIA

30.86kg
CO_2 eq/m²
annual CO_2 emissions

2,400
students served



Ground floor plan

Well daylit, acoustically well damped, this is a high quality new facility for the university

court with a shallow sawtooth roof incorporating photovoltaics which also act as shading (the building is BREEAM Excellent). The axial planning is strong with two flanking timber-clad stairs rising ahead of you to the first floor. The two conventional lecture theatres have entry and exit on both ground and first floor to make changeover faster: the other teaching and group study rooms, set up in various configurations, are also on ground and first, with the top-lit top floor configured with various social or solitary study areas, plus the DCAD offices.

It feels a good place to be – well daylit, acoustically well damped, this is a high quality new facility for the university. Another like it is planned for the northern (humanities) end of the university, but that's more controversial: it involves the redevelopment of the nondescript 60s and 70s Elvet Riverside humanities faculties but also ACP's wonderful and badly neglected Dunelm House students union, tumbling down the side of the gorge by the eastern end of Sir Ove Arup's lovely Kingsgate footbridge. Dunelm House should be listed, adapted and restored. But that redevelopment plan seems to be on hold for now.

I asked where all the students in the LMTLC came from. Not from the nearby Bill Bryson university library, I was told, that remains crowded. They seem to have come from their student rooms, happy to find a congenial new place to study and hang out. Once our self-isolating times are over, they'll flock back and be well served in a good if slightly strange building.

South elevation. Trabeated window openings give way to the textured brick wall of the rear of the large lecture theatre.

Eye Line 2020: call for entries

Our annual celebration of how architects draw architecture awaits your entry – a great antidote to the lockdown blues

eye line
DELTALIGHT

It's back! The 2020 edition of Eye Line, our international competition for drawing and rendering skills, is now open for entries. As ever we ask for images in two categories – student and practitioner – that brilliantly communicate architecture, in any medium or combination of media. It's the pure art of architecture we're interested in: 'New Imagined Worlds' is the subtitle this year.

We are especially pleased this eighth year of Eye Line to be partnering with Delta Light, the international architectural lighting company which is itself committed to the art of architectural illustration.

We are looking for images of all kinds, from hand-drawn concept sketch to technically proficient layered render. For us, 'drawing' includes any method by which the power of an architectural idea is communicated. This includes depictions of existing buildings as well as works of the imagination.

We ask for images that brilliantly communicate architecture, in any medium

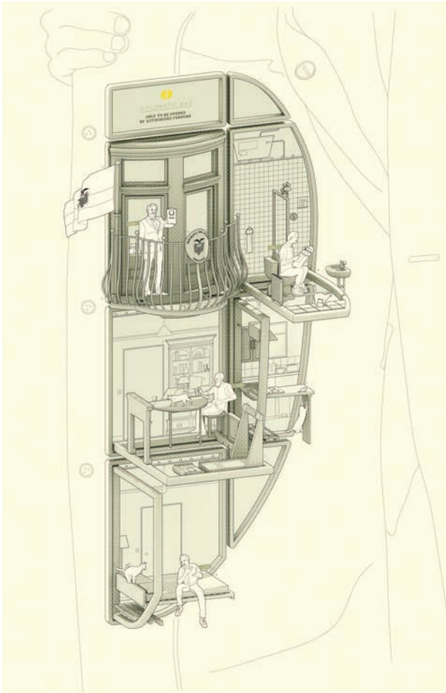
Practitioners and students enter in different categories:

- Student category – images made by those in architectural education or who are submitting images made before final qualification.
- Practitioner category: images made by those fully qualified and working in practice, whether for real-life projects or to explore ideas and experiences.

We will exhibit winners and commendations at the RIBA following a winners' party there, and will publish them in print and online. And our colleagues at the RIBA's Drawings and Archives Collection, based in the Victoria and Albert Museum, will inspect our winners for potential inclusion in the collections.

Last year's practitioner winner was Ed Crooks for his series of pen-and ink fantasias on Lutyens' Castle Drogo commissioned by the National Trust: student winner was Theo Jones from the Bartlett with his series 'Unfolding Julian Assange's Home of Diplomatic Containment' made in Photoshop and Illustrator. Commendations in all media ranged from sparse elegant line drawings via watercolour on cardboard.

Every year we are gratified by the originality, wit and talent represented in Eye Line: a truly international, free-to-enter award conducted online. Practitioners and students – show us your best drawings!



Above Our student category winner in 2019 was 'Unfolding Julian Assange's Home of Diplomatic Containment I, by Theo Jones.

EYE LINE RULES

We seek the best 2D representations of a building design or concept through visual means. They may be hand or digitally drawn, incorporating collage or any combination or overlay of methods. Video and straight photography excluded.
Enter in either the student or practitioner category. The RIBA Journal reserves the right to reallocate to a different category if deemed necessary.
Maximum of three images per entry, which can be from different projects, or all from the same project.
Joint entries on which more than one person has worked are permissible.
All entries must be uploaded via the link below. We cannot accept physical works.
Images must be at 300dpi, file size maximum 25Mb.
The work must have been produced within the three years up to the closing date of 23.59 on Monday 8 June, 2020, and must not previously have been entered for Eye Line.
Enter online at: ribaj.com/culture/enter-eye-line

Information required

Title of work(s) if applicable, and medium.
Name of the author(s) of the work.
Name of organisation where author works or studies.
Email, postal address and phone number.
Dimensions of the original work as presented (or as you would wish it to be presented) in mm.
Date it was completed.

Key dates

Deadline: Monday 8 June, 23:59
Judging: end June.
Winners and commendations announced: August issue of RIBAJ and online.
Exhibition opens: August/September.

Correspondence: eyeline.ribaj@riba.org

2: Intelligence

Health, safety & wellbeing

Business, clients & services

Graham Watts

CIC

For 30 years the Construction Industry Council (CIC) has been the representative forum for more than 50 professional bodies, research organisations and specialist business associations. A month after lockdown started we asked its chief executive how construction was riding out the storm

How is the CIC liaising with the government? Has its response to the economic crisis within the sector been sufficient?

The pandemic has hit all our members hard. Furloughing has been a massive lifeline, especially with the Exchequer backdating employee payments to the beginning of March. The self-employed scheme is very welcome, but we're still sorting out small-scale company directors, such as architects in private practice, who take small salaries topped up with dividends and we want clarity on that. There's ambiguity across the UK on working on sites too. We are liaising with construction minister Nadhim Zahawi for a view too, as all should obviously be administered in line with public health guidelines. Barbour ABI data showed around 4300 major UK sites closed in mid April, accounting for about £68bn of construction work.

Are you getting any sense of the number of construction firms that might go bust as a result of the Covid-19 lockdown?

It's difficult to say. While there will be a massive hole in public finances, there is cause for optimism as the underlying industry was strong at the time of lockdown. QS Gardiner & Theobald says business is continuing with contracts still being awarded and tendering levels remaining strong. Spending commitments on civils made by the Chancellor before lockdown will be honoured and while housebuilding is suspended, housing targets will still need to be met eventually.

Do you think there might be a fiscal stimulus package for construction?

The government has committed to huge financial support across the board so to expect such a package might be optimistic, especially if the underlying industry is strong. But the danger is in the recovery period, when contractors can overstretch themselves. Their business model is to be paid in full only after work is finished, and this can lead to cash flow problems. The government's business interruption loans might help here.

You've been chair of MHCLG's Industry Response Group following the Grenfell Tower fire. How has Covid-19 affected the inquiry?

Public sessions have paused, but the Inquiry team is still working on case gathering and evidence review. Phase 2 of the inquiry has started and will be forensic after Phase 1 saw the fire safety sector come under the microscope. After the Hackitt Report, I chaired an industry group looking into competencies across the board and I hope that new standards on accountability will be implemented at the end of the next parliamentary session. MHCLG's push to remediate unsafe cladding on the remaining 165 housing towers is still targeted to complete this year. Grenfell exposed shortfalls in an industry that has been the envy of the world.

ONLY ON RIBAJ.COM

The film relates to the Venice Biennale theme of How will we live together? and to my ongoing research interest of the relationship between human emotions and the built environment

Architects are grabbing the opportunity to catch up on personal projects too:/ covidcreativity

Intelligence is officially approved RIBA CPD. Look out for icons throughout the section indicating core curriculum areas.

Design, construction & technology

Architecture for social purpose

Full briefing: the new emergency hospitals

Now BDP has finished its rapid transformation of London's ExCel Centre into the coronavirus Nightingale Hospital, Hugh Pearman finds out how they did it and talks to Architects for Health chair Christopher Shaw about the NHS design guide underlying the new emergency wards

There has been much praise for the way that London's vast ExCel exhibition centre has been converted with military efficiency into an emergency Covid-19 hospital with a maximum capacity of 4,000 beds. Multi-discipline practice BDP worked in a large rapid-deployment team of consultants contractors and the Army to complete the first 500-bed phase of the Nightingale Hospital, run by the Barts Health NHS Trust, in just nine days. Further phases of work week by week are carefully isolated from the already-operational parts of the hospital so as to safeguard the workforce.

A national roll-out of more such emergency hospitals has been announced: the tower of Belfast City Hospital (230 beds), Harrogate Convention Centre (500 beds), Glasgow SEC Campus (1,000 beds), University of the West of England in Bristol (1,000 beds), Manchester Central Convention Centre (1,000 beds), Birmingham NEC (2,000 beds), and Cardiff Principality Stadium (2,000 beds). These are in addition to the Covid-19 wards created in existing hospitals other than Belfast.

BDP stated during the intense first phase of the Excel work: 'The rapid build of the NHS Nightingale Hospital at London's Excel Centre is being achieved through the relentless determination of the military and all the multi-disciplinary teams on site.' BDP's own team was led by James Hepburn and Paul Johnson – the former a building services principal in the practice, the latter an architect director.

While in the thick of this Hepburn himself posted on social media: 'I am a bit broken after six crazy long days helping deliver the NHS Nightingale Hospital London. BDP are very proud to have architects, engineers, designers and planners working collaboratively with talented teams from different organisations to deliver something incredible. Anything is possible!'

The practice quickly decided to make its experience available to all. It says: 'The bed heads and service corridors were constructed from a component system that is usually used to construct exhibition stands and there was some simple reinforcement to allow services to be fitted to the walls. Minimal building intervention enabled maximum use of the building's assets.

'Clinical flows determined the circulation strategy within the building. The wards are linked with a temporary tunnel across a boulevard which allows connection to the diagnostics area. Staff move from the boulevard to and from the ICU wards via the don and doff rooms, allowing PPE to be donned and doffed, which is key to infection control.'

Some privacy – though not much – is provided by using another exhibition-stand technique: tensile fabric over light metal frames, braced where they link at the rear. They are simple and unassuming. All bed bays have oxygen and medical air supplied. 'Resilient power, medical gases and quickly constructing the huge number of bed bays are the key challenges,' said Hepburn. Other than the neatness and efficiency of the bed bays with their services and the ultra-logical linear layout, the only other visible 'design' element is the flooring, where variety is provided by broad coloured strips of standard hospital-grade vinyl. Crucially for speed, design and construction proceeded in parallel.

Nightingale's hospitals of the Crimean War are still cited – Christopher Shaw

Now BDP has produced what it calls an 'instruction manual' for such places for anyone to consult. Taking the form of a poster downloadable from the practice, it sets out clearly and diagrammatically everything that it has done at the Excel Centre: findings that will be largely applicable to any such emergency hospital. BDP has now been commissioned to design the Harrogate Nightingale hospital.

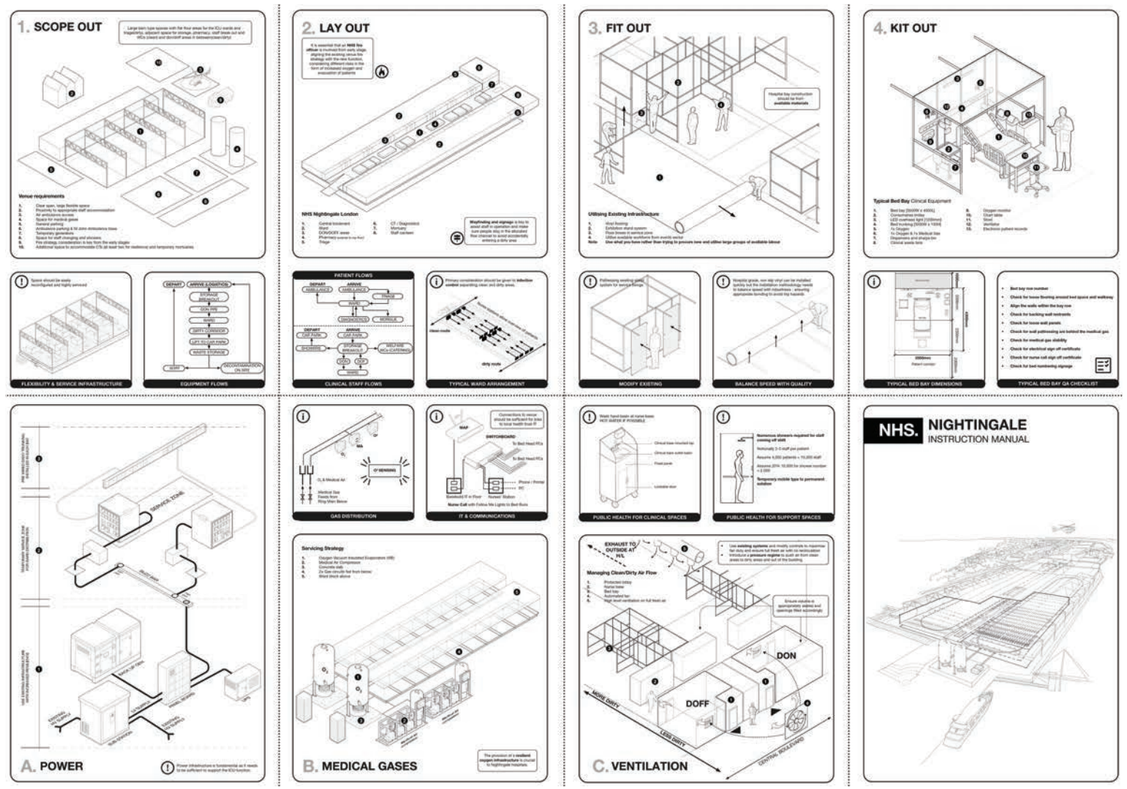
Design guidelines

Meanwhile another leading practice, Medical Architecture, had drawn up the NHS's Covid-19 ward design guidelines just before the Nightingale started on site.

According to Christopher Shaw, senior director of the London and Newcastle based practice and chair of the 500-strong Architects for Health grouping, the task was to raise the number of acute beds nationally from around 9,000 to around 30,000, in three to six weeks. Advised by UK-wide public health officials he wrote an 18-page guidance note on the facilities and services to provide, aimed at existing hospitals but applicable more widely.

Shaw had been working for some years not only on designing actual hospitals and other healthcare buildings, but also on the background planning of hospital infrastructure on behalf of the NHS and overseas health systems. Then Covid-19 hit our shores. 'I got a call from NHS Improvement England, to work with Public Health England on what an appropriate response might be.'

That was early March. It is surely concerning that this call did not come much, much sooner. Anyway, suddenly it was all hands on deck. 'That led to our piece of guidance on ward design being produced very rapidly,' he says. 'We started on Monday, first draft by Wednesday, it went out nationally on Friday and to all the devolved nations on Saturday morning.' It was officially published on Sunday 22 March. Prince Charles opened the Nightingale Hospital remotely on 3 April, while himself still recovering from the virus.



BDP

Above BDP's NHS Nightingale instruction manual, produced by the practice in foldable poster form.

Says Shaw: 'The effective treatments seen in China and in Italy have largely been around getting oxygen into patients. That was the basis of the work that we did. So the first issue is – where do you get oxygen from?'

Existing hospitals with their access to supplies were considered first. That led to diagrams of beds, workable space around beds, descriptions of equipment needed. Per patient, it amounts to 15.5m²-16.5m², depending on configuration. Basic, necessary stuff. BDP's bed layouts at Excel are of these dimensions.

Emergency wards were first made in existing hospitals, says Shaw, then immediately moved on to a second wave in places such as Excel. The original assumption, he says, was that hotels were going to provide most of the bed spaces. But that changed. Hotels and student accommodation are now used for staff.

Exhibition halls are of course not equipped or staffed for healthcare. But the task is mostly to handle patients with acute respiratory problems, so a common approach can be applied. 'You have to get the right workforce to those locations,' says Shaw. 'You will need oxygen cylinders and ventilators. Intubation, because a lot of it is about getting tubes into people to squirt oxygen into their lungs. And because you are creating an atmosphere enriched with oxygen, in a place which maybe does not have a perfect electricity supply, with very combustible people in it, there are engineering safety provisions around that.' Adequate ventilation for a start.

Following Florence Nightingale's rules

Nightingale principles apply, he says: her field hospitals of the Crimean war are still cited. 'You have to have a clean end and a dirty end, getting goods and materials in at one end and getting rid of waste materials at the other. You need sanitary facilities. And importantly, you need to have a way of keeping the staff cheerful, because this is not a very nice thing to have to rock up to every day and night. You need de-stressing, individual facilities that value people. These are the people who are making the difference. You really want something like business class lounges for them.'

And finally: don't expect any of the resulting emergency wards to be pleasant. 'You can see what they've done in Milan and Madrid where they have these big conference centres and have converted them. It's not nice. There are thousands of beds with very ill people in them. It's not a therapeutic environment at all.'

Throughout, Shaw has been guided by the clinical advice and hospital design regulations and sees his role here as purely pragmatic, not creative. 'Remarkably little architectural theory has gone into this,' he concedes. 'Not that I don't care about that, I do. But you have to use your skills as an architect in a variety of ways. One of the interesting things about this profession is the nooks and crannies, and this is definitely one of those.'

Architects are sometimes criticized for being concept-driven aesthetes with a tenuous grasp of practicalities. How wrong that view now appears: the profession's response to this national emergency has been rapid, collaborative, and very effective. ●

For more on coronavirus and architecture go to ribaj.com/covid-19

Business, clients & services

Beyond business survival – life after lockdown

The pandemic crisis won't end when the lockdown does. Wise practices are preparing for the likely recession, honing their business, boosting skills and polishing their marketing. On page 42 see how one firm worked to keep the lights on

Pamela Buxton

In these uncertain times, sheer business survival understandably takes priority as practices tackle the dual challenges of moving to home working and retaining and servicing their clients. But once the dust has settled, what can practices do to use the time that they may have spent travelling to work and client meetings, as well as any extra downtime, so that they are better placed for when the crisis has passed?

Architectural practice management consultant Asif Malik suggests that now is an ideal time for small practices to address quality management systems (QMS).

'It's the perfect opportunity for smaller and emerging practices to find out about the benefits of adopting a QMS,' he says, which normally isn't high on their priorities list.

'QMS allow you to run your practice efficiently. You will gain very simple procedures for any situation arising such as how you get new work, how you resource projects, how you deal with clients, and how you record your time systematically – every aspect of running your practice can be set out in quite a simple, customised plan,' he says.

RIBA advice on QMS varies according to practice size. Those of up to 10 staff should prepare a systematic project quality plan for each project. Medium practices (11-50 staff) also need a quality assurance manual and standard forms for their procedures while larger firms with more than 50 staff are required to have an externally-certified ISO 9001 QMS. Advice is available for RIBA chartered and associated members through the RIBA Information Centre's Specialist Practice Consultants service (+44 (0)20 7307 3600).

Another useful activity at this time is refreshing the website, making sure it is up-to-date and sending the right messages for when some sort of normality returns. However Lucy Mori, an architect and business adviser, advises that practices hold back from plunging ahead with this until they've done the necessary strategic thinking to inform what they want to say and to whom.

'I recommend going back a few steps and using the time to think about the business plan,' she says. This includes, she adds, considering the kind of projects it has and identifying practice values, as well as understanding client needs and how the practice can use marketing frameworks to develop narratives to address these. 'This thinking will then inform the website as well as other marketing and business development actions.'

There is also, she says, an opportunity for small businesses to review their finances and accounting, setting up systems using online accounting software and creating the templates with standard terms and conditions. They can sort out any backlog of receipts and business expenses, and clean up databases.

Malik suggests architects should also take the opportunity to undertake online CPD.

Here we talk to architects about how they plan to make the best of the hugely challenging impact of Covid-19. ●

For more on coronavirus and architecture go to ribaj.com/covid-19

Go back a few steps and use the time to think about the business plan. This will inform the website and other development actions

MARK FOLEY, PRINCIPAL, BURRELL FOLEY FISCHER
Website, sustainability policy

The website is a key priority – getting projects updated with completed images and also really thinking about who we need to communicate with and how.

We'll be looking at how we convey our policies, in particular our approach to sustainability. We want to set this down formally in a way that clients can easily engage with, as it can be quite overwhelming for them at first, and we want to take them with us on the journey. I also think this situation will allow us to sit back, reflect, and really think on things, which could be very helpful in the long run.

TIM BAILEY, PARTNER OF XSITE ARCHITECTURE
Marketing, POE, mentoring

We're busy prioritising work for the clients that are paying and have projects that we are confident will go ahead, as well as dealing with the challenges of home working and resourcing.

I'm also thinking about a whole host of things we could also usefully be doing during this time. These are predominantly marketing activities – it's the thing we have the least time to address properly normally. Although it's not necessarily noticeable to others, the website is a wee bit out of date and could do with some sharpening. We also need to catch up on writing up sectoral case studies from projects that have completed over the last few years to accompany project bids.

For some time we've wanted to do something meaningful in the post occupancy evaluation arena but we've never found anyone who would be willing to pay for it. So our intention is to use this time to do a demonstration POE under our own steam through comparative data from five projects.

We have a nascent mentoring programme that's currently more intention than practice. Now is a good moment to step it up, especially with the challenges of working remotely from each other as the practice switches to home-working. There is also an opportunity to sharpen up our quality assurance system and formalise it in writing.

Above Xsite's project By the River Brew Co on Gateshead Quay, just below the Tyne Bridge, one of those that will be going into a sectoral study by the practice.

XSITE

WHAT ABOUT CREATIVE PROJECTS?
PIERS TAYLOR, FOUNDER OF INVISIBLE STUDIO
Home education and home improvements

We've always worked relatively remotely so the practice is carrying on as normal in many ways. But I have about 35% more time on my hands because we're doing all meetings and site visits remotely now as well.

I've got three school-age children who'll be around so I've been thinking about how to keep them busy and get them outside. So the plan is to design a new outside shower and kitchen with them as part of their education.

We've built with kids professionally, but haven't done any building projects with our own children formally before. My 17 year old daughter is very keen on carpentry and building and had wanted to apprentice to a local timber company this summer in any case. The little one definitely enjoys architecture. But my 15 year old is more interested in abstract political systems. We'll be using softwood from our own woodland.

We'll also be taking the opportunity to scaffold our house – Moonshine – and completely redo the facade and roof since our understanding of building performance has moved on a lot since we built it 15 years ago. Also, we have no idea what's around the corner, so it makes sense to make our house more energy-efficient so we can be more self-sufficient.

Above and left Sketch by Piers Taylor of the home education building project he will be carrying out in collaboration with his children.

MATT VAUDIN, DIRECTOR, STONEWOOD DESIGN
Quality management system, training, pro-bono work

Even though we're now desk-based, we're finding that we can go on as usual with many projects right up to planning and tender. We're also making sure we have all the information contractors will need when site work restarts.

But we will be using any extra down time to get the practice in a good place for the moment that, post-virus, things start up again. Often, it's after a recession that practices can have the hardest time as it's sure to be a very competitive market. We want to use this lockdown time positively to make sure that we're well placed for that.

We have a unique opportunity to step back and take the time to look at improving our practice systems. Our practice manager is now planning to work towards Quality Management System ISO 9001 certification, something that she had been aiming to do anyway at some point as the practice has been growing and is now up to 20 staff. Now is a good time to do this.

We're also looking at training. A couple of our staff are taking up NBS training on specification and our practice manager has enrolled on a mental health awareness distance learning course. Also, we're always keen to work on pro-bono projects but often get too busy. But now we've got a couple that we will have time to work on – a recycling depot and a boxing centre, both in South Africa.

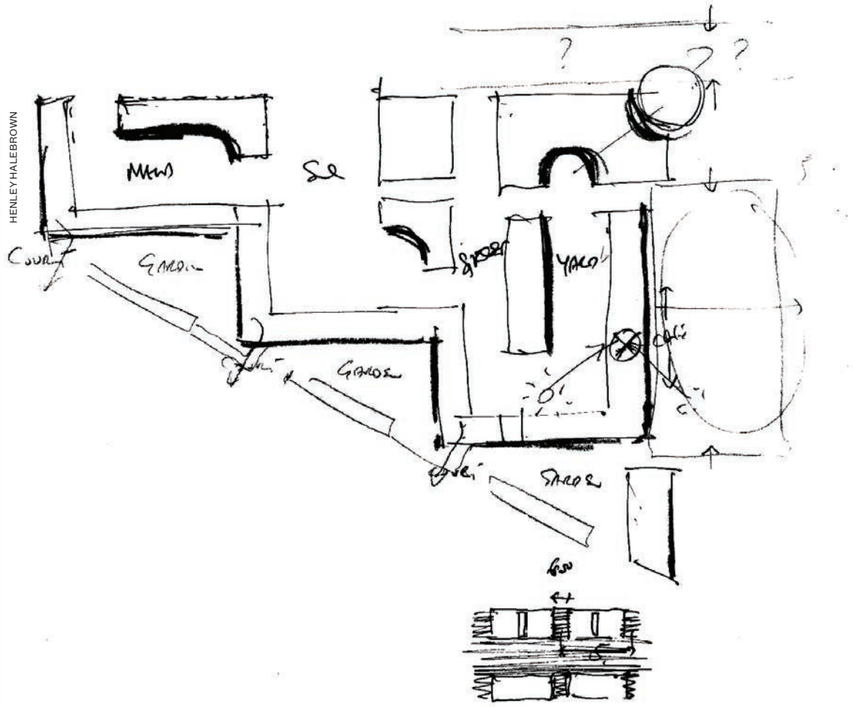
BIANCA VALIDO LEACH, DIRECTOR, INSIDEOUT
Free design consultations, training, and post-crisis shared studio planning

Watching the emergency services' response to Covid-19, we felt a bit helpless and wanted to give something back. So we're offering free design consultations throughout April for those who wouldn't normally access this type of service. We're offering advice to independent hospitality and commercial businesses who are having to adapt very quickly, and to homeowners confined to their homes and thinking about how they could improve their spaces.

Hopefully this will have positive consequences all round.

We're trying to make the most of our time. We've set up a virtual 'InsideOut academy' to maximise knowledge sharing and training opportunities within the team (such as Revit and other software as well as more general CPD). We're about to complete a build of 14 Passivhaus houses in Kent, so will be doing some in-house training on thermal bridge-free detailing for all our staff.

We're also thinking about when we start to transition back to some form of office working. Many businesses are having to make quick decisions about their studio leases. With our network of like-minded consultants, we're thinking of hosting a multi-disciplinary shared working space out of our studios. It will be a good way of coming together that will lead to long-term benefits for everyone.



HENLEY HALEBROWN

Above Sketch by Simon Henley of Henley Halebrown for the masterplan for phases 3 & 4 of the Kings Crescent Estate regeneration in Stoke Newington, north London. The configuration of buildings framing recognisable types of urban spaces has social connotations for the homes and work spaces planned around them.

> We have a unique opportunity to step back and take the time to look at improving our practice systems

SIMON HENLEY, DIRECTOR, HENLEY HALEBROWN
Practice research

We're still working as before, albeit from our homes, but we're keen to spend the time saved travelling to work in a creative way. So we have decided to use this period of 'social distancing' to focus our minds on a research initiative that we started to formalise last year with a number of publications and events.

It focuses on three key areas of interest: Adaptive Reuse; The Social Question; and Facades and Liminal Space. These themes are embedded in all our project-based work – which we also perceive as research.

In the future, we would like a more concerted way of expressing these strands of thought through a book or an exhibition that looks, for example, at how our experience of adaptive reuse has evolved over the past 20 years or so. We're particularly interested in the idea of the embodied memory of old buildings and in the way they are generally robust and adaptable – qualities most of our new buildings share with them.

The social question goes to the heart of how we understand architecture and its power to establish the foundation for community and its social value. Facades and liminal space is the topic of my PhD, that will look at the relationships between materials, construction and the performance of facades, and how people experience liminal space at the threshold between inside and out, building and city, architecture and nature.

Business, clients & services

Keeping the lights on

With a severe global recession predicted, what steps can architects take to ensure the survival of their practices?

Helen Castle

Left Greens of Padstow, currently closed. Designed for Cornwall's foodie capital by PLACE architects.

ANTHONY GREENWOOD PHOTOGRAPHY

In the fortnight after lockdown, Mark Kemp, director of PLACE architects in Cornwall, delivered a seven-point business plan at breakneck speed. This involved securing a bank loan; assessing all clients for their ability to pay; establishing clients' commitment to continue projects; modelling the number of billable hours' work available; creating a cashflow forecast; reviewing and chasing down doubtful debt; furloughing staff and putting remaining staff on 80% part-time. This was all executed alongside the transition to remote working.

Before the Covid-19 outbreak, PLACE Architects was burgeoning. It had rebranded its website, launched social media and was ready to recruit two new members of staff. A six-person practice, largely specialising in conservation projects and residential new builds in the West Country, it supplemented its income through its collaborations with a large practice in London, providing additional capacity on educational and high-density housing projects.

Though the practice is based in one of the UK's most remote counties, Kemp, who is sole shareholder of PLACE, is well connected in the architecture community: a member of the finance operations committee at RIBA and chair of the RIBAJ editorial panel, he has also been a board member at NBS. He gained his initial knowledge of business from the practice's previous director, who was 'fastidious' in financial management. Since then he has learnt through his exchanges with other RIBA architects.

He also has an extended network of professional services contacts – accountants, insurance brokers and marketing consultants. He regularly talks to his bank manager and accountant and shaped the plans with staff, supported by a part-time financial controller and programme coordinator.

Proactive and systematic

Kemp's strategy throughout the crisis has been to be both proactive and systematic in assessing his financial position. He has taken the initiative in all his communications with the bank, clients and staff. An established relationship with his bank manager helped him to secure a loan capital holiday with accepted trading losses over six months at the outset. In order to fully assess his pipeline of work,cashflow and the staff resources required, he needed to have the status of projects firmed up.

In the week of 16 March, he did a RAG (red amber green) traffic light test of existing clients to establish who was likely to have the funds available to pay for commissions. A client paying for a residential project from the sale of a central London house, for instance, would be more likely to have the finance than a small-scale developer looking to borrow funds for a speculative development. This enabled Kemp to write to all clients during the week of 23 March and ask them to commit to their projects. This was an effective way to create clarity for business planning purposes and 'get rid of lingering projects'. Clients confirmed their position within days, while he reviewed all doubtful debt. This allowed him to create an informed cashflow analysis. The exercise revealed that he had funding for six to eight weeks of work, possibly 12, which could run to 14 weeks if he, the Part 3 assistant architect and financial controller were put on 80% part-time. This would also create parity with the remaining staff who were to be furloughed.

> Kemp has taken the initiative in all his communications with the bank, clients and staff

Among the losses, there have been 'some small victories'. On 17 March, chancellor Rishi Sunak increased the small business rate relief grant from £3,000 to £10,000; Kemp had done his cashflow analysis on the assumption of the lower amount. Avoiding 'sticky pricing' at this time, he also offered a 10% reduced fee to a new client if he paid as a lump sum. The client was supportive and agreed 50% upfront.

Beyond the lockdown

While navigating the potholes in the road immediately in front of him, Kemp is also looking ahead. His plan is to 'get the paperwork done and hit the ground running after the lockdown'. He is optimistic that months of confinement will result in owners having a renewed interest in their homes – and a baby boom. A member of his team has developed a way of using video calls that allows clients to view the model of their project and choose finishes and specifications. Kemp intends to capitalise on the domestic market through the use of this type of technology. One of his part-time administrative staff, who will be flipping with another furloughed staff member, will continue to develop the practice's social media in such a way as to appeal to residential clients. ●

More practice leaders share their strategies for surviving the coronavirus lockdown and its consequences at ribaj.com/covid-19

Health, safety & wellbeing

Design, construction & technology

How Covid-19 is affecting the class of 2020

Social distancing has meant students across the UK lost direct access to university facilities, tutors and their peers. The effect has been profound for third-year Part 1 students, completing their degrees

Helen Castle

'I feel like I am alone. I don't have the same motivation. I cannot see someone else working and ask them questions. You cannot ask your parents how to do CAD.' The day after Boris Johnson's announcement on 16 March that 'non-essential contact with others' was to stop, Wiktoria Jarosz' parents picked her up from the house she shared with fellow students at the University of Reading to take her back to the family home in London.

The first two days at home seemed pointless; Wiktoria found it difficult to get up and dressed in the morning: 'It was hard to get through the sadness, everything had stopped.' She and her classmates were in a state of bewilderment and grief for the loss of the last few months of their final year. 'We have had the best days of early adulthood taken away from us – the end of year show, graduation and everything we had been working towards together for the last three years.' Wiktoria, one of the most talented students in her year group, is now finding a new rhythm to working on final projects from home, supported by her university.

For undergraduates in their final year of architecture school the Covid-19 crisis has been traumatic. The sudden imposition of social distancing meant they had to return home immediately or isolate before finishing their degrees without the opportunity to say goodbye. Scattered across the world, they are often left trying to complete projects as a team in different time zones with varying levels of access to design tools. They have had radically to adjust all their expectations – in terms of final year experience, availability of technical and material resources and even the shape of their immediate future. Universities have had to galvanise fast to provide appropriate online teaching and assessment systems that will allow students to graduate.

The universities' response

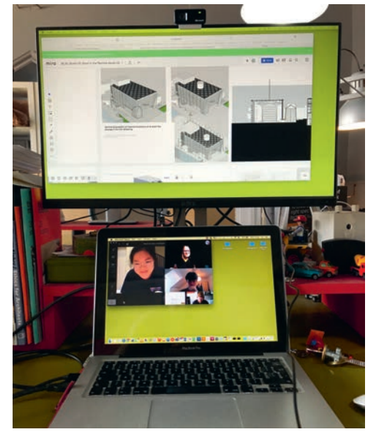
Concern for students' and staff's wellbeing has been paramount for Lorraine Farrelly, head of architecture at Reading and chair of SCHOSA (Standing Conference of Heads of Schools of Architecture). Ensuring overseas students returned home safely was one of the first considerations. She stresses the need for 'education to be positive with young people, so they can be resilient and adapt'. It is important that institutions make sure students meet professional requirements, she says. 'For the students who are three-quarters of the way through their final year, this means robust completion.'

Miguel Paredes Maldonado, programme director at the Edinburgh School of Architecture and Landscape Architecture (ESALA), echoes this view: 'The priority has been ensuring that the students graduate on a course that is professionally validated and consistently assessed, with standards upheld.'

Edinburgh's IT department has given students remote access to systems and software through the school's workstations, with tutorials supported by Blackboard Learn. Still, there is a huge variation in the hardware students are working from and overall resources are much more limited than if they had physical access to the school's facilities. Paredes Maldonado says the restrictions have initiated an interesting conversation within the school: 'What makes a portfolio of a good standard? What does it take to create good architecture meaningfully?' For him, doing away with more 'fussy' software techniques can be positive, privileging ideas and content: 'Some students are going to be finalising graduating work by hand. It is important to reassure them that it is an excellent source of development for their architectural work.

'In order that tutors can work effectively with students on projects, it has been important to decouple design tutorials from pastoral care, while making sure individuals are looked after as human beings,' he says. 'A lot of students are stressed: working in isolation, separated from their contemporaries in different time zones or remaining in the UK unable to travel home. Additional support has been provided by the university's online support services and chaplaincy.'

Matthew Margretts (Mags), who is director of practice engagement and Stage 3 coordinator at Newcastle University, is 'striving to give the students as much of a sense of "normality" as possible until things settle'. He has students 'stranded in locked-down cities, in quarantine, hospital, self-isolation, some staying in Newcastle and many having returned home'. For now this means not moving deadlines and maintaining a fair approach; the system for extensions is being used where flexibility is required. Students without computers have been provided with hardware. 'Normal' weekly design tutorials with the third-year cohort achieved an attendance rate of 90% among 130 students. Platforms used include Teams, Zoom and Miro, with email and telephone as back-up. Trialling of a 'remote' moderation of a hand-in was also positive. While mental health for students and staff remains an ongoing concern, Mags is impressed by the overall level of 'resourcefulness, creativity and compassion'.



Clockwise from far left Matthew Margretts (Mags) undertaking design tutorials remotely with third-year undergraduate students at Newcastle University; Daniel Anderson, a student at Edinburgh School of Architecture and Landscape Architecture (ESALA), prepares a sketch for a final project by hand; Wiktoria Jarosz, third year student at the School of Architecture, University of Reading, adjusting to working alone from her family's home in London; Mags discussing a design project with a student using Miro.

Future prospects

The job situation for Part 1s is an additional area of uncertainty. Until there is a clear end to the Covid-19 crisis, most firms will not be in a position to recruit Part 1 students. Peter Vaughan, UK chair, Broadway Malyan, explains: 'Every summer, we normally recruit several Part 1 students across the UK and we would hope to maintain our usual intake of Part 1s subject to future workload and government advice. As the situation is extremely unpredictable, decisions on all recruitment are being deferred until we fully understand the length of this period of disruption.'

Emily Pallot, director at Ayre Chamberlain Gaunt (ACG) and industry and practice partner at the University of Reading, remains positive. Having moved to home working, ACG is 'continuing to deliver lectures and practice mentoring to students online'. She says the practice is optimistic 'that we will still be able to take on Part 1 and internship students in the autumn of this year'.

Wiktoria had planned to start applying for jobs and internships during the Easter holidays. If social distancing measures continue, she may have to reconcile herself to a job outside architecture until practices recover. Her preferred option, though, would be to go straight to Part 2, so her career in architecture is not halted. This is a route that the School of Architecture at Reading, and other universities, may be forced to consider.

Holly Baker, a student at ESALA, has also had her plans curbed. She had intended to apply for two travel scholarships organised by RIBA and seek work in a practice in Europe. Fellow ESALA student Daniel Anderson, who has stayed in Edinburgh with his fiancée, would like to return to work for a practice in the Scottish capital where he undertook a placement in his third year. Though not confirmed, he remains 'hopeful that it is achievable'. (ESALA offers a BA/MA course with a third-year out for MA students.)

> These testing times will stand students in good stead in a profession that endures boom and bust

Developing resilience

These testing times will ultimately stand students in good stead in a profession that has to endure the booms and busts of the property market. Lorraine Farrelly graduated in the recession of the early 1990s, which set her off on a career in academia. Holly from ESALA, who has moved back to her family's home in London, has discovered reserves of resilience and the ability to adapt. Faced with 'insufficient laptop capability' and no access to a model workshop, she has found creativity in adapting her own work space and thinking about alternative ways of representation: 'Low-tech models, unconventional design drawings and articulating design narrative in a format that is easily understandable on a digital platform.' As she concludes: 'Staying positive, maintaining healthy routines and taking care of ourselves will hopefully prepare us for some of the big changes that will inevitably come our way in the future.' ●

Helen Castle is publishing director at RIBA.

For RIBA Education's guidance to students, see 'How architecture students can remain focused amid the COVID-19 Crisis' at architecture.com

Second Skin

This year's Norbord SterlingOSB Zero competition challenges architects to take a moribund building and transform it into something repurposed, re-invigorated – and environmentally-efficient. Our winner will bag a £2,500 prize. Deadline for entries is 22 June 2020.

Re-use. Re-purpose. These words, rarely uttered in the past by any aspiring architect, are becoming mantras in the construction industry's drive to cut carbon and meet climate change commitments. And, at the same time as guidance demands higher thermal performance, issues like housing are pushing planners to create policies like office-to-resi to deal with the pressure.

Some architects have already stepped into the fray at varying scales and to different ends. Take Belgian firm Rotor, which has carved a niche for itself taking defunct office buildings to pieces to methodically re-use the floor, wall and ceiling finishes in new projects. Or at the other end, Caruso St John's Lycée Hôtelier International de Lilles, turning a dilapidated 19th century factory complex into state-of-the-art education facilities by stitching shiny, new elements piecemeal into the restored old skin in a cunning suture. Or another Belgian firm, de Vylder Vinck Taillieu, whose Mies van der Rohe Prize-shortlisted PC Caritas consolidated and upgraded the structure of a former psychiatric clinic in Melfe and populated it with greenhouses to start bringing it back into use.

The RIBAJ is asking architects to take up the gauntlet and have a go themselves, by entering our 2020 ideas competition, 'Second Skin'. In our sixth year of collaboration with sponsor Norbord, we want to challenge you to come up with proposals that take existing, dated, energy profligate buildings and give them a 21st century re-boot; re-purposing them with Norbord's SterlingOSB Zero to generate both a new functionality and improved environmental performance. So impress us; there is a prize of £2,500 for the winner. ●

Left dVVT's PC Caritas takes a derelict psychiatric building and dramatically brings it back into use.

The brief

The existing building being enacted upon can be any one you choose, and so can the end purpose once converted. But what we want to see is a thorough, considered and imaginative approach to that conversion using SterlingOSB Zero. The new use could be residential, commercial or leisure or indeed any other purpose, but the nature of the conversion should be clearly stipulated and will form the basis of the judging of the entry. As part of the proposal, we would be intrigued to see the re-use of extant materials, especially if in new and novel ways.

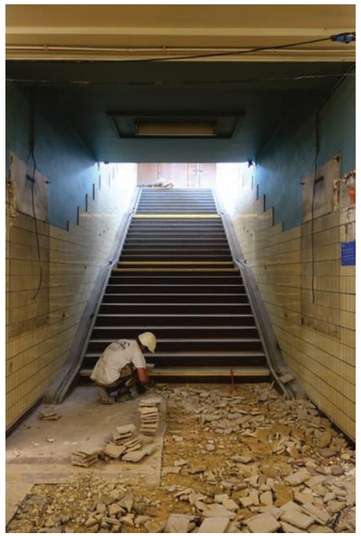
While we do not seek to curb the imaginations of entrants, we would ask you to bear in mind the nature of SterlingOSB Zero and to ensure that propositions reflect the material's capabilities.

CRITERIA

Take an existing building and propose a new use that capitalises on the original building and its context and which potentially performs far better environmentally. There is no limit to the size of the building; it can be as small or as large as you wish.

Entrants should demonstrate how SterlingOSB Zero has been used in the proposal and how its nature and high strength features have made it an integral part of the design.

As it is a speculative intervention, we do not expect entrants to adhere to current building guidance but would expect 'common sense' to apply to the proposal. Any SterlingOSB Zero used externally should be adequately protected with a proposed cladding material. This may also apply to the internal finishes.



ROTOR

Above Belgian firm Rotor carefully removing materials to allow hem to be re-used on other projects.

Below Architect Brian Heron's reconfiguration of the water tower on Denys Lasdun's 1957 Keeling House with SterlingOSB Zero created a new home for him and his young family.

Deadline: Entries should be received by 23:59 UK time on 22 June 2020

Please email your entry to: ribaj.secondskin@riba.org

JUDGING

Chaired by the RIBA Journal, the judges will look for imaginative uses of SterlingOSB Zero, as part of an innovative spatial proposal that best answers the stipulated criteria of the competition. The proposition should consider the product's structural, acoustic and thermal aspects. Pre-fabrication or CNC fabrication may be considered. Other materials, including those used on the existing building, may be used as an integral part of the new proposition but it is expected that, in the main, the design will employ SterlingOSB Zero.

The winning proposal will be the one that, in the minds of the judges, generates a solution that is spatially powerful, visually exciting, reflects the logic of the new programme for the existing building of choice and which potentially modifies, for the better, the context for which it was originally designed. Re-use of the building's existing materials is not a pre-requisite, but judges will look positively on imaginative or innovative re-purposing.

ENTRY FORM

Go to ribaj.com/secondskin

SUBMISSIONS

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

- An explanation of no more than 400 words on the entry form, describing the original design of the building as well as the nature of the re-purposing.
- Plans and sections or internal explaining the nature of the intervention on the existing building.
- External elevations, if necessary, denoting whether there has been any change to the external look of the building as a result of the intervention.
- 3D Axonometric or perspective images that convey the nature of the intervention.
- Any supplementary images you may consider helpful to explain the proposition.

NOTES

- The judges' decision is final
- First prize is £2,500. Three commended prizes of £250.
- No correspondence will be entered into by the organisers or judges regarding entries and final decisions.
- Shortlisted entries will be notified in writing.
- Shortlisted entries will be invited to the prize-giving event in September
- Please email any questions to ribaj.secondskin@riba.org

Business, clients & services

Measuring sustainable design

The UN's Sustainable Development Goals are five years old. How familiar is the profession with their aims, and how do its designs match up?

Adrian Malleson

The United Nations' 17 Sustainable Development Goals (SDGs) are a blueprint for a sustainable future for everyone. They were adopted by all UN member states in 2015, with the ambitious, shared vision of meeting the goals by 2030. We have one decade left to do that.

The goals lay out the structure for global action; for governments, NGOs, universities, international corporations and small businesses – including hundreds of organisations in the UK. The RIBA is committed to sustainability and professionalism through furthering the goals. The Institute became a signatory to the UN Global Compact in 2015. In June 2019 the RIBA joined the global declaration of an environment and climate emergency, declaring support for the UK government's legislation to require the UK to bring all greenhouse gas emissions to net zero by 2050. But how are practices using the goals?

Where is the profession now?

At the end of 2019, the RIBA surveyed its membership to better understand current knowledge and practice, so that it can more effectively support practices working to meet the UN's sustainable development goals.

Below The United Nations' 17 Sustainable Development Goals

The survey results show that UK practices are knowledgeable about sustainable development. Of the survey respondents, 87% described their practice as having 'practical knowledge' or higher, while 5% saw their practice as being a recognized authority in sustainable development.

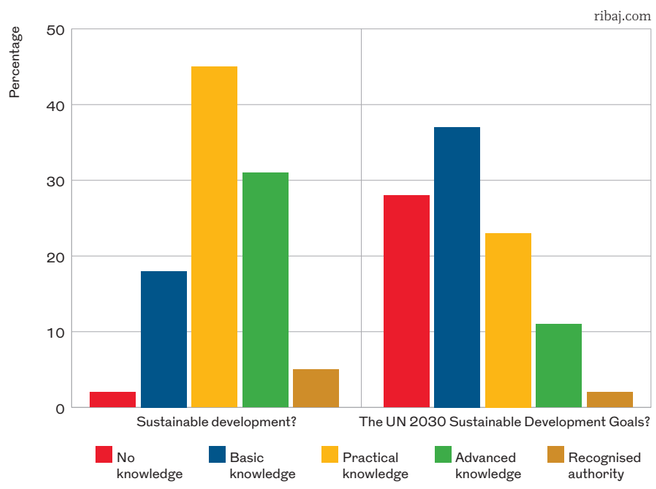
Knowledge of the SDGs is harder to come by however; 37% of members described their practice as having only 'basic knowledge' about the SDGs, and 28% said that their practice has 'no knowledge'.

How bad is that? Well, it turns out, not as bad as it might seem. The SDGs give a holistic vision of a sustainable future. They describe not only tackling the climate emergency but also strategies to improve health, reduce inequality, further economic growth and end poverty; all while preserving life in the oceans and on land. So while they don't automatically appeal to practices to sign up, it doesn't follow that not knowing about them means there is no action in the key areas.

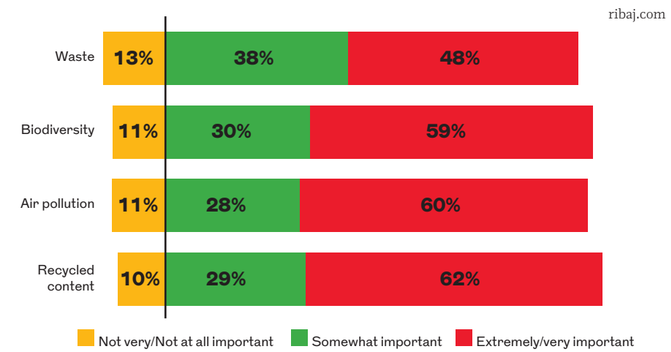
Matching the goals anyway

When we look at the data in more detail, it's not that members and their practices are failing to work towards the targets and goals that make up the sustainable development goals, but rather that there's a knowledge gap. Architects are working towards the SDGs but don't always know that they are.

How knowledgeable do you consider your organisation to be about:



Importance to your organisation and the work you do by percentage of respondents



Members overwhelmingly said that waste, biodiversity, air pollution, and recycled content are important to the work their practice does

For example, members overwhelmingly told us that waste, biodiversity, air pollution, and recycled content are important to the work their practice does. Between 80% and 90% of respondents said that each of these issues was important. They also directly relate to the SDGs.

For instance, waste and recycling are included within SDG 12, 'Responsible consumption and production' – which includes the target 'By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Biodiversity is referenced in Sustainable Development Goal 15, 'Life on land' which includes the target 'Halt biodiversity loss'.

And air pollution is covered in SDG 11, 'Make cities and human settlements inclusive, safe, resilient and sustainable' (which includes the target 'By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality'). In 2016, UN figures showed that 90% of urban dwellers were breathing unsafe air.

Further, the RIBA is encouraging all practices to sign up to the 2030 Climate Challenge. The challenge is made up of four targets: To reduce operational energy demand by at least 75%, before offsetting; reduce embodied carbon by at least 50-70%, before offsetting; reduce potable water use by at least 40%; and achieve the RIBA 2030 Climate Challenges covering core health and wellbeing targets on temperature, daylight and indoor air quality

These targets are ambitious, but it is an ambition commensurate with the climate emergency. They also directly link to the SDGs, as seen in the RIBA Sustainable Outcomes Guide. By designing buildings to meet the RIBA 2030 Climate Challenge, architects are making a very significant contribution to our realising the UN Sustainable Development Goals.

Keeping the pressure up

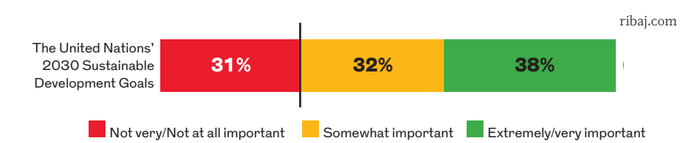
The survey also indicates that the profession is making the first step to meeting the RIBA 2030 Climate Challenge: measurement. Sixty-nine per cent of practices quantify the actual or anticipated embodied carbon in some or all of the buildings they design. A similar number, 68%, measure the actual or anticipated operational carbon emissions, at, or before, the detailed design stage. Anticipated potable water use at the same stages is measured by 73%. While there is a long way to go before every practice measures embodied carbon, operational carbon and potable water use on every project, measurement is now becoming increasingly routine among many practices, and the RIBA will support this action.

Through the SDGs, countries, institutions, organisations and citizens can share a broad description of, and ways of achieving, a sustainable future. The RIBA is committed to furthering the SDGs; they are of central importance to the institute's work and the goals of both organisations are very closely aligned. The survey indicated that UK architects are doing much to secure a sustainable future, doing much that helps realise the SDGs. At the same time, nearly one third of the architects who both had, and shared, a view about the importance of the SDGs did not see them as important.

The RIBA will continue to work with members to emphasise the importance of the SDGs and make them usable in practice. The RIBA's report 'A Decade of Action: RIBA Members and the Sustainable Development Goals' was published last month and gives more information about the SDGs in practice, and more on the survey results. Time is against us. ●

Adrian Malleson is head of economic research and analysis at the RIBA

Importance to your organisation and the work you do by percentage of respondents



Sustainable Architecture

Business, clients & services

Small steps to net zero

Four ways to make your design approach fundamentally more sustainable

ALLIES AND MORRISON

Above Retrofitting means less demolition and rebuild, a decision often needed at Stage 1, as seen at Allies and Morrison's The Westworks in West London.

James Woodall

Over a decade of scientific consensus and industry rhetoric finally reached its watershed in 2019, when the UK became the world's first major economy to legislate a net zero carbon emissions target by 2050. Signs of change are also becoming much more evident with institutions and local authorities declaring a climate emergency. And this initiative soon spiralled down the industry food chain with the Architect's Declare movement.

Each of these declarations has been applauded for its commitment and ambition in addressing what has become a stark reality, with only 10 years to mitigate irreversible impacts of climate change. Architects Declare has also served to re-emphasise that our industry is full of willingness and enthusiasm, but ill-equipped to deliver. Sustainability is no longer an exploration of 'alternative' forms of design and construction – design for a climate emergency is now a non-negotiable part of our work. We can no longer bury our heads in the sand with qualitative gestures to sustainable design. 2020 ushers in a decade of conviction and accountability.

The RIBA's 2030 Climate Challenge defines the destination, while the London Energy Transformation Initiative (LETI) crowd-sourced guidance distils this into key components to help upskill the industry. But how do we take the momentum generated through these resources and apply them to everyday projects with real-world clients?

Resistance has gone on for years: 'no client of ours will ever go for this', 'sustainable design is too great a cost premium', 'developers have short term mindsets', 'this is the wrong client','it's the wrong time to try this'.

Instead of re-affirming the established consensus, this article uses four principles to unpick some of these predispositions with meaningful and workable methods for practices to deliver practical value through sustainable design – because ultimately it will cost the earth to ignore it.

Make stage 1 count

Many, if not all, of the most well regarded sustainable buildings have set clear executable outcomes from the project's conception and without compromise. We often praise clients for setting such visionary goals, yet clients rarely arrive at an architect's door with the perfect brief (and budget to match). There is no such thing as 'the right client' – the most sustainable brief is one that the entire project team has helped shape and has a stake in delivering. No client will have all the answers; they look to their design team as advisors, so engage your client early in these discussions, and use Stage 1 to frame the project's ambition by establishing key quantifiable project targets that are linked to what is most important to them.

At Allies and Morrison, our client fee letter includes a statement that we will design to 2030 Climate Challenge levels of performance until notified otherwise. This sets the agenda from the getgo, and any clients that question the clause give us a valuable opportunity to educate them and discuss the project's ambition.

> Do not treat projects with a 'net zero or bust' mentality

Advocating the environmental benefit of a particular strategy and 'doing the right thing' is not always enough to convince decision makers ahead of their commercial interests. So we must be adaptable in these circumstances and tailor the approach to communicate the benefits of sustainable design in a variety of different ways to suit more immediate interests. Key to this is finding the 'levers' to pull. For example, reducing building operational energy does reduce annual running costs, but what of the speculative developer with no interest in operational efficiency beyond that of compliance? Reductions in peak energy demand lead to reductions in mechanical equipment sizing, which does affect building capital cost – a saving such a developer could be interested in. Work collaboratively with your consultant team to structure sustainability strategies to suit the clients' interests – it is not one size fits all.

Model early and often

Many studies into the causes of the well-documented performance gap between design prediction and in-use performance point to the 'design for compliance' culture that the industry finds itself. Part L of UK building regulations has undergone significant change since it was first introduced, and the appearance of dynamic modelling in 2006 marked a notable step. But energy modelling should be used to inform the decision making process as a design tool, not simply reflect or validate what is already designed when there is little opportunity to make changes.

Performance-based targets – such as those within the LETI climate emergency design guide or RIBA 2030 Climate Challenge provide an effective yardstick for the design team to record and evaluate progress. Teams should ensure that these metrics are tied to 'real world' outcomes, provide a clear understanding of why the metrics chosen are so important, and act as a point of conviction to encourage self-reflection and identify where shortcomings exist. Performance targets drive outcome-focused design exercises and use performance modelling as a parallel workstream, providing an evidence base to support recommendations.

Successful models of this process do exist – the NABERS scheme in Australia improved energy performance of the office sector by 36%, while quality assurance offered through Passivhaus certification has reduced domestic space-heating consumption by almost 90%.

Think of early targets as boundary conditions – set them early (before pen touches paper) and regard them as another form of context to inform concept development. Ask your consultants to share more about the modelling exercise, beyond compliance with regulations. Hold workshops with your consultant teams that provide the opportunity to explore the model inputs and ask questions to improve your understanding.

Create feedback loops

We should not expect architectural practices suddenly to begin designing and delivering net zero carbon buildings, as though this were part of our skill set all along. This relies on involving structure in the design process, and embedding feedback loops that cultivate staff understanding and allow us to learn from things that went well (and things that didn't).

Do not treat projects with a 'net zero or bust' mentality. One project that achieves zero carbon in use will stand for very little if another several hundred do nothing. The path towards zero carbon will be stepped, and incremental gains should be well understood as part of that. RIBA's 2030 Climate Challenge targets are set as trajectories to recognise that increasing fluency is required. How we disseminate and learn from these gains will determine how quickly industry moves.

Treat projects as opportunities, and be proactive. US architect Perkins and Will has committed to giving every project a free report identifying a bespoke zero carbon pathway. Allies and Morrison has used LETI's guidance to inform a parallel studies alongside live projects with consultant teams to identify performance shortcomings and their source.

JACK HOBHOUSE / ARCHITYPE

Above Sutton Secondary School by Architype. The practice has carried out post occupancy evaluation of education work for many years, with each new project learning from the lessons of the last and raising performance.

Choose your battles and look to make gains in different aspects across your projects. You might feel that a particular project presents more of an opportunity to pursue deeper savings in embodied carbon, whereas operational carbon savings might be a harder sell. Capitalise on the opportunity available, and see your findings as part of a broader exercise in knowledge capture and learning.

Sharing is caring

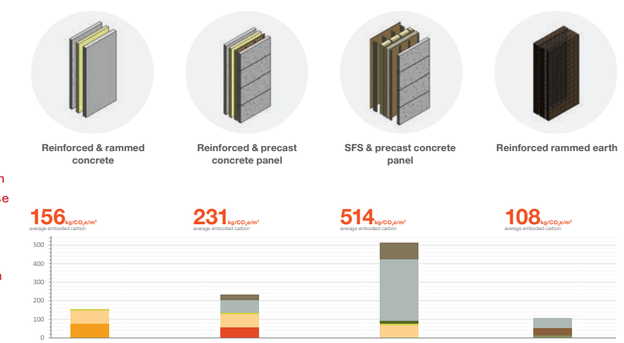
There is a tremendous benefit in divesting the knowledge gained through our collective pursuit of net zero. Many value the short term gain of competitive advantage, but failing to share risks multiplying the same learning curve across industry. Consider that in sharing what you do know this knowledge and the agency carried with it is attributed to you, and reputationally you will benefit from this. Successful examples include Architype's expertise with Passivhaus, particularly in the education sector. And Hawkins\Brown's HBERT software, developed with UCL, has positioned it among industry leaders in embodied carbon.

The RIBA Sustainable Futures Group is preparing a new CPD curriculum focused on providing members with a solid foundation of knowledge in alignment with the sustainable outcomes guide published in January 2020. And LETI's Pioneer Projects helps teams pursuing net zero carbon design targets to engage with like-minded designers to share knowledge and lessons learned.

I'm sometimes asked what I consider to be the most innovative technology to help tackle climate change. This type of question is synonymous with society's disavowal – knowing yet not knowing as it suits us. We both know and don't know who manufactures our clothing and goods, who cleans up after us and where our waste disappears to. But we play down this ignorance, attribute it to others, or convince ourselves a technological solution will make everything OK.

The inconvenient truth is that the methods to deliver zero carbon buildings are already available to us; the real innovation lies in each of us. Our response to the Covid-19 pandemic has seen countless examples of businesses and communities pulling together in the face of an existential threat. Our ability to 'flatten the curve' of climate risk and limit the impact on our planet will need the same spirit and collective endeavour. ●

James Woodall is sustainability manager at Allies and Morrison and a contributor to LETI



Right Hawkins\Brown's collaboration with UCL led to release of the free open source HBERT software for embodied carbon calculations, as on this facade calculation.

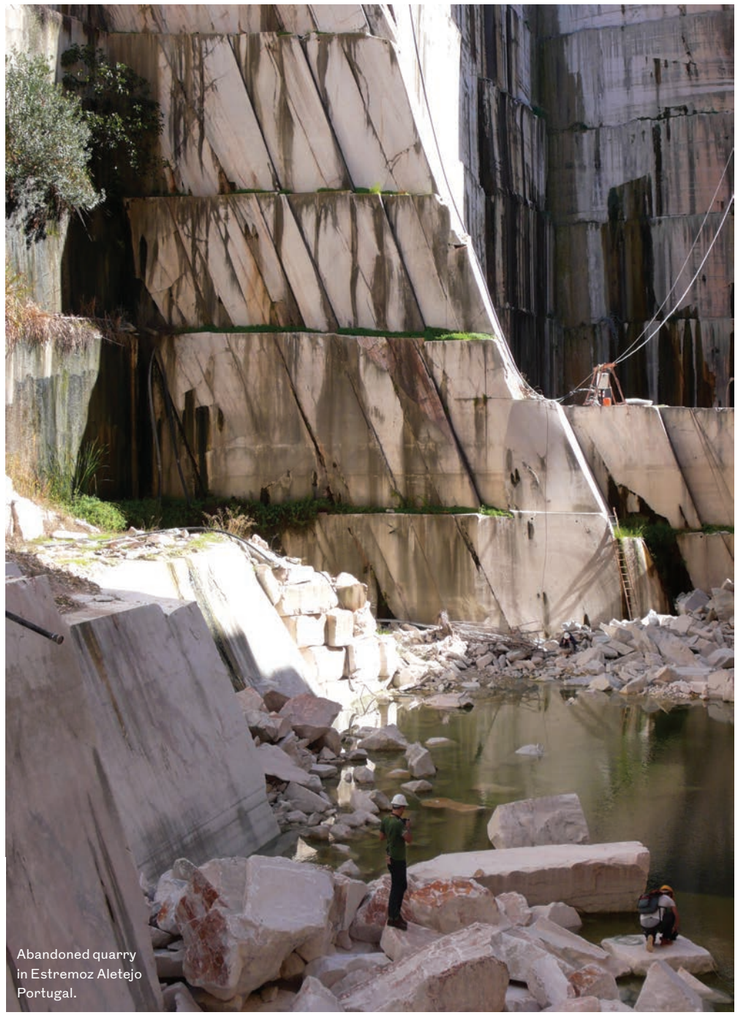
HAWKINS\BROWN

Sustainable Architecture

Design, construction & technology

Stone rises

If you're looking for a low carbon, reusable material that is strong, robust and beautiful, stone is ready for a revival



Abandoned quarry in Estremoz Aletejo Portugal.

CHRISTINA GODIKSEN

Steve Webb

One hot afternoon in the UAE, Andy Yates and I stood by a four-wheel drive in a remote, arid wadi in the Al Hajar Mountains in the UAE. I love this dry rocky desert and I wanted to get out of the air conditioned car and smell the goat dungy air, feel the early evening warmth and listen to the silence. I picked up one of the red, sun burned rocks and handed it to him. 'Heavy', he said. 'Iron content, basalt'. Later I looked into it. Actually it was an ophiolitic gabbro, another volcanic rock (similar to basalt), indeed rich in iron and heavy. Moreover, it is very, very strong. In compression a piece of gabbro might be as strong as 230N/mm^2, in the same order as steel.

Dubai and Sharjah are just 45 minutes from this dusty gorge. In those places a frenetic construction boom grinds on with an unending race to build the tallest and the strangest things. Despite the immeasurable pile of gabbro at our feet buildings in the UAE are made with concrete. Cement from gas powered cement works, (unbelievably) imported sand and desalinated sea water all produced using cheap, apparently limitless, energy from oil and gas. Limitless energy is what we imagined when we invented steel and concrete and that idea is where we went wrong.

Ground down to stone

The world over we crush rocks (like gabbro) into gravel. We dig up and pulverise limestone. In gas powered factories we burn the limestone to make cement. We dig up a lot of sharp sand. At state-of-the-art batching plants we mix them with water to make liquid concrete. With sophisticated algorithms and just in time management principals a fleet of wagons distributes it to building sites. Meanwhile we've laid out steel falsework and timber formwork. We've sprayed on releasing agent and laid rebar on spacer blocks. We pour on the concrete. We vibrate, level and float it and then wait. A week later we strip away the formwork; after 28 days we remove the falsework. Hey presto! Stone again! In two months we've turned a lump of 230N stone into a lump of 40N concrete.

The New Stone Age exhibition at the Building Centre opened on 27 February. Curated by me, Amin Taha + Groupwork and Pierre Bidaud of the Stone Masonry Company, it aims to examine the modern use of stone as a structural material and pulls together various threads of work from around the world and presents them as a nascent movement. The suggestion is made that stone, with modern design and fabrication methods, could come back to the mainstream in the way timber has through the development of CLT. Like timber, the reason for bringing it back is avoiding a climate disaster.

The environmental argument for stone is counter intuitive. On the one hand it's not exactly lightweight and it has a finite availability. On the other, it's an abundant, available, high strength material that can be chopped up and built with immediately.

Is there enough stone? According to the Global Cement and Concrete Association, annual worldwide concrete production is roughly 1.6 km^3. Due to its higher strength its equivalent in stone would be about one quarter of that volume. To put this into context, the volume of a small, Ben Nevis-ish mountain is about 30km^3; all the world's buildings* would only make a 56km^3 or two Nevis, the Earth's crust (rock) has a volume of 10 bn km^3. (*This is my back of a fag packet calculation: 7bn people living in threes in 120m^2 live work units made of 200mm slabs.)

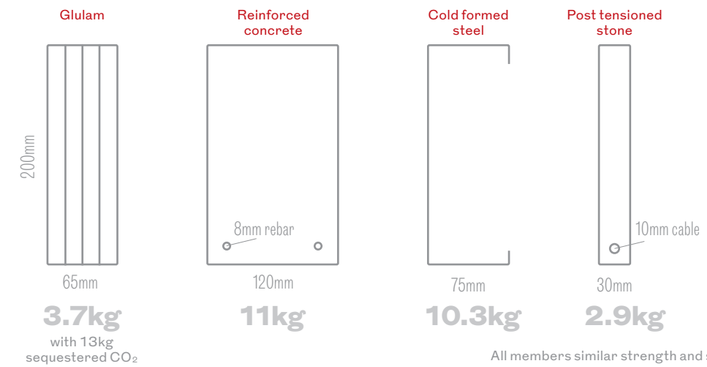
The Inventory of Embodied Carbon and Energy 2019 says 'general stone' has a carbon footprint of 0.079kg carbon per kg of stone. Concrete's is 0.15kg/kg and steel's 2.8kg/kg. These materials have different strengths so how can we compare apples with apples?

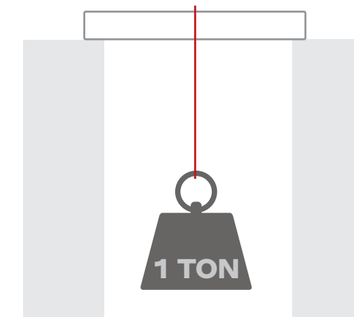
Carbon winner

The graphic above shows a series of different types of beam of the same depth that are all doing the same duty. On a simple carbon basis, timber wins by a long way because it sequesters quite a lot of CO_2 when it grows. There is certainly an immediate imperative in locking away timber that would otherwise have rotted in the forest, releasing methane (worse for global warming than carbon), but ultimately when a timber building reaches the end of its life, it burns or gets buried and rots so that carbon escapes. In production terms stone has an even lower carbon footprint than timber; over 70% less CO_2/m^2 in that example than steel or concrete.

Using stone in construction is obviously nothing new and no one is in any doubt that it lasts for a long time. Its expression as an architectural component from the ubiquitous beige-grey limestone to the kaleidoscopic, multicolour book matched marbles of Westminster cathedral shows its stylistic scope. But what can really be achieved with stone?

Carbon cost of structural members in different materials





All members similar strength and stiffness to carry 1 ton weight. Source: Steve Webb, ICE database

'General stone' has a carbon footprint of 0.079kg/kg. Concrete's is 0.15kg/kg and steel 2.8kg/kg

Below Experiments in a long span stone floor slab – post-tensioned of course.

JOHN MACLEAN

Its compressive strength means that it can supplant many concrete and steel applications. Its flexural strength, while not in the same league as steel or even timber, is still substantially higher than concrete which means it requires far less reinforcement and can be used in shear and torsion.

Pierre Bidault and The Stone Masonry Company have been developing ways to make post tensioned stone structures for years; moving from building traditional Georgian cantilever stairs to developing daring reinforced helixes, and recently completing 330° helix staircase, designed by Foster and Partners for the Dolunay Villa in highly seismic Turkey.

Strong and stylish

Our exhibition postulates a 30-storey tower with a 12m open plan floors entirely made from stone. A section of floor was erected outside the Building Centre to demonstrate the 12m span. Measuring 450mm in depth and weighing 7t, it is shallower and lighter than its concrete equivalent. It is formed with small blocks threaded together with 16mm diameter cables. The cables are pre-stressed. The stone blocks that form the beams are drilled and laid out on the floor of a workshop, a pair of cables is threaded through and a small hydraulic jack is used to pull them tight.

This is a very simple technique, borrowed from the concrete industry, but is very effective with stone because, being stiffer and stronger, stone doesn't require supplementary reinforcement. Reinforcing stone isn't new. Soufflot used it in the construction of the Pantheon in Paris in 1770. Hopkins and Buro Happold used it for their Emmanuel College building in Cambridge. Portcullis House uses it. Jürg Conzett's beautiful stressed ribbon bridge in the Swiss Alps – Punt da Sarasuns, is post tensioned stone and Arup is in construction with the Sagrada Familia Jesus Tower that will reach 172.5m in height with post tensioned stone.

Used in the right way, stone has the capacity to be very slender, durable and elegant. While timber is a great substitute for concrete and steel structures in many instances, it isn't in others. No one is proposing the first CLT nuclear reactor, or dam, but stone is great for infrastructure and has form in tunnels and bridges. In fact the Highways Agency is positively pleading for it. This is an extract of Highways agency BD91/04: 'Experience has shown that arch bridges are very durable structures requiring little maintenance in comparison to other bridge forms. BD 57 (DMRB 1.3.7) says their use should be considered. However, there has not previously been a standard for the design of new unreinforced arch bridges. The objective of this Standard is to encourage a renaissance in arch building using unreinforced masonry materials.'

Used in the right way, stone has the capacity to be very slender, durable and elegant

So why isn't everyone building with stone already? The stone industry has been left behind, while billions has been invested in steel and concrete production. Relatively unsophisticated quarries produce stone with limited or no strength testing or certification. There are many stone cutters and installers who are geared up to provide decorative or highly aesthetic stone structures but are not mechanised for the large-scale production of structural stone components. Engineers are hesitant to use stone because they simply don't know how strong it is and they don't have design codes or training to apply. Fire resistance is hard to prove and requires testing. What stops architects from using stone? Architect Amin Taha, who has used stone extensively on his buildings, writes: 'While in the early years of modernism stone will have been rejected as part of the past, unliberated from the ground like steel or concrete frames, if used at all it will have been as one of many hung facade materials. The possibility that it, like bricks, could support the entire structure let alone its own weight has not been taught because it was at first rejected, then forgotten.'

Even quarries look lovely

Is it that quarrying puts people off? It is clearly highly impactful and difficult to get permission for. But quarries can be backfilled with excavated spoil or simply returned to nature, unpolluted. Old quarries form new ecosytems for wildlife and play. Christina Godiksen, senior lecturer in architecture at Oxford Brookes, has spent many years studying the quarries of Alentjo in Portugal: 'These beautiful landscapes are breathtaking, they are full of wild flowers, herbs, flowers, olive trees, cork oaks and marble sometimes filled with the most turquoise water. Some have been in use since Roman times, history is cut in marble, evidence of every technique, tool and hand. Each quarry unique and specific.'

Above Deep working marble quarry in Estremoz, Aletejo Portugal.

CHRISTINA GODIKSEN

What could the future be? Imagine a quarry extracting a strong gabbro in the mountains of the UAE or granite in the fields of Leicester. Huge blocks are wire cut from the ground using renewable electrical power and lifted to the door of a shiny factory, there on an automated production line chopped up into standard blocks, drilled, X-rayed for flaws, sonically strength graded, sorted, tagged or chipped with their individual data. They are wired with post tensioning cables, the blocks being distributed according to their strength to reduce wastage, made specifically to fulfil orders submitted by email, length dimensions, load, finish when needed. Stone beams and planks emerge from the quarry on delivery trucks ready for erection. No shuttering, no curing time. When the trucks return they carry recovered blocks from disassembled buildings, yielded whole back to the plant to be re wired, again and again.

Let's start small. Stairs: Obviously. You're about to put a boring steel portal frame in an old house: Save on decoration, make it stone. Your concrete frame: swap the columns for stone and leave them on show. You have a small canopy over a café: Build a little stone vault. Building five units of residential – how about a timber and stone hybrid? Production starts with demand; if you want it, demand it! ●

Steve Webb is a founding partner at Webb Yates

Why Germany and Austria embrace CLT

It's safe, sustainable and speeds up the construction process, but misapprehensions about the fire performance of cross laminated timber have hindered its wider uptake in the UK. That may be about to change

While UK architects were busily crafting projects in steel, concrete and masonry through the 1990s, a researcher at a university in Graz, in Austria, was charting a very different and more sustainable course for construction. Gerhard Schickhofer's work on the innovation and application of cross laminated timber (CLT) would ultimately lead to him receiving international recognition with the Marcus Wallenberg prize for scientific achievement in 2019. And it has paved the way for CLT to become a sustainable alternative to concrete and steel, which is now increasing its global market in the commercial and residential sectors, and demonstrating its potential in a variety of structures, particularly taller buildings.

Around 80% of CLT production still takes place in Austria and Germany, which has remained its heartland in use. CLT's track record and performance have been established in a string of projects in this part of Europe, ranging from RLP Rudiger Lainer + Partner's 24 storey office building, HoHo Vienna, to the Walden 48 co-housing scheme in central Berlin, a five storey block of 40 high quality, low carbon apartments. Such schemes use CLT because of its low environmental impact and thermal performance; Walden 48, for example, is targeting Germany's KfW energy efficiency standard. But it has also become known for helping to deliver quality and speed of construction, factors that derive from its advanced offsite manufacturing method.

Above The Walden 48 co-housing scheme in Berlin uses CLT to help achieve energy efficiency.

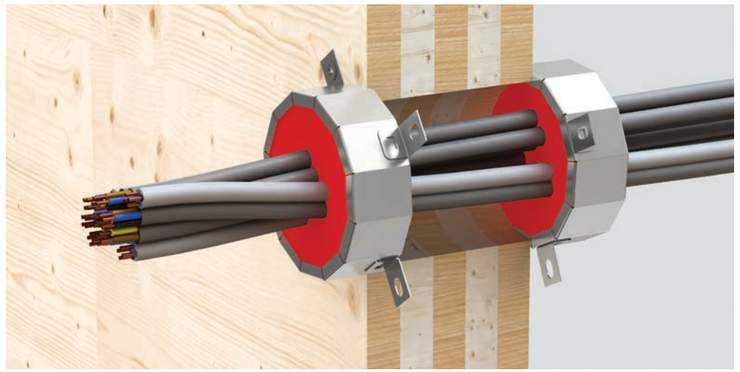
Below The Walden 48 project in Berlin seen from the road side.

In the UK architects have been exploring CLT's potential but it has remained a relatively niche product, its market progress currently being hampered by post-Grenfell concerns about fire safety in taller buildings. However, the material's relatively thick cross section can give it good fire resistance, says Alastair Brockett, fire engineer with Hilti. 'There is a view that timber burns, but it is predictable so you can compensate,' he says.

Government and industry have not yet fully developed their essential new and improved processes for designing and building for fire safety in the wake of Grenfell. 'We still have a way to go in tightening things up in fire legislation, and ensuring things are more easily understood,' says Brockett. The latter includes improving knowledge of how firestopping products work, as the fact that they don't have a Class A fire rating often prompts specifiers to conclude, erroneously, that they present a risk. 'Many people don't understand that firestopping cannot have a fire rating of Class A because its surface has to burn so that it intumesces and closes the gap,' he explains. 'That is how it does its job.'

There has also been some interest in CLT hybrids, which marry timber with steel and even concrete. Hotel operator Marriott International has used a hybrid, working with timber and concrete specialist Woodbeton, to build a number of hotels in Europe for its budget design brand Moxy. Hilti has had expert input on both Walden 48 and the Moxy hotels. Both have demanded high fire standards, with every pipe and cable penetration in the fire rated walls of Walden 48 needing to be sealed with firestop products with a rating of 90 minutes. Hilti engineers worked with the building's designers in the project's earliest stages to establish suitable firestop for waste and heating pipes as well as cables. The company's CFS-BL P was ultimately chosen to seal the large openings, being a preformed product that is easily and rapidly installed as it requires no allowance for curing.

Through its producers and projects, Germany has built a wealth of expertise in the use of mass timber. 'German companies have become very good at timber construction - and there is also a right-first-time approach,' says Brockett, pointing out that the country is also quick to seize innovation. 'We find a lot of the market in Germany and central Europe is very open to new methods. Our own new products tend to be picked up and gain success in German speaking nations first.'



Above Cable penetrations through CLT are firestopped with Hilti's tested and approved CF CC cable collar, a dry fit solution.

> There is a different approach to specification. Clients ask how it will save time and make the job easier

That comes not from an appetite for innovation for its own sake, but from a different approach to specification, he points out. 'Questions from clients don't start with "How much does it cost?". Instead they will say, "We like it so how much time will it save and how will it make the job easier?".'

The UK's slower progress in embracing innovation is entirely understandable, given past experiences, says Brockett, but he sees signs of change in the residential sector. 'We have been having conversations with major residential developers, who are looking to take more of the housebuilding process into the factory. A number are looking to employ car manufacturing style processes. We are working with several design groups developing concepts, which could include preformed firestopping solutions – either from our existing portfolio or developed specifically for their application.'

CLT has a part to play in the UK, he believes. 'CLT still ticks boxes on sustainability, as it uses offcut strips rather than whole trees, and for its thermal properties. There may still be some reluctance in the market, but it is making progress.' ●

www.hilti.co.uk

Below left One of the fire tests of Hilti's firestop solutions for CLT panels.

Below Post fire test analysis reveals the suitability of its intumescent preformed products in CLT construction.

3: Culture

At home with RibaJ

We're all somewhere else, but we're still here too

HOLLY EXLEY

Hugh Pearman Editor

May 2020 is the first issue of the RIBA Journal in its 127-year history to be written, edited, designed and proof-read entirely from our homes. You know why. Please make allowance for any glitches, and for delays outside our control. Downstream of us on the way to you are printers, distributors, and the Royal Mail. Plus of course many members are registered at their office rather than their home addresses and are, like us, now at home.

So we have an alternative for you. As well as our usual frequently-updated service online at RIBAJ.com, which has all the material that appears in print plus much more, you'll find full pdf versions of the print version of the magazine too. Just go to ribaj.com/thearchive and click on the relevant month. We'll put the latest issue up as soon as we can.

It is starting to feel almost normal to work this way, so long as the design work continues, and there's the rub. Articles in the 'Intelligence' section this issue tackle the way practices and students are coping – again, find more both at RIBAJ.com and at the RIBA's Covid-19 hub on architecture.com.

Remember those old science fiction films where the crew on the spaceship, moonbase or wherever gather round a screen to talk to those back on earth? It's like that except that in this world of virtual meetings there is no central hub. Moonbase talks to Marsbase talks to Starbase: in this scenario Earth has been temporarily abandoned. The dispersed institution, long mooted, becomes actuality.

> War work is 'a combination of Organisation and Improvisation.' That is almost a description of our Nightingale emergency hospitals

This makes sense up to a point: it is members, not the building, that make any member organisation. But it soon becomes clear why this is not the normal model, just as it isn't for most practices. People need to meet. You need to discuss ideas and strategies. There are central facilities. Virtual design and planning sessions can take things only so far: designs can be approved, but eventually – assuming finance remains – comes the need to build. Contractors can't work from home.

This is very different from a war, with different responses required. Even so there are some parallels. During the Second World War architects again found themselves with very little work. All most of them could do, if they were not serving in the military, was to plan for the peace. War work, said RIBA honorary secretary Michael Waterhouse in the summer of 1943 (RIBAJ June 2018) was mostly not architecture. 'I am tempted to define it as a combination of Organisation and Improvisation.' That is almost a description of the birth of our Nightingale emergency hospitals during the present crisis (see p36). It's architecture, Jim, but not as we know it.

What will the equivalent of the peace be like, once the virus retreats and we can gather together again? I'll make no predictions, but a restarted economy will still need to build: and building can help restart the economy.

Meanwhile, architecture does not have to be built to exist, as our Eye Line drawing competition proves year after year. Whether you are a practitioner or a student, now is the time to enter. Go to ribaj.com/culture/enter-eye-line. Deadline Monday June 8. Let this year be the best yet for the art of the architectural image. Good luck, everyone. ●

ONLY ON RIBAJ.COM

A group of people outside Florence taking refuge from the Black Death in the city take turns to tell 100 stories, while Sam Jacob kicked off the AF Studio with a live tour of his desktop

Pamela Buxton takes a tour of the many virtual shows and events: ribaj.com/virtualculture

Thousands of 'hidden homeless' live in stop gap accommodation, perhaps on a friend's floor, perhaps sometimes sleeping rough. In London alone, this was estimated at 163,100 last year

Exhibition highlighted a plight that has only got worse: ribaj.com/hiddenhomeless

The wrong walls

Pharrell's image problem is good for architectural poetry

Will Wiles

The singer Pharrell Williams has never been afraid of thorny architectural debate. 'Clap along if you feel like a room without a roof,' he sang in the 2013 chart sensation Happy, raising engrossing questions. What sensation is Williams describing, exactly, here? Is that necessarily a happy feeling? Does a room without a roof even qualify as a room? When you dig into it, doesn't it suggest ruin, abandonment and insecurity rather than shelter and joy?

In a couple of deft strokes, Williams invokes a paradox worthy of Rene Magritte, using the language of the domestic and the everyday to invoke a haunting panorama of unease. You might think that this is the self-isolation talking, but these thoughts have been brewing away for me since long before the pandemic emergency gripped the UK. In fact it's been nagging at me since Williams listed his Beverley Hills mansion for sale in the now-distant halcyon days of early March.

Once again, the singer revealed himself as a 21st-century answer to Bernard Tschumi or Peter Eisenman, challenging our conceptions of the relationships between form and function. The $17 million house covers 17,000ft^2, with 10 bedrooms, 11 bathrooms and parking for 30 cars, according to reports at TMZ.com and rap-up.com. So far, fairly typical for a hugely successful musician. It was the appearance of the house that got the discourse flowing on the social networks. The facades are curtain walls of blue-green sheet glass, and the wings of the house meet in a double-height atrium animated by a statement staircase. The various parts of the sprawling structure are differentiated by a geometric roof, seemingly metal, punctured by skylights. The stepped approach to the front has fairly hard landscaping, and centres on a freestanding abstract sculpture.

'I think a couple of my pals went to 6th form at Pharrell's house'

All very opulent, and the interiors are pretty tasteful by the standards of the extremely rich. But the exterior isn't exactly homely, as scores of people said, circulating pictures on Twitter. 'I think a couple of my pals went to 6th form at Pharrell's house' said @GerryMcLaughlin, one of many community college references. It was also compared to a minor municipal airport, a small private hospital, or part of a suburban office park.

What was it about Williams' house that prompted this outpouring of grass-roots architectural criticism? It was not that it was bad, or ugly; nor was it a burst of kneejerk anti-modernism. Instead the issue was typological. It didn't look much like a house, so much so that people felt compelled to comment.

Scale has something to do with this, as it's undeniably a very large house. But plenty of very large houses still look like houses. The real source of the controversy was the glass wrapped around it, its blue-green tint, trimmed with white and gunmetal grey – inoffensive and moderately classy, but evidently also recognisably institutional. It all has the clean, mouthwashy tang of a dental school. Update your mood-boards accordingly.

I think that what really got people talking, though, was the originality of the comparisons that could be made. Pretty much everyone has a little typological library inside them, a language that we all learn early on, mostly without being taught it. It's generally independent of architectural style, and it helps us understand the world around us on sight. Within that language, there is a very tatty list of derogatory cliches, generally used to denigrate modern architecture: the prison, the airport, the crematorium, the alien spacecraft. Often these are very confused in what they actually evoke, a topic for another day. But the Williams abode was something fresh, Listerine fresh, and having immediately twigged that it didn't look like a home, people had to rummage around in their shared typological lexicon for a way to describe what it did look like. Really, this collaborative game of simile and imagery was a brief and rare moment of architectural poetry, and it made me Happy.

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

CLAP ALONG...
This column was begun before the coronavirus crisis had fully reached the UK, and completed just as the national lockdown had been announced. I feel I might have been a bit unfair to Pharrell, because right now a room without a roof does sound like a cheerful place.

HOLLY EXLEY

We've got your back

Chief executive on how the institute is helping members during the Covid-19 crisis

Alan Vallance

Left Alan Vallance says the RIBA is in daily contact with the government.

The implications of Covid-19 will be felt by the whole economy and specifically the construction sector for a long time to come.

The RIBA's priority is to ensure that our members have the tools and information they need to navigate these challenging times. On our website we have created a 'Covid-19 hub' which provides a suite of resources and information. The content is wide ranging and regularly updated. From lobbying the government on key issues, to providing practical advice on practice resilience and remote working, we are tailoring our plans and tactics to respond to member feedback.

We're in contact with the government on a daily basis: I have written directly to both the chancellor, Rishi Sunak, and the housing, communities and local government secretary, Robert Jenrick, to outline some of the challenges our members are facing.

I regularly meet the leaders of the Chartered Institute of Building, the Royal Institution of Chartered Surveyors and the Royal Town Planning Institute to discuss cross-industry issues and set out actions. We are using every opportunity to build on our strong relationships with key government departments, ensuring our members' concerns are heard, understood and acted on.

And we are effective; our proposals to ease the economic impact of Covid-19 are being incorporated into new government legislation – the deferral of VAT payments for a period of 12 months was a recommendation we set out to the chancellor. We are lobbying to mitigate the impact of a range of issues from site closures to the rapid cancellation of early stage projects on future workloads. We are committed to ensuring that the appropriate support is in place for all businesses.

We are also collaborating with architecture institutes internationally, from Denmark to New Zealand. It's a global pandemic and we are working on a global response on behalf of the profession.

So that we can represent and advocate for our members effectively, our staff need to be safe and supported. Since Covid-19 was first reported in China we closely monitored the spread of the virus and undertook extensive scenario planning, considering how it might affect our members, staff and activities.

We initially postponed our flagship international and UK awards schemes and then, as the situation rapidly escalated in the UK, it became clear that our day-to-day operations would need to change. Over just four days, we closed all our UK offices and transitioned from a mainly desk-based operation with 300 staff to a virtual one. Investing in our technical systems and encouraging flexible working arrangements in recent years has enabled us to adapt quickly and ensured we are able to stay connected.

Like many organisations, the RIBA has asked a number of our UK-based employees to go on furlough through the UK government coronavirus job retention scheme. This will help safeguard jobs and ensure a level of financial security for the institute.

We are committed to supporting architects as they play a key role in managing and treating the threat posed by Covid-19. From 3D printing to create frontline equipment to the rapid construction of emergency NHS buildings, we are coordinating the expertise and resources of our members in important areas.

Whatever the next few weeks and months hold, we will support members, and society, every step of the way. ●

RIBA CEO Alan Vallance

We are effective – the deferral of VAT payments for 12 months was one of our recommendations to the chancellor

COVID-19 SURVEY

The RIBA conducted an initial survey to find out how Covid-19 is affecting the sector: 23% of respondents said they had experienced a negative impact on their mental health, with isolation and uncertainty frequently cited as causes for this. It's clear that the implications of Covid-19 for the profession are far-reaching. For the full findings of the survey visit: www.architecture.com/coronavirus

With offices in Hong Kong and Shanghai, the founders of Linehouse revel in Asia's openness to new, exciting ideas – and re-emergence from the coronavirus crisis

Words: Isabelle Priest Portrait: Jonathan Leijonhufvud

Eastern adventurers

Alex Mok (left) and Briar Hickling of Linehouse.

Tell us about you.
Briar Hickling (BH): I grew up in a rural community in Gisborne, a coastal town known for its good waves in New Zealand. I studied interior design at Massey University.
Alex Mok (AM): I am half Swedish, half Chinese. After a childhood split between Asia and Europe, I studied architecture at Newcastle University then at the Bartlett in Niall McLaughlin and Yeoryia Manolopoulou's unit. I went on to work for Niall before shifting from the safeness of London to the unknown in Shanghai in 2009.

What took you to Shanghai for your first office?
BH: At that time the city was evolving and I found Asia progressive, with more opportunities, not so limited by boundaries. Clients are willing to take risks and there's a sense of momentum. Asian cities are open to new, exciting ideas. In New Zealand and the UK, there is often a lot of compliance to have ideas realised, which can make the process drawn out.
AM: My motivation was to learn Chinese, but I was also curious about the speed and ambition of architecture.

Why did you set up a practice together? What's behind the name?
BH: We started Linehouse in 2014 after meeting while working as senior associates at Neri&Hu. We found we had a similar synergy and approach to work and life. The word 'Line' came from working between different disciplines; interiors, architecture, product and graphic design. Design is collaborative so we didn't want the name to be a representation of our own, but a framework for like-minded individuals. 'House' represented this.

Where had you worked previously and what projects had you worked on?
BH: At Neri&Hu I worked on projects in Asia, Australia and the UK for acclaimed chefs such as Jean-Georges and Jason Atherton, including the Westin Hotel Xi'an. Before, in New Zealand, I worked for hospitality design firm Allistar Cox.
AM: Like Briar, at Neri&Hu I worked on hospitality, food and beverage (F&B) and retail, such as the Bow Street Boutique Hotel in London and a Camper showroom in

Shanghai. I was also lead architect on Le Meridien Hotel, Zhengzhou. At Niall Mclaughlin, I worked on very bespoke, crafted buildings, like St James' Church in Peckham, the Somerville Student Accommodation in Oxford and Alzheimer's Respite Centre, Dublin.

Why did you start the office in Hong Kong?
BH: I had done a few projects there and saw a gap in industry. Most of the city's developments are led by a handful of developers, so there was an opportunity to offer a fresh perspective. Our first big project was the restaurant John Anthony. We are now working with some of the leading developers across a variety of jobs, including an office redevelopment in Macau and an upmarket food hall in central HK. We also work on projects elsewhere in Asia and Europe.

Explain your office set-ups.
BH: I lead the Hong Kong studio, which is located in a renovated industrial building on the south of Hong Kong Island. There are 10 of us (and 10 in the Shanghai office too), we're a team of like-minded individuals from various backgrounds who want to tackle design from a holistic approach, whether graphic, interior or architectural design.
AM: The Shanghai studio is in an old paint factory to the north of the city. It's a warren of spaces used for offices, but also has a boxing gym, climbing wall and crossfit. Our neighbours are very diverse and international, which makes an interesting backdrop.

What kind of projects did you want when you set out?
BH: In the beginning we just wanted to get things built and our ideas realised; construction happens so fast in Asia you have to be hands-on. It can be a fluid process, but we embraced this mentality from the outset and I think that's why we have created such an extensive body of projects in such a short time.

What guides your practice?
BH: Linehouse operates as a platform to investigate the rituals of inhabitation and how daily moments can be celebrated through design, transforming the mundane into performative acts. When we start a project, we do a lot of research into the site, history, context and product/brand to find a strong narrative and establish a concept. This informs how we go about everything, from light fittings to spatial strategy. We want our work to be contextual and meaningful, and believe it enriches experience. We don't see a distinction between roles, architecture informs interior and interior informs architecture. It's about shifting scale and always applying the same thinking. One thing we love in Asia is working with local craftsman and localising our projects in the sourcing of materials and workmanship. There is a huge history of craft and we are constantly inspired by it.

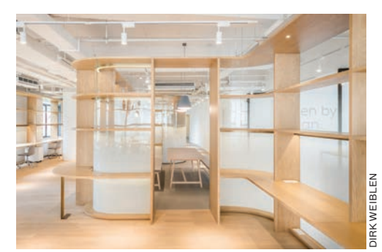
What happened to your offices during the coronavirus crisis?
BH: With the protests as well Hong Kong has been challenged a lot in the last 12 months. The reaction to the virus has been evolving in Hong Kong. Rather than a total shutdown, measures have been incremental so our lives don't feel so suddenly changed.
AM: Coronavirus hit China at the start of Chinese New Year, the biggest annual migration of people in the world. By the end of the holiday week the situation had spiralled to the point that the government extended it to phase movements of people. Many colleagues were unable to get back to China. Extremely tight restrictions were put in place and it took a long time for the government to allow our office to reopen, which it did on 2 March. We decided everyone should work at home until people felt comfortable returning. Even though architecture is not so 'work from home'-friendly due to the amount of software and its collaborative nature, we made sure everyone could collect their computers and files. We are back together now and realise you take it for granted.

JONATHAN LEUONHUFVUD (3)

Clockwise from right
Linehouse's 2017 design for Herschel's first China office, in Shanghai.
The conversion of a former opium factory and artists' residence in Shanghai into a WeWork location.
Reception desk at John Anthony, a dim sum restaurant in Hong Kong fusing the architecture of East and West.
WCs at John Anthony reference the spice trade, with colourful laminate and custom copper mounted vanities.
The 2018 Tingtai Teahouse conversion in Shanghai. Friends socialise while enjoying the ritual of tea in the blackened brushed stainless steel pods.
Côte&Ciel shopfront in Hong Kong plays with transparency and solidity.
One of Linehouse's retail store designs for Herschel Supply, this one the Tokyo branch in Shibuya.
At the creative studio for electric car company NextEV in Xintiandi, Shanghai Linehouse inserted an oak wall to create different pockets.

JONATHAN LEUONHUFVUD

DIRK WEIBLEN



DIRK WEIBLEN

JONATHAN LEUONHUFVUD

HASING MOK

How is business now things are reopening?
BH: Hong Kong, China and Asia are fairly resilient. Recently Shanghai has seen a real uptick in enquiries and projects restarting. Hong Kong remains in a holding pattern, which is particularly tough on F&B operators. Larger clients and those with greater financial backing are pressing on, which means our team remains very busy.
AM: In Shanghai, a few projects under construction took a while to restart, but it has allowed us to push on with others that are in early design phases.

How might the pandemic change architecture and design?
BH: We are conscious of how challenging this is for some. Perhaps it will remind businesses to be nimble, adaptable, diversified and strategic to mitigate some industry risks that are highlighted in stressed times. Perhaps elements of the 'social distancing' will become part of local building code, and we will have to reflect such parameters in design across F&B, offices and public spaces. Dinner for one anyone? Or perhaps we will need to design more home offices…

How does your work respond to the climate emergency?
BH: I have always been connected to textures, textiles and artisanal crafts. My background draws me to the land and I am conscious of introducing these forms into my work. However, clients must be ready to implement materials which support the planet; this is not easy. John Anthony was good example where the client was keen to adopt appropriate materials, from reclaimed terracotta floor tiles to hand-dyed indigo fabrics.
AM: Without ignoring the fact that construction is one of the biggest polluters and creators of waste, we try to use local materials and work with clients that have long-term vision so projects are lasting and meaningful.

What's next in the pipeline?
BH: A food market for the Booking.com campus in Amsterdam, a restaurant in Osaka for W Hotel, a residential project with amazing views of the Hong Kong coast, and big projects in Bangkok and the Philippines.
AM: We are also working on the rollout stores for Hangzhou-based brand JNBY, and the food hall in Thomas Heatherwick's 1000 Trees development. ●

Urban lessons for today

As the Covid-19 pandemic highlights the importance of supported and supportive communities, this timely book on New Towns is both defence and manifesto

John Boughton

JOHN MCCANN / RIBA COLLECTIONS

Above Housing at Willowfield, Harlow, designed by Sir Frederick Gibberd for Harlow Development Corporation, 1965.

In 1946, Labour's minister of town and country planning Lewis Silkin introduced the New Towns Bill to the House of Commons. He spoke in visionary terms of a utopia 'translated into practical reality', of 'a new type of citizen... a healthy, self-respecting, dignified person with a sense of beauty, culture and civic pride'. In 1998, Peter Hall and Colin Ward described the New Towns programme Silkin inaugurated as 'perhaps the greatest single creation of planned urbanism ever undertaken anywhere'.

Both are quoted in the opening chapter of Katy Lock's and Hugh Ellis's fine new book and it's hard not to be swept up in the idealism and ambition expressed. Lock and Ellis, as leading members of the Town and Country Planning Association, hope you will be. While they are honest in acknowledging the earlier mistakes and later problems of the New Towns, this is a work of unashamed advocacy: both a powerful defence of an unfairly traduced record and a manifesto for the 'new kind of New Towns programme' they boldly predict will occur in the next 10 years.

The book comprises three slightly overlapping elements. Part I offers a sweeping overview of New Town history – from the Garden City ideals of Ebenezer Howard before the First World War to principles of population dispersal and slum clearance and their manner of implementation after the Second. By 1980, when the programme ended, 32 New Towns were designated, now housing almost 2.8 million people and around 4% of households. In policy terms from 1945, it's a journey from statist social democracy to sceptical Conservatism to free market fundamentalism; in essence, for the authors, a narrative of retreat reaching its nadir after 2010 which they describe as 'a new low point in the history of town planning'.

> It's clear that planning gain secured through public investment should accrue to the community rather than landowners and private developers

Part II examines 'the New Towns at Middle Age' – a broad survey of successes and failures, challenges and opportunities complemented by seven case studies. The latter provide a useful reminder of the variety of New Town schemes across the nations and regions of the UK and a concise insight into the shared and divergent planning and architectural ideals that shaped them. Regional differences account in part for their varying prosperity. Some suffer in the authors' eyes from (a rather loosely defined) 'modernism' – flat roofs are a particular bugbear. In general, however, they face common problems, notably declining shopping centres and an ageing housing stock. In this, the New Towns are perhaps more typical of towns and cities across the country than the authors acknowledge.

Part III looks to 'Rebirth' – a review of the lessons, positive and negative, of past endeavours together with a strong argument made for their current application. Many of these lessons will seem self-evident to sympathetic readers but their forensic restatement here is valuable and necessary.

Most basically, there is the case made for the cost-effectiveness of public investment. As the authors emphasise, Treasury loans to New Town Development Corporations (amounting to £4.75 billion) were not only repaid in full by 1999 but generated income. Indeed, they provided resources that were asset-stripped by later governments.

Secondly, the necessity of a strategic role for central government and a machinery of state to deliver new schemes on the scale required also seems obvious. The paltry outcomes and generally low quality of recent developer-led initiatives are evidence enough. Development Corporations, and the resources and expertise they commanded, planned and executed schemes on a scale that now seems unthinkable, although this approach isn't fully meshed with the popular empowerment the authors also advocate.

Thirdly, it's clear that planning gain secured through public investment should accrue to the community rather than landowners and private developers. High land values are both a key impediment to new housing schemes, large and small, and a major source of private profit. The failure, with significant exceptions, of Development Corporations to divest assets to community and non-profit organisations has been another factor privileging private profit over community interest. Letchworth's stewardship system, where income from land and property owned by the Garden City's Heritage Foundation is re-invested for community benefit, offers an important model of good practice.

RIBA PUBLISHING

Above The classic view of Milton Keynes, straight down Midsummer Boulevard, built pretty much as originally masterplanned with the late arrival of the 'Snowscape' hangar, left.

ROY HERMAN KANTOROWICH / RIBA COLLECTIONS

Below The Southgate Estate at Runcorn, designed by James Stirling and Michael Wilford and completed in 1977, was part of a new town that went wrong. A more imaginative use of precast elements than most, it became a sink estate and was demolished in 1992.

A surprising gap is the absence of a sustained environmental case for New Towns. Climate change and rising sea levels are referenced – and the scale of housing need is undeniable – but a preference for relatively low density, new settlements needs to be more fully justified. And, while the book doesn't claim to provide a history of the New Towns (though it's a very serviceable introduction), it's perhaps a weakness that it doesn't assess the historical record a little more deeply. It's hard, in these more cynical times, to imagine Silkin's aspirations being wholly fulfilled but to what extent were those early promises delivered? Historians and sociologists offer a better guide to the lived reality.

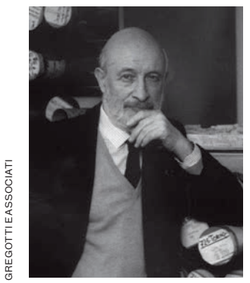
In most respects, however, this is an important book: a coherent and plausibly argued corrective to a maligned history and a clarion call that we rediscover at least some of that purpose and drive that shaped earlier urban policy. Architects and planners will surely be sympathetic to its overall thesis but this is, above all, a book that should be read by our politicians. We are living in unprecedented times but here at least we might look back to the future. ●

John Boughton is a social historian. His book Municipal Dreams: the Rise and Fall of Council Housing was published by Verso in 2018. He blogs at municipaldreams.wordpress.com

New Towns: the Rise, Fall and Rebirth by Katy Lock and Hugh Ellis, RIBA Publishing £40

Vittorio Gregotti 1927 – 2020

A prolific designer, thinker and theorist and a great draftsman who was instrumental in the birth of the Venice Architecture Biennale

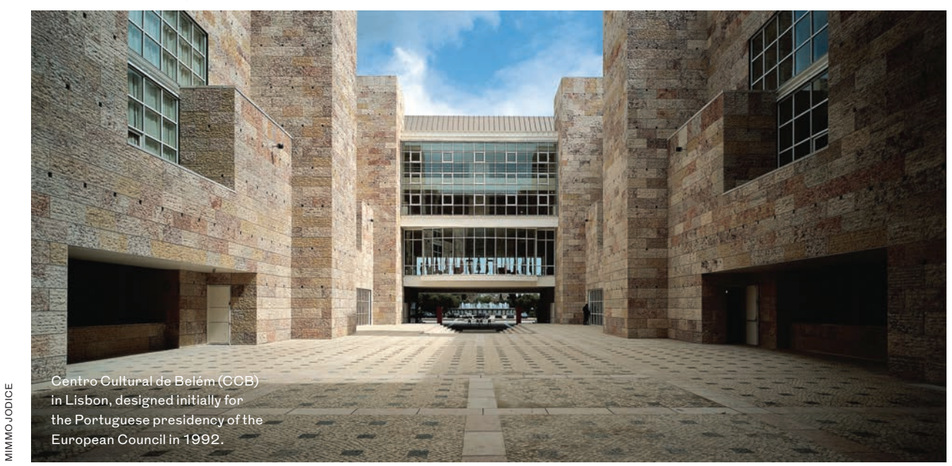


GREGOTTI E ASSOCIATI

Barely had Boris Johnson's warning on 12 March that people 'would lose loved ones' sunk in when architecture lost one of its most prolific designers, thinkers, theorists, teachers and writers to the coronavirus pandemic. Vittorio Gregotti, architect of the redesigned 1992 Barcelona Olympic stadium, died aged 92 on 15 March from Covid-19 in hospital in Milan, Lombardy, where he lived and worked, and which by then was the European epicentre of the crisis. Gregotti's career had been expansive, with 1,200 fully developed projects, 30 published books and countless articles for Italian newspapers over more than 60 years of uninterrupted activity. He completed his most recent project in 2015 – the transformation of a former iron factory in Follonica on the coast of Tuscany into a 268-seat auditorium for the Foundry Leopolda Theatre – and only closed his practice Gregotti e Associati in 2017 at the grand age of 89.

Born in 1927 in Novara, now a 100,000-population city west of Milan, in neighbouring Piedmont, Gregotti practised all over the world but lived his life in northern Italy. He was the son of a wealthy textile family and began working in his father's factory aged 14, where he started developing his astute social purpose and vision of the world, eventually becoming a member of the Italian Communist Party, the natural home of progressive individuals during the postwar industrialisation of Italy. He decided to pursue architecture following a visit in 1947 to Gustave, Claude and Auguste Perret's studio in Paris, graduating from the technical university of Milan in 1952.

From there Gregotti went to work at BBPR where Ernesto Nathan Rogers (cousin of Richard Rogers) was his mentor, before setting up in practice with L Meneghetti and G Stoppino, then on his own and since 1974 with P Cerri and H Matsui. His work advocated the relationship between buildings and their context, which he argued for in his 1966 book The Architecture of the Land (never



MIMMO JODICE

Centro Cultural de Belém (CCB) in Lisbon, designed initially for the Portuguese presidency of the European Council in 1992.

IN MEMORIAM

John Wilfred Foden
ELECTED 1948, SOMERSET

Albert Charles Frankum
ELECTED 1951, WEST SUSSEX

Graham Brooks
ELECTED 1953, SOUTH GLAMORGAN

Douglas John Chalk
ELECTED 1953, BEDFORD

Frederick John Malcolm Mair
ELECTED 1959, EAST SUSSEX

Peter John Bartlett
ELECTED 1959, AUCKLAND, NZ

John Willis Humphries
ELECTED 1959, SURREY

Roger James Branston Keene
ELECTED 1959, SUFFOLK

Kenneth Bernard Bourne
ELECTED 1961, SURREY

Robert Antony Clements
ELECTED 1968, BATH

Hugh Stewart Lee Robinson
ELECTED 1970, COUNTRY ANTRIM

Alan Roy Goldsmith
ELECTED 1971, MILTON KEYNES

Michael John Meggeson
ELECTED 1977, WORCESTERSHIRE

Simon Evans
ELECTED 2005, BEVERLEY

Leslie John Barker
ELECTED 2005, TRING

Eric Hunwick Boobyer
ELECTED 1954, LONDON

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

TOMASO MACCHI CASSIA

Above Grand Théâtre de Provence in Aix, completed by Gregotti e Associati in 2007.

translated into English). It sought to reconcile the design language of early 20th century modernism with the social, aesthetic and historic aspects of the traditional city and is visible in the monumental and epic nature of his buildings that convey a sense of grandeur and crescendo, materially complementing their surroundings.

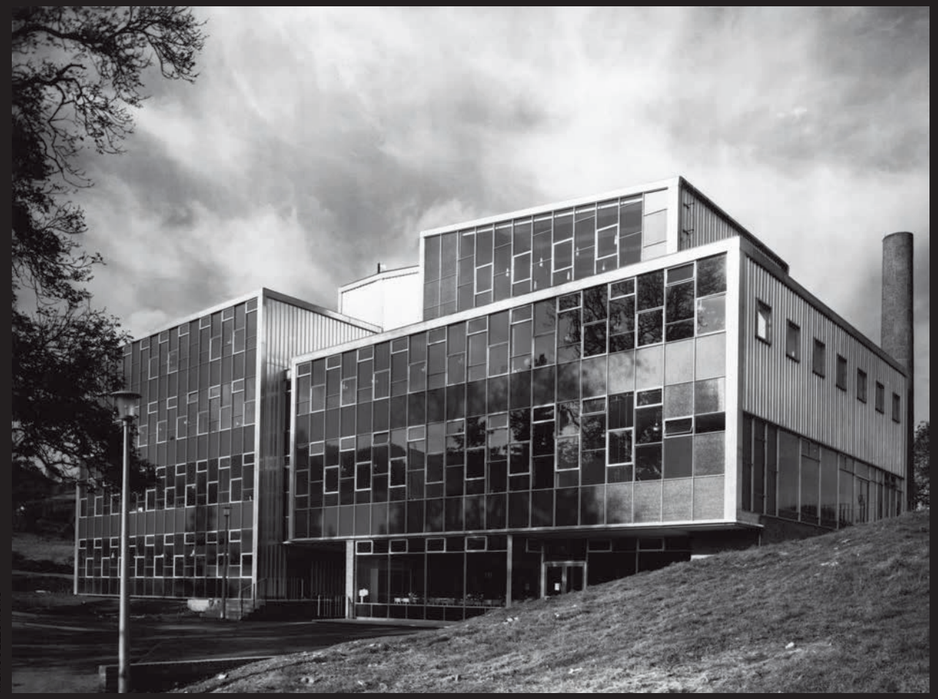
His 140,000m² Belém Cultural Center in Lisbon, built for the Portuguese Presidency of the European Council in 1992, is a miniature citadel constructed primarily of limestone. The Teatro degli Arcimboldi (completed 2002) opera house and concert hall is granite and plaster, while the 2007 Grand Théâtre de Provence in Aix is clad in soft yellow stone. Its bold interlocking cylindrical volumes and voids have a postmodern quality. Although Gregotti had a cultured vision of the built environment, and his buildings frequently extended across vast urban landscapes, he also designed stadia for Genoa, Marrakesh and Agadinia in the 1980s and 1990s, and masterplans for Pavia, Turin, the Crimea and Pujiang New Town in Shanghai. The thing these projects have in common is they are based on critical observation of the existing city.

Gregotti was also a respected editor of Casabella and the last architect to have had a significant project built in Venice – his 1981 Cannaregio residential neighbourhood and 1990 restructuring of the port. He twice curated the visual arts section of the Venice Biennale, in 1975 and 1976, devoting all of it to architecture and the built environment, a move that was instrumental in getting the Venice Architecture Biennale instituted in 1980. Gregotti held academic posts at the universities of Milan, Palermo and Venice; his most famous pupil is Renzo Piano. In 2000 he was awarded Italy's Gold Medal for Science and Culture. After his death, Italy's minister of culture Dario Franceschini described him as 'a great Italian architect and urban planner who has given prestige to our country in the world'.

Gregotti was a great draftsman and made an early conscious decision not to embrace digital culture. The Belém Cultural Center in Lisbon held a large retrospective of his work in 2018, curated by fellow Milan architect Guido Morpurgo, with an accompanying book. After dissolving his practice in 2017, Gregotti lamented the direction architecture had taken, telling La Stampa newspaper last year that 'architects are only creating images to amaze' and that it had lost 'the idea that this profession has at its base a collective product and must answer to specific social needs, tied to places and their history.' ●

Isabelle Priest

Gregotti was the last architect to have had a significant project built in Venice



RIBA COLLECTIONS

Ystrad Mynach College of Further Education
South Wales, 1959

Ystrad Mynach College of Further Education by architect T Alwyn Lloyd & Gordon (Alex Gordon was to be RIBA President in 1971-3) was in the industrial mining district of the Rhymney Valley. Photographer Hylton Warner was commissioned to document the building soon after its completion as an early example of concrete framing and curtain walling in Wales. At the time, buildings at risk of mining subsidence were usually single storey, but consulting engineer Felix J Samuely guided the decision to build this four storeys high. A pioneer in the development of concrete space frame construction, Samuely carefully considered how to achieve the most economical method of fabrication. The main block (pictured) containing classrooms, laboratories, a lecture theatre and offices, was split by a 3in structural break to allow for potential movement. Each unit, including a separate two-storey workshop block, followed the same structural principle – a rigid column and truss system bearing upon two mass concrete pier foundations at which point provision was made to allow for raising the building by jacking should future settlement take place.

Stephanie Johnson

Editor
Hugh Pearman

Executive editor
Eleanor Young

Senior editor
Jan-Carlos Kucharek

Assistant editor
Isabelle Priest

Sub editing
Alysoun Coles
Gail Novelle

Design
Linda Byrne

Production
Richard Blackburn
Jane Rogers

Advertisement manager
Richard Tomlin
+44 (0) 20 7496 8329

Account manager,
Midlands and North
Sunil Shah
+44 (0) 7501 466 660

Account manager,
London and South
John Ward
+44 (0) 7741 265 696

Advertising and
digital support
Charlotte Collins
+44 (0) 20 7496 8326

RIBA Publishing
marketing
Charmian Beedie
Vanessa Newman

Publishing director
Helen Castle

Telephone
+44 (0) 20 7496 8300
Fax
+44 (0) 207 374 8500
Email
firstname.surname
@riba.org

Subscribe to RIBAJ:
Print + Digital
UK £180 ex VAT
RoW £225 ex VAT
Digital £90 ex VAT
subscriptions.ribaj@
riba.org

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

Reprographics by
PH Media
Printed by Warners
Midlands plc