

RIBA

The RIBA Journal

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J The housing issue



Living room

Proctor and Matthews makes space for more than mere existence

72

Country retreat

How to match context successfully by Robert Adam

16

Growing up

What's behind our lasting love affair with garden cities?

36

Smooth operator

Heneghan Peng blends rough and smooth at Greenwich School of Art

22

Retrofit

Stake your claim in an expanding sector

40

Horror story

Will Wiles discovers the shock of inversion

65

Tango in Paris

Frank Gehry at the Pompidou

78

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1

Buildings



Comment 07

Housing is still in short supply but there are some great ideas if the cash is there

School 08

By maintaining its BSF relationship with Jestico + Whiles, a London school has a new sixth form block to be proud of

House 10

Loyn & Co Architects have poured Manser Medal winner Stormy Castle discreetly into its expansive landscape

Photograph 15

Michael Collins mourns our industrial past at Chatterley Whitfield Colliery's electrical fitters workshop

Housing 16

Robert Adam's highly contextual extension to a Somerset village avoids being a blot on the landscape

University 22

A well-mannered insertion in Georgian Greenwich, Heneghan Peng's School of Art is excitingly raw inside

Cladding 31

How toilet maker Toto helped keep a Japanese HQ building cool

2

Intelligence



Q&A 35

Chris Costelloe of the Victorian Society on proposed moves at EH

Garden cities 36

Still appealing to architects, garden cities are a political minefield

Retrofit 40

As retrofit takes a growing slice of the market, architects must stake their claim

Smart cities 45

Are smart cities as smart as they seem?

Contracts 46

Two new contract forms from the RIBA offer added flexibility

CDM 49

There's hope that the revised CDM regulations will cut safety problems on site

Legal 52

Pitfalls for the expert witness

Diary 55

Maria Smith masters the dark arts

SIG Roof Lines 57

3

Culture



Comment 63

Can general practice coexist with specialists?

Wiles & Wainwright 65

Will Wiles considers the upside down

Out there 67

What makes Malta Maltese?

Round here 69

In praise of Essex brutalism

President's column 71

You prove your value

Profile 72

Proctor and Matthews aim to give character and community to all

Royal Gold Medal 76

O'Donnell + Tuomey win prestigious RIBA prize

Preview 78

Frank Gehry takes a bow at the Pompidou

Obituary 81

Ken Murta, professor and practitioner

Exchange 82

The Complete Envelope 85

Parting shot 102

Sam Stephenson's Bord na Móna HQ in Dublin

On the cover
Abode Great Kneighton by
Proctor and Matthews
Photograph
Tim Crocker



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1: Buildings

Ebenezer Howard has a lot to answer for. Ever since he posited his Garden City idea in 1898, the Utopian concept has become so deeply embedded in our cultural psyche that we seem unable to imagine future cities without using his Victorian model as a comparator. It's a thing of weird genius, confounding our notion of the inviolable distinction of 'town' and 'countryside', while reifying it with his 'Green Belt' – since enshrined as a key tenet of UK planning policy. So when practice

Urbed won the £250,000 Wolfson Economics Prize in September – with a proposal which, God forbid, suggested eating into this sacred terrain – the Tory government was within a day falling over its feet to distance itself from the proposal, even though the competition was funded by one of its own peers.

While the championing of mass housing gets kicked – politically at least – into the long grass, if you have serious money, the countryside still proves fertile for development.

Robert Adam's trad Norton St Philip sells, at a premium, a well-crafted, bucolic piece of England on the site of a former poultry processing plant. Meanwhile in Wales, Stormy Castle, a luxurious home the size of 10 two-bed flats in the London Design Guide, hides by burying itself in a raw landscape. Both are moves to appease rural planners. Social pioneer Howard wouldn't have agreed with either approach, but you sense a clucking at his door as those evicted chickens come home to roost. ●

Below A rich man's home is his
Stormy Castle, page 10



CHARLES HOSEA

Stoke Newington School sixth form block
Jestico + Whiles

Words Eleanor Young

Photographs Tim Crocker

Building Schools for the Future swept a huge number of tiny projects into strategic changes. Alongside the academies of recent years, it proved a rich seam for practice Jestico + Whiles, in which architectural solutions were put into practice against the back ground of very different school settings, some genteel and leafy, some hard edged and one set around heroic brutalist concrete. Part of the Hackney BSF in London, Stoke Newington School had accents of industrial CorTen and occasional slips of yellow highlight to give it a new face, while attending to the roof and social spaces made it more liveable so its spatial generosity, thoughtfulness and calm circulation could be appreciated (RIBA Journal, September 2010).

The school knew it would grow, but BSF had no budget to provide for it. So when sixth form expansion was imminent it approached its BSF architect Jestico + Whiles for a feasibility study. And, despite uncertainty over whether it would see the process through, the design and build process and contractor issues have seen the firm remain with the project.

As well as providing extra space for the sixth form there was a sense of giving them a grown up base within the school – especially as post 16 pupils choose where they would

like to study. This hidden away corner of the school is set off one end of the axis that defines the main school. But if you want to arrive here as a young adult, skirting the hurly burly of younger children: a side gate and a little courtyard lead into a double height space with canteen on one side and tables set out promising sociability.

The L-shape plan, as it turns back onto itself, feeds into quieter administration spaces. Overlooking this are study spaces, the IT suite, and tutors' offices to give a staff presence. This is a building that works with economy but spatial generosity. Linking the social and study spaces – as is now done everywhere from cafés to bookshops to universities – appears to work particularly well for sixth formers. And it frees up the main library for the school.

Externally, the material and massing is informed by this dark northern corner of the school and its proximity to a terrace of houses, so it steps away from the perimeter to the north, small oblique windows capped with CorTen giving a sense of permanence to the dark grey cement fibre panels. Light is brought in from above, articulation to the courtyard side is in the windows and their fins – all of which line up with the datums of the existing school which project associate Alex Gordon obviously has a great affection for. If only all Building Schools for the Future projects had built such positive and long lasting relationships. ●

IN NUMBERS**£1.4m**

contract value

589m²gross internal floor area
(excluding 110m²
refurbishment of previous sixth
form area)**£2000**approx cost per m²**Client** Stoke Newington School
& Sixth Form**Architect and lead consultant**

Jestico + Whiles

Structural engineer Price & Myers**Services engineer** Max Fordham
(pre-Stage E)

Left An extra facade for a dark corner of the school, alongside the grand boiler house.

Top right Sixth form study lit from above with oblique views out.

Far right Space to think, breathe and of course chat. A double height space turns this from a series of rooms into a sixth form centre.

Right Slipping through the boilerhouse architecture into a new courtyard.



Stormy Castle**Loyn & Co Architects**

Words Patrick Hannay

Photographs Charles Hosea

Volume, space and position in the landscape have always been the effective register of varying power and wealth; yet 'Stormy Castle' by Loyn & Co Architects is the very antithesis of its name. Its 765m² of space and generous disposition of volumes seek no prominence in its remarkable landscapes on a distant Welsh promontory. Much of it sinks into the land. This is not false modesty but a hugely subtle architectural essay.

This is classical Villa Savoie and organic Falling Water merged into one project, but with the latter the absolutely dominant ethos. There are no singular objects on plinths. The concrete interior is poured over new contours in abstract planes, with steps chiselled into them. The volumes are turned and canted in plan and section to connect distinct uses to dramatic views. There is no Frank Lloyd Wright hearth organising the plan, though this is no castle of freezing stone

halls, but a Code 5 sustainable home with all the latest ecological technology.

Only the top pavilion is pure Savoie or even Farnsworth. But the rest fits Bruno-Zevi's definition of organic, where elevations, fenestration and internal space and uses are organised to connect and delight in the wonder of the surroundings, avoiding false imposed symmetries or orders. Floor and roof planes merge exterior and interiors.

Playing with the 18th century ha-ha illusion, it sends the foreground seemingly straight to the horizon while defending the inhabitants from straying animals and humans. At the same time, the material treatment and functions close to create a sense of separate floating planes.

It is not the upstairs-downstairs architecture of 'Downton' with ornamented florid interiors festooned with family heirlooms and portraits to hold soirees for grandees or political fixers. Stormy Castle is home to a couple who hope it will be an irresistible magnet to fledged progeny to return and give grandparents another enjoyable life-cycle.

Nor is it the vernacular architecture of

Below A concrete interior poured over new contours.

Right Not organised around the hearth but with warmth at its centre as a Code 5 home.





the site's original farm, where views were irrelevant to those who worked the land and lived almost permanently in that majestic outdoors (one small remnant remains, a barn, now sweetly sheathed in CorTen and holding the client's audio and cinema centre).

This is post 'Parades End' modern architecture – where the state, on behalf of the people, exacts a heavy tithe on those with the wealth and power to select the most spectacular landscapes for their lives, but choose not to work on the land. So there were a £20,000 bat loft and endless archaeological site inspections delayed the site works, presentations to the Design Commission for Wales, and months of negotiations with local planners; there might be a mansion tax – all this helps explain a £1.8m price tag.

Like so many interiors for the extremely well-off, the very costly minimalism hides

all life's clutter; empty generous volumes are paradoxically an expression of wealth and power. The uneasy tension between the 'monks cell' and the reality of over-consuming lives is ever present. But it is clear that a yearning for serenity, tranquillity and separation from the messy busy world lies deep somewhere in the couple's dreams.

It is architecture worthy of an OMA signature, which would of course send it viral across the architectural magazines of the world. But it's better than OMA. It's not a look-at-me object of intellectual tricks. Loyn & Co's Stormy Castle is a vortex of stunning varying landscapes to nourish the mind and spirit; misty, mysterious, breathtaking and sometimes stormy. It is spectacular 'weather vane' architecture of the very best sort, and it's in Wales. ●

Patrick Hannay is editor of Touchstone Wales

It is architecture worthy of an OMA signature, but it's better than OMA

Bottom left A yearning for separation from a busy world.

Bottom right Enter here to experience the vortex of views.





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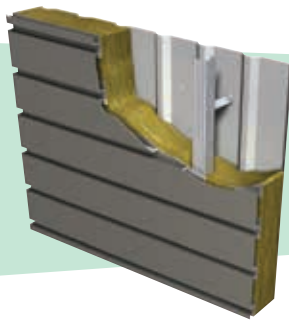
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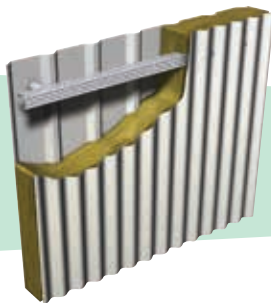


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**Electrical Fitters Workshop, Chatterley
Whitfield Colliery**

Photograph: Michael Collins

Words: Jan-Carlos Kucharek

If ever there was a contemporary book chronicling the decline of Britain's manufacturing industry, it's Michael Collins' *Landscape and Industry* – 64 colour plates which the photographer exhibits at their full 5ft by 4ft size, giving them an almost forensic level of detail when viewed in the flesh. Their scale, according to Collins, also creates a stark sense of authenticity, where he feels: 'The larger the image, the more the simple form is outweighed by the content of what's within it.' Consequently, images are

not beautiful in the traditional compositional sense; any beauty is derived from their expositional nature, revealing sites of decay with a curious, slightly detached intimacy. There is no questioning their gravitas as a form of social document.

Do not expect to see images bathed in sunlight, drawing the character out of those crumbling workshop walls. Shot in what American photographer Walker Evans classed as a documentary style of 'no unexplained shadows', the subjects, whether landscape, factory or city, might sit beneath a tombstone sky, revealing their matter in a dull yet probing flatness. Collins describes it more romantically, calling it his 'mother-of-pearl light – I pray for grey days.'

As with his subject here, Collins has crossed the UK seeking out some of the most industrially blighted parts of the country; being exposed to the harsh realities of life in these areas, there are traces of subjectivity if you choose to look for them. Standing at height, documenting the Rover plant in Birmingham as its new owner was stripping out the machinery to take back to China, he was nearly knocked from his ladder by an irate ex-employee challenging him as to why he had not photographed the factory when it was in use. Look at the foot of this image and you'll see the freshly laid rubber tyre burns of the fork lifts that hastily removed the machinery: the final trace of industry in a now cavernous, echo-filled space. ●





IMAGES COURTESY OF BLOOR HOMES



Left Entrance building to the village extension – originally earmarked for offices, it will now become residential.

Right Bird's eye perspective shows relationship with the existing village and landscape.

Pastoral master

Robert Adam's efforts to maintain context and the traditional village plan work at Norton St Philip

Words: Hugh Pearman

The style argument about modern versus traditional architecture, when it comes to building new homes in the countryside, is scarcely an issue. This is the great divide in architecture: with certain exceptions, cities are modernist, while rural England is traditionalist. Some town-and-country architects run separate offices for the two conditions, as Will Alsop used to do. In swathes of the countryside, particularly near historic villages and market towns, you might make some headway with one-off homes in the Grand Designs manner, or even multiple-house developments in the HAB-style modern-vernacular vein, but a whole housing estate of more than 50 houses? Chances are the planners will feel deeply uneasy with anything

that they don't deem to be somehow stylistically contextual: and so, most likely, will be the local residents. In which case, better for everyone that your trad development is from the hand of a good architect rather than the half-baked offerings of the mass housebuilders. Here is an excellent example. Down in Somerset, Robert Adam is building a sizeable extension to the village of Norton St Philip. This is a very accomplished piece of work that shows a keen understanding of the way real villages are organised. Pastiche historicism? Certainly, as is most modernist architecture in one way or another.

Suburbs have their advantages, and their champions. But think of everything you hate about suburban sprawl – the wasteful-



ly low density, needless loss of green fields, overscaled road systems of the highway engineers, the repeated banal freestanding house types, 'gated communities', lack of communal facilities – and there is not much of that downside here. Built on the site of a former chicken-processing plant – so brownfield land, with caveats for later phases – Adam is making a tightly-packed new village quarter of 57 homes which is so close to the original village as to be part of it. It is set out along a remarkably narrow loop of a main street (representing a victory over standard highways practice), with a couple of spur roads leading off it. There are blind

corners, and once construction is complete it will be a shared surface between vehicles and pedestrians. The stems of street lamps were going in the day I visited but they may come out: the mother village does not have street lighting, argues the parish, so why should the new addition? Public footpaths pass through it and out into the countryside via a managed common.

Every house is individual – no standard-type repetition. Where there are garages, there are habitable rooms over them. Some houses are small, many are large, one is absolutely huge. There are two small apartment buildings, plus an extravagantly large apart-

ment above the 'market hall' building. There are 14 sheltered homes for the elderly and eight 'affordable' ones for the younger. It has an operational new village store and post office (things that had previously closed in the village), and a covered attached rotunda of a gathering-place. No need for a pub or church, as these are supplied by the old village hard by. Materials for walls and roofs vary (slate, various tiles and stone being used for roofs), and much use is made of the local Limpley Stoke quarry for random coursing, ashlar and carved components such as porches, architraves and columns. There is no brick (it's a stone area), a lot of render and a very limit-

Below Brand new old village under construction: plainer houses line the street uphill from the costly 'market hall'.



ed amount of timber cladding – just enough to provide some contrast – but Adam says he draws the line at half-timbering. Although he clearly takes architectural cues from buildings in the mother village, he does not reference the 15th century, grade I listed timber-framed coaching inn there, the George.

The new development is slowly being occupied now, the streets and turn-offs are muddy with contractors' vehicles building the outer sections, but as a planned development enough already exists for it to feel like a real place. A walk around it is very enjoyable, not least because of the varied topography – it's a site with some steep slopes

and good outward views– but also because you can detect a personality behind it. It's by no means a work of whimsical bricolage like Clough Williams-Ellis's Portmeirion, but it has its eccentricities, its little jeux d'esprits. The sense that an architect is having a bit of fun. Most of the houses are conjoined, for instance, but one – a tall three-storey one following the curve of the street– just ends abruptly like a cliff, for instance. Another is expressed as a bullnosed stone house at a tight turn in the street. There is quite a variety of stone porch canopies and window bays. Adam mixes it up, but as he says, what exercises people is eternal. 'All the fuss is about

the house's front wall of about five metres by four metres by 450mm thick, with a door in it: everything else is pretty much the same everywhere. 'If that's facadism, well, houses have facades. But Adam is also, up to a point, a form-follows-function man: like every architect, while complimenting the builders, he gets vexed at changes they make. Here they are meant to build the houses exactly as designed but they still tweak things internally which, he frets, sometimes mean that rooms end up with inappropriate windows.

I am shown round the site by Adam's son Jamie, who turns out to be his father's client. The younger Adam works for a medi-

Clockwise from top left The village centre takes the form of a market hall; dealing with the double-garage problem; seen from a distance the village takes on a bastide quality; the plan opens up slots to the long views.



um-sized property development company, Lochailort Investments, that specialises in finding such sites and engaging traditionalist architects. Jamie Adam is adamant that he would never have been an architect ('I can't draw', he admits cheerfully) and this project pre-dates his joining Lochailort from estate agency Jackson-Stops in York. But he's the project director and I notice he frets about details as much as his dad. Lochailort has developed a section of the project directly itself, and partnered with Bloor Homes for the rest. In particular, the entrance run of 'civic' buildings – small supermarket, 'market hall' and a pair of commercial buildings – have been done to a costlier specification, especially the stonework. The market hall with its solid Doric and ionic columns and stone roof cost around £1m to build.

Not everything pans out as hoped. Nice though the idea was to have some offices on site to provide employment, they're not shifting so those buildings will convert to housing, as they were designed to do if needed. The shop is subsidised by being rent-free at first but will need full occupancy of the estate to succeed commercially. And that 'market hall' building is really just a large retail unit, suitable for an antique shop, with its apartment over.

So of course this place is not 'real' in the

sense of being a community of agricultural workers and squirearchy. Like most old villages round here, this is Olde England with Range Rovers attached. Norton St Philip is already a dormitory village on the road to Bath, and these new houses are upmarket, asking prices ranging from £300,000 for a small apartment to £1.6m for the huge house which acts aesthetically as a village inn. Most are in the £500,000-£800,000 range. But property values around Bath are what pay for the quality of materials and craftsmanship here, though there's nothing medieval about it: these are conventional blockwork cavity-construction houses with varying outer skins.

Two more phases are in for appeal, which although part of the former chicken factory site are nonetheless fields. Part of the plan for one of those is to make off-road parking for some of the existing old village residents, who suffer from the rat-run nature of the main street. Other street improvements in the village such as new stone paving have been funded by the developers.

I'm convinced by Adam's Norton St Philip, having walked round it. It's intelligently planned and designed with panache. Some of our readers may have their doubts, but think: what would the volume house builders do with such a site? Architecture, and architecture-minded developers, win here. ●

IN NUMBERS

4ha
site area

8,725m²
built area

57
houses

14
sheltered homes

8
affordable homes

2
shared ownership homes

96m²
smallest house

1,370m²
biggest house

3
sustainability code level



Left Modernists need not apply: the sequence of historicist entrance buildings, including a shop and post office.

Credits

Architect Adam Architecture

Developer Lochailort Investments, London

Builder developer Bloor Homes, Swindon

Engineer Stuart Michael Associates

Landscape consultant Nicholas Pearson Associates



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The rough and the smooth

Heneghan Peng's new architecture building for the University of Greenwich might look raw inside, but it settles down politely into its surrounding Georgian streets

Words: Eleanor Young Photographs: Hufton+Crow



Left The rhythm of the plan's wide then narrow sections is demonstrated in the massing and materials of the Stockwell Street facade.

Below Fins work hard giving views, shading and a sense of change as you move around the building and it opens up or closes down.



Stretched and pulled up and out, raw and but never rough, the University of Greenwich's new building has an accomplished power behind its urbane limestone facade.

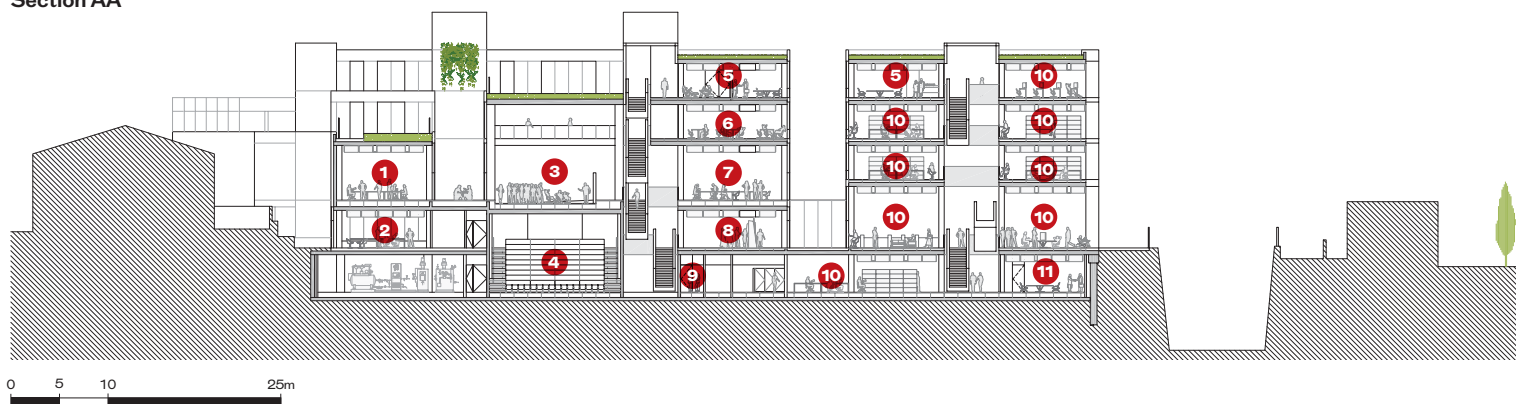
Polite, striking yet deferential, the new library and teaching building on Stockwell Street fits perfectly into the rather special setting of Greenwich's world heritage site, defined by Wren, Vanbrugh and Hawksmoor through the grand set piece of Greenwich Hospital. Tight Georgian shopping streets open onto markets or the River Thames and newly restored Cutty Sark, while St Alfege, again by Hawksmoor, marks the move towards the less loved Deptford. Across the road from St Alfege, Heneghan Peng's new building continues the

townscape by turning the corner. While at five storeys it is tall for this part of south east London, its street rhythm defers to the Georgian houses up the hill.

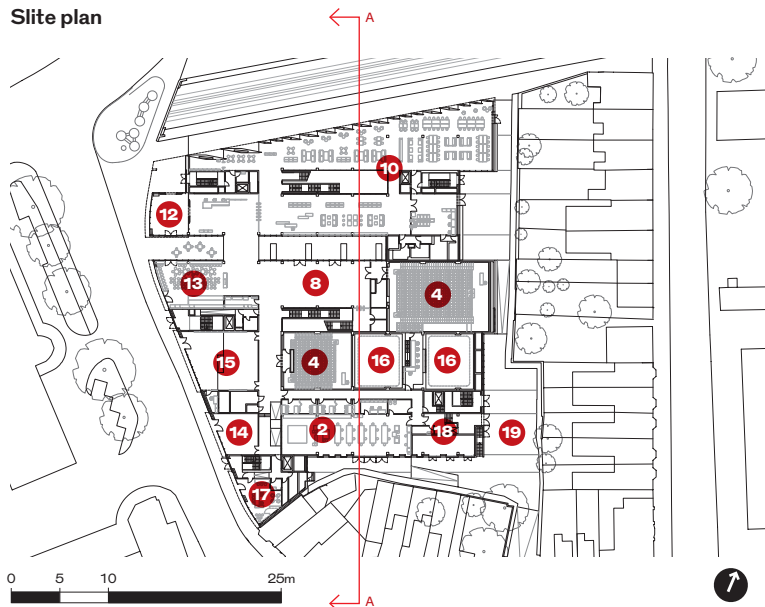
Inside, the impression is of spaces stretched to structural limits of openness. The slim library volume is pulled upwards by its empty centre; first floor studios tugged wide along the longest possible span of 12m. Black-boxed stairs travel long distances surprisingly languidly. The infernally deep plan is riven with light – and here the rhythm comes in, not merely to answer the many planning and conservation issues around this building but also as a servicing strategy. The metre that can be read along the facade – wide and narrow, five

Right This way up: bold stairs and buried lifts (still sought out by some students).

Section AA



Site plan



First floor plan



- 1 Design studio
- 2 Model workshop
- 3 Crit space
- 4 Lecture theatre
- 5 Office
- 6 Seminar room
- 7 Design studio
- 8 Gallery/ foyer
- 9 Toilets
- 10 Library
- 11 Video conference
- 12 Lobby
- 13 Café
- 14 Retail
- 15 Gallery
- 16 TV studio
- 17 Recruitment office
- 18 Substation
- 19 Delivery yard



times over – continues into the core of the plan. Narrow bands, with plant stacked on top and tucked-away lifts, are cut into as light voids and courtyards. Basically a finger block building, but cleverer, it puts as much accommodation as possible on a ground floor that is devoted to entry and the publicly accessible exhibition, café and shop spaces. Most of the first floor is configured as an open studio.

It is wrong to say, as some have done, that its skin lets down the more vigorous architecture within. The material might have shifted from Heneghan Peng's originally proposed brick to stone but the rhythms of

the facade are fundamental to the plan and the storeys are elegantly proportioned. Roisin Heneghan explains how the practice wanted a set of rules rather than a composition, but the rules are about structural voice and the public/private expression of functions, rather than any dead set of requirements. So often the external face of new buildings offer little more than the systems they are made of, or demonstrate false ideas of heritage, but this one holds its own – despite a large volume – achieving a delicate balance between imposing itself on the urban grain and working with it. The edges, including a sunken commuter train line, are handled



Left The top floor stair, boxed in for fire but giving the impression of a glass house alongside one of the many roof gardens.

Right On the studio floor the crit space takes centre stage, slightly dug into the floor plate to define it.

IN NUMBERS

£38.9m
total contract cost
(excluding fit-out costs)

£3.65m
fit-out costs

£2,560/m²
gross internal floor area

£240/m²
fit-out

15,200m²
area

2,100
data points

1581
chairs

432
tables

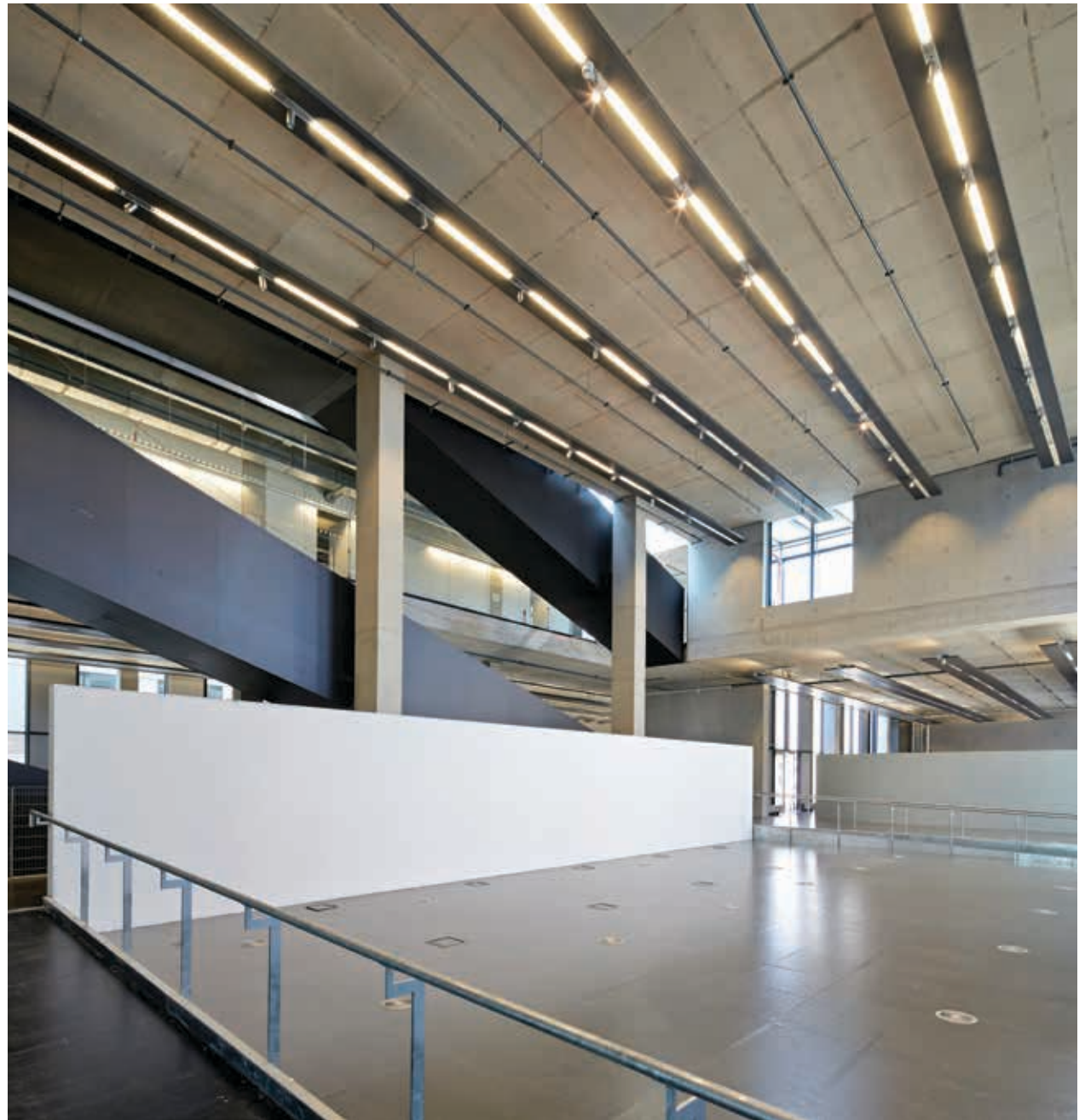
500
lecture seats

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Traditional Procurement
Route – two stage tender

with aplomb, which works for both the context and the users inside. The fins of the library alongside it bring together two geometries of facade and railway. From the street the fins close off the facade, from the connecting path they appear open, and from inside the oblique views give onto the church and monitor the path.

This generically named academic building is also Greenwich's school of architecture – and landscape, and creative professions and digital arts. If you had to identify an area with each discipline it would be the basement studios and editing suits for the digital

arts, the 14 roof terraces for landscape, and the studio for architecture. But of course, as in all academic buildings, space use is at a premium and intended not to be dedicated but flexible and bookable. On an early Tuesday in term the first floor was full of studio groups being taught, acoustic screens separating the spaces. Some – which really need to be spaces for students themselves to colonise, or work in quietly, are being taught in as the bookings team gets to grips with what works and what does not. The crit space, slightly sunken at the centre of the studio, has a great sense of theatre:



the higher routes alongside act as balcony viewing, spectators leaning over the galvanised rail. And being able to suspend up to 600kg loads from the roof will challenge students at their end of year show.

It is long way from the Avery Hill base near Eltham, where Professor Neil Spiller, deputy pro vice-chancellor and professor of architecture and digital theory, has been operating for the last four years. Stories abound of prospective foreign students alighting from taxis, taking one look and getting back in – not something that helped his ambitions to align the school with first rate academics and schools (RIBA Journal June 2012) as shown in his first exhibition in the new building,

featuring architects and educators from MIT, RMIT in Melbourne and the Bartlett. There is space for growth here and Spiller expects to need it.

This building stands alongside the impressive clutch of arts schools that have completed in recent years for Central St Martins' Granary Building (Stanton Williams), Manchester School of Art (Feilden Clegg Bradley Studio) and the Reid Building for the Mackintosh in Glasgow (Stephen Holl). The interdisciplinary narrative is less powerful, which reflects the harder edge of its home faculty of architecture, computing and humanities which are not configured as an arts school – the shared campus library



Credits

Client University of Greenwich, Greenwich London
Architect Heneghan Peng Architects
Main contractor Osborne
Project manager and quantity surveyor Fanshawe
Structural and civil engineer Alan Baxter Associates
Building services/sustainability Hoare Lea
Facade engineer Glass Light and Special Structures

Key suppliers

Mechanical electrical and plumbing SES
Steel & GRC facades EAG
Stone facades Szerelmeý
Precast concrete Facades Techcrete
Concrete frame Foundation Developments
Architectural metalwork Structural Stairways
Green roofs Blackdown
Lighting Durlum
Built-in furniture Atlantic Contracts/Timbateq
Bespoke furniture Benchmark
Loose furniture BOF
Shelving Bruynzeel

Below left The language of windows: glass pushed out for more public spaces, recessed for less.

Below Rounding the corner to Hawksmoor's St Alfege Church.

and the subjects lending themselves less to visual display than fashion and textiles. Yet its architecture, defined around dramatic stairs, has a similar sense of bringing people together – if a tighter sense of space planning. Perhaps the Bartlett, as replanned by Hawkins\Brown, makes a better comparison as it houses a less diverse set of subjects on a London site.

Heneghan Peng first made headlines when, as a young Dublin practice, it won the Grand Egyptian Museum Cairo in open competition, and was more recently Stirling Prize shortlisted for its Giants' Causeway visitors' centre. It hasn't had the chance to see its Cairo project through on site. But in Greenwich

it has not only done that to a high level but has also worked alongside an expert, architect-trained client in the form of project manager Adele Brookes. Together they took out the furniture and fittings and a fair chunk of joinery from the contractor's package to give it the attention it was due. Despite its industrial finishes this attention to detail shows – as Organic chairs from Vitra, for example, brighten up solitary corners of the library. Not that money got thrown at this – the lecture theatres are lined with rows of inexpensive stained timber seats, encouraging a certain wakefulness through the colour schemes and very hard seats. The rest of the building will keep students awake just fine by itself. ●



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Water course

Who do you call to make a cooling, self-cleaning ceramic facade? A toilet manufacturer, of course

Words: Stephen Cousins Photographs: Harunori Noda



When Japanese architect Nikken Sekkei consulted a toilet manufacturer to design a water-evaporating facade for Sony's new headquarters in Tokyo, the result was far from bog standard.

The 25-storey NBF Osaki Home Entertainment HQ features the world's first evaporative cooling facade, designed by Nikken Sekkei, to cool the surface of the building's east elevation by up to 12.6°C and the surrounding air by around 2-3°C.

The system, known as Bioskin, comprises a network of porous ceramic pipes, similar to horizontal railings. Rain water is collected from the roof, circulated through the pipes, heats up under sunlight and evaporates through tiny holes in their surface. It was invented by three architects at Nikken Sekkei, in collaboration with the practice's in-house engineering team.

Bioskin's main function is to reduce the 'heat island' effect, seen in cities with a lot of

Below The NBF Osaki building in Tokyo – its east facade a network of fine ceramic pipes with rain water running through.

heat-absorbing concrete and bitumen surfaces, by cooling the area around the building. If similar facades were installed on several buildings in a neighbourhood, the cumulative effect would significantly reduce surrounding temperatures, its designers claim.

The technology has its roots in the ancient Japanese concept of 'Uchimizu', the sprinkling of water on gardens and streets to lower ambient temperatures and prevent dust. It is also based on transpiration, whereby water moves through a plant and is evaporated from the leaves, stem and flowers.

Nikken Sekkei was unable to find a traditional facade manufacturer willing to work with the plumbing and ceramics required, so the natural choice was to ask Japanese bathroom products manufacturer Toto instead.

The collaboration with Toto resulted in architectural innovation in the form of Hydrotect, a thin film photocatalyst applied to the surface of the ceramic pipes, which reacts to sunlight, oxygen and water to keep the surface clear of stains and bacteria without the need for chemical treatments. A similar film is applied to the firm's toilet bowls.

Takashi Hirai, sales and marketing manager at Toto Europe, explains the process: 'Hydrotect contains titanium dioxide (TiO₂), which under sunlight catalyses the oxygen in the air. Activated oxygen decomposes organic substances, such as oil stains and exhaust fumes from factories and cars. In addition, TiO₂ reacts with moisture in the air to produce hydroxyl radical on the surface of the pipes. The combination with these two functions makes the system self-cleaning and air-purifying.'

In other words, stains on the surface

quickly decompose and lose their adhesive power. They are held in a film of water on the surface of the pipes and then wash away in the rain. The photocatalyst process also breaks down harmful nitrate oxide pollutants into the less harmful substance NO^3 . Toto estimates that 10,000m² of applied Hydrotect is able to purify the same amount of air as a forest the size of nine football fields.

Rain water used inside Bioskin is held in a 30 ton-capacity reserve tank installed between footing beams in the building's basement. The supply is large enough to provide 50% of the water needed to fully activate the system during the summer months, the rest coming from tap water, which is relatively cheap in Japan, due to high levels of rainfall.

'The system is not at all energy intensive to run,' says Bioskin co-inventor Tomohiko Yamanashi, principal executive officer at Nikken Sekkei's architectural design division, describing Bioskin as a low-impact biomimetic system and a more environmental alternative to the 'big technical innovations'

typically associated with sustainable architecture. 'The water pump that circulates rain water through the pipes is small and activated by a tiny amount of electricity generated by solar cells installed on the building's south-facing eaves. The system's overall running costs are negligible compared to the total energy cost of the NBF Osaki Building.'

Nikken Sekkei has been monitoring the temperature of activated and non-activated pipes in the Bioskin, measuring surface temperatures and using close-up and airborne thermal camera images.

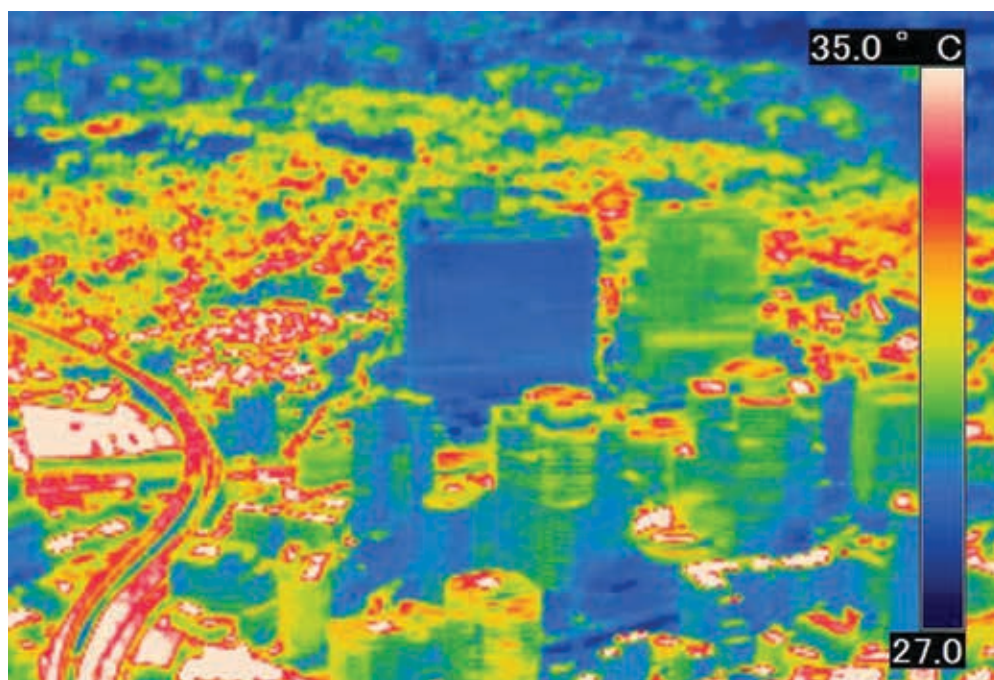
'The maximum surface temperature of the Bioskin was 12.6°C lower than a normal facade. We estimate it will reduce the building's total energy consumption by about 3% by cooling air around office windows,' says Yamanashi.

A modified version of Bioskin is being developed by the architect for installation on two unnamed buildings in Japan and it is looking for other suitable projects in South-east Asian countries with a similar climate. ●

Stains on the surface decompose and lose their adhesive power. They are held in a film of water on the surface and wash away in the rain

Below left The east facade is effectively a mesh of pipework keeping local temperatures at its surface lower.

Below Aerial thermal image showing the cooling effect of the ceramic east facade relative to neighbouring buildings.





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2: Intelligence



Where people
live



External
management

Chris Costelloe



This year the Victorian Society faced up to English Heritage on the Smithfield redevelopment this year, and won. Where does the society director Chris Costelloe stand on the imminent changes at EH?

How do you react to the splitting of English Heritage into a charitable trust and statutory consultee?

I'd say the split into different parts shouldn't change the role of the new individual organisations, but I do have questions over whether the £88.5m funding pot over the next eight years is enough to get the existing EH estate in order. That said, I can't see any incumbent government allowing Dover Castle to slide into the Channel.

And what about Historic England?

That's an interesting one. I think it can't help but have a lower profile, so it's going to have to stand up for itself. I'm hoping the fact that it's going to be a smaller organisation means that it's going to be about increased specialisation rather than marginalisation. EH had a strong voice in the past and we wish at times that it would have a stronger one. It did well to campaign for the listing of the London's Broadgate Centre, even though it didn't get it.

Do you think your engagement with HE will change?

It's generally been good – we did find ourselves disagreeing over Smithfield. Even though it was saved in the end, I never heard a reasoned argument from EH that would justify the loss of the market hall. Our priority is to ensure that any future proposal is suitable for what is the biggest market complex in the country and still maintains its original grain. When Thameslink and Crossrail interchange at Farringdon, the area will be a key London centre, and the perfect site I think, for a functioning public market.

And what do you want them to support you on?

Politically, we are looking for VAT relief on the refurbishment of historic buildings, which would put them on a level playing field with the construction of new buildings and get rid of the perverse incentive it currently creates to knock them down.

What has the Victorian Society been concentrating on recently?

Our latest campaign was the 10 most endangered buildings in the UK. We're really worried about the Cardiff Coal Exchange – one of the city's most historic buildings, and where there's a question mark over the city council's commitment to ensuring its future. Also London's Abney Park Cemetery Chapel, historically the world's first non-denominational chapel, is fenced off and in a parlous state.

ALL CHANGE AT EH

The government has announced that properties run by English Heritage will remain in public hands but will be managed by a charitable trust, using the same name. It will provide £80m of capital investment and £8.5m to implement the new structure) to restore or maintain over 400 English Heritage sites. Powers in planning and heritage protection will be carried out by a new public body, Historic England, with the remit of providing expert and impartial advice on the wider historical environment.

Funding for the works is due to be disbursed over the next eight years, after which it is anticipated that English Heritage, while remaining in public ownership, will become self-financing. Heritage minister Ed Vaizey called it a benefit for the taxpayer 'as the need for direct government funding for the heritage collection reduces.'



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

Where people
live

Growing garden cities

Burgeoning enthusiasm for the garden city is more about wanting to change the way we live than solving the housing crisis

Josephine Smit

Schools, the NHS, taxes: this is the stuff that hits at the heart when people are considering where to place their x on the ballot paper as a general election approaches. Housing is generally way down the agenda.

But significant housing under-supply and the inability of Generation Rent to become part of the UK's property-owning democracy are focusing Westminster's finest minds on housebuilding. We are building around half the homes needed – more than 30% below what we were building in 2007-2008, as property consultant Savills stated in its report, *Garden cities: Breaking new ground*. As a result, all three political parties are pledging to build more homes, and they are voicing a determined enthusiasm for garden cities.

The coalition government published a garden cities prospectus in April and announced that Ebbsfleet in Kent would be home to the first of a series of locally-led new communities comprising at least 15,000 homes. Garden cities are also set to feature in a roadmap for the delivery of new homes being produced by Sir Michael Lyons' independent review, which is informing Labour



URBED

Left The Wolfson Economics Prize winning submission: garden cities founded in the green belt.

leader Ed Miliband's policy plans. As Kate Henderson, chief executive of the Town and Country Planning Association (TCPA) says, 'For the first time in a generation all three leaders are backing the idea.' But that does not necessarily mean the omens are good for building a new generation of garden cities.

Principles and pragmatism

Alongside the political rhetoric, this year's Wolfson Prize for Economics has provided a platform for ideas exploring how garden city principles can be delivered in 21st century Britain with its brief demanding 'visionary, economically viable and popular' solutions. Five finalists competed for the £250,000 top prize, which was won by David Rudlin and Nicholas Falk of Urbed, working with John Rowland, of Jon Rowland Urban Design, Joe Ravetz, co-director of the Centre for Urban Resilience and Energy at Manchester University and Peter Redman, managing director, policy and research at TradeRisks.

The winning submission was not based on the creation of a new settlement, but boldly advocated taking a bite out of the Green Belt and near-doubling existing ones. The solution adhered to garden city principles, with land value being captured for broader benefit, 30% of new housing being affordable, and new parkland and gardens being created – at a level equalling the new development plots, and new infrastructure, to complement the existing.

Such features make the garden city an attractive concept. As Henderson says, 'Garden cities provide the opportunity to create places that have vibrancy and sustainable infrastructure, are well planned, and have proper management and land value capture. They are not bolt-on estates.'

The Urbed team applied its thinking to the fictitious settlement of Uxcester and the real location of Oxford, and identified 40 town and city locations where the approach could be repeated, including Reading, Northampton, Norwich and Stratford-on-Avon. The submission was rooted in reality, being modelled on work

that Urbed has done in Cambridge to help it plan for the delivery of 73,000 new homes alongside essential infrastructure. The winning idea won much praise and was full of promise, but use of Green Belt land caused housing minister Brandon Lewis to pour scorn on the idea.

At the same time, the government's proposal to create a garden city in Ebbsfleet has come in for questioning – not least from Henderson. The cluster of three sites close to Ebbsfleet International Station has been earmarked for a new town since the 1990s but landowners have struggled to make development stack up financially. Henderson and others have called for garden city principles to be written into the terms of reference for Ebbsfleet's development corporation. The 15,000 homes planned for the settlement will also make little dent in the housing shortage: Savills estimates that a new Ebbsfleet would have to be built every year to accommodate London's overspill alone.

Lord Wolfson's competition has, however, deepened the debate about garden city principles. PRP Architects and housing charity Shelter were runners up in the contest, with a submission based on creating a waterside garden city on the Hoo Peninsula site where London mayor Boris Johnson had hoped to create a new London airport. The architect has applied the learning from its competition entry to a design for a garden suburb scheme in Ipswich for house builder Crest Nicholson. PRP chairman Andy Von Bradsky says: 'Developers like Crest Nicholson will embrace the green character and the nature of design, but things like the land capture model and the governance model are another question – land value capture is the bit we haven't really seen in development.'

But can it be delivered?

Delivering true garden cities at a much larger scale remains the big challenge. Von Bradsky explains: 'Each of the political parties has a deep interest in this [garden cities]. But it's a question of how you reconcile housing supply with a localist agenda. A strategic approach is needed, but the government isn't able to reconcile that.' Gerry Hughes, senior director and head of planning, development and regeneration at property consultant GVA, echoed this in the consultant's report, *Unlocking garden cities*, stating that politicians using the term are not thinking about

The cluster of three sites close to Ebbsfleet International Station has been earmarked for a new town since the 1990s but landowners have struggled to make it stack up financially

URBED SUBMISSION

The winning concept grafts the garden city onto the rootstock of an existing city to allow it to benefit from the infrastructure that makes up Ebenezer Howard's sustainable 'social city' – amenities such as cathedrals that may only become established over centuries. The Urbed team targeted historic cities with populations of up to 200,000 for expansion, exploring its concept in the theoretical model of Uxcester, an 85,000-home city that in reality is a blend of Chester, Gloucester and Worcester. It is envisaged that the city would double in size in 35 years, by building three substantial urban extensions within 10km of the centre. This would take only 15% of the land within the 10km ring. After being shortlisted for the Wolfson Prize, the team further tested its principles by applying them to Oxford's borders, where locations like Kidlington offer opportunities to 'piggyback' on the investment going into new transport infrastructure.



MARTA GOMEZ

Garden cities aren't a solution to the housing crisis, they are an answer to how Britain should grow sustainably without adding to energy consumption

Left Aerial visualisation of Shelter/PRP's submission for second place of the Wolfson Economics Prize – a garden city where Boris Johnson had hoped to place his airport.

what the concept really means, 'nor are they thinking about the complexity of delivering such a concept'.

Trevor Osborne, property developer and chair of the Wolfson Prize judging panel, has called for a government task force or royal commission to consider delivery issues. He says: 'Ebbsfleet is an important step forward, but it is not the answer. There are issues of land and governance. Legislative change is needed if this is to become real and not a dream.'

All this would take a long time and the problem of under-supply is more pressing. As a result, some believe that present talk of garden cities is a distraction. Ben Derbyshire, managing partner of HTA Design, says: 'We aren't going to get anywhere any time soon with garden cities, and they aren't going to be big enough.' He believes urban intensification should be the first priority. He points to HTA's own research, which looked at doubling the density of semi-detached suburbia, and says we should concentrate instead on intensifying low density new towns like Harlow.

Following its Wolfson win, Urbed has been engaged in discussions with a number of local authorities interested in its thinking. Urbed's Falk accepts the limitations of gar-

den cities: 'I don't see garden cities as a solution to the housing crisis – it is much more complex than that. Garden cities are an answer to how Britain should grow sustainably without adding to energy consumption. Our towns and cities have been over-constrained compared to their continental equivalents.'

'We've had endless studies but we've still not solved this. Housebuilders won't build more. They are not charities, so we have to find another mechanism. This isn't an issue of design; it's an issue of economics.'

TCPA's Henderson too accepts that garden cities are not a 'quick fix'. She adds: 'It [the garden city] is not the solution on its own, but it is a massive opportunity.'

Without a strategic approach to the delivery of large-scale garden cities, we could be consigning ourselves to a legacy of sprawling, soulless estates, and to a continuing struggle to build the homes that the country needs. The consequences of that could be severe, cautions PRP's von Bradsky: 'My personal view is that the country is at a crux point. There will come a time when local authorities come under huge pressures. Without large scale development, we're facing a crisis of national proportions.' ●

SHELTER/PRP'S PLAN

The Hoo Peninsula in Medway, Kent, was an interesting choice of location for the runner up, a submission led by housing charity Shelter working with PRP Architects, and with advice from KPMG, Laing O'Rourke and Legal & General. Mayor Boris Johnson had ambitions to create the Thames Estuary Airport on this site, but instead this concept sees it become Stoke Harbour, a garden city housing up to 48,000 people with good quality homes, including a third for social rent. Jobs, services and infrastructure are also part of the city mix, alongside green spaces, waterways, schools, healthcare facilities and transport links, including a new ferry service. As part of the submission process, Shelter asked Medway residents for their views on development and it found that just over 60% of people would support a garden city in their local area if it would result in improved services.

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Shaping up for retrofit

Architects must claim their place in a growing market

Matt Thompson

The first three parts of the RIBA for Clients programme looked at client sectors – contractors, housing, and local authorities. The fourth cuts across them by looking at retrofit. Pure retrofit is a response to the need to reduce greenhouse gas emissions, the biggest challenge of our generation. Despite barriers, the retrofit market is growing and likely to offer architects significant work opportunities as the effects of anthropogenic climate change unfold.

The Climate Change Act (2008) is at the root of interest in retrofit, committing the UK to reducing greenhouse gas emissions by 80% (from a 1990 baseline) by 2050. Energy-efficiency standards in the Building Regulations are almost high enough to allow new buildings to help meet this target. But they will not deal with existing buildings, most of which will still be in use in 2050 and are likely to comprise 70% of the total stock.

The consensus is that retrofit is the answer. Sunand Prasad, senior partner of Penoyre & Prasad and author of *Retrofit for Purpose*, quantified what this means in the context of the overall target: 'We're going to have to retrofit 3.5m non-domestic buildings and 26m residential buildings just for energy

efficiency over the next few decades.' The potential work opportunity for architects looks colossal, but is it?

Strictly speaking, retrofit is specifically about actions to reduce buildings' energy and carbon footprints. This is readily seen as a technical exercise where the kind of added value that architects bring, such as better spaces, improved layouts, or urban impact, is welcome but merely coincidental.

The market tends to be split down domestic and non-domestic lines, mirroring the totally different building typologies and scales and thus unequal share of total emissions – domestic buildings create twice as many. The domestic retrofit market is incentivised through, for example, the Energy Company Obligation and the floundering Green Deal. The Green Deal was also conceived for non-domestic buildings, but never took off. Instead, non-domestic incentives are limited mostly to large energy users, for example through the CRC Energy Efficiency Scheme.

At the moment, architects' participation in housing retrofit is patchy. Although in favour, John Swinney, business development director for energy and public services at Carillion, explains, 'There aren't enough bigger housing projects. At no point has anyone said to me that we need to get architects involved.' To those operating in the non-domestic market, though, architects are more active. Here, clients who retain an interest in their buildings are looking for concomitant added design value to make the numbers stack up. Talking specifically about retrofitting office buildings, James Pellatt, head of projects at Great Portland Estates, spells it out: 'Well designed assets either lease quickly in a down market and we minimize our void periods, or command more rent in an up market.'

The onus for architectural input must be on the user because they're already using or



IN NUMBERS

80%

targetted cut in greenhouse gas emissions by 2050

70%

existing buildings as percentage of total stock

3.5m

non-domestic buildings in need of retrofitting

26m

residential buildings

living in the building. Indeed, the Technology Strategy Board's recent Retrofit for the Future programme – a goldmine of publicly accessible technical data – revealed that performance in use falls short of design intent because of people's foibles. To be viable for clients who retain an interest in their buildings, the retrofit must not only accommodate human behaviour but actively improve people's experience of the building. To emphasise the point, Benjamin Lesser, development manager at Derwent London, thinks successful retrofit design arises from 'the fearless synthesis of the sociological with the technical and aesthetic'. He believes strongly in post-occupancy evaluations wherever possible to learn lessons, and encourages

Successful retrofit arises from the 'fearless synthesis of the sociological with the technical and aesthetic'

Benjamin Lesser, Derwent London

'Well designed assets either lease quickly in a down market or command more rent in an up market'

James Pellatt, Great Portland Estates

architects to do them. Gavin Summerson, BRE's BREEAM refurbishment manager, agrees. Although there's rarely a fee for them, he thinks it is possible to justify post-occupancy evaluations, or 'good customer care' as he puts it, on the grounds that they make you stand out from the crowd.

Retrofit is a messy business. By its very nature there are more unknowns than in newbuilds, and clients are wary of such risks. This situation is made worse by the way a job might be divided up to different consultants without any overarching unity of vision. Nicholas Doyle, director of housing sector energy consultant Adecoe, says that the various specialists clash and, without anyone to translate for them, clients don't know who is right or wrong. In his opinion, this is where architects can really help: 'The trick here is for architects to be engaged, solve problems, and bring the team along without creating more problems for the client.'

This function goes further in the non-domestic sector. Derwent's Lesser looks to architects to orchestrate structure, fabric, energy and design to create beautiful architecture. 'There are no real boundaries between energy and carbon and enjoyment of space. It doesn't stop at architect and begin again at services or structural engineers.'



Indeed, the BRE has identified the need for the 'retrofit co-ordinator', a role that Summerson thinks architects are well placed to take it on. Architects' strength, he says, is thinking of things the client has not, including occupant comfort, business benefit and 'taking a holistic view of the design process'. Pellatt agrees, calling on architects to lead throughout the process: 'We want architects to co-ordinate the team because they have the overall vision. Listen, adapt, respond, and then add creativity.'

Despite the potential, viability remains a major barrier. Clients dislike the lengthy payback periods of energy-saving interventions, are unconvinced by performance in use, and are suspicious of the value it adds, especially for single buildings. Even where there are economies of scale, the benefits are far from cut and dried, especially where there is no regulatory pressure to retrofit. Prasad acknowledges the problem but hopes architects can help by understanding how building performance translates into real returns for the client. 'If architects can synthesize not only carbon and energy but also money numbers, argue for and deliver them, and take custody of what happens when a building starts to be used, then they will be providing just the skill that is needed.' ●

'We're going to have to retrofit 3.5m non-domestic and 26m residential buildings just for energy efficiency'

Sunand Prasad, Penoyre & Prasad

TOP TIPS FOR SUCCESSFUL RETROFIT

1. **Lead** and co-ordinate the design team, maintaining the design vision and anticipating common risks to alleviate the burden on clients.
2. **Learn** how design improves building performance from post-occupancy evaluations.
3. **Synthesize** knowledge about carbon, energy and financial costs to prove the client's business case.
4. **Listen** to clients' needs and respond creatively.
5. **Focus** on the user experience of the building.

RIBA CLIENT ENGAGEMENT PROGRAMME

The RIBA's Client Liaison Group is running a series of round-table discussions to listen to and understand external perceptions of the architectural profession and the value architects bring to the project team, and ultimately to identify the tools needed to promote architectural services in these sectors successfully. The feedback from interviews with public sector clients is included here; and 60 second clips of the one-to-one interviews are available on architecture.com.

Where people
live

Note to MPs: We want policies

Party conferences deliver a damp squib

Anna Scott-Marshall

With seven months to the general election, the political party conferences should have been a frenzy of policy announcements, inspiring party activists to get knocking on doors and an excitement as to who would be in senior government positions. After the groundswell of public involvement in the Scottish referendum there was hope that politics could involve and excite people in a way it has failed to do for decades. Instead the party conferences were a damp squib.

It is understandable in a way – no party is feeling confident. The Conservatives have UKIP biting at their heels and causing a few defections, although perhaps not as many as UKIP was hoping for. Conservative debates around Europe and a new British Bill of Rights raged on. Public polls show Labour as a popular party with an extremely unpopular leader, prompting whispers as to what to do about Ed even while the Labour parliamentary team stands resolutely behind him. Liberal Democrats, polling behind UKIP and the Greens in some areas, are busy counting how many MPs they are likely to lose at the next election. There was gossip at the Lib Dem conference as to who the next leader might be, with Tim Farron looking strongest. Although the Liberal Democrats look the most likely to lose seats at the next election, they bizarrely seemed the most relaxed.

So what does that all mean for architecture? Housing was the main issue discussed

at the conferences with Labour and Liberal Democrats committing to delivering 200,000 and 300,000 homes per year respectively. Conservatives committed to homes for first-time buyers built on brown-field land. All three explored ideas on how to deliver more but with little comment on how that would be achieved at a local level. The good thing is that politicians of all sides are now careful to point out that they need to be of the right quality. Discussions at fringe debates focused on whether we should prioritise brownfield over greenfield, whether Help to Buy had worked and garden cities. Liberal Democrats made the clearest commitment with a plan to improve the train line between Oxford and Cambridge and allow towns on that route to become garden cities if they wished. Potentially very good for a particular part of the country – perhaps a region that has a few target Liberal Democrat seats?

Issues that resonate most in private meetings with MPs and advisors – often through the bleary eyes of the late night conference bar – concern housing, integrating health and thinking about ageing in a more strategic way with a focus on improvements in the built environment. In a time where parties are not able to make big money announcements to out-do each other, small incremental changes are favoured and even more so things that may save money in the long-run.

Following discussions around greater devolution for all home nations and in particular English cities, RIBA debates focused on how cities might form part of the solution. Labour holds the lion's share of power in local authorities in cities and finds this idea most attractive, with Manchester developing the first cross-city strategic plan. Liberal Democrats see local leadership and greater democracy as key and are keen that a broader approach to flooding, sustainabil-



All three parties explored ideas on how to deliver more on housing but with little comment on how it would be achieved at a local level

ity and communities is considered alongside housing numbers. Conservatives seem the least interested in cities, having largely rural constituencies. What is clear is that for the parties to deliver on commitments such as housing numbers there does need to be a more strategic lead from local authorities – and in particular cities. That makes being at party conferences with the leaders of those cities so much more important now.

Debates held by the RIBA with the Farrell review and Design Council on architecture – specifically at Labour and Conservative conferences – discussed the idea of an architecture policy for England, the lack of joined up government on architectural issues and the lack of support and resources for the delivery of design services such as design review across the country (below). Helen Goodman, shadow architecture minister for Labour, declared her support for architecture competitions and an international festival for architecture, although she felt it should be outside London. Ed Vaizey, minister for architecture, called on the industry to collaborate to make some of the recommendations of the Farrell review happen. Neither offered much of any substance as to a cross-government approach on architecture nor to further support the promotion of architecture.

And finally RIBA did speak at a fringe event at the Green Party conference on the green belt and shaping future housing and planning policy for the Green Party. In spite of having an MP in parliament, the Greens seem not to be making traction. UKIP may well be one to add to the list for future. ●

Anna Scott-Marshall RIBA head of external affairs

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Where people
live

Are smart cities really that smart?

We know that cities are a mess, but they can't – and shouldn't be – tidied up by smart cities and data systems

Moeen Khawaja

The term 'smart cities' has come to dominate how the cities of the future are envisioned and described by policy makers, urban planners and technology suppliers. They see the cities of the future as global and strategic, able to operate a seamless platform of infrastructure and services built on a substrate of pervasive technology that can sense and control the environment. The pursuit of automation in decision-making is feeding the fetish for city data acquired in real time to manage all aspects of urban living, including energy, waste, transport, education, law and order and more recently citizenship and governance.

These are vague notions of a data rich future, pursued in the hope of having a meta-system of systems that is 'intelligent' enough to predict events before they happen and able to respond faster and more accurately to anticipated needs. This technology centric view of future cities is very compelling to the large technology companies that have been the prime instigators of this vision. The underlying logic of computational decision-making at city level is based on a rationalistic assumption that data is impar-



Below Exploring physical versus virtual reality in 'Assemblance', Umbrellium was commissioned earlier this year by the Barbican as part of the 'Digital Revolution' exhibition.

tial and it gives us facts, which leads to truth, and then wisdom, understanding and control. If data actually is impartial, then decisions based on it should be superior in every context. It is the absolutism of data that is so attractive to decision makers, because it absolves them of any moral responsibility. Sanitised data eliminates room for doubt and argument. Data being binary eradicates ethical dilemmas and obviates the need for agency, accountability and creativity.

Applying this approach to cities assumes that everything in the city is discoverable and quantifiable. Only if we had enough sensors, we could get all the data we need to solve all city problems. Cities in fact are a 'mess' as defined by organisational theorist and management scientist Russell Ackoff – a complex system of systems where each problem interacts with others and there are no clear solutions. In an attempt to optimise one part of the system, it is possible to destroy another. In a complete contrast to the 'smart city' vision which relegates the citizen to a consumer of services designed and provided by the city, a messy city resident would exercise agency on deciding what to measure, why and how. Such localised messy data collection and analysis will lead to innovation that the urban planner cannot anticipate. Different measurement approaches will produce different interpretations of issues at hand resulting in a wide variety of explanations and strategies for affecting outcomes. Such heterogeneity is a necessary ingredient for a sustainable model of the future cities to stop them becoming totally sanitised and highly institutionalised auto-determined spaces that have no room for individual self-determination. People must have the freedom to exercise agency in making the things in which they live and to shape them according to their own tastes. It is this that elevates them from a consumer to a citizen. ●

Moeen Khawaja is a partner at Umbrellium

The RIBA Journal is running its Digital Thinking, Smart Building conference at London's Business Design Centre on 4 November. For more go to thenbs.com/nbs-live

Procurement
& contracts

Signing up

Two new contracts from the RIBA should give practitioners better targetted and more flexible agreements

Dale Sinclair

Two new RIBA building contracts aimed at small scale projects have been launched, with one version for all types of non-commercial work, such as to a client's home, including renovations, extensions, maintenance and new buildings. The other covers small scale commercial building projects. Following research among RIBA members, the institute identified the need for improvement within the available contracts and developed these new forms to address the gap in provision.

These contracts have not been developed to compete with alternatives – as a founder member the RIBA continues to support JCT – but in acknowledgement that in many instances architects, and their clients, were identifying that existing forms were unsuitable for the scale and complexity of domestic or small scale commercial projects or did not address typical core issues (for example, in the new contracts the client/architect may propose a specialist subcontractor or supplier with a fairer allocation of risk). Importantly, the contracts have won endorsement from the HomeOwners Alliance, which campaigns for the rights of homeowners.

The first, strategic, shift is towards easier to use – and re-use – digital contracts. In the long term, practitioners will be able to have their own digital 'space' to store contracts. It will contain their digitally signed contracts, for easy downloading in the event of a dispute, and originals for easier editing and re-use. Digital versions of contracts have more intuitive interfaces for adding core project information and accessing guidance notes, providing the knowledge necessary for the correct information to be inserted.

The second strategic reason is the shift towards a holistic and seamless set of contracts for appointment documentation (professional services contracts), and building contracts that ensure consistency and reduce the risk of conflicting contract clauses. An example would be ensuring that design responsibility is framed in professional services contracts in the same manner as the contractor design portion (CDP) in the building contract.

In the longer term, the way architects are working is changing, with architects typically undertaking different roles on projects. On larger projects the architect commonly acts as architect and lead designer whereas on smaller projects they may also undertake contract administrator, health and safety adviser and cost consultant roles. The group has identified that in many instances the architect will appoint and employ the other members of the design team. It has also recommended that where the client is appointing each design team member, the project lead/lead designer should be aware of, and sign off, the schedule of services and design responsibilities/deliverables of the other design team members. These all point towards a suite of digital contracts for both appointment documents (professional services contracts) and building contracts that can be reused or adapted.

These two RIBA building contracts are one step along the way. They are relevant and focused around the needs of those undertaking smaller projects: moving towards a more intelligent, digital and flexible suite that is easier to use yet reduces risk. ●

David Sinclair is RIBA vice president of practice and profession and director of technical practice at AECOM

The first, strategic, shift is towards easier to use – and re-use – digital contracts... long term, practitioners will be able to have their own digital 'space' to store them

KEY CHANGES

- Allow effective collaboration between the client/employer and contractor
- Flexible payment options
- Flexibility to propose suppliers and subcontractors
- Provides a straightforward method for dealing with changes to the project within specified timescales
- Option for completion in stages
- Comprehensive insurance provisions
- Terms compliant with the Unfair Terms in Consumer Contracts Regulations for consumer clients
- Fair and equitable terms for all parties
- Facilitates good management of the project from start to completion
- Provides an effective way of managing payments to the contractor



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Being Safe

Safety in our hands

The new CDM regulations
bode well for health and
safety on our sites

Peter Caplehorn

Architects and health and safety have not always been an easy mix. We now have on the horizon a new version of the CDM regulations; a chance perhaps for logic, clarity and a new sense of purpose.

It is clear that in previous decades designers felt disconnected from health and safety issues. But it is also clear that this has improved immeasurably, in the last five years there has hardly been an architect in practice that is not aware of their responsibilities. Yet I still witness bickering, especially from non-designers, who consider that the efforts of architects and designers fall short.

The industry has made great progress in the last 20 years and continues to do so. Health and safety has benefited as a result. Our goal should be no deaths, no injuries, and, with the increasing focus on health, no long-term construction related illness.

We will not achieve this by internecine debate or by insisting that my health and safety is better than yours. Let's try to work more together, to be proportionate in our responses and above all to understand the oth-

er person's perspective and work with it, not insist that it's wrong. 'Focus on the outcome not the outputs' is a mantra as applicable to health and safety as to the rest of the industry.

The new CDM regulations give us the opportunity to change for the better, as the main changes show.

Move closer to the EU directive

There has been friction with Brussels over the UK's interpretation. This revision seeks to resolve that. This is not a bad move – several issues with the current regulation stem from the overly complex provisions amplified by a wordy Approved Code of Practice.

Removal of the CDM-C role

These regulations generated the planning supervisor and then the construction design and management co-ordinator. The role of the CDM-C has taken on its own persona: a lot of good work has been done but the overall judgment has been negative. In short it is seen by most as adding very little. Along the way we seem to have forgotten that this was to have been a role not a person. Like all consultants, in future they will need to pitch for their work based on the full range of commercial pressures. They will be appointed on skill, expertise, and a fee bid not named in regulations. As with other consultants the strong and talented will survive, those not up to the job will not. There is a need for the construction health and safety professional adviser, but one appointed on need, merit and demand. The HSE was very clear in the consultation in its criticism of the wasteful distracting practices that have grown alongside CDM.

Addition of the principal designer role

The concept of balancing the regulatory provisions with the principal designer, undertaking a similar pre-construction role to that of the principal contractor in construction, is a good one. If you want a sensible set of information responding to the all the needs of the project especially health and safety, ask the person in charge of the design to arrange it. This is not something for architects or designers to shy away from; quite the reverse, it is support for the lead designer role.

The industry must now react to this proposal, preferably with clear determination to improve on before. It certainly should result in less bureaucracy and clear identification of the important issues. Design is complex,

IN NUMBERS

53

deaths a year from accidents
(averaged from 2007/08 to
2011/12)

Source: HSE

31,000

new cases of occupational
disease/ill health
(three year average)

Source: HSE/Labour Force
Survey

Two thirds

or more of fatalities now occur
on small sites – where
fewer than 15 people work – the
reverse of the historical picture

Source: HSE

The HSE was very clear
in the consultation in its
criticism of the wasteful
distracting practices that
have grown alongside CDM

The HSE has said it wants to realign the co-ordination function. This should appeal to most architects

though this is not always understood by those not directly involved. There has been a tendency to criticise too early or mask issues with all-too-easy point scoring.

The principal designer role can also apply to an individual or organisation that is in control of the pre-construction phase. This gives opportunity and flexibility to others, it is not an automatic ticket for the architect.

Removal of competency requirements

Competence checking arising out of the Approved Code of Practice appendix 4 provision has generated endless paperwork. Administrators' tendency to build a complete industry sector around interpretation of what is seen to be the law is too common. This is a serious attempt to reverse this trend and rely on previous mechanisms. For architects and other members of professional institutions, professional competence derives from their qualifications, their institutions' rules and continued professional development. If we have to use schemes, they must follow the guidance as PAS 91. The HSE insists that a 'competence card' for occasional site visits is disproportionate.

Removal of the workplace regulations

Workplace regulations were included at the last revision. Again this has achieved little in the areas of planning and design, except to generate more paperwork and drain resources. A detailed analysis shows that most

of the workplace regulations relating to issues normally undertaken by architects are already covered by the building regulations.

Reduction and removal of mixed messages

Use of the term co-ordination in respect of CDM has always caused concern with architects and designers. For as long as architects have existed the term has been at the heart of the profession, and it means a great deal to those of us who have spent a lifetime in it. No matter how this is explained it still seems to cause confusion. In the development of the principal designer role the HSE has said it wants to realign the co-ordination function. This should appeal to most architects.

Simplified thresholds

Removal of the notification threshold to align with the directive of 30 working days and more than 20 workers or 500 person days.

Clear client definition

That the client is the person at the core of the regulations is made clearer than ever in this proposal. Ensuring that the client is in control is essential.

Focus on small sites

The statistics are clear: in recent years more accidents and issues have happened on small sites than elsewhere. Perhaps this is due to fewer resources and less expertise. Guidance is being produced to put the focus on these sites and everyone connected with them.

The current draft

The current draft of the regulations included with the consultations has some detail that clearly would not work in practice. It is understood the HSE has taken comments on board.

Conclusion

The proposals are in line with the telegraphed objectives that have been known for some time – in fact nearly two years. They seek to correct some of the poorer parts of the current regulations while arresting industry behaviours that contribute nothing.

Perhaps we can actually look forward to the day when having no health and safety issues is the rule not the exception. ●

Peter Caplehorn is chair of the regulations and standards group at the RIBA and policy director and deputy chief executive at the Construction Products Association

ROAD TO CDM

1992 European Directive 92/57/EEC on minimum safety and health standards for temporary or mobile construction sites

1994 CDM introduced

April 2007 CDM 2007 into force, supported by an extensive Approved Code of Practice, which had originally been written as guidance

October 2010 Common Sense Common Safety published

April 2013 Löfstedt Review published

March 2014 HSE CDM consultation published

April 2015 Revised regulations due to come into force

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Ask the experts

Some expert witnesses turn out not to be so – don't bite off more than you can chew

Stacy Sinclair

In practically all construction cases, expert evidence will be required to help the judge understand technical facts and provide opinion on matters about which he could not form a decision unaided. Essentially, the role of the expert witness is to help the court understand complex technical issues and to act independently when doing so.

For high value or complex claims, each party generally appoints its own independent expert, each of which prepares an expert report that must comply with the Civil Procedure Rules. Though appointed by their respective party, the experts' primary duty is to help the court. This duty overrides any obligation the experts may have (or may think they have) to those instructing him.

For those acting as architectural experts, take note that the Civil Justice Council has recently announced new guidance for the instruction of experts. This will replace the 2005 'Protocol for the Instruction of Experts to give Evidence in Civil Claims'. 'Guidance for the instruction of experts in civil claims 2014' is expected to come into force this autumn and is already available in anticipation.

Experts have made the headlines over the past 18 months, criticised for being biased, lacking relevant experience (due to working more as experts in court than in their original profession), being argumentative and un-

realistic, and advancing arguments based on theory rather than the agreed facts.

The recent case of *Hirtenstein v Hill Dickinson* is case in point. Here, Mr Hirtenstein purchased a yacht from Mr Candy for US\$5.5m without a survey or sea trial. Approximately one hour after the purchase was complete (and 12 miles out at sea), one of the engines failed. An insurance claim followed, as did a claim by Mr Hirtenstein against his solicitors for professional negligence in not obtaining a personal guarantee from Mr Candy in respect of the yacht's condition.

During the trial, Mr Hirtenstein's engineering expert, Mr Smith, who gave his opinion on the cause of the engine's failure and cost of repairs, endured much judicial criticism. The judge, Mr Justice Leggatt, said the expert had been 'careless' in the way he approached his task as he could not explain why certain items had been included in the claim – other than to say they were necessary as they had been purchased. Nor could he explain why an appendix (of which he had no knowledge) had been attached to his report itemising around US\$735,000 of expenditure. As to this, the judge said 'there is no explanation which exonerates Mr Smith of incompetence'.

Accordingly, the judge did not attach any credence to the figures the engineering expert put forward and did not consider him 'a fit person to act as an expert witness'.

Similarly, in the case of *Weatherford Global Products v Hydropath Holdings* in the Technology & Construction Court, Mr Justice Akenhead criticised the defendant's experts for their lack of experience as experts (both in terms of their professional background as well as their involvement in litigation) and demeanour in the witness box. The judge was clearly not impressed when one of the experts had a change of opinion 'in the shower this morning'. The judge considered that the reason for the change was not clear and seriously undermined his reliability.

In order for expert evidence to be effective, witnesses must be believable and their expert accurate and independent. Those acting as architectural experts (or considering a future appointment) are advised to review the aforementioned cases and should keep in mind Mr Justice Leggatt's closing words in *Hirtenstein*: 'Experts' opinions, if they are to be accorded any weight, need to be supported by a transparent process of reasoning'. ●

Stacy Sinclair is an associate at Fenwick Elliot

The judge was clearly not impressed when one of the experts had a change of opinion 'in the shower this morning'

PROFESSIONAL NEGLIGENCE

How do you know if your actions are 'negligent'? The legal answer can be straightforward, yet unfortunately may not be so easy to identify in practice – which is why expert evidence is almost always required in professional negligence claims.

Negligence is a failure to exercise reasonable skill and care, either in breach of a contractual term or a duty of care in tort. The three elements to the tort of negligence are: a duty of care, breach of that duty, and damage as a result of the breach.

The standard of conduct required of a professional is that of an ordinary skilled person exercising and professing to have that skill. The position may be different if that professional undertakes to have a higher level of skill than others in that profession. For example, if you claim to be 'the best in the business' you are expected to perform to the highest standards, not just what would normally be expected of a professionally competent architect. If your conduct falls short of the requisite standard, or that which would ordinarily be considered reasonable or acceptable, you could find yourself liable for professional negligence.

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External
management

Dark arts mistress

Imperio! Maria Smith gets her wand out



Maria Smith

Now you have mastered the basic spells in Parts One and Two of this textbook, you are ready to embark on Wizarchitry Part Three.

You should already have filled in one year's worth of Practical Enchantment Development Records evidencing your competence in basic Wizarchitry spells including: Segmentium Crossectiss, the section cutting spell; Effingo-fingo-fingo-fingo, the cut and paste spell; Versus Linearium, the lining things up spell; and Getanova Egeteget, the re-drawing everything to a slightly different grid spell. If you have completed these forms and had them backdated to within three months via Finemanipulare, the Deadline Manipulator Potion, you may proceed.

The final section of this book contains Wizarchitecty's six most powerful spells.

Six: Quarea Pecunia: A close cousin of Quarea Inarea – the area schedule optimiser – this is a value invocation that optimises cost plans. It uses the same excelsior component so the row and column movement with which you will be familiar is employed in casting, but here a subtle kicking motion jiggles the expensive particles into more efficient formations. This spell is included in Part Three due to the experience required to recognise when it should be cast, for it will only work between one day and 10 minutes before value

engineering is proposed. Too early in the process, and the spell will irrevocably damage the design, too late and it is useless.

Five: Miscendo Misego: This spell forces the diffusion of two intractable egos that are refusing to accord satisfactorily. It is especially effective in design team meetings and often required between colleagues. The key to this spell is the judgment made before its casting; as to which ego is ultimately the stronger, yet more fragile. If this is misjudged, the spell will accentuate rather than ameliorate the situation. The spell is cast with a long stroking movement from the weaker ego toward the stronger, which divides the weaker ego into punchy particles and coats them in a calming self-satisfaction, so allowing them to distribute peacefully within the stronger ego and guaranteeing a stable solution.

Four: Inducere Somnilocus: This incantation induces pleasant dreams of a finished building. It is most often used on clients but can also be employed to great effect on planners, colleagues in assets, or neighbours with which one is suffering Party Wall or Rights of Light disputes. It is not unheard of to curse competition judges, although the level of detailed work that goes into preparing a dream-ready design can make it prohibitively onerous at concept stage. The building should be modelled in three dimensions and dunked for 343 minutes in a wistfully whisked concoction of rendered mammoth fat. A globule of the solution pipetted onto a compliment slip is couriered to the intended. The dream will normally occur that night, but can be delayed if the recipient is inordinately pig headed.

Three: Progement Manaject: The last three spells are the most powerful in the Wizarchitect's arsenal. Relatively new and required for more contemporary practice, this enchantment is essentially a reverse project management spell that allows the Wizarchitect to manage the project manager. The incantation appears deceptively easy to pronounce but is applied not by speaking, rather by surreptitious inclusion in progress reports and risk registers. For best results, deploy repeatedly at arbitrary milestones.

Two: Simutatio: A most traditional spell, used since earliest man put some big rocks on end, this creates the illusion of concessionary change. Its casting is enacted through the concurrent turning of any two limbs respectively clockwise and anticlockwise – this dislodges stubborn preconceived associations –

The spell is cast with a long stroking movement from the weaker ego toward the stronger, which divides the weaker ego into punchy particles and coats them in a calming self-satisfaction

and then quickly presenting the design with fervor and self-effacement. Appropriate applications are strictly limited to situations where a client or colleague or maintenance officer request a design change that does absolutely nothing to address their concerns and is demanded purely as a power move.

One: Ideamittent Ideabilis: This is the paramount enchantment. There is nothing so formidable yet so elegant as this concept inception spell. Its supremacy lies in its startling simplicity of purpose: to make someone think it was their idea. This ability to induce in a person the notion that an idea of external origin is their own will open every possibility to you. Many fail to master this spell not for its complexity in delivery – one simply mutters the incantation under one's breath – but due to the perceived undesirable consequence of others taking credit for your genius.

These spells should illustrate how advanced a practitioner's mind must be to properly administer the tools of Wizarchitry. Distasteful manipulation and false humility are often required, and this textbook asserts that a Wizarchitect unable to stomach these darker arts will be vulnerable to having such potencies used against them. Examination will be a viva voce held during a thunder storm at the top of an unfinished building that has yet to have its lighting conductor installed. ●

Maria Smith is a director at Studio Weave

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Crisp lines, generous bright spaces and high quality natural materials define the £18m Imperial Tobacco HQ in Bristol, designed by architect Atkins, Walters & Webster (AWW) to reflect the corporate standing of the international FTSE top 25 company.

The 100,000 m² office is set over four floors, each linking to a generous front atrium with curved white balconies. An executive floor with boardroom and bar opens to a terrace overlooking a large courtyard.

Sustainability is at the heart of the scheme, which includes an energy centre with biomass boiler, over 500m² of photovoltaic panels and efficient LED lighting.

The building's highly orthogonal facades are a mixture of glazing, unitised curtain walling and horizontal bands of zinc cladding. The layout is designed to maximise natural daylight for interior lighting of offices, while minimising solar heat gain.

Zinc cladding, supplied as a flat Proteus HR, Honeycomb Metal Rainscreen, matched the project's corporate feel and the local context.

AWW project architect Andrew Boardman told Roof Lines: 'The zinc was appropriate to the local area, which has light industrial buildings and car showrooms. The site was home to Imperial Tobacco's original cigar factory and the zinc seemed to reflect that –

in a more refined, contemporary way.'

AWW had considered using white rendered blockwork walls, but changed tack after seeing the effects of weathering, including staining, on other white rendered buildings. Conversely, the zinc, supplied by SIG, would initially weather, then remain static in appearance for many years.

Two types of metal were supplied: roughly 1,050m² of mid-grey coloured NedZink NOVA for the facades, and 700m² of a darker grey for walls around the staircores. Both have a pre-weathered, natural matt finish.

'Zinc is a naturally occurring element with a minimum 60 years life expectancy and zero maintenance. A patina forms on the surface to protect the material, which naturally reheals itself,' said Simon Walker at SIG.

AWW was novated to main contractor BAM Construct under the design and build contract. It was responsible for all design intent drawings, and for approving detailed drawings by the cladding subcontractor.

Zinc cladding features predominantly on the southern elevation, surrounding strip ribbon windows with projecting brise soleil designed to reduce the solar gain inside the offices. Zinc covers the sheer walls of the mainly-glazed northern elevation.

The rainscreen is suspended from a

bespoke Kingspan composite insulated panel system, attached to metal stud work on the concrete flat slab frame. The composite panel has a u-value of 0.15 and creates an airtight, watertight envelope before the zinc is applied.

NedZink NOVA panels are arranged in horizontal 400mm-wide strips with a shadow gap to match the dimensions of the ribbon windows. Wider panels were used on the staircores; projecting metal fins also create shadows and articulate the volumes.

'To fit the scheme's crisp design aesthetic the face of the zinc had to be very flat,' said Boardman. 'Zinc planks tend to expand and contract, creating an undulating surface, but we achieved a flat surface by applying the zinc to a 32mm-thick honeycomb sandwich.'

The zinc contributed to the building's BREEAM Excellent rating; it recycles well, scores highly in the BRE *Green Guide to Specification*, and uses 25% less energy in manufacture than aluminium.

AWW was so pleased with the end result, it decided to specify a similar zinc cladding on Imperial Tobacco phase two, an office refurbishment just completed on the adjacent site. 'The zinc ties the two buildings together very nicely, so they look like part of the same complex, even though they are very different in overall appearance,' concluded Boardman.

Going undercover

It's not just the type of metal, but what goes underneath that matters. Simon Walker, SIG category manager for hard metals, on the dos and don'ts of specifying roofing and cladding

Decide on your aesthetic vision before choosing the metal

Rather than starting off with a specific material in mind to achieve a particular visual effect, specifiers should first consider broader issues such as life expectancy, buildability, patina, maintenance, and how much the client is prepared to pay to achieve the desired aesthetic. Only then should you seek advice on the right metals, finishes and sorts of installations that can meet the brief.

Know your metal options

Generally, hard metals can offer a distinctive appearance and a long lifespan because as well as having a self protective patina they are low weight and 100% recyclable. Each commonly used roofing and cladding metal

however has its particular pros and cons. Zinc, for example, is particularly suitable for marine environments, while stainless steel in the appropriate grade lasts longer. Copper, also excellent in marine environments, looks great but is considerably more expensive. (See box).

As well as metal choice, the look of a roof or cladding depends on how it is laid and the type of joint used. If an architect wants something crisp and neat they might be drawn to the flat panels of an engineered facade for example, rather than the aesthetic offered by traditional methods (see box).

Get the build-up right

Whether you have a cold or a warm roof structure, the right build-up is essential.

One of the biggest issues with zinc roofing is underside corrosion, which can occur if the wrong substrate or build-up has been installed, in particular the vapour control layer. Traditionally, a cold roof build-up with ventilated cavity below the substrate and ventilated eaves and ridge would allow moisture on the underside to be naturally vented out. This is the most common form of roof construction and has kept metal roofs condensation-free for generations. But architects increasingly want to see crisper roof detailing with thinner roof build-ups and so are using warm roof constructions with non-ventilated eaves and ridges. If this isn't built properly it can lead to condensation. When used with a warm roof structure, zinc must have the right protective back coat for



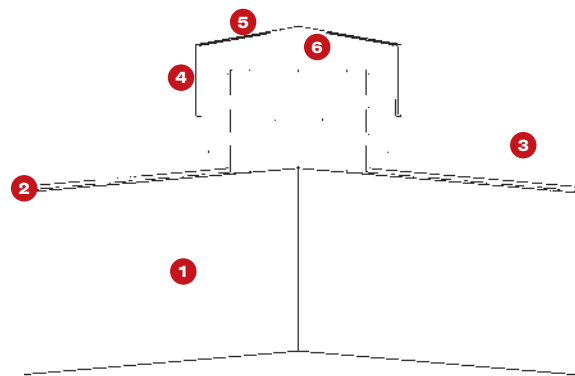
An example of natural zinc sheet roofing brings a crisp finish to roof detailing.

Drawing annotations

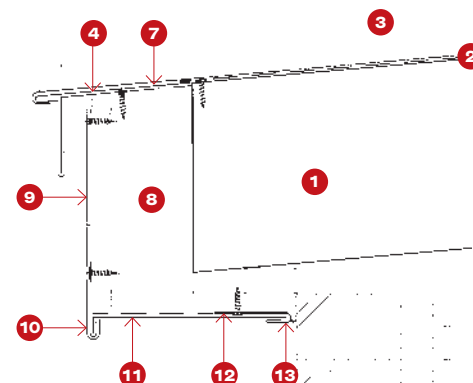
- | | |
|-----------------------------|-----------------------------|
| 1 Metal composite panel | 10 Drip flashing |
| 2 Breather membrane | 11 Soffit panels |
| 3 Standing seam roof panels | 12 Abutment flashing |
| 4 Zinc eaves plate | 13 Silicon seal |
| 5 Ridge capping | 14 Gutter clip |
| 6 Chamfered ridge timber | 15 Continuous valley timber |
| 7 Weathering plate | 16 Box gutter profile |
| 8 Continuous eaves timber | 17 Mono ridge flashing |
| 9 Fascia panels | |



Typical ridge section detail on composite panel



Typical unventilated eave section detail on composite panel



moisture control to protect against corrosion, as well as a breather membrane. Without them, it can corrode in as little as six months.

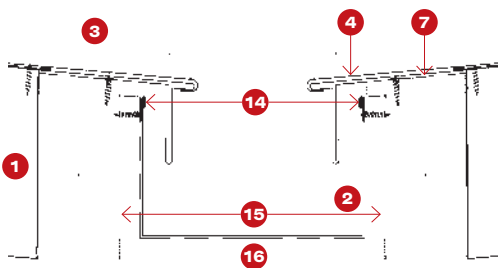
Beware of breather membrane confusion

Confusion about the positioning and role of vapour control layer and breather membranes can cause major problems – I have even seen two breather membranes used instead of one of each. But architects can be supported by specialist knowledge: SIG provides an NBS specification, bespoke details and 3D build-up of the installation for the contractor so that everyone knows what is needed.

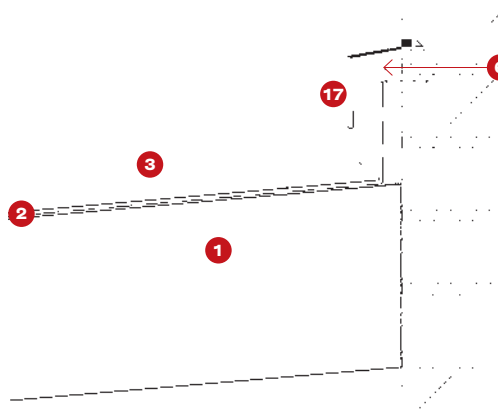
Choose your installer with care

This is a massive issue. There is no British Standard for the installation of zinc roofing, so it is crucial to use the right contractor. We advise architects to specify that their metal roof be installed by an accredited contractor such as a member of our DATAC scheme or a member of the Federation of Traditional Metal Roofing Contractors (FTMRC). SIG offers a UK-issued guarantee of up to 25 years for roofs installed by a DATAC zinc and copper accredited contractor, which is peace of mind for client and design team alike.

Typical unventilated box valley gutter detail



Typical unventilated ridge abutment section detail



The roof aesthetic can also be expressed on the building face, creating a monolithic homogeneity.

CHOOSE YOUR METAL

ZINC: Excellent BREEAM credentials. Zero maintenance with no painting required. Can last up to 60 years if installed correctly with the right build-up. Particularly suitable for marine environments. Generally available with a natural, pre-patinated or pigmented finish, or with roller applied textures.

STAINLESS STEEL: Has a longer life expectancy of up to 80 years at a comparable cost to zinc. It is extremely corrosion resistant and requires no maintenance. Various surface treatments are available although some finishes can ripple slightly, which can be a plus or a negative depending on the look desired.

COPPER: Longest lasting with high aesthetic appeal. More expensive up front than other roofing and cladding metals, but its corrosion resistance and lack of maintenance requirement make it more effective than first appears. Widely available in natural, pre-oxidised or pre-weathered green and in bronze, gold and green tones.

FACADES AND JOINTS

STANDING SEAM: Either traditional or with a longitudinal joint. This gives a 90° instead of 180° fold to give a straighter seam with more uniform joint width.

FLAT LOCK OR SHINGLE SYSTEM: Hidden fixing makes this suitable for flat and curved facades. Can accommodate different geometric shapes. Usually used with a vented facade construction.

TRANSVERSAL JOINT: Flat lock joint formed by making a 180° fold along each end of the trays to form a 5mm 'jump'. Not as noticeable as the standing seam

PANEL SYSTEM: Suitable for flat or gently curved facades with hidden, usually direct, fixing and either transversal or longitudinal joint.

ENGINEERED FACADE: Large format, individually demountable panels suitable for all wall constructions.

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8 steps to the perfect roof

1



The Right Products

2



Design Expertise

3



Meet the Regulations

4



Confidence in Supply

5



Experienced Contractors

6



Monitored Installation

7



Full Guarantees

8



Planned Maintenance

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New take on the old

Pre-weathered zinc played its part in creating contemporary homes that pick up their surroundings' traditional arts and crafts vernacular



ADAM COUPE (2)

Brightspace Architects' design for two four-bed luxury houses, located on a steeply sloping site on a main road into Hertford, manages to strike a tricky balance: the client, developer Infiniti Homes, required contemporary properties with high spec materials and clean lines, but there was also a need to acknowledge the local Hertfordshire vernacular, populated by several large arts and crafts-style buildings with steeply-pitched roofs and large projecting chimneys.

Original planning approval, granted in 2011, was for five housebuilder-type homes on a large plot. But seeing a potential market for contemporary design, Infiniti called on the architect to enhance the design and double the internal area of each house as part of a 'reserved matters' application. The first two homes were built in 2013, and proceeds from their sale will fund construction of the remaining properties.

'We were able to achieve a contemporary look by designing large windows in vertical and horizontal arrangements, by building deep basements into the sloping ground, and by layering the facades with projecting brick boxes on the front elevations. The inclusion of pitched zinc roof profiles, set back from the facade and enclosing the upper storey lofts, would mirror other houses in the area with a suburban, traditional feel,' said David Evans,

Above

The twin houses are modern in aesthetic but have a crafted feel and suburban scale.

Right

Pre-weathered zinc cladding not only gave a traditional feel, but minimised the thickness of the wall build-up.



project architect at Brightspace.

For the roofs a pre-weathered zinc with a rolled standing seam was specified, which would also wrap around the walls of the loft and a projecting box that covered an access stair well and a lift. The material helped deliver the clean lines required by Infiniti and also lent itself to a traditional roof profile, its mid-grey colour blending in with the natural tones of the surrounding homes' tile roofs and green gardens.

'We wanted a natural lead colour with a muted finish that wasn't highly reflective, and didn't want to go down the route of a plastic-coated steel that would create an industrial feel, totally inappropriate for housing,' said Evans. 'The standing seam, arranged in thin horizontal bands across the roof and walls, is a delicate junction that allowed us to create some nice corner and edge details, unlike a profiled sheet that creates a 'wrinkly tin' effect.'

The installed solution and its detailing provided excellent robustness and weathering and removed the need for cladding rails, minimising the overall thickness of the construction build up. 'It ultimately appeased the local authority planners and satisfied the exacting demands of the client – who has a quantity surveyor background as was very hands on in terms of materials selection and cost,' concluded Evans.

IT'S ALL IN THE DETAIL

This hidden inline gutter detail for a standing seam zinc roof is installed on an eco home in the village of Ashwell in Hertfordshire. The private owner client had stringent environmental performance requirements and targeted an ultra low u-value of 0.11 W/KW/m²K for the roof build up. NedZink NOVA, a pre-weathered zinc, was chosen for its sustainability, aesthetics, and longevity. Local specialist contractor RFL metal roofing installed the traditional hand-formed 25mm standing seam. 'Zinc is soft and easy to manipulate and can be adapted to suit the specific application,' said Simon Walker, category manager for SIG Zinc & Copper. 'It is the most malleable of the hard "noble" metals that are resistant to corrosion and oxidation in moist air, which include copper and stainless steel.' Sheet zinc is alloyed with titanium to produce the thin material used for roofing. It is highly durable, and according to International Zinc Association figures the recycling rate for roofing can be as high as 95%.



TAKE THE RISK OUT OF ROOF DESIGN

8 STEPS TO THE PERFECT ROOF

1



The Right Products

Don't rely on a single manufacturer who will recommend their product for any application. Get independent support from an experienced supplier: make an informed choice.

5



Experienced Contractors

An experienced, accredited contractor knows the products and will integrate the roof system with your whole building so it performs well and looks great too.

2



Design Expertise

Don't risk uncoordinated design input from several manufacturers. Have your roof designed, specified and co-ordinated from the deck up by a single PI insured designer.

6



Monitored Installation

In many projects, buildability issues will crop up on site. Ensure your supplier will monitor the installation and provide quality field support for your contractors.

3



Meet the Regulations

Ensure you meet all the Statutory Requirements even if they change. Use an independent, expert design service and get full, free technical support until completion.

7



Full Guarantees

Don't fall between suppliers who may dispute responsibility. Have the roof designed, installed and guaranteed from the deck up by a single entity you can rely upon.

4



Confidence in Supply

A reliable supply chain is essential for profitability and performance. Choose a proven supplier who can cut waste and cost, supplying only what you need.

8



Planned Maintenance

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3: Culture

Special pleading

Specialise by all means, but from a strong general base



Hugh Pearman Editor

The argument over whether architects should be generalists or specialists is only going to get noisier. On the one hand, a good architect should be able to design any kind of building because the skills of architecture – among them the intelligent interrogation of the brief – are universal. On the other, there are aspects of certain buildings that require specialist knowledge: hospitals, say, or nuclear power stations, or historic conservation.

To some extent it has always been thus: architects tend to get more work of the kind they have already done, and thus develop a specialism on the job. Or get typecast. But even our leading theatre architects, say, are so routinely yoked with specialist theatre consultants that you start to wonder what all those years of first-rate experience count for. Surely understanding the technical requirements of an auditorium, say, should be part of the job for any architect?

But this is the risk-averse world of procurement we are in. It's understandable, then, that there's quite a move now for the architectural education system to train architects in useful specialisms rather than

Why must it be this either/or? And why the client obsession with experience in either a given typology or scale of building?

turn out dreamers versed in little more than the creation of interesting-looking fantasy worlds. But why must it be this either/or? And why the client obsession with experience in either a given typology or scale of building?

As Royal Gold Medallists Sheila O'Donnell and John Tuomey point out, the type of buildings they have done – small to medium scale, with often very complex programmes – contain as much detailed work as buildings four or five times the size. Consider the rich complexity of their Saw Swee Hock LSE student centre, which is as much a multi-functional city within a building as, say, the Shard. O'Donnell + Tuomey work in the 1:50 scale manner they learned back in Stirling and Wilford's office: that an architect must be in command of every aspect of the building, know every railing on every half-landing, hold the whole design in their head. If you can do that, you should be able to move smoothly to large-scale projects. But as we know, it's always difficult to break through the scale barrier, especially on the present tick-box qualification system. Even if you have done a successful sizeable project, clients often want evidence of more: one is rarely enough.

Well, there's good news in the form of the new EU Procurement Directive, as reported in depth in these pages by Walter Menteth last month (RIBA J October 2014, page 39). It should make qualifying for public building projects easier and cheaper for the small practices that make up most of the RIBA membership. It should also help moving up the project scale, though this remains to be seen.

It always comes down to the same thing: good architects need good clients: people of independent spirit, imagination and the intelligence to see that a given, demonstrable, talent and set of architectural skills can be applied to almost any situation. In return, architects must listen and understand. Acquire your specialisms by all means, that's one way the profession will strengthen itself. But there's life in the notion of general practice yet. ●

Twenty eight residential towers were slotted between the courtyards. You can be out of bed and into a lecture within five minutes

Round here
p69

Theirs is architecture of form, texture and depth; architecture that, rather than being skin-deep, is from the bones

O'Donnell + Tuomey
p76

Literally Inspired.

Central Library, Liverpool.

Architects Austin Smith-Lord's £55 million Liverpool Central Library project opened in 2013 after a three year complete overhaul. The scheme, in a World Heritage Site, involved the restoration of grade I listed elements as well as the insertion of a new building behind a historic facade. The restoration and redevelopment was carried out by Shepherd Construction as part of the Inspire Partnership, a joint venture with International Public Partnerships.

Hardscape produced and supplied the Artscape 'Literary Carpet' outside the main entrance and inside the atrium area with Crystal Black, Kobra, Royal White granite paving, Artscape Crystal Black and Kobra granite walling, Woodkirk sandstone paving and Crystal Black granite textured benches around the entrance.



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World turned upside down

There are some things you just can't design for



Will Wiles

Last July, the cruise ship Costa Concordia arrived in Genoa for scrapping, ending a salvage operation that cost, according to the BBC, a startling £1.5bn. Twice the size of the Titanic, it had struck submerged rocks just off the Italian island of Giglio in January 2012 and turned over, killing 32 people. For two years it lay, not fully sunk, impaled on the fatal reef.

Look at the salvage operation in detail and it's easy to see how it cost so much. Though it was immovable from any useful point of view, the ship was in constant danger of unwanted motion – in particular, of sliding further down the crag it was caught on and disappearing irretrievably into the depths, along with the considerable scrap value of its steel, and at great risk to the many workers attending it. An immense underwater platform had to be constructed beneath the ship to support it. Giant caissons were strapped to the uppermost side of the ship, and it was slowly and gently righted onto the platform by cables pulling underwater, a procedure called parabuckling. When the ship was again upright, more caissons were attached to the very damaged side that had been underwater; the caissons on both sides were then filled with air, refloating the ship for towing to Genoa.

It was September 2013 when the Costa Concordia was finally pulled onto its keel, after more than 18 months on its side. During that time it was entered by Italian coast guards and naval divers. These divers sent back fascinating, eerie footage from inside

Some impossible, frightening detail comes into view: chairs climbing a wall, the handsets of a bank of phones fixed to a desk stretching out 'horizontally' into space at the end of their coiled cords

the stricken ship. Underwater, lit only by the torches they carried, surrounded by debris, the Costa Concordia's interiors are hard to make out. But the divers appear to have oriented themselves, or their cameras at least, according to the internal architecture rather than to gravity or the disposition of the world beyond. Thus the ship seems the right way up, until some impossible, frightening detail comes into view: chairs climbing a wall, the handsets of a bank of phones fixed to a desk stretching out 'horizontally' into space at the end of their coiled cords.

The slow action of ruin, subsidence and erosion, and the more rapid, tragic action of earthquakes and war, can create interior spaces that have tilted off the level and slope in sickening ways. But only disasters at sea turn the human world exactly on its side – or, in the most extreme and unlikely cases, upside down. This is the basis of the 1972 film *The Poseidon Adventure*, which launched the mid-70s boom in big-budget disaster movies. During a New Year's Eve party, the cruise liner Poseidon is struck by a freak wave and completely turns over. The *Poseidon Adventure* has its longeurs, but is better than many of the similar films that followed. Its central sequence, in which the wave strikes and the ship's glittering Grand Salon, filled with partygoers, is suddenly inverted, remains extremely powerful. There is no steady sinking, no sense of mounting disaster: in moments a scene of luxury and pleasure is cast into total chaos and catastrophe. Guests are left dangling from tables; the exits are, now, out of reach, at the ceiling.

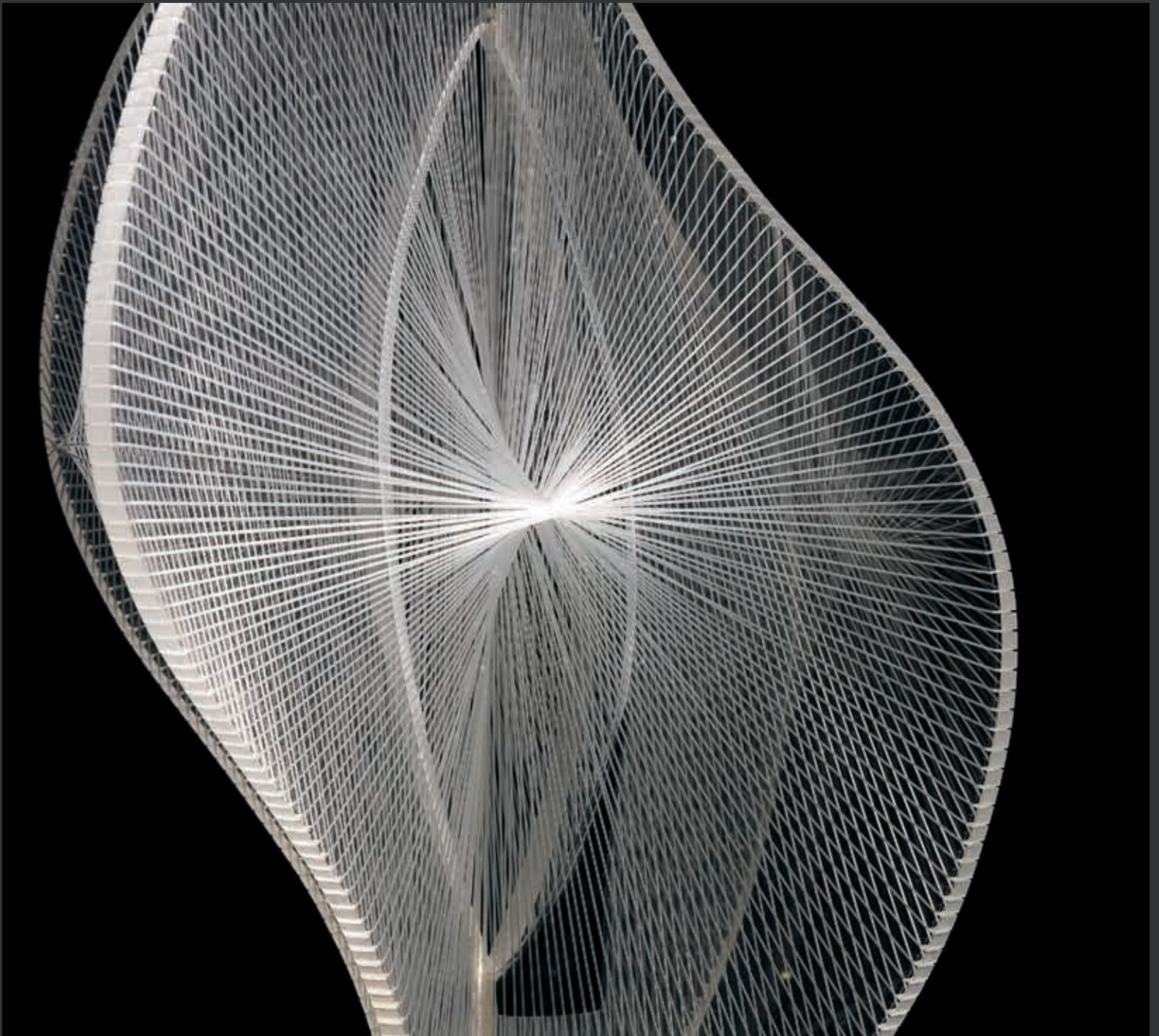
What *The Poseidon Adventure* exploits is in many ways an architectural horror: that within an environment perfectly crafted to our use and enjoyment, there lies another place inimical to us. Disasters such as the wreck of the Costa Concordia, and the capsizing of the Channel ferry Zeebrugge in 1987, reveal this terrifying possibility: a structure designed for us to move about with ease abruptly becomes an impassable world of shafts and cliff-faces. It is the stuff of nightmares, not much diminished by its rarity. And, from the designer's point of view, there is a further confounding horror: without covering every surface with handholds and footholds, like the inside of a zero-gravity space station, there is no design solution. ●

Will Wiles is a journalist and author. Read him here every other month

THIS PLACE IS A TIP

The Grand Salon set for *The Poseidon Adventure* wasn't built right-side-up and then flipped over. Sections were, however, built with hydraulics to be tilted, and designed to make conversion from one way up to the other easier – for instance some columns have identical bases and capitals. Sets that are fully inverted or rotated to play tricks with gravity include the hotel room Fred Astaire dances all over in *Royal Wedding* (1951), the Discovery's circular flight deck in *2001: A Space Odyssey* (1969) and the hotel corridor in *Inception* (2010).

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Lesser spotted heritage

One couple's love of Malta has led them to catalogue its unsung architectural heritage

Allan Mulcahy

Rapid development seems to be threatening the distinctiveness of the Malta that I and my wife Jane remember from many years visiting. So the 'Buildings of Malta' project that we've instigated aims to record the essence that makes the built environment there Maltese. Our interest in the country prompted this (unpaid) work and we have had discussions with Malta's planning authority to try and ensure that our efforts add to rather than duplicate their resources.

I was born in Malta: my mother was Maltese and my father was stationed in Malta during the war. I met Jane at university in the 1960s, and after raising our family she joined my small architectural practice in Nottingham's Lace Market, which dealt mainly with existing buildings and conservation work. The idea for this project developed from a

Our project sets out to identify the numerous lesser known buildings of interest together with the urban spaces formed by them



similar recording exercise carried out in the Nottingham Park Estate before I retired.

It seems to us that many of Malta's prominent historical and architectural features – including temples, fortifications, religious and military buildings etc – are well documented. Our open-ended project sets out to identify numerous lesser known and unrecorded buildings of interest together with the urban spaces formed by them, many of which sit in town and village centres. It involves walking the roads, streets, alleys and lanes taking photos and making brief notes. The record is planned as the basis for establishing a wide ranging inventory of noteworthy buildings, places and features, old and new, with the aim of adding to or, if necessary, correcting, information – in other words, creating an evolving information resource.

Being experimental, the process will be adjusted as the record develops. We started in 2010 with a pilot study in the Cottonera area, a maritime settlement of three small towns, which we plan to complete in 2015. By then our experiences and enhanced recording techniques should better prepare us for surveys elsewhere.

We completed work in Bormla, the first of the three habitable areas, in 2013 and are now studying Senglea. This will be followed by Vittoriosa to complete the Cottonera area. Each unlisted building, place or feature of architectural or townscape interest we note will be recorded and classified on a simple data sheet and can be added to later. Simple townscape appraisals will briefly portray the built character of the area as it is today. Even though the Cottonera is a distinct habitable unit encircled by its own fortifications, these appraisals will reveal the contrasting characteristics of each of the three settlements.

The data sheet is set out to be as simple and concise as possible, providing enough information to enable a preliminary assessment of the subject. Each one is given a unique reference number and each building, place or feature is 'classified' by a colour code to denote varying levels of significance.

We cannot predict how extensive our record will become – we shall do as much as we can and hope our contribution will support those interested parties already trying to establish means by which the unique character of Malta's built heritage can be recognised, preserved and enhanced. ●

buildingsofmalta.com

IN NUMBERS

1693

Messina earthquake and destruction of many pre-Baroque houses

446,000

population

313km²

area

\$20,852

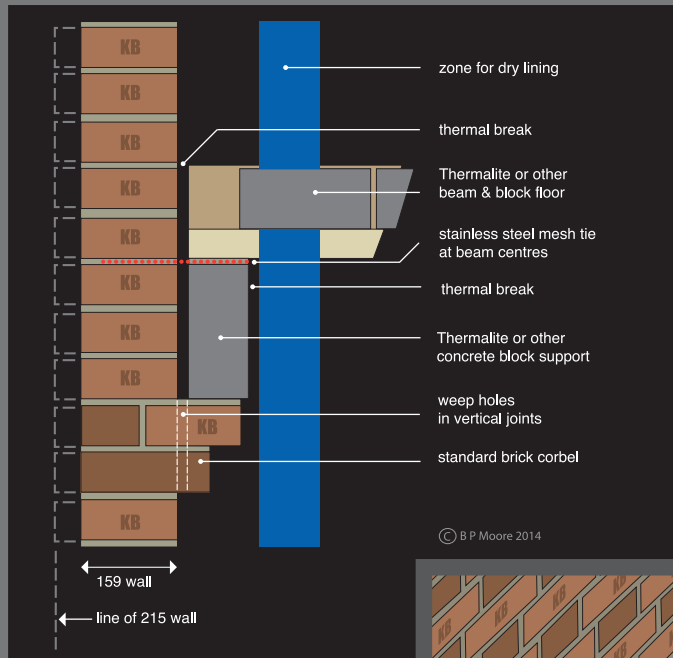
gdp per capita

Left Classifying by level of significance – and colour – gives a clear picture of what makes the essence of Maltese architecture.



perform miracles
without wall ties

Quicker build?
Yes
Thinner walls?
Yes
U values maintained?
Yes
Highly versatile?
Yes
Does 159=225?
Yes



*'Nowadays, you just couldn't design a building where the floor slab is supported by the masonry facade because of thermal bridging.' **

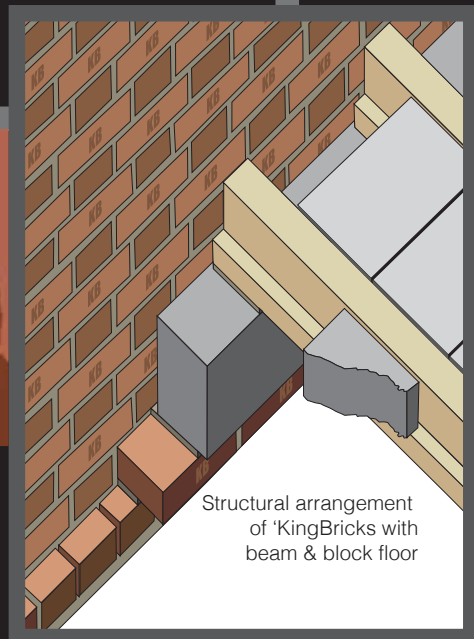
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* Engineers' opinion quoted in RIBA Journal

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The brutal truth

Fifty years on, brutalist style at the University of Essex is being celebrated

Jules Lubbock

'Something Fierce' is a 50th anniversary exhibition celebrating the architecture of the University of Essex. The title comes from Kenneth Capon of Architects' Co-Partnership: 'The English love making things shaggy and softening everything up. We decided to do something fierce to let them work within.' Capon's ferocity has been loved by some, loathed by many and blamed for years of student protest. Over years I have tried, with scant success till now, to promote my university's brutalist masterpiece.

In 2012 the vice chancellor demolished a fine vestibule to the library that we failed to get listed. But our new VC, Anthony Forster, is a fan of brutalism who initiated the rehabilitation of AC-P's Dunelm House when at Durham University. He gave me an tour of Dunelm and I reciprocated at Essex. He fulminated against the painting of shuttered concrete and enthused over the structural power of the cantilevered beams supporting the Library's upper storeys. And he asked me to curate 'Something Fierce', for whose venue he refurbished the Hexagon restaurant, overlaid with post-modern decoration in the 1980s and mothballed since 2000. His brief was to tell the story of Essex through its architecture.

My most surprising discovery was that Essex was intended not as a socialist seminary but as Britain's answer to MIT, the Massachusetts Institute of Technology. CP Snow's Two Cultures appeared in 1959 just as Essex County Council began planning a university. Sputnik was launched in 1957. There was deep anxiety about Britain being left behind the USA and the USSR. Essex was to be a campus of 20,000 recruits for the officer class of Snow's 'Scientific Revolution', with some social scientists, and a small arts faculty to humanise the geeks.

Capon and the founding VC, Albert Sloan, planned it in 1962-3. A campus for 20,000 must be big, but they wanted community. Hence the high street of five pedestrian squares forming the town centre. Teaching courtyards would be added behind the squares. 28 residential towers were slotted between the courtyards. You can be out of bed and into a lecture within five minutes.

There are no freestanding buildings for autonomous departments. These are distributed along corridors in a continuous zig-zag around the five squares. Thus everything and everybody are intimately interrelated.

To socialise students from different subjects, as on an Oxbridge staircase, there are bed-sits on each floor of the towers with a kitchen/common room. Around the squares are shops, restaurants and social facilities. The importance of the library as a place of self-education is emphasised by its location on the highest square overlooking a new lake.

The style is 1950s brutalism. Corbusier's La Tourette provides the randomised mullions of the squares – low-key urban background for buildings like the library based on Kenzo Tange's Kagawa Prefectural government mall. The towers evoke Kahn's Philadelphia Laboratories. The Hexagon and its lantern are shaped like quartz crystals, deriving from the 1920s version of Buckminster Fuller's Dymaxion House. Our exhibition was designed by David Hillman to showcase its restored interior. Although we lost the library vestibule we have, thanks to Forster, regained the Hexagon and respect for our 1960s architecture. ●

Jules Lubbock is emeritus professor of art history at the University of Essex

The Hexagon restaurant in the early days.



Essex was to be a campus of 20,000 recruits for the officer class of CP Snow's 'Scientific Revolution', with a small arts faculty to humanise the geeks

Something Fierce: University of Essex – Vision and Reality
The Hexagon, University of Essex, 7 October–13 December 2014, Tuesdays to Saturdays, 11am–5 pm

ON A DIFFERENT LEVEL

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There may be only one Stirling winner, but all six on the shortlist demonstrated the tangible benefits of good design



Stephen Hodder

The recent Stirling Prize shortlisted buildings were conceived in an economically challenging time, and yet demonstrate a remarkable investment in architecture. But what tangible outcomes have they delivered? An early examination of each is encouraging.

The Aquatics Centre, by Zaha Hadid Architects, has had more than 500,000 visitors since it opened in March this year – nearly double those anticipated; the Better Swim School has grown to 2,440; the overall pre-paid membership base is 1,778; and since the Olympics and Para Olympics the venue has hosted the World Diving Series, National Paralympic Day, the Invictus Games and BBC Sports Relief.

O'Donnell + Tuomey's Saw Swee Hock Building at the LSE has given a heart to a disparate campus which previously lacked any focus. It is generous to its immediate context. It brings together a lot of functions: students union, careers advice, gym, faith centre, cafés, bar and an event space, that were previously scattered. Seeing it packed with students during Freshers' Week showed how

What tangible outcomes have the shortlisted Stirling six delivered? An early examination of each is encouraging

this building engenders a sense of vibrancy.

The new City of Birmingham Library, by Mecanoo, has an open welcoming foyer with cafés and two levels of landscaped terraces which are fully publicly accessible, as well as all the usual library facilities; a truly communal building. In terms of use, the old library had 1.25m visitors a year; the new one 2.7m.

David Crow, dean of the new Manchester School of Art, says cross departmental working was previously something that happened on paper, by memos and the like. He now sees physical engagement every day as students move between the floors of their department rooms to talk and work together. FCBS's School of Art saw a 13% rise in applications (under and post graduate) from 2013/14-2014/15, against an average rise of 5% for the creative arts and design sector.

Visitor numbers for performances have increased by 20% in Haworth Tompkins' Everyman Theatre in Liverpool compared to the old building, without increased capacity. The new Youth Theatre space for young amateur actors, producers and technicians attracts an additional 250 users a week.

Finally, The Shard, by the Renzo Piano Building Workshop, is a true mixed-use community with a health clinic, restaurants, bars and viewing platforms all publicly accessible, plus offices, hotel and apartments. It also has hugely improved the public realm with better access to London Bridge mainline and underground stations. Since it opened in February 2013, the View from the Shard has been used by 1.5m visitors. It is already at capacity in terms of visitor numbers.

In 2011, at the initiative of my predecessor Ruth Reed, the RIBA published a piece of research entitled, *Good Design; it all adds up*. This sought to identify the value that thoughtful and responsive architecture brings to a quality of life, and that it brings more to a building than aesthetics and form. Moreover, it showed what performance aspects are important to clients, and that architecture can deliver real and tangible outcomes. We are seeking to add to the evidence base of the benefits of well-designed buildings, and this has begun with an evaluation of workplace design.

We can surely build on the profile of the Stirling Prize to raise the awareness of the value and impact of architecture in delivering better outcomes for our clients. ●

@hodderPRIBA

SANCTION NOTICES

On 22 January 2014 the RIBA Hearings Panel found Mr Murat Tabanlıoğlu of Istanbul was guilty of breaching Principle 1.3 and 3.1 of the RIBA Code of Conduct regarding integrity and relationships in that he made statements which were unfair or contrary to his professional knowledge, and that he failed to appropriately acknowledge the contribution of others. The panel decided that the sanction for this be suspension from membership for a period of three months.

On 5 August 2014 the RIBA Hearings Panel found Eric Erikson of London was guilty of breaching Principles 1 and 2 of the RIBA Code of Conduct regarding integrity and competence. The panel upheld the Arb decisions that he failed to correctly advise his client, failed to carry out work conscientiously, and acted with a lack of integrity. The panel decided that the sanction for this be suspension from membership for a period of 12 months.

On 5 August 2014 the RIBA Hearings Panel found that Mr Joshua Berry of London was in breach of Principle 2 (Competence) of the RIBA Code of Conduct in that he received a criminal conviction as a result of a failure to comply with listed building consent. The panel decided that the sanction for this be a public reprimand.





Character and community drive Proctor and Matthews' designs of homes and spaces – not only for the comfortably off

Words: Eleanor Young Portrait: David Vintiner

Better for everyone

Housing is a hard world. With planners under pressure to deliver units more than places, with speed and cost targets, awkward masterplans and contradictory regulations, it's hard to bring design to it. It's a wonder that any places that people would want to move to, let alone mortgage their future to, get built.

So it makes no sense that the very nice Stephen Proctor (left) and Andrew Matthews (right) have designed so many good places and homes, from large parts of Greenwich Millennium Village to Abode in Newhall, Harlow (both completed 2004), and the two projects that gave them a prominent position in the Housing Design Awards earlier this year: Abode Great Kneighton, a mixture of great court and back lanes just outside Cambridge, and Horsted Park on the edge of Chatham.

'As a profession we are becoming wallpaperers,' says Proctor regretfully. Skinning formulaic perimeter blocks gives him no pleasure. 'Whether they are apartments or terraces they don't allow for the wonderful spatial incidents of traditional towns.' If there is another way it is to use local and traditional forms, but in a modern way. 'We think about how people live today and how typology informs the masterplan,' adds Matthews.

This is clearest in Trumpington, south of Cambridge. The huge expansion is still un-

der way so hard to judge at the moment, but nearby Accordia is a reminder of the city's high ambitions. Abode Great Kneighton is a development of 450 houses for Countryside. The Proctor and Matthews reworked masterplan is based on an investigation of both the university city and its courts, and local fenland villages. They couldn't do away with the roundabout, but they have built high around, following the form and dimensions of Trinity College Great Court. There are flats with protective winter gardens and routes under and through blocks (more satisfying than a straight gap) to three-bed houses with great views but no gardens – an unexpected hit with downsizers. Along another side are two-storey family houses with flats running over two of them, and houses with living rooms set back by a terrace to keep any overlooking at least 20m away. The urban scale breaks down into lanes, with long houses allowing the space to tumble away to the green edge of the development, and little offsets lending serendipity.

Residents, interviewed for the Housing Design Awards, mentioned the pleasure of the small brick details – black headers sliced and reversed out – and others designed into these houses where staircases are light and bright, windows long and generous, rooms lead out naturally to terraces, ceiling heights are de-

cent (sometimes reaching the lofty pitched roof) and thresholds generous enough for key fumbling or a neighbourly chat. Fragments of green are ready to be planted, sheds are part of the streetscape. Proctor and Matthews deals with the nitty gritty too: meters and bins are carefully placed. The sense of care and spaciousness is there even in smaller homes. 'The debate around housing has gathered around space standards,' says Proctor. 'We would argue for volume rather than square meterage – a double height space is invariably taken out.' Matthews quotes the huge public majority that prefer period properties to new – a problem he diagnoses at all scales of new developments. 'The problem is they are devoid of character. There is a lack of care in execution or a narrative that anchors it in its place.'

'Developer housing is too often about net to gross ratio with no celebration of the communal,' Proctor believes. Proctor and Matthews is lucky to have worked on many of Countryside's housing schemes, since the early days of Greenwich Millennium Village, when they were brought in by chairman and Urban Task Force member Alan Cherry. Preparing to work with Swedish architect and master-planner Ralph Erskine, Proctor went to stay in his project at Byker Grove. 'Erskine knew how to work on a domestic scale,' he says. 'Still very few volume housebuilders want to make a place. There is a lot of tokenism: window dressing on standard house types.'

The practice can and does turn work down – helped in a way by the fact it is often assumed to be a bigger office than it is at un-

der 30 people. As well as housing people, it has had a healthy set of work housing animals. At ZSL London Zoo, it designed homes for gorillas and squirrel monkeys and the visitor experience around them. In Chester its Heart of Africa will house numerous species in a sunken biome – though still awaiting funding. This has led to work abroad like Ocean World India, and international competitions.

But it is in housing that it's left its strongest mark so far. The highly articulated envelopes of earlier schemes – government-driven prefabrication mixed with staggered balconies, projecting timber and colour panels, has boiled down to essentials. This mature form, informed by revisits and paired with masonry, still surprises you with different volumes and habitable spaces: the protective enclosed stairs of a Family Mosaic project in Colchester or sneakily grand conservatories sliding down the side of houses in Chatham. The expressiveness has, by and large, retreated to the building skin, where bricks are used to great delight. But it's back, guns blazing, on projects such as Lett Road in Stratford with its periscope astride a five storey tower.

They justify on social grounds even that rather mad scheme, with its flying cantilever, for giving roof space to the people who live there. But both Proctor and Matthews feel a social calling that is not answered with £1m Cambridge houses. So our second stop is in Colchester at the £4.5m Hargood Close: we are taken round by Julie Thompson, who runs these 35 flats for those in dire housing need. She is forthcoming with suggested improve-

ments for future schemes – no unseen corners for dealing drugs and stashing stolen bikes for a start – and blunt about tenants' needs. 'This glass is to stop people throwing themselves off,' she says pointing to one walkway. This is a place that takes hard knocks and you can tell – it misses the landscape softness that humanises other schemes but the spaces still lend themselves to sense of self-respect. And it's not just there: a strong social agenda can be seen in the work of ex-Proctor and Matthews associate Claire Bennie, who is putting quality and design back at the heart of the Peabody programme as the housing association's development director. The practice's influence also reaches wider through teaching over the years at Sheffield and Brighton.

Theirs has been a practical approach to academia with research applied directly, so at Horsted Park, Chatham, our last stop, the ideas went back to Kent farmsteads in a landscape, clusters of roofs with walls along their garden edges and landscape frontages to the houses which are illuminated by their conservatories. The communal is served in the layouts and the facilities to come which, though initially planned just for the elderly, can be extended to the whole scheme thanks to the design. At Ebbsfleet Station my tour of Proctor and Matthews' projects in the south east draws to a close, and I find myself wishing that developers of this huge tract of well connected but unremarkable land might knock at Proctor and Matthews' door – to give us neighbourhoods of character and distinction rather than housing estate sprawl. ●

Below Long houses, little lanes and typologies to fit how we live now: homes at Great Kneighton.



Below Housing those in direst need in Colchester.



TIM CROCKER (2)



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Architecture all the way through

Five-times Stirling-shortlisted Dubliners win the RIBA Gold Medal

Hugh Pearman

This will surely be hailed by the profession – and, one hopes, the public at large – as one of the most welcome Royal Gold Medal announcements of recent years. Sheila O'Donnell and John Tuomey are known, and teach, internationally and have taken part in several Venice Biennales but do not by any means fit into the 'starchitect' mould. Young by the lifetime-achievement standards of the medal, there they sit with their staff in their obsessively cluttered former schoolhouse studio in Dublin's Camden Row, just south of the centre, with its old-fashioned professional brass plate on the worn-round-the-edges tomato-red door. From there they produce some of the most innately satisfying, deeply thought and intriguingly crafted buildings of our times. From there too they cycle off to the architecture department at University College Dublin where they were taught and where they teach in turn.

They have famously been shortlisted five times for the Stirling Prize, first time in 1999 for their low-budget multi-denominational Ranelagh School, fifth time this year for their Saw Swee Hock Student Centre at the London School of Economics. In between came Cork's Glucksman Gallery (2005), the An Gaeláras Irish Language and Craft centre in Derry (2011), and the Lyric Theatre, Belfast (2012). But they were known earlier than that for their role in 'Group 91' the loose confederation of young Dublin architects who teamed up to present an alternative plan to save Dublin's Temple Bar district – then threatened with demolition. The group not only

O'Donnell + Tuomey produce some of the most innately satisfying, deeply thought and intriguingly crafted buildings of our times

succeeded in saving the district, but stayed together to implement its piece-by-piece renewal, through careful refurbishment and selective new-build, introducing pocket public spaces. Their Irish Film Centre there dates from this time, as does the renaissance of modern Irish architecture generally.

Both had previously worked in London, for James Stirling and Michael Wilford and for Colquhoun and Miller, and lately they have contributed two buildings of their own to the city – the ingenious refurbishment exercise of the Photographer's Gallery in Soho, and of course the Stirling-shortlisted LSE building. They have their own constantly-evolving aesthetic and it is remarkably varied, but romantics may if they wish find echoes of Stirling in some of their work, especially their latest, the LSE student centre. Theirs is architecture of form, texture and depth; architecture that, rather than being skin-deep, is from the bones.

'We believe in the social value and the poetic purpose of architecture,' said the pair on learning of their "unexpected honour". 'We're humbled to find ourselves in such a

John Tuomey and Sheila O'Donnell.



AMELIA STERN

company of heroes, architects whose work we have studied and from whose example we continue to learn. The gold medal encourages us to prevail in this most privileged and complicated career.'

The Royal Gold Medal citation is written by Joseph Rykwert (last year's Royal Gold Medallist) and Niall McLaughlin. Rykwert talks of the way their architecture emerges from dialogue. 'The conversation is first of all between the two of them, but it asserts itself equally in their work from the outset, so that the interpretation of their clients' needs becomes the dominant, the directing motif of the design, and remains characteristic of the much more complex recent buildings where – as in the very intricate LSE Centre – the visitor's path turns into a magnificent reading of the functional variations.'

McLaughlin, who regards them as the most important of the cohort of strong Irish practices that emerged towards the end of the 20th century says: 'As a student, I remember hearing their declared intention to forge a new Irish architectural identity... the combination of Sheila's quiet, studied rationalism and John's fluent, rhetorical constructivism quickly made its mark. The best individual projects come as quieter re-

Right One of the practice's many award-winning buildings, the Lewis Glucksman Gallery, Cork, shortlisted for the Stirling in 2005.

Below An Gaeláras Arts & Culture Centre, Derry, painted by Sheila O'Donnell.



flections on their noisier ideas.'

Stephen Hodder, RIBA President, adds: 'O'Donnell + Tuomey's work is always inventive – striking yet so well considered, particular to its place and brief, beautifully crafted – and ever developing. It is an absolute joy and inspiration to hear them describe their work, and always a delight to experience one of their buildings.'

As for me, I have been lucky enough to follow their career since the early days in Temple Bar. Their collegiate work there was cast-iron proof that architects can be a powerful force for change and for good. Everything they have done since, be it a private house or a public building, has been carried through with similar intensity, conviction, lyricism and – despite all the usual setbacks – good humour. They are the best companions for a natter over lunch or a Biennale Spritz. Sheila and John, only the third couple to receive the Royal Gold Medal after Charles and Ray Eames in 1979 and Michael and Patty Hopkins in 1994, are the embodiment of dedication to their art. They, like their buildings, are architecture all the way through. ●

'O'Donnell + Tuomey's work is always inventive – striking yet so well considered, particular to its place and brief, beautifully crafted – and ever developing'

Lord of the dance

This overture to Frank Gehry pirouettes and twirls but is ultimately inconclusive

Ruth Lang

There's something thrilling about walking around a model village, the primal megalomania of being master of the urban constructions in which we are usually so impotent. That's exactly the feeling created in the new Frank Gehry retrospective, which dusts off the office's store room of models for display in the Pompidou Centre this winter.

It is clear from the films exploring his working methods that this viewpoint is necessary for the conception of projects of such spatial and tectonic complexity. And so we're cast as Gulliver-like residents of Gehryville, a town whose residential district is stranded in a suburb of early chronology, in contrast to the iconic cacophony of his large scale later work. At its heart sits the Guggenheim Bilbao, fragmenting the presentation thematically and tectonically, symbolic of the paradigm shift in the profession with which it is credited. Beyond this point curatorial devices of function, location and chronology are disregarded in favour of a taxonomy of form; there's the collage zone, the fish zone, the blocks + blobs zone, the lava zone (although the curators have labelled them with more archly abstract terminology such as 'continuity/flow'). But this architecture-as-sculpture stance shifts all debate to form alone, and denies the excitement of a potential frisson between form vs context, exterior playfulness vs interior standardisation – such as at Vitra (Weil-am-Rhein 1987-9) – which are some of the most exciting aspects of Gehry's work. A few interior photos reveal a comical juxtaposition of the necessity and solidity of real life against Gehry's more playful forms, with air ducts peeking through the sculptural ceilings of Berger, Kahn, Shafton, Moss' LA Offices for example, or the filing cabinets

The shift is evident from the freneticism of boogie-woogie in his early projects, to ballroom's distinct juxtaposition of forms and the spaces held in between

awkwardly topped with domestically familiar pot plants against jauntily cut walls in Mid-Atlantic Toyota (Maryland, 1976-8).

Endearing in themselves, these images act as the only link to realised buildings in the exhibition. Framed yellow sketches reflect the indeterminacy of Gehry's work – gradually straightened out through development towards the requirements of materials and watertightness. Although he is a self-confessed process-orientated practitioner, there are few clues as to how this translates to construction, raising the question of resolution within both the architecture and the display itself, which can frustratingly fail to reveal the end goal. Gehry's methods refuse to be pinned down, embodying the old adage of 'dancing about architecture' and what the curators call a 'performative architecture of mobility'. Formally, the shift is evident from the freneticism of boogie-woogie in his early projects, to ballroom's distinct juxtaposition of forms and the spaces held in between – personified in the famous comparison with Fred and Ginger in ING/Nationale-Nederlanden Building (Prague, 1992-6) – and on to tango as his creations become holistic, blending separate forms into one.

It becomes clear that for Gehry the idea of finishing is an anathema. The indeterminacy displayed in sliding houses down hills of Malibu is equally evident in the Maryland warehouses for Toyota and the Hotel Marques de Riscal, with his deliberate lack of delineation between wall and roof, inside and out. This lack of resolution perpetuates the exhibition itself, which leaves many unanswered questions. But this reflects his approach – maybe Gehry just doesn't want the dance to end. ●

Ruth Lang is a tutor at Canterbury School of Architecture

Frank Gehry
Centre Pompidou,
Paris
To 26 January 2015

Right Model village: Gehry designed his retrospective exhibition at the Pompidou as a city in miniature.





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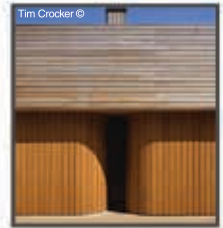
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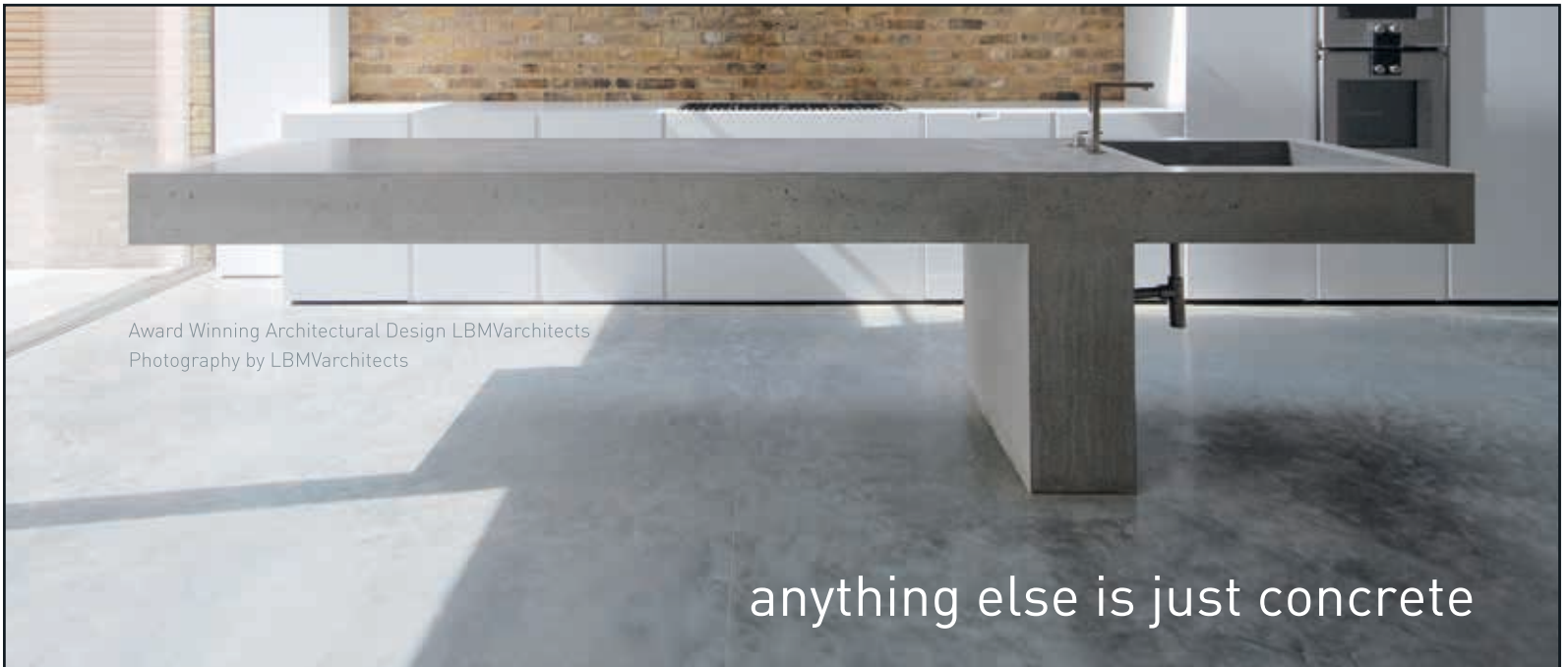
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Professor Kenneth Murta 1929 – 2014

Long-serving professor at the Sheffield School, known for his involvement in professional affairs, international development and encouraging students' links with practice



Ken Murta was only the fifth person to hold the title of professor at the School of Architecture at the University of Sheffield, and under his tenure it steadily grew into the international school it is today. But his contribution to architectural education was on a far wider scale than his achievements at Sheffield.

Ken studied at King's College, Durham, practising initially in the North East and for a period in Nigeria. In 1962 he came to the Sheffield School, where he was to spend the rest of his career. By 1974 he had become a professor.

But Ken simultaneously played much wider roles in the profession and overseas. Indeed, a defining characteristic of his career was an abiding interest in the complex and sometimes problematic relationship between practice and education. Before joining Sheffield he had been part of the team that came fourth in the Sydney Opera House competition. He continued to practise throughout his career, often with his long-standing friend and colleague Jim Hall. In the mid sixties Ken began to work with John Needham, designing and building a local church. His interest in ecclesiastical architecture was lifelong and, as well as completing many commissions, he became a leading light in the Ecclesiological Society.

Ken also played major roles in professional affairs, initially leading the Yorkshire region of the RIBA. For many years he chaired the board of architectural education at Arb's predecessor, ARCUK, and in the early 1970s helped form and then chaired SCHOSA, a standing committee of the heads of the British schools of architecture, to debate and promote the interests of the schools.

At Sheffield, Ken drove a new route through the degree courses that reduced the students' time at university from five to four years, substituting an extra year in practice. This involved close co-operation between the host practice and the school, a cause that remained close to Ken's heart. He also enthusiastically supported the Sheffield innovation of a 'design teaching practice' originated by his predecessor as head, George Grenfell-Baines.

It has not been unusual for heads of schools of architecture to struggle with their host universities, but this was never the case for Ken at Sheffield. I observed him over many years successfully steering causes both within the university and beyond. He achieved his objectives not by being a narrow 'committee man' but rather through a calm and careful consideration of the personal and social impact of alternative courses of action on all stakeholders through a natural sensitivity to and interest in people's feelings and motivations. We would often sit in his office long into the evening on eventful days reviewing the situation. Ken was generous to all with his time and support.

One of the many occasions in Ken's company that still raises a smile sums him up perfectly. Ken examined extensively and was sensitive to the needs of Sheffield's external examiners. After one controversial, difficult and long day we drove the examiners out to an illustrious establishment on the Chatsworth estate. The enthusiasm for Nouvelle Cuisine was in full swing and Ken sensed our guests were still hungry. He beckoned our waiter and asked if we could share a bowl of chips. A look of disdain fluttered across the waiter's face and some minutes later he returned to whisper politely that 'chef regrets the fryer is not on tonight'. But Ken insisted we could wait. Eventually a solemn procession of the chef and two remaining waiters crossed the now empty restaurant bearing a huge silver tureen full of steaming chips. Ken ladled them onto our guests' plates and they were gratefully devoured.

Conversation with Ken often ranged from family matters through sport to world events. He had been a fine footballer in his earlier years and told me more than once how he had kept Brian Clough quiet for 90 minutes. He continued to play cricket for many years and his exploits both on and off the field generated many amusing anecdotes. He was of course a dedicated family man and his wife Joan, who sadly left us before Ken, was forthcoming in her opinions of things 'Kenny' had done or said. On such occasions he would chuckle quietly.

Ken was not ostentatious or dramatic and never pretentious, but worked with a quiet and effective humanity. There will be many whose life he has touched who will remember him with affection and gratitude. He leaves four children and nine grandchildren. ●

Bryan Lawson

In Memoriam

DONALD STOCKLEY
ELECTED 1951, PERSHORE,
WORCESTERSHIRE

PETER WILLIAM FORREST
ELECTED 1951, WELLS-NEXT-THE-
SEA, NORFOLK

VALENTINE HARRY HAZELWOOD
ELECTED 1953, WORTHING, WEST
SUSSEX

DENNIS GEORGE CHARLES MYNER
ELECTED 1953, ST IVES, CORNWALL

RONALD MONTAGUE RAYNER
ELECTED 1953, MINEHEAD,
SOMERSET

FREDERICK GEORGE SWAN
ELECTED 1953, TONBRIDGE, KENT

REGINALD HENRY DOLAN
ELECTED 1953, ABERGAVENNY,
GWENT

MICHAEL JOHN FLEETWOOD
ELECTED 1954, POLEGATE, EAST
SUSSEX

DESMOND MICHAEL UNDERHILL
ELECTED 1955, CANADA

DENNIS THEODORE BURNSIDE
ELECTED 1956, POULTON-LE-FYLDE,
LANCASHIRE

PAMELA BURNIP MANN
ELECTED 1956, PENARTH, SOUTH
GLAMORGAN

TERENCE ROBERT YOUNG
ELECTED 1960, GLASGOW

TERENCE RUSHTON
ELECTED 1961, LINCOLN

LAURENCE ROSSLYN GERRARD
ELECTED 1962, HENLEY-ON-
THAMES, OXFORDSHIRE

MICHAEL EDWARD CHARLES LUCK
ELECTED 1962, BIRCHINGTON, KENT

BRUCE RICHARD RAMSEY
ELECTED 1965, LONDON

ALAN JOHN ARTHUR
ELECTED 1973, SHEPTON MALLET,
SOMERSET

CHARLES RALPH BALL
ELECTED 1975, FARNHAM, SURREY

GEOFFREY M SCOTT
ELECTED 1974, CAMBRIDGE

**COLIN TRAYTEN RATCLIFFE-
SPRINGALL**
ELECTED 1974, KESWICK, CUMBRIA

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

Exchange

Bowled a Yorker

I visited the exhibition at The Building Centre of the finalists in The Wolfson Prize and my views are as follows:-

1. The winner Urbed uses an imaginary city to illustrate its proposal but it didn't take long to work out that this was York.
2. Irrespective of any green belt the idea of doubling the size of York would destroy some of the country's best agricultural land.
3. Urbed's manifesto avoids building on flood plains. I cannot think of a worse example as an illustration than York which features regularly in flooding. Surrounding land is low lying and almost flat.
4. Most of the proposed new development is remote from existing rail lines so the proposed rapid transit systems would involve some expensive infrastructure.
5. The manifesto also claims that such new development would help to regenerate the city centre. This is not necessary in the case of York which is overflowing with shoppers and tourists. How much more footfall can it cope with?

These ideas may be viable elsewhere but to use York as an example was extremely unfortunate and raises the question of competent decision making by one of the best known design companies.

John T Pounder, London SE5

Hand finished

Ann Levitt's letter in the August RIBAJ instantly brought back my years at the Birmingham School of Architecture in the early 1960's. Our training had a very practical component as Ann has indicted which put us all in good stead for the practical aspects of architecture. Yes, I remember constructing a small retail building in Sutton Coldfield, and a week of sketching in Norwich – and the Crits!

What I have noticed over my many years in practice is apparent neglect in the



RSHP's Leadenhall building (RIBAJ October 2014) is not the tallest building in London as stated. That is of course the Shard.

practical side of construction and, dare one say it, of actually drawing by hand rather than by computer. So good to see all the amazing hand drawn entries for the Eye Line competition.

I enjoyed my time in Birmingham and am still practising.

Jonathan Yardley, Canada

Male mail

I almost thoroughly enjoyed Maria Smith's 'Reality Check' (RIBAJ October 2014): as ever thought-provoking and insightful. But the paragraph Man Architect of the Year caused me to stumble. If the acid test of gender stereotype is to reverse the pronouns and see how you feel, I would detest such misogynist claptrap. I am a man, and proud to be so, yet I do not recognise myself in Smith's sweeping and derogatory statements. Her customary needle-sharp wit has given way to lazy prejudice and cheap laughs. She can do much better.

Hugh Conway Morris, Oxford

Act on injustice

It is of course a source of pride that Nobel Laureate Archbishop Desmond Tutu cited the RIBA Council Resolution calling on the UIA to suspend the Israel Association of Architects as an example to be followed by all the national delegations attending the recent International Union Of Architects (UIA) Congress/Assembly in Durban. It is a source of shame that the UIA executive exploited an arcane rule requiring a 75% support for a topic to be raised from the floor to prevent it being debated despite the urgency apparent from events in Gaza. This followed a dubious ruse to avoid the matter being put on the formal agenda because 140 instead of 150 days' notice had been given.

While innocent Palestinians were being slaughtered in Gaza this august body was trying to bury its head in the sand.

It raises the question of why the RIBA should continue its affiliation with the UIA. What benefit does the RIBA get from belonging to a body that appears to have lost its moral and ethical way? Our Institute took a principled stand and should give immediate notice that if the UIA will not uphold the moral standards we subscribe to, the RIBA will distance itself from that organisation.

Bob Giles, Eastbourne

Tweetback

On Oliver Wainwright's column on schools procurement:

Magnus Wills @Magnieboy
not sure that centralised control was the main flaw of BSF procurement. After all, if you have 80 schools to build...

Chris Puttick @putt1ck
@RIBAJ @ollywainwright & it wasn't the coalition that insisted on a centralised approach to procurement

On Ordinary Architecture's celebration of caravan design:

Robert Sakula @robertsakula
'We should love them (caravans)' you say, but do you?

Charles Holland @ordinarycharles
Not feeling the love? @RIBAJ @ordinaryelly



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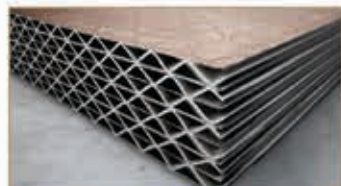


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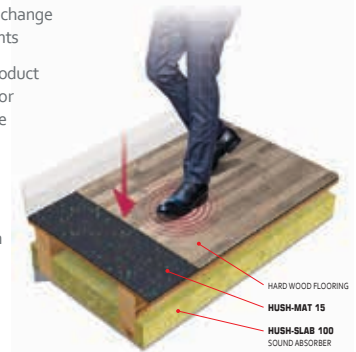
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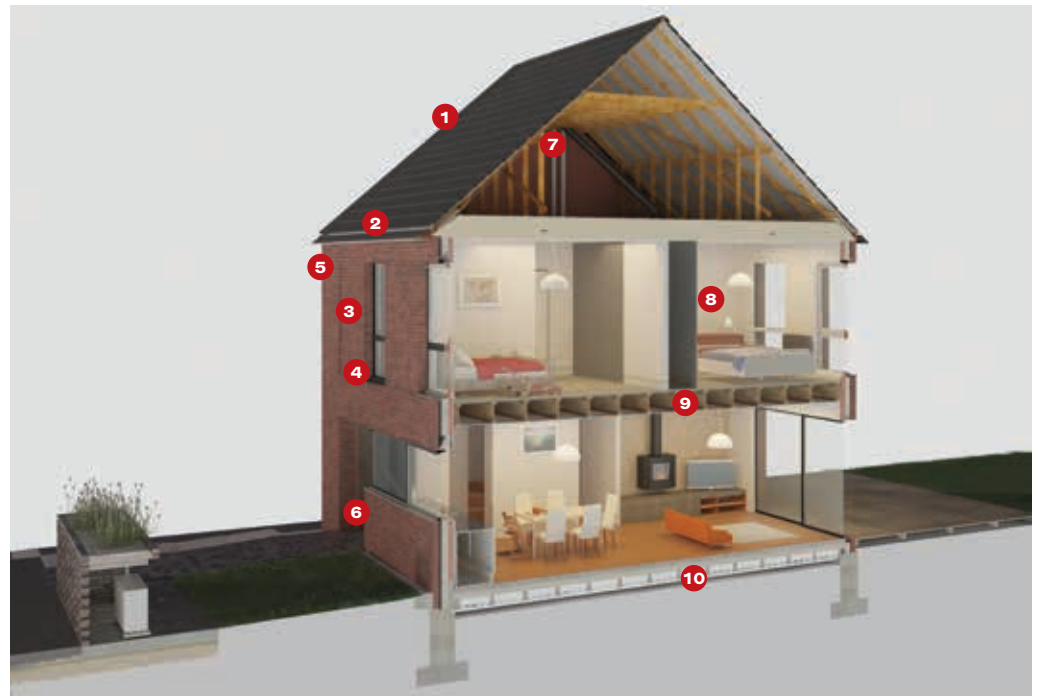
Above The e4 concept takes a fabric-first approach using traditional materials to deliver Code for Sustainable Homes Level 4 standard.

demanding Building Regulations by almost 50% over a 120-year period. The Brick House homes deliver a greater than 50% improvement on Part L 2010 regulations with a fabric energy efficiency of 46kWh/m²/yr.

But e4 materials also offer familiarity and security. 'Masonry is the construction method of choice in the UK,' says Surin. 'So keeping a traditional element of house-building in e4 gives customers confidence – they know it's something that will last.'

A typical three-bedroom Brick House concept design is for a 96m² two-storey house with generous storage space and a 40degree roof pitch to facilitate conversion of the 20m² loft space if required. But there is potential for many aesthetic and size variations to cater for shared ownership, households with and without children, and older residents (through the addition of a lift).

Wienerberger expects the concept to appeal to housing associations and the self-build market, and hopes it will ultimately be approved by new housing standards.



The idea is that architects explore the e4 approach in tandem with their own designs. 'If interpreted in the right way, there's potential to create some very exciting homes,' says Arup senior consultant Kristian Steele. 'I think there's a lot of scope for e4 since the housing market isn't well served right now with cost-effective, spacious and sustainable options ... e4 is designed to meet Code for Sustainable Homes Level 4 and has the right credentials to reach Level 5 easily.'

Developer Tag had initially planned a timber frame construction for its development, but switched to the e4 concept because of concerns over controlling humidity and temperature.

'The real difference between this and other options for the builder lies in durability, and real and perceived quality,' says Tag's chairman Hash Kapadia. 'The houses are designed to last more than 150 years and should have low maintenance costs over their extended lifespan.'

E4 principles were applied to the Hanslope project with the help of Wienerberger's BIM Lab, which issued construction drawings, 3D Revit modelling, and bills of product quantities for the developer within four weeks.

The Tag development is expected to complete next year. Tag managing director Jayant Kapadia likes the concept so much he is planning to use it in his own home. Further e4 developments are in the pipeline with housing associations and other developers.

Section key:

- 1 Ceramic/metal coping
- 2 Enhanced gutter profile
- 3 65mm brick
- 4 Window reveals
- 5 English bond on gable
- 6 Porotherm return
- 7 40 degree roof pitch with potential for loft conversion
- 8 Porotherm internal clay block wall with clay loam plaster
- 9 I-joint first floor
- 10 Beam and block ground floor with EPS infill system

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- **Energy** – a home that meets the latest energy standards without renewables by using a fabric-first strategy; e4 achieves 22 of the 31 available credits for Code for Sustainable Homes Level 4
- **Environment** – a home that minimises its environmental impact, is responsibly sourced and meets Part L 2016
- **Emotion** – a practical and flexible home that people will want to live in because it can offer a higher quality of living

THE COMPLETE ENVELOPE

BUILDING WITH WIENERBERGER

Top to bottom

e4 sustainable housing
uses clay building fabric
throughout
90

Square affair

The distinctive paving
fronting Mecanoo's Library
of Birmingham
92

The hole story

Turning bricks on their
side to assist ventilation
at Gee Street
94

High church

Recreating the
original tiles for
a Victorian dome
96



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Our construction products cater for the whole building envelope, and we believe firmly in a fabric-first approach to sustainable construction, using traditional materials combined with the advantages of BIM through our BIM Lab portal.

In 2014/2015 we are investing more than £25 million in improving production efficiency, energy performance and increased capacity, as well as developing sustainable new products. Our CO₂ emissions are already 12.5% lower than the industry average for brick manufacture, and we have delivered the UK's first carbon-neutral roofing factory.

We don't stand still. Our brick range has increased by 150% in five years and we have expanded our clay paving range by 15% in the last six months. Other innovations include the e4 Wienerberger Brick House (right) developed with Arup, which provides an affordable approach to delivering sustainable and desirable homes. We have also begun an arrangement with Barratt Developments, the UK's largest housebuilder, to supply Porotherm clay block internal walling to 1,500 homes in the UK.

The projects in this supplement showcase the diversity of our offer, from landscaping for the new Library of Birmingham and innovative brickwork at the 55 Gee Street office/residential development, right through to sensitive heritage projects such as the re-roofing of a Catholic church in Dorset.

Annette Forster

Director of marketing, Wienerberger

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Sub-editor: Simon Aldous

Produced by the RIBA Journal on behalf of Wienerberger



Sustainable and traditional

Combining traditional building materials with an environmentally friendly ethos is the concept behind Wienerberger's e4 Brick House development

Construction has begun on the inaugural Wienerberger e4 Brick House development in Hanslope, Milton Keynes. The four detached houses, for developer Tag Information Technology, are the first to be built based on the e4 principles, which Wienerberger has developed with Arup over the past two years.

Wienerberger initiated the project to demonstrate the role that clay building fabric can play in creating economic, sustainable, healthy and low-maintenance homes.

'We believe e4 principles can change the way houses are designed and built in the UK, and we would like to see them develop into

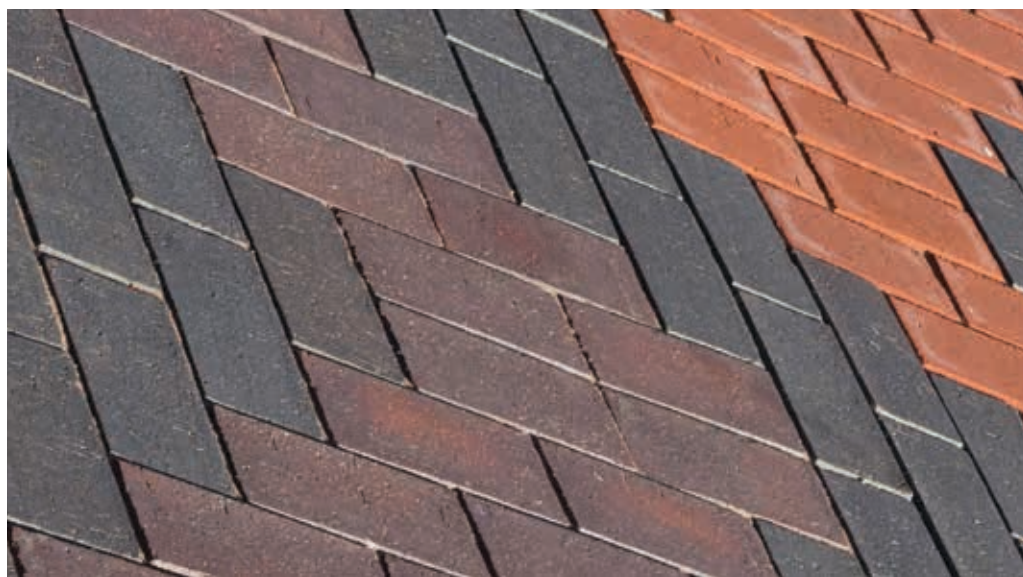
a building standard,' says Paul Surin, head of built environment at Wienerberger.

E4 promotes Wienerberger products for the whole building envelope: any of its brick range, Sandtoft roof tiles and the Porotherm clay block walling system for internal walls. This fabric-first approach is designed around the four key e4 principles of emotion, environment, economy, and energy.

Surin says that clay offers longevity, economy and excellent thermal performance. In terms of operational carbon emissions, Arup found that clay outperformed an equivalent house designed to meet more

Paving by the book

To complement its Stirling-nominated library, Mecanoo chose Wienerberger pavers for the distinctive landscaped setting



With its filigree metal facade, Mecanoo's Library of Birmingham is a major new landmark for the city. Such a distinctive building needed a carefully landscaped setting that complemented rather than competed with its highly expressive facade. Not only did the paving need to provide a suitable context for the library, it also had to relate to the existing brick patterns of Centenary Square where the library is located.

Centenary Square on Broad Street is the main public space in the city and was designed between 1988 and 92 by artist Tess Jaray, who created vivid zigzag brick patterns across the extensive space. The £189 million library – a controversial replacement for John Madin's 1974 Central Library – is located on the north side of the square, with an amphitheatre/patio at the front of the building. Its neighbours are the Birmingham Repertory Theatre and Baskerville House, which also have their own presence on the square in the form of an events area and war memorial respectively.

Mecanoo landscaped an area of approximately 7,600m² as part of the library commission. The Dutch practice aimed to embed the new building into the city fabric

by connecting to the existing materials and routes of the surrounding area.

'In the design process we acknowledged what we call the "red line": the pavement of (mainly) red brick pavers that stretches from Bullring to Brindleyplace as the main pedestrian route through the city,' says Mecanoo landscape architect Joost Verlaan. 'The design intent was to position the Library of Birmingham right on this route. We therefore continued the brick pavement in front and around the building.'

In order to achieve a continuous pavement, Mecanoo chose colours and textures that matched the existing blocks and brick pattern of Centenary Square. The exception was the area around the war memorial, where York stone was used.

Finding the appropriate paving proved a challenge since some of the bricks from Jaray's original pavement were no longer produced. After some research, Mecanoo specified a combination of 3,600m² rectangular pavers from Wienerberger's Penter range, retaining Jaray's zigzag pattern in a variety of stretcher and herringbone bond. These comprise Dragfaced Multi Brindled Chamfered Blue – produced from clay reserves at Wienerberger's Kingsbury

factory in Staffordshire – plus Essen Red and Hannover Buff Brindled pavers manufactured in Germany.

The durable pavers provide textural depth, as well as acting as a foil to the metal rings of the library facade. They also resonate with the city's Victorian architectural heritage of red clay brick and terracotta building stock.

Mecanoo is pleased with how the landscape relates to the building.

'I think that the expressive patterns fit the library well,' says Verlaan. 'It's really something specific for this location.'

The library and landscaping was completed in 2013 but further changes are afoot at Centenary Square. Birmingham City Council has just announced a design competition to regenerate the square into a 'desirable cultural hub'.

Left Three types of pavers were used in a variety of stretcher and herringbone bond.

Right The rich hues of the paving resonate with the red brick and terracotta of Birmingham's vernacular building stock, and provide a foil to the metal and glass of the new library facade.

Client Birmingham City Council
Architect Mecanoo
Contractor English Landscapes
Paving Penter by Wienerberger



A sideways approach

Turning Wienerberger's Terre Doree bricks on their sides produced the required aesthetic for an office and residential development, as well as aiding the building's ventilation



When travelling through northern Italy, architect Alfred Munkenbeck was struck by the extensive use of terracotta wall blocks in agricultural buildings, and in particular how the blocks' perforations provided ventilation. This subsequently proved his inspiration for the distinctive perforated brick facade of the 55 Gee Street office and apartment development in London's Clerkenwell – achieved by turning Wienerberger's Terre Doree bricks on their sides.

The £6.3 million development replaces a redundant builders yard and creates 3,000m² of accommodation split into offices and six

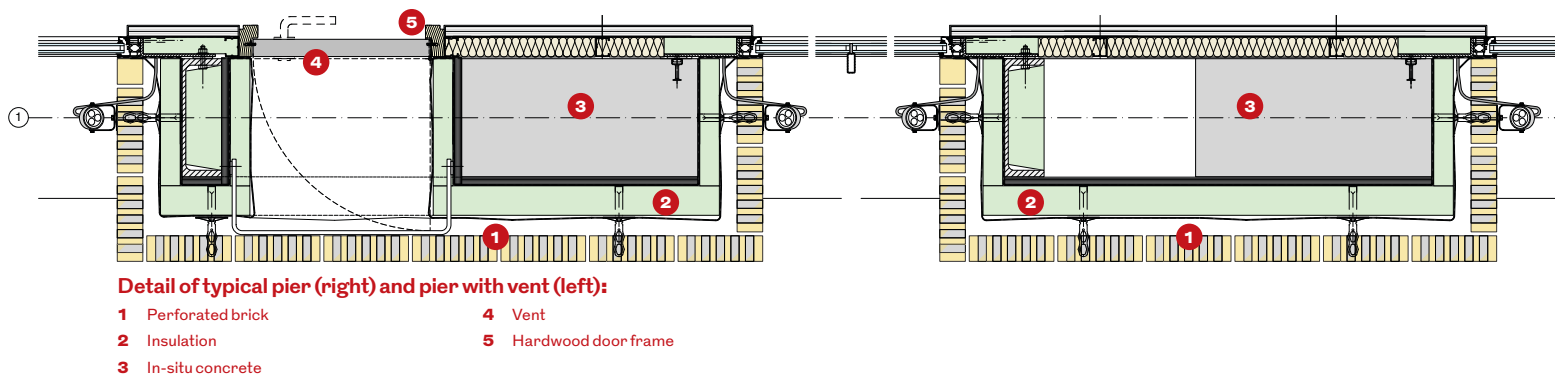
apartments arranged in a stack in the east of the building. Munkenbeck sought to emphasise the horizontal lines of the mainly 1930s buildings along the quiet street, and to disrupt the new building's verticality by using syncopated columns of brick to create variety and reduce the appearance of height. This composition cleverly disguises the absolutely vertical structural columns behind the facade. The upper two floors are set back to create fifth-floor balconies as well as further decreasing the building's visual impact.

Sourcing the right brick took some considerable time, says Munkenbeck, until

he had the novel idea of laying the cream-coloured Terre Doree bricks sideways. This exposed the 10 holes formed during manufacture in the top and bottom of each wire-cut brick.

'We decided to express the hollow pattern that is normally hidden,' he says. 'I like the feeling of lightness this gives.'

As well as their unusual appearance, the bricks help provide ventilation. Each office floor has two ventilation panels behind the brick, which can be opened to allow air to flow into the workplace. On both a practical and visual level, this solution was much



more satisfactory for Munkenbeck than incorporating openable windows.

‘It’s much easier to vent through the brick than make the glass open,’ he says.

The vented brick panels, along with mechanical ventilation, ensure that if the outside temperature is between 0 and 28°C the building requires neither cooling nor heating. They also form the building’s main visual characteristic, and are carried through to form the interior lobby walls of both the offices and flats.

The offices have a pre-tensioned, precast slab with a 2.7m floor to ceiling height. Soffits

are exposed concrete with integral lighting slots. Workspace is arranged along the Gee Street frontage, with washrooms, kitchen, meeting rooms, lift and stairs to the rear. Munkenbeck expects the building, which was built for a highly economical £2,100/m², to be flexible enough for changes of use in the future should the owner wish to change the proportion of office to residential, or convert to a different use altogether.

The project won both the Best Commercial Building and Innovative use of Brick and Clay Products categories at the Brick Development Awards.

Far left Syncopated brick piers break up the verticality of the facade.

Near left Munkenbeck + Partners emphasised the building’s horizontality to harmonise with the design of neighbouring buildings.

Above Terre Doree bricks provide a distinctive aesthetic as well as integral ventilation.

Architect Munkenbeck + Partners
Client Durley Investment Corporation
Contractor Precision Brickwork
Bricks Terre Doree by Wienerberger

No place like dome

When Andrew Stone set out to restore a 19th century Italianate dome, Sandtoft's heritage service was able to recreate the original tiles

Some 1,400 bespoke clay tiles clad the newly restored Italianate dome of the Church of Our Lady Queen of Martyrs and St Ignatius in the Dorset village of Chideock.

This splendour contrasts with the building's humble origins as a linear thatched barn in the 17th century, whose roof space was converted into a chapel for secret Catholic worship. The grade II* listed building's current form dates from 1870-84 when the octagonal dome – the church's crowning glory – was added, and the barn incorporated as the transept of a new, much larger chapel. The design was inspired by the Tuscan travels of owner Charles Weld, who lived in the nearby manor.

In 2013, the church's owner commissioned architect Andrew Stone, a specialist in building conservation, to investigate the feasibility of reinstating the dome, which had collapsed and been replaced by a pillbox structure in 1960.

'I was trying to get it as close to the original as possible,' says Stone. 'The church was well-loved but the 60s structure didn't suit the style of character of the building.'

While the structure of the dome was relatively easy to recreate using steel and timber, the biggest challenge was sourcing the spearhead-shaped clay roof tiles so that a budget and fundraising target could be set. From photographs and surviving tiles found on site, Stone knew that blue and red tiles had been used in diagonal strips, but such tiles were unavailable as standard products and efforts to find sufficient similar tiles from architectural salvage yards proved unsuccessful.



On the recommendation of the Victorian Society, Stone contacted Sandtoft – Wienerberger's roof brand. Its heritage service was able to make a mould with which to produce bespoke tiles that matched the originals.

This was not a straightforward process. Since clay shrinks, the mould needed to be larger than the final 10 by 6 inch (254 x 152mm) tiles, and take into account the inconsistent shrink rate in different parts of the tile. Each tile also has a slight bow across the surface, and the architect specified a greater bow across those used in the lower three courses. An additional requirement was a special bat-friendly tile with a lift at the front to allow bats to nest behind the roof felt, used two per octagonal segment.

With the help of a surviving sample, Sandtoft also recreated the rope twist-patterned, buff-coloured hip tile.

Nigel Jaggard of Magenta Building Repair masterminded the tile installation, which took a month. The dome itself was built from a steel structure with a radius of 4.3m,

with timber rafters and purlins. But the real complexity was in the diagonally striped tile installation, and in particular the need to hand cut the spearhead tiles in order to fit them up to the hip tiles.

The main spearhead tiles were screwed to timber battens while the rope tiles fixed on to a stainless-steel strip along the hip via a clip within the tile. Judging the height of the hip was a particular challenge: too low and the dome would lose its octagonal rhythm, too high and it would become too staccato. In the end, the ribs rise nearly 120mm above the level of the tile.

The new dome is topped with the copper cross from the 1960s alterations. The restoration, which completed this summer, was a chance to build in some extra features lacking in the original. Parapet gutters with bird guards were installed around the base and a lightning conductor was added – there was a theory that lightning may have contributed to the dome's failure, and the architect was keen to ensure that the new dome enjoys a longer life than its predecessor.



Left Sandtoft created clay roof shingles and hip tiles to match surviving tiles from the original dome.

Above The new octagonal dome restores the church to its previous glory more than half a century after the original dome collapsed.



Dome details:

- 1 Steel frame
- 2 Purlins
- 3 Battens and counter-battens over plywood sheet
- 4 Clay tiles
- 5 Projecting cornice
- 6 Gutter
- 7 Existing cross
- 8 Lead covered base for cupola

Architect Andrew Stone Architect
Client Chideock RC Church Trust
Contractor Magenta Building Repair
Roof tiles Sandtoft, Wienerberger

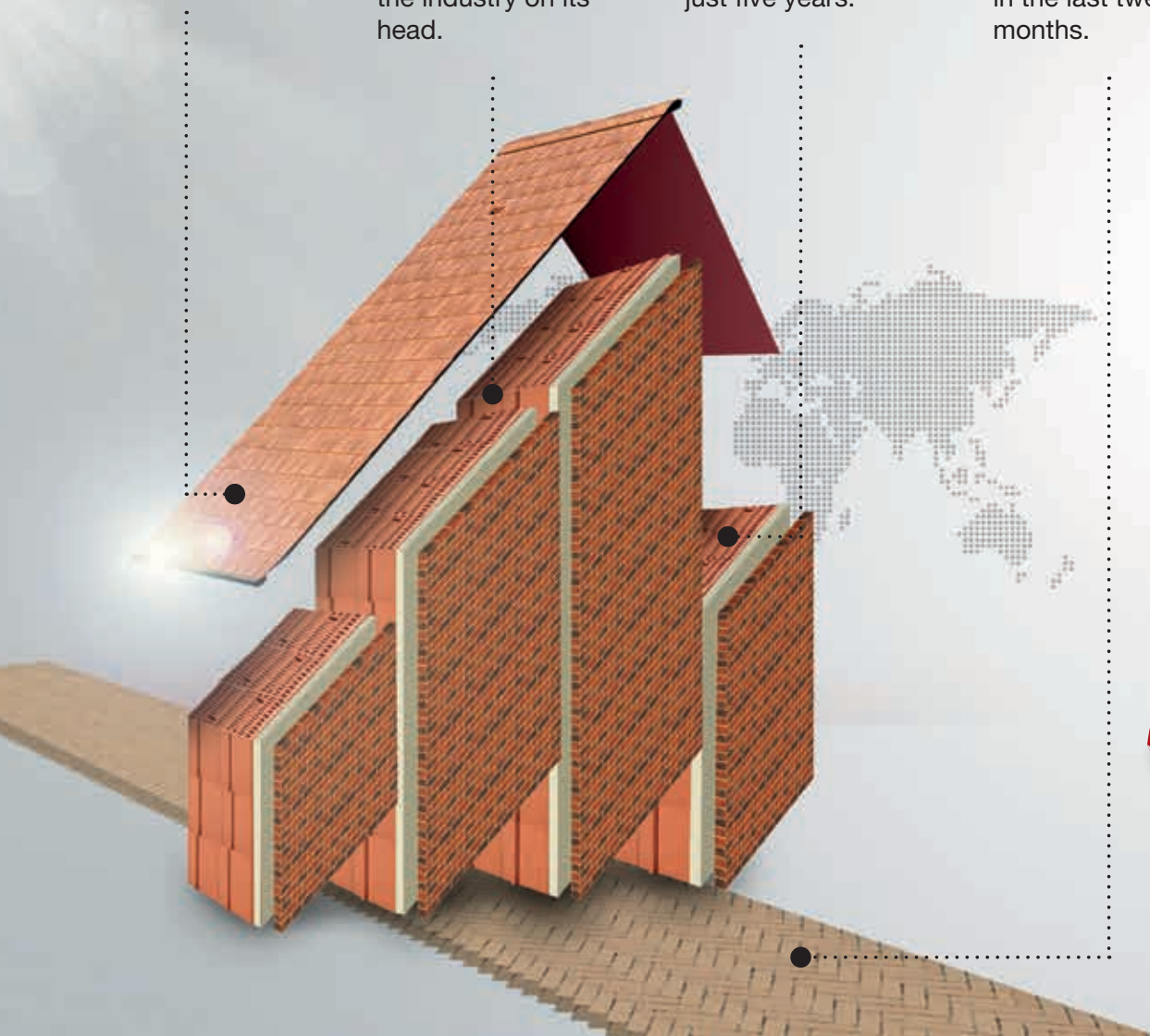
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- Applicable radiant reaction times
- Basic systems design considerations
- An understanding of good and bad practices
- The concept and technicalities of radiant cooling
- Considerations for enhancing our projects when using radiant panels



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Title 2: Movement Joints and Uncoupling Membranes for Tiled Coverings

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C: Gareth Dixon, Russell Calder
T: 44(0)207 940 0000
E: gareth.dixon@havwoods.co.uk
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Title: The use of wood flooring in sustainable architecture

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Title 2: Removing Barriers to Access

Title 3: Safeguarding Pedestrians from Accidents at Power Operated Door sets - EN 16005

Title 4: Designing Effective Heat and Smoke Ventilation



Lighting up research

The Design Prototyping and Testing Centre (DPTC) is one of the latest buildings in Rotherham's Advanced Manufacturing Park. Founded by the University of Sheffield in association with companies such as Boeing and Rolls-Royce, it was built to establish new standards for manufacturing research facilities worldwide. Designed by Bond Bryan architects, the building's BREEAM Excellent rating was achieved using a variety of concepts including Kalwall® translucent wall cladding.

The Centre is designed as a people facility contained within a single rectilinear volume. Here researchers working at their desks are able to view the large scale workshops from a high-level office mezzanine thereby giving an intimate relationship between the two types of space.

Widely used for cladding and roofing, the highly insulating Kalwall system is unique in the way in which it transmits Museum-Quality Daylighting™, flooding the interior with natural diffused daylight while reducing the reliance on. Apart from being specified for all types of new build, Kalwall is increasingly used for the refurbishment of cladding or rooflights on aged buildings. Case studies and technical information are available from Structura UK Ltd.

t: 01233 501 504 w: www.structura-uk.com/kalwall



Knauf insulation rides its way into York engineers' triangle

In need of an insulation solution that could meet York's new rail operating and training centre's environmental requirements, as well as meet the rigorous demands of an inverted roof application, European Roofing Systems turned to Knauf Insulation for assistance. The outcome was a specification of 3,000m² of Polyfoam ECO Roofboard Extra (XPS) insulation that has a BRE Certified Green Guide Rating of A. Network Rail's York Engineers' Triangle is the largest rail operating centre in the country and will control signalling and rail operations on the east coast, from London King's Cross to the Scottish borders, housing the latest technology to manage and control the rail network. The development centre also provides a leading training facility with learning spaces that can allow for up to 200 delegates to be trained at any one time. Liam Murray, Estimating Manager for European Roofing Systems commented:

"This expansive project had many different specifications and sustainability was at the heart of the development. The roof areas created a challenge that was met by our experienced design and site teams. With the help from Knauf Insulation we were able to develop an inverted roof system to meet the rigorous brief of requiring a product that had impressive environmental credentials, an excellent thermal performance and most importantly could be installed above a hot melt waterproofing system."

w: www.knaufinsulation.co.uk



BRE approval for new fire-door from Schueco Jansen

The Janisol 2 EI30 Fire-Resistant Sliding Door from steel specialist Schueco Jansen has been officially approved for use in the UK by BRE. This means that architects needing to include effective passive fire-protection systems in their buildings can now specify this advanced steel door in the certainty that it meets all the statutory regulations.

Introduced into the UK in January this year, the Jansol 2 EI30 sliding fire door combines an elegant appearance – thanks to its extremely slender frame profiles – with a very high level of protection against both flame and heat, even under extreme loads.

While the system is extremely versatile in use – design options include a wide choice of drive-motors and glass types – the door is mainly specified for barrier-free buildings which require higher security requirements and easy access.

For further information:

e: nfobox@schueco.com



L62 steps by Rosa Gres

Spanish tile manufacturer Rosa Gres specialises in advanced porcelain flooring solutions for high traffic zones, including paving and swimming pool applications, public, hotel and retail environments. Furthermore, key flooring ranges are complemented by 32.3x62.6 cm extruded step tiles, enabling durable, hygienic and elegant integrated solutions with high levels of slip resistance for a wide range of interior and exterior projects.

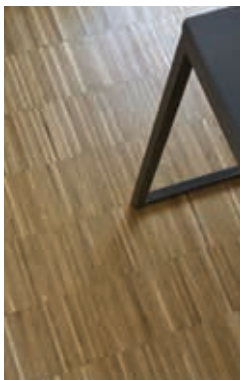
w: www.rosagres.com



Gaia helps to create a warm, inviting church

Gaia Climate Solutions was chosen as the supplier of the hydronic (wet) underfloor heating system which was installed in the newly renovated St. Barnabas Church in Cambridge. It is a heating system installed into a grooved insulation for the entire church floor. The final floor finish is a 20mm thick oak-faced engineered board fixed to battens, between which is the insulation and underfloor heating pipework.

w: www.gaia.co.uk



Industrial Parquet – A New Floor from Junckers

Junckers new Industrial Parquet is a unique and individual floor made of long, slim Oak Staves which form a spectacular pattern when installed. Narrow pieces of FSC certified, solid hardwood planks are laid on edge to create a lively, contemporary looking floor with a lot of colour variation and grain pattern.

The slim staves measure 22.8x160x312mm and is delivered untreated to be sanded down in order to achieve a smooth and even surface then finished on-site.

Industrial Parquet can be glued to either concrete or wood, which makes it an incredibly strong and hard wearing floor. No two floors are the same as the natural colour variation of the timber creates a new pattern every time.

w: www.junckers.co.uk



The Twyford shower enclosures offers enhanced features as standard

The new es400 range of shower enclosures from Twyford Bathrooms offers a value-added specification with some premium features being included as standard, with the benefit of highly competitive pricing. All enclosures feature the value-added specification of 6mm toughened safety glass and include a protective Pro-Clean anti-limescale coating which also helps prevent the build-up of soap scum, stains and dirt.

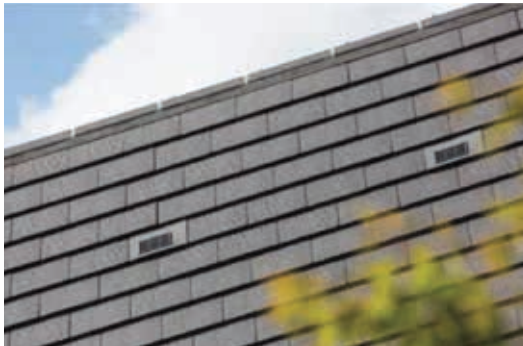
w: www.twyfordbathrooms.com



SFS intec director appointed to MCRMA board

The Metal Cladding and Roofing Manufacturers Association has elected SFS intec's Sales and Marketing Director, Colin Yeates, to its management board. Set up to represent the steel roll forming construction sector, the MCRMA has broadened its capabilities to offer independent consultant membership and associate membership. As such, the organisation decided its management board needed an additional representative to reflect its member base.

w: www.sfsintec.biz/uk



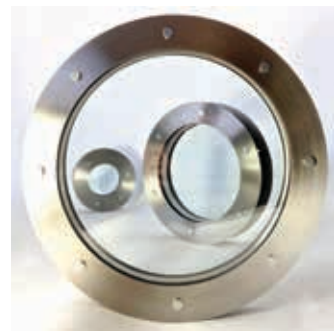
Slate lookalike proves popular with housebuilders

A new concrete interlocking tile that closely replicates the aesthetics of natural slate has surpassed its own manufacturer's sales expectations, with demand increasing on housing developments throughout the country since its launch last year.

Riven Edgemere is a thin leading edge concrete interlocking slate with a randomised texture on the surface to provide a finish closely resembling the finish of natural slate at a more affordable price.

The environmental credentials of Riven Edgemere slates are another reason they continue to be a popular choice for housing projects, with independent carbon certification, the ability to achieve an A+ rating in the BRE's Green Guide to Specification and certification to the BES 6001 standard for Responsible Sourcing. All of these benefits contribute towards maximum material credits under the Code for Sustainable Homes and BREEAM.

w: www.marleyeternit.co.uk/edgemere



Porthole vision panels for doors and walls.

Philip Watts Design offer a wide range of porthole vision panel kits in a variety of shapes sizes and materials.

From simple single glazed aluminium circles, to high specification 1 hour fire rated DDA compliant double glazed stainless steel lozenges.

Manufactured in the UK, bespoke shapes, sizes and finishes are easily accommodated. Call now or visit the web site for more details.

t: 44 (0) 115 926 9756

w: www.philipwattsdesign.com



Heritage Grey and Rustic Gris tiles by Gayafores

The Rustic and Heritage Spanish tile ranges from Gayafores reinvent traditional values for contemporary architecture. By contrasting the concrete effects of Rustic and the hydraulic patterns of Heritage, striking looks can be achieved. The 'distressed' effects of Heritage come in 75 unique combinations, while frost resistant and anti-slip Rustic, in 5 colours, is suitable for both indoor and outdoor applications.

w: www.gayafores.es



Nottingham Forest FC scores with Marbrex

Marbrex interior wall cladding has been used to complete the refurbishment of toilet facilities in the Brian Clough Stand at Nottingham Forest Football Club.

Marbrex is a hygienic, wipe-clean wall and ceiling covering.

It can be installed in around half the time required for tiling and can even be fitted over existing tiles making it ideal for refurbishment and renovation projects.

w: www.marbrexpanels.co.uk



The ultimate luxury showering experience

Reflecting the growing trend towards luxury showering, Keramag Design has launched the ultra-slim Opale shower tray, to complement its five sanitaryware collections. Opale is an elegant new range of low-profile shower trays available in eight sizes, perfectly designed and positioned to take advantage of the move towards larger shower trays, particularly as replacements for traditional bath tubs.

w: www.keramagdesign.com

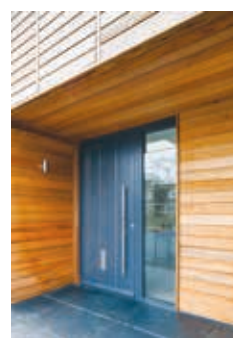


Dormer Wells School, Ealing, London

Alu-Timber and their approved fabricator Fleetwood Architectural Aluminium Ltd completed a new build school in Southall, London. Design freedom and solutions to modern environmental issues were a complex requirement.

Alu-Timber EFT provided the solution with a 60mm aluminium/timber curtain walling system which offers Capped, 2-sided Structural Glazing with vertical or horizontal capping and 4sided Structural Glazing.

w: www.alutimber.co.uk



Urban Front

Urban Front design and make hardwood contemporary front, internal feature and garage doors with steel reinforcement, high security locks and pivot or 3D hinges. Our six timbers are European Oak, American Black Walnut, Iroko, Western Red Cedar, Fumed Oak and Wenge, but doors are also available as a painted finish. We've also recently launched our E98 Passive doors certified to Passive House level. All of our doors are finished with stainless steel fittings.

t: 01494778787 e: info@urbanfront.co.uk

w: www.urbanfront.co.uk



Finding the perfect solution is easier with Gerflor's new website

Vinyl and linoleum flooring specialist Gerflor's new website will make it easier for architects, specifiers, interior designers, contractors and customers to find exactly what they're looking for.

Users can search in several ways, including for a named range, by end use, or by using the multi-criteria tool which automatically narrows the search as questions are answered. Once a short-list has been created, the 'Interior Designer' function shows the selected flooring in a variety of locations for a realistic portrayal of what it would look like in situ. The CAD service also offers the opportunity for architects and designers to download a specific texture and integrate into their own CAD software.

Users can also upload photographs of rooms to their personal account and the simulator will create images of that space with the specified flooring. Those images can then be saved, downloaded and emailed to the client. As well as detailing colour choices and technical performance, pages will also suggest alternative flooring solutions, as well as complementary products.

e: contractuk@gerflor.com t: 01926 622 600 w: www.gerflor.co.uk



Twyford's website easier to navigate thanks to upgrade

Twyford has upgraded its website to create a fresh new look and make it easier for specifiers, retailers, architects and end users to find the information they need on their full product portfolio.

A new dedicated area for professionals includes the innovative SpecMaster Twyford's online product specification tool for architects, designers, specifiers and contractors – as well as access to technical specifications, details of the latest regulations.

w: www.twyfordbathrooms.com



SFS Intec enables HWL Trade Frames to step into colour market with new portfolio

In response to the industry's growing demand for colour, specialist door and window fabricator, HWL Trade Frames Ltd, has specified SFS Intec as its hinge supplier of choice for high performance, colour matched hinges. The Dynamic 2D hinge provides door manufacturers and installers with the option to improve the aesthetics of their outward opening flush fit doorsets, where the frame and the door are often different colours.

w: www.sfsintec.biz/uk



Karndean Designflooring transforms new look Good Housekeeping Institute

Karndean Designflooring have been selected to style the innovative Good Housekeeping Institute (GHI). Tasked with creating a unique and sophisticated floor design to complement the new look GHI testing facility. And with over 1,000 visitors expected per week, the floor surface needed to be durable, practical and maintain its beauty when put under pressure from high traffic

Designing and installing both the ground and lower ground levels, Karndean opted for a modern floor design showcasing its newly updated Art Select Stones and Woods, LooseLay Series Two and popular Van Gogh collection. The stand out features include a curved parquet floor in a herringbone design against matching full length planks in the entrance area, on-trend distressed oak in the GHI dining room and new travertine stone designs in the GHI cookery school.

w: www.karndean.com



Saint-Gobain Weber receives INCA Awards 2014

In the Insulated Render and Cladding Association (INCA) Awards 2014, Saint-Gobain Weber has received Project of the Year and Best Domestic High Rise Refurbishment awards for the Kilburn Gate, North London, thermal upgrade programme completed in 2013. This project was delivered as part of Camden Council's 'Better Homes' campaign in which substantial reductions of up to 40% in energy costs were achieved while some residents were removed from fuel poverty.

t: 08703 330 070
w: www.netweber.co.uk



Levolux minds the gaps

The new northern entrance to London's Blackfriars Station boasts an external Solar Shading solution, from Levolux.

The solution comprises 30 bays of 140mm wide, white Aerofoil Fins. Fins are concentrated in west-facing bays, to limit solar heat gain and are faceted to follow the curvature of the building which turns to face north.

t: 020 8863 9111
e: info@levolux.com
w: www.sika.co.uk



Urmet supplies Door-Entry System to Award-Winning Development in Kensington, London

Door-Entry Systems manufacturer Urmet has supplied its IPervoice system to a prestigious development at 375 Kensington High Street, London. The system features a 2-door controller called the "PIO" Controller, which is connected to an IP LAN interface and two Wiegand readers (a 2-door expansion card increase the capacity up to 4 doors). Both devices operate simultaneously and grant access in the event of a network outage as all access permissions are saved in the IP interface.

w: www.urmet.co.uk



SIKA Flooring Solution is a winner at new sports pavilion.

In a busy sports environment where hygiene, durability and high performance is paramount, a series of solutions from Sika have played their part in the creation of hard wearing and resilient floors for a new £1 million Sports Pavilion in Cambridge. With the main contractor ISG looking for a durable, easy to clean and non-slip floor with impressive aesthetic qualities, Sika's versatile range of flooring met the project's requirements.

w: www.sikaconstruction.co.uk



HENK SNOEK / RIBA LIBRARY PHOTOGRAPHS COLLECTION

Bord na Móna building Dublin, 1978

Dublin's Baggot Street has a history of architectural experimentation. In the 1960s Scott Tallon Walker built the innovative but rather foreboding Bord Failte headquarters and later the monumental Bank of Ireland, setting the standard for modern office developments in the area.

Sam Stephenson's 1978 building for Bord na Móna, the Irish peat harvesting company, followed suit: an unashamedly modern design juxtaposing angles and piers of hammered Wicklow granite with mirrored glass curtain walling. Its substantial bulk is tempered with a deep forecourt punctuated by an aluminium planting pergola and full, five storey glazed atrium. Unlike his contempora-

neous Central Bank of Ireland building on the edge of the nearby Temple Bar district though, the relatively small scale and reflective cladding here seek to harmonise with its Georgian neighbours not overpower them.

The Central Bank, though impressive, remains a controversially bulky presence towering over the historic streets of the old city: very different from the subsequent Temple Bar framework plan worked up by O'Donnell + Tuomey and its fellow Group 91 Architects, which aimed to regenerate the area sympathetically and conserve the existing urban fabric. ●

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- Meets fire rating Class 0 to BS476 Part 6

SonaSpray onto roof liner:

- Can be applied directly onto standard galvanised deck
- Saves time & money over perforated liner systems
- Higher performance than perforated systems
- Meets fire rating Class 0 to BS476 Part 6
- Recycled finishes contributing up to 17 LEED points to a project

Bedford Academy - 800m² sports hall. SonaSpray onto galvanised deck, 28 Oscar Evo-Panels at low level. Estimated £25-30k saving to contractor over standard solution. Passed with Tmf 1.05 sec (in-house testing). Regs require less than 2 secs.



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