Red brick university

At the LSE, O’Donnell + Tuomey has created imaginative, inviting and memorable architecture on an impossible site, writes Joseph Rykwert. Photography by Dennis Gilbert.

Though such a famous (even sometimes notorious) London institution, the London School of Economics had always been visually muted. As you enter it on Houghton Street off Aldwych, it just seems part of the anonymous business streetscape – in sharp contrast to the nearby Inns of Court, which are, after all, London’s first university; the many recent additions – some substantial – have not attracted much attention.

Over the last two years this changed as a new, obliquely faceted red-brick building took shape – conspicuous from within the LSE ‘campus’, but really startling from Lincoln’s Inn Fields. It is perhaps fitting that this should be the new students’ centre, named after Saw Swee Hock, a generous Singaporean graduate benefactor. There had been a competition, to design ‘the best student building in the UK’ in 2009 which O’Donnell + Tuomey won against five prestigious contestants. The finished building delivers very much what the winning-competition project had promised, and its achieving a BREEAM ‘Outstanding’ rating is a tribute to both the architect and to the commissioning LSE authorities.

Approaching the centre from Lincoln’s Inn Fields, an observer is bound to be engaged by the dialectic between the abruptly bevelled forms and the warm, even comfortable, surface of the building. The warmth is that of handmade bricks, laid in Flemish bond – a warmth which will surely modulate as the bricks darken with weathering. The oblique planes into which they are cut model the internal mechanics of the complex and fragmented accommodation which has been shoe-horned into an awkward site, but are also determined by the stringent daylight requirements of their neighbours. The brick surfaces are curiously scored by expansion joints here and there, but more notably marked by rectangular areas on the surface which read as darker in daytime, being in an alternate brick-and-void bond which creates a...
brise-soleil for some rooms to shelter south-facing windows from direct sunlight — and these register as a glowing shimmer after dark.

The trapezoidal site is more or less defined by surrounding buildings on three sides, and by Sheffield Street on the fourth. Its main entrance is a porch, a triangle sliced out of the block of the building opposite where St Clement’s Lane meets Sheffield Street — facing the supposed Old Curiosity Shop. It is covered by a steeply sloping and wood-framed glass canopy that rises over three floors, while the paving of the porch extends into the landscaped area of the pedestrianised Sheffield Street. The canopy rests on an oblique steel tubular structure, painted rust-red — as is all the exposed steel, both structural and non-structural, throughout the building.

Two entrances open from the porch: the main one to a narrow entrance hall and the reception desk which leads directly to the wide and brightly lit staircase that winds round the lift shaft all the way up the building, offering you glimpses through the different levels as you go up; another niche in the block allows the stairwell to be glazed so as to give the visitor repeatedly changing views of the surrounding streets, as well as providing for constant daylight and cross-ventilation. The lift shaft is an important element in the configuration of the building: it is enclosed with vitreous enamel panels, which — though they form a carefully composed colour composition — also offer a near-indestructible solid ground for the (irremovable in such a location) Blu-Tack and Sellotape advertising and is a constant, a stabiliser against the sinuosities of the stairway.

The stairwell is glazed to give the visitor repeatedly changing views.

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1. Lobby/entrance
2. Void
3. Lift
4. Bicycle parking
5. Store
6. Servant
7. Service yard
8. Plant
9. Lift
10. Reception/entrance foyer
11. Plant room
12. Classroom
13. Events room
14. Events mezzanineabove
15. Green room
16. Student union office
17. Coffee/juice bar
18. Roof garden
19. Exercise studio
20. Cafe
21. Meeting space
22. Activity centre

Previous page
The cantilevered facade of handmade bricks responds to sights of light to neighbouring buildings.

Opposite A generous stair winds up through fire-breaks, linking disparate activities on different floors.
The secondary entrance leads to a ground-level 'pub' - also accessible from the reception area, and to a wide concrete circular staircase which goes down to an acoustically insulated 'events room' (called 'nightclub' on the plan). There is a raised stage at the far end, over which a kind of lantern, glazed but heavily insulated, rises to intrude into the space of the pub above so that both the clients of the pub and passers-by in Sheffield Street can look down on the proceedings. The insulation ensured that the light and flicker would create the attraction, while the noisy - and sometimes even rowdy - proceedings below would only be faintly heard. Anyway, the pub and the nightclub form an almost independent suite.

A kind of glazed lantern rises to intrude into the space of the pub above.

Returning to the reception desk, you make your way past it and up the welcoming terrazzo-paved stairway which will take you to the relatively quiet and relaxed 'learning' cafe which - with its services - takes up the entire area of the centre: the steel columns which articulate it also carry wide brackets to hold strong upward lights. These columns also support wide acoustic baffles which absorb some of the inevitable clatter and act as reflectors for the lights. From that open cafe, you go up to the next level which is divided between a smaller media centre (including a glazed and very visible radio studio) and the larger, but more private religious space: separate male and female Muslim prayer rooms; a large rectangular assembly - I am almost tempted to call it 'shapel' - with a glass end-wall (waiting to be stained) for everyone else, as well as a smaller, brick-enclosed semi-cylinder, a 'quiet' chamber for private meditation. Student union offices and the accommodation >>

Above Glazed facade onto triangular court brings daylight into the stair. Above, right Career services offices on the fifth floor. Above, far right A circular concrete stair provides an alternative route through the building. Following spread, left Colourful iridescent enamelled panels wrap the lift core and are designed to take the abuse of student posters. Following spread, right Hardwood flooring and timber windows add warmth to the interiors.

THE ENVIRONMENTAL STORY

The best buildings result from a lively dialogue between an architect and an engaged and informed client. In the case of the new LSE student centre and in particular its environmental agenda, this truism is more apt. An aspiration for BREEAM Outstanding, EPC A and DEC A ratings was written into the building's brief.

Hence it is no accident that O'Donnell + Tuomey has shoe-horned a passively designed, imaginatively deft and largely naturally ventilated building into an extraordinarily tight, urban site on the southern extremity of the LSE's Aldwych campus. Such an approach is not new to O'Donnell + Tuomey's work. 'We have a longstanding interest in low-key buildings with minimal systems. Whatever the project, we like to make a building feel naturally ventilated,' says associate Willie Carey. The practice's Irish Film Centre in Dublin centres around a naturally ventilated atrium, and An Gaúthair in Londonderry introduces a courtyard into a 25m x 50m showbox site so that every space in the building - with the exception of the main performance area - is naturally ventilated.

At the Saw Swee Hock building, Carey insists that the design team was not chasing a BREEAM Outstanding rating. Partly due to the constraints of rights to light to neighbouring buildings, the architect devised a plan with a pinched centre, dividing the accommodation into two halves, which simultaneously makes the 6,100m² building feel smaller and increases the amount of facade - and windows. Whether you're moving along the west or east elevation, you are always close to a facade,' says Carey.

The capturing and manipulation of daylight is one of the building's many strengths, and is evident throughout the student centre. This is the antithesis of a design approach which relies on delivering an even 500 lux throughout. Rooms have radically different qualities of light - and moods - from banks of timber windows in the cafe, to filtered light through a perforated brick screen where solar gain or privacy is an issue. The architect went to extreme lengths to provide a daylight via a quadruple-height connection to the street for the basement 'nightclub' venue. This is as much an orientating device as a source of daylight, and a welcome one. The student centre's windows are operated by the BMS system, which can be overridden manually by pushing a button. You can't just open or close a window. This highlights the fact that the centre - despite its professed low-key design approach - is highly sophisticated to operate. And to its credit, the LSE appears to be embracing this challenge. On the rainy day I visited shortly after the building opened, flyes were posted throughout the building explaining different aspects of its design and operation. Screens in niches display energy use to promote awareness among occupants, and perhaps even a degree of competitiveness between departments to reduce energy use. These measures may be a response to the BREEAM Outstanding requirement for dissemination of information about the building; regardless, they have been handled with a light touch. This is a building whose form and expression result from an intelligent and uncompromising understanding of passive performance. With its welcoming entrance, and varied and thoughtfully crafted interior spaces, the building's articulated brick exterior confounds expectations of what an environmentally performative building might look like. It is proof that fundamental principles of passive design - clever massing, daylight, views and windows that open and close - can be made to work even on a tight urban site. Hattie Hartman.
agency occupy the next floor; above
that is the structurally isolated gym
space which separates the union
offices from the careers services
above it, and this goes yet another
floor. The 'penthouse' is a smaller
and more relaxed café with a wide
(smokers?) terrace overlooking much
of the campus.

I already noted the terrazzo flooring
of the stairway; terrazzo is picked
up in some other public spaces, but
much of the flooring is hardwood. The
windows are hardwood as well and
all are operable; the walls are plaster,
or painted softwood; in places — as
in the meditation room, brickwork is
exposed. The structure is necessarily
eccentric: part of the outer envelope is
weight-bearing, but the tubular steel
columns carry much of the burden;
most floor slabs are concrete, while
steel trusses carry over such larger
spans as the nightclubs in the basement
and the gym. The great variety of
volumes, functions and surfaces is in
the end balanced by the powerful form
of the envelope. Of course there are
places where oblique and orthogonal
come to clash (O'Donnell + Tuomey
has played a risky game and won) but
small setbacks are unavoidable.

The day of my visit, soon after the
opening, was a rather dull, grey one
— yet the building was teeming and
every space had found its users — as
if there had not been any teething
period. The sometimes abrupt
geometries seemed actually inviting
to its inhabitants, so that all that
activity drew you in and you almost
forgot the dull drizzling street.

The visual anonymity of the LSE
is no more therefore since O'Donnell
+ Tuomey has added a brilliantly
unexpected element to the nondescript
campus. But more than that, they have
given London one of the best — and
most surprising — buildings of these
years. I hope they will come back.

Joseph Rykwert is Paul Philippe Cret
professor of architecture emeritus at the
University of Pennsylvania and recipient
of the 2014 RIBA Gold Medal.
Client’s view
Julian S Robinson
LSE director of estates

Without a design competition, it’s highly unlikely O’Donnell + Tuomey would have been selected. Although in my final 20, they were relatively unknown to me, but my colleague Ricky Burdett suggested I take another look at their work.

We held design workshops with each of the shortlisted practices. The depth and integrity of John and Sheila’s rudimentary design shone through, so that by the time we left I doubted any of the others would surpass them. The LSE jury unanimously agreed.

As I walk around the building today, I know for certain we made the right decision. The building is beautiful inside and out – an architectural tour de force. The interplay of complex geometry, a carefully selected palette of materials, the constraints of this site and, I would contend, a brave client, has produced a remarkable building.

Saw Swee Hock Student Centre, London School of Economics
O’Donnell + Tuomey

Special bricks

The bricks are manufactured by Colenso Brick O’Tile in the Forest of Dean. Bricks are cast from a mould, with each special brick hand-thrown from its own wooden casing.

Of the some 173,000 bricks made for the building, 25 per cent are brick ‘specials’. These ‘specials’ comprise 88 types – 33 of which ‘special specials’ occur in only a single instance, resolving the complex junctions of intersecting planes without resorting to the cutting of bricks.

Brick dimensions form the basis for the set out of every floor level and window sill and are tied to the interior stair riser dimensions.

Drawings were produced to control the carefully modulated setback of the sloping wall construction within the right of light envelope. The offset of each layer of brick is gauged in relation to structural stability and weathering performance, including in frost conditions. Each brick was scheduled and drawn as an individual building component. Axonometric drawings of each brick were produced along with assembly diagrams showing how they came together at complex junctions.

Meticulous setting out and production were critical to the achievement of the geometry of the building’s volumes, the precision of its internal and external fold lines and the variations in texture and perforation achieved.

Willie Carro, associate, O’Donnell + Tuomey