LSE's new students' union: a lesson in architectural origami

In the Saw Swee Hock Student Centre, O'Donnell and Tuomey have produced a fold-out marvel that ducks and dodges between its neighbours' rights to light.

Bricks don't usually bend, or fold, or hang like sumptuous curtains. But then most bricks aren't arranged with the mastery of Irish architects O'Donnell and Tuomey, or with the patronage of a client such as the London School of Economics. The two have come together, in the tangle of medieval lanes behind Aldwych in central London, to achieve gymnastic feats with humble blocks, producing an angular avalanche of a building that appears to tumble precipitously in all directions.

This striking piece of redbrick origami is the school's £24m new Saw Swee Hock Student Centre, a souped-up home for the students' union that is as energetic on the outside as the activities going on within.

"It's a bit like a cruise ship," says Sheila O'Donnell. "A great stack of different functions, from a nightclub and gym, to cafes and prayer rooms, all these bits of different shapes and sizes interlocking together in a complicated jigsaw puzzle."
Shoe-horned into an unpromising triangular site, the building has to limbo beneath a plethora of invisible restrictions, ducking and dodging below its neighbours’ rights to light. "We took these limits as a corset, not a form-giver," says John Tuomey, explaining how they made a perspex "jelly-mould" of the maximum possible envelope, like a New York cityscape silhouette, which was then used to test their cardboard models.

A literal product of its surroundings, the form was then sculpted according to views down the narrow winding streets, such as from Lincoln's Inn Fields and St Clement's Lane, the folds of its facade determined by diagonals between pavements and rooftops. The result is a shapeshifting mass, chiselled into its form by an intricate web of urban ley lines.

If it forces a double-take, that is part of the intention – to give presence to this 12,000-strong institution, which has been housed in largely anonymous buildings for the last hundred years. The buffeted envelope is designed, says Tuomey, to "disturb the street, to suck the pavement into the building and take it for a vertical walk". When the paving is finished, it will run seamlessly from street to foyer to a chunky concrete staircase that splays open to entice people to the levels above.
"We see this staircase as part of the medieval street pattern," says O'Donnell. "It is a public route with different facilities spilling off it, each managed by different people." There are no swipe-card doors and, like the rest of the LSE campus, which spreads from Kingsway to the Royal Courts of Justice in a hotchpotch of 12 buildings, is intended to feel like part of the city.

"What I like about the building is that its functional spaces feel porous," says Richard Sennett, who teaches on the LSE's Cities programme. "Walking through it you sense many things happening at once, just as on a live street."

The staircase forms a promenade of spirals and switchbacks, like a great concrete helter-skelter that corkscrews through the building, with internal windows positioned to give glimpses of the numerous activities going on at any time. On one landing we pass students painting banners for a demonstration against an oil company; on the next floor, a radio show is in full swing, with DJs visible in their glazed booth. Further up, groups of bulky boys flex their muscles on the window-side weight machines.

"They call that the performance corner," grins O'Donnell, pointing out the nook they carved out especially for the exercise bikes, in prime position overlooking the surrounding rooftops. "If you've got to do spinning, you might as well have a good view."

As much attention has been given to crafting the plan, which feels entirely different from floor to floor, as the material qualities of the building, which are cast and moulded with a rare attention to detail. The curving walls that enclose the stair are formed from gnarled "elephant hide" concrete, ground to a sheen on the surface like nougat. The stairs and floors are of cast terrazzo and oak, with metalwork in the practice's trademark red oxide finish, while the brick skin dissolves into a perforated screen in places, providing privacy and shading, and giving the place a slightly Moorish feel. The lift core is clad in a jazzy wrapping of enamel panelling that cycles through harlequin segments, recalling the flags of exotic nation states as you skip between floors. It is a complex collage of things that are both rough and polished – as O'Donnell puts it, it is "warehouse meets gentleman's club".
"Our student facilities were very poor before," says Julian Robinson, the LSE's director of estates. "All this stuff was housed in scuzzy windowless basements, and the student union office was a glorified cupboard." He says that research conducted by the Higher Education Design Quality Forum, of which he is deputy chair, found that over a third of students now reject certain institutions, when deciding where to study because of the quality of their buildings. "It's an increasingly competitive market, and we've always scored badly on facilities, compared with the rest of the Russell Group," he says.

But with O'Donnell and Tuomey's mountainous fun palace under their belts, that is no doubt set to change – helped along by two further capital projects, each planned at over £100m. The first, designed by Rogers Stirk Harbour and Partners, will be a great glassy silo across the street from the student centre; the other is slated for a site on Lincoln's Inn Fields, recently acquired for £80m. So where's the money coming from? "Alumni donations, balance sheet surpluses and a private debt placement with North American pension funds," says Robinson. Surely one of the benefits of an institution run by economists.