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Indian summer — Dublin meets north-west India, in the shape of **McCullough Mulvin Architects'** new buildings for the **Thapar Institute of Engineering & Technology**. Featuring dramatic accommodation blocks, a connective walkway and landscaping that responds to the scorching climate, the project expresses both Mughal and modernist architectural influences with a 21st-century sensibility. Words by *Johnny Tucker*



The grand vision of an Indian businessman is being matched by the grand vision of an Irish architect in a city one hour's drive north of Chandigarh. Chandigarh, of course, is a city that was itself the grand vision of arch-modernist Le Corbusier. Now McCullough Mulvin Architects, which has more than a modicum of modernism running through its veins, is the practice making businessman Rajeev Vederah's vision a reality, with some aplomb.

The subject of all this attention is Thapar Institute of Engineering & Technology, in Patiala, in the far north-west of India. Opened in 1956, less than a decade after Partition, it was – and still is – the concern of the Thapar family, a family of industrialists and philanthropists. In the inimitable way India has with English, the Institute is described officially as 'Deemed to be University', and that kind of describes it quite well: it kind of is, but not one you'd really remark upon – until now.

Scattered across 102ha of land in this, the Punjab's fourth-largest city, are various non-descript, blocky, painted buildings, making up the university. The vast majority of them are so lacking in personality or even recognisable features that the executive architect (Design Plus Associates, from Delhi) showing me around wouldn't even hazard a guess at when most of them were built.

But a sea change is afoot. Although the project only began in principle in 2015, already some very large, very modern buildings have been completed on the site and a new heart for the campus – the Learning Centre – is nearing completion. These new structures integrate classical and more modern Indian traditions and architecture, from the Mughals to BV Doshi, with a 21st-century European sensibility, on quite a

monumental scale compared to what is already there. It's hard to convey just how different this is from what is extant.

This is revolution, not evolution – and you get the feeling that this is exactly what Vederah wants. A former Thapar student himself, he forged a career in India's paper industry with the Thapar family. When asked to take on the Institute/Deemed to be University as chair of the board of directors, he approached it as a business venture, reviewing everything from the teaching models and staffing to the standard of research and the very size and shape of the institution, commissioning new buildings that will not just announce its presence to the rest of India, but shout for 21st-century attention. McCullough Mulvin was specifically asked for an 'iconic' building, but is delivering something much more than that, though it will certainly be attention-grabbing when complete.

While, as mentioned, there's a history of European architectural intervention just down the road in Chandigarh, what exactly is a practice from Dublin doing creating buildings in the Punjab, and not only that – its first building in India? The geography is important. As part of Vederah's push for a more national presence and international profile, he has also forged links with universities outside of India including, importantly, Trinity College Dublin. McCullough Mulvin just so happens to have worked for that august educational institution and so came under positive scrutiny.

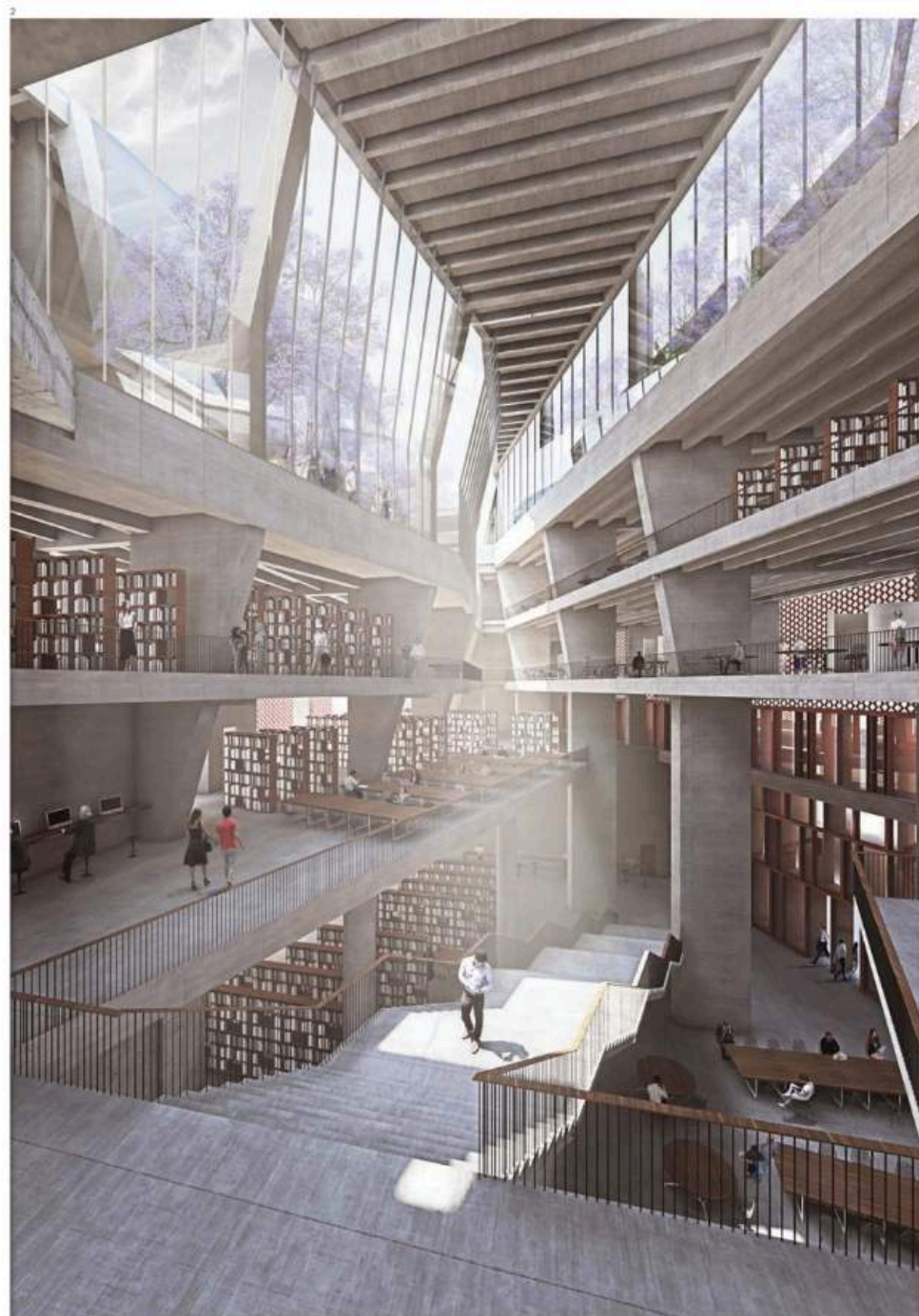
Part of a small shortlist, the consultancy ended up taking Vederah on a road trip in a minibus around some of its buildings on the Emerald Isle – 750km in one day – honing his knowledge of what was needed while cementing (no pun intended) the practice's role as the lead architect. >

1 (previous page) The new male student accommodation at the Thapar Institute of Engineering & Technology in Patiala

2 The library at the Learning Centre, soon to be completed. Exposed concrete dominates the material palette

3 (next spread) A visualisation of the completed Learning Centre

Site plan

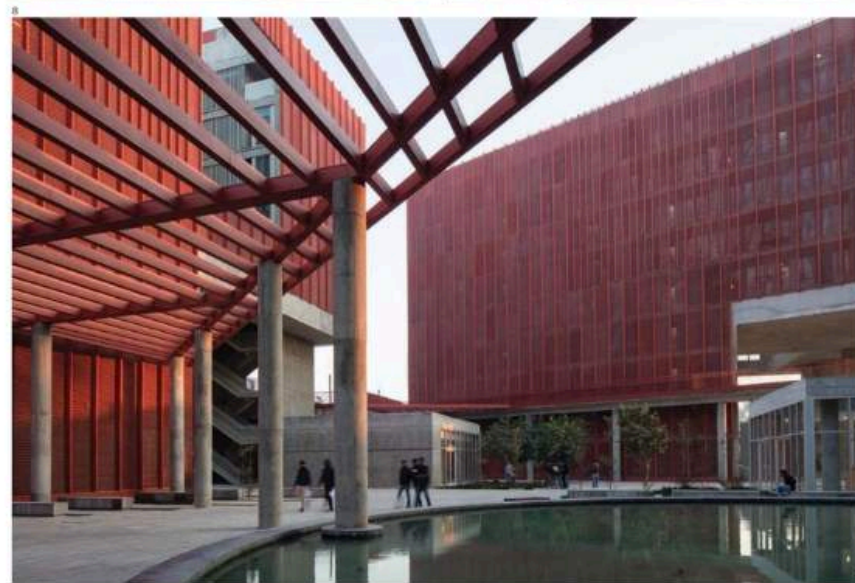






4 & 5 The accommodation blocks for male students are clad with red perforated screens in GRC — a direct reference to traditional Indian jali screens

6, 7 & 8 Red stone delineates the upper walkways and access to them, while concrete features below and on the pilots holding them aloft



4-8 CHRISTIAN BICHTERS

The practice was appointed in 2015: 'We made a site visit and we had a look around – and then they said we're going to leave you for an hour, could you come up with a concept!' says practice co-founder Valerie Mulvin. 'So there we were, with a roll of tracing paper and a sort-of site plan. But we kind of developed it from there. We found that the campus was a bit disorganised, so we came up with this central walkway as a way of bringing everything together, with the Learning Centre in the middle.'

So, as well as a new heart, McCullough Mulvin has given the Institute a new spine, unifying the campus along a central route that starts at one end with a visitors' centre, accessed from a new entrance, widens out as it moves along through the Learning Centre core, thins down again and ends at dramatic new accommodation blocks. Plans for the next phase include more accommodation, a venture lab and sports centre.

The central part of this spinal route can be taken in one of two ways. Some 9m up in the air (at its highest points) is a red stone path through a planted landscape, which should hopefully flourish under India's hot sun. This is called the podium level. The second path lies directly beneath this, a cool undercroft for those days when the sun is a little too hot – a large column-free space, complete with an ornamental pool and fountain, a la Mughal gardens. This shaded space can be as much as 10 degrees cooler than up above: 'We thought about the whole tradition of building things like temples on high places, so we came up with the idea of creating a permanent modifier – the podium, under which things can happen in the hot parts of the year and on which they can happen in the cooler parts of the year,' says Mulvin.

'We also thought about the fabulous geometry of Indian

gardens – the shaded gardens, with the way they use water, came to the fore as things we really wanted to embed as both cultural references and also because they really do work.'

Both of these paths have access to all the facilities of the Learning Centre, plugged into the centre of the walkway, which include a library, 18 lecture theatres (of 150–450 seats – the two largest theatres suspended in the space) and a computer sciences building. A dramatic concrete spiral staircase links the levels in the middle. In fact, the whole undercroft's materiality is exposed concrete, which changes to red stone – synonymous with northern India and its forts – at the podium level. The buildings themselves carry the red materiality down to the ground, as does the exterior walkway cladding. It's a piece of considered, European, brutal minimalism tempered by a Mughal tradition.

This podium motif and relationship of materials is continued in the new men's hostel accommodation a little way on from the end of the central walkway and Learning Centre.

Interestingly, the whole project is being self-funded rather than through bank loans. The eventual plan is to create a university of 15,000 students, from a base of around 4,500. Increasing the student numbers increases fees coming in and these are being used for the phased development. This is why the first buildings to be completed have been the large new accommodation blocks. The first was for 400 women – student accommodation is segregated in India – in a quadrant building at the end of the central walkway just beyond the Learning Centre. For the men, McCullough Mulvin has completed four of a planned seven blocks currently housing 1,140 men and that, when complete, will eventually house 2,000. These lie at the end of the new central spine. >

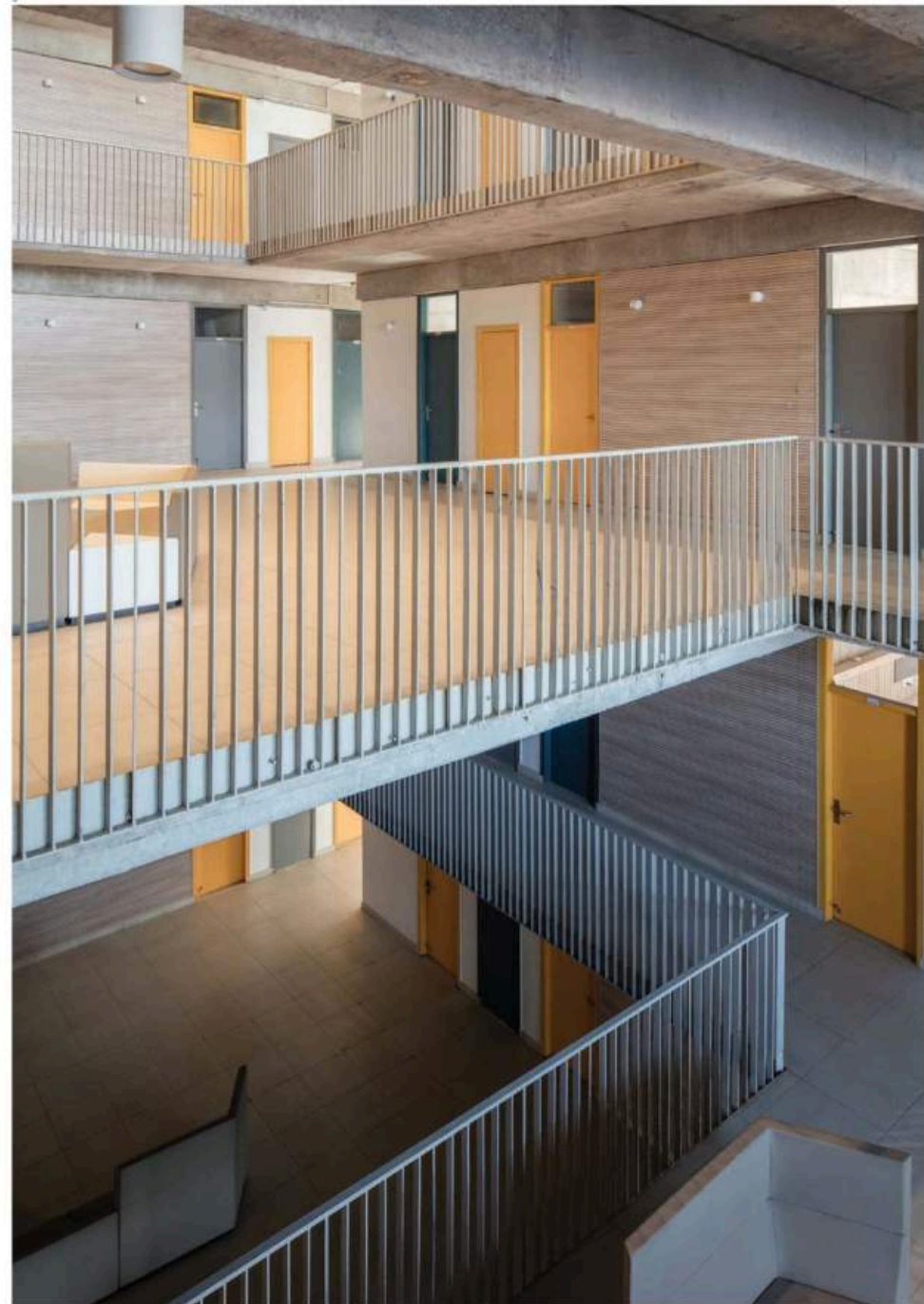
9 A view inside one of the men's blocks showing the communal areas outside of the bedrooms

Men's hostel



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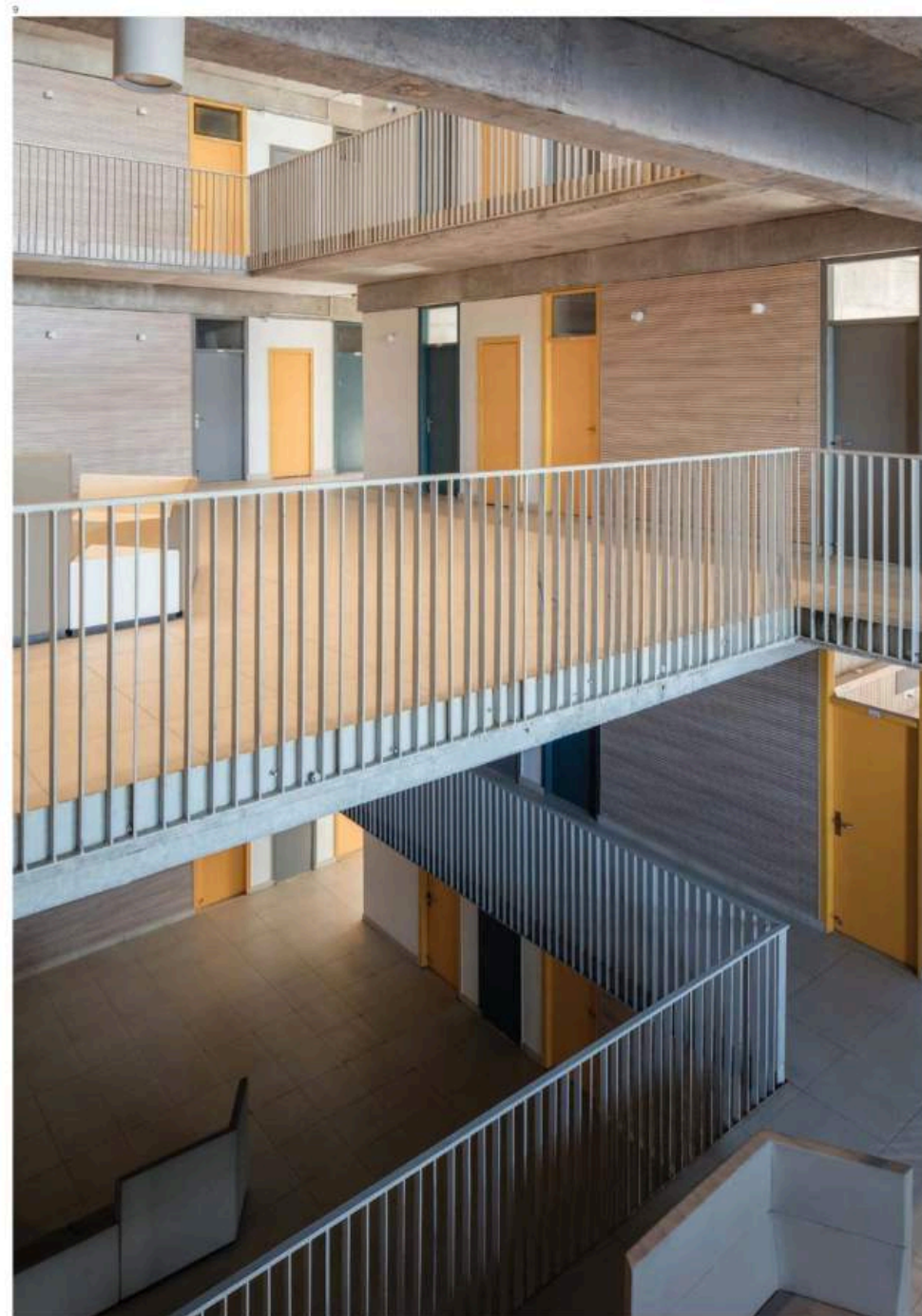
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9 - CHRISTIAN BOCHTERS



The men's accommodation blocks sit together in a complex. The ground level is all about porosity with large communal areas – again including a water feature. Exposed concrete rises from ground level, including the large pilotis. Here also, everything turns red at podium height – from giant steel beams criss-crossing the space to another walkway around the buildings. This level too has its community spaces, including large square tables for playing chess. In fact, Mulvin describes the towers themselves as being something like chess pieces when viewed from above.

Each of the blocks is clad with red perforated screens – a direct reference to the traditional Indian hand-carved jali screens whose geometric patterns allow air and dappled light through. Hand-carved marble or other stone would have been prohibitively expensive, so McCullough Mulvin's answer was to create them from coloured, glass-reinforced concrete. These giant screens surround the buildings with occasional Corbusier-like vista views punched through.

Each tower, while identical for cost reasons, is differently orientated: 'We wanted to give people the variety of having different relationships to each part of the whole jigsaw, so each of the seven pieces is rotated in a different way. We wanted to

create diversity. We also broke the accommodation into seven, because 2,000 residents is a lot – it's like a small town. We broke it down so that the students don't feel they are just one of 2,000, they are one of a smaller group – and then in each building it breaks down again. We also considered the communal activities that would take place. It's about taking people from the solitude of their bedrooms, to where they begin to engage with other people in their own social spaces on each of the floors, then down to the communal undercroft, before you go into the world of the university – it's kind of about grading. It's encouraging them to interact and meet people of the same mind and develop friendships and relationships that will probably last them the rest of their lives.'

The women's block similarly uses these GRC jali screens on the outside of the building, this time in silver grey. Here, McCullough Mulvin has created an inward-looking cube. Enter through one of two sides open at ground level and you are in a water and marble garden, the inner facade articulated by cantilevered boxes protruding into the space at various intervals.

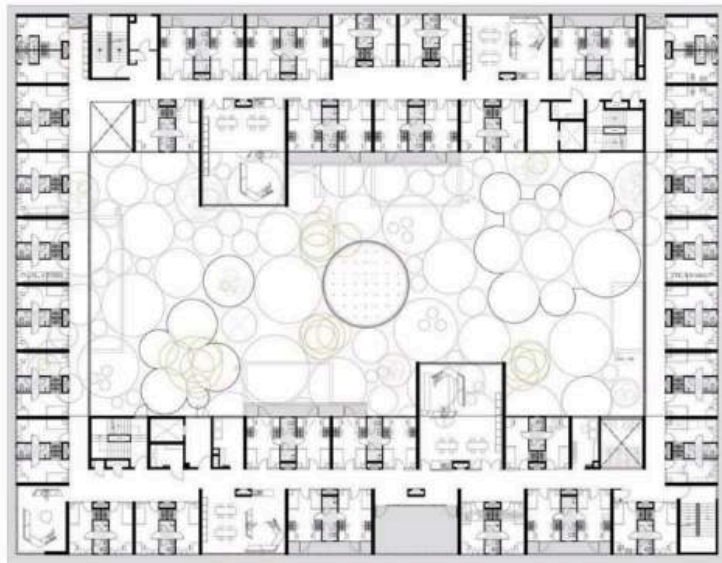
Both the men's and women's blocks follow a similar pattern of single rooms with a shared bathroom facility between, or shared rooms for two with their own bathroom. >

10 (previous spread) The block housing 400 women students was the first of the new buildings to be completed.

11 The women's communal dining hall – or 'mess' as it is known – in the new building

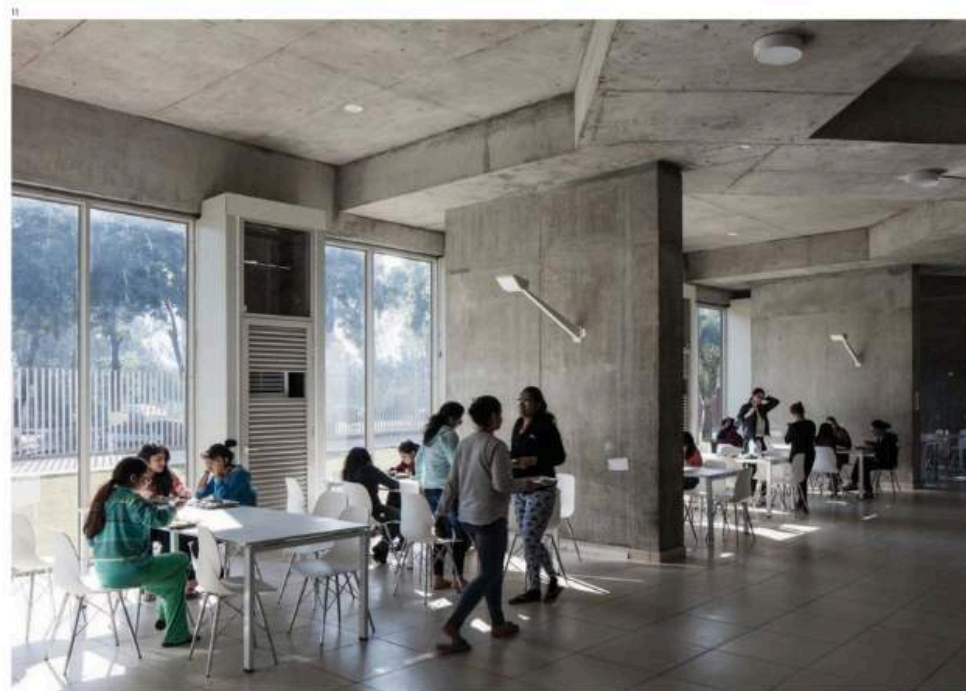
12 An open side of the women's accommodation block leads to a water and marble courtyard garden

Women's hostel



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Valerie Mulvin,
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Architects





13 Looking out from underneath one of the new accommodation buildings towards one of the older ones

14 Inside one of the 16 lecture theatres, seating 150–450 students, that are within the Learning Centre

Looking inside these accommodation blocks, you suddenly find yourself confronted by a building that, though new, looks as though it has had rough treatment for a number of years. There are a few factors at play here: one, the level of finishing has not been great and the architect is the first to point this out. New finishing contractors are now on board for the Learning Centre and the difference when you look inside the completed lecture theatres is marked. There's also the phasing issue and the way things are done differently in India. The financial imperative meant the students moved in before snagging had happened. Lifts still have large parts of the stainless steel covered in the protective plastic, areas around doors have majorly cracked plasterwork and there's a host of other faults or incompleteness that in a European building would have been sorted way before handover. McCullough Mulvin is confident they will be finished properly eventually.

Some compromises too have had to be made at a larger scale. Mulvin explains: 'We would have liked to have an extra couple of months to do the snagging, which is still going on. You have to try and take on board their building culture, and we've spent a lot of time with the contractors trying to understand the issues and resolve them. In truth, there have been places where we have cried over the finishes and said, "That's not right, we're not just going to have to ameliorate it, we're going to have to apply something to it because the finish is just not working." But in general, the conception is there and they've interpreted that well and the snags will be fixed, so we're getting there. It's a work in progress.'

It certainly is – it's a building in progress that's also teeming with students. There are parts of the Learning Centre in use, such as the lecture theatres, that in the UK would be considered hard-hat areas. Another ethos exists

in India, they do things differently – it's majestic chaos.

The bottom line however remains that what is happening at Thapar is dramatic in the extreme, and given that it is being built on a tight budget with a challenging building culture it was never going to be an easy task. But the proof of the pudding has to lie with the end-user, right? While looking at the rooms in one of the men's accommodation towers, I met a chap who, once he'd finished cleaning his teeth, was more than happy to engage in a little conversation. Only third- and fourth-year students are using the new buildings, so he would have lived in the old accommodation blocks for a couple of years. I asked him: 'Do you like these new rooms?' He fixed me with a stare, as if trying to ascertain if I was a little touched by the Punjabi sun, and replied: 'Yes... obviously.' ■

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