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one of the runners up in
AR's Global Architecture
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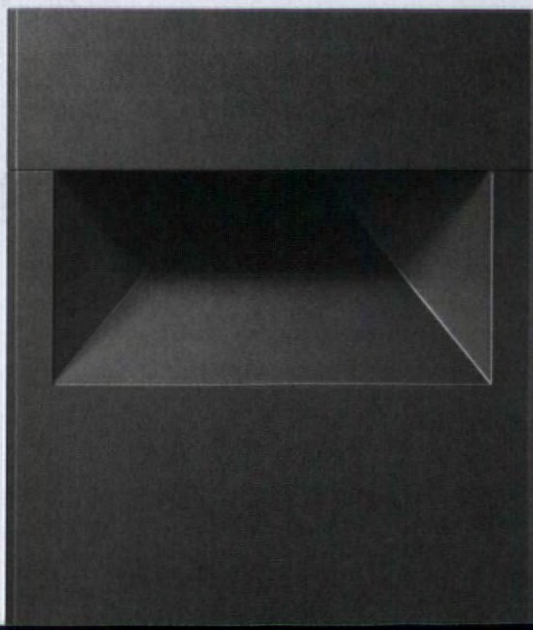


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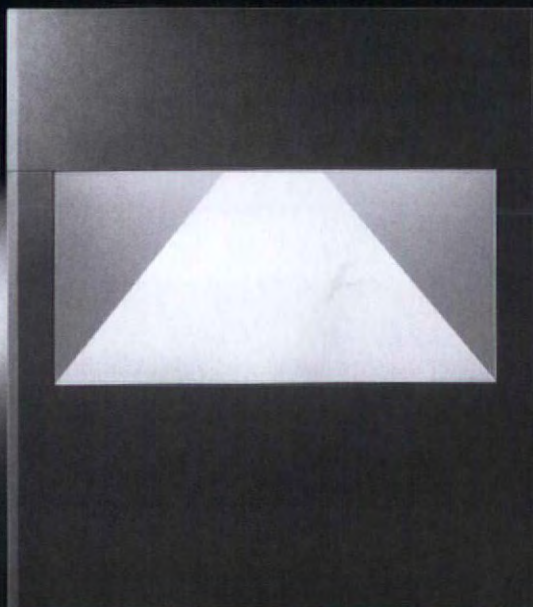
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Jody Cundy
Darren Kenny



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Editorial view

The crucial issue of how to prepare the next generation for a life in architecture

This issue celebrates the Global Architecture Graduate Awards (GAGAs), the AR's exciting new award for outstanding student work. Over 350 students from 38 countries entered the award in its inaugural year, and the winner and the nine shortlisted projects are shown in detail from page 33.

Does the world really need another student award? We think so, because now more than ever we see a need for students to think radically and propositionally, engaging with wider issues, rather than simply toying with dystopian scenography.

Yet for all the evident creativity of the GAGAs, it is evident that architectural education is facing a crisis. In 1989 Peter Buchanan penned a diatribe for the AR entitled 'What is Wrong with Architectural Education? Almost Everything'. Two decades on, not much has changed. A recent front page splash in the *London Evening Standard* featured 24-year old Debo Ajose-Adeogun, an architecture graduate with no prospect of work. The aim was to highlight the corrosive effects of the recession on young people, but the focus on someone who had chosen to make a life in architecture seemed emblematic of the schism between architectural institutions and the real world.

In England, the new university tuition fee structure that takes effect this academic year will propel architecture, one of the longest and most demanding courses, into a league of stratospheric expense, transforming it into an elitist pursuit for the especially well-heeled. But as the world changes with

daunting rapidity, it's clear that the way architecture is taught has not kept pace with the challenges of epochal or technological change.

As Peter Buchanan points out in this month's Big Rethink (page 91), the groves of academe are seen as increasingly detached from critical realities. Architectural schools are still preoccupied with cultivating the lone genius rather than the enlightened collaborator. What is urgently required is a new and more fully human paradigm for architectural education that genuinely and intimately engages with culture and society.

Some sense of how those paradigms might play out and feed into the mainstream can be discerned from an analysis of alternative approaches to architectural education. From Beatriz Colomina's conception of Radical Pedagogies that characterised the modern era (page 78) to Will Hunter's contemporary vision of a new kind of architecture school (page 88), which inculcates the buccaneering commercial and creative opportunism of emerging practices, it's apparent that the ossified structures of architectural education are starting to creak and shift.

Yet without the roots of professional practice being nourished, energised and sustained by new ideas and new thinking, the profession is in danger of atrophy, fatally disconnecting from society. If this issue feels like a call to arms, then it is. How we prepare successive generations for a life in architecture is a subject too important to ignore.

Catherine Slessor, Editor

Overview

VENICE BIENNALE

Only connect

As a teaser to our coverage of Venice in the *Reviews* section, *Peter Cook* sets the scene with his reflections on David Chipperfield's Biennale theme of 'Common Ground'

Almost everyone wants to be loved; whether to have an easier conscience or an easier life, this need has become inexorably woven into our fear of the increasing threats to the comfort of our survival. We know that even the fanciest software has little answer to overpopulation or malnourishment yet we remain held back by blind reiteration of early 20th-century attitudes that are oh-so clever at reinventing themselves.

For the last four or more Venice Biennales such thoughts have passed through my mind as I read the Theme, the statement and (reminding myself of the personality of the director), take a gulp and then set forth anyway for the perversely magical city. With the Arsenale as the director's main focus, the Central Pavilion containing the second-tier set pieces, then (hard to control from above) come the national pavilions in the Giardini. Afterwards come the rest: in former times a collection of modest or scruffy interlopers scattered behind some grand exhibits in grand palaces – that detachedly look down their noses at the attempt of the little exhibits to ingratiate.

In the Arsenale display, each presentation purports to comment on Director David Chipperfield's theme of 'Common Ground', and you have to either admire the subtle inclusiveness of the title or despair of the ways in which exhibitors (as usual) have winked at it to show what they want to show anyway.

For me, the most impressive architects are Zaha Hadid and Herzog & de Meuron. Of course they grace every Biennale, but no matter and for each the 'Common Ground' can be taken on a 'Yes' and 'No' basis. 'Yes' says Patrik Schumacher (on Zaha's behalf) allying the recent structuralism that lies (parametrically or less parametrically – I don't care) behind some of the key works and making intellectual – but also formal – links to Frei Otto, Felix Candela and Heinz Eisler.

'No' say H&deM, with a series of etched-foam pieces hanging evocatively in space while the mother of all wall-newspapers is ranged around the edge as a discourse of architectural incomprehension. Both might be said to be taking an elitist position – of concentration upon an internal culture or admission of a clash of cultures. In the end though, the actual stuff is worth the wafting, cutting, floating, carving and implicitly flies in the face of all those less talented worthies who use populism to hide lack of creativity.

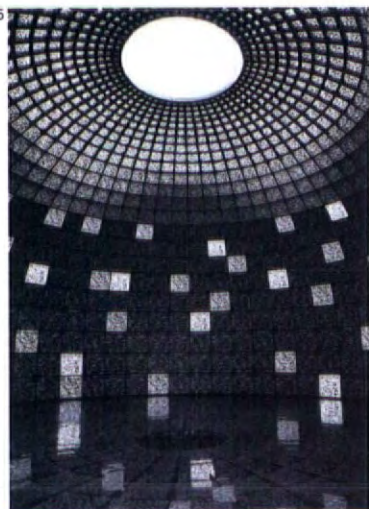
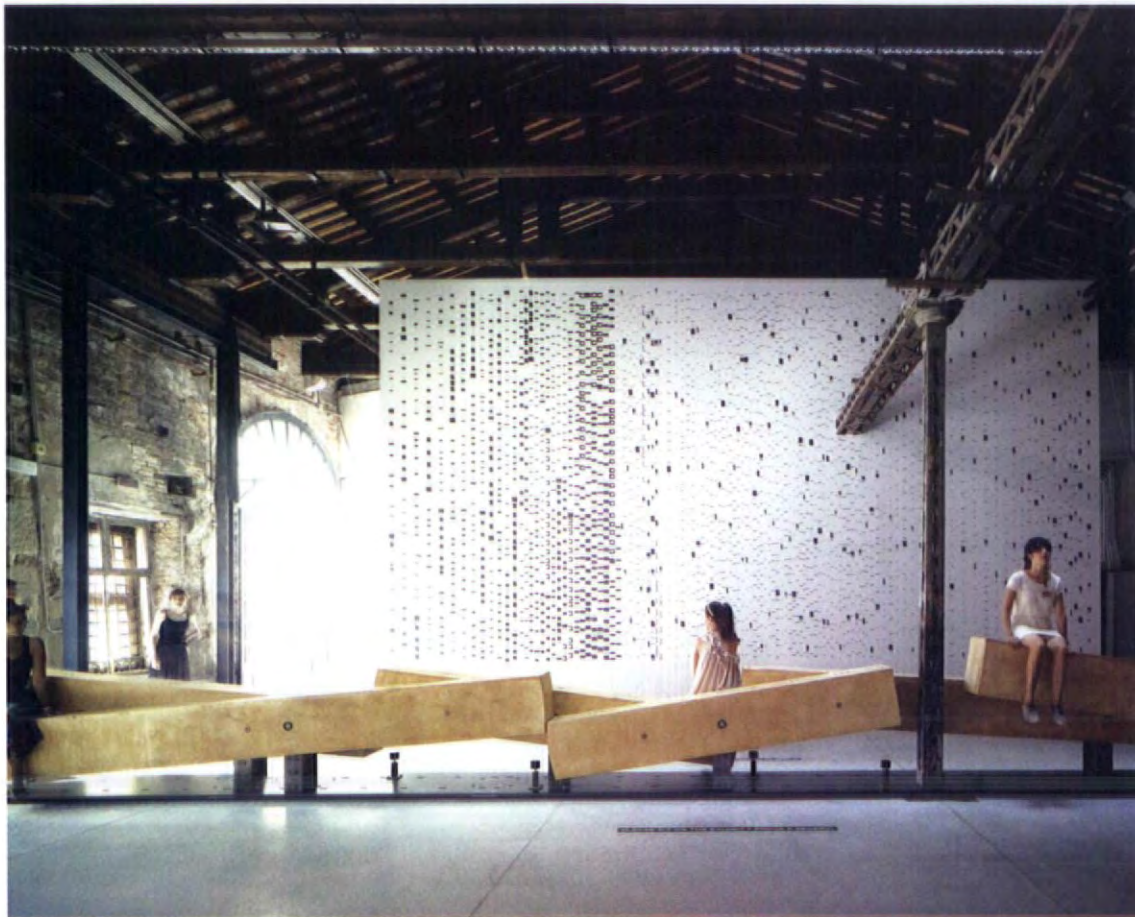
I had the same sense of elation in the Nordic Pavilion, still the best room in Venice, which exhibited the work of 32 architects born after the creation 50 years ago of Sverre Fehn's building. The theme of 'light houses' is suitably Nordic and in many ways far more evocative than the official theme, stimulating so many of them to move out from the functional (and sometimes material) pressures of their regular work towards a rediscovery of that magic moment when the formed object has to engage, but only just, with the ground beneath.

While amused by the way in which FAT have become cannily middle-aged by reconstructing themselves as serious cutters and copiers of the Villa Rotonda – leaving behind their multicoloured giggles and entering a white-upon-white world – I was far more intrigued by the evolution of the Indian architect Anupama Kundoo with a full-size reconstruction of the Wall House that she had designed 12 years before, imagining the possibly hilarious conversations between the Indian craftsmen and Australian architectural students who made up the team, and admiring her original 'take' on the combination of indigenous craft techniques and modern thinking. Not as pleased with itself as Studio Mumbai, though yet to become as naughty as South Africa's Peter Rich.

One cannot just wander around the show without moments of intense rage: whatever Chipperfield's reasons for presenting the work of Berlin's Hans Kollhoff, it surely remains an affront to all that is liberal, sensitive, humane, delightful or responsive and seems to be waiting for a repressive regime to accompany it. On the other hand, one can be inspired. The pummelled and emptied Spanish have responded to crisis by bringing really creative sets of architects to their pavilion: Selgas Cano (not on the intellectuals' circuit, but watch them) who ingeniously spin plantations in space, Cloud9 who claim to use particle theory, or Fernando Menis from the Canary Islands who, like H&deM digs into solids, but far more manically and close-grainedly, and four more who legitimately live up to the optimistic title 'Spainlab' – in desperate times, don't just sit there, do some research.

The first-day buzz suggested that Russia had left behind its detached Romanticism of other years and pulled off something pretty good, and first impressions seemed cool: a beautifully crafted glossy black dome invites you to examine the future of Skolkovo (Moscow's silicon valley), so you pick up an iPad, scan in and discover the new Russia – but, oh (as *Private Eye* might say) shurely shome mishtake: it's the usual suspects doing their thing again.

But no disappointment next door in the Japanese Pavilion. Indeed, for once I find myself totally agreeing with the 'Golden Lion' judges. There is, one remembers, a marvellous consistency of the Japanese Pavilions, Biennale-by-Biennale. They rarely falter and I can clearly recall all of the last four or five. Japanese Rule 1: get a really wise Commissioner; Rule 2: keep the team small; Rule 3: keep to a simple story; Rule 4: don't be afraid of aesthetic quality (UK and many others



1. The Irish see-saw
2. Anupama Kundoo's
1:1 Wall House
3. Japan's Golden
Lion-winning
'A Home For All'
4. Herzog & de Meuron's
etched foam
5. Russia's high-tech
contribution



Zaha Hadid Architects blooms in Venice

please take note). This year's commissioner, Toyo Ito is brilliant and generous and sends a clear message: "Home-For-All" may consist of small buildings, but it posits the vital question of what form architecture should take in the modern era and beyond. The task is to respond to the disaster of the tsunami at Rikuzentakata, still resonating in everyone's mind. With the three young architects, Kumiko Inui, Sou Fujimoto and Akihisa Hirata, Ito goes there, they discuss, ponder and design, mostly rough timber frames and witty insertions. In the Pavilion they place the models on timber stumps. The neat little catalogue is straight, essential but chatty, no jargon, no 'look how clever we are', eschewing all the miles of academic or quasi-academic rhetoric that wallpapers too many of the exhibits.

It can be argued that so many of the architects and not a few of the discussions exist in our favourite websites and magazines, or that the assiduous young lecture-goer can catch it in the flesh if they happen to live in London, New York, Los Angeles, Tokyo or Moscow. But the mixture of occasional theatricality (Petra Blaisse's magic space-changing curtain); humour (Ireland's see-saw); or adventurousness (Denmark

at the North Pole) – each is worth the trip to Venice alone.

For the true investigator the richness of the event lies in the newer, try-harder corners of the small or fringe 'Pavilions': the inclusiveness of Hong Kong, the richness of international student work hosted by Slovenia, the arid audacity of Serbia's white table. If trends continue, it will be here, at the ever-increasing edges, that the connoisseur will need to delve, and Rem Koolhaas – believed to be the next Director – might do worse than inflict his brilliant and creatively cynical persona onto the little places rather than the usual thumpers for an amazing next Biennale.

EDUCATION

School buildings produce culture

Farshid Moussavi

The building of an architecture school – beyond the teaching staff, curriculum, etc – is what makes an architecture school be *what it is*. The interplay between its spatial arrangement and pedagogical strategy embeds the school with a specific kind of habitus, which influences the kind of character students take on in future practice.

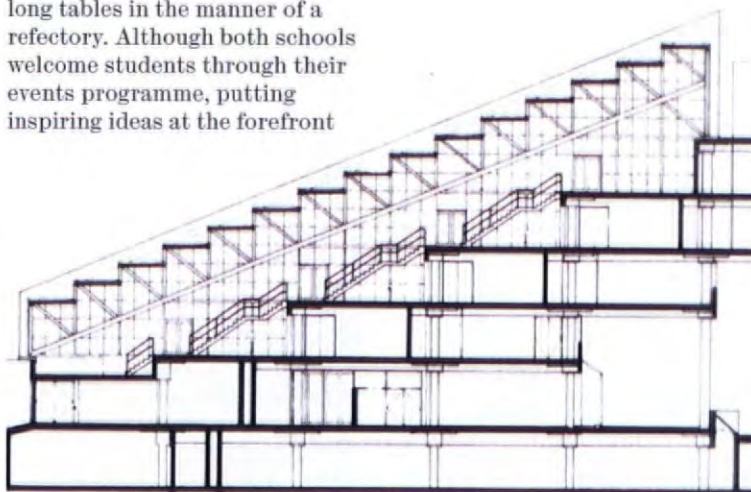
Compare the Architectural Association (AA) with Harvard Graduate School of Design (GSD). The AA houses its 800 students in a series of narrow-fronted Georgian town houses on London's Bedford Square, identified only by its door number and an English Heritage blue plaque which reads 'Most famous architects have been here (sooner or later)'. Inside, the spaces transmit sensations of intimacy and domesticity: a narrow corridor, flanked with rooms for exhibitions and public lectures, leads to a staircase ascending to the first floor. The reception desk is tucked away in a small room at the back of the corridor so students and visitors must navigate on their own,

feeling their way around or asking a passer-by for directions. The lack of a large lobby compels students and visitors upstairs to the bar, where they meet informally around small tables and exchange ideas.

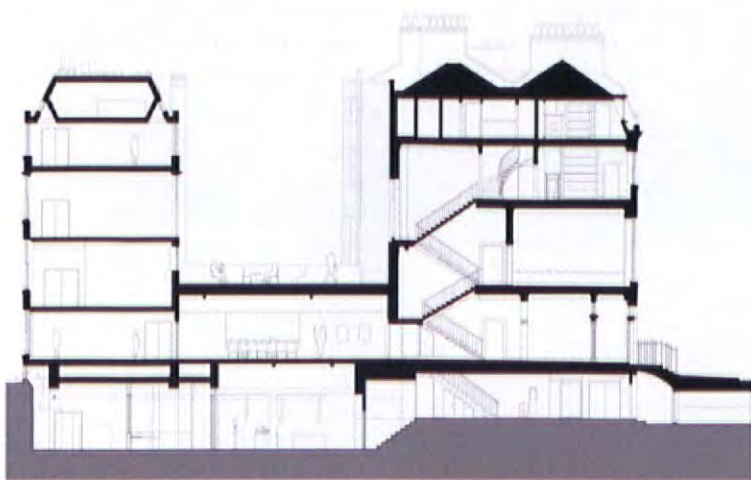
The 800 architecture students at the GSD, on the other hand, are housed in Gund Hall, a '70s purpose-built, freestanding building with a glazed sloping roof which visually connects its learning spaces to the exterior and reveals their laboratory style. The GSD accordingly triggers sensations of collectiveness and enquiry within its urban fabric. It is entered directly via its exhibition space, which leads to the lecture hall, library and cafeteria – where students and faculty share long tables in the manner of a refectory. Although both schools welcome students through their events programme, putting inspiring ideas at the forefront

rather than students at work, their similarity stops here.

The intimacy of the AA's building and the collectiveness of Gund Hall provide the two architecture schools with entirely different pedagogical settings. At the AA, three flights of stairs above the entry level take you to 'unit spaces' – private rooms where undergraduate students and tutors meet for one-to-one tutorials. The unit spaces are person-centred, providing students with an intimate space to develop a sense of self and their individual interests, their true potential, outside disciplinary limits. Conversely, Gund Hall's learning spaces are located within a single, large



section of Harvard's Gund Hall: the trays under one roof create 'an internet of ideas'



horizontally striated: proposed section through the AA by Wright & Wright (see page 70)

open-plan space above the entry level, which is divided into five 'trays' which cascade down, hosting students from the school's three design disciplines: Architecture, Landscape Architecture and Urban Design. Studios of different disciplines are intermingled along the open trays, rather than separated, and two straight flights of stairs that cut through the trays enable students and faculty to thread their way through them, and to be exposed to each other's work and discussions. The GSD studios under a single roof forgo individualised learning. They situate students within collective, disciplinary agendas in order to question the limits of each, and instill new flows of communication across them in order to address contemporary societal concerns.

Certainly the AA and the GSD both enable students to exchange ideas, but in entirely different ways. The AA's building is a social space for students to inspire one another before going away to work off-site. The bar – where alcohol is served throughout the day – is always full of students and tutors exchanging ideas, and the bookshop, in its old location next to the bathroom, drew people visiting the lavatory to browse or buy books and was another place for intellectual inspiration. Gund Hall, on the other hand, is a workplace which students hardly ever leave – they work in the trays between classes, take power naps on the couches and armchairs, and eat from the vending machines. The open trays expose students walking through the space to models, drawings and computer screens, even when their authors are not at their desk. The haphazard spontaneity of this interaction between students and ideas is like surfing an internet of ideas. The trays allow the exchange and cross-fertilisation of ideas to happen in an unmediated way because individual authors are replaced

with a range of possibilities that can be interpreted, transformed or combined in other ways.

It would be impossible for the AA culture to exist in the GSD building, or vice versa. The AA produces creative individuals and, by encouraging students to stand outside the discipline, often produces highly original approaches to architecture – even stretching it into other disciplines like film, politics, journalism, etc. But its individual focus means it cannot bring the talent and scholarship of all its students to do research on complex issues that cannot be addressed by a single individual. The GSD's studios, on the other hand, provide the setting for collective research and their disciplinary frame infuses its graduates with a shared ideology that through the design of the built environment they can be agents for change. Its open-plan workspace, though, is obviously a psychologically challenging environment to students as being exposed to one another implies that it is more difficult to receive criticism or to criticise each other's agendas when compared with the intimate setting of the AA unit space or bar.

The question remains: what will be the ramifications of the upcoming AA renovation on its culture (see more on page 70)? Is the AA moving away from its artistic avant-garde model? Turning the lecture hall into a large lobby, breaking up the unit spaces into studios and enlarging the lecture hall certainly hint in the direction of a GSD model.

I personally think that the AA's intimate unit system is a perfect model for thesis type education, which the US studio model struggles to make sense of within its system. But if the AA has decided to change to the GSD model, it should move to another building. A row of town houses converted to studio space will never be as effective as Gund Hall in presenting a web of ideas as it remains horizontally striated.



Pierre Huyghe's pink-legged, anorexic dog scampers around Kassel's Karlsaue Park

KASSEL, GERMANY

The art of protest

*Charlotte Skene Catling
& Marc Frohn*

Once every five years, an extraordinary event is orchestrated in the central German town of Kassel that acts as antidote or ballast to the slick, helium-filled selling frenzies of the art world, trade fair circuit. DOCUMENTA was founded in 1955 by artist/designer Arnold Bode, rather improbably as an adjunct to the local horticultural show. Bode devoted this first event to Entartete Kunst; the 'degenerate art' identified and rejected by the Nazis. He went on to curate the following four DOCUMENTAs, after which different curators were invited to develop the show around themes of their own. DOCUMENTA is where Joseph Beuys began his 7000 Oaks in 1982, planting 7,000 trees throughout Kassel over five years; and where Ai Wei Wei imported 1,001 people from around China for the duration of DOCUMENTA 12 in a piece called Fairytale.

The resonance of the site adds to the weight of the project and is deeply embedded in the concept of DOCUMENTA. Kassel was founded in the 12th century, became a refuge for Huguenots in the 17th, was notorious for selling mercenaries to the British in the late 18th, then housed a

sub-camp of Dachau during the Second World War, using forced labour to produce tanks for the National Socialists. Some 90 per cent of the town was bombed as a result, and the remaining grand scale historic elements now float like cruise ships on a sea of provincial 1950s architecture. Kassel was also the home of the Brothers Grimm, which adds another enchanted layer of narrative to the place. It acts as a condenser for European physical, psycho-sociological and cultural history, overlaid with the cumulative traces of former DOCUMENTAs. The show questions the very nature of art itself, and gives a powerful insight to current preoccupations within the art world, allowing the work to remain undistorted by commerce. It is important.

DOCUMENTA 13 was curated by Turin-based Carolyn Christov-Bakargiev, former senior curator at PS1 in New York. Christov-Bakargiev's approach is closely linked to 'place' or, in her words, 'the importance of engaging with a site and, at the same time, producing a polylogue with other places. A place is no fixed thing; it has an episodic history and takes its particular aspect through an intense immersion.' She greatly enlarged the scale of the show to include not just the 10 major DOCUMENTA venues in Kassel (such as the Fridericianum, the Ottoneum and the Orangerie), but opens it up to include locations in the Baroque Karlsaue Park and the industrial spaces around the



Unicorn ladies inhabit the weird landscapes of Tejal Shah's *Between the Waves* (2012)

historically-loaded Hauptbahnhof. She extends inward, using 'bourgeois' spaces that continue their normal daily function during the show, and outward, far beyond to sites in Kabul, Alexandria, Cairo and Banff (Canada).

Nearly 200 artists have contributed work in Kassel alone (300 including the other locations), which is shown over 100 days. The scale is vast, but the effect of individual pieces can be profoundly intense and intimate. Any review of the show can only be an incomplete list of the highlights, but the sense that the whole is never grasped or graspable is part of the poignancy of the experience. The Fridericianum, which Christov-Bakargiev rechristened 'the brain', contains a crystalline distillation of some of her major themes. Here new pieces sit alongside old, and her elegant skill of curation through juxtaposition is made most tangible.

In 'the brain', Tamás St Turba resurrected the 'Czechoslovak

Radio' of 1968: a 'new underground technology' invented to resist Soviet occupation. In fact, the 'Czechoslovak Radio' wasn't a radio at all, but a brick that people pretended to listen to in protest. Although they were incapable of broadcast, thousands of brick radios were confiscated by the army. St Turba suggests that these are 'the mutation of socialist realism into neo Socialist Realism: a non-art for and by all.'

Ryan Gander's installation *I Need Some Meaning I can Memorise* (The Invisible Pull) was a climatic one: a breeze circulates through the main spaces of the Fridericianum creating an uncanny physical presence.

Here too were 900 tiny, careful portraits of apples by Korbinian Aigner, the 'apple priest' and botanist whose anti-Nazi statements and refusal to baptise children with the name Adolf led to his imprisonment in Dachau and Sachsenhausen. There he created four new strains of apple, one for each year he was held.

He called his anarchic life forms 'KZ-1', 'KZ-2', 'KZ-3' and 'KZ-4', 'KZ' being the German abbreviation for concentration camp. 'KZ-3' is still grown today, but in the 1980s was rechristened the 'Korbinian Apple'.

Films were omnipresent: particularly good was Tejal Shah's strangely erotic piece *Between the Waves* (2012) which unfolds like a nature film for voyeurs in which she creates a new species of women-goddess-creatures complete with unicorn phalluses, and a mysterious religion and ecosystem around them. Omer Fast's *Continuity* (2012) focuses on the loss and craving of a middle-aged German couple whose son was killed in Afghanistan. A series of male escorts are hired to impersonate the son and replay his homecoming, intercut with surreal sexually-charged sequences, war tableaux and horror imagery.

Tacita Dean reproduced whole mountains of Kabul, and rivers over-swollen from melting snow, in delicate chalk marks on walls of black board in the basement of a former finance building. The pieces had a fundamental power and geological timelessness.

In the Orangerie, normally the Cabinet of Astronomy, Physics and Historic Scientific Instruments, David Link's work *'LoveLetters_1.0'* (2009) revealed the strange and tender declarations of the Ferranti Mark 1 computer in Manchester University, automated texts written by a program developed in 1952 by Christopher Strachey, software designer and colleague of Alan Turing. This evidence of 'computer love' exposes the heart of the ghost in the machine.

Pierre Huyghe created an eerie, post apocalyptic landscape from the composting heap of the Karlsruhe Park that was strangely both 'with' and 'against' nature at once. Uprooted trees and twisted roots lay among wildly overgrown half familiar plants; nettles, convolvulus, digitalis, cannabis, deadly nightshade, Afghan poppies; psychotropics

and aphrodisiacs. At the centre, the head of a reclining statue is encased in a beehive that throbs with hostile life. Two dogs circle the site reinforcing a sense of feral otherworldliness, one an albino greyhound with a front leg painted fluorescent pink.

Perhaps the success of *DOCUMENTA 13* can be measured by its transformative power, which lingers long after the event: the qualifiers of art become blurred. Suddenly almost everything can be read as art, lending itself to a different level of scrutiny. One is left with the impression of an infinitely receding hall of mirrors where elusive reflections gently oscillate between observation, introspection and possibility and raise the question, 'is this Art?'

DOCUMENTA 13 took place in Kassel, Germany, from 9 June to 16 September

AR COMPETITION

Emerging Award deadline extended

The Editors

The deadline for entries to the ar+d Awards for Emerging Architecture has been extended to Friday 5 October 2012. This year the judges include the critic and author Charles Jencks (pictured) and Enrique Sobejano from Nieto Sobejano Architects, chaired by AR Editor Catherine Slessor. Awards are given for excellence across a very broad spectrum of design. Buildings, landscape, urbanism, products and furniture are all eligible. The prize fund is £10,000. Projects must be built, and the age limit for entrants is 45.

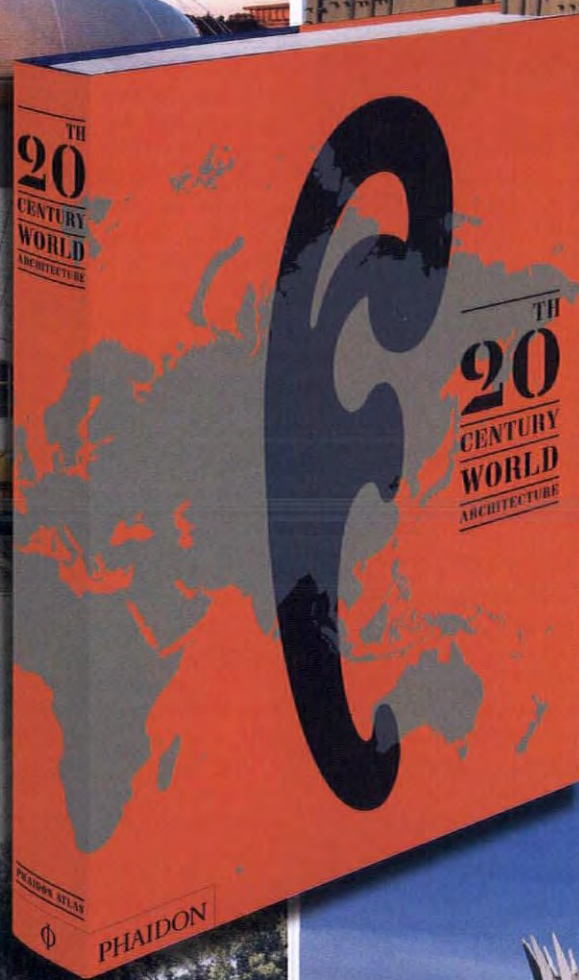
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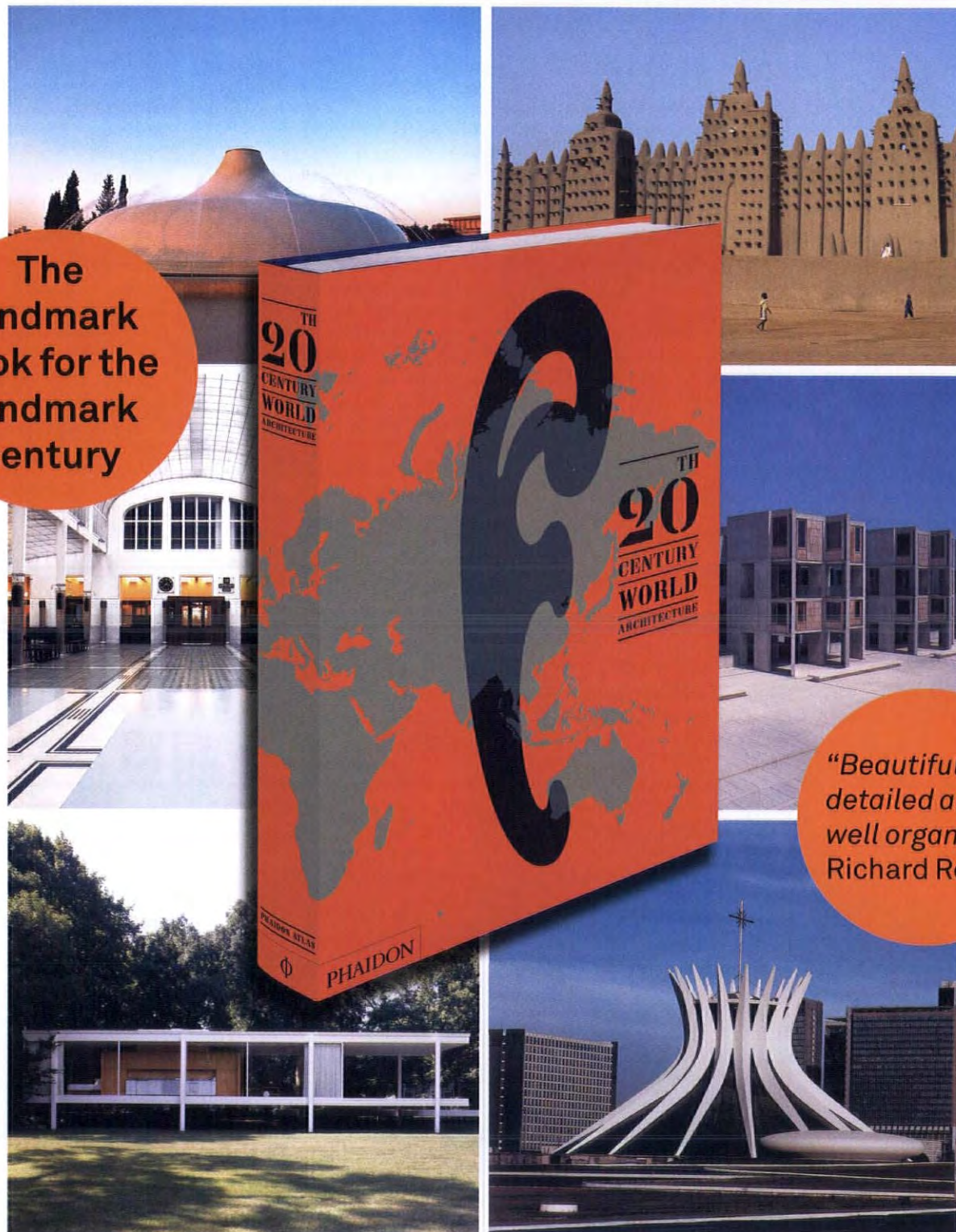
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Preview

SINGAPORE

World Architecture Festival

Internationalism tempered by local environment characterises this year's WAF shortlist. *Sutherland Lyall* previews a diverse selection of projects

World architecture follows the current seismic shifts in the global economy in the direction of the south and east. And so the World Architecture Festival (WAF) moves to Singapore, an economic and architectural hub for South-East Asia and its vast but still lightly tapped architectural hinterland. This October WAF's international juries and super-juries are looking at 300 shortlisted buildings and designs from all over the world. Their organising framework is typological – from factories to housing, through buildings for culture, to landscape – which is an administratively sensible and fair way of doing things.

In these pages the AR has set itself a simpler task. We have picked half a dozen schemes from the WAF shortlist, largely from the south-east hinterland and often quite modest. They are chosen because they are intriguing in the way in which they address their briefs and their settings. There's also a virtuously Calvinist theme of maximising what's available. And although in a way they're quite local, it's clear that these belong to the international canon because of the complexity of their sources.

There is a temptation to go with that argument about the virtues of localism espoused

by architectural communities outside the international Europe-USA axis. It's the idea that the contemporary architectures of India or New Zealand or China or Vietnam can be, without pandering to nostalgic historicism, somehow unique to those individual regions. The genius of Australian Pritzker laureate, Glenn Murcutt, with his outback aesthetic of corrugated iron sheeting and sawn timber, is regularly cited. Inevitably there is a nationalist architectural front which insists that this championing should be the case.

These schemes suggest the folly of that argument. One reason is that in these times you can't be sure that the person who designs the local architecture is actually a local. Cox Architecture, for example, is indeed an Australian practice but it has offices all over South-East Asia and recently set up an outpost in London. Almost all the senior people involved in Singapore's Gardens by the Bay are English not Singaporean.

It's true that the local terrain and culture can trigger inventive and subtle architectural responses. In Abu Dhabi, the Rock Stadium design, for MZ Architects, could probably not have emerged from any other than a desert site. Equally it

might not have not done so without the publication of Emilio Ambasz's surreal architectural landscape designs in the 1980s. John Wardle Architects' sheep shearers' quarters in Tasmania has a vernacular veneer and the building type has a long rough-house history, turned on its head by that clever late 20th-century game with the geometry of the roof. Cox's dinosaur museum seeks to imprint the very essence of the mid Queensland topography concealing ancient fossils. But it needed 20th-century tilt slab construction in order to give its walls a unique surface treatment.

So in the early 21st century localism is always tempered by internationalism, and by the fact that architects worldwide are educated and socialised more or less the same in that tribal longhouse, the studio. Perhaps the diversity in the underlying culture and topography of these schemes means that we should now be thinking in terms of internationalism tempered by the local environment.

The fourth World Architecture Festival will take place 3-5 October 2012 in Singapore. For further information on the event, which features an extensive lecture programme, including a keynote address by Peter Buchanan, go to: www.worldarchitecturefestival.com

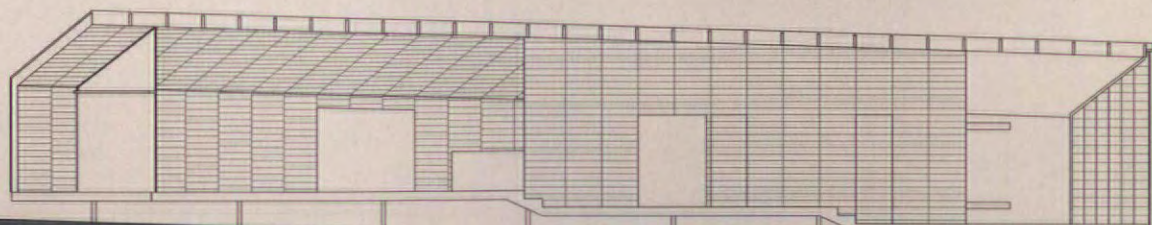


**SHEARERS' QUARTERS
NORTH BRUNY ISLAND,
TASMANIA
JOHN WARDLE
ARCHITECTS**

There were already a million sheep in Tasmania in 1840, when this farm was acquired by one Captain Kelly. Sheep were shorn by small teams who moved around the country bunking in primitive timber huts and working back-breaking hours in corrugated-iron shearing sheds. Today sheds are mechanised but because it's difficult to justify investing much in buildings which are used for only a few weeks each year, conditions haven't improved a lot. Except here, where the annual shearers live in accommodation otherwise used by friends of the architect's family who work the farm and live in the nearby refurbished house of Captain Kelly. The traditional Australian shearing shed is referenced by its long shape and corrugated skin but given a twist by a roof which begins at one end as a monopitch and segues into a flat gable at the other. Internal surfaces are pine boarding and in the bedrooms, recycled apple crates. In traditional farming style, drinking, lavatory and shower water is all harvested and waste water treated and used for irrigation.

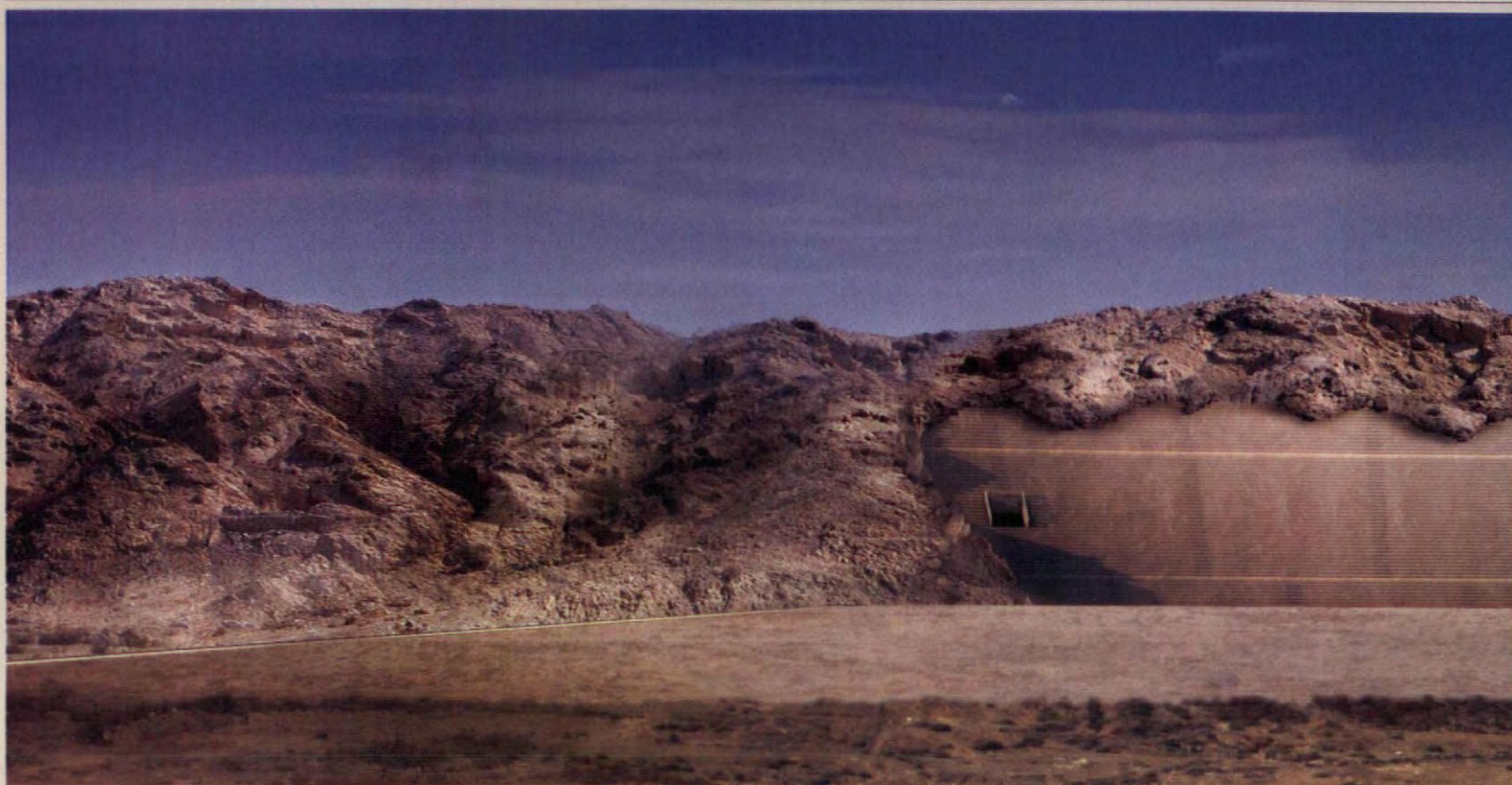


1. High-flying swimmers drink in the vertiginous views atop Singapore's Marina Bay Sands Resort, this year's venue for WAF
2. A more modest, and perhaps more interesting, room with a view: seasonal housing for Tasmanian sheep-shearers
3. The twisted tin skin plays on the conventions of corrugated sheds



long section

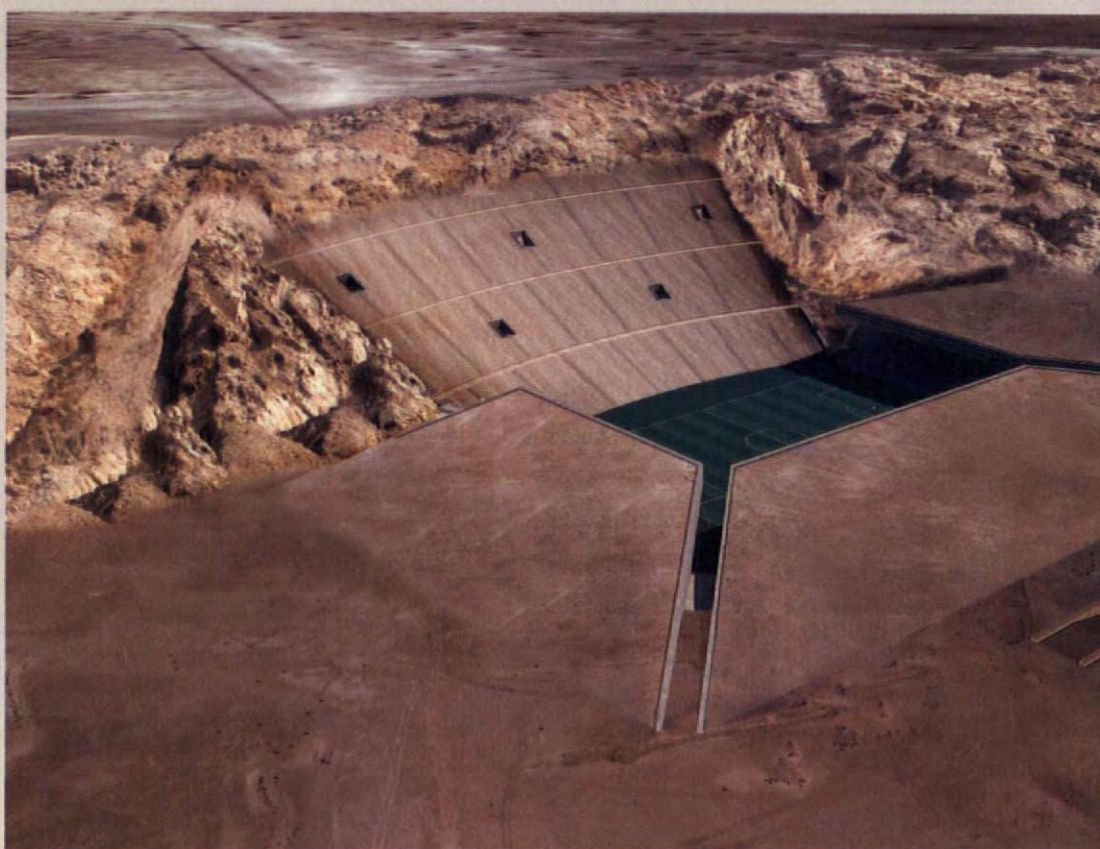
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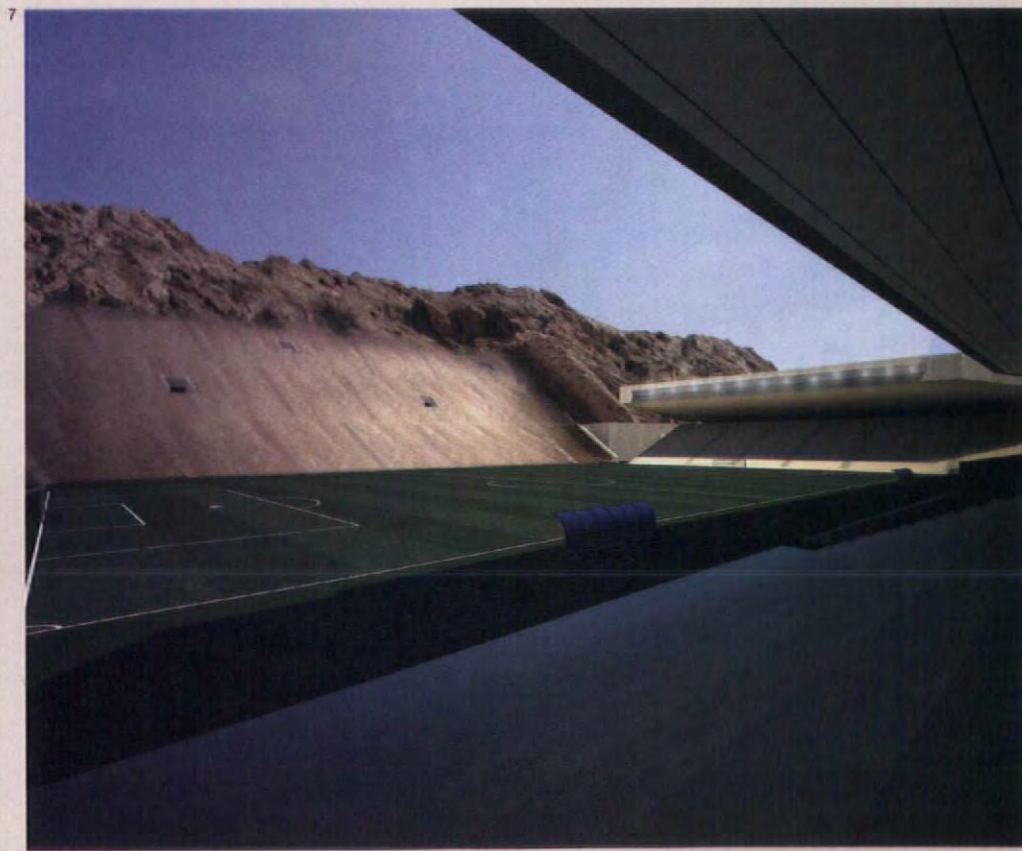
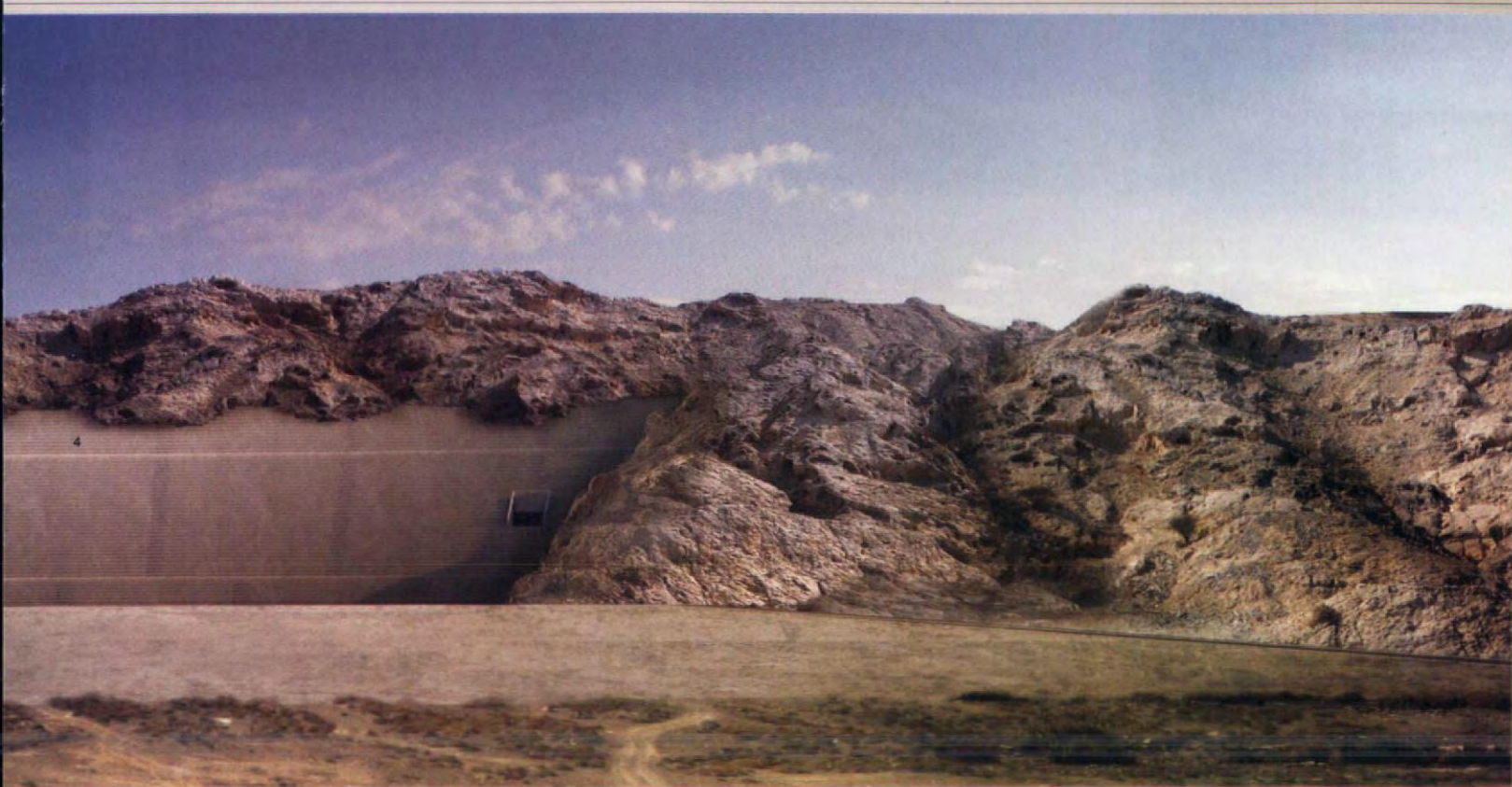
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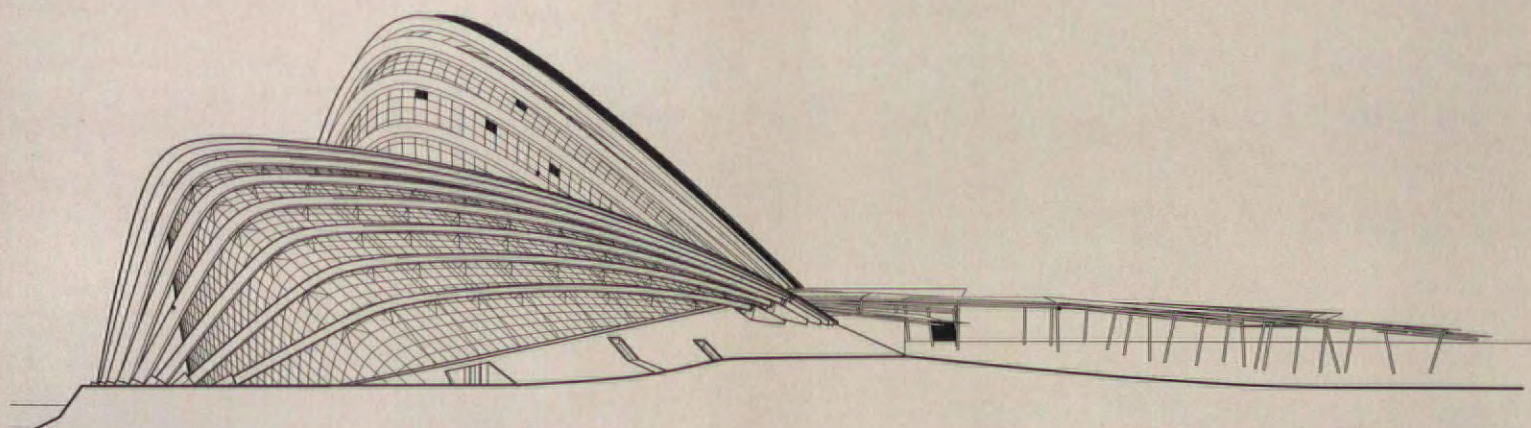


4. Carved into a rocky ridge, the amphitheatre recalls Petra's ruins
 5. Walkways pass the tilted roofs of the stands
 6. Like Bond villains' lairs, or hidden missile silos, the pitch is hidden by plates lifting from the sand
 7. These plates also provide vital shade from the relentless desert sun



**THE ROCK STADIUM,
AL AIN, ABU DHABI
MZ ARCHITECTS,
KASLIK, LEBANON**

More Middle East than south and east, this proposal is for a stadium by Lebanese practice MZ Architects. It takes advantage of a desert ridge behind the UAE's Al Ain to support the major stand in this stadium. The other sides read as plates folding out of the desert floor – and actually are the roofs of three secondary stands. So the vast ensemble characteristic of any big stadium is let almost unobtrusively into both the desert floor, less so into the slope of the local craggy ridge. This is big geometry rendering a highly artificial activity almost innocent. The architects talk about the precedent of Greek auditoria and the way ancient monumental Egyptian structures are burrowed into the local environment. There is also something of Emilio Ambasz's half-underground '70s designs.



**BAY SOUTH LANDSCAPE
MASTERPLAN BY GRANT
ASSOCIATES, COOLED
CONSERVATORIES BY
WILKINSON EYRE
ARCHITECTS, WITH
ATELIER ONE, ATELIER
TEN, LAND DESIGN AND
DAVIS LANGDON & SEAH
GARDENS BY THE BAY,
MARINA BAY, SINGAPORE**

Located on reclaimed littoral land along Singapore's Marina Bay, the Bay South garden is the 54 hectare third of a group of new landscapes along this shore. It is a complex three-dimensional 'network of horticulture, art, engineering and architecture' which evolved from the idea of the national flower of Singapore, the orchid's organisation and physiology. The nodules making up the scheme are marked by structural supertrees up to 50 metres high which are linked by a 135 metre aerial walkway.

The two climate-controlled conservatories on the bayside cover 20,000 square metres. The cool dry Flower Dome contains Mediterranean planting and the smaller but taller Cloud Forest replicates cool moist climate conditions with a planted mountain, a 35 metre waterfall, ravines and cloud walks. Their gridshell structure supports only the glazing with arches arranged radially in line with its geometry and set outside the skin resisting wind loading.



8. The organic silhouette of the conservatories evokes the petals of an orchid, Singapore's national flower

9. The Gardens occupy low-lying reclaimed land: like the air-conditioned greenhouses, a strategy of dubious sustainability
10. A planted mountain, with waterfall, inside the 'Cloud Forest' dome

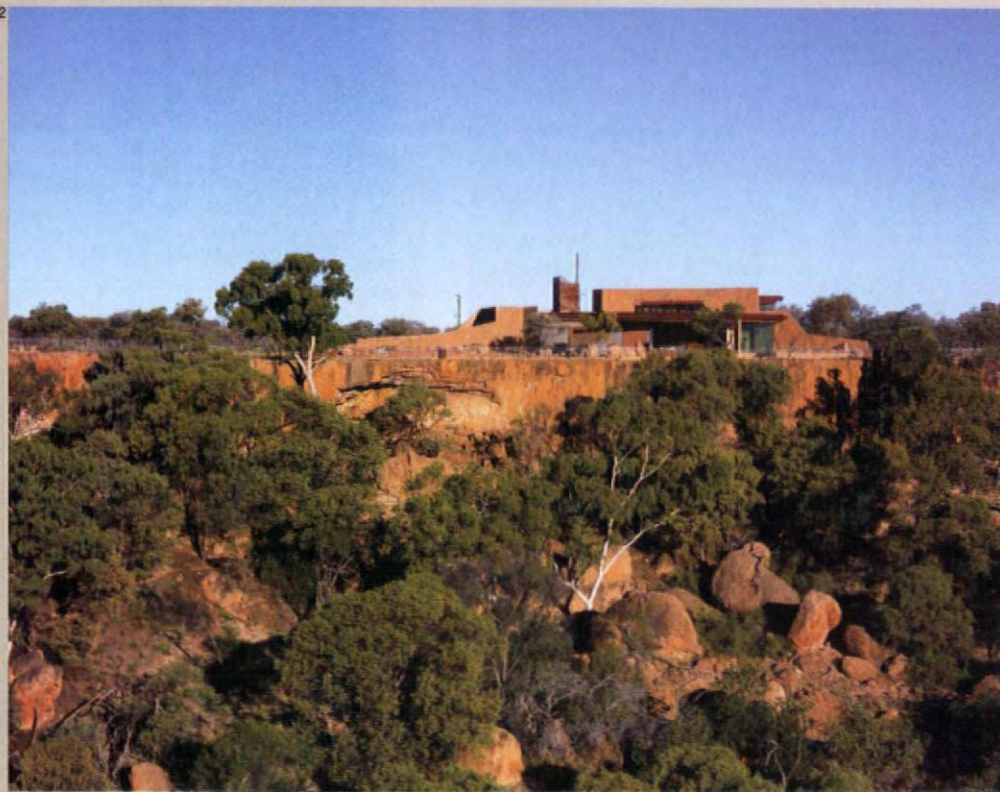


site plan



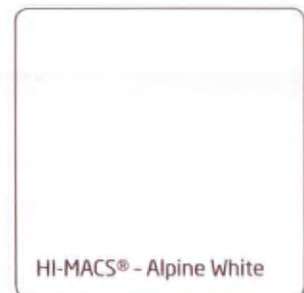
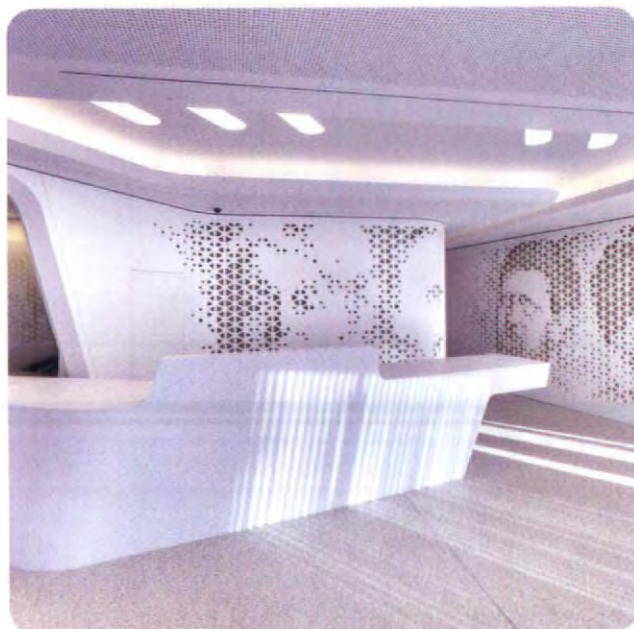
AUSTRALIAN AGE OF DINOSAURS MUSEUM, WINTON, AUSTRALIA COX ARCHITECTURE

Australian practice Cox Architecture designed this scheme pro bono for David and Judy Elliot, owners of a sheep farm who, to the astonishment of the world of paleontology, uncovered largely intact dinosaur skeletons just under the surface of the plain. The design is part underground with topographical fragments rising out of the fissured flat eminence on which it is sited. The experience for visitors will be of entering a crevasse and gradually emerging into the main display space. Constructed so far is the entrance building serving as a temporary museum with a bookshop, offices and dining areas. Built largely by volunteers, it is made of steel screens spanning tilt-up red ochre concrete walls cast against prepared ground. Because of its isolation there was not much choice about being made from the materials of the site.



11. The museum hugs the plain as stars wheel above
12. Its red ochre walls blend into the outback
13. At sunset the last rays of the sun seem to give the building an inner glow

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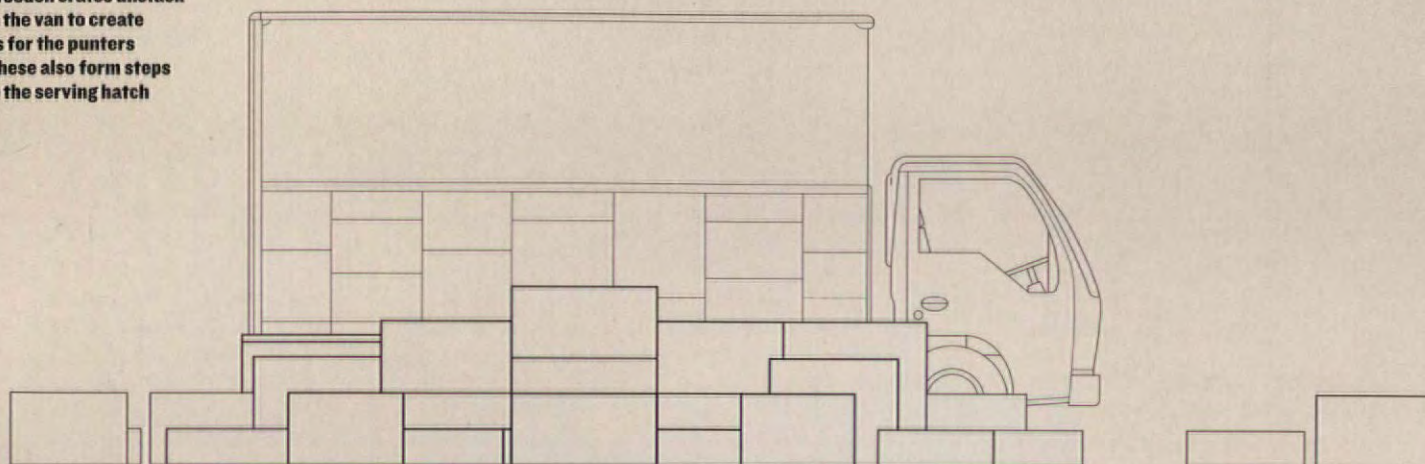
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14. Wooden crates unstack from the van to create seats for the punters
15. These also form steps up to the serving hatch



elevation

14



CHASING KITSUNE FOOD TRUCK HASSELL ARCHITECTS

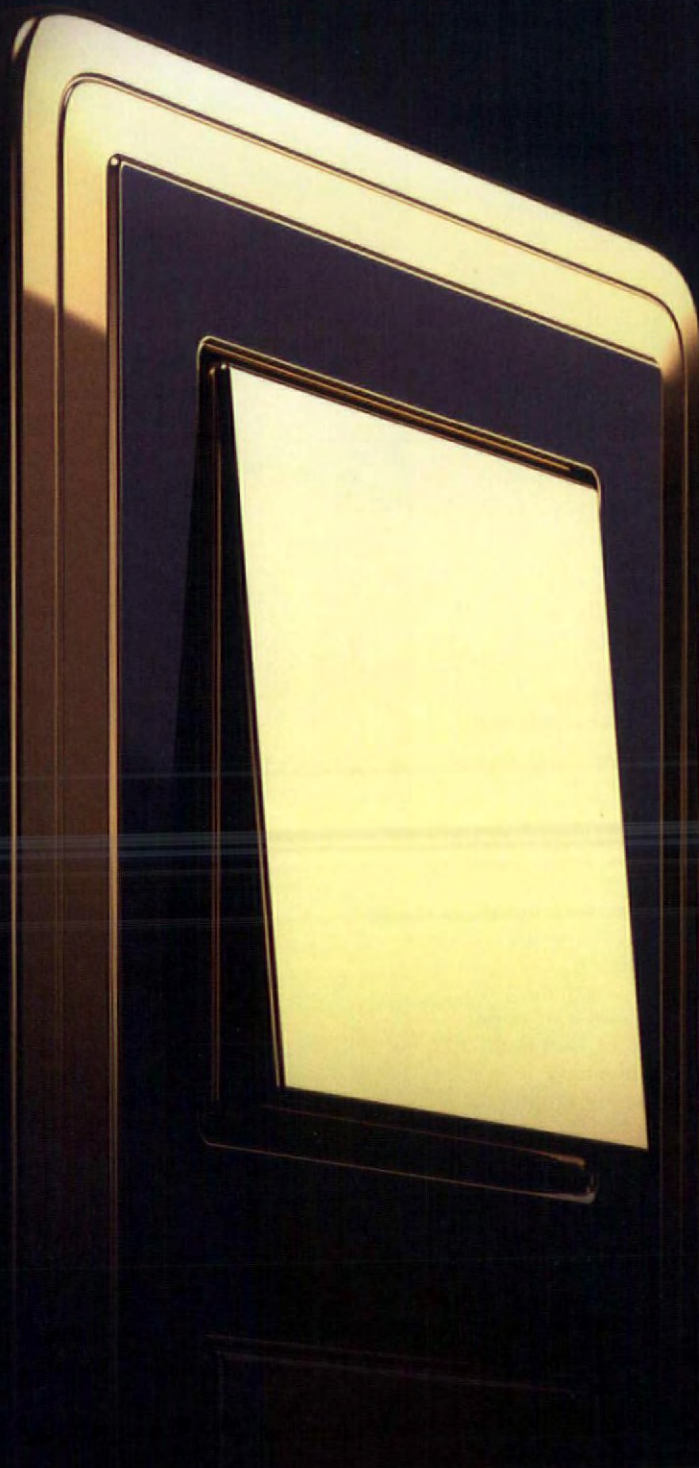
This food truck designed by architects at the local branch of Hassell and based on a Japanese market model popped up in the evenings around Melbourne during last year's State Of Design Festival.

Melburnians guessed at its whereabouts via Twitter and Facebook and, once they located it, claimed food and sake prepared by a local noodle bar. Based on a commercial truck, it has its own independent structure which supports the disguising wall panels and equipment including refrigerators, yakatori grill, induction hobs and kitchen equipment. When last heard of, it was offered for sale as a mobile fast food facility.

15



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Fig.: Gira ClassiX, brass-black, insert brass

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The department has a five-year professional undergraduate program offering a bachelor's degree and three graduate programs with master's degrees. The graduate programs consist of three areas of study: (1) Master of Architecture in Urban Design and Environmental Studies (2 years, MAUD), (2) Master of Architecture, First Professional Degree (3.5 years, MArch I), (3) Master of Architecture, Post Professional Degree (1 year, MArch II).

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The undergraduate studies at the department are conducted in Chinese, except for a few 4th and 5th year design studios depending on each tutor's preference.

The postgraduate studies will embark on an international program taught in English for M Arch II Architectural Design Program from 2014 Fall, whereas all the other postgraduate programs will remain as they are now taught in Chinese.

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View from...



Phnom Penh's Central Market dates from 1937. The formerly languishing Art Deco structure was recently renovated by Arte Charpentier Architectes

ARTE CHARPENTIER ARCHITECTES

Phnom Penh, Cambodia

One of Asia's most architecturally intact cities, Phnom Penh is now grappling with the familiar pressures of development, says *Geoff Pyle*

As Cambodia re-establishes itself after colonialism and a brutal war, it has become the focus of investment from Asian property developers. Phnom Penh, once planned around French notions of an Indo-Chinese city, finds itself in a quandary over its future form and character.

Phnom Penh has twice had the honour of being the capital of Cambodia. The first time was in the 15th century, when Angkor became unsuitable and the royal court moved south to the banks of the Mekong; then again in the mid 19th century when Cambodia, located between its more populous neighbours Thailand and Vietnam, voluntarily became a French protectorate.

Of the first city, built in timber on a flood plain, nothing remains. But the planning of modern Phnom Penh was fundamentally the result of Western and particularly French ideas. Even after the cordial granting of independence in 1953, masterplans developed by French designers were the basis of city growth through to the Khmer Rouge period in the late 1970s.

Now with a growing economy but still revenue-poor, Cambodia is moving into a new phase, combining aid from China and the West with commercial investment predominantly from Asia. The impact of this on city planning is becoming evident in terms of public urban space and the establishment of edge-cities.

The role of public space was recognised in the masterplan for Phnom Penh produced by the Municipality assisted by French urbanists – an example of aid provided as technical support. The 2007 plan has yet to be ratified by the government and may forever remain only a guideline. This is perhaps because, in the drive to re-establish Phnom Penh as a respected Asian capital, a traditional European framework is no longer very appealing. What are attractive are high-impact, externally funded developments such as high-rise satellite suburbs and city-centre projects.

At 39 storeys, the Vattanac Capital building is nearing completion. Incorporating the Cambodian stock exchange and designed by TFP Farrells with Arup, it is shaped to represent a dragon, a symbol of good fortune. It sits next to another new office tower and across a square from the renovated 1930s concrete railway station. The city's Central Market, a rather extraordinary French colonial Art Deco homage, and once the largest market in Asia, has also been refurbished. However the construction of the Korean-funded 'Gold Tower 42', about a kilometre away has stalled at 31 storeys, and it's currently unclear whether it will reach the full 42.

A number of satellite projects are either proposed or under construction. Conceived and planned by their Asian backers,

they are intended to create independent centres. The 2007 masterplan envisages Phnom Penh as a multi-polar city, but the avenues and public spaces it proposes should connect and integrate these nodes – which require initiative and investment from the authorities – are absent.

Existing public space is also under pressure of development. The 1964 Olympic Stadium, one of a number of important public buildings by Cambodian architect Vann Molyvann is used daily by hundreds of locals. Protection of heritage structures generally is discussed but lacks legislation. Lakes are regularly filled in for development, putting stress on the drainage system, and local communities are relocated. The lack of a ratified masterplan and zoning strategy can result in unexpected juxtapositions, requiring guesswork by architects about what may happen on the site next door.

But these are the growing pains of a fascinating city which is rearticulating its identity. More Cambodian architects and planners are graduating and there are visionary individuals at city and government level. The heart of Phnom Penh, the envy of Singapore in the 1960s, still has its early 20th-century charm. Ultimately, whether the city retains its distinctive mix of European and Asian influences depends on its residents.

Your views



Renzo at Ronchamp continues to elicit dismayed response

One cannot congratulate *The Architectural Review* enough for having published the text by William JR Curtis with its sharp and incisive criticisms of the disastrous interventions by Renzo Piano and Michel Corajoud at Ronchamp (AR August). For millennia, this hill top supplied a key viewpoint on the way to the Alps, and the spirit of the place was magnified by Le Corbusier's masterpiece. With the dubious pretext of inserting nuns in a burrow, the Piano/Corajoud project has degraded Ronchamp to the level of a stop on guided tours. Perched like a jug on the roof of a mini-market, the poor Chapel has now lost its footing and is reduced to a subject for discussions of architectural language: curved or not curved, coloured or black and white. Masterpieces of human sensibility are precariously reliant upon a few things well done, but human stupidity and vulgarity know no limits.

Laurent Salomon, ASA, Président de la Société Française de Architectes, Professor at l'Ecole Nationale Supérieure d'Architecture de Paris-Belleville

William JR Curtis' text dedicated to the new entrance facilities and convent at Ronchamp is an extremely insightful, measured and objective assessment of Renzo Piano's building and the process that led to its construction. Over the years I have often visited Ronchamp with William and groups of students; he shared with us his profound knowledge of the site's history, of the Chapel and of Le Corbusier's intentions. As the process of design and construction of the new facilities evolved, his concern always was that Le Corbusier's timeless and universal masterpiece should remain intact. He closely followed the many stages of the process and kept a distance from the two camps that collected signatures through petitions for or against Piano's project. While understanding the need to improve the entrance building, he was doubtful about

the place of the convent and related facilities. Early in the process he had warned that the proposed buildings might be an 'architectural' contamination that would undermine the millenary sacred site. Sadly, he has proved to be right.

The new structures do not satisfy the promise that the intense relationship between the site and the Chapel would not be affected. The inexcusable 'privatisation' of the site's entry gate and the related irruption of the car into the pilgrims' ascending spiritual promenade (religious or architectural) constitute an irreparable alteration of a place that has preserved a keen spirituality through the centuries, one that an architect with such a deep sense of the poetics of a site like Le Corbusier had interpreted to the highest degree.

Professor Alejandro Lapunzina School of Architecture, University of Illinois at Urbana-Champaign

Whether the blame belongs to the well-intended client or the very capable architect, or both, the results of the additions to Ronchamp diminish that very unexpected masterpiece. It is an issue of control: how to keep architecture from disciplining what Corb left untamed and 'natural'. Perhaps it's not in the genes of the systems architect who co-invented the Pompidou Centre to take on the disobedient mysteries of a sanctuary whose power is rooted in a sense of wonder.

Piano is a linear architect who rules space, and the mismatch we feel is the confrontation between his sense of measure and the incommensurate that Corb so magically orchestrated on the site and in the chapel. Also, though Piano is a master of light, his light is secular, and has little to do with Corb's sense of light as mystery revealed. Thanks to Mr Curtis for trying to protect the fragile. The sublime is fugitive.

Joseph Giovannini New York architect and critic

When I opened the August AR and saw the double page illustration at the beginning of the article by William JR Curtis about Piano's horrific intervention at Ronchamp, I nearly had a fit. What a disaster to have cut the ceremonial route of one of the most beautiful chapels in the world. I speak not only as a Mexican art historian deeply interested in 20th-century visual culture and in the sacred landscapes of Antiquity, but also as a private individual who chose to be married at Ronchamp 35 years ago. We all strolled casually up that path to discover the unfolding scenario of light, shade, geometry and landscape that was Corb's dream at Ronchamp. Now the pastoral pilgrim's route has been ruined by clumsy concrete walls, an electric gate and cars on the sacred way. Curtis is right: a universal masterpiece has been ruined. Le Corbusier's vision is blemished for ever more.

Professor Alicia Azuela, Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México

I offer William JR Curtis my solidarity on his pertinent criticism of the deplorable intervention at Ronchamp – an architecture-landscape site – summit of 20th-century culture.

Blindness of the bureaucratic church, blindness of the architect, and blindness of the patrimony keepers. I treasure the memory of three visits to Ronchamp, under the rain, under a radiant sun, and amidst the fog: the mystery of space and the movement of forms. It is an enormous loss. **Teodoro González de León, architect, Mexico City. Collaborator at Le Corbusier's Atelier, 1947-48**

ERRATUM

Due to production difficulties, a double-page opening spread mysteriously disappeared from the September issue (p59), for which we apologise profusely.

To see the full article visit architectural-review.com

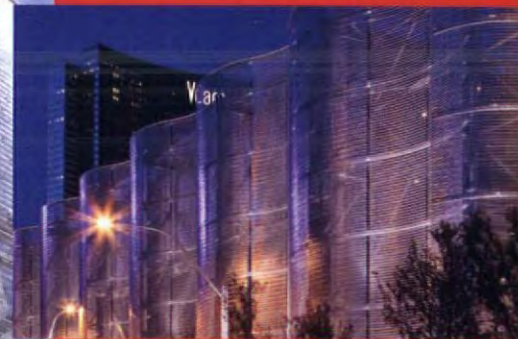
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Location: Las Vegas, NV

Architect: Pelli Clarke Pelli
Architects, New Haven, CT



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**GAGA
2012**

GLOBAL ARCHITECTURE GRADUATE AWARDS

With 350 entries from 38 countries,
the first year of the GAGAs represents
a cross section of the concerns that are
firing the world's architecture schools

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The B.R.I.C. House
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Royal College of Art,
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Recreation Association
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Regenerating Indian
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Vertical Form of
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TON NGOC VU
RMIT University,
Melbourne, Australia

With thanks to
our judges

Simon Allford
Matthew Barac
Niall McLaughlin
Clive Sall

Jury chair

Will Hunter

THE B.R.I.C. HOUSE HAIWEI XIE ROYAL COLLEGE OF ART, LONDON

For some time, a rich seam of resentment has been building up in London's poshest neighbourhood, Chelsea. Over recent years, its indigenous population – namely the English upper classes – has been increasingly overwhelmed and usurped by a steady influx of the foreign super-rich, a group apparently immune from the vagaries of the global financial meltdown. As one wit put it, 'the difference is no longer between the "haves" and the "have nots", but between the "haves" and the "have yachts".'

In 2009 these latent tensions were the subtle undercurrent in the furore over the Chelsea Barracks development, which briefly became the focus of protest about the scale of change. Designed by Rogers Stirk Harbour + Partners, the £1 billion 'Modernist proposal' (as all the newspapers called it) would have created luxury blocks of apartments on the 5.2 hectare site, on a completely different development grain to the surrounding London streets. His sensibility offended, Prince Charles stepped in and wrote to the site's Qatari owners to have a word. The scheme was dropped; Lord Rogers was furious; and newspaper property editors all had a whale of a time for a while.

At the time the debate over what sort of development would fit the site was typically polarised between the 'Modernists' and the 'traditionalists' – Quinlan Terry even making an alternative proposal on more Classical lines. However the inaugural winning project of the Global Architecture Graduate Awards could possibly satisfy both camps, with its progressive high-density combined with its traditional urban morphology; the only sticking point for the traditionalists might be that the urban forms are foreign imports.

Designed by Chinese student Haiwei Xie at the Royal College of Art, the project title B.R.I.C. House combines the traditional English picture of domesticity

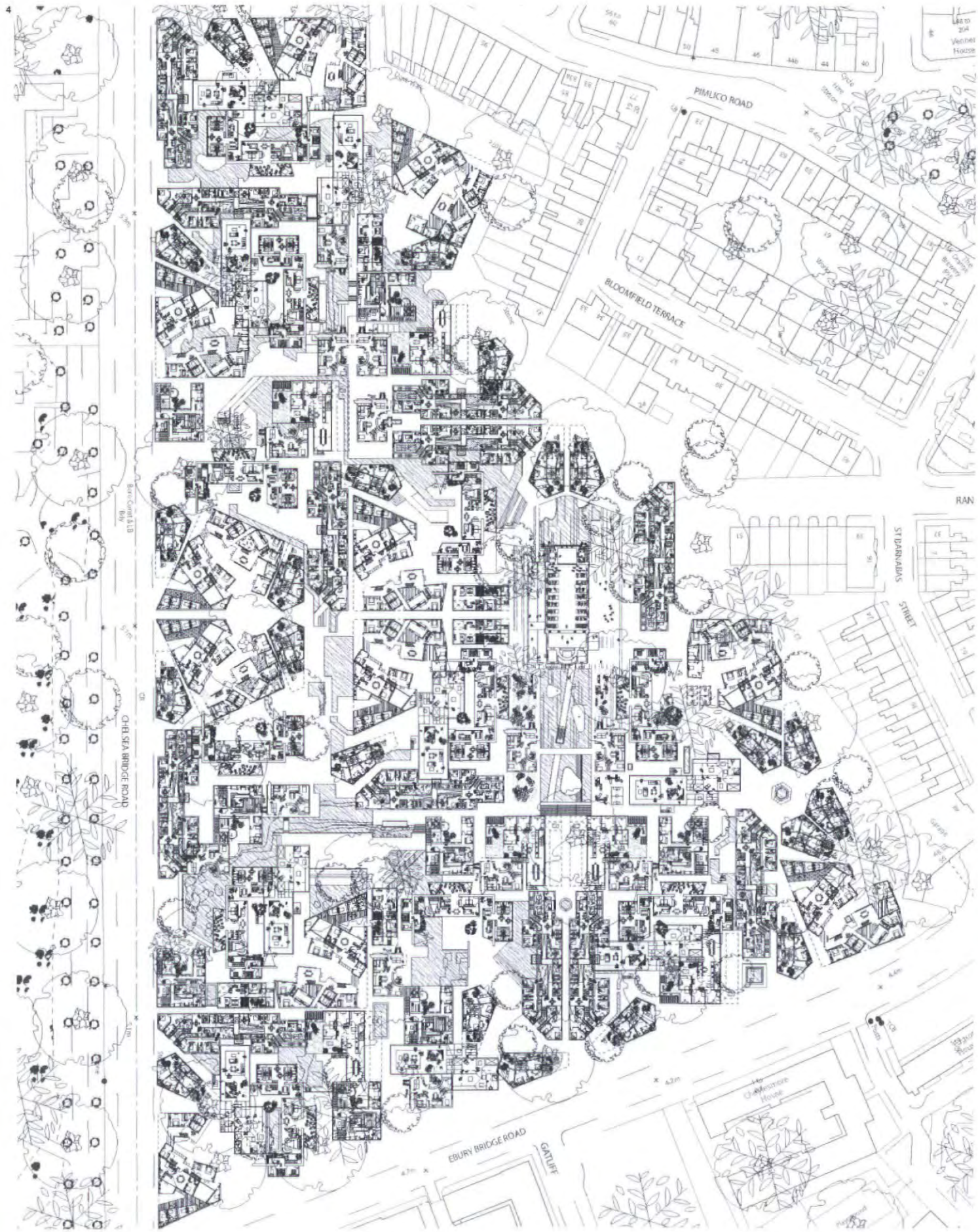
with the acronym for the emerging economic nations – Brazil, Russia, India and China – whose diasporas are already well represented in Chelsea's flush new arrivals. But far from catering to this global elite, the scheme is designed to be more inclusive. 'The intention is to create a high-quality but low-price, high-density but low-rise housing development aimed at a diverse and multi-cultural society,' says its designer.

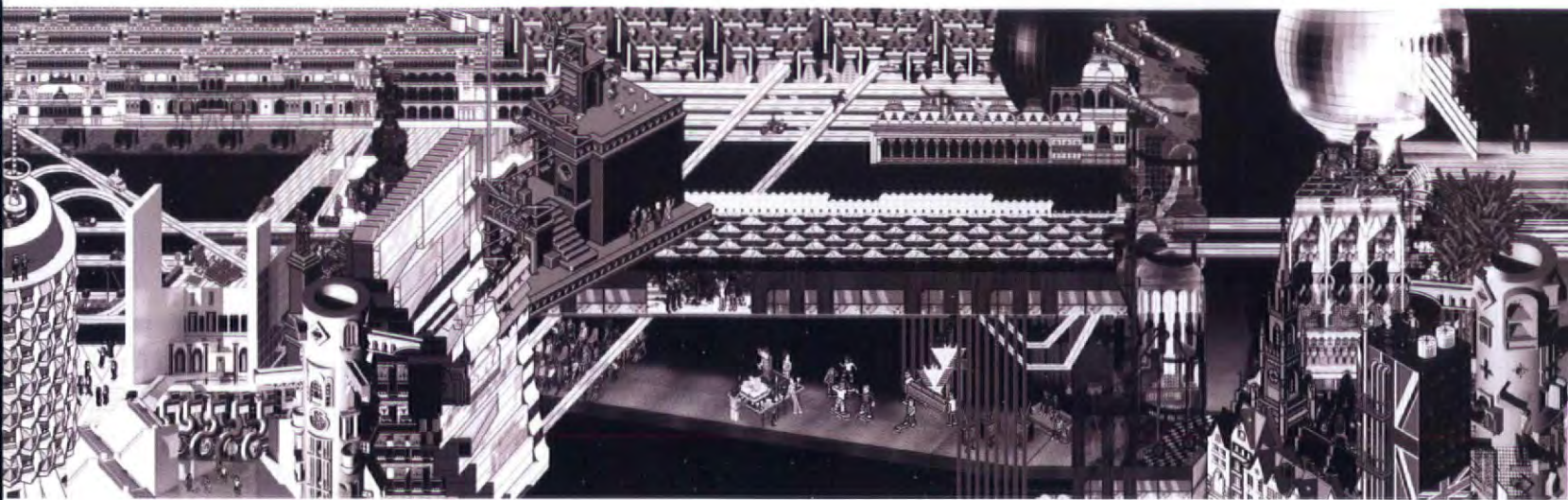
The architecture is shaped for the emerging groups of single parents, single persons and immigrants, and accordingly prioritises public space over private provision. Everything but personal bedrooms is shared, and Xie develops what she calls 'public living rooms', using development patterns borrowed from the four B.R.I.C. nations.

The project convincingly positions itself, not only in the global political and economic landscape, but also, architecturally, as a proposal for one of the capital city's most contested sites. The dexterity and bravura of the presentation's sampling of recognisable elements from many different places in order to make something new and distinctive neatly marries Xie's visual rhetoric with her intellectual intent. It is also, in its more-or-less happy collision of cultures, a perfect metaphor for how the story of London is evolving; and – as the tale of a Chinese student coming to a London institution, thriving, and winning a global award – a small parable of that larger 21st-century story: East meets West.

1-4. Haiwei Xie's representational strategy marries the axonometry of traditional Chinese scroll painting and the digital world of *The Sims* to create a truly global hybrid











UNIT 2

REDUNDANT ARCHITECTS
RECREATION ASSOCIATION
(R.A.R.A.)



5. Appropriately enough, an exemplar of Martin Pawley's 'terminal architecture' houses the RARA workshop
 6. RARA participants recently completed a table tennis table for 3 players
 7. Doggy vision: a 9-metre high periscopic sculpture made by RARA at the Secret Garden Party, Cambridgeshire
 8. (Overleaf) non-hierarchical structures, like threeway ping pong, suggest new ways of working

6



RARA JOE SWIFT LONDON, UK

The Redundant Architects Recreation Association (RARA) furthers the debate about both how architects should operate in the world and how they should be trained at architecture school.

A product of London Metropolitan, RARA was started by two of its students, Sam Potts and Joe Swift. After setting it up, both Potts and Swift gravitated towards Robert Mull's and Peter Carl's 'free unit', where students generate their own briefs and have to enact them in the real world. At its most basic description, RARA is, says its website, 'a flexible project work space established in Clapton, London'. But beyond that, it operates as a piece of professional and social infrastructure to make small projects happen.

Yet while RARA does actually build real projects – that rarity in itself in contemporary

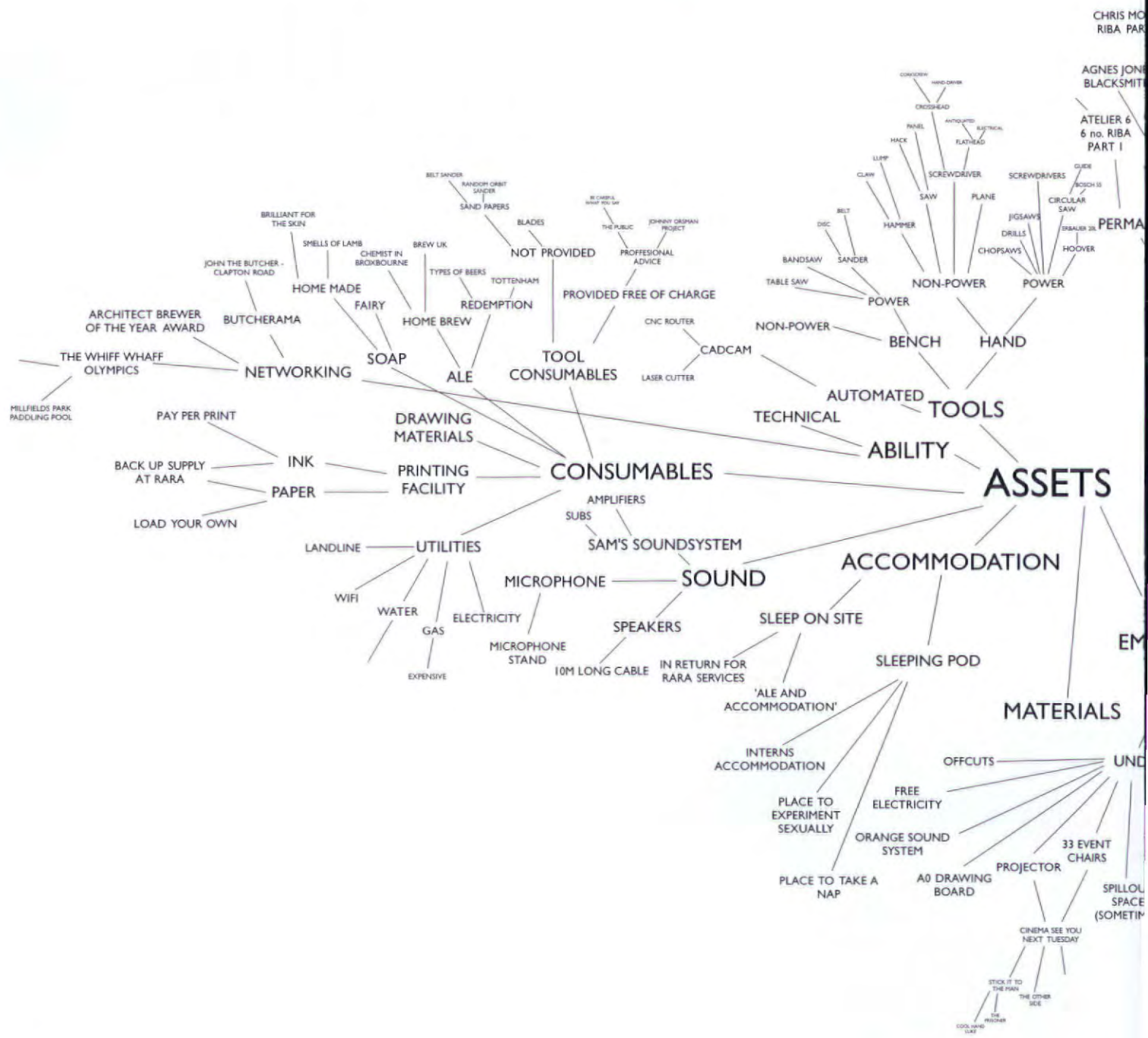
architectural education – the most complex part of its architecture is the design of the organisation itself.

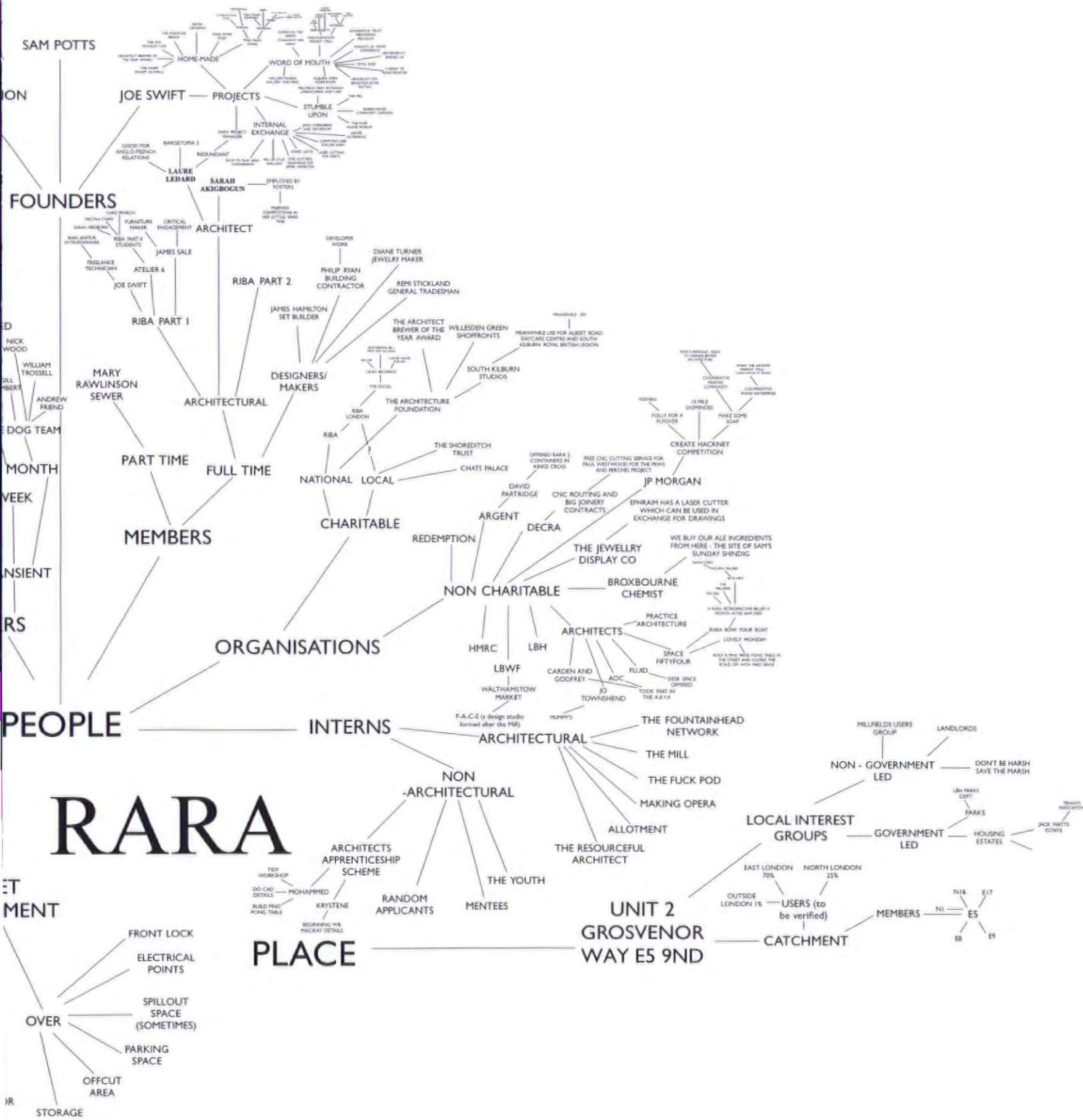
This was the focus of Swift's work when he entered the free unit for his final year. RARA had already had quite a lot of industry attention by then. As part of its pedagogy, each free unit student is asked to identify its 'friends' who will help make their project possible. Swift identified organisations such as the Royal Institute of British Architects, who had made overtures. A fruitful line of enquiry opened up, however, when these august institutions were considered as enemies instead. This led to a critical interest in RARA's constitution, and Swift is now making the organisation a registered co-operative.

Very sadly, in his second year, Potts was tragically diagnosed with cancer and passed away. Swift has been determined to carry on the work he started with his friend and RARA goes from strength to strength.

7







REGENERATING INDIAN PUBLIC SPACE ALMUDENA CANO PINEIRO MADRID, SPAIN

The Pols of Ahmedabad have a traditional settlement pattern that responds to both climate (with a close urban grain to protect from the sun) and social structures (with carved wooden gates to protect the courtyard shared by a small cluster of houses). Currently UNESCO is deciding whether to list the Pols as a World Heritage site.

A graduate of Escuela Técnica superior de Arquitectura de Madrid in Spain, Almudena Cano Piñero sought to improve the public space and infrastructure of the Pols while being respectful of their architectural heritage. Combining a mapping of traditional daily activities with a catalogue of technical tools – from structural systems, climate control mechanisms and low-cost recycling technologies – the proposal creates a kit of parts that can be used to make adjustments to the fabric.

Despite the range in scales and functions, all the interventions have a shared architectural language, which could perhaps be described as 'shoe string high-tech', and the judges praised this resolution, as well as the student's clear championing of the idea of architecture as an agent for positive change.

9



9 & 10 (Overleaf) sensitive small-scale interventions throughout the settlement respond to traditional patterns of use with 'shoe string high tech' solutions

*0.0 THE RESEARCH

This project explores a potential methodology for urban interventions in the historic city core areas.

These traditional tissues are currently facing the effects of external forces, result of rapid development and hard socio-economic pressures.

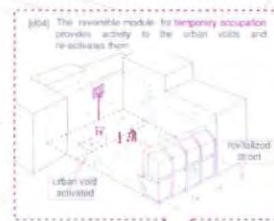
The proposal calls for an integral approach in the revitalization of traditional urban areas.



THE PROPOSAL

In opposition to the renewal programs that ignore the existing architectural and cultural heritage, this project proposes a number of innovative strategies to regenerate the traditional public space:

a CATALOGUE of urban TOOLS that solves the lack of infrastructure (water, drainage...) and preserves traditional way of life by improving the quality of the common spaces.



In production and construction process they can participate not only qualified labor but also non specialized neighborhood.



The ENTRANCE of the Por: the spatial concept of "in-between"

The in-between refers to the space of actual physical change that finds expression linking two areas with distinct environmental qualities. Whether it is the entrance of the city through the fort wall or the ancient doors of the Por, the connection between outside and inside revolves around the idea of transition, incorporating symbolic as well as functional values.



The collective laundry



The temporary eco-parking



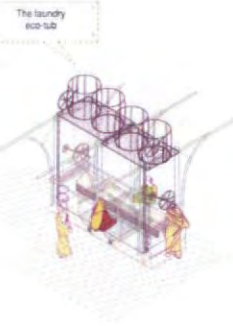
The communal kitchen



The seasonal greenhouse



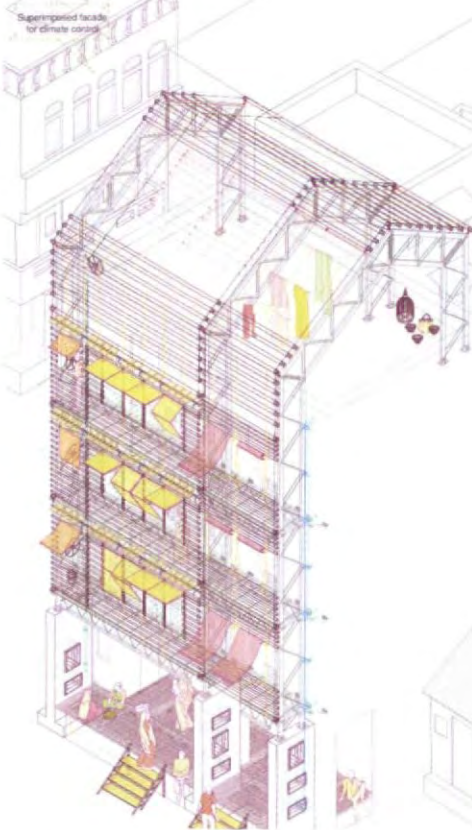
The laundry eco-tub



The kitchen with vegetable garden



Superimposed facade for climate control



Reversible module for temporary occupation



Laundry tubs for hydroponics



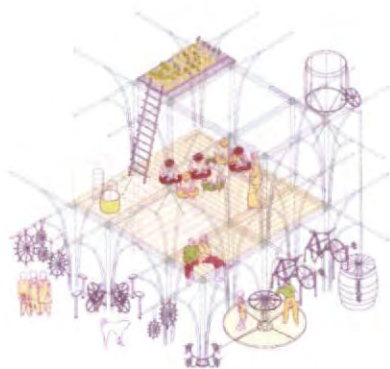
The collective washing sink



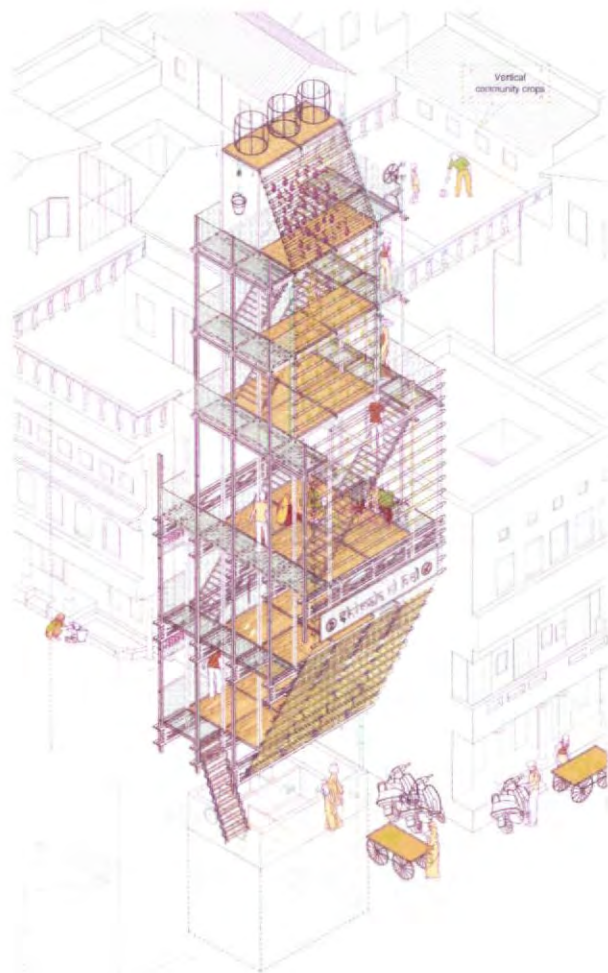
Cows stables and latrines



The after-school playground



The rainwater collector device

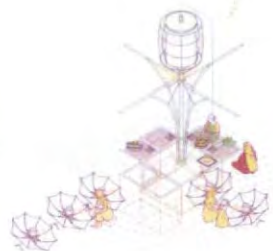


Vertical community crops

Communal solar showers



The solar kitchen



* TRADITIONAL DAILY ACTIVITIES

cooking



washing



cloth drying



washing clothes



commerce



gathering



playing



resting



urban farming

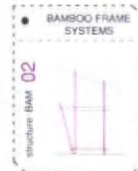
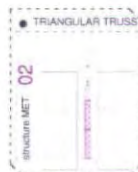
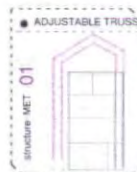


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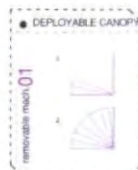
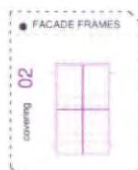


* CATALOGUE OF TOOLS

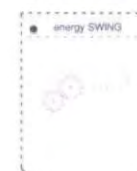
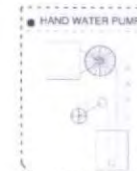
STRUCTURAL SYSTEMS



CLIMATE CONTROL MECHANISMS



LOW-COST RECYCLING TECHNOLOGIES

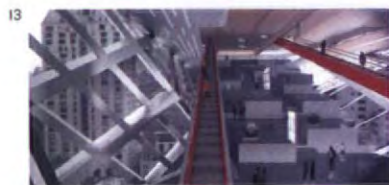
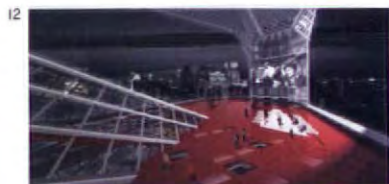




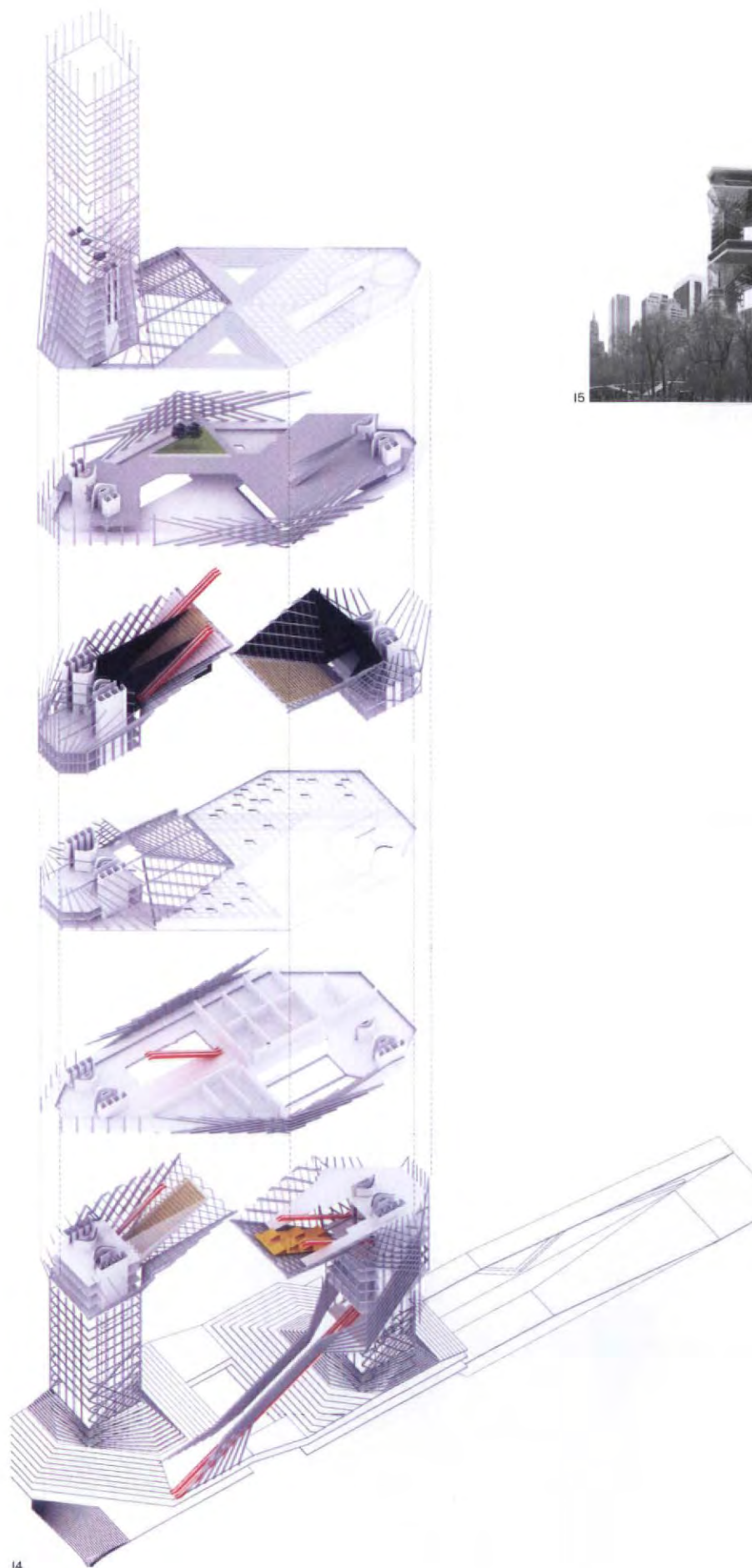
VERTICAL FORM OF PUBLIC CONTROL JAE KYUNG KIM MASSACHUSETTS, USA

On the edge of Central Park in New York, this high-rise mixed-use building, by MIT graduate Jae Kyung Kim, reinterprets the notion of the grid in two key ways. At an urban scale, through an analysis of how the street grid has historically limited the provision of public space, the project creates sequenced layers of ground, bringing the public up through the building in surprising ways, playing with your perceptions of promenade, horizon and threshold. Secondly, the Cartesian/Miesian tower grid that traditionally organises both the structure and the envelope, has been discarded to make a twisted form that responds to programme and environment.

Alongside the plazas, the building has a shopping arcade, gallery and theatre, with hotel and residential accommodation – a true attempt to create a city in a building.



11. (Opposite) the tower superimposes new layers of public space on the Manhattan city grid
12 & 13. Viewing platforms and escalators take advantage of the scenery
14. Stacked twisted volumes create a varied succession of floor plans
15. The tower adds a new element to the NY skyline: the architectural void



15



THE FAMILY HAMLET GORDON SELBACH DESSAU, GERMANY

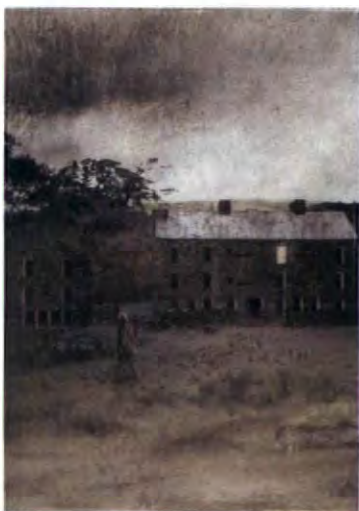
A proposal for a dwelling in a remote valley in the English county of Cumbria, the 'Hamlet' of the project's title refers to a small rural settlement, though it could equally recall the complex familial dynamics of the Shakespearean tragedy.

'My father has five children from three different wives,' says its designer Gordon Selbach.

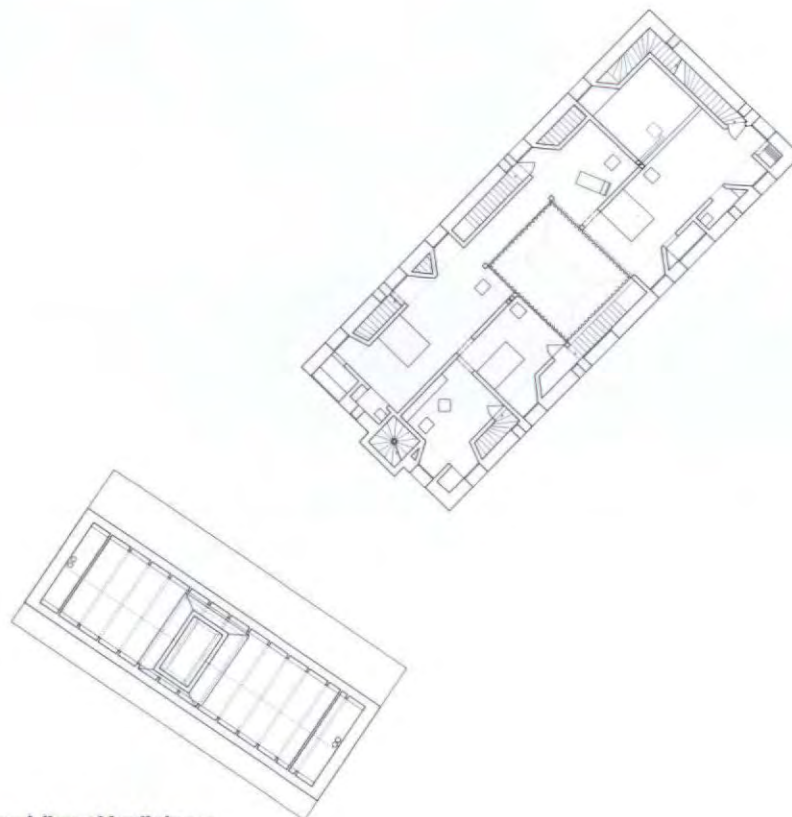
'Our family structure is very chaotic, my relatives are all at odds with each other.'

The project explores whether architecture can mediate such troubled relationships. Like much of family life, a conventional appearance belies a more troubled interior reality. While externally it may look like a pair of vernacular stone buildings, the simple massing joins a parents' house with half-a-dozen separate apartments for warring offspring. Much of the heavy masonry remains uninsulated, with pockets of freezing circulatory space lining the periphery.

Chilling, also, is the way the project has been visualised: the hauntingly grainy visualisations would need only the addition of a title and an 18 certification to become the DVD cover of a horror film. And it is this artful alignment of concept and visual sensibility that impressed the judges, winning this diminutive yet complete project its place in the GAGA shortlist.



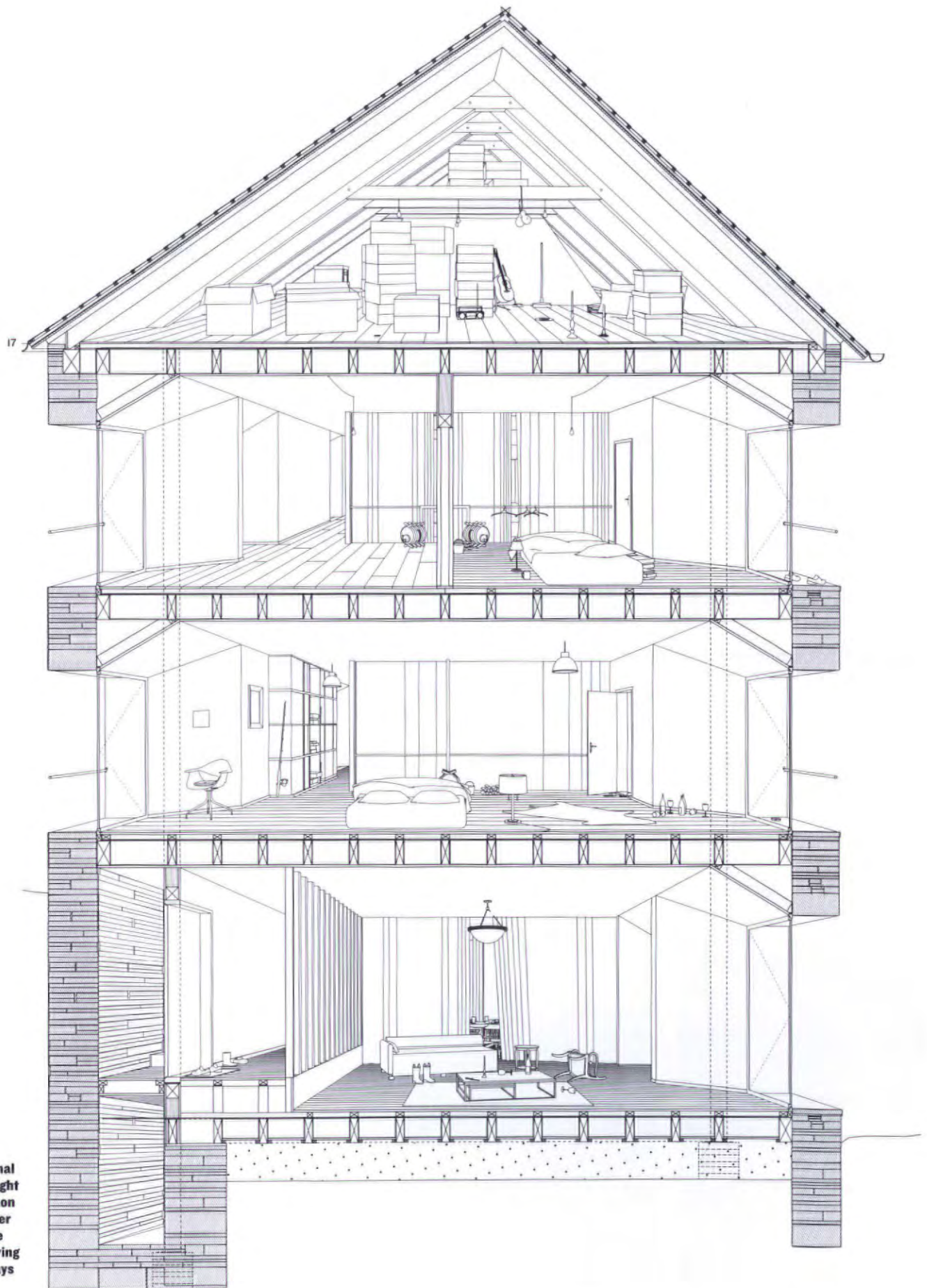
16



second floor of family house
and roof of parents' house



second floor of parents' house
and first floor of family house



16. Visualised in a dismal landscape, a solitary light does not so much beckon as unsettle the observer
 17. Cross section of the children's house, showing the narrow passageways that line the walls

18



19



21

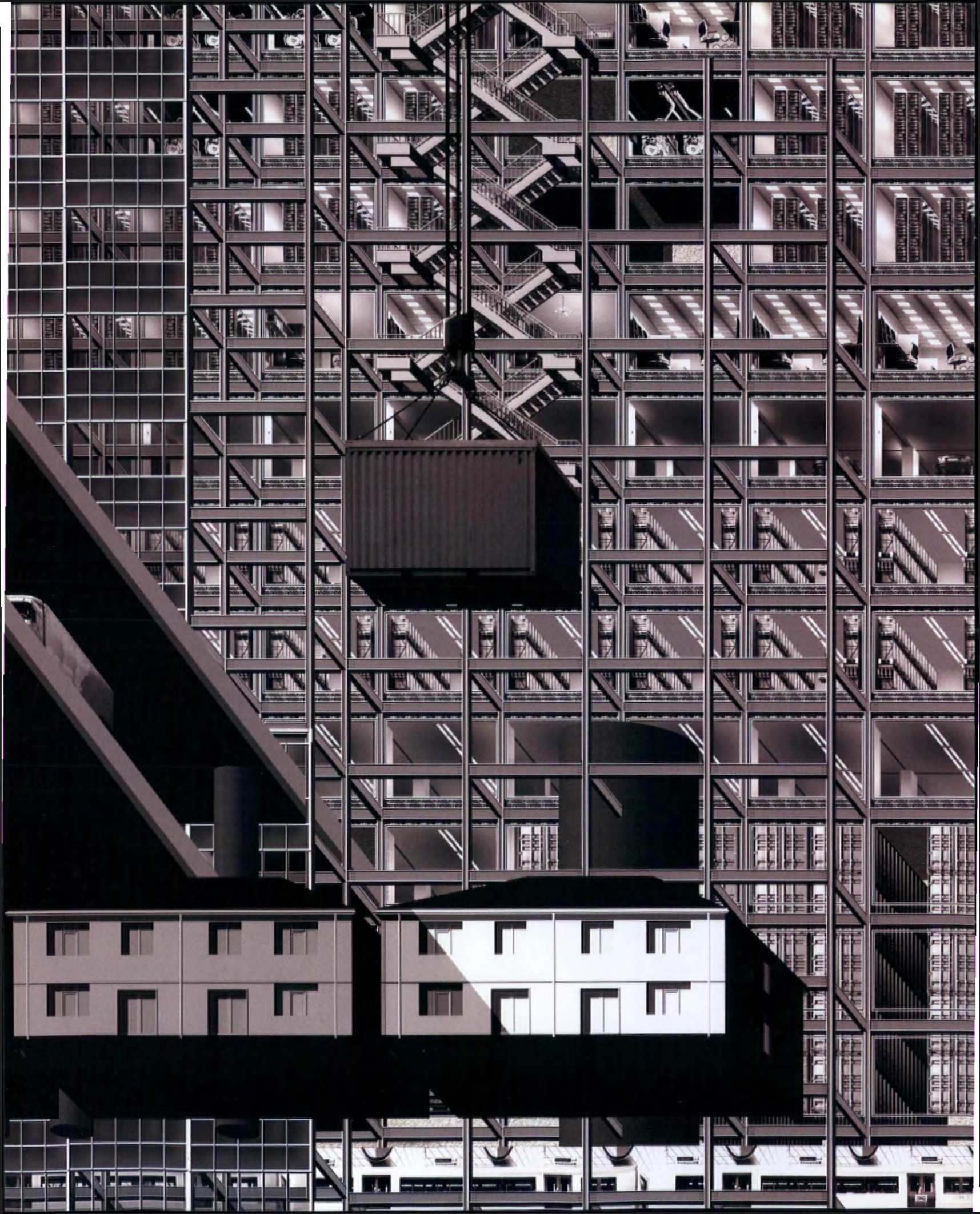


22



18-20. (Opposite) the lone figures in Gordon Selbach's house for his dysfunctional family turn away from the viewer, their body language eloquently anomic
21 & 22. Shadowy passageways recede abysmally into the void





**SLOUGH
GLOBAL CITY
SIMON MOXEY
LONDON, UK**

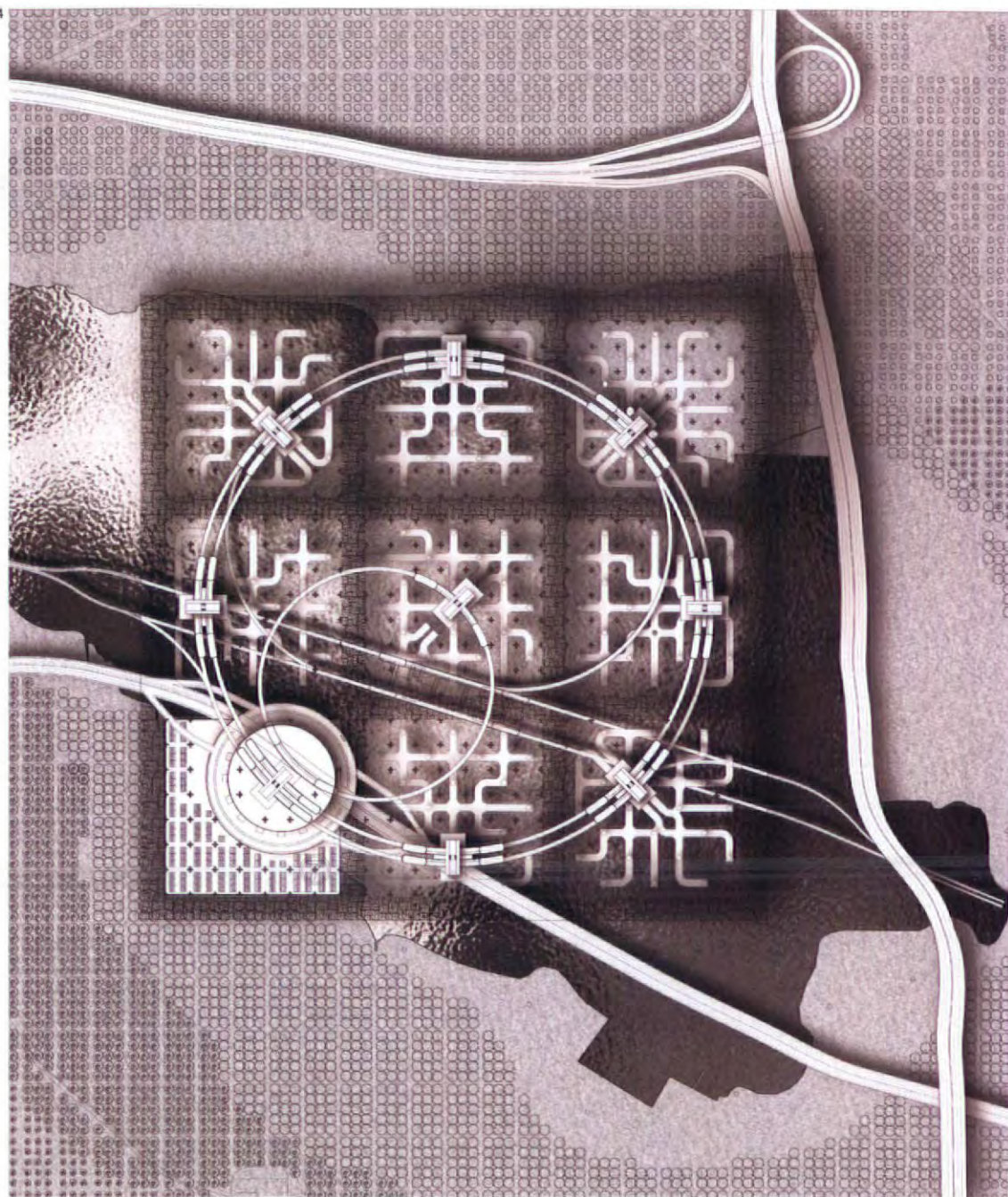
The word 'slough' – like sludge, slurry and slime – is almost onomatopoeically awful. In old English it means 'a swamp; a miry place; a quagmire', an image that the place Slough itself hasn't entirely shaken off. Should the AR's international readers have heard of this town in England's south-east at all, it is probably as the setting of the BBC's comedy series *The Office* – which despite its hilarity is hardly likely to improve your impression of the place. Slough seems, in short, an unlikely site for architectural speculation.

However to Royal College of Art student Simon Moxey the place is on the up. 'In July, Slough became the European entry point for the first transatlantic fibre-optic cable laid since the dotcom boom,' he beams. 'This new cable will shave five milliseconds off the time it takes to make a trade between Europe and New York.' And while this may seem finical and trifling, to high-frequency trading firms the principle of 'time is money' needs a finer measure than grains of sand, with each millisecond apparently having million-dollar implications.

While this may seem an unusual starting point for an architectural project, the banal can often shape the whole identity of cities. The brick party walls required post-Fire of London engendered the city's terraced town houses; while the invention of the lift gave rise to the towering ambitions of the American city. Why not an urbanism configured to cable latency, and the time it takes to send a message?

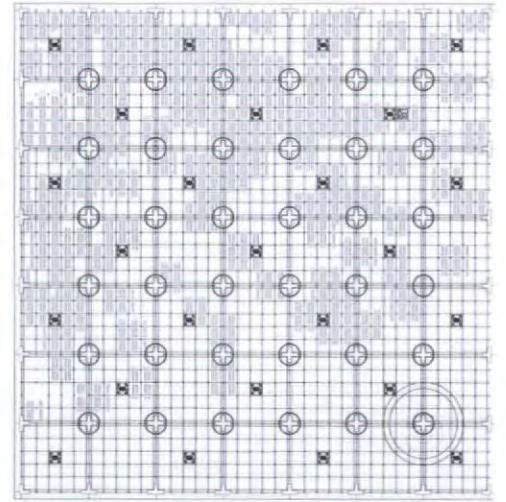
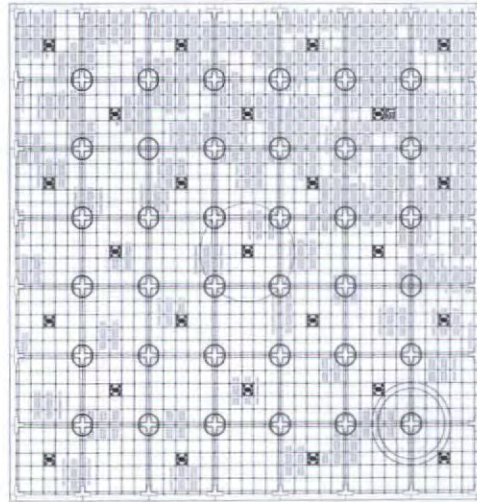
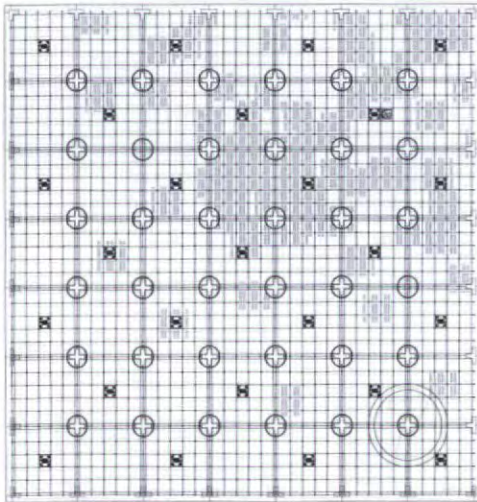
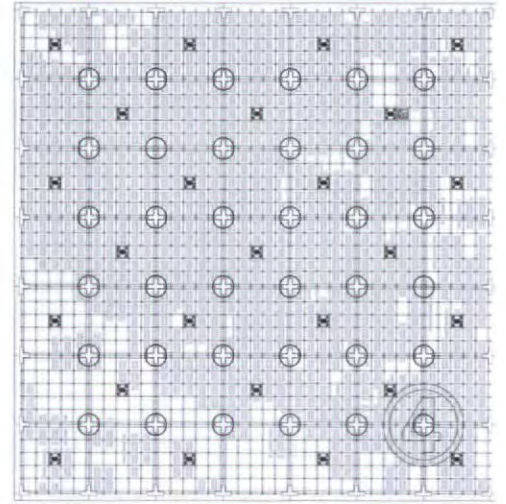
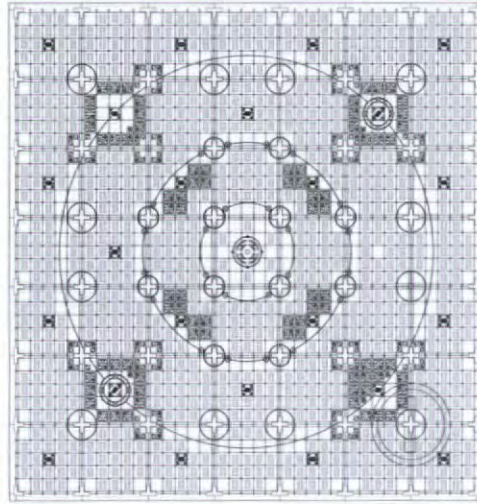
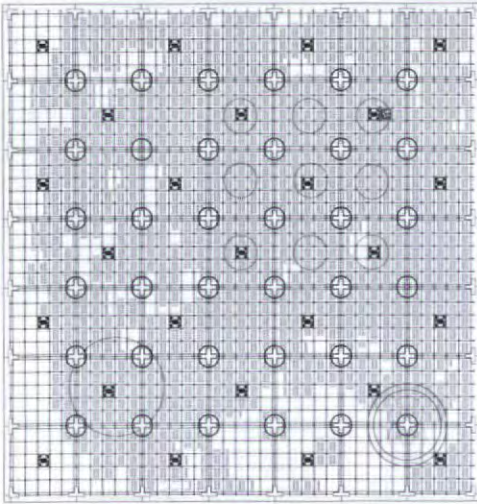
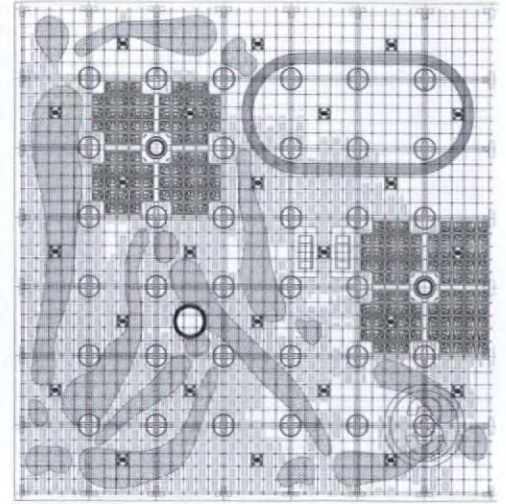
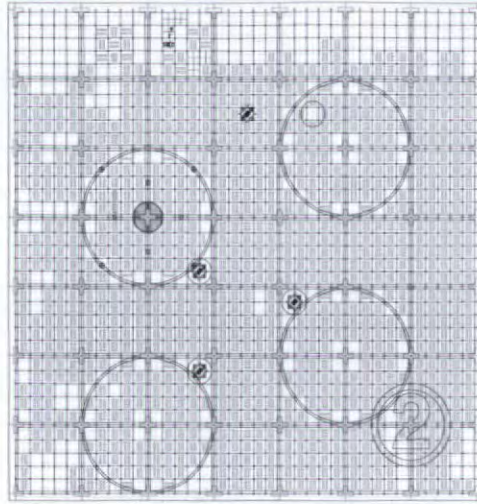
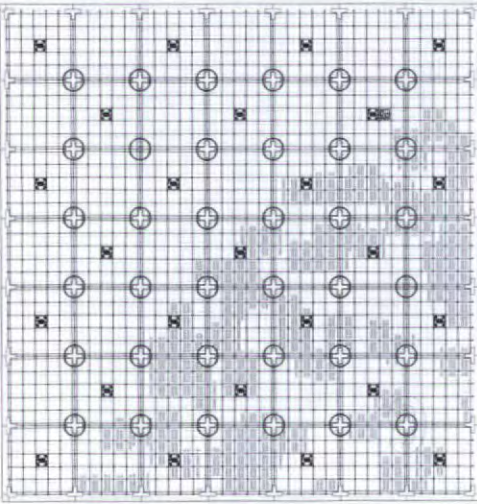
Slough Global City reimagines Slough as a higher-speed Canary Wharf, usurping the existing financial centres of the City and Docklands (itself, in its time, a usurper), in order to regenerate the fortunes of a maligned outer town. And if the idea of a development laid out according to the whim of bankers makes you feel uncomfortable, it is meant to.

24



Though GAGA set out to move away from the recent celebration of dystopia in architectural student projects, the judges felt that the scheme didn't fit into that category. Though it questions attitudes to the relationship between capital and development, it does so not merely by offering a critique but by making a proposal. And though it may be depressing in its expression, it is entirely plausible. If Slough Council could find a financial backer, it could even be the best thing to happen to the place since *The Office* first aired.

23. (Opposite) 'the digital becomes manifest as a square mile grid of analogue glass and steel, frantically trying to keep pace with the demand for growth and transformation'
24. The city as a circuit board



**25. The mobile units of
Slough Global City team
around the entry point
of a transatlantic
fibre-optic cable**



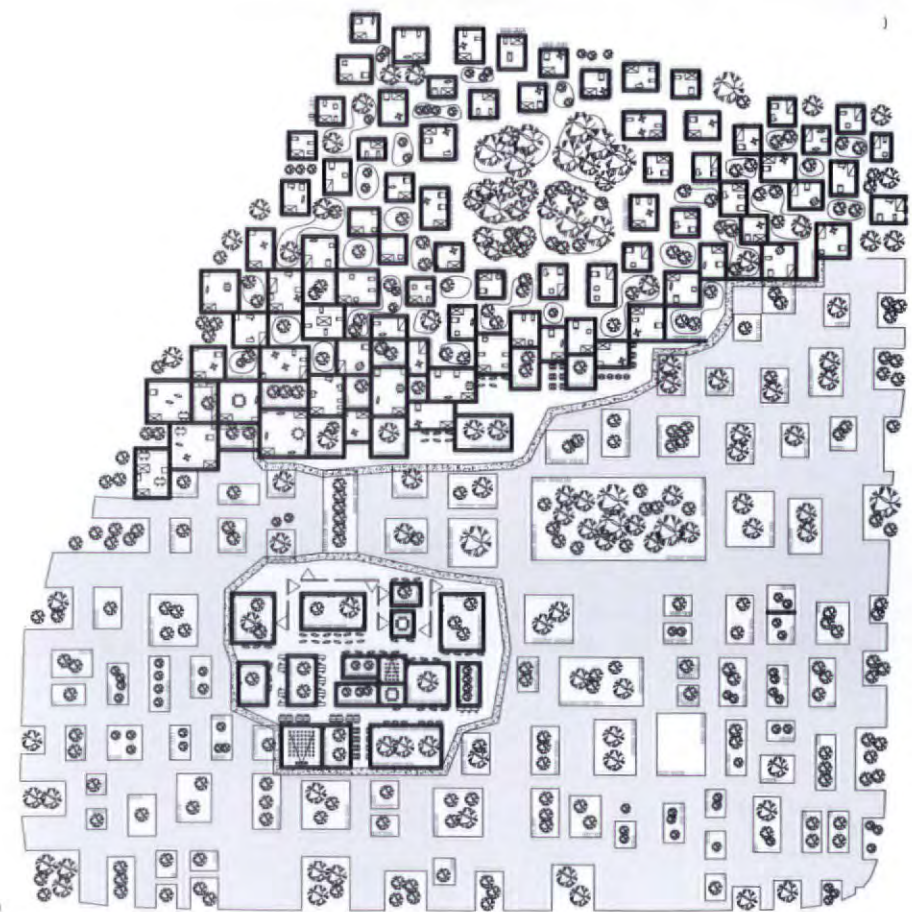
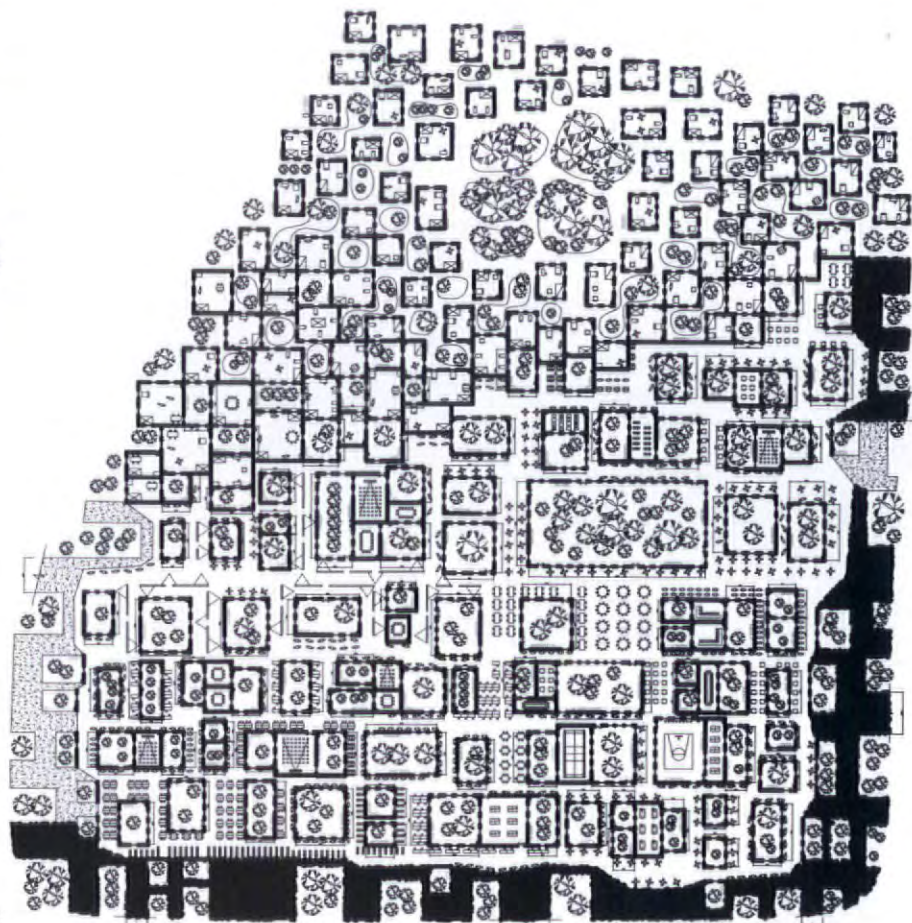
26 & 27. Squares and alleys naturally become the public spaces of the organic agglomeration
28 & 29. Different densities permit a more varied urban fabric than rigid top-down grid plans
30. (Overleaf) punning on the radical reversibility of axonometry, Wang's visualisation oscillates between negative and positive space like an Escher drawing

MICROPOLIS FEI WANG BEIJING, CHINA

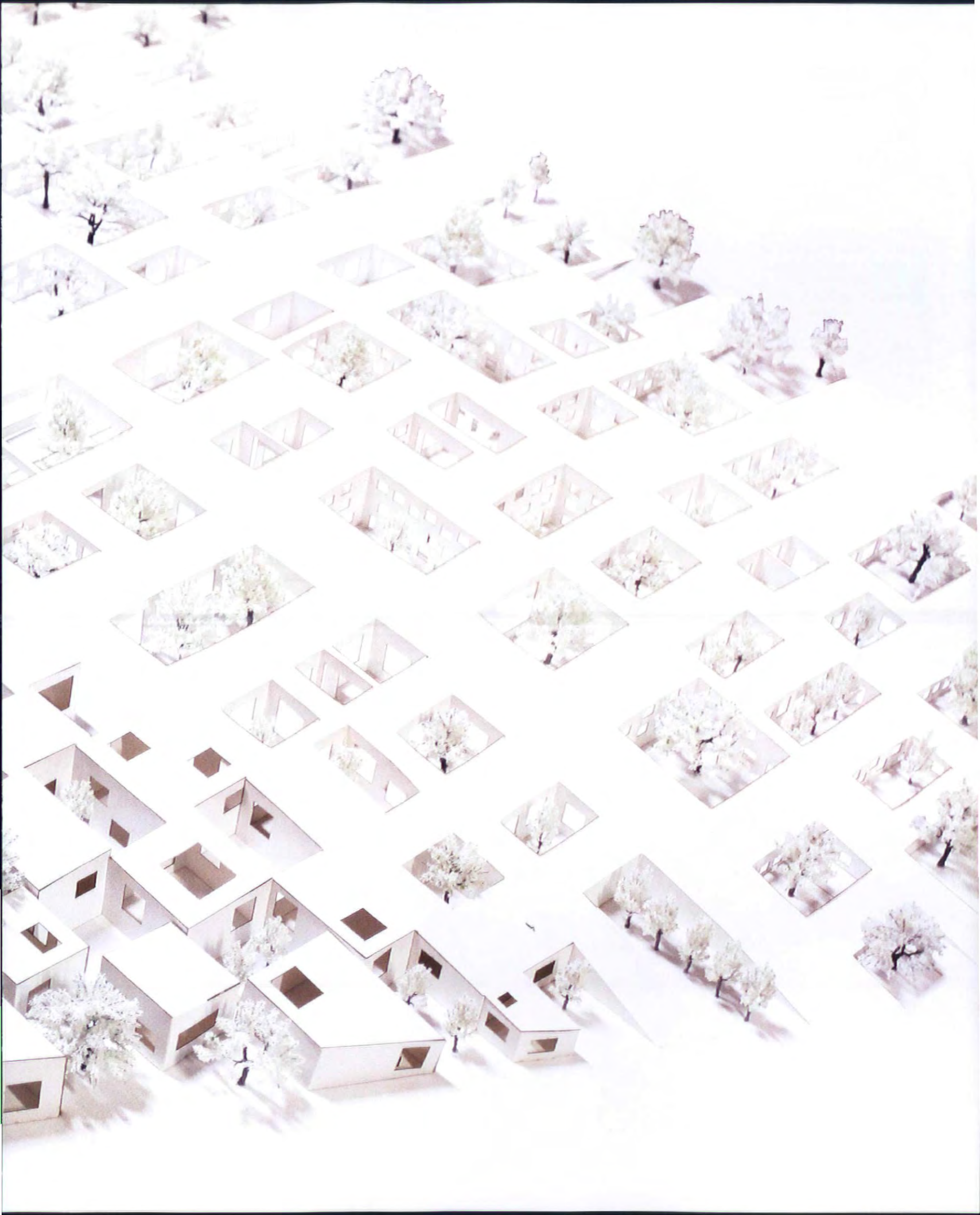
In last month's AR special issue, Pascal Hartmann described China as 'the largest urbanisation project in history'. In 2011 the country's urban population exceeded its rural population for the first time, with some 691 million people now living in cities. The impact of this shift, Hartmann argued, will reverberate far beyond China's borders to 'shape the 21st century'. The role of architecture in the outcome of this transition could be pivotal.

As a riposte to the mega-scale development that has so far typified this growth, Micropolis is an alternative vision of Chinese urbanisation based on historic development patterns such as *siheyuan*, the traditional courtyard dwellings that were particularly prevalent in Beijing. Its creator, Fei Wang, has sought to make an urbanism that, instead of starting from the masterplan, begins with the human scale of the domestic. Arranged around either closed or open courtyards, individual dwellings are aggregated to create a legible yet complex piece of city.

The judges liked the project's appreciation for intimate spaces and everyday urban life, while at the same time admiring how this sensibility – Sana'a meets Archizoom – would not greatly impede the drive for mega-scale, rapid development; and therefore might be compatible with to market conditions. It is a compelling imagining of the future Chinese city.







INFILTRATING LIVING ALLEYS YANG YUNG CHEN TUNG HAI UNIVERSITY, TAIWAN

Set on the historic island of Chijin, Taiwan, the project attempts to reconcile the disruptive arrival of a casino-based tourist development with the island's long-established fishing community. To this end a vacant plot of land is identified as a suitable location for a school extension; an unassuming architectural typology conceived as the most effective of social condensers.

Acting as a counterpoint to the emerging and existing social conditions, the school is thus addressed as a nexus around which communities revolve and intertwine. Ritual as well as performance within architectural space, as well as elements such as light, matter and even wind are all considered as valid tools with which the threshold between public and private might be blurred.

32



31 & 32. Earmarked for future development, Chijin is a major tourist destination as well as being a working fishing community. Yang Yung Chen envisages a school that will help young islanders cross the bridge between productive and service economies

31





THE FIELDS OF TAYIBE AMIN YASSIN ISRAEL

'The defeat of the Arab city of Palestine marked a turning point in the Arab population's history and collective memory,' says Amin Yassin, a graduate of Technion, Institute of Technology in Israel. 'The surrender of Arab cities made it impossible to redevelop any new urban Arab existence. Rural became the only option.'

Tayibe is the third largest Arab town in Israel, currently with 40,000 citizens, and it is projected to grow over the coming decades, expanding into the fields around it. The proposal tries to create a new type of building for such a town, one that allows this growth, while engendering an enhanced urban quality.

The three-storey building essentially creates land lots on top of each other, stacking opportunities for private ownership to create a public courtyard in the middle.

'The building functions as a megastructure that defines the boundaries for the owners, where they can build and where they cannot,' says Yassin. The unprogrammed nature of the space is designed to allow multiple and flexible conditions of occupancy for its new users, while also enshrining civic values at its heart.

33 & 34. This fortress-like megastructure envisaged for the outskirts of Tayibe, Israel, evokes Robin Hood Gardens with its central organic enclosure



34

SAIGON INFORMAL TON NGOC VU MELBOURNE, AUSTRALIA

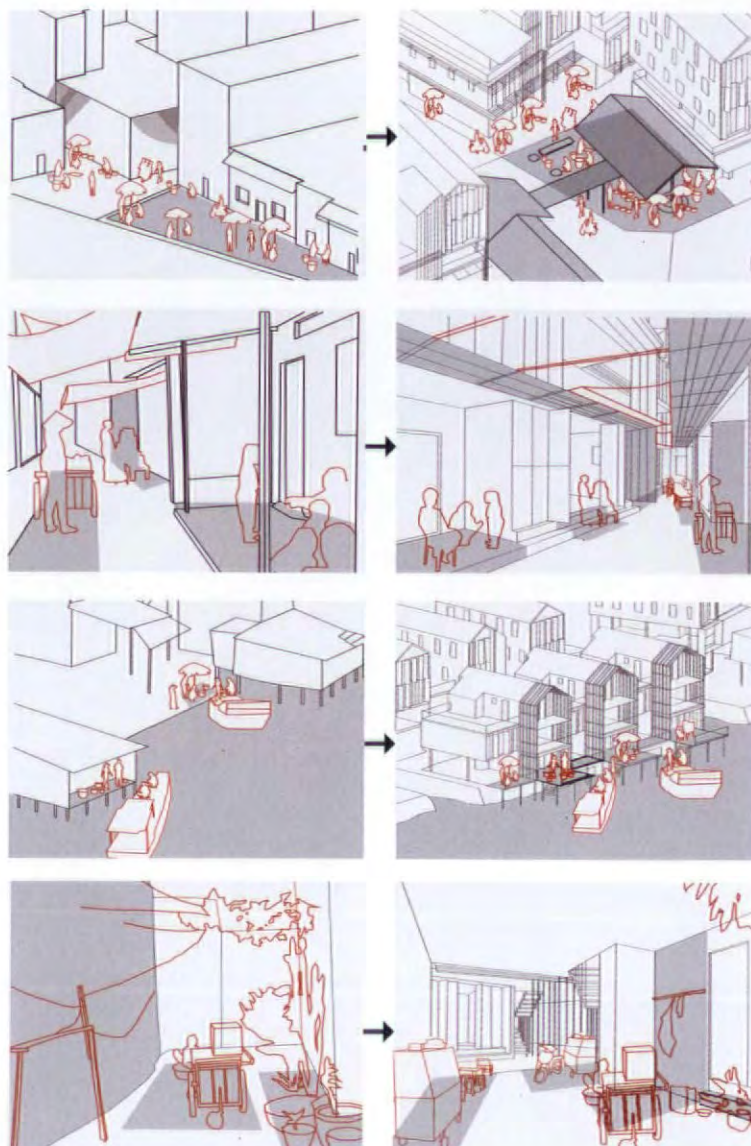
Graduate projects of late seem to have developed a fascination with bottom-up architectural interventions, but all too often the ability to maturely balance optimism with naivety is found to be lacking in such proposals. Saigon Informal is an accomplished project that succeeds in measuring the importance of both architects and the community in the formation of progressive future developments.

Addressing the lower income group that currently accounts for almost 80 per cent of Saigon's economy, the project examines new urban strategies that utilise building, street and landscape as effective tools for nourishing this fragile yet essential culture. By re-appropriating the vernacular typology of the Vietnamese 'tube' house, the settlement initiates a mass-void spatial sequence that creates a highly effective environmental strategy while also encouraging community interaction and future community development.

The judges commended the interrogation of every conceivable architectural niche – from

doorsteps to laneways to canal decks – as multivalent spaces capable of nourishing social exchange. While taking obvious lessons from Foreign Office Architects' Carabanchel, Madrid and Elemental's Iquique, Chile schemes, the project also exercises the agential propositions of Jeremy Till and others in its execution of a refined architectural proposal that responds excellently to cultural and environmental contexts.

The proposed urban design facilitates the types of informal micro-economic activities observed in the existing site condition, to occur across an integrated network of three main activity zones: formal street commercial, informal laneway vending and recreational zones, and along flood mediation canals. At the architectural scale, the housing typology allows for expandability and flexibility in internal planning due to the high population density and their limited economic capacity. The massing proposal of the housing units incorporates spatial tolerance for residents' future self-expansion when the users' needs and economic capacity allow. Internally, the neutral spaces are adaptive to the changing functions: retail and living during the day and sleeping at night.



36



35

35. Canals form major arteries for urban circulation in this district
36. The project focuses on nurturing existing micro-economic activity
37 & 38. The narrow silhouettes of Vietnamese 'tube houses' sprout from restricted lots to create mini vertical cities mixing residential and commercial use





School of
Architecture,
Umeå, Sweden,
Henning Larsen
Architects with
White Arkitekter

2



RUBRIC CUBES

Despite its evident scenographic qualities, a new architecture school in Sweden's high north lacks a fully expressive connection with its commendably holistic approach to pedagogy

CRITICISM

OLIVER LOWENSTEIN

While there is an almost daily news story of the Arctic Circle's oil and mineral extraction gathering pace, mixed with equally dramatic polar climate change melt controversies, striking stories about developments in Europe's high north generally don't make it into the broader media limelight.

Sweden's largest northern city, Umeå, is a case in point. In 2014 Umeå will be one of Europe's Capitals of Culture (along with Riga), themed around openness and participation. A suite of new buildings, including a showcase culture house designed by Norway's Snøhetta, plus a hotel and shopping malls, are on site. With a policy of developing the Northern regional centres, significant central Government investment has also poured into the regions of Sweden's eastern Bothnian seaboard rail infrastructure, aimed at connecting the main coastal towns of Sundsvall, Skellefteå, Örnsköldsvik and Umeå itself, in a single linear cluster. With regional routes already running, rail journey times to Stockholm will be dramatically cut from an 11-hour trundle to a four-hour high-north TGV when the line finally opens in December.

Another ambitious piece of infrastructure investment – more immediately relevant to the architectural world – is Umeå's new Arts Campus with a budget of €37 million. Designed by one of Denmark's best regarded practices, Henning Larsen Architects, in collaboration with the local, Umeå, office of Sweden's largest practice, White Arkitekter, the Arts Campus is notable for a variety of reasons, not least it includes Sweden's fourth architecture school, the first new one for 44 years. It is also an attempt at joined up arts education thinking, as alongside the architecture school, the city's art museum has decamped to a brand new museum, and a new art school building has replaced the old one. All three institutions stand in a group, along with a fourth office building to the compact linear campus, which sits alongside the river Ume.

This signals a significant if specific higher educational investment by Sweden in a sector widely considered architecturally in the doldrums compared with its three

Nordic neighbours. There are further reasons, most connected to regional development though there are also strategic concerns, which cut across development agendas. Umeå is committed to developing an arts-focused curriculum, which is a first nationally, since Sweden's three other architecture schools (KTH Stockholm, Chalmers Gothenburg and Lund in southern Sweden) are all technical university departments. One interpretation of the appointment of a Danish Dean, Peter Kjaer (formerly head of the architecture school in Aarhus), plus Henning Larsen's involvement, is their links to Danish architectural education's emphasis on the value of design.

Though the school has been open for three years, it was only in autumn 2010 that staff and students moved into the new building. Undergraduate numbers already exceed the planned 250. The arts focus can be found across a curriculum that highlights architecture's physical dimension, albeit balanced by theory and technology. Katrin Sten, the deputy dean, points to an emphasis on students using their hands, expressed in model making, live projects and sculptural exercises. 'There is an absence in the Swedish architectural world of a holistic approach. We are encouraging drawing, along with theoretical and computer studies, as ways of researching into form and space.' The intention is for architectural students to work with art students, with potential for co-learning. Underlining the physical is only part of the aim to provide a holistic synthesis, integrating theory, history, technology, planning, into the courses. All this suggests an approach of experiential learning; a pedagogy aiming to encompass the body and the senses, hardly alien to the Nordic tradition. There are also two masters programmes, with high-profile academic recruits including Austrians Walter Unterrainer and Jana Revedin (although Revedin has already left) and Hanif Kara of AKT.

This arts-based agenda also makes sense given the city's creative history. Umeå's development really began in the mid 1960s when it was chosen as the home for the country's first northern university, precipitating a near doubling of population from 60,000 in the mid-1960s to 114,000 by 2011. The university experienced a radical late-'60s period, and a local DIY grassroots arts, music

**School of
Architecture,
Umeå, Sweden,
Henning Larsen
Architects with
White Arkitekter**

'The walk-through quality anticipates joint art and architectural student projects, as does the art museum's commitment to working collaboratively with the schools'



1. (Previous page, left) students informally congregating on the grand staircase linking seminar and teaching spaces on the ground floor with upper level studios
2. (Previous page, right) open plan studios overlook the central lightwell
3. Detail of the striated timber facade, a kind of 'vertical parquet' made from imported Siberian larch
4. The airy openness of the building is intended to encourage a sense of encounter and engagement



**School of
Architecture,
Umeå, Sweden,
Henning Larsen
Architects
with White
Arkitekter**

and general creative scene gradually self-seeded, and has remained lively on the ground, if not commercially, for over 30 years. Out of this would come the – initially private – art school in 1979, before turning public in the early '80s, followed in 1989 by the Institute of Design, which focuses on industrial design. The latter features in the top four in global league tables for design schools.

Although there had been previous efforts to bring an architecture school to the north, the university decided in the early 2000s to commit to a school, within an overarching arts and design strategy, helpfully feeding into the city's medium term planning of exploiting the arts community, and highlighting Umeå as a 'creative city.' The first real test of this strategy will come with the City of Culture in 2014. The university, together with one of the major regional developers, the Baltic Group, arrived at the riverfront site between Umeå old town proper to the west, and the more recent '60s university area to the east. Overlooking the Ume, the dedicated Arts Campus is intended to use its magnetic cultural currency as a bridge, drawing together Umeå's two separate parts. This has introduced questions regarding who the Arts Campus is really for, with Johanna Gullberg noting in the Swedish *Arkitektur* magazine, that the isolated position of the Campus, while scenic, is neither obvious nor immediately accessible for most of the city's inhabitants.

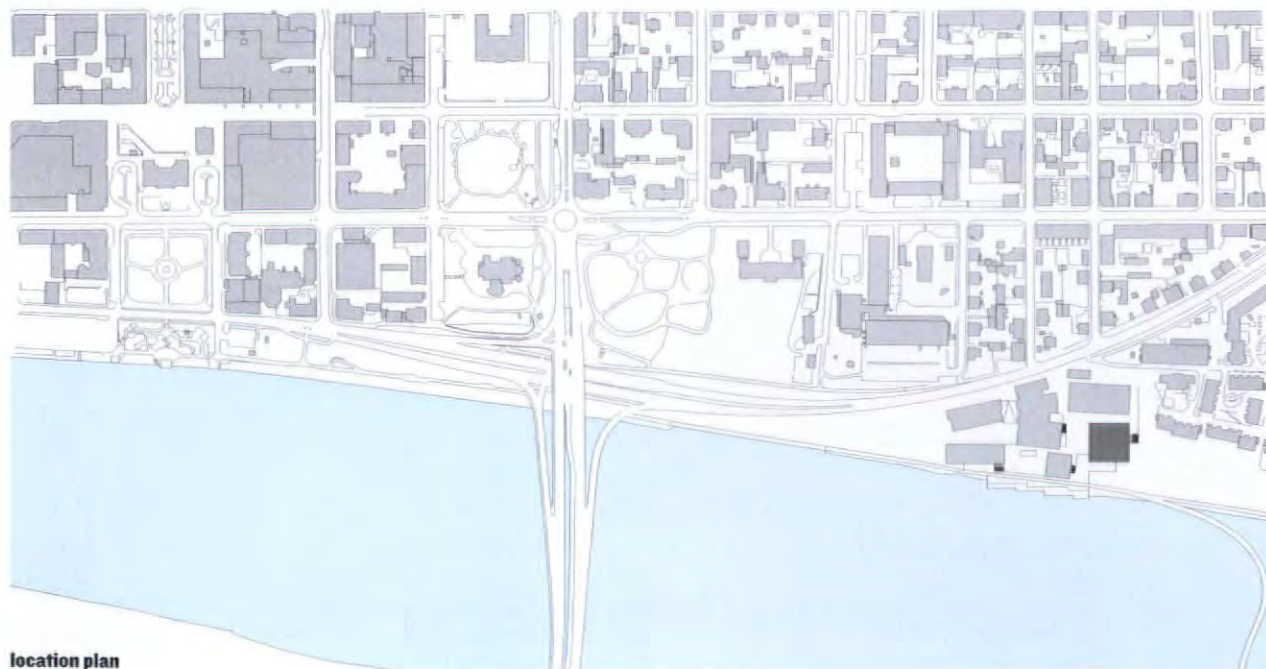
There was an opportunity to explore new educational models, both for the architecture school, and in how the three institutions were to be knitted together into the single Arts Campus. The diverse influences, from the Danish dean and architects, and the highly regarded design school, to the joined-up co-learning and Umeå's self-generated arts scene, all signalled a new direction in Swedish architectural education. Although Henning Larsen are experienced educational architects, given that a dedicated architecture school building is such a typological rarity, the architecture school within the Arts Campus was a new challenge. Well enough known in Sweden, previous projects include Malmö library in the '90s, and Uppsala cultural centre in 2007. This is their first project so far north in mainland Scandinavia, although interestingly, gestation, design and completion have run almost parallel



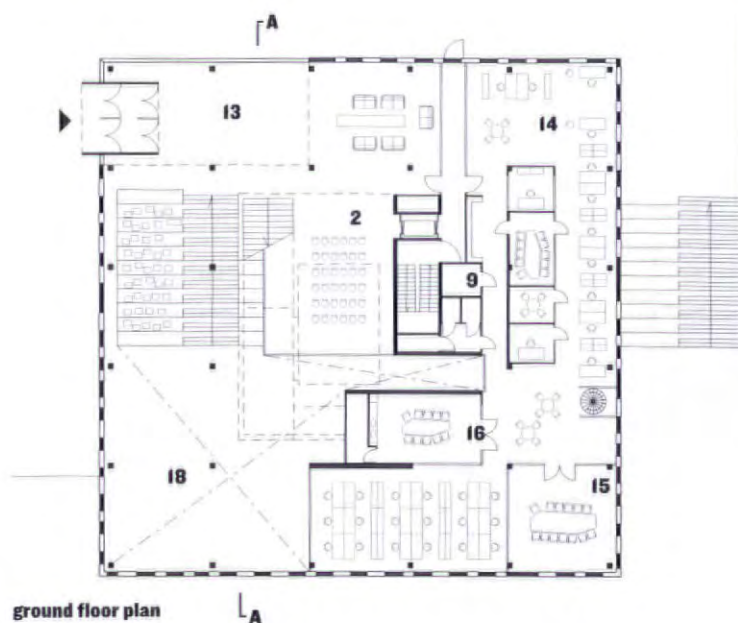
to the office's Harpa Reykjavik concert hall collaboration with Olafur Eliasson. Compared with Harpa, however, a much simpler design strategy was pursued from the outset.

The compact, broad but linear riverside site helps turn the four volumes into a dramatic ensemble of contrasting cubic forms. Both the drama and the overall coherence is reinforced by the use of Siberian larch through all the buildings, each with different, though related patterning, a kind of vertical parquet. All three main buildings are also linked by a common lower ground level, so that both schools' students can use the art museum's restaurant and café, bookshop and shared library. The walk-through quality anticipates joint art and architectural student projects, as does the art museum's commitment to working collaboratively with the schools. At the city-side entrance, visitors pass a huddle of industrial buildings, including the design school's existing older studios, before arriving in an atrium courtyard square: the campus's organisational centrepiece. The architecture school sits to the left, while river and museum – its six-storey vertical volume the atrium's dominating presence – are directly ahead. The lower floor is only revealed if you descend steps to the riverside on the atrium's far side. There's a Mondrianesque quality to the museum facade, comprising longer timber strips, broken up by large rectangular windows, which afford museum visitors panoramic views of the river, forest and city. For the €13.2 million architecture school, the parquet panelling is broken by the

**5. The building's
timber carapace
is hectically pitted
with glazed openings**



location plan



ground floor plan



second floor plan

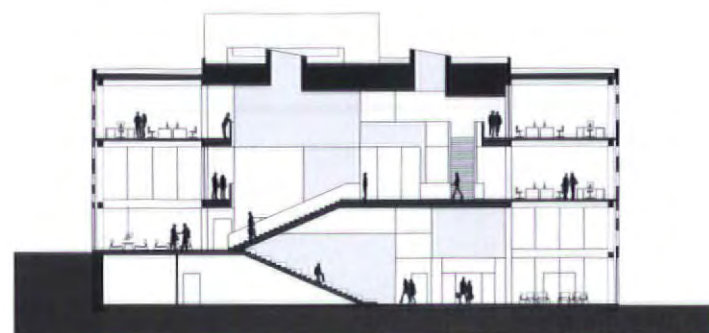


lower ground floor plan

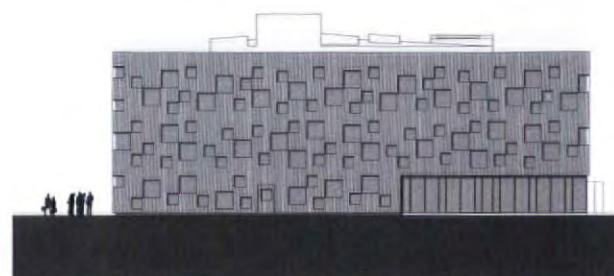


first floor plan

- | | |
|----------------------|-------------------|
| 1 lower foyer | 10 storage |
| 2 group room | 11 office |
| 3 lecture hall | 12 plant |
| 4 workshop | 13 upper foyer |
| 5 machinery | 14 administration |
| 6 pantry | 15 meeting room |
| 7 gallery | 16 staff room |
| 8 wind and light lab | 17 studio |
| 9 WCs | 18 void |



section AA



north elevation







'The designers were thinking the entire student corpus would be working at computers, hot-desking designs across the internet. But there seems little to suggest the architect either knew of or acknowledged the school's educational agenda'

odd rhythmic interplay of two-size square windows, while also masking the simplicity of the cube's volume. The art school is a longer, lower, linear volume set behind the museum and alongside the river, the orthodox windowscape of its four floors creating a less head-turning, timber inflected Miesian building. It was primarily White Arkitekter's project, with Henning Larsen less involved. The final office building, with long vertical windows for contrast, completes the quartet's composition.

If the external composition sets the scene and context, it is internally that the educational agenda is expressed. It's here also, that a slew of difficulties make themselves apparent. A four-storey 5,000 metre building the school is, as Henning Larsen Architects are keen to point out, a single open space. Peer Jeppesen, the Scandinavian projects' design director, emphasises its openness and adaptability, with student study areas ranged around the outer edges, 'little sculptural rooms' running down the building central block, and a series of auditoria, lecture and group seminar spaces. Jeppesen talks of how the open space means that students are always able to see what their colleagues are doing, that the different parts of the building are responsive and dynamically flexible to change. He refers to teaching at Copenhagen's Royal

Academy School of Architecture, and how difficult it was to adapt set-in-stone rooms. The constant of openness, which extends to the daylighting and window design, allows students to look out of, though also down from the multiple square windows onto the flowing river. The primary trope of openness is communication; the ease, accessibility and fluidity of moving around the building. All this is in line with contemporary Danish school design, and Jeppesen's emphasis on flow, simplicity and openness is reflected in the interior's stylish, minimal design, a textbook leaf out of this new educational orthodoxy. At the same time, however, the design blurs into a minimalist office landscape, a reminder of Peter MacKeith's observation that their masterly attention to detail is a significant part of 'what saves Danish designs from the co-option by the corporate ethos'. Looking down the rows of straight lined desks, it is easy to get the impression that, while uplifting, the designers were thinking the entire student corpus would be working at computers, hot-desking designs across the internet. This sits uncomfortably with a curriculum that, rhetorically at least, has committed to an architecture of the body. There seems little to suggest the architect either knew of or acknowledged the school's educational agenda.

A second leg to this mismatch is the sustainability agenda, embodied in the use of wood in the facade. As a design exercise the parquet timber strips are beguiling, but as sustainability, which is surely in the undertow of their semiotic messaging, they are irritating. Jeppesen says the timber facade was intended to express something of northern Sweden as a region of vast forests. But Siberian larch from the East Asian taiga shipped to a building site in the west Atlantic is symptomatic of what is wrong with mainstream sustainability, even if Jeppesen states the wood could have come from 'anywhere'. Initial designs included research into using timber structurally, but the eventual mix of steel structure and concrete floors, which integrated ventilation into the internal skin of the building, as well as enabling the roof skylight windows to contribute to daylighting, reduced energy use by half, bringing down the overall budget. This is no small matter. Given its latitude Umeå spends over half the year in many

hours of darkness. That the original design also envisaged a full glass curtain wall on the river face suggests the context hadn't been completely thought through. These are surely instances of disconnect. The mismatch between the school's pedagogical vision, and the office environment which Henning Larsen and White have delivered, presents contested versions of educational thinking. Informally I heard that project practices, university management and developer paid only limited attention to the issues concerning the architecture school's staff. The speed the build was happening at, and the rate of decision-making undermined consultation. The time lag between the original design period and the build, which was when the school's pedagogical structures were taking shape, was also a big problem. Still, for a city which is staging their capital of culture around themes of openness and curiosity, the irony is as dispiriting as it is mirthful; participation shaping the new architecture school seems to have been next to non-existent.

Two paradigms for learning are to be found at the architecture school. One is built, the other intangible and non-physical. The first derives from the template of a recent highly successful Nordic export; Danish educational building design, open and flexible, democratic and also replicable across different contexts. Yet also unprepared and less adaptable than one might have thought when faced with the second example, originating out of emerging academic thinking. Whatever claims any holistic pedagogy of the body has on architectural education and its future, the absence of mechanisms to consider, let alone accommodate it, surely reflects weaknesses in the mainstream model. While such sidelining is accepted and normal across so much of architecture, the pity is that it happened at a new architectural school.

I left Umeå puzzled by how thoroughly the idealism of the educational rhetoric had been passed up on by those realising these buildings. Despite some lovely scenographic qualities, and interesting joined-up thinking embodied in the Arts Campus, this absence left me unsettled as to how dialogue between commercial big architecture and those preparing the next generations of architects can be bridged. If it doesn't happen here, then where?

School of Architecture, Umeå, Sweden, Henning Larsen Architects with White Arkitekter

Architect

Henning Larsen Architects with White Arkitekter

Floor and table lamps

Örsjö Belysning

Photographs

Ake E:son Lindman

8



6. (Previous pages) typical studio space with pods of work desks animated by student activity.

The language of the striated facade is carried through into the interior, which is lined with thin strips of timber

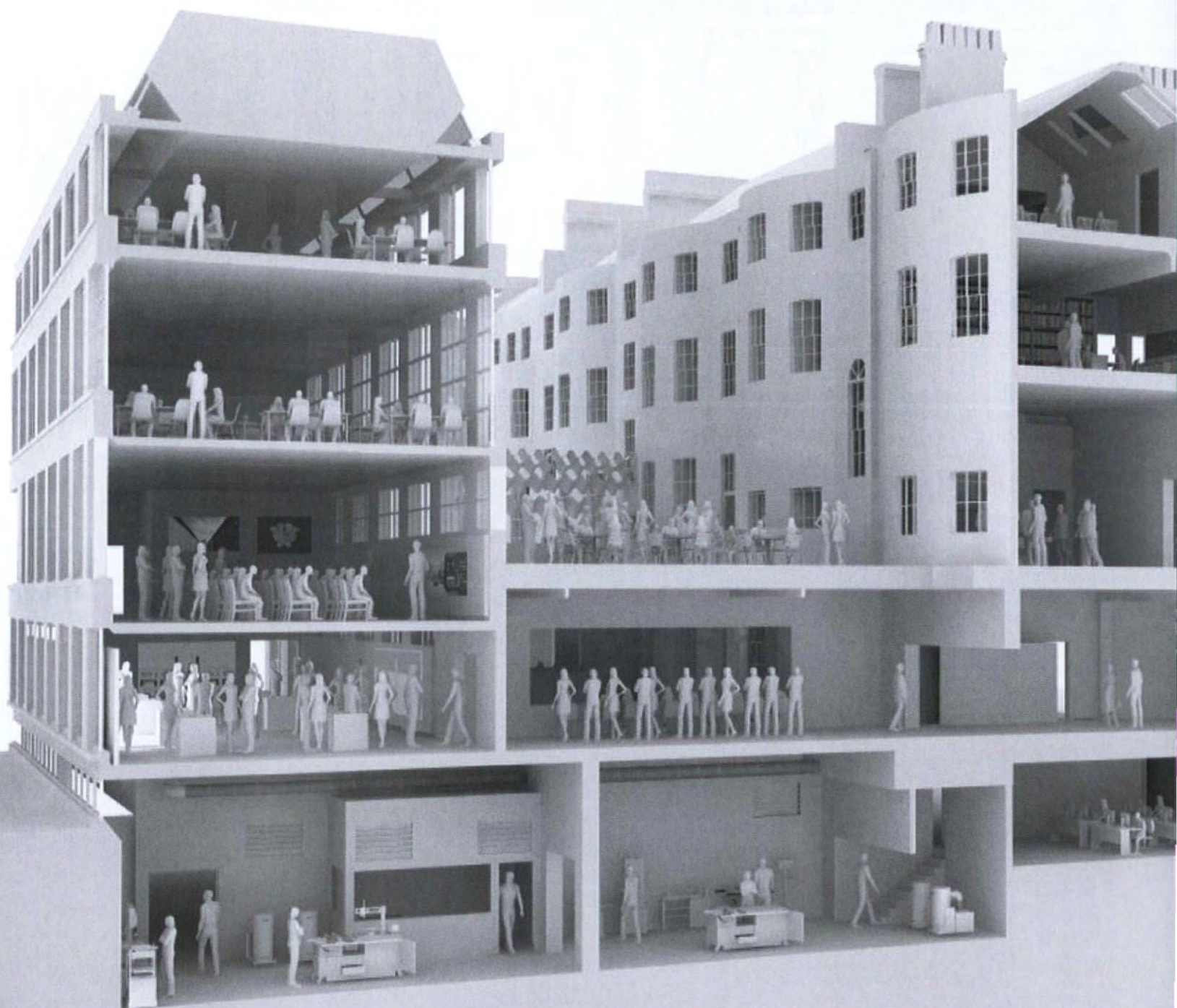
7. Bridging the gap?

Questions remain about the school's ability to structure the dialogue between commercial architecture and the next generation of architects

8. Light and views

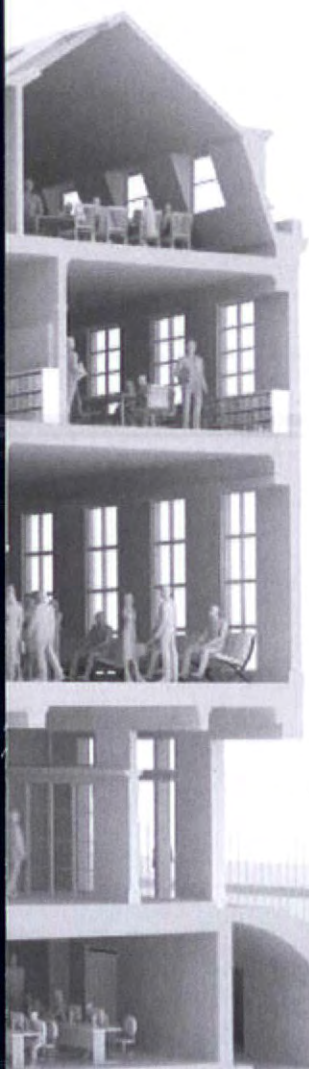
percolate through the irregular geometry of the window openings

**Redevelopment of
the Architectural
Association,
London, UK,
Wright & Wright**



A QUIET EVOLUTION

Expanding for growth while still preserving Georgian and institutional heritage is the delicate balancing act achieved by the AA's new masterplan



Bedford Square is one of London's most congenial Georgian ensembles. Its size, much smaller than Grosvenor or Russell Squares, but larger than the exclusive residential enclaves off King's Road and Knightsbridge, allows it to combine grandeur with intimacy, formality with spontaneity. And tucked away on its quieter, western side it has since 1917 housed the Architectural Association – which has some claim to being the world's most influential school of architecture.

'It's a paradox that Georgian architecture has nurtured avant-garde architects,' says previous president (2009-11) Alex Lifschutz, 'but an amusing one'. Lifschutz's 'amusement' during his presidency extended to overseeing the appointment of architects Wright & Wright to produce a strategic plan for expanded premises, now including three extra houses on either side of the core of Nos 34-37. This expansion provides extra space and the opportunity to rationalise accommodation that had evolved haphazardly as funds permitted and whims took hold. The result was a warren of insertions, openings in the fabric, additions, alterations and as many levels as a Zaha Hadid building, but without the flowing ramps between them.

Whatever the relationship between pedagogy and earlier changes, Wright & Wright's proposals are, says AA chair Brett Steele, 'driven by educational ambition ... for the first time in 50 years students and staff will be under one roof', rather than dispersed around Bloomsbury. In an institution where '90 per cent of the students' come from outside the UK, giving 'design students [dedicated] studio space' is crucial. The new areas, points out current president Keith Priest, are pretty close to HEFCE guidelines on square metres per student.

The opportunity to acquire the extra

properties was a strategic exploitation of fortuitous circumstances, such as long-term neighbours moving away, and a landlord – the Bedford Estate – which saw the logic of a strengthened cultural and educational institution. 'The timing was good,' says Steele, and 'it all fell into place'. Lifschutz credits his predecessor Jim Eyre with the strategy for accumulating the extra accommodation through a combination of leases and rental deals, taking advantage, as Frank Duffy – an AA graduate, council member and expert on building occupancy – puts it, of 'the friendly attitude of the Bedford Estate'. Minimising impact on fees was a priority, remembers Lifschutz, with substantial amounts coming from reserves, donations and loans.

The outcome is a flexible masterplan which addresses some of the urgent issues of repair, compliance and access as well as rationalising and re-allocating spaces, but can unfold in various ways. 'It's a long-term project' which should cause 'minimum disruption to the school' and several of its many parts could be designed by other architects or even students.

In essence it enhances and reinforces vertical circulation around two stairs and two new lifts, simplifies horizontal circulation by unifying levels, creates a core of public functions around a new lecture space and places essential teaching functions like workshops and the library in the most logical positions – and refurbishes all the studios. The year 2020, says Steele, is the centenary of the AA Diploma, and he would like to see much of it complete by then, but educational priorities and resources could fluctuate. Work has already started on the basement workshop under No 37 together with a lot of enabling works to prepare for subsequent phases.

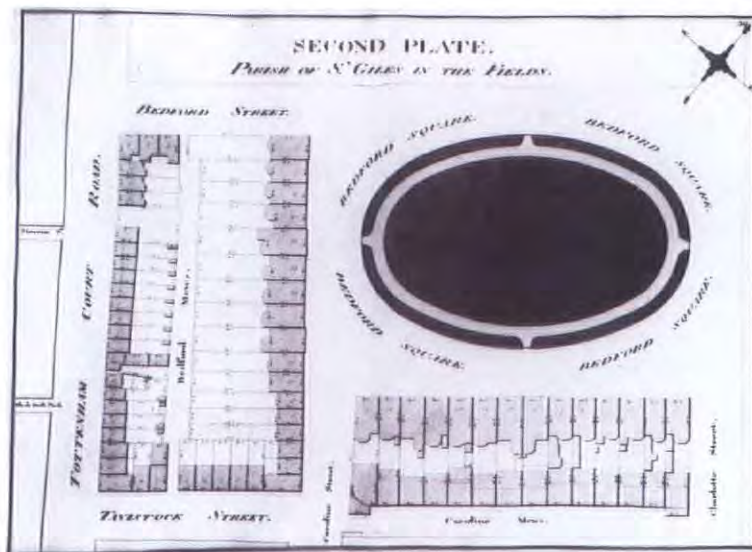
Clare Wright started with a forensic investigation into the houses' history and in particular the AA's occupation of them, identifying the significant elements of heritage, and the potential for change



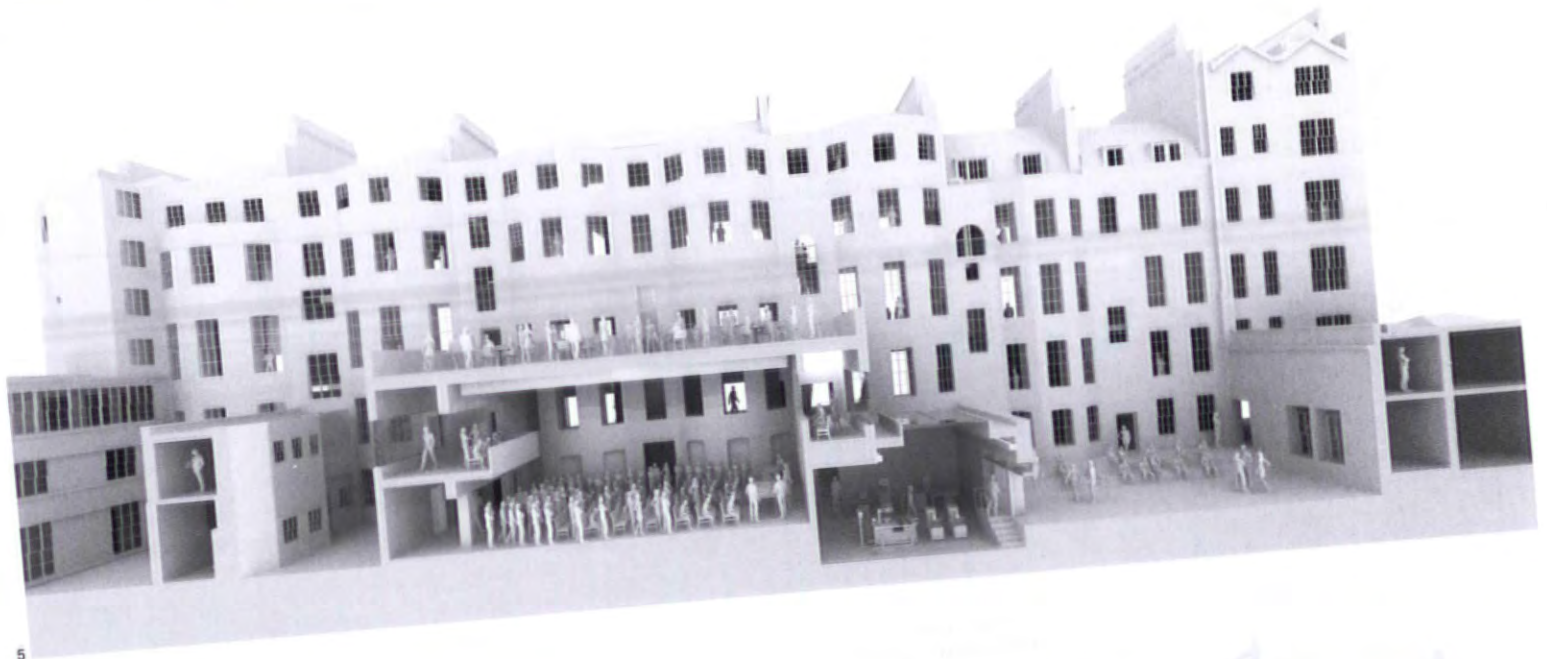
as well as the sequence of change in the past. Similar in size and external appearance, their condition and potential for new uses varies. No 37 was built somewhat later than the others because it straddled an underground stream, while others have had walls taken out, replaced, been opened up and subdivided again. Some original features remain, especially on the grand ground and first floors, but many of the subsequent accretions hinder rather than help the educational process, and some such as workshops present challenges for compliance.

Everyone at the AA, explains Wright, has their own image of the institution. As the buildings have the highest level of statutory protection, her task is fraught with controversy. But one reason why English Heritage have listed the terrace at Grade 1 is because of the AA's presence there – despite or perhaps because of the alterations it has made, which if nothing else have proved the flexibility of what were originally intended

1. (Previous page) sectional perspective shows the revamped AA as a hive of activity
2. From across the square, the serene terrace facade masks the buzzing interior
3. Survey of 1795 showing the west and south sides of Bedford Square, one of London's more congenial Georgian enclaves
- 4-6. A series of sectional perspectives through the AA's rear block, central courtyard and Bedford Square terrace



**Redevelopment of
the Architectural
Association,
London, UK,
Wright & Wright**

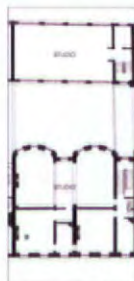


Redevelopment of the Architectural Association, London, UK, Wright & Wright

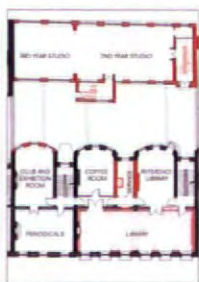
third floor



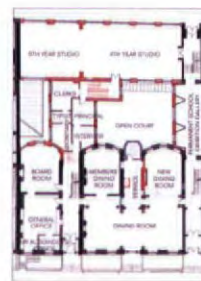
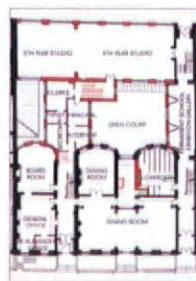
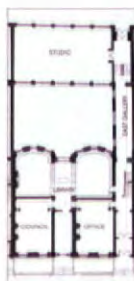
second floor



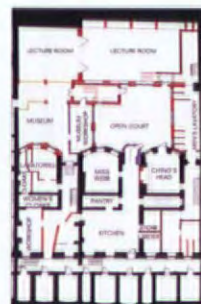
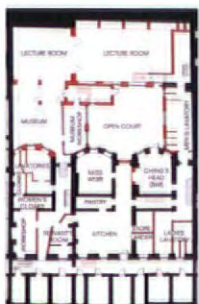
first floor



ground floor



basement



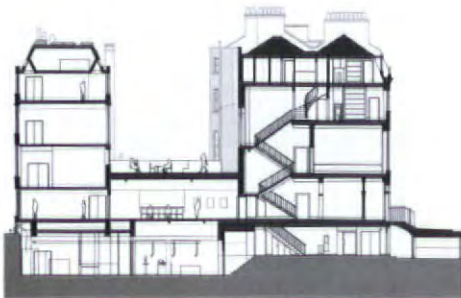
1933

development timeline





7. Students in 1947 taking a break in the Ching's Head, a popular bar in the AA's basement
8. Rem Koolhaas holds court in the legendary first floor bar, a cauldron of gossip and intrigue



cross sections

to be substantial private homes. When some of the early interventions seemed to be experimenting with the Modernist rhetoric of the 'free plan' by removing party walls, Steen Eiler Rasmussen and John Summerson were instigating a major reappraisal of Georgian urbanism while teaching at the AA.

Frank Duffy senses that the AA's affinity with its location has more to do with the context than the building type. He talks of 'an ecology of professions in the building industry' in the immediate area. As a student in the 1960s he remembers being able to turn up unannounced at Arup's offices a few blocks away for structures tutorials. Acknowledging that it's 'less a geographical reality' now – surveyors Gardiner & Theobald recently vacated one of the newly acquired houses – he believes 'the ghost is still powerful'. Arup is still based in the area, in neighbouring Fitzrovia, with fellow engineers Buro Happold and Whitby & Bird located nearby.

Wright is very aware of the 'ghosts', mostly benign but occasionally atavistic, which all interact to create the aura that defines the AA. Her challenge is to maintain and enhance those ephemeral qualities while upgrading its physical space to contemporary conditions, both programmatic and financial, and somehow to update the ecology Duffy remembers and intensify it for Steele's vision of architectural education.

Aura and reality come together most obviously in the circulation spaces. There's a 'genius' says Steele, to having the 'bar in the middle', through which everyone passes, helping to create the sorts of informal encounter that can be just as effective as formal set-piece teaching. The school community, he points out, is 'far, far more diverse than it has been', with many mid career students doing masters and PhDs as well as the younger diploma students. Wright explains that one of the most important decisions was to focus vertical circulation around the stairs in Nos 34 and 36, which are already familiar and heavily used. One goes right past the bar. A much-needed lift will be inserted in what was the stairwell in No 35, and this cues a general tidying of levels from the entrance to the principal parts of the complex, greatly facilitating moving around for anyone whatever their degree of mobility.

One attribute of Wright & Wright's plan, thinks Duffy, is to 'get the front door in the right place'. Rather than entering into a relatively narrow corridor, the entrance will now be directly into No 35, at the centre of the plan and into a space which is now the main lecture room. As well as being more generous it also helps orientation: the lift is straight ahead, with the main stairs close and equidistant on either side. Behind the stairs but all at the same level, two passageways lead to a new gallery at the rear of the site, but more accessible and far better serviced than the existing gallery in No 36. These

'Cedric Price embraced the idea that all institutions should limit their lives and plan for their own extinction'

spaces encircle a new lecture and presentation hall created out of the basement level Ching's Yard with a new roof at first floor level.

It fulfils an ambition to place the public programme at the heart of the school quite literally, and this configuration has several other advantages. Natural circulation routes reveal lectures and juries to students, staff and visitors without disrupting either the flow or the event, though these spaces could act as overflow galleries for very popular lectures. It also ties together the public spaces – reception, lecture room, gallery and bookshop – in a clear and logical way and without impinging on the privacy of teaching and study areas. The roof becomes a terrace to the bar and leads to refurbished studio space at the rear.

Moving the library from the first floor of Nos 34 and 36 to the two floors above gives it more and better space, as well as creating, in Steele's words, a 'world of collections' with the slide library and archive. Meanwhile the first floor which retains the grand proportions and much of the original detail becomes an expanded bar and restaurant with spaces that can be divided into private rooms. A later phase indicates a larger, raked lecture hall behind Nos 32 and 33.

Steele sees the development as a commitment to 'the idea that institutions have work to do on themselves', which obliquely answers the general critique Cedric Price, one of the AA's most distinguished alumni, used to level at all institutions: that they should limit their lives and plan for their own extinction. He might, as always, have had something to say about the architecture, but in its potential to combine conviviality with intellectual endeavour, he would have found much to enjoy in Wright & Wright's masterplan.



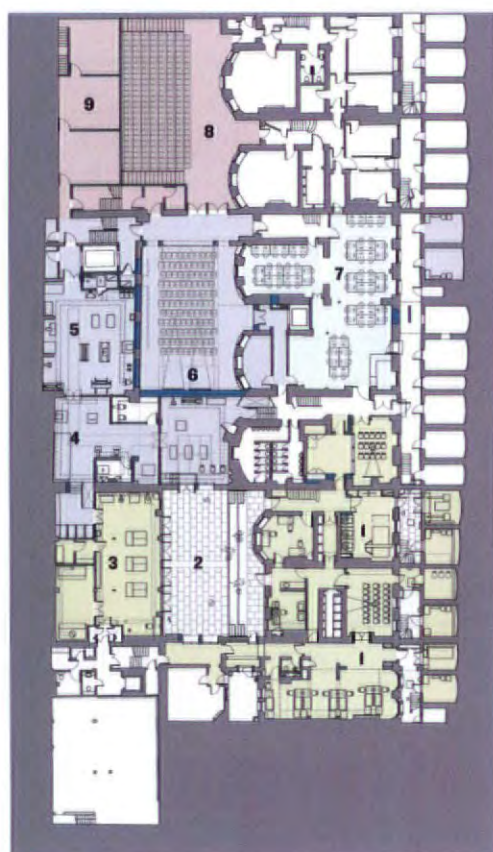
**Redevelopment of
the Architectural
Association,
London, UK,
Wright & Wright**



ground floor plan



second floor plan



basement



first floor plan

- phase 1
 - phase 2
 - phase 3
 - phase 4
- 1 digital prototyping lab
 - 2 south courtyard
 - 3 model-making workshop
 - 4 wood workshop
 - 5 metal workshop
 - 6 multi-function hall
 - 7 computing lab
 - 8 lecture theatre
 - 9 stores
 - 10 book shop
 - 11 main entrance
 - 12 viewing gallery
 - 13 exhibitions
 - 14 refurbished studios
 - 15 terrace
 - 16 bar
 - 17 front members' room
 - 18 kitchen
 - 19 member's room
 - 20 old library
 - 21 new studios
 - 22 new library
 - 23 library staff
 - 24 archive reading room
 - 25 archive office
 - 26 sky bridge

1. The guiding hand — or more accurately, signet pinky — of HRH Prince Charles at a student presentation at the Prince's Institute of Architecture, which Alan Powers discusses overleaf



EXPERIMENTS IN ARCHITECTURAL EDUCATION

From the burning of Yale Architecture School to the aristocratic outsiderism of the Prince's Institute and a proposal for a new school: alternatives to mainstream pedagogy offer a means of renewing a weakened discipline

RADICAL PEDAGOGIES

BEATRIZ COLOMINA, ESTHER CHOI, IGNACIO GONZALEZ GALAN AND ANNA-MARIA MEISTER

Pedagogical experiments played a crucial role in shaping architectural discourse and practice in the second half of the 20th century. In fact, the key hypothesis of our Radical Pedagogy¹ research project is that these experiments can be understood as radical architectural practices in their own right. Radical in the literal meaning from the Latin *radice*, as something belonging or relating to the root, to its foundations. Radical pedagogies shake foundations, disturbing assumptions rather than reinforcing and disseminating them. This challenge to normative thinking was a major force in the postwar field of architecture, and has surprisingly been neglected in recent years.

This was a time of collective defiance against the authority of institutional, bureaucratic and capitalist structures; a geopolitical landscape further transformed by the Cold War and the Vietnam War; a domestic environment built out of consumable plastics and objects of mass-produced desire; and a utopian technological prophecy foretold in science fiction now realised in a brave new world of computation, gadgets and spaceships. Architecture was not impervious to such shifts. The discipline sought to stake its claims amid a new territory by articulating its relationship to the technological, socio-political and cultural transformations of the time.

Highly self-conscious, the architectural radicalism of this era revealed the anxieties caused by the discipline's awareness of its indeterminate identity in a transformed world. For architectural practice, the question of architecture's socio-political efficacy in the light of its complicity with capital came to the fore and the discipline was forced to examine the margins of its own disciplinary protocols. While some forms of radical practice celebrated architecture's integration in a larger cultural milieu, others responded with a retreat to an investigation of

formalism. A shared understanding among these varied radical practices was that a new *modus operandi* for the discipline could only be created if traditions were questioned, destabilised, undermined or even destroyed.

Education became a vehicle for these subversive actions. Urgent concerns provoked radical upheavals in academic institutions, while alternative visions of the discipline were generated through progressive pedagogical initiatives. Pedagogy operated as an active agent in the processes with which it was concerned, rather than through modes of detached or complacent reflection. Radical pedagogies challenged conventions at different scales. They relentlessly questioned the institutions of education, probed architecture's disciplinary assumptions and aimed to disturb architecture's relation to social, political and economic processes.

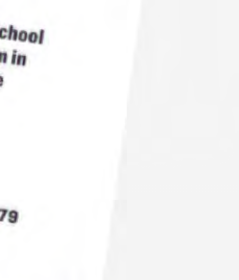
Questioning institutions

Radical architectural pedagogies aimed to challenge the status quo by attempting to destabilise the very institutions they depended on, and in so doing they generated forms of institutional critique. The 1968 student revolts of the *Unité Pédagogique* No 6 in Paris, which rejected the pedagogy of the Beaux-Arts School, constitute a landmark. They accused the school's curricula and teaching methods of being incapable of addressing architecture's relationship to contemporary social and political maladies, and demanded that their vision of a new social order be reflected in the very basis of their studies. Similar demands triggered revolts in architecture schools worldwide. The 1969 burning of the Yale School of Art and Architecture, allegedly by students, symbolised the sudden unrest within the bastions of disciplinary authority. But in other cases, the dissent was a slow burn. The 1967 upheavals, led by students and faculty at the School of Architecture in Valparaíso, Chile, arose from similar concerns, yet their demands were based on a legacy of 15 years of destabilising the traditional structures of the university through pedagogical practices that obliterated the boundaries between learning, working and living.

Pedagogical institutions were also questioned more broadly by the larger architectural community. In the 1972 symposium *The Universitas Project*, organised by Emilio Ambasz at MoMA, New York, architects, historians, writers, artists, philosophers, scientists and educators – including Denise Scott Brown, Umberto Eco, Jean Baudrillard, Hannah Arendt, Octavio Paz, Suzanne Keller, Henri Lefebvre, György Kepes and Gillo Dorfles – offered speculative proposals for a design education in a post-academic institution itself became a site to rethink pedagogical structures. Take, for instance, Giancarlo De Carlo's radical proposal for a decentralised university (1962-65), the mobile network of academic structures designed by Cedric Price in his *Potteries Thinkbelt* (1965), and Candilis, Josic, Woods' open-system building for the Freie Universität in Berlin (1967-73).

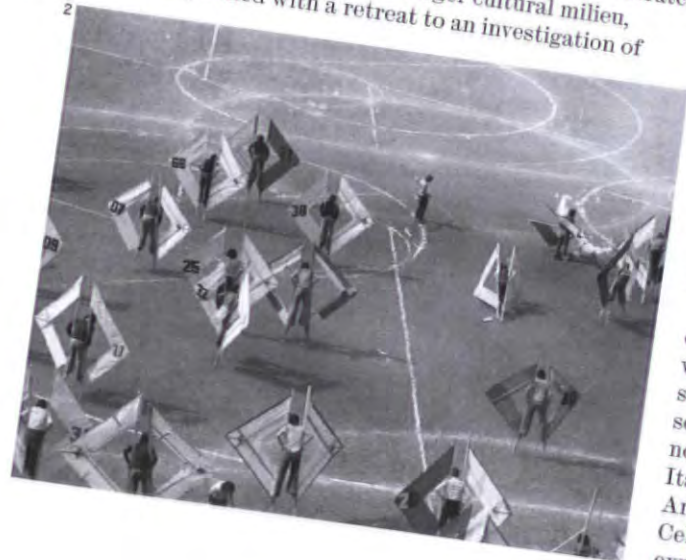
Some radical pedagogical experiments not only challenged, but obliterated, institutional platforms. Such was the case of *Global Tools*, a project initiated by the so-called Italian Radicals, 1973-75. Defined as 'a counter-school of architecture (or non-architecture; or again non-school)', this negation was paradigmatic of postwar Italian radical movements, with the term 'Radical Architecture' coined precisely for them by Germano Celant. Other independent pedagogical experiments exploited the resources of established pedagogical

3



2. Tournaments in the Course 'Culture of the Body', at the Valparaíso School, 1975. Courtesy of Archivo Histórico Jose Vial, Escuela Arquitectura y Diseño, Pontificia Universidad Católica de Valparaíso

3. The Architecture School at Yale was burnt down in 1969 – allegedly by the students themselves
4. Cedric Price holds court at the podium



In alto / Top row, from left to right: Joseph Rykwert, Duarte Cabral de Mello, Isaac Mario Gandelonas, Kenneth Framp-ton, Jachim Mantel, Gregory Gale, Thomas Schumacher, Stanford Anderson.

In basso / Bottom row, from left to right: Elizabeth Cromley, Robert Slutzky, William Ellis, Beth Spekter, Emilio Ambasz, Peter Eisenman, Victor Cagliandro, Suzanne Frank.



5. A rare image of the Institute of Architecture and Urban Studies (IAUS) 'football team' published in *Casabella* no 359-360 (1971), with players, including Joseph Rykwert, Kenneth Frampton, Emilio Ambasz and Peter Eisenman

6. In India the Eameses recommended communications-based design training to facilitate national growth

7. Bucky Fuller at Princeton University. In the '60s, he took his dome on the road and travelled the world, disseminating the pedagogy he honed in Carbondale, Illinois



institutions to forge their alternative frameworks. Consider the nomadic summer workshops of the International Laboratory of Architecture and Urban Design, first led by Giancarlo De Carlo in 1976 with members of Team X, which were held at different Italian universities, in addition to roving sites with unique urban conditions. Meanwhile, the Institute for Architecture and Urban Studies (IAUS) (1967-84) had its own pedagogical programme run by a core group of scholars and practitioners, many of whom held positions within academic institutions on the East Coast of the USA.

Questioning the discipline

In the midst of this relentless and global institutional critique, the status of architecture itself was challenged. A disciplinary self-reflexivity emerged which interrogated not only the historical and formal bases of Modernist traditions, but the means by which they were disseminated in academic and institutional contexts. Rethinking the core of architecture transformed its teaching. The group of architects known as the Texas Rangers at the University of Texas School of Architecture (1951-58) and, later, John Hejduk at Cooper Union in New York (1964-2000), placed an emphasis on addressing the formal language of architecture, considering it the very root of architectural creation. The architectural historian Joseph Rykwert and theorist Dalibor Vesely aimed to redefine the foundations of architecture on the basis of phenomenology and the hermeneutic tradition in the masters level course they led at the University of Essex (1968-78). A de facto school of architecture emerged in the work of their disciples dispersed around the world, including Daniel Libeskind, Robin Evans, David Leatherbarrow, Mohsen Mostafavi and Alberto Pérez-Gómez.

The exploration of external methodologies became another aperture through which to question architecture. Methods borrowed from disciplines such as linguistics were employed, perhaps paradoxically, as autochthonous tools for conceptualising, reinterpreting and redesigning architecture. Different schools around the world became hubs for this work throughout the 1960s to '80s, from Ulm to Princeton. Similarly, in the design studios led by Robert Venturi and Denise Scott Brown, and more broadly in the pedagogy promoted under Charles Moore's tenure at Yale from 1965 to '70, sociological techniques were imported to situate the discipline in the architectural language of popular and vernacular culture.

Questioning the outside of the discipline

Radical architectural pedagogy further aspired to transgress its disciplinary limits and destabilise social, political, economical or technological conventions. Whereas building practice was entangled in the questions it tried to answer, the microcosm of pedagogy offered an experimental space between instrumentality and conceptual speculation. Buckminster Fuller's dome-construction workshops, for example, responded to global problems such as resource management, by wielding architecture as a universal technological apparatus. Although the Southern Illinois University at Carbondale functioned as his central platform during the 1960s, Fuller globalised his teaching by visiting countless schools around the world. The Architectural Association in London leveraged the global dimensions offered by the postwar expansion of transport networks to become the first jet-age school, comprising an international body of students and faculty, with a menu of innovative subjects

'Radical architectural pedagogies aimed to challenge the status quo by attempting to destabilise the very institutions they depended on, and in so doing they generated forms of institutional critique'

and techniques to choose from. By the late 1950s, Charles and Ray Eames had developed a new pedagogical programme for design education in India, based on their 1952 Art X experiment with George Nelson and Alexander Girard at the University of Georgia in Athens (Georgia, USA). In their 1958 report to the Government of India, they recommended the implementation of a communications-based design training programme to assist in the country's industrial development.

The technological dimension of radical pedagogy was often charged with an ideological mandate. Nicholas Negroponte's Architecture Machine Group, which carried out radical experiments with cybernetics and artificial intelligence at MIT in the late 1960s, promoted a synthetic relationship between man and machine by forging alliances between architecture and an expanding world of computation. One of the most famous design schools of this period, the Hochschule für Gestaltung Ulm, utilised sociology, philosophy and mathematics to advance the functionalist design ideology inherited from the Bauhaus, as an attempt to negotiate technological innovation with a desire for the democratisation of postwar Germany.

The College of Environmental Design at the University of Berkeley sought to transform the architect into a political agent, deploying an interdisciplinary approach integrating sociology, policy making and regional planning in the curriculum. Likewise, Giancarlo De Carlo, who had anarchist affiliations prior to the '50s, called in the early '60s for a new architectural pedagogy that promoted activist intervention and would itself be a form of political activism. The role of the pedagogue was to transform the student into an *intellettuale dell'architettura*, someone who understands an architect's ethical and sociopolitical role.

With a typically short lifespan, these diverse experiments often found one of the following ends: abandonment or dissolution; assimilation into a generic mainstream education; or termination due to financial and/or political constraints. Many radical pedagogies trace an arc typical to avant-garde practices, from radicality to conventionality, from subversion to institutionalisation. And yet much of the discipline's strength came from these experiments. They affected the institutions that swallowed them up and they lie within the discipline, waiting to be reawakened by another generation, like a dormant virus or a monster in a horror film.

Architectural pedagogy has become stale. Schools spin old wheels as if something is happening but so little is going on. Students wait for a sense of activist engagement with a rapidly evolving world but graduate before it happens. The fact that they wait for instruction is already the problem. Teachers likewise worry too much about their place in the institutional hierarchies. Curricular structures have hardly changed in recent decades, despite

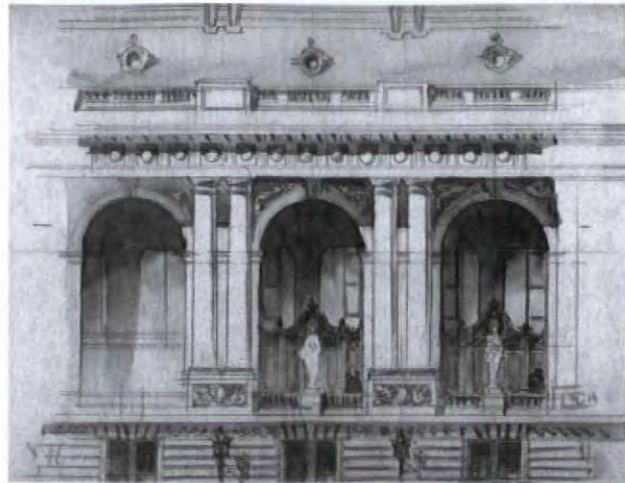
the major transformations that have taken place with the growth of globalisation, new technologies, and information culture. As schools appear to increasingly favour professionalisation, they seem to drown in self-imposed bureaucratic oversight, suffocating any possibility for the emergence of experimental practices and failures. There are a few attempts to wake things up here and there but it's all so timid in the end. There is no real innovation.

In response to the timidity of schools today, the Radical Pedagogy project returns to the educational experiments of the 1960s and '70s to remind us what can happen when pedagogy takes on risks. It's a provocation and a call to arms.

1. Radical Pedagogy is an ongoing multi-year collaborative research project by a team of PhD candidates in the School of Architecture at Princeton University, led by Beatriz Colomina and involving seminars, interviews and guest lectures by protagonists and scholars. The project explores a remarkable set of pedagogical experiments of the 1960s and '70s that revolutionised thinking in the discipline. Each student is working on one of these experiments and collectively mapping the interconnections and effects of these experiments towards a major publication and exhibition.

The research team includes Anthony Acciavatti (Charles and Ray Eames' India Report and the National Institute of Design at Ahmedabad, 1957-80), Cristóbal Amunátegui (Oswald Mathias Ungers, 1965-77), José Aragüez (Cooper Union, 1964-85), Joseph Bedford (Joseph Rykwert and Dalibor Vesely's Essex Course, 1968-78), Esther Choi (IAUS and Princeton University, 1965-75), José Esparza (IAUS and the Art Workers' Coalition, 1967-84), Britt Eversole (Giancarlo De Carlo at the IAU, 1962-65), Daniela Fabricius (Frei Otto and the Institute for Lightweight Structures in Stuttgart, 1964), Ignacio Gonzalez Galan (Valparaíso School and Institute of Architecture, 1952-72), Vanessa Grossman (Grupo Arquitetura Nova at University of São Paulo, 1967-72), Evangelos Kotsioris (Laboratory for Computer Graphics and Spatial Analysis at Harvard GSD, 1964-91), Anna-Maria Meister (Hochschule für Gestaltung, Ulm, 1953-68), Federica Soletta (Texas Rangers at University of Texas School of Architecture in Austin, 1951-58), Federica Vannucchi (Politecnico di Milano, 1967-74).

The research included the participation of Craig Buckley (Unité Pédagogique No 6 and the 1968 Paris revolts), Beatriz Colomina ('Learning from Las Vegas' and 'Learning from Levittown' studios by Denise Scott Brown and Robert Venturi at Yale University, 1968-70), Eva Diaz (Black Mountain College, 1933-57), Kathleen James-Chakraborty (University of California, Berkeley), Peter Eisenman and Lucia Allais (CASE at Princeton University and IAUS, 1965-84), Diane Lewis (John Hejduk at Cooper Union, 1964-2000), Jorge Otero-Pailos (Jean Labatut at Princeton University, 1928-67), Gianni Pettina (Global Tools, 1973-75), Tim Rohan (George Howe, Louis Kahn, Paul Rudolph and Charles Moore at Yale University, 1950-70), Felicity Scott (Media Lab at MIT), Molly Steenson (Nicholas Negroponte's Architecture Machine Group, 1967-84), Irene Sunwoo (AA under Alvin Boyarsky, 1971-90), Anthony Vidler (Cambridge University, 1956-66), Mark Wigley (Harold Cohen, Buckminster Fuller and John McHale at Southern Illinois University, 1955-70).



appropriateness has taken place since the end of the 1960s. What was once understood to be a common entitlement and a state-supported opportunity, a means by which a more apt distribution of power might be secured among disparate social classes, has after four decades of monetarism, globalism and free market revisionism, been covertly devolved into an instrument of capital; a position, ironically, it held at the ignominious end of the 19th century. The 20th century after the Second World War, supplied a context in which the plight of mass education experienced a double reversal of its fortunes. Having severed its ties with market capitalism by establishing 'a right to education' for the general population, affording access to tertiary education on the basis of a meritocracy,² a post-1970s return to late 19th-century laissez-faire economics, its *fin-de-siècle* empirical positivism and Victorian social values, has re-established a social imperative at the heart of mass education based on relative wealth (the rich get the best education). To this extent – and it carries on apace under the present conditions of a reconditioned faux Blair-ism – education is now fully instrumentalised in the political machine (the consequence of ideological manipulation).

The apogee of this former turn to a purported meritocratic enabling of education for the masses (not the rich) at the tertiary level (university) was reached in the 1960s, and with it, the last decisive manifestation of any social transmogrification in the UK (last time people moved significantly between classes). Access to higher education was expanded with substantial consequences, not least for architecture itself (leading to its partial liberalisation). Wider social access, then and now, was never a catalyst for academic restructuring. Pedagogical paradigms remain tethered to an inappropriate past; conceived in the intellectual culture of the Enlightenment and in the economic context of the Industrial Revolution, driven by the economic imperatives of the time, a compulsory public education system paid for by taxation, free at the point of delivery, was conceived as a civil right.³ At the heart of this social vision was an intellectual model of the mind which, a priori, divided society between academic and non-academic classes and valued them hierarchically (the smarter you are, the richer you can become). Meritocracy was the ill-conceived ideology which promoted this social partitioning under the guise of social engineering. The problem remains that the terms for this structured ideology of values (the way we value people who are 'smart') rest on the prejudices of an arcane and anachronistic pedagogical system.

PROBLEMS IN BRITISH SCHOOLS KEVIN RHOWBOTHAM

Perhaps now, in the early years of a new millennium, it might be apt to review, however briefly, the conditions of contemporary education within Britain in general, and then, architectural education in particular.

Certain issues are clear enough. A considerable reassessment of the role of education and its

9. An emphasis on the imitation of historical forms contributed to the stagnation of architectural education in an earlier age of social ossification

American philosopher and social critic John Dewey was perhaps the first to illuminate a division of fundamental pedagogical ideologies at the heart of education systems and to call them into question, identifying an anti-liberalising tendency in education which fostered the disempowerment of students. Dewey's insistence on the strategies of active learning was magnified by critics such as John Holt, Paulo Freire and Ivan Illich,⁴ who identified a 'hidden curriculum' in the educational strategies of state-structured education which forced upon the unwary not a critical education at all, but a prescription for the reiteration of state values and norms.

Plus ça change, plus c'est la même chose

On 10 November 1960, Richard Llewellyn Davies, in his inaugural acceptance speech as Professor of Architecture at the University of London entitled 'The Education of an Architect', drew a clear distinction between what he characterised as a Beaux-Arts education and one he imagined to be more suitable to modern demands on the profession. The *École des Beaux-Arts* he found unrealistic, closed, myopic and self-referential in dire opposition to an empirically based architecture – of which, presumably, he felt himself an adequate if not exceptional representative – equipped with the latest demographic techniques to determine the nature of user need and client demand.

Declining to directly engage the point himself, Llewellyn Davies argues with a quotation from 19th-century architect/teacher Viollet-le-Duc, who pilloried the *École des Beaux-Arts* for the production of architects who 'involve private individuals and public bodies, who entrust works to them, in enormous expense; who are disinclined to study the material requirements of the programme for its practical execution; whose aim is rather to erect buildings that will do honour to themselves rather than to fulfil all the conditions imposed by the needs and habits of the day. [...] to make architecture a mystery, an art shut up within certain conventional methods, which the profane can neither see nor comprehend, may be (it is true) the means of preserving a kind of monopoly to those who enjoy it; but is it not to be feared the initiative will be left alone with their mysteries?'

Ironically and perhaps despite rather than because of his erstwhile commitment to a general empirical ground for knowledge (positivism), those aspects of an architectural education which Llewellyn Davies desired remain at this juncture, in the new millennium, almost wholly absent. Since the 1970s, the trajectory of architectural education, at least in his terms, has taken a distinctly 19th-century Parisian turn.

For those of us who were, and who remain teaching within the state sector, what Llewellyn Davies would have regarded as 'Vitruvian essentials for the education of an architect' have been systematically cut by embattled educational bureaucracies in the name of greater efficiency and their own baleful survival; a kind of surgery that has

left the body of architectural education sadly ailing. Oddly its empirical spine has been all but stripped out, together with other non-essential organs such as structural engineering and building construction, in an effort to save the allegedly ravaged educational carcass. I say oddly because empirical positivism – rather than dialectics or hermeneutics – is the primary paradigm of professional knowledge insofar as it remains its most authentic and effective form. Oddly also, because in the direction of empirical knowledge lies the path to greater influence, a point illustrated powerfully by the relatively feeble position that the timorous profession of architecture currently holds with respect to empirical giants such as law and medicine.

Whatever the formative politics were, Llewellyn Davies' argument was an attempt to reposition architectural education and thereby architecture itself, within a stronger, and from his point of view, more relevant political position. He remarks, for example, 'The need for good architects has never been greater than it is today.' 'It is certain that we must come out of the narrow private world of 19th-century architecture, divorced from science and practical life.' 'The techniques for study are those of the social sciences, and the architect's education must equip him to use these methods.'

Certainly from the perspective of the contemporary political economy, an education and subsequently a profession that might supply its 'consumer' with greater self-determination, including the power to object or even to refuse, on the basis of empirical knowledge, seems strangely anachronistic and seriously out of step with the fuzzy positivism of current social and political consciousness. Although Llewellyn Davies insists upon a professional empiricism dedicated to the materialisation of a socially dedicated demographics, he ignores the contradictions imposed by the teleology (end cause) this implies. Any empirical demographics might indeed underscore a more apposite and attuned architectural practice and may undeniably deliver a world better designed and accommodating to its erstwhile inhabitants, but the fulfilment of such a strategy assumes the world and its economic masters act rationally and consistently. Recent political and economic events have shown this assumption to be altogether mendacious.

To a market-based post-Fordist political economy *vox populi*, or any empirical determination which is not at once overridden by corporate interests, is far too close to that aspect of political radicalism current neo-liberal political tastes like to think they saved us from. Whatever socialism implied for Llewellyn Davies, his pious ode to architectural education smacks sufficiently of disingenuousness for one to feel that its prognosis was an act of political correctness before its time, and, given the year, the institutional context, and the progressive weakening of the Tory party at the time, a feat of calculated necessity.

To say that not one word of what he hoped for has come to pass would be a remark of singular understatement. For architectural education, the bitter pill of economic necessity has proved hard to swallow. The house of empirical architectural knowledge has not been constructed and under the present circumstances never will be. Architecture has rather built quite another house, much closer in style to the kind Llewellyn Davies repudiated. Ironically what has come to pass is a return to the fripperies of the *École des Beaux-Arts* at a time when the state political economy mirrors that of *fin-de-siècle*

'Oddly the empirical spine of architectural education has been all but stripped out, together with other non-essential organs such as structural engineering and building construction'

Europe, as its history approached the assassination of the Archduke Franz Ferdinand.

After all, surely now it stands to reason that a totalising market economy would make little space for an architecture concerned with the construction of the city democratic, not to say the city beautiful, or even the city useful or sustainable, since such a city must be forged in opposition to determinations of unfettered corporate capital. What opportunities could such an approach possibly afford a market economy driving only for the maximisation of profit, the minimisation of production cost, the avoidance of litigation and complicity with generic, one-size-fits-all, statutory regulations? In such a climate, architectural education has found it perilously difficult to establish a direction.

In praise of the creative

In some quarters there seems to be much consternation concerning the ARB prescription of undergraduate and postgraduate courses in architecture, most especially from those who assume that architectural education should concern itself primarily with the delivery of pertinent subject matter. The regulation of architectural knowledge is directly prescribed by professional architectural practice through its statutory mechanism, the ARB. Its prescriptions, only recently revised, are increasingly reflecting a general tendency in corporate educational institutions for standardised testing and for prohibitive benchmarking; and to a large degree this seems to be understandable, at least on the face of the matter, given the tendency of architectural courses, most especially those in the capital city, to contrive a pedagogy of sorts which seeks ever more marginal points of contact with traditional architectural concerns. Increased regulation is a response to a growing loss of faith in established institutions and their ability to deliver pedagogical product pertinent to professional concerns.

The work at these schools is now almost too perverse to talk about, exhibiting, to the profane, what must seem to be an acute spatial dyslexia, having little if anything to tie it to issues of moment or to substantial points of relevance, bearing upon contemporary community life or beneficial cohabitation. A comprehensive modesty of outcomes is altogether absent, giving way instead to a display of identity and distinctiveness played within a competitive market (schools compete with each other). Such a view, consistent with the muted monetarism of the state and the values it generates, disqualifies any possibility that schools of architecture might recognise, as a group of questioning institutions, any need to grapple with the grand problems of the moment and attempt, by means of cooperation, to identify and pursue such issues beyond the fettered territories of commercial practice.

To an increasing degree, schools of architecture have become directionless; struck mute by the overwhelming difficulties of the global context they have chosen a closed and limiting formalism, indecipherable to the uninitiated which promotes an arcane discourse. But a private language is no language at all; an isolating agenda which regards architecture as an auto-poetical play of self-referential concerns, risks leaving life well out of the picture; and if there is no social product to teaching, there is little social benefit. To wish for an isolated art, without social determination, is to wish for solipsism and ultimately for extinction.

Whatever the general case might be for a coincident approach to architectural education across the board, no

matter how popular this might be with the rank and file and no matter how this might ultimately benefit communities at large with a determined and coordinated effort to solve current problems, little, if anything, has been done to make such a case. In truth, the prospect of schools of architecture acting together is risible given the current taste for market competition and would fly in the face of the corporate ideology schools of architecture have so gaily arrogated from their parent institutions, making of them competitors and not confederates. Joint projects between schools are not encouraged. Indeed schools wilfully engender a contrived economy between themselves in which their products (student works) are compared and ultimately ranked; upon this destructive structure of cohabitation their isolated survival depends.

1. Article 2 of 1st Protocol of 20 March 1952 to the European Convention on Human Rights states that the right to education is recognised as a human right.
2. In a meritocratic system the talented are chosen and moved ahead on the basis of their achievement.
3. See www.youtube.com/watch?v=zDZFcDGpL4U
4. See Benson Snyder et al.

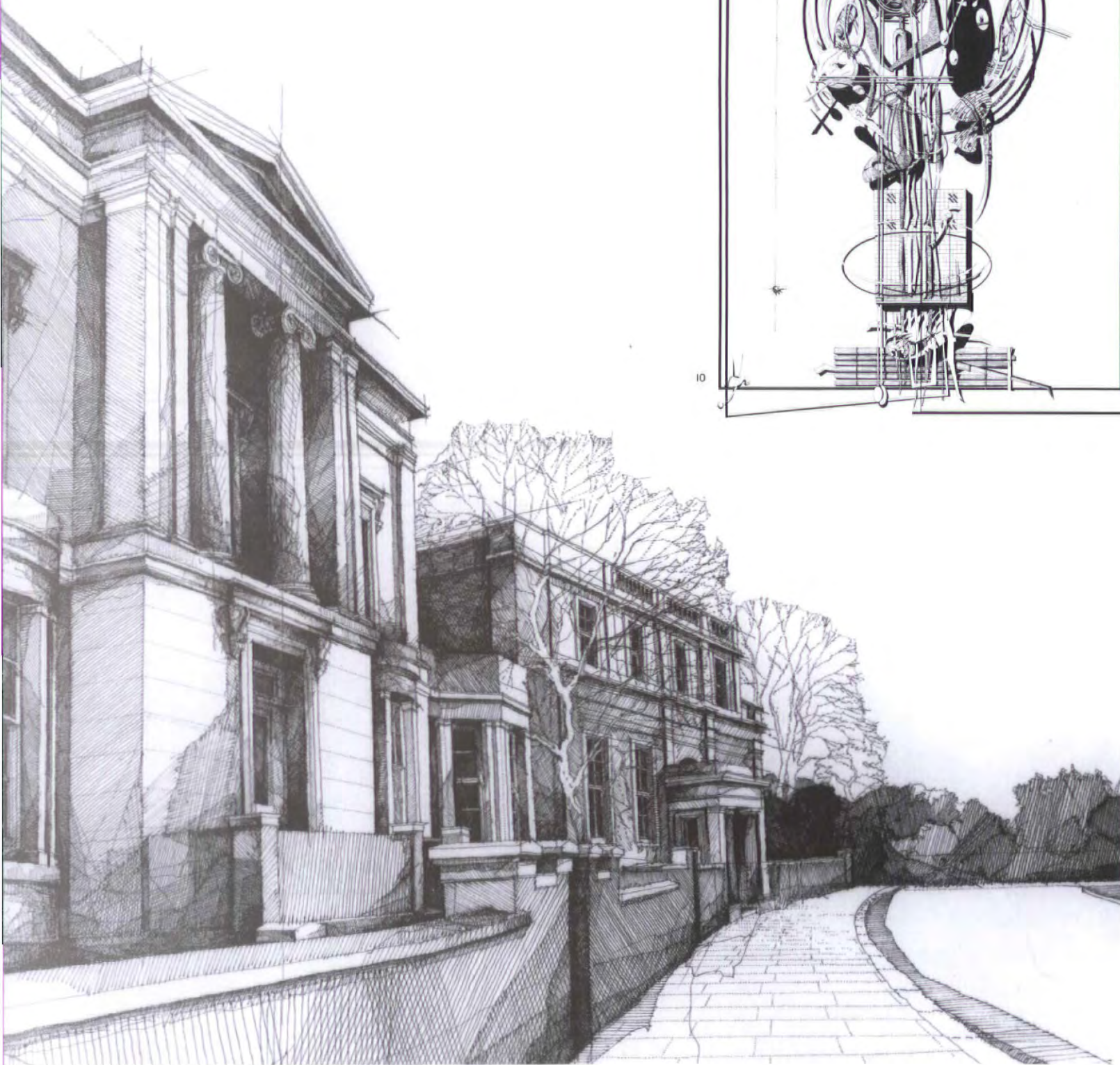
LESSONS FROM PRINCE CHARLES ALAN POWERS

Each revolution in architectural education, the Modern Movement included, tends in time to become an academic fossil, and every new movement begins by destroying a forgoing formalism and focusing instead on materials and people before it too settles into a paradigm. It is 20 years since the one-year Foundation Course at the Prince of Wales' Institute of Architecture opened to receive 28 students, and over 10 since the last group of students graduated. It has been the only radically alternative stand-alone teaching institution attempted so far in Britain since the RIBA Board of Architectural Education standardised the curriculum and began to grant exemption from its exams in 1904, and since it was not fairly appraised or reported at the time, it is worth looking at again.

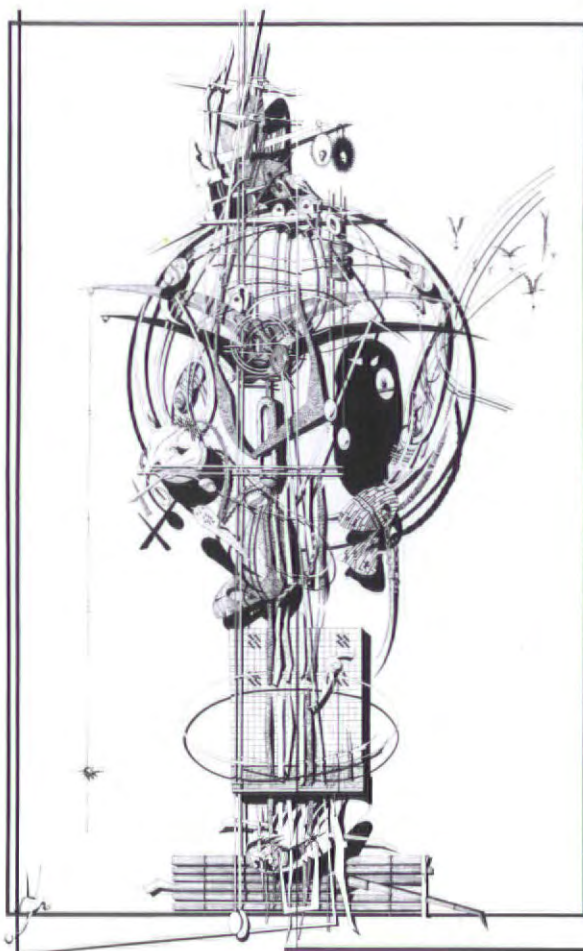
The Foundation Course, more than the Diploma Course which ran alongside at the Institute, 1993-98, was both pluralist and prescriptive, taking the view that students at an early stage need to learn skills of hand and eye and habits of hard work, following Mies's dictum, 'It is neither necessary nor useful to invent a new architecture every Monday morning.' Thus every week of the teaching year brought a new exercise, with life drawing running as a regular evening session. Working with wood, metal and stone, modelling quickly in wax, constructing polyhedra with Keith Critchlow, drawing the orders with Julian Bicknell, engaging in community planning and oil painting in autumnal gardens were some of the constants, with lectures accompanying these tasks or delivered by members of the Temenos Academy, the forum for traditional spirituality in the arts conducted by the redoubtable poet Kathleen Raine, an aspect unique to this school but largely welcomed by the students. Most spectacularly, each year group finished the year by building a complete building, to a design chosen from a student submission. While architecture schools have from

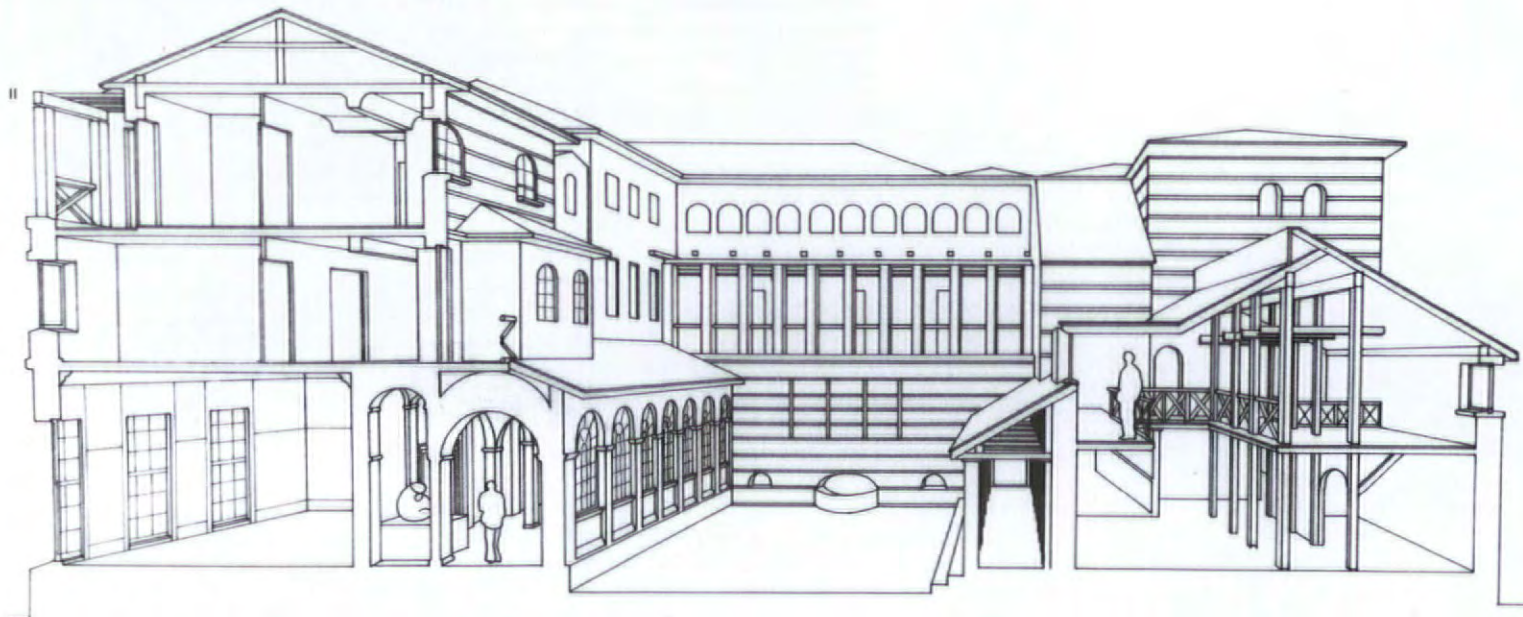


9. Sketch of Gloucester Gate, produced by a student at the Prince's Institute in 1992
 10. *From Genesis to Genocide* by Neil Spiller, Dean of Greenwich University's School of Architecture



10





12



time to time done building practice, it has usually been a token activity. Here instead was a serious task of team working that was hard to run for the staff but very personally rewarding for the students.

This mixture reflected the Prince's own varied and even contradictory interests, at the risk of setting one faction against another. The read-across between architecture, craft and fine arts reflected the Arts and Crafts Movement, and probably owed much to the advocacy of Theo Crosby who worked with Jules Lubbock on planning the summer schools in 1990 and 1991 that brought together many members of the future teaching team. In 1991, the dualism of pedagogy was symbolised with a teaching exercise at the Villa Lante, Bagnaia, where Leon Krier replanned corners of the town in one of the twin pavilions of the villa, while in its pendant, Christopher Alexander worked with large-scale cardboard models to conceive the perfect interior space. Turning three weeks into a year-long curriculum was the work of Brian Hanson, the Institute's founding Director, together with Hugh Petter and Catherine Goodman who respectively ran the Foundation and Fine Art strands. While experience led to some tweaking, the fundamentals remained the same over the 10 years.

This was hardly the paper-based Beaux-Arts revival that some critics feared, even though there was an irresistible temptation to offer neat drawings for publicity rather than the more lively half-formed products of rapid workshops. If the course resembled anything that had come before, it was probably the first few years of the Bauhaus when Johannes Itten ran the Vorkurs, a rich fertilising soil from which to grow a new plant. Many of the students went on to enrol in mainstream architecture degree courses, where their critical mentality as well as their dedication made them welcome recruits rather than contrarian misfits. When the Foundation Course closed, some of the strongest objections came from admissions tutors of other schools.

The Diploma Course, directed initially by Adam Hardy and later by Victor Deupi and David Porter (on a surprise detour between partnership with Neave Brown and headship of the Mackintosh School), was never such plain sailing. If the Foundation Course could sidestep questions of architectural style in its welter of activity, a more concentrated approach was needed here. The Arts and Crafts architects who rejected the proposal for formal training in the 1892 'Profession or Art' controversy felt that design was out of place in the classroom, but lost their battle; the opportunity to reopen that question was not taken at the Institute. One of the Prince's intentions was to achieve a greater reintegration of the construction industry and design, so there was an uncommon attention to materials and construction, but even so, there was the usual struggle to obtain cross-sections showing how it would be built, and the problem remained too big to solve.

The projects set tended to be somewhat unreal and at times there was little unanimity about the intended outcomes of the exercises. A really radical school might have dispensed with such projects altogether, but somehow these conventional practices were assumed. Some students liked classicism, others vernacular. Urban context mattered and some quite elaborate local consultations and charrettes relating to project sites kept alive the spirit of the Prince's commitment to Community Architecture. Sustainability was much discussed.

It was an international student body of varied age make-up and they came and went on different paths.

All students learned CAD as well as hand drawing. Fees were moderate and bursaries available in a successful effort to avoid a 'finishing school' atmosphere. Curiously, neither history teaching nor building conservation were given much attention, on the basis that the battle that needed winning was for new building, and these would detract from it. Several students came to study for PhDs, however, while the diploma students wrote some creditable MA theses. There was room for each student to have their own drawing board, even in central London, so that the busy timetable created a buzz of students spending all day in the building, with catering at least as good as the AA, an exhibition programme, public lectures and links to the magazine *Perspectives* (1994-98) edited first by Dan Cruickshank (former AR history editor), and then Giles Worsley with Tom Dyckhoff that was part of the same programme of revising received opinion in the light of unfashionable attitudes.

Teaching was reasonably sheltered from the rapid regime changes within the stuccoed walls of its pair of Nash villas at 14-15 Gloucester Gate, although each of these tended to steer it in a new direction, from warm hippydom to cold classicism and finally, under Adrian Gale, to a more tolerant view of Modernism. Given the substantial grounding of Arts and Crafts values of honesty and left-leaning social commitment still present in British architectural culture, this concluding act should not be too surprising. Perhaps because at the Institute there was permission to take classicism seriously if one wanted to, Postmodernism had no place. There was a lack of cynicism or irony that reflected the founder's own outlook. Apart from the Visual Islamic and Traditional Arts course, VITA, and the reconstitution of the fine art teaching at the Prince's Drawing School, the courses were wound up as part of the rebranding as The Prince's Foundation and its move to Shoreditch, although summer schools and apprenticeships dotted about the world have extended the educational mission alongside work on planning and development consultancy. These were worthwhile new directions in line with the original purpose, but the courses were not abolished because of failure, rather, it seems, because those managing the Prince's image after 1997 felt that they were not contributing positively enough to his profile.

One could even say that, despite much adverse publicity, the original Institute was the victim of its own success. A lot had already changed in the years between the Prince's Hampton Court speech in 1984 and the years of the Institute. His best service to architects was to make them improve their act, while for him to have endorsed Modernism would have been the most cunning way to hasten its destruction. Instead, it re-emerged but mostly in a more friendly form, having learnt lessons about responding to people and places that were too often forgotten in the 1960s.

There is talk at the Foundation of restarting the Foundation Course, adding to a growing programme of summer schools, involving many of the original tutors. However, it remains impossible for any student to qualify in Britain on a course that permits let alone encourages classicism or anything other than the currently favoured aesthetic paradigms. Perhaps the Institute came too close, especially during its more classical moments, to simply offering a mirror image of this kind of normative approach, but in offering an alternative even for a short time it had value in itself and there was a lot more on offer besides.



11. Design by a graduate student at the Prince's Institute 12 & 13. One of the distinguishing features of the Foundation Course was that students ended by working on a full-scale construction project, this one led by Imre Makovecz, a favourite of the Prince's (AR January 2012)

ALTERNATIVE ROUTES FOR ARCHITECTURE WILL HUNTER

How young British architects wish to practise is changing profoundly and the country's architecture schools are in danger of being left behind. In February, RIBA Building Futures produced a report entitled *The Future for Architects?*¹ On its cover a small metropolitan practice explains: 'In 10 years' time we will probably not call ourselves an architecture practice, it will be something else entirely.' Indeed badges such as 'spatial agency', 'design house' and 'creative consultant' are, the report says, already growing popular among a generation of graduates who want to work in a more networked, multidisciplinary way. Two recent books – *Spatial Agency: Other Ways of Doing Architecture*² (AR March 2012) and *Future Practice: Conversations from the Edge of Architecture*³ – are full of further examples of how architects might construct different opportunities for themselves in the 21st century.

It is perhaps no surprise that architectural practice has so far gone much further than many architecture schools to find new ways to operate within the changing realities of the construction industry and the world beyond. Practice has, after all, always had to survive in the marketplace and innovate to do so. The question now for existing architecture schools is what can they do to better prepare their graduates for this new type of life in practice. But there is also a bigger set of questions. Are architecture schools housed within the state-controlled university system really the best place to create the next generation of architects? Will their often ossified structures allow enough flexibility to respond to the speed and scale of the changes in the outside world? Can the siloed nature of faculties offer collaborative experience and shared knowledge? And are established institutions – with their fixed hierarchies and risk-averse bureaucracies – really the right environment to inculcate the buccaneering commercial and creative opportunism that are the hallmark of emerging practices?

Clearly some shifts in schools are already taking place. For example, the runner up of the AR's new Global Architecture Graduate Awards, Joe Swift (page 36) – co-designer of RARA (the Redundant Architects Recreation Association) – was in Robert Mull's and Peter Carl's 'free unit' at London Metropolitan, in which students must generate their own briefs and enact them outside the groves of academe. This is one of the few examples in mainstream education that has responded to (or perhaps anticipated) new ways of being an architect.

But the unavoidable question is: if architecture students need to learn more about how to operate in the real world, why not provide a route for their education outside the university campus altogether? Scattered throughout this issue are a number of examples of such pedagogical experiments: Beatriz Colomina et al on the International Laboratory of Architecture and Urban Design, among others (page 78); Alan Powers on the Prince's Institute (page 84); Peter Cook on Alvin Boyarsky's International Institute of Design (page 110). As precedents, they give credence to the idea that a

guerrilla architecture school could be the best place to prepare the guerrilla practitioners of tomorrow.

And while the changing nature of practice highlights the opportunity for such an independent architecture school, the changing nature of higher education gives it even greater urgency. Architectural education in England is simply becoming too expensive. Last year the cap on university fees leapt from £3,290 per year to £9,000; and for 2013 the average fees are expected to be £8,507 per year.⁴ Students at the top universities will pay £45,000 on fees alone. Combined with living and other costs, Part 2 graduates could easily leave with £100,000 of debt.

And to say that salaries in the profession hardly make up for this financial burden would be an understatement. Shockingly, an architectural survey conducted by Archaos in April last year found that 27 per cent of respondents who were paid hourly were paid under the national minimum wage. (Can you imagine this happening to lawyers or accountants?) As the AR went to press, the plight of London Evening Standard graduates even made the front page of the *London Evening Standard* with the plaintive headline: 'A degree in architecture ... but all I can get are menial jobs.'

Part 1 students in England are now on the higher fees, but for the moment Part 2s finish with the lower fees they started their courses on. But in a few years' time these will go up; and then what happens? The architectural profession has always been caricatured as a rather gentlemanly pursuit. But at a time when it needs to widen access and recruit the best talents to deal with the scale of its current challenges, it could deter all but the wealthiest of candidates, and become more elitist than it has ever been.

A new school of architecture

What would a new architecture school designed for these new types of practice look like? For this short article, let's just speculate about an alternative way of getting the postgraduate part of your professional architectural education (for the main reason that undergraduates are comparatively better suited to a structured university environment than postgrads, who would respond most to a looser and more challenging educational scenario).

Pedagogically, a guiding principle would be that the latter part of your architectural education should be a type of supported 'proto-practice', and that the educational structures should reflect these new ways of working. This would imply reinventing the school not as an established hierarchy, but as an orchestrated network, one that not only includes tutors, but also a range of expert consultants, different disciplines and other institutions. The school could embed itself within a community, one where there is opportunity for architects, and all the project work should be set locally and engage with real issues. There should be a mixture of group working and individual enquiry, and students should be taught by the sort of practices they might want to become in 10-15 years' time. The avant-garde approach has become so institutionalised in many schools that it would be an irony to use such counter-institutional spirit to refocus the profession on what such schools would probably see as a reactionary emphasis on practice. But any type of proto-practice shouldn't merely be just like being in practice; it should offer the opportunity to experiment, to push and test ideas away from commercial pressures, to think how architecture might better operate as a spatial and urban problem solver. And this in turn could be of benefit to practices themselves: the ones involved in the teaching, and beyond into the profession.



1. *London Evening Standard*, 20 September
2. *Folly for a Flyover* (2011) by Assemble exemplifies the more buccaneering nature of young graduates. Assemble emerged from the undergraduate course at Cambridge and launched themselves on to London with Cineroleum, a pop-up cinema in a disused petrol station. They are now working on other projects, most recently designing the just-opened exhibition of Lina Bo Bardi at the British Council in London



A different business model for a school

Clearly a new school would have to operate not only on a different pedagogical model, but also a different business model, and there is now opportunity here as the British coalition government has shown determination to let private universities compete with their public counterparts by allowing students to borrow their fees for both. So far, however, the most notable private alternative – philosopher AC Grayling's New College for the Humanities – plans, when it opens this month, to charge students fees of £18,000 per year, double the fee cap. This is along the Ivy League model where high fees are needed for high-profile world-class faculty members.

Any new British architecture school should play the opposite game of undercutting established institutions to make becoming an architect cheaper and more accessible. To do this it would have to radically rethink what it offers. A primary purpose of any 21st-century school is to develop a student's intellectual creative capital, and one place where you wouldn't want to cut costs is on the teaching staff. The 'good news' for any such start-up is that studio tutors are relatively cheap. One leading architecture course in London, for example, pays its tutors £160 per day. A new school prioritising its tuition fees for tuition should significantly raise this pay, in order to attract the best possible tutors from busy lives in practice and into the studio; and even to encourage the idea of teaching as a form of practice in itself that can benefit a whole office.

But there are plenty of savings to be made elsewhere. To start with does a Part 2 course really need to be two years? Other institutions in the UK – such as Cardiff and Cambridge – are experimenting with different time models. If you offered a 12-month programme it could mirror working life with only four weeks' holiday per year, and this would give you two-thirds of the teaching time of a two-year programme. Some students would say that they need the holidays to earn money, but using the school's spatial resources more intensively allows it to pay one year's rent instead of two, and these savings are ultimately passed on to the student. The same, of course, is true for the students themselves: they only need to pay for

a year's living costs instead of two. And, of course, there are other models, such as two-year programmes where students undertake paid work in a practice two days per week, not just as a job but as a formalised part of a networked learning set up.

Physical resources could be dramatically reduced. As one leading global technology company discovered when it recently redesigned its headquarters, all its employees want is strong wireless connection and good coffee. Architecture students (most of whom bring their own laptops) might want to add to that a really good plotter. The new school should offer large studio space, and little else. All other physical resources – libraries, workshops, lecture theatres – can be sourced in other ways, in the local community or as part of the professional network you could create. With the pace of change, investing in fixed resources within an institution is difficult when they can so easily become obsolete. Furthermore, pushing students to find – beg, borrow, or steal – what they want to use in the wider world equips them with the network of expertise they will want to use as young practitioners. They could also rent as and when they needed to, and this could be budgeted for as a discretionary voucher as part of their fees.

Other models from outside architecture could provide inspiration. The idea of 'meanwhile businesses', which go into London Boroughs that are in the process of regeneration, could be one option; an architecture school that only intended to operate for four years would have critical focus and wouldn't become stale. Also the precedent of a think-tank, which delves into policy issues and makes proposals, could provide the model for group research, which could look at local problems or typological precedents, creating shared expertise within the school from which individual projects could spring forth. All this might sound like it misses the point of education as a 'pursuit for its own sake', and one that undermines universities as 'places of research'. But architecture isn't just an arts degree, it is a professional training too; and the *recherché* nature of much research would be better married to architectural studio concerns.

There are many obstacles to such a proposal – not least the pending EU ruling on the length of architectural training across the continent. But, still, the idea of a 21st-century form of apprenticeship, which redefines the relationship between master and apprentice, might be just what the profession needs. When the Architectural Association started,⁵ it united articulated pupils who were separately grafting away under different masters. But today, a reinvented form of apprenticeship could provide a vital reciprocal relationship that benefits both the 'teacher' and the 'taught', and ultimately this would strengthen the profession as a whole.

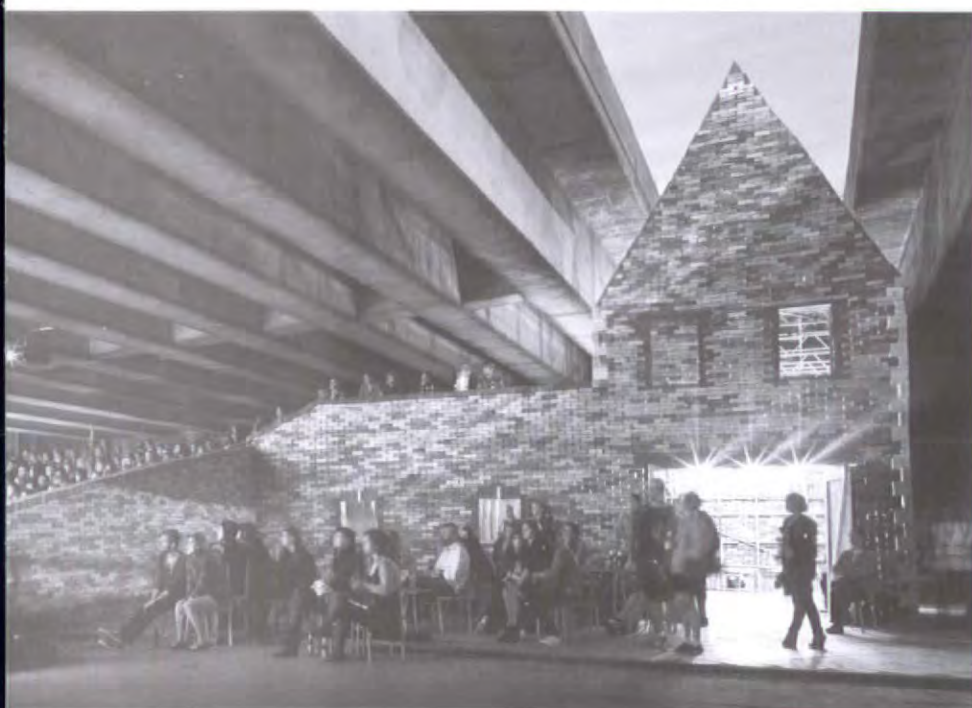
1. buildingfutures.org.uk

2 & 3. By Nishat Awan, Jeremy Till and Tatjana Schneider (2011); and by Rory Hyde (2012), both from Routledge.

4. www.bbc.co.uk/news/education-18984938

5. The AA was founded in 1847, following an article in *Builder* magazine calling on students to take their training into their own hands as the existing vocational training was deeply flawed.

Will Hunter has launched a research group Alternative Routes for Architecture (ARFA) to explore different models for architectural education. Over the next 12 months ARFA will conduct interviews, hold symposia and publish a report of its findings. If you would like to be involved, share insights, offer examples of peer learning, debate proposals, discuss obstacles, or simply learn more, please email will.hunter@emap.com





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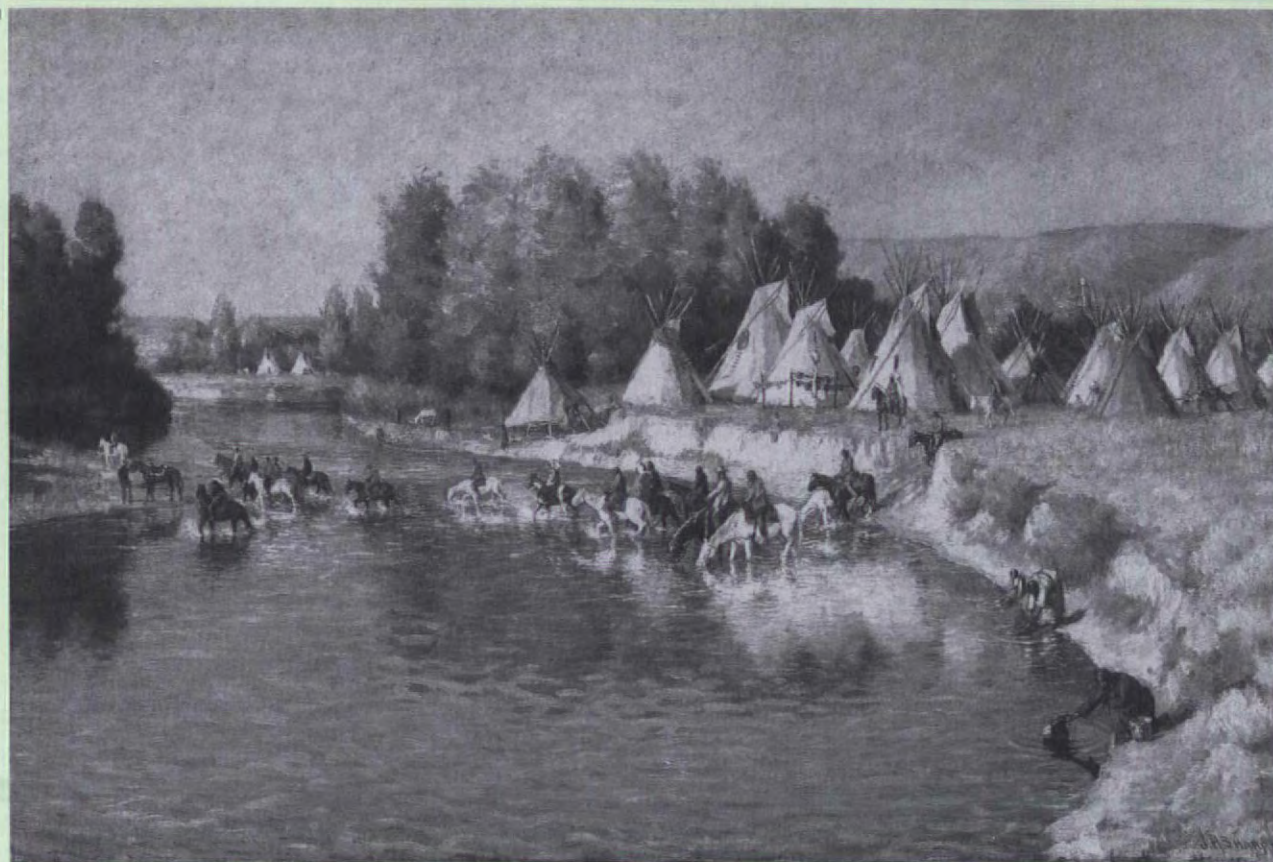
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I. Encampment of Crow Indians at Little Big Horn River by Joseph Henry Sharp (1908). A Romantic image of a settlement providing rudimentary shelter for a nomadic community

THE BIG RETHINK ARCHITECTURAL EDUCATION

Detached from the ferment of epochal change, the groves of academe are failing to engage with current critical realities. Education for architects must be radically reconsidered, through a new, more fully human paradigm that engages with society and culture

PETER BUCHANAN

Apart from pleading for blunt and long overdue critical comment about various architects – some starchitects are nominated repeatedly, you can easily guess who – the most common request in the private emails received in response to these essays is to discuss architectural education. This too is a subject provoking strong opinions, though with rather less consensus. The unease, and often dismay, felt about architectural education is unsurprising and has been long festering. A primary theme of these essays is that we are in the throes of massive epochal change that must profoundly impact architecture. Hence the urgent necessity for 'The Big Rethink' to which these essays are a tiny contribution. Yet to visit many architectural schools is to enter a time warp where the 'anything goes' postmodern relativism of the 1980s persists, and tutors and lecturers pursue their own interests regardless of any larger relevance. Indeed, it almost seems that the more overwhelmingly urgent the looming crises provoked by systemic collapse of interdependent aspects of our global civilisation, the more frivolous the pursuits of academe. Even sustainability is reduced to a much too narrow, peripheral subject added on to the curriculum rather than forming the core of a radically restructured education.

But quite apart from not preparing students for the very different future in which they will practise, schools are struggling to keep up with changes that are already transforming architecture. These include the proliferation of ever more materials and new modes of manufacture, assembly and construction management, as well as new software bringing novel modes of analysis to such things as structural stresses, ambient conditions (light levels, air movement and wind pressure, temperature, humidity and so on) and even movement patterns of pedestrians and vehicles (as with Space Syntax). This complexity puts demands on architects at the leading-edge of practice that are increasingly beyond the capacity of any individual. Hence architects collaborate with a widening array of consultants in multidisciplinary design teams in which even the architect component is made up of individuals of differing expertise. In contemporary parlance 'we have moved from the age of genius to scenius'. Yet architectural education is still geared to producing the solitary genius, rather than today's collaborator – although admittedly such teams might still benefit from the genius-type for guidance and final judgements.¹

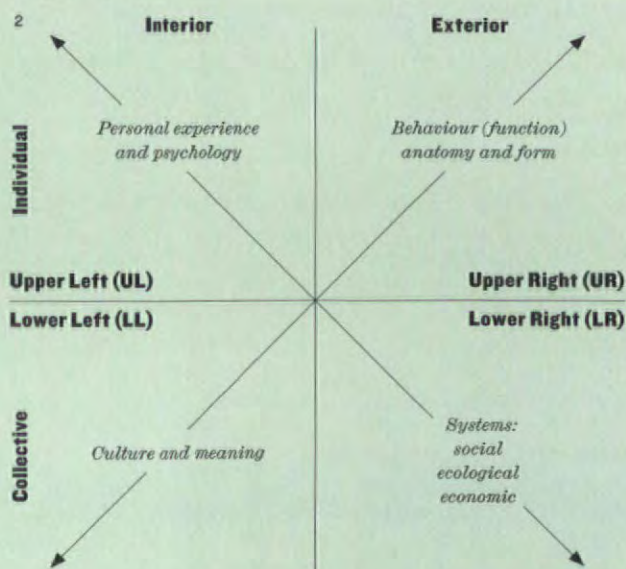
Often after lecturing at an architectural school and showing the computer modelling and analysis informing some contemporary design, as well as the techniques used to coordinate construction and so on, professors privately admit despair at the impossibility of finding the skilled people to teach such things, let alone be available for students to consult with. Yet a few of the schools dismissed as 'provincial' by those who see themselves as the metropolitan elite, reputedly give a good and more or less up to date technical grounding. Even in one or two of the elite metropolitan schools, it is possible to get excellent technical tuition and call on first class consultants for guidance during development of student projects – that is, if the student is so inclined and the unit master permits it. Confusingly, there is at least one 'elite'

school whose graduates are much in demand by practices when recruiting, despite weak technical training, simply for the work ethos inculcated.

If practitioners moan about students unprepared for practice, a complaint consistently voiced by students, teachers and some practitioners is about the grip on architectural education of postmodern relativism, although that is usually not the terminology used. As explained in earlier essays, postmodernism initially brought great benefits. Its criticisms of modern architecture, such as for its contextual insensitivity, brought the new maturity found in the best contemporary buildings. Even postmodern theory was initially useful in broadening discourse and drawing attention to the semiotic dimensions of architecture. And what has become its excessive relativism was initiated by validating previously repressed voices, such as those of women and the colonised. The multiplicity of perspectives this alerted us to are important in breaking the grip of modernity's too narrow certainties, so facilitating epochal change. But like modernity, postmodernity has hung on too long and the benefits it brought are now outweighed by its toxic downsides.

The relativism that characterises postmodernity rejects hierarchies, so cannot prioritise, and sees all forms of 'reality' as arbitrary constructs, so dismissing of science as just another narrative. The postmodern mindset has thus become a major block to both dealing with urgent issues, such as environmental collapse, and embracing more contemporary modes of thought, many of which are powerfully relevant to architecture. It is like a vaccine inoculating against the many new currents of thought. It resists the Big Picture thinking necessary to understand where we are in evolutionary and historical terms – essential to gaining insight into the problems we face and their potential solutions – and the developmental modes of 21st-century thinking and their science-based strategies of action. Besides bringing about the increasing

2. The four quadrants of Integral theory's All Quadrant All Level (AQAL) diagram



'It almost seems that the more overwhelmingly urgent the crises provoked by systemic collapse of inter-dependent aspects of our global civilisation, the more frivolous the pursuits of academe'

irrelevance of architectural discourse, it has dramatically narrowed its concerns. Even many teaching in architecture schools complain the schools are not even participating in, let alone leading, the necessary debates of our time. Hence postmodern theory is exactly analogous to scholasticism at the end of the Middle Ages, which in its obsession with arguing over the number of angels on the head of a pin did not notice the Renaissance burgeoning all around.

But as we all know, the postmodern mindset dominates history and theory departments, home to PhDs who appoint other PhDs who, in knowing more and more about less and less, are not a natural fit with a generalist subject such as architecture. But these are the people who boost the research ratings and so the funding of schools, no matter how worthless that research to the practice of architecture. Hence some schools are staffed by disproportionate numbers of such scholars who lack the skills and experience to contribute much to the rest of architectural education. Besides, too often, studying for a PhD can ruin promising students, leaving them fit only for a career in architectural education. Hence many professors admit in private that a university is probably not the best home for an architectural school.

Theory courses tend to be more concerned with such things as literary theory and French philosophy than anything to do with architecture and mistake obfuscation for profundity, dressing up the most banal of observations in obscure language. But students and other staff seem to simply accept that theory courses tend to be irrelevant and taught by people with a limited grasp of architecture and even less ability to discern quality – which of course infringes postmodernity's taboo against hierarchy or ranking.² But this irrelevance tends to be tolerated as relatively harmless: instead it seems more students are upset by the often poor teaching of history, recognising that this should be an important and really useful subject. Again, the problem is relativism as some lecturers, instead of teaching a thorough and rounded history course, discuss selective themes through the narrow lens of some personal interest. Ask a theory or history lecturer who has outlined such a course what might make it among the top 1,000 topics students should devote their limited time to and the question is dismissed as preposterous as the answer is obvious: well that is what interests ME. Yet besides improving the teaching of conventional architectural history, there is now also a need for courses reappraising architectural precedent with an eye to the lessons worth carrying forward to inform the process of 'transcend and include' (ARs May, June and September 2012).

Such courses can only be conducted by architects with a more rounded and pragmatic understanding of architecture and design than have most history lecturers.

The postmodern ethos has infected criticism outside the schools too, so that patent nonsense by architects escapes censure. Probably the most frequent complaint about the latter is the over-emphasis on concept – as consistent with postmodern art and architecture's central concern being the representation of some theoretical position, concept or scenario. These are usually quite arbitrarily chosen, and typically at the expense of any grounding in larger realities, including that of the patient honing of craft through which the art work and the artist/architect acquire depth. Students also complain of the pressure in some studios to come up with a concept in the early stages of design rather than letting one emerge from research or design development. Worst of all though is that one concept is deemed as good as another, a patently preposterous notion, and for a visiting critic to point out flaws in a concept is seen as inhibiting a student's creativity. Rather than relevance, what is sought is startling originality, no matter how spurious. A related problem is the pursuit of personal interest as the basis for design and research. All this fuels the fragmentation of approaches characterised as pluralism, the mask that attempts to camouflage confusion and uncertainty as to relevance.

These problems are further compounded by the unit system, a neo-liberalist way of subcontracting out studio teaching without taking much responsibility for it – so long as units attract students. Thus each unit strives for a distinct identity, further fragmenting the range of approaches, usually by pulling away from any useful common ground and exploring the often rather esoteric and inconsequential interests of the tutors, from which the students may leap off into even more obscure realms. In these circumstances, any notion of a coherent curriculum giving a fully rounded grounding in architecture becomes unthinkable – and many academics would dispute the need for any such thing.

Integral theory and cultural values

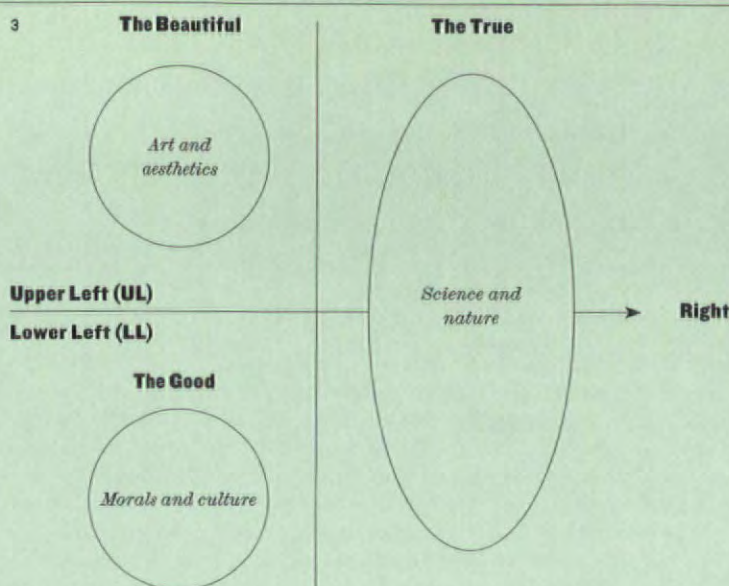
A key portion of Integral theory not mentioned yet is the association of particular epochs and their mindsets with particular cultural values and even personality characteristics. Remember that a key assumption informing the AQAL diagram (AR March 2012, p70), and one of its most useful insights, is that development in one quadrant – progression up a line, another subject not yet explored – is matched by corresponding developments in the other quadrants, in this case cultural development (LL) matched by psychological development (UL). Thus the ethos and personality associated with postmodernity is often referred to as 'caring and sharing', concerned with the wellbeing of others, respectful of their opinions and always seeking consensus – all upsides of relativism. Hence it is also associated with interminable meetings and ineffectuality, both on display in academe. Some businesses apparently use psychological profiling to screen out such types. Anyway, the downside of this personality is that while respectful of the views of others,

he/she expects similar respect and acceptance of his/her views, and if these are questioned there is a relapse into narcissistic anger ('who are you to question my interests? To force an agenda upon me?') Postmodernity's unquestioning tolerance leads to lecturers offering courses on the most abstruse of subjects, merely because it is a personal interest.

Postmodernism might have exacerbated the proliferating fragmentation of intellectual pursuits that is characteristic of our times, but this fragmentation starts with the origins of modernity, as explained in an earlier essay (AR February 2012). The two key innovations, differentiating modernity from every cultural mindset that preceded it and on which its powerful effectiveness depends, were both fragmentary in impact. One was positing an objective reality, independent of us. Underpinning modern, materialist science, this dualistic notion excludes and alienates us from a progressively disenchanted world and, together with its correlated modes of reductive analysis, erodes the cognitive and experiential relationships between things so that the world fragmented into isolated objects and unrelated fields of knowledge. This, and the downplaying of the subjective, along with religion and the spiritual (Friedrich Nietzsche's Death of God), undermined the underpinnings of culture, which once explained our place in the world and our relationships with other people, our origins and all else.

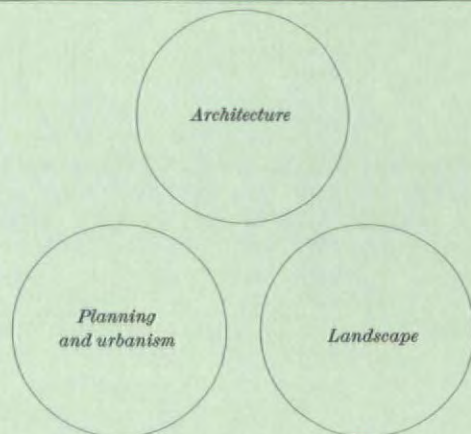
The second key innovation initiating modernity was that what had been the organic unity of the Great Chain of Being was differentiated into the three major fields of the True, the Good and the Beautiful. This was a distinction that had already been made by Plato, but now led to the separate fields of Nature and Science (the True), Culture and Morals (the Good) and Art and Aesthetics (the Beautiful). This differentiation brought powerful benefits in allowing these disentangled fields to be developed independently. But, compounded by the privileging of objective reality, differentiation gradually led to a pathological dissociation and further fragmentation into multiple silos of expertise. In turn, this left us blind to the relationships between these fields and the negative consequences of ignoring these relationships, which are dismissed as mere side effects, externalities and collateral damage.

Modernity's power thus became its destructiveness and has now brought us to the brink, yet postmodern relativism is powerless to effect fundamental change. This highlights the urgent need to devise a sustainable, trans-modern (post-postmodern) culture. But the cultures of the past were grounded in a religion or spiritual tradition. Once this was eroded, art had to substitute for religion in offering spiritual and psychological succour. This was a challenge the first wave of modern masters were able to meet (in large part because they were the last generation properly schooled and grounded in Western classical culture). But it could not be sustained and has led to the vacuity of postmodern conceptual art and architecture – as well as, without an integrative culture to bind them, the progressive segregation of the different kinds of art. Thus architecture is no longer

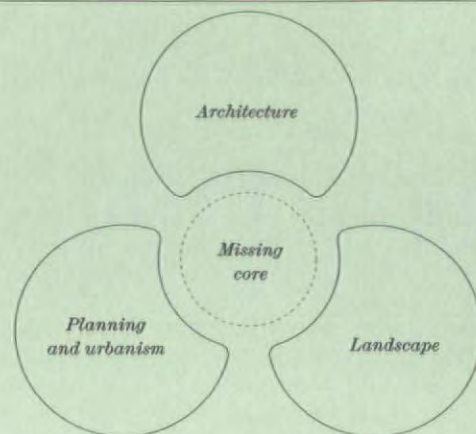


3. A key step to modernity was the differentiation of the Big Three of the True (right-hand quadrants), the Good (lower left quadrant) and the Beautiful (upper left quadrant) 4 & 5. Architecture, planning and urbanism, and landscape architecture are treated as three separate fields, but have pulled apart, as in 5, so that what should be a common core, the crucial grounding for sustainability, is neglected 6. Proposed foundation course focusing on what should be the common areas of overlap 7. More evolved version of 6 with engineering available as a resource to be consulted and the regeneration of culture as a constant background theme

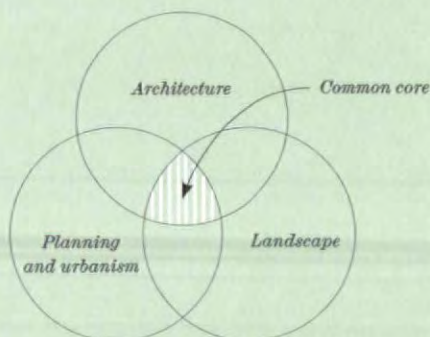
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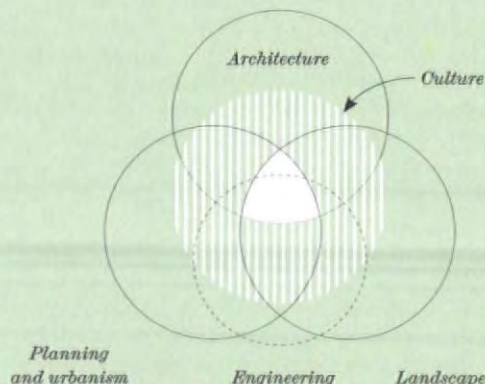
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7



the Mother of the Arts, the frame for and completed by the sculpture and painting that were utterly intrinsic to it. The fragmenting impact of modernity also led to the now too extreme separation of the fields of environmental design and their education: architecture (often taught in an art school); urbanism (particularly planning, where no understanding of architecture might be taught); and landscape architecture (which might be taught in a horticultural school). Yet, as we will see, much of what should be the essential foundations of sustainability must lie in what should be the overlaps between these three major fields of environmental design.

So what might a radically rethought and updated architectural education be like, one adequate to the challenges we must face and that gives sustainability its central role? There is space here for only a few suggestions, although future essays will offer more. To properly integrate sustainability into architectural education, a much-expanded vision of what it entails not only needs to become the core of the course but should also be that of a year-long foundation course shared by students intending to become architects, urban designers and planners, and landscape architects.⁸ (Perhaps product designers and engineers should participate too, although this might result in a fragmenting loss of focus.)

This would ground all these in the now generally neglected areas of knowledge and expertise they should share, deepening and broadening their education and creating a common context and mutual understanding facilitating future collaboration. It is a common experience that you learn more about another specialisation through collaborating on a project than from a course of lectures.

Among the subjects studied would be an introductory course on evolution and ecology, which would then lead on to human ecology and the history of human settlements to provide a very necessary context for understanding all forms of environmental design. Allied to this would be a course on the relationships between climate and differing cultural adaptations to it, such as in types of shelter, settlements and agriculture, and the consequences for all these of climate change. Another key subject would be to look at the flows of materials, energy, food and other resources through our globalised world, from extraction through to waste. Although architects are already using more recycled materials, the use and flow of resources is a key subject ripe for radical reappraisal, impacting on all forms of environmental design.

All these courses, with their primarily objective orientation, would provide the necessary expanded context for understanding the challenges in creating

'What is it to be fully human, who in our depths do we really want to be and how can this be brought into alignment with what the earth wants us to be?'

a sustainable culture. But so too would introductions to the more subjective realms of psychology and culture. Starting with the psychology and mechanics of perception, which should inform aesthetic theory and judgement, there would also be introductions to phenomenology, environmental psychology and the psychological need to bring order to our environment, for ritual, the projection of our psyches into space, and so on.

Theories of cultural development, such as Spiral Dynamics (the subject of a future essay), will be introduced and their implications for creating urban environments that serve differing kinds of cultures (such as found in our multicultural cities) and individuals of differing ages and stages of personal development. Other courses would introduce the human need to create meaning (depth psychology) and ways of communicating it (semiotics), as well as criticism and criteria of judgement.

As important as these lecture courses, would be visits, experiential exercises and ongoing debate. A common complaint of architects hiring graduates, as well as of their teachers, is that too many students today think that having seen a building on the internet constitutes knowing it. So students would visit, explore and write about buildings, urban areas and landscapes, experiencing first-hand works of their chosen discipline as well as those of future collaborators. To heighten experience they would be asked to undertake various exercises, such as pretending to stalk in a landscape or urban area, so strengthening peripheral vision and sense of place, or conducting a fast, non-stop verbal description of what is seen, so forcing students to see and feel more and make and articulate finer distinctions as even inert matter becomes more alive around them.

Other exercises would introduce the purposes and processes of design. From the Big Picture vision conferred by the lecture courses, students would grasp that the most elevated purpose of design is to be mankind's way of participating in evolution, using the vast knowledge we have acquired to be guided more by choice than by chance. Ongoing discussions would reappraise the various purposes of each of these fields of environmental design, after the debasing of them by modernity and postmodernity, to inform design and inspire it with the deepest and most ennobling visions. Thus a purpose of architecture is to shape a physical setting in which to unfold into full humanity, as now understood by drawing on insights from sources ranging from depth psychology to ancient spiritual traditions. This too is one of the most ennobling purposes of urban design, in shaping the city that is the crucible in which consciousness and culture are forged and constantly evolve. And landscape architecture is not just to provide a decorative smear to the unused and

unloved leftovers around and between buildings, nor even to only provide for recreation and the regeneration of body and soul in a beautiful setting. It now has many vital ecological functions, protecting biodiversity, providing wildlife refuge and corridors, improving air quality and the microclimate and repairing hydrological cycles.

Probably the most important of these ongoing discussions would be around the entwined themes of what it is to be fully human and what is the good life, who in our depths do we really want to be and how can this be brought into alignment with what the earth wants, or can afford, us to be? These are fundamental questions, the answers to which should inform all environmental design disciplines; but after modernity and postmodernity, we have lost our way when it comes to answering them. In large part this is because these still current mindsets are underpinned by a vision of a dead and meaningless, mechanical universe against which we build a defensive wall of consumerist goods and distract ourselves with addictive behaviour. But if we move beyond postmodernism to embrace science's new vision of a living, creative universe, then we want to disencumber ourselves and engage with and participate in it. And in the background of all this is perhaps the most urgent and difficult challenge of our times, the design of a new global culture, or ecology of cultures, because the present dominant culture has lost the roots in spirit and nature found in pre-modern cultures, which is why it has become pathological and destructive. Yet studies in cosmology, evolution and ecology are introducing, through leading edge science, a spiritual view of the world, as found in the wonderful writings of cosmologist Brian Swimme and eco-theologian Thomas Berry.⁴ It is also important to note that none of the above is a purely intellectual issue; they are fundamentally ontological. To grasp them and progress towards realising the visions implied requires personal development. Here schools of environmental design have a lot of catching up to do, not least in employing techniques now widely used in business management and performance coaching.

Fully human design

Such a common foundation course may seem like an idea whose time has come, a way of starting to get all these disciplines back on track. But it seems very unlikely to happen: is there any university or institution really serious about an education apt to and drawing on the potentials of our time? It doesn't take a cynic to answer no. Without such a foundation course, the ideal would be that everything discussed above would be part of the curriculum for an architectural education – again unlikely. They were outlined mostly to give some flavour of how different an architectural education adequate to the emerging epoch should be. Lack of space precludes discussion of what the whole course might be like, which in any case would be shaped by all sorts of contingencies such as available resources. Like the foundation course, it would benefit from explicitly drawing upon and being shaped by Integral theory, including those aspects yet to be explored in other essays. Yet simply using the quadrants of the AQAL diagram to guide the selection of

8. An example of a four quadrant architectural curriculum, best understood in conjunction with the AQAL diagram

<i>Psychology</i> <i>Intentionality</i> Delight <i>Psychology:</i> <i>of perception</i> <i>of creativity</i> <i>Depth psychology</i> <i>Developmental psychology</i> <i>Phenomenology</i> Subjective	<i>Individual</i> <i>Biology</i> <i>Behaviour</i> Commodity Function <i>Ergonomics</i> <i>Space standards</i> <i>Analysis of brief</i> <i>Functional linkages</i> <i>Comfort standards</i> <i>(airchanges, light levels)</i> <i>Health (chemical and</i> <i>electromagnetic pollution,</i> <i>limited spectrum light)</i> <i>Physiology of perception (all senses)</i> Objective
<i>Architectural history (evolution</i> <i>of styles and culture)</i> <i>Theories of aesthetics, proportion</i> <i>and property</i> <i>Semiology</i> <i>Symbolism, ritual, myth</i> <i>Anthropology</i> <i>Cultural studies</i> <i>Proxemics</i> <i>Hermeneutics</i> <i>Cultural development: Spiral Dynamics,</i> <i>multiculturalism</i> Decorum <i>Culture</i> <i>World view</i> <i>Collective</i>	<i>Architectural history (development</i> <i>of technology, economic means etc)</i> <i>Environmental history</i> <i>Ecology</i> <i>Social psychology</i> <i>Principles of structures and services</i> <i>Computer skills</i> <i>(including predictive and</i> <i>parametric modelling)</i> <i>Site management</i> <i>Lean and green component</i> <i>manufacture</i> <i>Building systems interface</i> <i>Systems thinking</i> <i>Finance</i> <i>Business management</i> <i>Professional conduct</i> Firmness <i>Systems: technical,</i> <i>social and</i> <i>ecological</i>

subjects to be studied, the most mundane of applications, would ensure a degree of completeness and coherence, clarifying the relationships between these subjects.

Let some brief comments suffice to give some idea of what a Four Quadrant curriculum might be like. The Upper Left quadrant is realm of what has been called Delight, that of intentionality, psychology, aesthetics and personal experience. There are several contemporary forms of psychology that would have much to contribute here, including developmental psychology (studying the stages through which we develop and mature) and those studies of creativity (offering many insights in how to enhance this) and perception. The latter has much to contribute to aesthetics – understanding Gestalt psychology's insights into perception (such as the preference for verticals and horizontals and perpendicular crossings that minimise the number of angles defined) explains why even if exciting, Parametricism's forms are also fundamentally alienating. Phenomenology also

belongs to this quadrant, enhancing any discussion of aesthetics and how we relate to the built environment.

The Lower Left quadrant is that of Decorum, of culture, its world views and the meanings they confer as well as the subjective dimensions of community. Many contemporary fields of study beloved of postmodernists belong here, but once properly placed in relation to other fields, as the AQAL diagram does, and grounded in Depth Psychology, they cease to become little worlds of their own and so are useful rather than problematic. These include such things as semiotics and hermeneutics, and possibly even, to some degree, Cultural Studies. Other areas of study that belong here and also offer useful insights to architects are anthropology and proxemics, and Depth Psychology with its studies of symbolism, ritual, myth and archetypes. Particularly relevant to our increasingly multicultural world, are such studies of cultural development as Spiral Dynamics. Some aspects of aesthetics also probably belong in this quadrant, such as theories of proportion (although this is debatable) and propriety, as does much of architectural history, particularly that to do with the evolution of styles and the relationship of this with cultural development.

Much of what belongs to the Right-Hand Quadrants is territory modern architects are more familiar and comfortable with, because this is the objective realm of such things as function and construction and such systems as ecology and economics. The Upper Right Quadrant is that of what was once called Commodity, and covers behaviours (as studied by detached observation as in Behaviourism), or as architects refer to it, function – the modern term for commodity. The old category of Firmness applies to this quadrant too, but also to the Lower Right, and many aspects of construction fall under both Right-Hand Quadrants so that it is difficult to place them exactly. Subjects belonging to the Upper Right that should be covered in an architectural curriculum would include such things as ergonomics and space standards, determining and analysing a brief, and determining functional linkages, much of which would be largely learnt in the studio. Probably taught in lectures, as well as researched in technical studies exercises and applied in the studio, using new modes of computer analysis (which properly belong in the Lower Right quadrant), would be the manipulation of all forms of ambient conditions (including lighting, temperature, ventilation, humidity, CO₂ levels and so on) and their impact on use and comfort standards – which would also involve studying the physiology of sense perceptions. An increasingly important topic to deal with here is health impacts of contemporary materials and construction, a truly scary subject on which research has barely started.

The Lower Right quadrant is the realm of systems, such as ecology, economics and finance, sociology and social psychology, all of them important to architecture. Here too would be study of the principles of structures and mechanical services and all the logistics of construction, from sourcing of materials through to their eventual recycling, and the interfacing of a building's various systems. Belonging here also are computer skills, such as predictive and parametric modelling, business

'A key idea was that no lecture course would start until the need for it was discovered in the studio and students demanded it, understanding its relevance and feeling motivated'

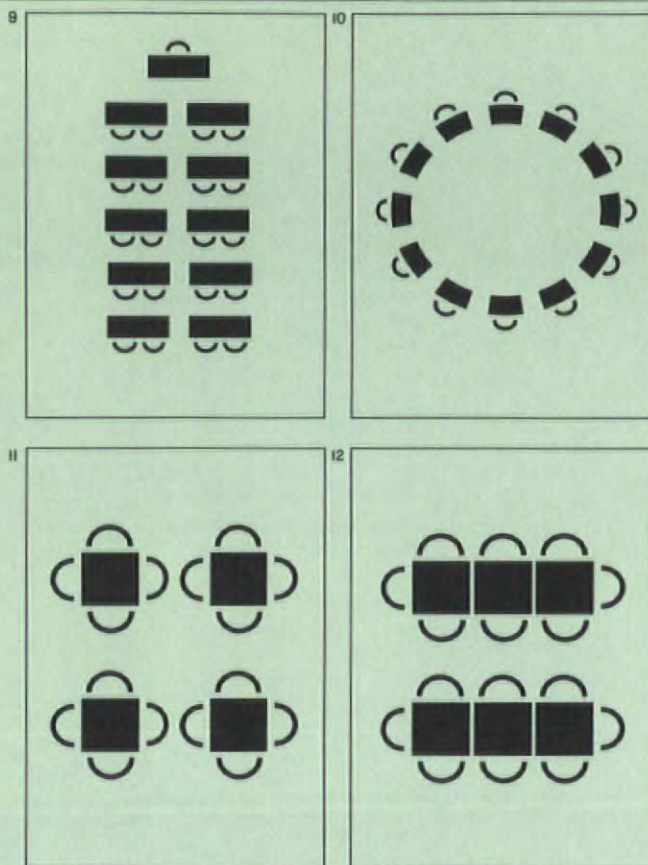
management, legal matters such as professional conduct and so on. Some aspects of architectural history belong in this quadrant, such as the impacts of technological and social developments, as well as environmental history, which offers valuable perspectives in an age of ecological collapse. Sustainability tends to be taught today as a primarily Lower Right concern, with impacts on Upper Right aspects of buildings; but properly understood it is very much an all quadrant affair.

Integral theory's AQAL diagram provides the perfect matrix for understanding how these courses relate to each other and provide a complete and coherent grounding in the various subjects necessary to be an architect in the emerging epoch. But lectures are only part of any architectural course which, rightly, is dominated by studio work where this more passively acquired intellectual input is tested and synthesised. But in many schools, the lecture courses cover the subjects it is conventionally assumed architects should know, but are not closely tied in with studio work. This often results in a lackadaisical attitude by the students towards the lecture courses, the relevance of which they don't always grasp. Nor are studio projects devised in deliberate sequence as a structured course giving students an all-round grounding in design. But the key role of architecture in advancing towards sustainability in the emerging epoch suggests the relationship of lectures and studio work, and the nature and sequence of the design exercises, needs radical restructuring.

A new paradigm for pedagogy

An instructive precedent was the architectural course devised in the mid-1960s by Roelof Uytendogaardt, a teacher of genius, and only partially implemented at the University of Cape Town when he was first year studio master. A key idea was that no lecture course would start until the need for it was discovered in the studio and students demanded it, now understanding its relevance and motivated to study it. To set the process in motion, the first design project was for a camp on a featureless site.⁵ Here the same number of people as made up the class would pursue an unspecified common interest for three weeks, the same time as allocated to the project. As design research, students were to observe how their social interactions, their experience of them and the meanings they ascribed to them, were shaped by the physical environment in which the class was conducted.

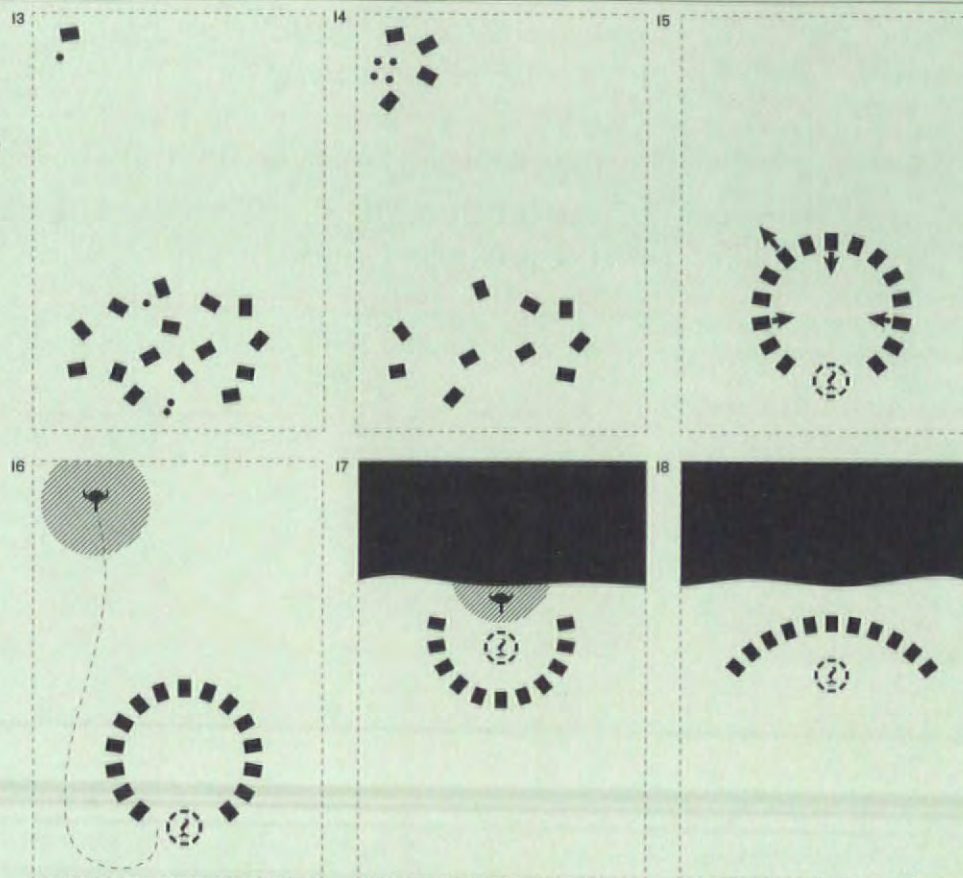
To heighten their awareness of this, the physical settings for study, socialising and so on were to be constantly rearranged. Hence the project would be introduced with the studio masters standing behind a



counter on a raised dais and students in rows behind desks; but the next day the desks would be along one wall and the chairs in a circle with studio masters dispersed among the students; and the day after that everybody would stand around casually in the studio. Similarly, in the cafeteria, the small tables were to be initially separated so that groups of up to four occupied them; then one day the tables would be jammed together so that incipient cliques met each other. Students observed how such things influenced group dynamics, the quality of discussion, how comfortable or ill at ease they felt and so on, and also where else in the building – in corridors, on stairs, in the washrooms – they met and interacted with each other and how these conditioned their exchanges. The point was, students were deriving a design vocabulary from personal experience and the observation of both others and themselves – the latter fostering a degree of self-knowledge as the basis for self-development. But, subtly guided in their discussions by the studio masters, one of the first things discovered was that they had somewhat different observations and interpretations of these interactions. This sparked demand for the first lecture courses, on the mechanics and psychology of perception – which were waiting, already prepared, to be delivered.

Some students' initial response to designing the camp was that they would let rip their imagination and impress with their 'creatively' fanciful shelters. But wouldn't the time taken for novices with no construction experience to execute them distract from pursuing the common purpose

9 & 10. Differing layouts of lecture room to experience how these affect group dynamics
 11 & 12. Differing layout of tables in cafeteria: at first, 11, small cliques formed, then, 12, these would interact with each other
 13-18. Exploring the layout of the campsite
 13. Most students at first proposed issuing tents to be pitched at will
 14. But someone who retreats seeking solitude can find others joining him/her and spoiling the solitude
 15. A fixed circle gives more secure choice as occupants can opt to face out in solitude or inwards into the community
 16. The meeting place to pursue the common interest is best set at a distance so camp occupants process there, either individually or in small groups
 17, 18. A stretch of water is introduced. Tents can then focus on a portion of the shore and claim it as theirs, 17, or leave its status as was



for which they had met? So by contrast, most students sought speed and spontaneity and suggested offering sleeping bags or tents to be dispersed as campers wished, so granting what they saw as freedom of choice. But what if one person preferred to be alone and placed his/her tent or sleeping bag in a remote corner of the site, only to find him/herself joined by others, spoiling the solitude and negating the supposed freedom of choice? Yet if the tents were fixed in a circle or portion thereof, a seemingly rigid solution, then the occupants could open the flap towards the centre and be part of the group, or close that and open the other flap to enjoy solitude. Thus one of the first and most profound architectural lessons is learned: that it is fixity and constraint, the seeming removal of some freedoms, that liberates choice and freedom.

Observing how the school setting influenced their interactions, the students then explored where to place such things as the campfire, kitchen, place for pursuing the common purpose, washing facilities and latrines and so on. The campfire – centre of eating and socialising, such as late night storytelling – usually wound up close to the tents, and if these were in the circle, perhaps at their centre. But would that also be the place to pursue the common purpose, or would that devalue it? Eventually most chose to make the meeting place special by setting it at a distance so that campers would process there, in small groups or individually, building anticipation and getting into the proper mood, as if on a mini-pilgrimage. Thus students learn that meaning can be conferred simply

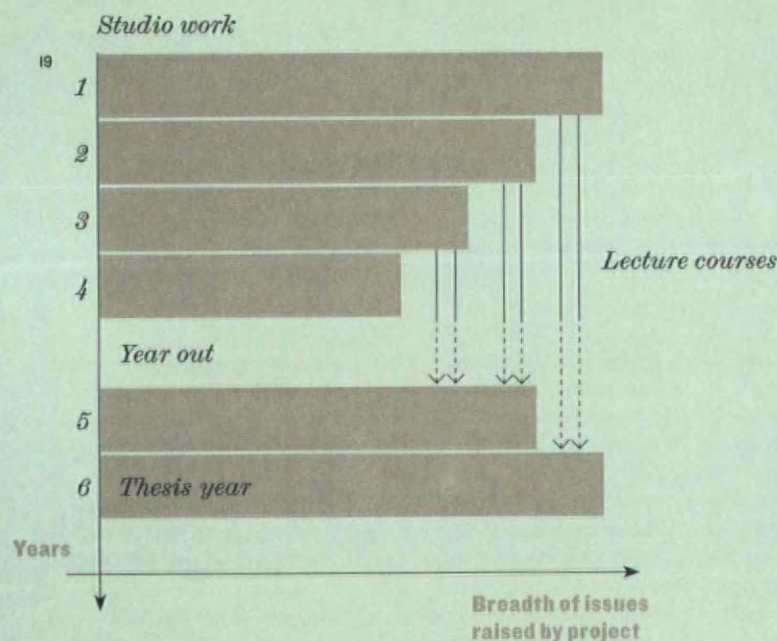
by the spatial relationships and distances between events and nothing more, another profound revelation – and a key to properly understanding the modern free plan such as that of Oscar Niemeyer's project for a yacht club for Rio de Janeiro (AR May 2012, p86). And at this point students, again prompted in discussion led by the studio masters, become curious about architectural parallels, such as in the free plan, and precedent, such as how tribal peoples organise their settlements, and how communal events might have been elevated in status or had sacredness conferred upon them simply by their placing. Thus the call for architectural history lectures, although of a different sort to that usually offered in architectural schools (in this case both of modern architecture and a general history starting with the very origins of architecture). And once the construction of the tents or other shelters was being investigated, came the demand for lectures about materials, and the principles of structure and construction, particularly simple methods of jointing.

So the project and subsequent ones progressed, spinning off lecture courses seemingly at the demand of the students who thus somewhat got the impression they shaped an education tailored exactly to them and so were motivated to make the most of even the lecture courses. Of course this was a deliberately contrived illusion, the nature of the studio discussions and the demands these would precipitate having been carefully choreographed and precisely anticipated by Uytenbogaardt. Indeed,

he eventually found himself disappointed that everything worked out so smoothly, just as he had planned, and nobody had rumbled the system. So as students left the final session at the end of the first year, he handed each a lollipop (sucker in South African parlance), a silent *koan* or slap from a Zen master, whose disciples all immediately and shamefacedly got the message.

The careful structuring of studio projects and their relationship to lecture courses was designed to persist through the whole five-year course (interrupted by the year out), but this was never implemented. The idea was that from a seemingly simple project like the camp, which raised a very broad range of issues for discussion and design exploration, the projects would become gradually narrower in focus and spin off more specific and advanced lecture courses until the year out. In the final years

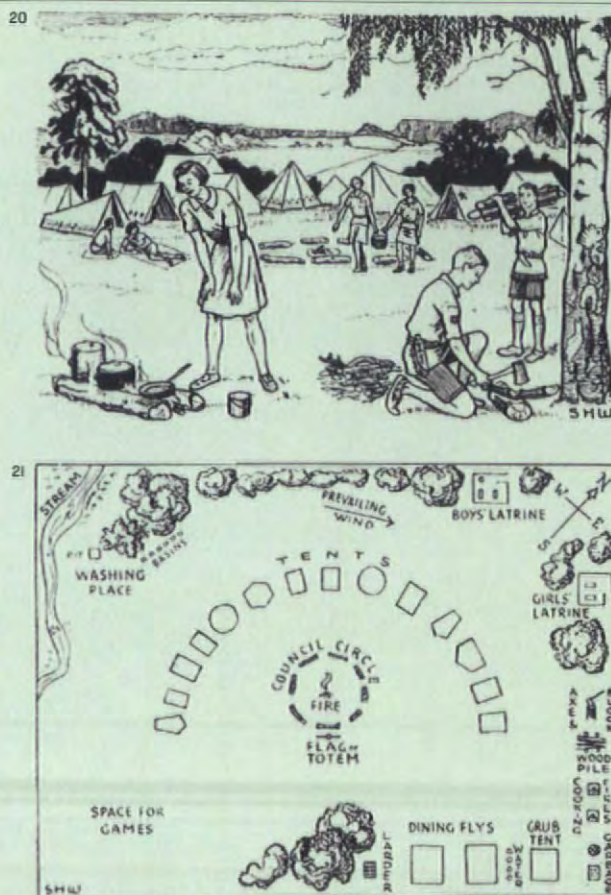
‘The laissez-faire, neo-liberalist approach – what Alvin Boyarsky referred to as the compost heap approach: pile on enough, and heat and steam will emerge – found in several elite schools is inadequate’



leading up to the thesis the projects would then progressively broaden in the range of issues they raised as the lessons of the various lecture courses were drawn on and synthesised in fully developing the design proposals. Of course, in those days architecture was both simpler than now and thought of in simpler terms, and the five-year curriculum could give a pretty comprehensive grounding. That might not be possible any more, hence the divergent emphases of different schools or units which only prepare students in certain aspects of architecture.

No doubt many, particularly those of a postmodern persuasion, will recoil in horror from the notion of such a tightly constructed curriculum as that devised by Uytenbogaardt. But architecture is becoming increasingly complex and we face challenging times requiring new kinds and more comprehensive skills and modes of

19. Diagram by Roelof Uytenbogaardt of proposed curriculum with demand for lecture courses initiated by studio projects. The projects in first year would raise a broad range of issues while projects in the subsequent three years would become narrower and more technical in emphasis. In the final two years, the lessons of previous studio work and lectures would be synthesised in projects raising a broadening range of concerns 20 & 21. Illustrations from the 1930s camping manual *Camp and Trail* published by Woodcraft Folk, a British educational children's charity who draw conscious inspiration from Native American organisational traditions to design their pedagogy



thought. In the face of this, the antithesis of such a structured curriculum, the laissez-faire, neo-liberalist approach – what Alvin Boyarsky referred to as the compost heap approach: pile on enough, and heat and steam will emerge – found in several of what consider themselves the elite schools is almost certainly inadequate. At least the first few years would definitely benefit from being more tightly and thoroughly structured to ensure a proper grounding. Besides, architects are designers and should apply their design skills to more than buildings. Why not to the curriculum?

Yet this draws attention to one of the many other things critical to success as an architect that is not taught in schools – besides that architecture is also a business, and the best architectural practices are often well run as businesses so freeing the architects to perform at their best. This missing factor is that many of the best architects design not only buildings but also their careers – if not in detail, then at least in outline. By having some idea of what they want to achieve, they increase the likelihood of doing so, not least because they spot the opportunities that lead in that direction. Quite a few even deliberately shape the persona they present, including the way they dress and the name they assume. Architects who fail to apply design thinking so broadly tend to be less successful or become academics.⁶ The trick is for the designed self not to be phoney, but true to who the person really is and the

fulfilment of their personal potential. There is now a vast amount of theory and technique hitherto unapplied in architectural schools that can facilitate such personal development. These are now relevant for more urgent reasons than ensuring personal success.

Many, including various Integral theorists, attribute our inability to act effectively in progressing to sustainability to a lack of psycho-cultural development. Too many in power, including in education, are stuck at ego- and ethno-centric levels of psycho-cultural development. But we cannot truly understand, empathise with and act effectively to deal with our increasingly global problems, compounded by the complexities of the many kinds of cultures they impact upon and who must collaborate, until more of us reach world-centric levels of understanding and development. Architectural education has always dealt to some degree with the psycho-social development of the student, which together with the honing of judgement is a primary legitimisation for the length of the course. Yet perhaps it is time to draw on some of the knowledge and techniques blocked by postmodernism to deal with this more deliberately. But to understand what is implied involves introducing whole new areas of Integral theory, the subject of another essay.

Also the subject of another essay will be the teaching of design, and how to design, subjects currently often poorly handled in the studio. This is because the best way to teach design is in an apprenticeship situation, by letting the student watch someone who has mastered the skills, who knows how to think with his/her fingers, drawing on both conscious skills and what has become unconscious bodily knowledge, so integrating head, hand and heart. Nevertheless, there is a lot about the processes of design, which tend to be somewhat overlooked in architectural schools, that can be explained fairly clearly. Because this series of essays is coming towards its end, that may have to be an independent essay.

Peter Buchanan will give a keynote address at the World Architecture Festival in Singapore 3–5 October. www.worldarchitecturefestival.com Therefore, The Big Rethink will return in the December issue.

1. Subjects I addressed long ago in 'What is Wrong with Architectural Education? Almost Everything', AR July 1989. Little has changed.
2. I've been railed at by theory professors for daring to pass judgements as to the relative quality of buildings. What are these people doing teaching architecture?
3. This idea was in part prompted by 'Trouble in Paradise', by Michael Sorkin, *Architectural Record*, August 2009. Reprinted in Michael Sorkin, *All Over the Map*, Verso, 2011.
4. From the vast literature of this sort now available, let a few titles suffice: *The Universe Story* by Brian Swimme and Thomas Berry,

- HarperCollins, 1994; *The Dream of the Earth*, Sierra Club Books, 2006 and *The Great Work*, Harmony/Bell Tower, 2000, both by Thomas Berry.
5. As I remember it, the idea of the project came from a similar exercise set by Peter Pragnell at the University of Toronto. Although I was only a student then, Uytenbogaardt discussed his evolving theories with me and I helped write up some of the ideas.
 6. When I have taught master classes to professors, part of the last day is often devoted to exercises exploring such matters and the general response has been deep regret that they did not engage in such matters as students.

REVIEWS

Empirical affinities

RAYMUND RYAN

Gran Horizonte, Venice Biennale, until 25 November

The very first view of an exhibition often sets the tone for the entire experience. At this year's Venice Biennale, directed by David Chipperfield, the antechamber to the famous Corderie feels oddly empty. Is it a calm and thoughtful oasis or simply a transit space to the baubles beyond? A stark graphic announces Chipperfield's chosen topic, *Common Ground*.

You proceed sideways into a large cubic hall animated by a kaleidoscopic black and white spray of words and images from a team led by Norman Foster. After the somewhat puzzling calm of the Corderie threshold, you're immersed in an equally puzzling frenzy: part *Architecture 101*, part CNN.

A compelling aspect of these mega-exhibitions is the unexpected adjacency and similarities detected between unlikely cohorts. Farshid Moussavi follows Foster and saturates her walls with large-scale images of building components – structural systems, envelopes, typologies. Drawn from investigations of ornament and function, she titles her installation 'Architecture and its Affects', proposing that 'affect' is less predetermined than 'meaning' in the quest for public engagement.

From these introverted halls you move into spaces of similar size, yet inhabited by multiple presentations. As with the five North American architects selected by Kenneth Frampton, many are complete exhibitions in themselves. British trio Eric Parry, Haworth Tompkins and Lynch Architects offer what appears to be a partial city, though it's frequently difficult to ascertain exactly what is being proposed.



Above: FAT's *Museum of Copying* hunts down the bastard offspring of the Villa Rotonda, now swollen to become a global tribe of Palladian mutants

For an architect of elegant museums and coolly seductive boutiques, Chipperfield's scenography or choreography appears somewhat haphazard. Is this a case of hyper Empiricism, deliberate yet casual? As Sejima showed in 2010, the pacing of the visitor's experience – the infiltration of the seemingly endless Corderie – is essential to Biennale success.

Chipperfield's theme, *Common Ground*, is usefully simple and open to interpretation. It can be thought of as ecology or social topography, inviting the public into the Biennale party. Indeed Vittorio Gregotti's resuscitation of the art Biennale, in the wake of *les événements* of 1968, was based on planning initiatives for Venice itself. We might also think of *Common Ground* as interests shared in common between architects and their fellow travellers.

FAT nimbly addresses both constituencies, the public and the adepts. The Londoners present a large partial model, a quadrant of

Palladio's Villa Rotonda, together with its mould, playing with notions of authenticity and influence. Their *Museum of Copying* includes appropriated images and images of appropriation such as a 'Palladian' villa in the Palestinian Territories.

If recent Biennales seemed to presage a cybernetic future, this Biennale returns the architectural model to centre stage. Herzog & de Meuron exhibit a series of large models, albeit suspended in the air. Presenting their Hamburg Elbphilharmonie project, currently stalled, the Swiss pose unexpected questions regarding cost, politics and public engagement. A long rail of German newspapers recounts the travails of architect, client and contractor.

Some years ago Herzog & de Meuron collaborated with Ai Weiwei for the Jinhua Architecture Park and a proposal for 100 houses at Ordos, the now legendary ghost town in Inner Mongolia. Many of the young architects on their communal list

(Tatiana Bilbao, HHF, Christ & Gantenbein) were involved in designing a series of small, sheltering structures along the 117-kilometre-long Ruta del Peregrino pilgrimage route in the Mexican state of Jalisco. With a circular table bursting with maquettes and a movie off to one side, this is Common Ground in the sense both of architects collaborating and of civic engagement.

Close by is O'Donnell + Tuomey whose early reputation was established by their collective approach to replanning Dublin's Temple Bar in the 1990s. Here the Common Ground theme spawns a timber tower, codenamed Vessel, through which you could walk and peer up and out in unexpected ways. Linear cases recount the Irish duo's evolution through collaboration with artists, craftspeople and other architects. Zaha Hadid and her team also colonise their space with a beautiful pavilion, a delicate volume or habitable bloom of pleated metal. Intellectually, the work is supported by looking back (to mid-century thin shell experiments by Felix Candela and Heinz Isler) and by looking forward (via current cyber-savvy student work from Vienna).

The Golden Lion for Best Project in Common Ground was awarded to the team of Justin McGuirk, Urban-Think Tank and Iwan Baan for their re-presentation, including a functioning cantina, of the Torre David in Caracas, a high-rise whose construction stalled two decades ago and is now inhabited by several hundred families. This 'informal' or ad-hoc project epitomises a pervasive feeling at Venice that the starchitect moment has passed.

Chipperfield may be onto something if he is heralding architects working in teams, or at least in reciprocity with each other. Suggesting clues for the future, the 13178 Moran Street group from Detroit shows how an everyday structure can be infiltrated and re-thought to greater communal

purpose. A tectonic laboratory, it's a significant pointer for young architects everywhere.

Calm and thoughtful versus glamorous baubles – Chipperfield seems to want to have both. It's hard not to be moved by a wall of archival drawings from Rafael Moneo and then discover, at the far end of the Arsenale property, a small garden enclosure by Álvaro Siza. After immersion in the Corderie, it's affecting to experience a serene space made from modest materials.

Yet Chipperfield provides few real surprises (the white traditionalist models from Hans Kollhoff are more of a shock than a surprise). Rather he seems to want to communicate ever so politely with a broad range of visitors, so his Biennale risks being merely a sampling of what's out there rather than clearly directing our attention to possible futures.

Uncommon ground

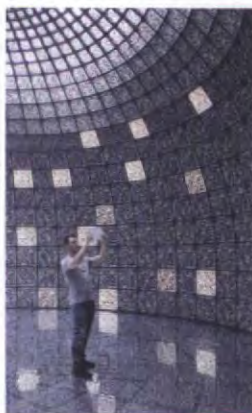
CATHERINE SLESSOR

National Pavilions in the Giardini, Venice Biennale, until 25 November

For all its intellectual striving, at its heart the Venice Biennale is really one of those extravagant set-piece summer weddings, a hyper-choreographed gathering together of architecture's dysfunctional global family, many fraught months in the planning and production. And while the Arsenale might be regarded as the wedding ceremony itself, with everything processional and obsessively bang on cue, the Giardini, with its convocation of mismatched national pavilions, is the more freewheeling reception, where anything can and does go.

Within this grab bag of national and curatorial preoccupations, there always seems very little Common Ground apart from an inevitable scenographic brio. But that, perhaps, is the Giardini's quintessential

**Top: A vast dymaxion projection map indicating Greenland greeted visitors to the Danish Pavilion
Bottom: In the gimmicky Russian pavilion, iPads are used to scan QR codes**



charm. How else do you square Serbia's monumental table with Israel's mordantly ironic perception of itself as an American aircraft carrier? Or Petra Blaisse's audacious Emperor's New Curtains for the Netherlands with yet another earnest, wood-centric offering from the Nordic nations, trapped forever in their exquisite pavilion with the ghost of Sverre Fehn?

Most irritating pavilion had to be Russia, its walls lined with a monochromatic wallpaper of QR codes that you had to scan on an iPad supplied by pavilion personnel. This revealed not a blossoming array of national talent, but a depressing tableaux of works by foreign superstars currently being grimly grafted onto Russian cities.

Best geography went to Denmark with its illuminating analysis of Greenland as a new global geopolitical fulcrum, poised to be the axis mundi of the High North as the Arctic ice melts and the world enviously eyes a new source of fuel and minerals. Best homage to Heath Robinson was the USA, with its network of ropes, pulleys and panels, intricately contrived to illustrate various citizen-led alternatives to traditional tactics of civic revitalisation: simply pull here for a solution to your urban woes.

In the rebadged Padiglione Centrale, formerly the Italian Pavilion, the disparate containers, rather than their contents, became a separate subject of scrutiny. Working with Italian photographer Gabriele Basilico, Swiss architects Diener & Diener explored the ground between architecture, patronage and perception through the physical spaces of the Biennale. Each of the 30 pavilions was documented by Basilico in still, sober black and white, giving them an unfamiliar cast that momentarily elevated them from summer follies into the realm of 'serious' architecture. A cabal of national critics provided a narrative for each pavilion, including

Peter Cook, battling on behalf of Britain's Neo-classical teahouse, this year home to Venice Takeaway, a kind of microcosmic Great Exhibition for the modern era that suffered from lack of budget and an over-emphasis on process.

The Italian Pavilion was sharper as Grafton Architects duelled with Brazilian master Paulo Mendes (Irish archaeology meets Machu Picchu), and OMA's Reinier de Graaf looked at the unsung work of public architectural departments in a space tricked out to resemble the undercroft of the South Bank. The AR also featured briefly, in Steve Parnell's genealogical dissection of the playgrounds and battlegrounds of Modernism through a quartet of English and Italian magazines.

Golden Lion for Best Pavilion went to Japan, commissioned by Toyo Ito. Sou Fujimoto's field work in the tsunami-ravaged moonscape of Rikuzentakata cut through the Biennale froth, exploring a common ground of horror and humanity beyond most people's imaginings.

Jaywalking the canals

PATRICIA BROWN

Life between buildings – Gehl Architects, Fondazione Giorgio Cini, Venice, until 25 November

While the architects in the Giardini and Arsenale offer their interpretation of Chipperfield's theme for this year's Venice Biennale, a show on Isola di San Giorgio Maggiore explores the principles of an architect whose life's work is dedicated to challenging the stealthy reduction of people to bit players in urban space.

Life between Buildings – Gehl Architects is an articulation of the vision of Jan Gehl, the Copenhagen architect and forefather to a generation of architects interested in the life of cities beyond buildings themselves.

Presented by Denmark's Louisiana Museum of Modern Art, a 270-degree spatial installation – 12 metres in diameter – offers a succession of small narratives of images, film and sound; about the city as a meeting place, the establishment of green oases, easy opportunities for mobility, and new ways of creating atmospheric, living, playful places.

Below: Jan Gehl has spent his career attempting to carve out more room for the human from the toxic congestion of urban spaces

The installation provides a taster for its companion, *The Human Scale*, a feature-length documentary that premiered in Venice during the Vernissage. This independent film presents the work of Gehl's eponymous practice through the efforts of several of the cities the practice has influenced. Its director, Andreas Dalsgaard, a Danish filmmaker and anthropologist, assembled his story after a two-month immersion in the architects' office, gathering facts and an understanding of how they work.

My own first encounter with Jan was over 10 years ago when, with Transport for London, we commissioned him to cast his forensic eye over central London's streets, observing, enumerating and critiquing conditions and people's behaviour in the space left after we'd taken good care of vehicles. 'I'm looking at London with fresh eyes and I don't like what I see,' he scolded.

Gehl has studied human behaviour in cities in this way for four decades, blending detailed observation with statistics, creating a picture of what is present, as well as absent, and what that tells us about a place. He niggles away at the status quo, asking different questions. 'Why are your traffic engineers legal graffiti artists?' he once asked me during a drive around London, gesturing to the sheer amount of paint on our roads. The documentary picks up on this approach, challenging our assumptions about modernity, and exploring what happens when we put people at the centre of our equations.

Dalsgaard chose his cities to reveal the extent of the problem, as

well as the potential for change.

'America is the country of the car, so it was important to show what New York has achieved,' he explained. He also wanted to consider the issues facing second and third world cities.

New York features Times Square, where until recently 356,000 people walked through daily, equating to 4.5 times as many people as vehicles, yet only 11 per cent of the space was allocated for pedestrians. Tim Tompkins, President of Times Square Alliance, had long campaigned to act to reduce the resulting 'pedlock', supported by Transportation Alternatives, the creative campaigners for a walking and cycling-friendly New York.

But getting the city's attention was tough, until Mayor Bloomberg's vision of a 'greater greener New York' put quality of life – and good public space – centre-stage in his policy making. Enter Janette Sadik Khan – Bloomberg's no-nonsense Transportation Commissioner – who heeded Gehl's advice to remove traffic from key sections of Broadway, pedestrianising the strip of Broadway that forms Times Square's 'Bow Tie'. Now people sit, meet, daydream and enjoy performances and art installations in this heart of Manhattan.

At a totally different end of the spectrum, we visit Dhaka, the Bangladesh capital. Here, the NGO 'Work for a Better Bangladesh' is inspired by Gehl in its struggle to keep authorities focused on creating sustainable solutions for all people, not just those who can afford a car. We see how, in an effort to reduce vehicle congestion – primarily due to chaotic, unregulated parking – the



government has banned rickshaws. At a stroke this has condemned 600,000 rickshaw drivers to poverty, and left millions of people without adequate transport.

Elsewhere the film tells of change, or the struggle for change, in Chongqing, Melbourne and post-earthquake Christchurch, interwoven by supporting statistics and images of Copenhagen, Los Angeles, Beijing, Shanghai and Siena – where Gehl's people-focused journey first started.

Threaded throughout the film is the importance of leadership in achieving change. From the courageous young Bangladeshi woman fighting huge odds in Dhaka, to risk-taker Janette Sadik Khan, we see examples of, and the need for, good leadership in our cities. Strong civic leaders, prepared to take risks and a long view, have been essential to sustained success in Gehl's efforts.

But leadership alone is not enough, according to Dalsgaard. 'Yes, we need good leadership. And tools. Leadership is about one unique person that you can't copy.' But by providing tools and ideas on how to think differently, 'We can allow people to break the mould.'

For most architects, thinking differently is the relatively easy part. Implementing this vision isn't so easy. This exhibition, but more importantly, the documentary is both a rallying call and an inspiration.

To Siza the day

ERIC PARRY

Álvaro Siza: Viagem Sem Programa (Journey without a Plan), Fondazione Querini Stampalia, Venice, until 11 November

In parallel with the Biennale exhibitions, there are three other notable modestly scaled exhibitions: one the drawings and models of Aldo Rossi concerning the theatre and the city, which are a vivid reminder of the potent presence of Italian urban and architectural theory through the '70s and '80s; the second is a stunning display in the new Fondazione Giorgio Cini on the Isola di San Giorgio Maggiore, of the remarkable collaboration between Carlos Scarpa and the Murano-based glass production of Venini glassworks during the years 1932-1947; the third is a small but elegantly conceived exhibition of 53

sketches edited from nearly 500 sketchbooks that Álvaro Siza has thus far produced in a career spanning 60 years. These sketches are exhibited in the galleries of the Querini Stampalia palace, whose earlier metamorphosis by Carlo Scarpa together with its historic enfilade of rooms and exhibits makes an ideal escape from the rhetoric and noise of the Biennale.

The Siza exhibition, which at first reading is unrelated to his architectural oeuvre, is in fact a wonderful and intimate entrée to the maestro's working methods, imagination and critical overview. It consists of 53 framed reproductions, a number chosen to comfortably fill the galleries but also, like a code, the street number of Siza's Porto studio. This is only the tip of the cultural trail that then unfolds.

Accompanying the exhibition is a fine catalogue, lightly and judiciously edited by the exhibition curators Raul Betti and Greta Ruffino, which includes a complete transcription of their 45 minute interview with Siza on 10 August 2011. The quadrilingual text opens with a photograph of an ordinary doorbell and nameplate on the building housing Siza's studio, but on closer inspection the group of names is remarkable, a palimpsest of the most influential strand of 20th-century Portuguese architecture no less. At the top is F Távora & JB Távora Arquitectos, Lda: Fernando Távora is the subject, as are the other names on the bell push, of one of the sketches, his balding head and bushy eyebrows nestling on folded arms, taking a nap between shared thoughts at a restaurant table. Távora, who was one of the two Portuguese reps at CIAM and a participant in Team 10, was a young tutor at the Porto School of Architecture headed at this time by Carlos Ramos when Álvaro Siza arrived at the tender age of 16. Siza credits Ramos with the reformation of the school – small and only one of two in Portugal – at a critical moment at the mid point of the 20th century. Second in the line is Álvaro Siza himself, below whom one finds Eduardo Souto de Moura, and lower still, Rogério Cavaca.

As Siza explains in the wonderfully simple but sophisticated interview, 'The reason for having a building in common was our close friendship and our reciprocal need for space, new space.' Siza cites several elusive reasons for his



Above: Fernando Távora having a nap, in a drawing by Álvaro Siza on show in Venice
Below: His sketches demonstrate a keen eye for personality in motion

sketching habit. The first was an uncle who was 'determined to make me draw' beginning with horses (a particularly difficult subject), which he says he drew very badly, but got him scribbling and enjoying the habit. Another reason Siza suggests is to aid memory: 'I've never had a very good memory – not even visual memory – so I take notes'. Perhaps at the core is his observation that when sketching a 'view of a city people pass by, appear; and this helps me to understand the spirit of the city'. Siza quotes Alvar Aalto in the use of the sketch or painting as a means of disconnecting with the pressure of decision-making, as an indirect reverie and aid to clearing the ground. Read together, the sketches and text are inspiring in their directness, generosity and illumination of the workings of a fabulously rich spatial imagination.

Besides the sketches and catalogue there is also a film, mainly of talking heads interspersed with site-specific references. Low budget and modest, it nonetheless poignantly picks up Siza's acute reading of the specificity of place in the sequential contribution of other architects and a recognition and real respect for what they achieved, together with an eye for more general urban detail.

Like the horses of his childhood struggles, people are difficult to capture in a sketch, yet Siza's economic lines have been honed to convey character very well. As one observes the sketches of people – some intimate friends, others strangers – it is not difficult to see how his skill migrates effortlessly to those architectural compositions, in which so much is condensed into a few sparse lines distilling and clarifying his intentions.

Less well known than Siza's influential body of architectural work are his urban projects, like the rebuilding of the Chiado district in Lisbon, a heroic struggle that deserves more critical attention as an excellent case study, with many lessons to be learnt and emulated. Central to its success is an eye for architectural detail, the same eye clearly demonstrated by Siza's skilled portraits.

This modest exhibition is an apposite and timely parallel to Álvaro Siza's receipt of this Biennale's Golden Lion award and very worth while visiting.



Venice by the book

JACK SELF

Common Ground: Venice Biennale of Architecture 2012, edited by David Chipperfield, Kieran Long and Shumi Bose, Marsilio, £20

The *Common Ground* reader is an unusual book for two key reasons. It is (to my knowledge) the first anthology of essays specifically commissioned by a Director of the Venice Architecture Biennale to provide a theoretical framework for their curatorial theme. Therefore, as a genus of reader, its extensive and directed exploration of a single topic makes it quite unlike the typical anthologies one might see on any academic reading list – volumes whose definitive titles are often the only thing tying together an otherwise unrelated collection of texts.

In addition to the unusually focused nature of its content, the reader is perhaps even more peculiar given the context in which it was published. The Biennale lists its 'partners' as some of the world's largest and most important property speculators (among them, the Sellar family, whose development group produced the Shard). This type of patronage is by its nature a problematic relationship for architects, and in the last two decades we have tended to err on the side of finance when it comes to expressing our principles. What often resulted is a kind of bland centre-right non-event, in deference to these potential clients. By contrast, the entire Biennale, exhibition and reader alike, deliver a message that is at times not so much left-wing as utopian communist.

Chipperfield is not known as a polemical architect. His restrained minimalist palette, delicate treatment of light and space, is as politically timid as it is white. He has, however, made a strong effort here to step outside his own tastes, evidenced by FAT's rather spectacular Museum of Copying (an altar to postmodernist trademark infringement). An equally good example would be the Golden Lion-winning Torre David project, which depicts how an abandoned Venezuelan office block has become an impromptu socialist community for more than 700 families. The so-called 'vertical slum', in which a



micro-society has formed without architects, is an obvious remark about the fiscal and moral failings of late-capitalist economics.

Chipperfield's curatorial shift is paralleled in the attitude of the reader – it is political, projective and pluralist. He begins his introduction by 'questioning the priorities that seem to dominate our time, priorities that focus on the individual, on privilege, on the spectacular and the special. These priorities seem to overlook the normal, the social, the common.' This does not mean, he makes clear, that responding to the familiar is an excuse for sentimentality or resistance to progress. Common ground is intended as a lens for evaluating the health of the public domain (in all of its forms), and not for complacently elevating the banal or the conservative.

As the reader progresses, the subject of common grounds unfolds in its multiplicity of meanings – as intellectual domain, as public territory, as shared body of professional knowledge. In the structure of the chapters, and also the juxtaposition of certain texts, Chipperfield develops a complex, but coherent argument. In essence, the book maps out the possible fields open to architects for the preservation and expansion of the commons. It might equally stand as a manifesto against the starchitects, whose complicity with an 'anti-democratic' and 'consumerist' politico-fiscal complex comes under attack frequently. In their ceaseless quest for formal innovation, the starchitects 'cemented a conception of architecture not as a series of enduring monuments but rather as part of a fashion cycle' (Kazys Varnelis). This propensity for contemporary architecture to pander to perennial techno-fetishistic tastes

has been fostered, the reader suggests, at the expense of the public, in all its senses.

Niklas Maak, while extolling the merits of Herzog & de Meuron's controversial Elbphilharmonie, says, 'In recent years, the actions of citizens in the so-called public realm seemed increasingly limited to fulfilling predefined consumer programmes in a passive, seated position: trying on shoes, ordering lattes, watching films and so on. But can architecture imagine the public sphere as something other than a group of people buying and consuming products?' The reader thinks so, and it transcends discussions about commercial space to make more philosophical claims: 'Common ground is an ethical concept,' writes Peter Carl, 'that invokes the one thing a city ought to grant – a depth that accommodates with dignity the diversity of its people and their histories. The term ground in this phrase is a metaphor for the conditions by which freedom is meaningful.' This kind of rhetoric, in which the social responsibility and the morality of the architect is appealed to directly, is quite rare today. The idea that the architect's role is to articulate a civic space in which the citizen might be free is even rarer, although it is returned to by numerous authors: 'the architect is the one practitioner who is able to project – in documents other than plan, section and elevation – the ramifying consequences of these forms in a culture of urbanity' (Keller Easterling).

The reappearance of duty at the heart of architecture is interesting, made more so by the fact that its nature and potential is described in terms quite unlike those arguments of last century. It feels, strangely, a very fresh take on what had seemed an exhausted subject. Nowhere is this more apparent than in Zhu Tao's essay on the history of Chinese mega-projects, beginning with Mao's Great Leap Forward and ending with OMA's CCTV tower. Tao appeals for greater cultural sensitivity by foreign architects, and he eloquently explains how the Chinese socially and politically interpret the West's sculptural masterpieces. He concludes boldly: 'China should not be treated as "an incredible empty canvas for innovation", as Zaha Hadid once described it.'

Within the larger argument there are several non sequiturs – of 30-odd

Above: Monuments to the efflorescence of postwar state socialism, such as John Hancock's Pimlico School, have been eradicated as neoliberalism privatises the previously public spaces of our cities – for profit and ideological reasons

essays about a half dozen seem either afterthoughts or editorial dropped balls. They are not badly written, but fail to add anything to the topic at hand. This includes a rather fey page of text by Rafael Moneo, and a reprinted article from 1964 by Ove Arup. The latter was presumably included as a historical yardstick, intended to highlight our drift since the '60s. Unfortunately, its thoroughly dated remarks read more like a vintage BBC newsreel. ('The client is increasingly the community as a whole, expecting to be decently housed and catered for in all sorts of ways undreamed of before.')

These weaknesses by no means detract from the impetus of the reader, and nor are the essays all sweeping proclamations. Some of the most poignant texts are well-chosen case studies. Reiner de Graaf's homage to the now razed Pimlico School is a case in point. John Bancroft's magnificent building was demolished in 2010 to make way for Pimlico Academy, and in the process half the site has been sold to develop luxury flats. As de Graaf notes, 'The story of Pimlico School is essentially the story of London since 1970. In the demolition of the school, one could read the definitive end of a short-lived, fragile period of naïve optimism, before the brutal rule of the market economy became the common denominator.'

De Graaf assesses the attitude of the new school's architects as 'a sad mixture of opportunism, grovelling hypocrisy and utter lack of collegiality'. This sentiment precisely characterises the problem David Chipperfield sought to address. The *Common Ground* reader is both a reaction against this condition, and a valuable proposition about the architect's role in the 21st century.

Rossi's coup de théâtre

ANTHONY ENGI MEACOCK

Aldo Rossi – Teatri, Fondazione Emilio e Annabianca Vedova, Venice, until 25 November

Aldo Rossi – Teatri is a hidden gem tucked away on the southernmost tip of the Dorsoduro. For the duration of the Biennale the Fondazione Emilio e Annabianca Vedova brings together 16 projects revolving around the Milanese architect and designer's passion for theatre and the theatrical.

Right: Models of the Teatro del Mondo dominate an exhibition dedicated to Aldo Rossi's theatrical designs

The exhibition opens with the Teatro del Mondo; a project that more than any other reveals the power of Rossi's imagination. The location is perfect, just a few hundred metres from where the original floated during the 1980 Architecture Biennale. Some 12 years later a near life-size model meets you as you enter, an impressive indication of the presence of the original, its form echoing the architecture of Venice and recalling the theatres of carnival.

Beyond, reaching back into the depths of the former boating warehouse, a mix of models and objects accompanied throughout by plans and Rossi's signature child-like drawings describe 15 projects spanning from the early 1970s through to the architect's death in 1997. Together they illuminate the important part theatre played in the life and work of Rossi.

The works displayed contrast with the severe forms of Rossi's early built works – the Gallarate Apartments and Modena Cemetery – revealing a more playful side. The drawings and sketches, complete with the architect's notes and scribbles, celebrate his imagination and provide a fascinating insight into his working methods. Immersive sketch studies explore the narratives and place (both literal and figurative) inhabited by the projects.

Architectural fantasies – particularly an imaginary urban composition of the Carlo Felice theatre alongside ancient monuments – play off traditional architectural drawings, the technical alongside the phenomenological.

Palpable throughout is Rossi's exploration of type, monument and memory. Compositions in pure geometries – cylinders, cones, angles and lines – together create the

recognisable building blocks of urban form. Brightly coloured models composed of towers, walls, gates, bridges, porticos, come together in Rossi's own words 'to give a public character to the [urban] theatre', the repeated use of familiar architectural elements creating a feeling of familiarity. The work displays the influence of Giorgio de Chirico, monumental objects occupy real and imagined perspectival space. The stage-set constructions of the Teatro Domestico (1986) host the oversized Tea and Coffee Piazza service for Alessi (1982), in which the childlike monumental forms of the theatres are echoed at the domestic scale.

The exhibition celebrates Rossi's personal passion for the mechanics of theatre. The Teatrino Scientifico (1978) is a labour of love and working tool for theatrical design experiments. Alongside it sit artefacts from the stage sets it helped create, some of which are still in use. A turquoise horse, created for Giacomo Puccini's *Madama Butterfly*, proudly stands beside the model of the unrealised Teatro La Fenice di Venezia (1997), ending the exhibition back in Venice where it began.

Missing however is a dialogue with the wider urban realm that preoccupied Rossi. Rossi reiterated throughout his fertile career that architecture provides a stage for life, public spaces the backdrops for life's experiences. It seems a missed opportunity not to explore the theatres as urban artefacts within Rossi's theories of cities. The Teatro Paganini in Parma (1964) is, however, the notable exception, depicted in carefully wrought drawings inhabiting its wider urban setting. The works often remain acontextual geometric explorations and compositions of types, which while engaging as stand-alone objects were never conceived outside the fabric of the city. As a result the exhibition at times strays into the twee, the enchanting toy-like models losing some of their experiential quality and greater urban significance.

Forgiving that shortcoming the show gives a vivid impression of the way Rossi worked. It celebrates the joy embedded in his architecture and method, and the freedom of his imagination as architect and designer. And amid the sometimes-laboured worthiness displayed in much of this year's Biennale, the value of delight in architecture is something worth being reminded of.



PEDAGOGY

Bauhaus, Germany

MATTHEW BARAC

The historical impact of Bauhaus pedagogy on the teaching and learning of design cannot be overstated. Starting out in Weimar in 1919 as an avant-garde academy of arts and crafts led by Walter Gropius, the school progressively transformed, over its 14-year lifespan, into a lived experiment in the fusion of technology and culture – an endeavour fuelled by the optimism of the emerging Modern Movement. By the time Mies van der Rohe shut its doors under pressure from the Nazi regime, having retreated to Berlin from the Dessau complex masterminded by Gropius a decade earlier, the Bauhaus had lost much of its vitality and many of the ‘masters’ associated with its heyday. And yet the iconic Dessau buildings

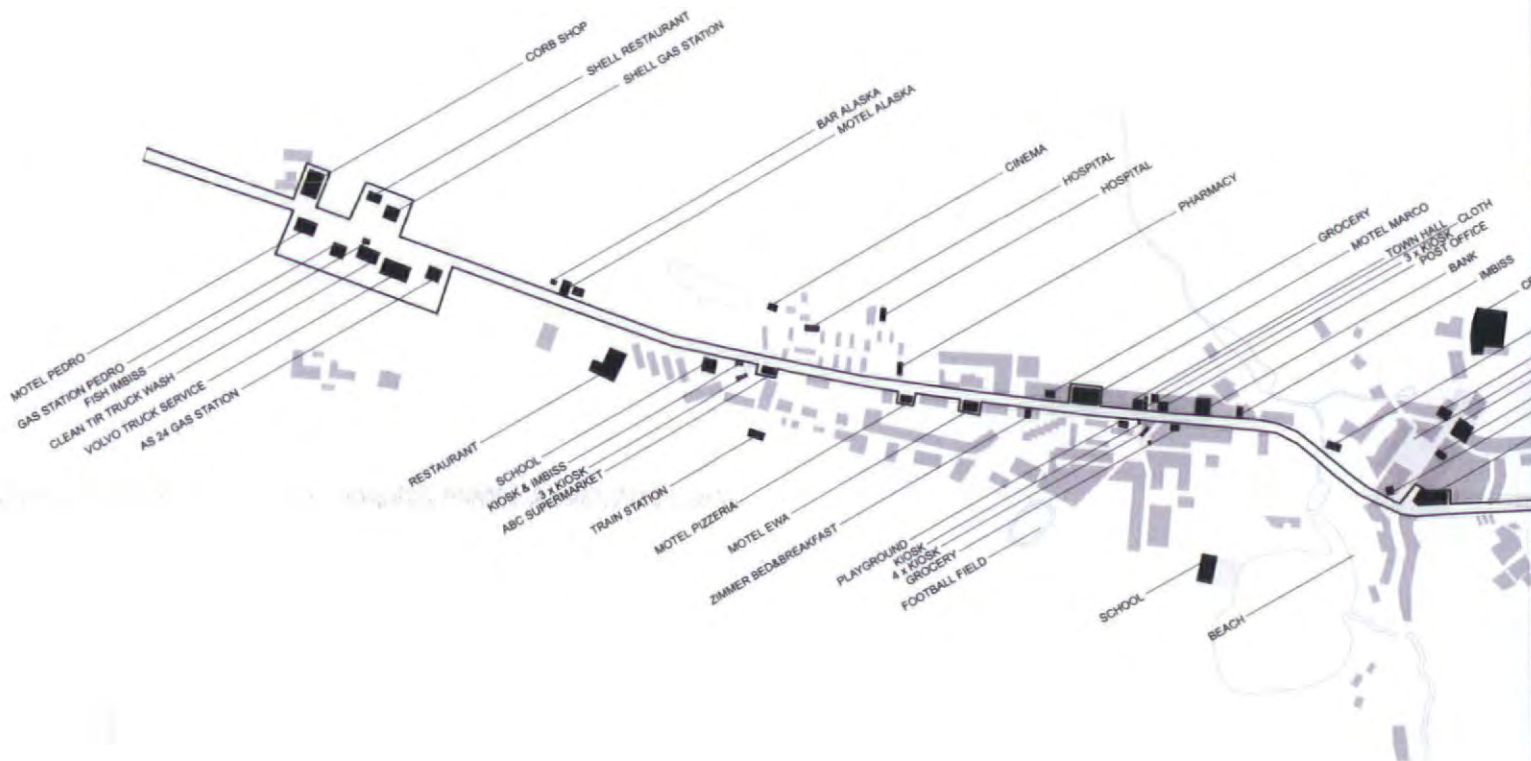
remained, first restored in the 1970s and occupied by an institution and archive which progressively reinvented itself until transforming, in 1994, into the Bauhaus Dessau Foundation.

Today’s Bauhaus, a mix of historical artefact, research centre and cultural resource, takes on the pedagogical dimension of its legacy by offering a yearly study programme – the ‘Bauhaus Kolleg’ – to an international, interdisciplinary mélange of young professionals. Building on concepts of learning formulated by its parent institution nearly a century ago, the Kolleg is committed to the principle of active engagement with pressing current issues. This guides a thematic focus on what is arguably today’s key built environment challenge: urbanisation. Echoes of the original Bauhaus resonate through conceptual as well as practical aspects of the

1. Map by Nina Gribat and Linda Hilfling Nielson showing the city of Torzím (Poland) that services the E30 arterial road between Berlin and Moscow. It aims to illustrate the impact of the motorway on local cultures and forms of inhabitation

institution’s pedagogy. Learning by doing, an emphasis on research and method, problem (rather than solution) orientated attitudes, an adaptable, process-driven curriculum ‘and, not least’ says Regina Bittner, who directs the Kolleg, ‘intervening in everyday, real-life situations.’

But rather than charting how Bauhaus lessons have propagated into almost every architecture curriculum today, Bittner draws a parallel between current debate about the status of design and what she calls the ‘shift in knowledge culture’ mapped out by her forebears. László Moholy-Nagy was preoccupied with recording a world of motion and light that could not be captured without technical instruments; Hannes Meyer insisted on organising architectural processes according to scientific criteria. They were responding to new ideas about the meaning of science and technology in



Each year, Kolleg participants address a different urban topic in projects that typically involve analytical research as well as engagement and intervention. A recent cohort considered the attenuated urbanity constituted by new conditions of exchange between Eastern Europe and the enlarged EU.

2-5. Stills from the E30 film by Nina Gribat and Linda Hiffling Nielson
2 & 3. Las Vegas lorry stop near Mostki, Poland. Decorated with palm trees, this stop provides lorry drivers with a unique surveillance system: CCTV in the parking lot is linked to television sets in the hotel rooms, so they can keep a constant eye on their vehicles. The stop is also very popular with local teenagers at the weekend
4 & 5. The team went on to document the various accommodation possibilities along the motorway, such as the Bar Motel Buwita in Rzepin, Poland

In 2010 and 2011, the 'Bata Cities' project explored two satellite settlements of Bata, the Czech shoe-manufacturer (AR March 2008) – early examples of the globalisation of urbanism, architecture and place. In an effort to become international market leader, the company initiated

Whereas the first semester of Bata Cities was a case-study investigation, the second followed a curatorial approach, culminating in a major exhibition (in Basel until 14 October). The urbanist's role moved from that of detective, carrying out site studies using mapping and analytical methods, to curator, presenting evidence and interpreting information in a manner mindful of the needs of a diverse audience.



REPUTATIONS

Alvin Boyarsky

PETER COOK

Arriving at the AA as a student in the late 1950s was the fulfilment of a dream: to rub shoulders with Peter Smithson, Eduardo Paolozzi, exotic formalism, to be taught by those rather brilliant Old Etonian Marxists or listen each week to the pure – but enthusiastic – tones of John Summerson waxing lyrical about Hawksmoor: it was an exotic mixture for any Outsider.

Alvin Boyarsky was an Outsider too: a Polish-Canadian Jew, not very tall and furthermore a male child among a plethora of sisters. Add to this an Anglophone existence in Montreal – a Francophone city with the inevitable Canadian awareness of what exotica lay across the border – eventually to be satisfied by his postgraduate studies at Cornell (with Colin Rowe as his teacher).

A job in London's YRM led to his meeting and marrying a very English Englishwoman – though not from the chattering class – perhaps reinforcing the Outsider condition but perhaps honing his antennae? How his (rather prominent) nostrils would inflate and his lip curl as he listened to a crap conversation, but equally narrow when suddenly aware of a talent struggling to be heard.

Teaching at first at a very dry Bartlett, he could hardly resist a move to the AA, which represented more than a century of elitism, arrogance, freedom but, most of all, a cosmopolitanism encouraged by the presence of an expensive chandelier and a creative use of the wine or whisky bottle or likelihood that Nervi, Bucky Fuller or Gropius might pop their head round the door. As fourth year master he rapidly gathered a set of tutors and critics of extraordinary range that included David Allford, Sam Stevens, Warren Chalk, Brian Richards, Louis Blom-Cooper and Gordon Pask. He set his students complex tasks: such

as law courts. He interrogated, he hustled, he transmitted to them much of his voracious reading that spanned from theory to history to historical gossip along with a pretty good ear for the here and now.

Yet somehow the dynamism of this culture did not gel with the leaders of the School and he lost in the head-on clash with the very English soft left technical determinists. His next transatlantic years were as Associate Dean in Chicago and as family man in London. Until he invented in 1968 the 'International Institute of Design' – a summer school that pulled in his circle of friends: Colin Rowe, Hans Hollein, Cedric Price, all the Archigram members, his AA jurors and tutors, plus Reyner Banham, Charles Jencks, Stanley Tigerman, plus the more-or-less Hampstead-based circuits that surrounded James Stirling on one hand and Cedric Price on the other. In the first year IID was held in rented Bartlett studios, in the second year at the ICA and in the third year at the AA – by then waiting for the run-off for its actual headship between Alvin and Kenneth Frampton – a clear choice between his creative eclecticism and Ken's more moral high ground. Despite Archigram's hit-and-run posterings almost blowing it for him, Alvin got in by a 100 or-so majority.

The school had drifted towards becoming a department of Imperial College, so it was Alvin's first move to state that the AA would remain independent. In the long run, this heroic act would never be forgiven by the grey part of the British establishment who eventually removed the AA's mandatory status (which permitted certain non-public educational establishments to receive subsidies to cover the cost of publicly funded students). Alvin's genius was to refuse to be slowed-down by this and he equally refused to be unnecessarily prejudiced, so rather than having a witch-hunt of

'Alvin was able to sniff out talent, turn it over, give it a rough time and then flatter it. He was able to turn it over again, give it a teaching job and maybe an exhibition'

Alvin Boyarsky

1928-1990

Education

Architecture at McGill University, Montreal

Key posts

Started teaching at the AA (1963)

Became Associate Dean of Architecture, University of Illinois (1965)

Chairman of the AA (1971-90)

Key moment

Development of the unit system – the 'well-laid table' as an experiment in architectural pedagogy

Quote

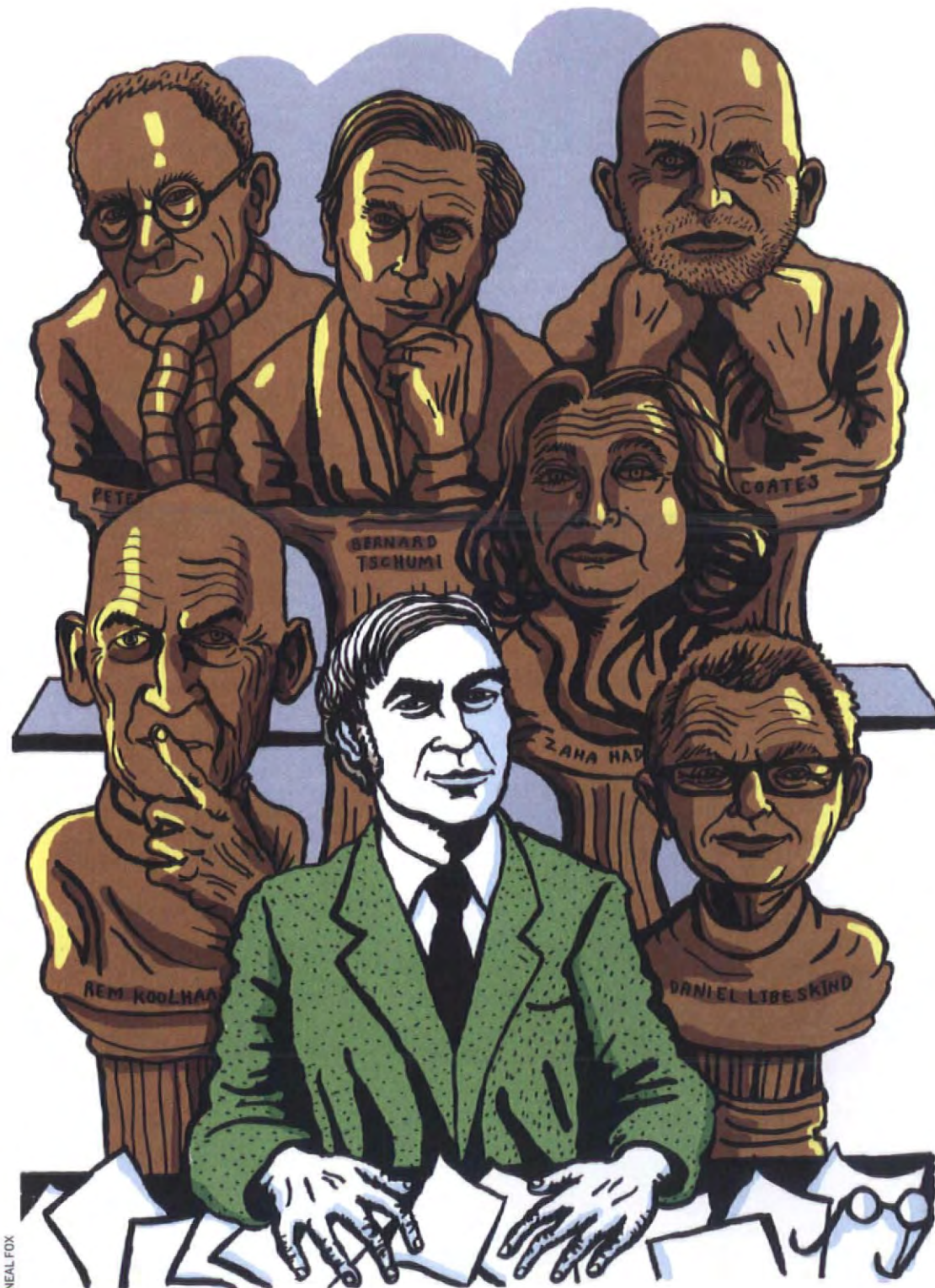
'We create a very rich compost for students to develop and grow from and we fight the battle with the drawings on the wall. We're in pursuit of architecture, we discuss it boldly, we draw it as well as we can and we exhibit it. We are one of the few institutions in the world that keeps its spirit alive.'

the inherited faculty, he simply watched the weaker parts melt away by bringing in and promoting new talent and intriguing outsiders such as Dalibor Vesely, Robin Middleton and Daniel Libeskind. The three years of the IID had, of course, served a key preparatory role.

I am reminded of an obituary that I wrote for the AJ in 1990: 'Over the years the AA became the most talked-about architectural centre in the world. Technically Alvin not only spent 14 hours a day "living" the AA but he became uncannily expert at knowing the names and track-records, the networks and foibles of almost every student in the school. He was able to sniff out talent, turn it over, give it a rough time and then flatter it. He was able to turn it over again, give it a teaching job and maybe an exhibition, and not be the least surprised when its work was turning up all over the world in the exhibition galleries and, eventually, out of the ground.'

Alvin inherited the unit structure – he simply 'upped' the players and rode them hard. He inherited the basic departmental breakdown – and simply tuned it. He inherited a delightful, funny-old building – and brought it alive. Like the ballet impresario Sergei Diaghilev, Alvin had a creative view of genealogy. Thus out of Elia Zenghelis would come Rem Koolhaas and out of them would come Zaha. A sideways lurch from Elia would render Leon Krier. Out of Archigram would come Colin Fournier and later Christine Hawley. Out of Bernard Tschumi would come Nigel Coates. Australian imports Peter Wilson and Jenny Lowe bounced around somewhere from Zenghelis through to an alliance of new romantics and narrativists.

As these second generation characters began to evolve their own trajectories, a complex pattern of allegiances and distances sometimes needed deft handling. When Tschumi finally left for New York and Coates had inherited his unit, it ran pretty



NEAL FOX

wild with a bunch of mainly ex-Bartlett kids whom Nigel was leading under the banner of 'NATO'. At the Diploma examination, James Stirling and Edward Jones failed all of them, only for them to be passed by Alvin under a different panel of Tschumi and Sverre Fehn. It was some years before Stirling would come back into the building.

In this act (and some others) which must have caused him some discomfort, Alvin displayed genuine commitment to the forward march of architecture and we may well ask how many heads of school would do as much? He would sometimes give grudging support to those who were not really his 'cup of tea' – to his close friends admitting that 'x' was a bore or 'y' was shaky, but realised that they might have qualities and might even be a useful irritant.

There were big fights, of course, sometimes with the hard left who had taken over the AA Planning School and most often with an AA Council that was frequently suspicious and continually worried about the cost of his publishing ventures and lavish exhibitions. For in his time and because of all these facets, the AA had become a 'centre', a 'focus' ... a 'scene', to use his favourite term.

It is no surprise then, that despite the mythology of Rowe's, Hejduk's et al's 'Texas Rangers' (of which Alvin often spoke), or Black Mountain College in Tennessee, or even the Bauhaus, we can ask if – apart from the latter's illustrious faculty – any of them ever produced a fraction of the creative offspring of Alvin's AA? In his period only Hejduk's Cooper Union ran close, since Columbia and SCI-Arc were still in the ignition stage.

Perhaps even, he unwittingly mastered a secret, academy-within-an-academy that begat many aspects of Tschumi's Columbia, Leon Van Schaik's RMIT, Coates' RCA and my own at the Bartlett. We four were his students in the art of schoolmaking.

AR Products

Combining technological progress with tradition, Qatar is at the forefront of education and sustainable architecture. In the capital Doha, students from across the globe study at outposts of the world's leading universities on the Education City campus.

With the construction of two new student residences, the contracting client, Qatar Foundation, provided the impetus for a radical approach to sustainable thinking. Architects Burns & McDonnell from Kansas City, USA created buildings with the highest level of LEED certification (Platinum), through an array of energy saving and energy generation measures. These include solar cells on the roofs, a smart lighting system and integrated filtration and treatment of dirty water using a 'biomass wall'. Particular attention was given to how the facades are screened to repel the sun's glare but still admit light.

Large areas of Omega stainless steel mesh elements supplied by Gebr Kufferath AG (GKD) act as sun protection, making a crucial contribution to environmental control and energy use. This functional efficiency is matched by an equal attention to aesthetic detail. Arabic motifs evoking local culture are etched on the mesh by means of a special bead blasting process to create dramatic, shimmering patterns. In the challenging climate of the Persian Gulf, efficient sun protection is a decisive factor in the energy balance of a building. Using panels with a high degree of light transmission makes possible considerable savings in lighting and air conditioning.

The versatility of GKD's stainless steel mesh goes hand in hand with its striking aesthetic appeal. The glossy, textile structure reflects daylight and the mesh was decorated using a special bead blasting technique. Reusable templates protect unprocessed areas of the mesh while the decorative pattern is blasted onto the mesh surface using a procedure similar to

sandblasting. Despite the precision of the large-scale patterns, the mesh remains transparent and is durable and weather resistant. Inspired by Arabic ornamental motifs, recurring floral patterns cover the entire surface. Sweeping, overlapping lines and shapes generate seductive patterns, while individual shapes blend and merge, changing appearance depending on where viewed.

GKD first implemented its decoratively etched mesh on a smaller scale in the USA. In one project, a bead blasted image of the famous Colombian coffee farmer Juan Valdez became the visual trademark of the eponymous coffee shop chain's flagship store. In another, the foyer of Piper High School in Kansas is adorned with the head of the school's pirate mascot. This new technique gives GKD's optically and functionally sophisticated stainless steel mesh expressive and unlimited design potential.

The etched mesh curtains for Doha set new standards in appearance and functionality, confirming the campus as an ecological showpiece. Through a unique combination of material properties, stainless steel mesh facades are becoming models of sustainable architecture, with GKD in the vanguard of their production and design.

For further information on GKD products, visit www.gkd.de



GKD/ALISTAIR TUTTON PHOTOGRAPHY



4



1. New student halls of residence at the Education City campus in Doha are wrapped in GKD's Omega stainless steel mesh. The lightweight mesh screens out heat and glare but admits natural light
2. An earlier project using decorative mesh for a coffee shop in the US
3. Design possibilities are endless, as shown by this project for a high school in Kansas. The pirate is the school's mascot
4. Detail of the mesh used for the Doha student halls. Decoration is based on traditional Arabic motifs

GLOBAL LEADERS MOVE IN THE RIGHT CIRCLES

Photography by Earl Carter

RMIT is building on its global reputation for excellence in design and technology.

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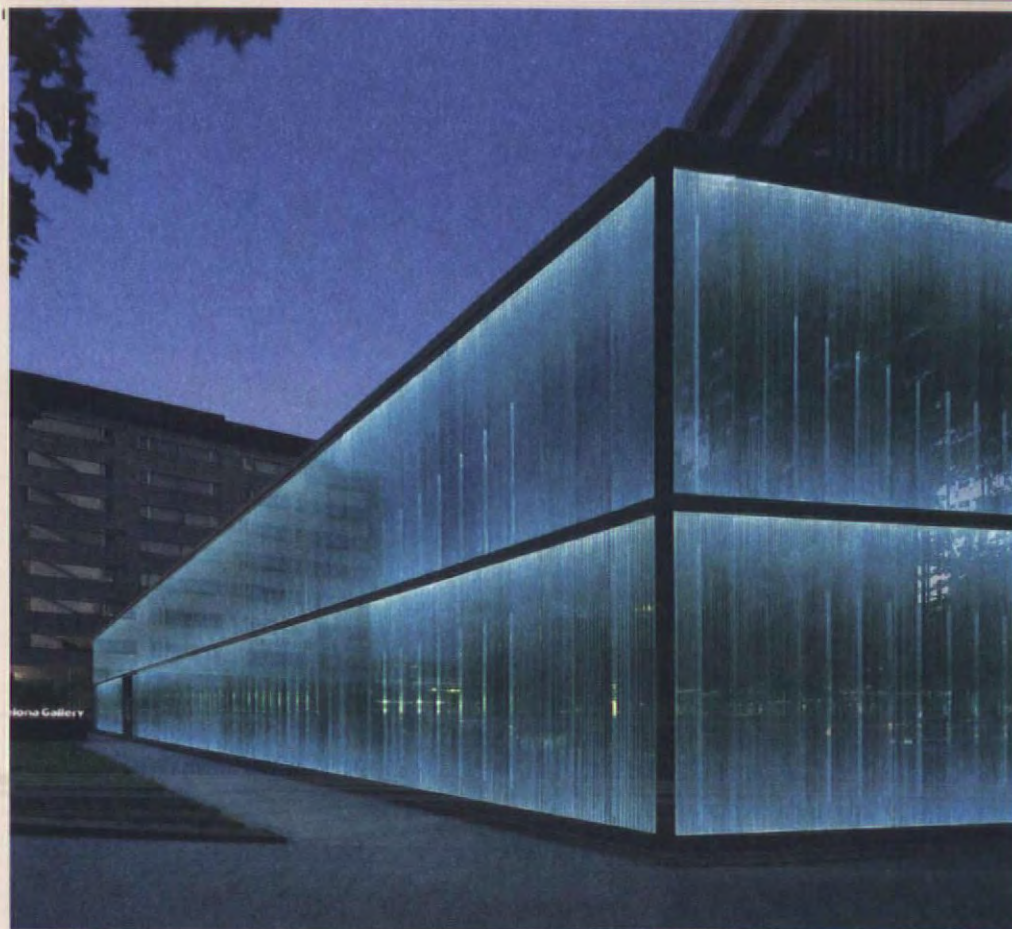
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AR Products

Roca

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Leading bathroom manufacturer Roca understands the crucial importance of the interface between designers, customers and the company. This innate knowledge underpins the Roca Galleries, a series of showroom and meeting spaces in key international locales created to encourage dialogue between designers and architects, as well as to host public functions.

Each gallery has its own distinctive identity. In London, Zaha Hadid explores the theme of fluid, flowing space. In Barcelona, architects OAB worked with Spanish glass manufacturer Cricursa to develop a highly theatrical facade made of aquamarine panels that reflect, refract and deflect light. 'In the day it looks solid like a rock, and at night it looks liquid,' says architect Carlos Ferrater of the sparkling glass box.

Designed by the Lamela

Architecture Studio, the Roca Madrid Gallery aims to be a cultural reference point for the city, giving an insight into design and the importance of water to society. A series of dramatic interiors enhances its appeal.

Located in the majestic Praça dos Restauradores square, the Roca Lisbon Gallery exhibits the latest Roca products, while offering visitors a chance to learn more about the company. Conceived by interior designers Ferruz Decoradores, the project's main challenge was to turn a historic building into an innovative cultural space.

The Roca Galleries are part of an international strategy that embraces present-day realities and future challenges. It is also emblematic of a corporate commitment to maintain an ongoing dialogue with society.

For further information on Roca products, visit www.roca.com

1. Designed by OAB, the Roca Barcelona Gallery has a dramatic and layered glass facade that can change from solid to a glowing beacon roca Barcelonagallery.com

2. The Roca London Gallery, designed by Zaha Hadid Architects roca Londongallery.com

3. Designed by Lamela Architecture Studio the Roca Madrid Gallery encourages visitors to explore the world of bathroom spaces, as well as the historic importance of water to society roca Madridgallery.com

4. The challenge for Ferruz Decoradores at the Roca Lisbon Gallery was to transform a historic building, the Praça dos Restauradores, into a showroom, gallery and exhibition space that engages with the city roca Lisbonagallery.com



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Wilkhahn



How do you design a conference chair to suggest comfort but also symbolise distinctiveness and clarity? For Wilkhahn, a completely new approach was required to reconceptualise the classic values of a conference chair for the modern era. In response to this brief, German designers Markus Jehs and Jürgen Laub have devised Graph, an innovative family of conference chairs that meets the most demanding of requirements.

The design's key concept was to cut through a seat shell horizontally and vertically and then reassemble it, so that the shell section in the crossover point between the seat and back was unnecessary. This stroke of genius generated an innovative modern form. A seating body in several parts was produced that appears lightweight, yet its contours still suggest a homogeneous, unitary seat shell.

The form also changed the structure. The armrests become the central connecting nodes between the seat and backrest shell. As a result, they could be fabricated as an open frame, therefore creating an attractive contrast in materials and structure within the chair's homogeneous shape.

Equally ingenious is the idea of flexibly resting the seating body on three points. This generates three-dimensional elasticity for the sitter – a unique innovation in a swivel chair of this kind.

Designers Jehs and Laub are delighted by the results of the design process. 'In Graph's case, we were always able to find solutions that provide a perfect balance between aesthetics and engineering. And in the end, the result is exactly what we had dreamt of at the beginning.'

For further information on Wilkhahn, visit www.wilkhahn.com



1. Wilkhahn's new Graph range of conference chairs powerfully express the clarity of the design concept and process. Chairs are available in two backrest heights, with leather or fabric covers. The frame can either be chromium plated or natural polished
2. Designers Markus Jehs and Jürgen Laub testing prototypes
3. Jürgen Laub appraises an early model of the backrest. Over the past few months the Graph range has been honed, perfected and prepared to go into production
4. Graph's key concept involves separating and re-jointing. It also embraces visual lightness, comfort appeal and modular variety. Armrests form the connecting points between the seat and backrest shells



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Architecture is essentially the sense of expression, the ability to define ourselves within our environment, within time and within the culture and character of our surroundings.

Qbiss One from Trimo is a true enabler of architectural expression, a five-in-one concept that brings a systems approach to the building envelope by uniting the functional advantages of a high quality facade with the added benefit of outstanding aesthetics. Add the company's unique ArtMe surface design treatment to the sophisticated package and the only limit to expression is imagination.

Developed to be highly technologically advanced, Qbiss One is self-supporting. This means that it does not require any additional substructure, bringing savings in cost, time and raw-materials to present a genuine alternative to conventional built-up systems.



Qbiss One

Qbiss One comprises a modular facade element with sealing and fixing components, flashing, corner details and even windows. However, it is the panel's distinctive rounded corner (no cuts or folds), developed in response to architectural demands, that differentiates it from conventional systems. Aesthetics are enhanced with its 'shadow joint' where longitudinal and transverse joints are optically of the same width, which gives it a modern, minimalistic character.

Functionality is also critical. Qbiss One has integrated fire protection, tested to the highest standards and confirmed by world-wide certificates across all the countries in which it is sold. The highest levels of insulation are achieved with no thermal bridges as the insulation is already integrated into the vertical joint. No moisture can build up during assembly as the thermal insulation is protected with steel sheets and thermal conductivity is maintained.

1. Porsche Centre in the Netherlands
2. Colourful facade at East Blackburn Learning Community
3. The new McLaren Production Centre at Woking, designed by Foster + Partners, features a specially customised facade solution that reflects the sleek and highly engineered character of the building
4. Decorative panels at the Jodrell Bank Centre for Astrophysics



ArtMe

ArtMe is a Red Dot Award winning product and the ideal partner of Qbiss One. This high technology facade surface treatment allows all kinds of shapes, patterns, or visual effects to be expressed on the external envelope to dramatic effect. From simple logos to more complex designs, which can encompass a wide range of pictures and patterns, the facade becomes, in effect, an extension of creative thinking, and the building an unlimited palette of creative expression.

ArtMe is non-penetrating, therefore it does not damage the facade, or affect its life or durability, thus ensuring all product guarantees and warranties are preserved. Combine Qbiss One, the ultimate sustainable envelope solution, with ArtMe, and buildings spring to life with unique vibrancy and character.

A specially customised version of Trimo's Qbiss One was used at the new McLaren Production

Centre in Woking, designed by Foster + Partners. The outcome is a professional, functional, interior and exterior facade solution that responds to the character of the building and the concept developed by the architects. Trimo, now a McLaren Technology Centre Partner, was able to demonstrate the same commitment to excellence as McLaren, with both companies striving to expand the boundaries of innovation and technology without compromise. The Qbiss One system is defined by performance, aesthetics and precision engineering, qualities that deliver a seamless pairing of form and function. These ambitions are also shared by McLaren and are crucial to the success of both organisations.

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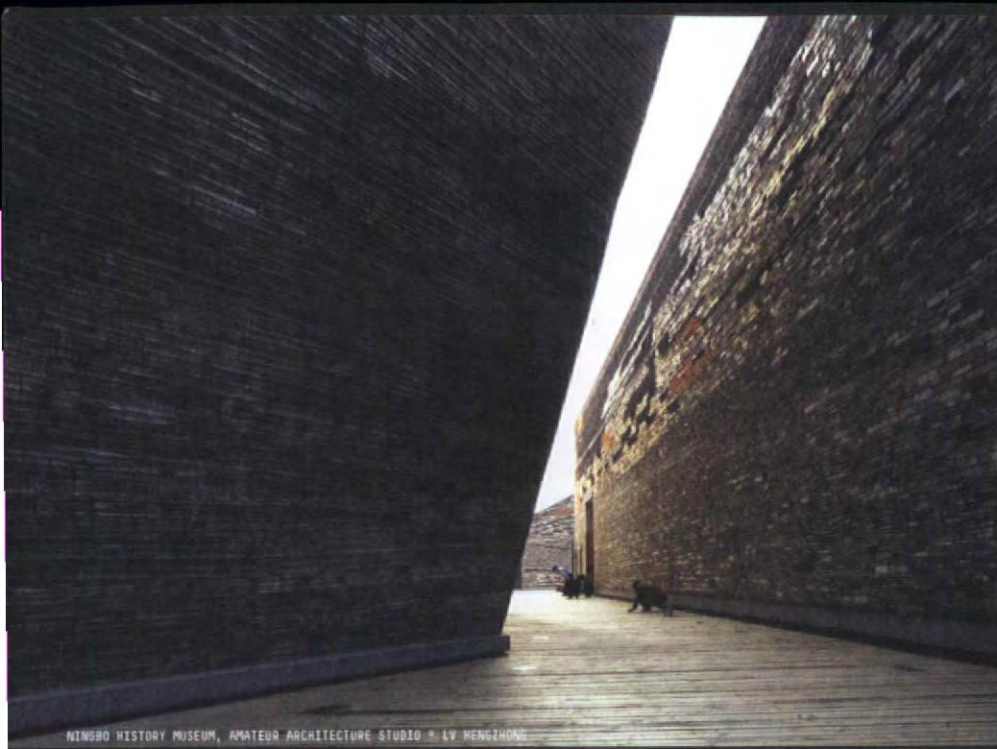
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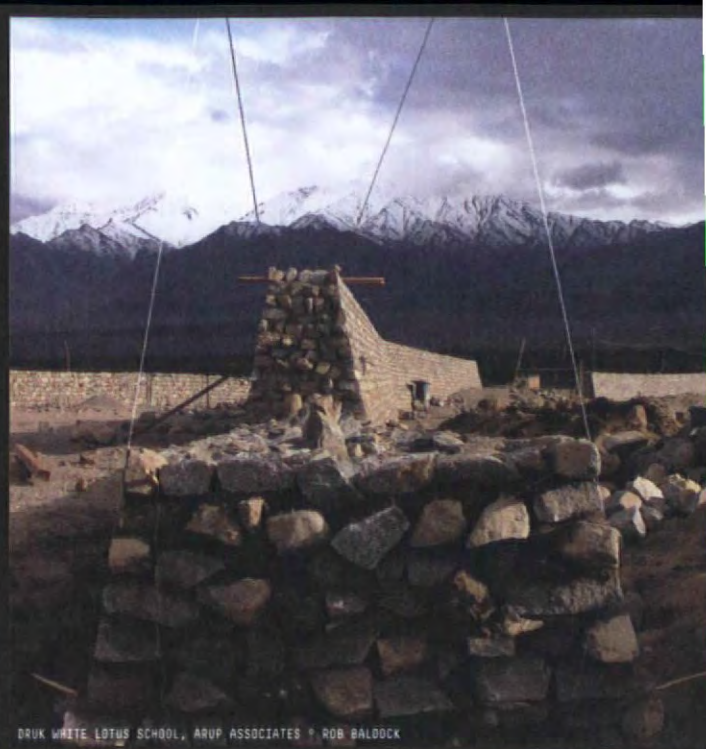
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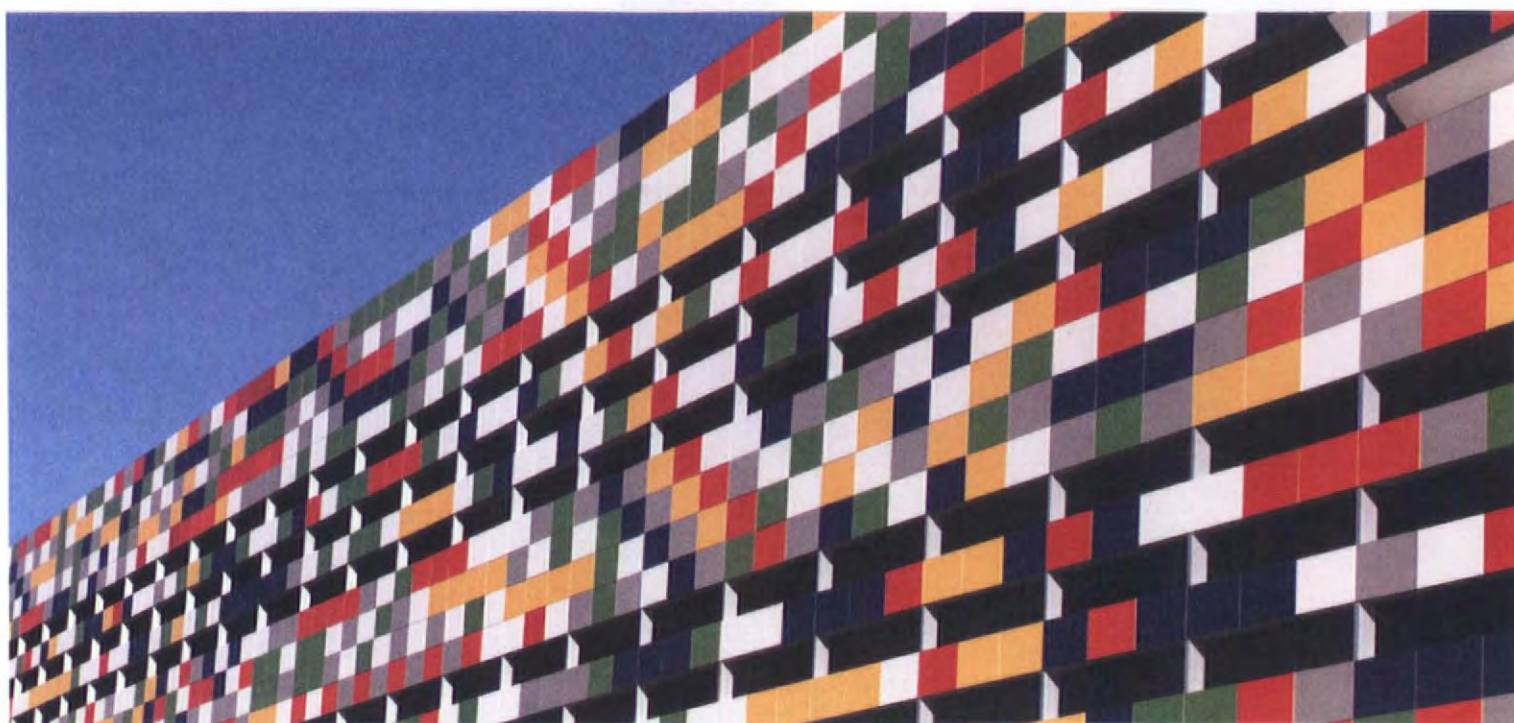
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SPANISH CERAMICS FACE THE FUTURE

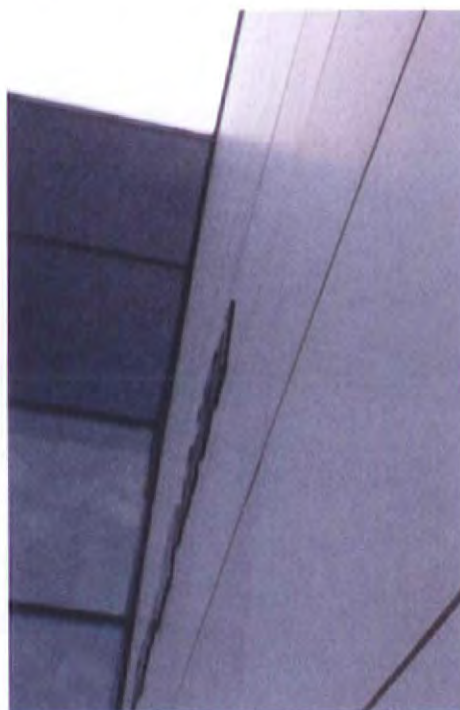
Join a free professional seminar on the use on ceramics for ventilated facades, organized by the voice of the Spanish tile industry - Tile of Spain

After a series of successful architectural talks around the world including USA, Russia and Germany, Tile of Spain brings together two leading international specialists – Maurits van der Staay (Renzo Piano Building Workshop) and Ignacio Fernández Solla (ARUP) for an architectural seminar in Liverpool on ceramics as a forward-thinking material for ventilated facades. The seminar, titled "Facade: Ceramics Face the Future" will take place on the 25th October in the Bluecoat, Liverpool and will be chaired by architect, materials expert and writer Annabelle Filer of The SCIN Gallery. The event will feature showcases by renowned Spanish brands in architectural tiles: Vives, Saloni, Gayafores, Ceracasa and Ceramica Elias. Architects and specifiers are welcome to register at rsvp@qspr.com.

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Above: Porcelain stoneware facade cladding by Saloni **Left:** Ceracasa's Bionic tile, which absorbs air pollutants. Both showcased in Liverpool on the 25th October.

Facade: Ceramics Face the Future Professional Seminar for Architects

presented by Tile of Spain

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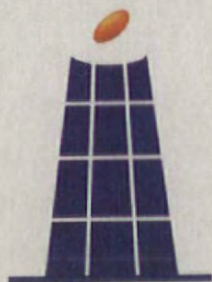
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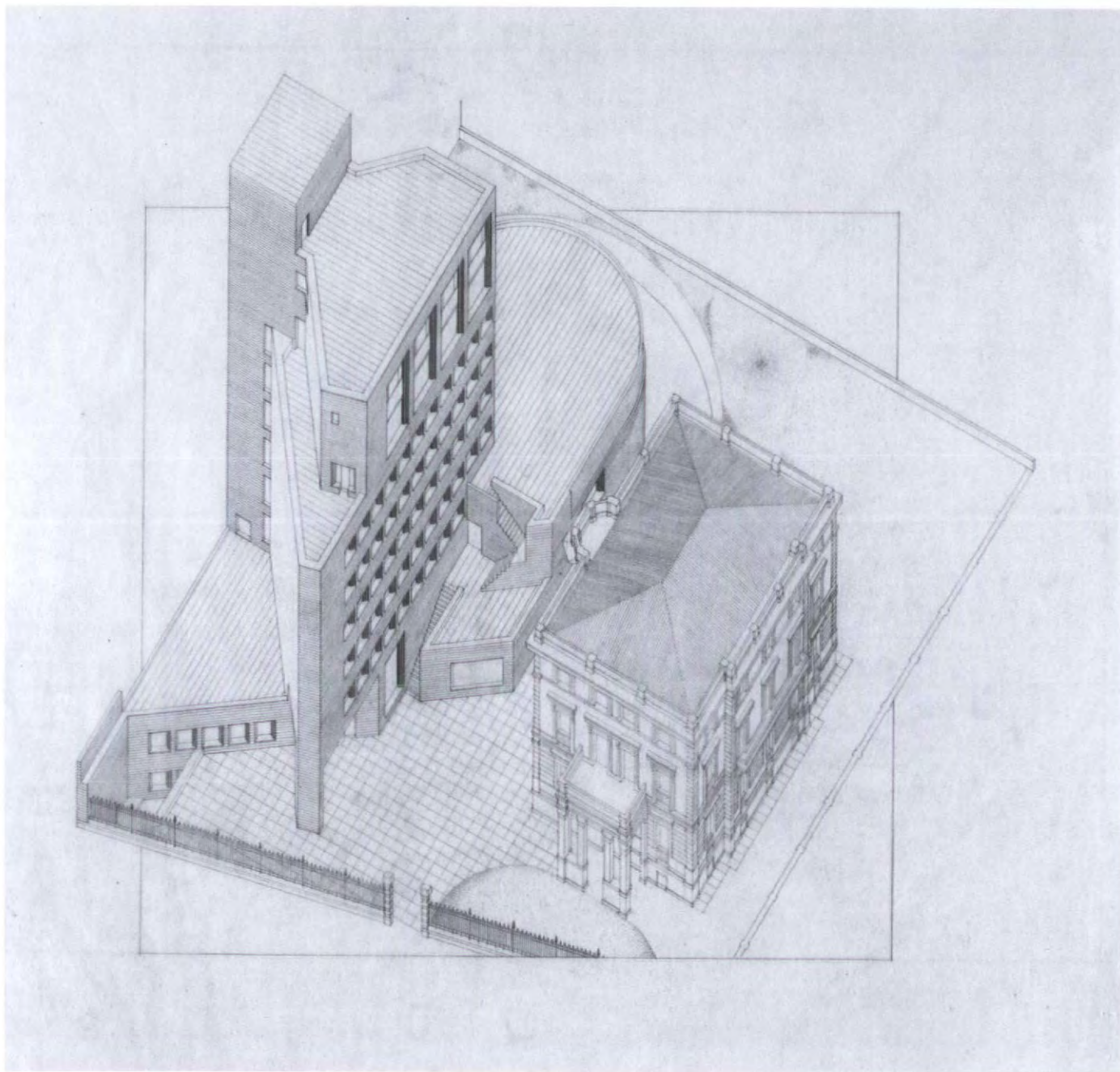


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A coda from the Venice Biennale. This elaborate axonometric drawing by Rafael Moneo of his 1972 Bankinter headquarters in Madrid is displayed on the final wall of the Arsenale. Moneo's collection of vast drawings attempts to challenge the

practice of architects accepting commissions beyond their native locales. It explores the irresistible rise of the 'generic city' and ponders a future in which local identity becomes impossible to sustain amid a globalised urban environment.



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