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'Mies van der Rohe 1905-1938', first staged by New York's Museum of Modern Art in summer 2001, has now opened at London's Whitechapel Gallery. The presentation is relatively sober and conventional: a chronological sequence from Mies' first house in 1907 to his departure from Germany for the US, with a mix of models, archive images, and many original drawings, including large, powerful charcoal sketches for the Friedrichstrasse Skyscraper and Concrete Office Building projects. A contemporary note comes with a series of computer walk-throughs and new, manipulated photographs by Thomas Ruff (Haus Lange, Krefeld, is shown above). But conventional or not, this can claim to be the most significant architecture exhibition in the UK since Le Corbusier at the Hayward Gallery in 1987, and it should not be missed. It continues until 2 March. The gallery is closed from 23-26 December and 30 December-1 January but otherwise open Tues-Sun 11am to 6pm (Thurs until 9pm). Details 020 7522 7878.

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+ DENOTES MORE INFORMATION ONLINE. FOR AN ARCHIVE OF AJ ARTICLES VISIT WWW.AJPLUS.CO.UK



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'Would London be a different place if the Whitechapel had shown this exhibition in the 1980s when Palumbo was still fighting to build his Mansion House tower? It might have embarrassed his opponents into conceding what an important architect Mies was.'

Deyan Sudjic on the Whitechapel's big Mies show.
Observer, 8.12.02

'The design is flashy, vulgar, incoherent and will trivialise the magnificent waterfront buildings which make Liverpool so special. Still, it will only cost £225m.'

'Piloti' on Alsop's 'Fourth Grace'.
Private Eye, 13.12.02



SEVEN UP FOR NEW YORK

Seven competing designs for the redevelopment of the World Trade Center site were due to be revealed yesterday. Visit the AJ website for images of six schemes chosen through international competition, including those by Foster and Partners, Daniel Libeskind and a team including Foreign Office Architects. +

FOUR IN EARLY LEARNING

Four practices have been shortlisted in a RIBA competition to rebuild the Mashcroft Early Years Centre in Fulham. Avanti Architects, Feilden Clegg Bradley Architects, the Greenhill Jenner Partnership and Ushida Findlay have eight weeks to develop their proposals.

SOUND ADVICE

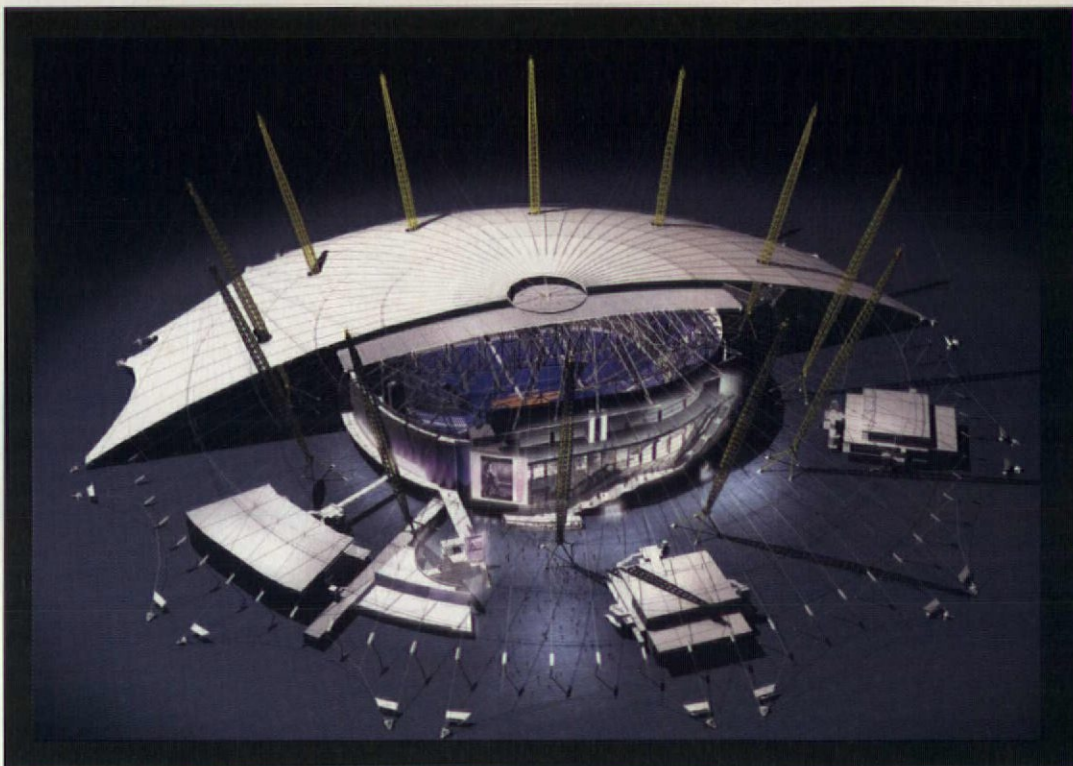
The government has issued a new guidance document on sound insulation, in advance of the release of updated approved Document E of the Building Regulations, which comes into effect next year. Separate amendments dealing with fire safety will bring Part B in line with European standards.

RHWL WINS AJ CUP

RHWL has continued its domination of architectural football by completing a crushing 17-2 victory over BDP in the final of the AJ Cup last Wednesday. +

We wish all our readers a Happy Christmas and a prosperous New Year. The next issue of the AJ will appear on 9 January.

For the best jobs in architecture turn to page 47 or visit www.careersinconstruction.com



RIBA schism over PFI policy shift

A move by the RIBA's ruling council to publicly criticise the Private Finance Initiative could threaten the institute's developing relationship with government.

Councillors voted by an overwhelming majority last week to call on the government to rethink the controversial procurement method, against warnings from its own president Paul Hyett.

The resolution was passionately opposed by Hyett, who urged the council to remain silent on the issue and not scupper further negotiations with government. Hyett – who is planning to lobby ministers to open up more large-scale PFI projects to bids from small practices – said the move would take the institute 'four steps back' in the progress it had made in gaining access. The RIBA should seek to influence procurement policy by maintaining a discreet silence while holding behind-the-scenes meetings, he argued.

The RIBA's vice president for international relations, John Wright, also condemned the new stance: 'This vote is a disaster. We are in danger of looking more like the Royal Institute of Entrenched Ludites. This is a very bad signal to the government.'

Vice-president for education Jack Pringle led the move to adopt the new approach, which was

opposed by only four members. Pringle told the AJ it would make the Labour administration sit up and take note. 'It needs to know that a lot of the PFI work is not benefiting many people.' And president-elect George Ferguson said that it was time the RIBA stood up for its principles: 'This will add an edge. We must challenge procurement methods that are against good design.'

The adopted statement, couched within an amendment to a policy paper tabled by councillor Simon Foxell, says: 'The RIBA supports the principles of Public Private Partnerships, Rethinking Construction and procurement methods that deliver high design standards and reliable value for money. We believe, however, that the current PFI model frequently fails to meet these objectives and we will continue to work with others in the construction industry to develop better methods for public sector procurement.'

Speaking after the event, Hyett tried to play down the significance of the vote and the schisms within the institute that could result. He pointed to the 'explicit' support which the statement gives to the principle of Public Private Partnership, of which PFI is one variation.

Ed Dorrell

'Those of us who love Edinburgh will offer our sympathy for the ruinous fire. By the time planners, architects and developers replace these ancient buildings, the citizens will need even more sympathy. Think of Princes St.' Barbara Dorf. *Times*, 11.12.02

'How do you find a suspicious parcel in Ikea? The whole place is filled with brown cardboard boxes labelled Skugga, Blista and Fragg, all of them deeply suspicious.'

Tim Dowling on the two explosive devices found at Ikea. *Guardian*, 5.12.02

'Alsop's architectural fable may be a winner, but he has yet to capture the city's collective heart – a serious challenge to a man who prides himself on his ability to communicate at grass-roots level.'

Jay Merrick on Liverpool's 'Fourth Grace' competition. *Independent*, 12.12.02

+ FOR A DAILY NEWS FEED ON THE LATEST ARCHITECTURAL STORIES GO TO AJPLUS.CO.UK



The three developers behind the proposed regeneration of the Greenwich Peninsula – Meridian Delta, English Partnerships and the Anschutz Entertainment Group – have submitted their plans to the London Borough of Greenwich. The submission includes HOK Sport+Event+Venue's £200 million designs for a 26,000-seater sport and entertainment arena and 62,000m² entertainment space to be housed inside the Millennium Dome (left); and Terry Farrell and Partners' masterplan for the whole of the remaining peninsula (above). When the masterplan is complete it will include 10,000 new homes and office space and create 24,000 long-term jobs.

ARB board nominee Salisbury stands on fee-cutting ticket

Sole practitioner Ian Salisbury is planning a New Year offensive against the 'expansionist' ARB – with a bid for membership of its board.

Salisbury, a former honorary treasurer of the RIBA, will be fighting his campaign on a 'pare-down-the-ARB' ticket. He told the AJ he had decided to launch the battle after an unsuccessful lobbying campaign against the regulator's new rules on professional indemnity insurance (PII).

'If I'm elected, I will say the ARB must confine itself to its statutory functions and no more,' Salisbury said. 'The ARB is trying to pump itself up, trying to turn itself into a professional institution. I don't want the ARB to go away, I just want it to behave properly. I want it to concentrate on its proper functions not extra functions.'

Salisbury, whose offensive follows the ARB's autumn fee rises (AJ 10.10.02), will campaign for a lowering of the retention fee from the current level of £65 to just £20. He claims the resulting income of £600,000 would be sufficient for the regulator to fulfil its minimum statutory requirement: to maintain the register, investigate and pursue complaints and oversee educational standards.

RIBA president Paul Hyett said he was in support of Salisbury's aims. In October, Hyett called for

the abolition of the registration body (AJ 19.10.02).

'I expect he'll get a damned good solution,' Hyett said. 'Those involved with the ARB should do nothing more than what they are supposed to do under the act that set the board up and nothing less than a competent job in the pursuit of that objective.'

Current ARB board member John Wright said he also supported Salisbury's bid, believing he would make an 'excellent' job of the post.

Nominations for the seven elected architect members of the ARB board close on 10 January.

Zoë Blackler

Welsh design commission publishes scathing first review

The new Design Commission for Wales has issued its first design review, with a highly critical appraisal of the redevelopment of Cardiff City Centre by Eric Kuhne Associates with Geoffrey Reid Associates.

The DCW said the project, which will double Cardiff's shopping provision, is dominated by retail and has failed to develop active frontages in a number of key areas, and that it needs an improved urban design strategy.

'We are keen to work with the developers,' DCW chair Richard Parnaby said, 'but at the moment it lacks the urban design qualities we would want to see in a major European city.' +

AJ 100 – who is the biggest and best?

The AJ is once again set to launch its search for the biggest and best architectural practices in the UK as part of our annual AJ100 feature. Letters and questionnaires for the 2003 survey will be going out to this year's featured practices by email on 3 January 2003 and will be available from that date to download as Word or PDF files on our website, at www.ajplus.co.uk

Or, if you think your practice qualifies for the listing – and the regional tables and financial performance tables feature smaller practices too – you can obtain a form from Lars Jespersen at research company Camargue on tel 01242 577277 or email ljespersen@camarguepr.com

The deadline is tight – the questionnaires have to be returned to Camargue by post, fax or email by 17 January. The data will then be analysed and the AJ will publish the details of what has become the industry standard survey in March.

Q&A

79%

... of voters in a poll on the AJ's website think the ARB has not been heavy-handed in its treatment of schools.
Respondents: 202

This week's question:

Do you think the redevelopment of the Dome and Greenwich Peninsula will ever take place?

+ Register your view at www.ajplus.co.uk

'New democracy' designs unveiled

The nine teams shortlisted in the IPPR/AJ competition to design the town halls of the future have unveiled their designs as the initiative heats up.

The competition, which is also run in conjunction with CABE and the Design Council, aims to 'reinvent' town halls in Letchworth, Stockport and Bradford as part of an exploration into the way design can 'deepen and strengthen' democracy.

The teams involved are: EEA Associated Architects, DSDHA and Buschow Henley at Letchworth; ABK Architects, Buscholz McEvoy Architects and Brisac Gonzalez Architecture at Stockport; and Bauman Lyons Architects, Penoyre & Prasad and Witherford, Watson & Mann Architects for the Bradford site.

The budgets for the projects are estimated to range between £3-£10 million, with judges including Robin Nicholson, Ron Arad, Paul Finch, Julia Barfield and Matthew Taylor. Workshops at the three towns took place last week and the IPPR was impressed with how well received all the proposals were, and encouraged that the more 'radical' proposals found most favour among locals. All nine teams, which have been paid honoraria of £5,000, will present their entries to the judges in early January, before the three overall winners, who receive an additional £5,000, are selected and published in the AJ. And, with yet more democracy, an exhibition of all the schemes will go on show at the RIBA in London from 20 January. The exhibition will be opened by planning regeneration and urban policy minister Tony McNulty.

More details are available at www.designsondemocracy.org.uk

The sites:

Letchworth

The world's first Garden City is celebrating its centenary next year. The local council sees the competition as an 'exciting' opportunity to bring together offices and services which are scattered in buildings across town and raise its profile and efficiency. It also wants flexible meeting, performance and exhibition spaces for the district. The original Edwardian Neo-Classical town hall is now used as council offices – designers were asked to improve relations between it and adjacent shops and the large green spaces of Town Square. Raymond Unwin, Letchworth's designer, regretted that the Garden City lacked noteworthy civic buildings, and in 1911 suggested a new civic complex on the site of the old town hall. Now they might get it.

Stockport

Stockport wants a new strong identity for itself. It has a fine Edwardian town hall, known locally as the wedding cake, with a much-loved and well-used ballroom that hosts events from tea dances to arts and crafts fairs, and holds a handsome, but antiquated, council chamber. The extension is to hold new meeting rooms, exhibition spaces and office accommodation for the council and Stockport Primary Care Trust. The 'sustainable' scheme will sit atop a multi-storey car park that links the old town hall to a 1970s concrete office block, and works to cut off both from the town centre. In that sense, it is a particularly challenging site.

Bradford

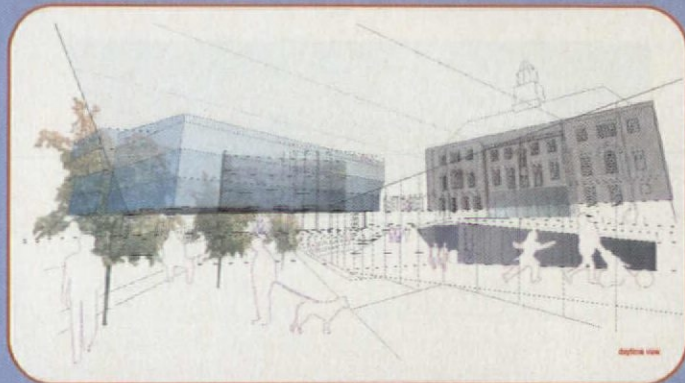
The town's Victorian City Hall was designed by Lockwood and Mawson with a major extension by Norman Shaw, featuring a magnificent council chamber, banqueting hall, civic suite and landmark clock tower. But it badly needs a 'reinvention', with problematic entrances – the main one being generally shut, the smaller West End entrance dark and forbidding – and the whole building under-used. It also has a general feel of being a traffic island, cut off from surrounding streets and squares. Instead, Bradford wants a lively public building with space for galleries, shops, cafes and performance space, as well as meeting and debating rooms.

David Taylor

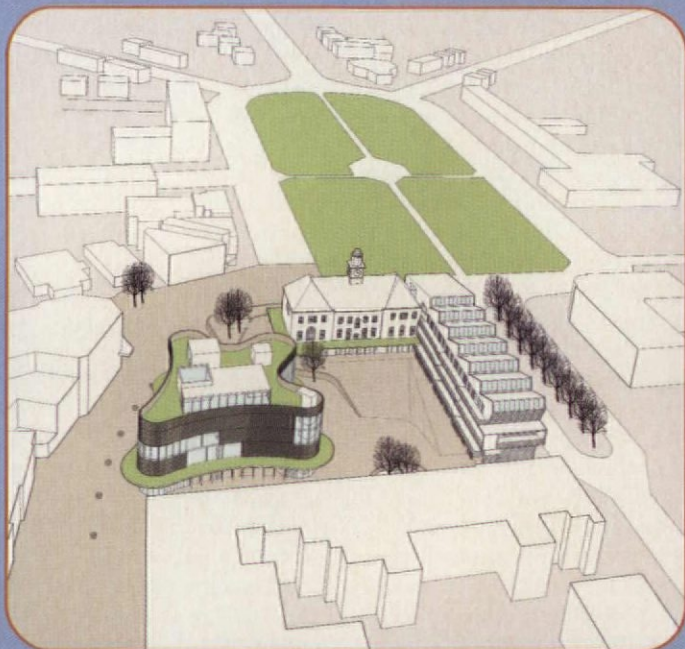
Letchworth



EEA's scheme is substantially underground, to ensure a 'beautiful garden' can be maintained near the existing town hall, and for energy reasons. The glazed dome is the main, open and transparent entrance to a multifunctional space connecting to the council chamber and services.

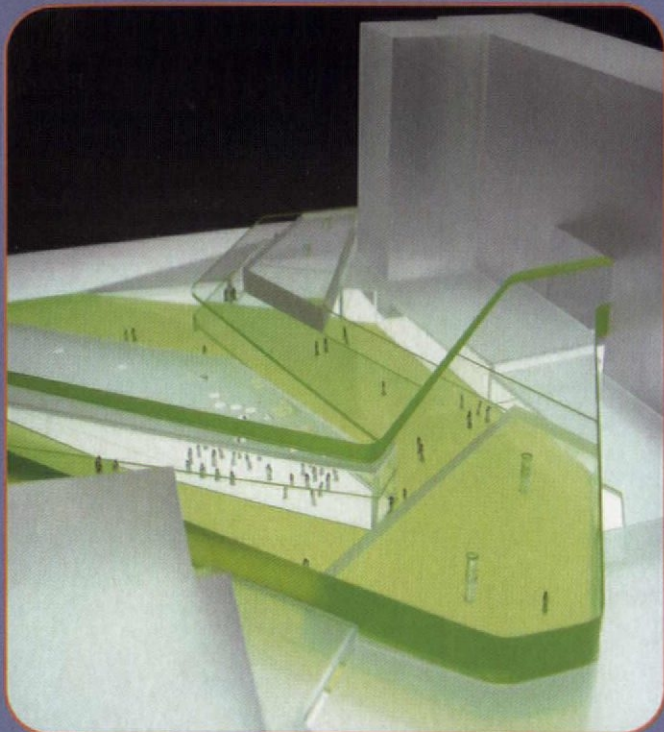


DSDHA proposes a new town square, defined by a supermarket, library, cinema and car park, while a cut in the ground reveals civic meeting rooms. A new building acts as an information hub, with a 'vertical garden' linking an open plan 'one stop shop' on the ground floor to a roof terrace.

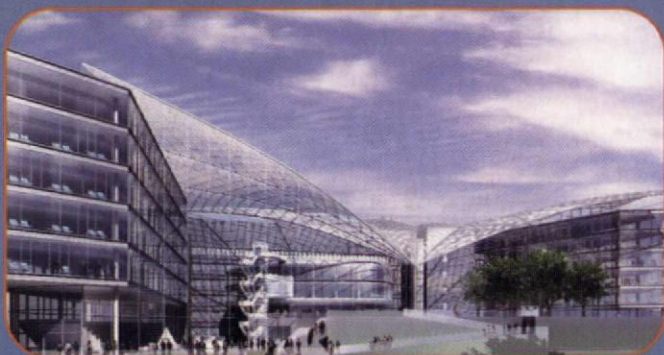


Buschow Henley has modified the town hall, with two new buildings. One is linked, housing additional offices on first to third floors and an Advice Arcade on the ground floor (and PV cells on the roof). A curvaceous, standalone building contains chamber, library, museum, cafe and 'e-council'.

Stockport



Brisac Gonzalez has gone for what it calls a radical measure, transferring an existing car park to an adjacent site to get a 'clean slate'. It has designed several flat plates onto the sloping land, with a civic level – and glazed council chamber – 'carved' from the landscape.



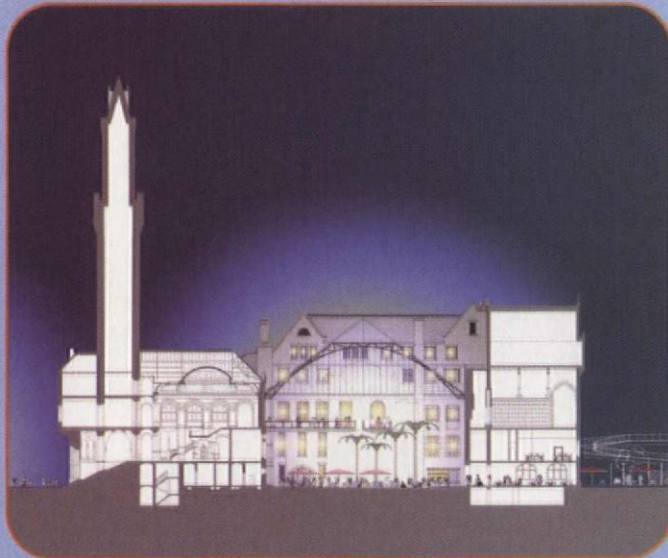
ABK envisages building a new council chamber suite and 'one stop shop' on the plaza and covering the whole space with a translucent roof – 'a public realm for the English climate'. It will contain trees and a garden, an open amphitheatre, 'voting buttons' and an Internet cafe.



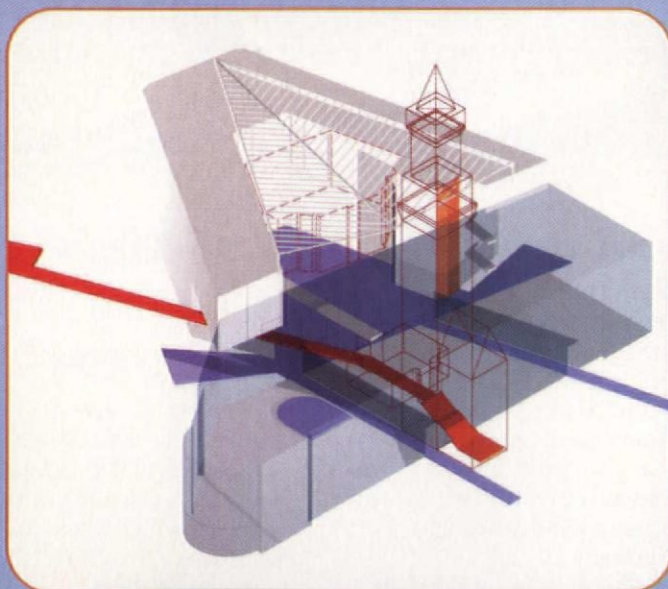
Buscholz McEvoy's design removes parking and introduces ramped planes into a large reception, sheltered from the north by an office wing featuring the chamber, conceived as 'a lantern' of timber and fabric. A ceremonial space sits below, a new public cafe square outside.

19/26 December 2002

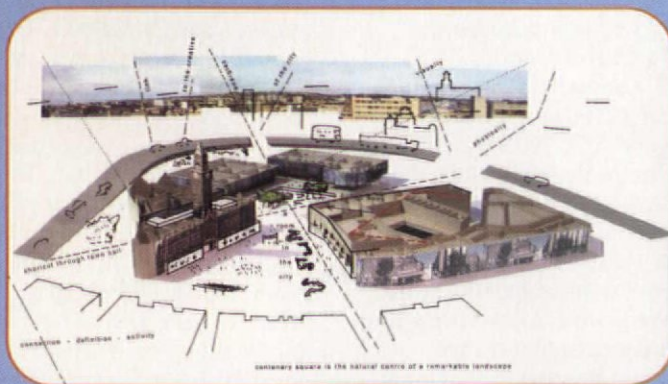
Bradford



Bauman Lyons has aimed to anticipate the growth of e-democracy with services available online via e-pods. The permanent, half-glazed, half-stone council chamber features in a temporary 'civic pavilion' with an electronic notice board and screens, all under a PV roof canopy.



Penoyre & Prasad has proposed a 'new and open' kind of facility and a 'travelling town hall' – a portable suite of equipment to roam the area. City Hall will be the 'mother ship', with the centre of the building's 'V' a new public forum, chamber above on columns, under a glazed roof.



Witherford Watson Mann and Ken Worpole aim to weave City Hall back into the networks of the city by: improving accessibility – new entrance from square and public route through centre; filling ground floor with public uses – library, lounge, food court; and improving public space.

the architects' journal | 7



www.louishellman.co.uk

vital statistics

- The British are more obsessed with DIY than any other European nationality, according to a survey by research firm Mintel. It shows more than 62 per cent of Brits carry out a DIY job every year, compared with 30 per cent in Spain and 36 per cent in Germany.
- Plumbers in London levy an extra £10-£15 on their female customers, new research by AXA Insurance has found. The average charged to male customers is £37.50, compared with £47.50 for females.
- Commercial new build is predicted to rise by just one per cent in 2003 and drop by three per cent in 2004, the latest RICS construction forecast has concluded.
- Forty new prisons will have to be built if the latest predictions for the rocketing prison population are correct, according to Home Office statistics. It is thought the number of prisoners in the UK could reach 110,000 by the end of the decade.

Clare Melhuish reviews... the 'repositioning' of a firm keen to present a new face

In the mid-1980s, Fitzroy Robinson was one of the arch enemies of the conservation movement. For every historic building threatened with demolition in the City of London, in particular, there was a proposed Fitzroy Robinson-designed replacement. These schemes were austere, featureless, concrete commercial buildings for large corporate clients. The very name of Fitzroy Robinson was associated with the desecration of the historic urban fabric by commercial interests, and it was this type of architecture which led conservationists into the arms of new practices such as Terry Farrell's, whose use of historic reference, however Post-Modern and ironic, and interest in observing the layout of historic street patterns, at least paid lip-service to the idea of respecting the legacy of the past.

In more recent years, Fitzroy Robinson's presence has been less dominant in the architectural economy, displaced by the growing popularity of the High-Tech architects with the captains of industry. So news of an exhibition announcing a 'repositioning', if not quite a relaunch, of the practice in the architectural culture of the new millennium, promised to be of some interest. It is described as 'a practice profile of the future', showing how the organisation has evolved 'from a conservative, post-war London practice, to a forward looking, 21st-century, sustainable national practice' – but the limited and uninspiring display

of computer-generated images reveals that, in fact, little has changed in terms of the conservatism of its relationship to current practices. Today the work simply subscribes to the High-Tech approach deemed safe in the commercial realm, embracing bland metal, glass, transparency, and environmental technology in place of the blank, impermeable concrete and air conditioning of the past, and signing up to the prevalent urban design credo of 'route, gateway, and square'.

Fitzroy Robinson was once the largest architectural practice in Europe, its main rival in the market for commercial architecture being Seiferts, which was always perceived as the more flamboyant of the two – putting out buildings such as Centre Point, now perceived as an icon of its time. Nothing in Fitzroy Robinson's output has attracted the epithet of 'icon'; nor did its founding partner ever enjoy the same profile as the notorious Colonel or his son – most people assuming the practice to be named after two separate individuals. A certain quality of anonymity has always been characteristic of the Fitzroy Robinson approach, yet style and presentation seem to have been perceived as a problem for many years – not just by critics, but also within the practice, or at least some sections of it.

The new exhibition makes this anxiety clear, but 'the creativity and energy of work in progress' just isn't evident. There must be some talented architects working under the umbrella of the practice, but this 'showcase' certainly does not allow the imaginative diversity which a large practice should be able to draw on to shine through. 'Fitzroy Robinson – Changing Images', is at the RIBA's Gallery 2 until 4 January



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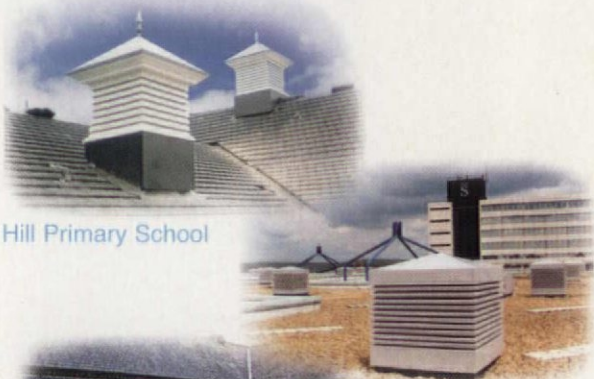
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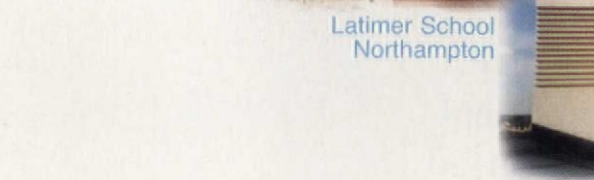
Plymouth Police
Station



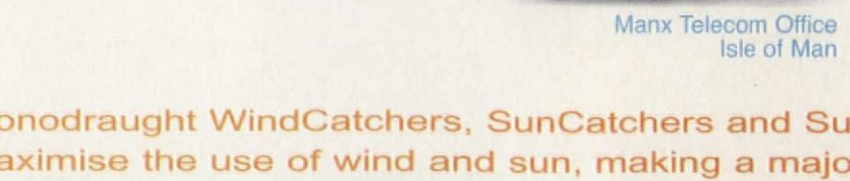
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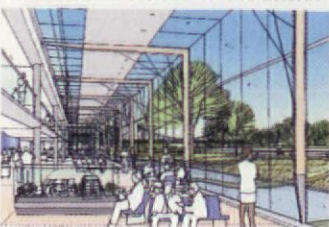
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BRIDGE ACROSS THE LIFFEY

Brian O'Halloran and Associates has won the international competition for a pedestrian bridge across the River Liffey in Dublin's Docklands. The judges highly commended Ahrends Burton and Koralek Architects for its entry, one of 80 from around the globe. +

TV CENTRE WINS GREEN LIGHT



Lifschutz Davidson has got the go-ahead for plans to redevelop London's renowned riverside film and TV centre, Teddington Studios. The mixed-use scheme, which comprises three new buildings with 12,000m² office/studio space set around a landscaped garden, has won planning permission from the London Borough of Richmond. +

SOM PLANS FOR WTC

The redevelopment of the World Trade Center site has taken a step forward with the release of plans for a SOM-designed building for 7 World Trade Centre. The 52-storey office tower will be built on the site of one of the smaller buildings destroyed during the terrorist attacks. The 230m-tall building will be sleeker and five storeys taller than its predecessor, which caught fire and collapsed several hours after the Twin Towers. +

BATTERSEA SET FOR LUXURY

BurlandTM's £70 million residential development, Falcon Wharf, has won planning permission from the London Borough of Wandsworth. The luxury scheme will have 145 apartments constructed on a 1.25ha site in London's Battersea. It will also have a 495m² restaurant, two levels of underground parking and a new riverside walkway. +

BIDDING WAR FOR FLW LAMP

A rare leaded-glass window lamp designed by Frank Lloyd Wright has sold in an auction at Christie's in New York for nearly \$2 million. Five bidders vied for the lamp in a telephone bidding war with the auction lasting only 40 seconds. The final price of \$1,989,500 is more than double anything paid before for a Lloyd Wright-designed product. +



David Chipperfield Architects has won an international design competition to oversee the second phase of the extension and restoration of the Palmengarten Gesellschaftshaus Museum in Frankfurt, Germany. The practice beat competition from three other international outfits – Christoph Mäckler, KSP and Léon Wohlhage Wernik – to redesign and extend the building. Judges praised the 'sensitive treatment' of the 1869 building, and the new relationship the project creates between the structure and surrounding gardens. +

ODPM is set to get tough on slow planning departments

Planning minister Jeff Rooker is threatening to get tough on planning authorities that fail to meet the government's targets, following the publication of the latest performance figures.

The Office of the Deputy Prime Minister has identified 44 planning departments as poor performers, and will be demanding they take efforts to improve. If the offenders fail to heed the warnings, the government could strip them of their planning powers and take control from London.

The figures, released last week, rank the 362 UK planning authorities against the government's targets for processing applications: 60 per cent of major decisions within 13 weeks; 65 per cent of minor decisions within eight weeks; and 80 per cent of other decisions also within eight weeks.

The City of Westminster, Southampton, Reading and Exmoor National Park are among those with the slowest turnaround of major decisions. St Albans, Brighton & Hove and North Tyneside are included in the list of worsening authorities. And the London Borough of Hackney has been ranked worst of all the departments, after it failed to supply the information requested. At present, planning authorities determine on average only 43 per cent of major decisions within 13 weeks.

Lord Rooker, announcing the new policy, said: 'We have already identified 21 of the 44 authorities as poor performers and set them statutory standards which they are clearly not meeting. Others are slipping backwards. Taking account of the CPA scores [comprehensive performance assessments for all unitary authorities], we will have to look hard at how to drive performance in the right direction.'

And he said the government would reward authorities that improve their performance with

increases in their planning budgets.

However, Carl Powell, head of Westminster's planning department, said the statistics 'provided a very narrow picture of performance' that failed to take into account the different approaches the departments take towards handling major applications.

Zoë Blackler

Camden rejects Grimshaw's £20m cancer centre – again

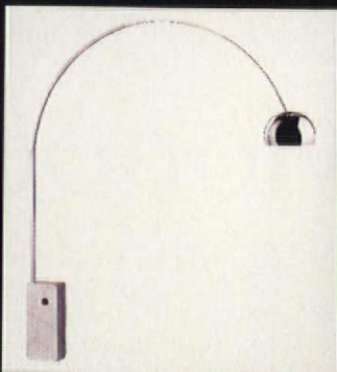
The London Borough of Camden's planning committee has roundly rejected a revised planning application for Grimshaw's £20million cancer research building at University College London.

The planning committee originally knocked back the scheme in August, when it was thrown out on design grounds. The move was described by committee chair Brian Woodrow as reflecting a new antipathy from the borough towards 'modernism' (AJ 14.11.02).

The committee, when it rejected the revised scheme last Thursday, again cited design quality as the reason. The new scheme retains many of the elements of the original application, including the size of the structure and its largely glass facade. But it introduces a terracotta solar screen to replace the automatic blinds of the original design.

CABE, English Heritage and the council's planning department, which had all given Grimshaw their backing first time around, were again behind the project. EH described the new changes as 'an improvement in an already excellent design'.

Despite this second refusal, client University College London has not yet given up the fight. Following the first rejection, it immediately launched an appeal, which will be heard at a planning inquiry next May.



Goodbye to Italian designer Achille Castiglioni (1918-2002)

The death of Achille Castiglioni on 2 December, aged 84, deprives us of one of the masters of Italian design, writes Thomas Muirhead. I worked with Castiglioni in Bologna in 1990, on a James Stirling exhibition. Passionately enthusiastic as he was about our métier, I remember his profound understanding of lighting, his witty use of allusion and metaphor, and his delightful professional demeanour on site. His final project, with Michele De Lucchi and Norman Foster, was a design for new pylons for Italy's electricity company, featuring special perches for birds. May his spirit fly away in peace!

CABE warns of 'dangerous' Business Planning Zones

CABE has warned the government that its proposals for Business Planning Zones (BPZs), officially unveiled in the Planning White Paper, could lead to a drop in design standards.

The agency's chief executive, Jon Rouse, told the AJ that the proposal for 2,000 wards to be given special status, in which planning regulations are relaxed, could lead to a 'vicious circle of failure'.

He warned there is a danger that the areas will end up actually putting off business. 'If there is poor planning, it could lead to poor development, which all too often leads to poor investment.'

'What we are after is the opposite. We need successful and good planning, that will lead to exciting development that always attracts high quality investment,' he said.

However, Rouse said that CABE is pragmatic: 'We recognise that the chancellor is very keen on these, and therefore we will be looking to work with the government to ensure that our input is high up the agenda when BPZs are developed.'

He said that it is essential that the design standards are wrapped into the initiative's details, together with a real commitment to masterplanning in the areas that will become BPZs.

A new House of Commons Select Committee report on the planning system has also criticised the proposal. It concluded that the current planning system is not an impediment to attracting new business.

The Planning White Paper was unveiled two weeks ago and received its second reading on Tuesday. As expected, it includes the reduction of planning permission from five years to three, the tightening up of the compulsory purchase system and the removal of the county structure plans. +

Ed Dorrell

Nicholas Hare faces inquiry into Birmingham college

Deputy prime minister John Prescott has called in Nicholas Hare Architect's £14 million plans for a sixth-form college in Birmingham. He decided to hold a public inquiry after local residents launched a campaign against the controversial project.

The Balsall Heath Forum (BHF) is opposing the project, which won planning approval in October (AJ 24.10.02), because it is planned for Metropolitan Open Land. BHF argues that more time should be given to considering alternative



Michael Hopkins and Partners has won a competition to design this new waterfront footbridge in St Helier, Jersey, in collaboration with Flint and Neill Partnership and geotechnical consultant Geo-Engineering. The bridge is made up of twin-inclined and intersecting steel arches, designed to provide a dramatic landmark and gateway to the town. It will be the central feature in a new promenade along the waterfront.

sites and has engaged the services of architect Joe Hollyoak of Axis Design Collective to identify other options.

The BHF's David Stevenson, a local neighbourhood manager, said he was extremely relieved about the decision. 'We are delighted. There are still many residents who want to get their voices heard,' he said.

Ferguson calls for financial reform of presidential election

RIBA president-elect George Ferguson is pressing for a shake-up of the institute's electoral rules to include a cap on campaign expenses and a ban on candidates seeking sponsorship.

The reforms, presented to the RIBA's governing council last week, would prevent a repeat of the controversy that surrounding the 2002 presidential election. Annette Fisher, Ferguson's main rival during the election, attracted criticism when it emerged that she was courting financial backing for her campaign.

Fisher this week attacked Ferguson's proposals, claiming they will make the presidency more elitist. 'This means that only architects who can afford to run, either through independent means or by working for a big practice, will become president.'

The changes would also see the introduction of a cap of £7,000 on campaign spending, with each candidate signing a commitment to stay within the limit.

ALLAN MURRAY WINS REVAMP

Allan Murray Architects has won the chance to radically revamp Edinburgh's historic Princes Street. The practice saw off competition from Scottish firms Page and Park Architects and Gareth Hoskins Architects, and Dutch firm Erick van Egeraat Associated Architects. The scheme will redevelop Princes Street Galleries and the streetscape at the eastern end of Princes Street. The judges chose Allan Murray Architects for its overall approach, bringing together 'three dynamic elements': the creation of a new top-lit gallery with views across the city; the improvement of Princes Street to benefit pedestrians; and the 'sensitive integration' of shopping areas into the scheme. +

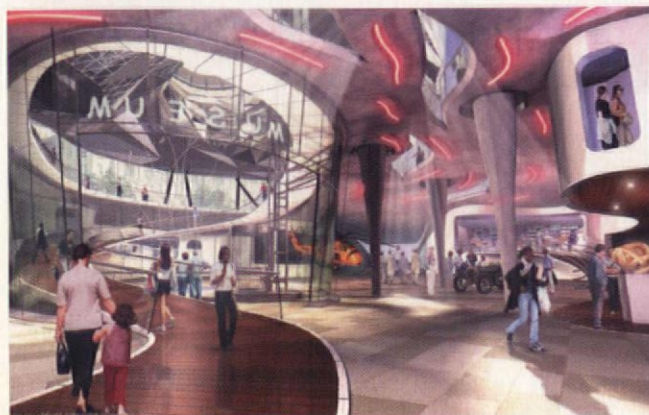
SMALL IS BEAUTIFUL



Five small practices from around the world have landed ar+d awards at this year's ceremony in Copenhagen. The awards were set up four years ago by the AJ's sister magazine, *The Architectural Review*, and international design publication *d line* to reward work by young, independent practices not yet recognised. The five winners were: a house by Sean Godsell in Victoria, Australia; Archipro Architect's cemetery for the unknown dead in Hiroshima; a pedestrian bridge in Rijeka, Croatia, by design group 3LHD; Marlon Blackwell's Honey House in North Carolina (pictured); and Jurgen Mayer H's interior landscape shown at the UIA Conference in Berlin this year. +

DESIGNED FOR LIVING WIN

Walters and Cohen has scooped the RIBA competition to develop a prototype housing project, *Designed for Living*, in Eastleigh, Hampshire. The practice fought off competition from Stephenson Bell Architects and Planners, Pierre d'Avoine Architects, Buschow Henley, John Pardey Architects, and McKeown Alexander. +



Alsop Architects has revealed this interior shot of its competition-winning scheme to design a 'Fourth Grace' for Liverpool's Mersey waterfront. It saw off competition from the Richard Rogers Partnership, Foster and Partners and Edward Cullinan Architects. The competition was for a design that would complement the existing three Graces, the Liver, Cunard, and Port of Liverpool buildings. Alsop's winner includes a flying saucer-shaped building housing a new museum. +



All change: is temporary the new permanent?

WHAT'S NEW ON THE WEB?



The AJ's award-winning website is bristling with new features. Visit ajplus.co.uk now and you can:

Take part in the discussion forum, which is still part of the 'free' area of the website. Click on the forum button and input your technical or other queries for AJ technical and practice editor Austin Williams.

editorial

We hope you enjoy our final issue of 2002 – including our hymn to the coolest kind of design and craftsmanship, in the guise of the Ice Hotel in Sweden. It's a truly remarkable project which is moulded afresh each year from a locally abundant and sustainable natural resource.

Many architects – and clients – wish they could start anew on their buildings each year, with a different aesthetic and different elements to cater for changed circumstances; flexibility being ever more the watchword. 'Change of use' has fully penetrated the lexicon – housing is designed to allow for families getting bigger, or smaller as divorce rates mount, parents live in, and more adopt the live/work lifestyle. Banks become bars. Rural post offices become houses. Offices become residential and power stations become art galleries. National Pop Museums become student unions, and £758 million Domes (eventually) become concert venues with 'entertainment and leisure space' – sports, hospitality, restaurants, you name it. The temporary is more the norm, with permanence, single use and 'zoning' belonging to previous centuries.

To grasp this need for positive mutation, the IPPR think tank, in its competition run with the AJ, is rethinking the town hall. Nine architects have been shortlisted and present their schemes for three existent town halls for the first time in this issue (see pages 6-7). What will the future of democracy at a local level be? What will it look like? Big ideas abound, though many look to 'transparency' through glazed structures, plus the idea that electronic voting will be more open and accessible (and will work). But there is also the realisation that the idea of the forum, the meeting place, is a good one that does not need fixing, just re-establishing.

The AJ, too, is changing. Watch out for a new questionnaire feature in the next issue called Briefing Notes, more building revisits, special issues, small projects, a new look AJ100 – and even a new competition for the Astragal page. We are also developing the other elements in the AJ 'brand', with [ajplus](http://ajplus.co.uk) and events becoming more important tools in our armoury. Until then, merry Christmas to you all and a happy New Year.

David Taylor

letters

Will Alsop – not one of our friends in the north?



Fourth Grace: a northern reality?

Will Alsop's patronising and deranged contemplation of northern England ('Our friends in the north', AJ 14.11.02), while en route from London to Vienna, does not inspire confidence here in his shooting star role.

His mental map and cultural model of the north needs fettleing up a bit. South Yorkshire and Lancashire don't see themselves as 'one place' because they are not. South Yorkshire is physically separated from Lancashire by Derbyshire and West Yorkshire. Collectively these places already have a strong regional identity, but one as different from the inhabitants of Randstadt as is flat land from the Pennines. The northern brew here finds no difficulty in mixing the intoxicating pleasure of comradeship with the bitter humour and local rivalry of the cultural divisions which climate, geology and landscape have made.

The intricacy of language, humour, beliefs, industry, poetry, music, art and architecture that the landscape has forged has never easily submitted to external planning models. Alsop's vision of concentrated urbanism separated by wild moors is as hare-brained as its 20,000ft-high place of conception. This essentially medieval vision is as inappropriate to this part of the north of England as were its precedents. Alsop's cavalier army is set to visit the same damage on the north as did previously daft southern notions of Green Belts and, before them, garden cities.

Alsop is right in his perception here of a growing regional self-confidence, but his contribution will have to square up to the new model army of creative people who live here, including architects.

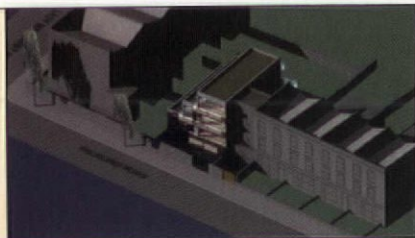
Industrial society and modernity were created here in what might appear to the less developed south as an untidy fashion. Mills, houses, institutes and chapels were built in lines and jumbled about the landscape, in valleys, on hills as geology, power, inspiration and ingenuity divined. Their names, shapes, utility, societies, customs and people were as awkward, friendly, militant and cooperative as the contrasting landscape which they stood on.

This society of contrasts has never had a problem in reconciling landscape, industry, recreation and work. Here has been created a complex pattern of living that is nowhere exclusively urban or exclusively rural. Here is an open structure that has always accommodated the new ideas that have flowed with the migration of labourers, commonwealth settlers and, now, southern house price inflation refugees.

The beautiful, open and dispersed urbanism that people have made among these vales, dales and wild moors, needs no enforced migration, no new encircling walls, defensive or metaphorical, no reconcentrations of urbanism or imitation of the bloated medieval cities of the south.

Although Lancastrians and Yorkies cannot both be right in thinking they inhabit the most beautiful place that God made but they improved, their common achievements should not be underestimated. They have already, together with their friends in the north in Durham, Northumberland, the Borders and Scotland, created patterns of

You can now take part in 'Ask Paul Hyett', where the president of the RIBA will answer your questions online. Or check out the latest news stories, including Mediawatch – Astragal's wry look at the architecture stories covered by the weekend newspapers. Mediawatch goes up every Monday. You can also join thousands of others in signing up to news alerts on competition wins etc or look up stories on project news. This week's offering includes a plan by Richard Burton of ABK to come to the aid of Camden's housing shortage. He has submitted a planning application with Urban Space Management (right) on two Camden-owned sites for key worker housing utilising containers. Burton wants more such sites released.



The Architects' Journal welcomes your letters, which should preferably be typed double-spaced. Please address them to the editor at 151 Rosebery Avenue, London EC1R 4GB, fax them on 020 7505 6701, or e-mail them to angela.newton@construct.emap.com to arrive by 10am on the Monday before publication. Letters intended for publication should include a daytime telephone number. The editor reserves the right to shorten letters.

YOU CAN ALSO AIR YOUR VIEWS ON OUR ONLINE DISCUSSION FORUM AT: WWW.AJPLUS.CO.UK

urbanism which Alsop would do well to understand, before we are given further improved versions of the present, inappropriate, statutorily applied models. The north might not be quite perfect just yet but we are capable of continuing to hone our own stones. *John Thornton, from side seat, over wheel arch of Yorkshire Rider bus between Todmorden and Halifax*

We were in the Helsinki wilderness an age ago

I was pleased to read Will Alsop's piece on the Wilderness City theory again (AJ 14.11.02). Every little bit of publicity helps.

However, true aficionados of the high-density cellular city theory might like to visit our website (at www.avery-architects.co.uk) where you will see the original 'northern walled city' project – our Helsinki/Tampere Wilderness City proposal of 1993.

So when Alsop says that 'our friends in the north strike out for a brave new future', it wasn't really Yorkshire that he was thinking of – his thoughts were, I suspect, a good deal further north than that.

Bryan Avery, from the top seat of a No 24 bus in Victoria, London

It's the schools that are at fault, not the ARB

Once again the architectural press seems keen to create the impression that the ARB is behaving unreasonably, or, as Thom Gorst and Jim Lowe from UCE would have it, over-zealously (AJ 5/12.12.02). While the ARB, the RIBA and SCHOSA are actively working together to safeguard and improve standards of architectural education in the UK, let us not fall into the trap of believing that all of the schools of architecture get it right all of the time, or that the ARB is making more of the situation than is necessary.

ARB research in June 2001

has shown that the profession is concerned about the quality of students entering the profession. The subsequent Kingston University research has shown that students feel unprepared for practice, and the more recent Nesbitt report points out that not all schools are meeting the criteria for prescription.

Visiting board reports are also highlighting other concerns:

- The number of students studying architecture in some schools is increasing dramatically, without always the appropriate increases in resources and often with no evidence as to how standards will be maintained.
- The marking of students' works is sometimes overgenerous, calling into question lowest pass standards.
- Students are being awarded qualifications despite failing key course modules, which must be passed, if the prescribed criteria are to be met.

In some schools these are not new problems. Often the shortcomings have already been identified by previous visiting boards and the schools' own external examiners.

Thom Gorst and Jim Lowe would have us believe that all of this is just a storm in a teacup and the ARB is cast as the inept villain of the piece.

So let me ask them: should the ARB prescribe a school when a visiting board report identifies significant shortcomings in a course? Is it unreasonable for the ARB to ask a school to explain how this situation arose and to provide evidence that it has a plan to remedy the situation promptly before granting validation?

Students spend many years studying, often incurring many thousands of pounds of debt. Is it not reasonable for them to expect at the end of their studies that the schools have ensured that they have gained the prerequisite skills to allow them to

register as an architect?

So who is behaving badly? The ARB, or those schools that have let standards slip? The ARB, or those academics that persist in claiming they do not know what all the fuss is about?

Ian Davidson, via email

Landscape architects do the hard stuff too



It would apparently be news to architectural journalists that landscape architects work on more than the soft bits of a project. So I am pleased to reveal that we also do the hard bits.

While it is true that Oliver Chapman Architects has designed a beautiful addition to the 'Hidden Gardens' at Tramway Theatre in Glasgow ('Glasgow gets bubble top', AJ 28.11.02), Landscape Architects City Design Co-operative has had significantly more input to the project than 'new planting'.

In the case of the Hidden Gardens, this includes hard bits such as capping ground contaminated for previous industrial uses, overseeing partial demolition of an old asbestos contaminated boiler house (to create space for new uses), while retaining a 30m-high chimney on site and opening underground cavities between old foundation walls under a suspended concrete surfaces to create spaces for, yes, new planting.

In addition to this, we have been involved in some really hard bits, such as raising £100,000 towards the project funding through our Environmental Body Status, working with and

detailing four separate art installations, speaking to a diverse range of local groups including those from the Sikh, Hindu and Chinese local population to understand their desires for a new public garden, and organising an architectural competition of which Oliver Chapman Architects was the worthy winner.

All the above have been enjoyable and challenging in a variety of ways, and the gardens, when they open in June 2003, will reflect the hard work of a lot of talented people.

More information on the Hidden Gardens can be found at www.nva.org.uk

Chris Rankin, director, City Design Co-operative, Glasgow

Addenda

Simon Fenton Partnership was the QS for the Matchworks project in Garston, Liverpool (AJ 28.11.02).

The RIBA would like to apologise for an error in the President's Medals Student Awards 2002 supplement (AJ 5/12.12.02). The group commendation project from the School of Architecture, University of Bath, was tutored by Professor Adam Caruso and Professor Peter St John, and not Professor Robert Tavernor, who is director of studies.

Barnhouse

The owners of Barnhouse (AJ 28.11.02) have asked us to make the following points in relation to our coverage, which we are happy to do. The scheme was not supported by the Highgate Society; although the house contains a study, it is a residential project rather than live/work; and the height of the building was agreed, rather than imposed. The clients have also asked us to say that they are more delighted, pleased and thrilled than they ever thought they could be by Sutherland Hussey's design.



will also

Ugliness is a concept we all need to consider in our work

Much of the architecture that surrounds us is ugly. By this I mean that it is truly ugly, because it does not only fail visually but also it contains no concept or sense of enquiry.

Ugliness is a difficult subject that remains largely unexplored by architects, which I consider to be a missing dimension to their work. It is not so unfamiliar to the sculptor. Rodin explored this concept with a number of works, notably 'Man with Broken Nose', which moulded a hideous image. He was heavily criticised for this and upset many people, but as we can see today, this work is in fact beautiful.

The content of the work is irrelevant to its actuality. This separation between form and content is critical to the debate about ugliness and beauty. The content confuses the message and is unrealisable and, as with Rodin, we discover that if the expectation of the viewer is that the artist should pursue beauty, then a wrinkly, deformed face cannot in itself fulfil the requirement. We are conditioned to a sense of the subject matter which prevents us seeing.

As an aside, Brunelleschi's biggest problem in initially having full control of the dome construction for Florence was the fact that he was ugly. The authorities could not accept the idea that an ugly person could be capable of such a task. His own appearance masked his brilliance.

It was left to Brancusi, who was not the world's most attractive man, to restore a balance between beauty and sculpture by shifting away from content into pure abstract form. The removal of content allowed the viewer to see, although some pieces were imbued with the meaning by the title, as in the *Gate of the Kiss* and the *Table of Silence*.

I have felt for a long time that architects do

themselves no service by surrounding themselves and their work with justification, often of a spurious philosophical nature. It is as though there is an inevitability of result which is beyond discussion. I remember well when Graves and Meier first came to lecture at Art Net in 1975, both of them spent the first half of their speech talking about Cubists and the second half showing their own work, as though the painters justified and formalised their own position.

First, this was not necessary, and second, it devalued their own work. It obscured what they really thought and acted as a filter to us seeing. They were adding content where none belonged. This becomes even worse when architecture is justified in terms of a narrative. We inevitably 'read' all objects in some way according to our cultural conditioning, but this does not need to be exploited as some requirement or an excuse for poor architecture. Trajan's Column is in fact a poorly proportioned object.

I have been experimenting with the idea of deliberately trying to make ugly drawings, forms and designs. The harder you strive for ugliness, the more beautiful the image or building becomes. Architects are conditioned to make something beautiful and are fed many rules and paradigms as to how this might be achieved, but eventually this creates

blindness to the actuality. I think all books on design methodology should be burnt immediately as they often create the crutch that supports bad design.

It is, in the end, a matter for judgement, but I encourage you to join me in this quest for the ugly; at the very least it wakes you up.

WA, from Hotel Das Trieste, Vienna



people

As traffic clogs up and crime figures soar, media reports claim we are deserting our cities, preferring instead to commute hundreds of miles a week. Bristol is bucking the trend. Faceless and inhuman office blocks are being turned into expensive new apartments for professional urban dwellers who like to walk to work through attractive streets. One of the prime movers in this architectural renaissance is Edward Ware, Bristol born and bred, a developer who is gradually changing the face of this once philistine, mercantile city – a developer with an acute aesthetic conscience.

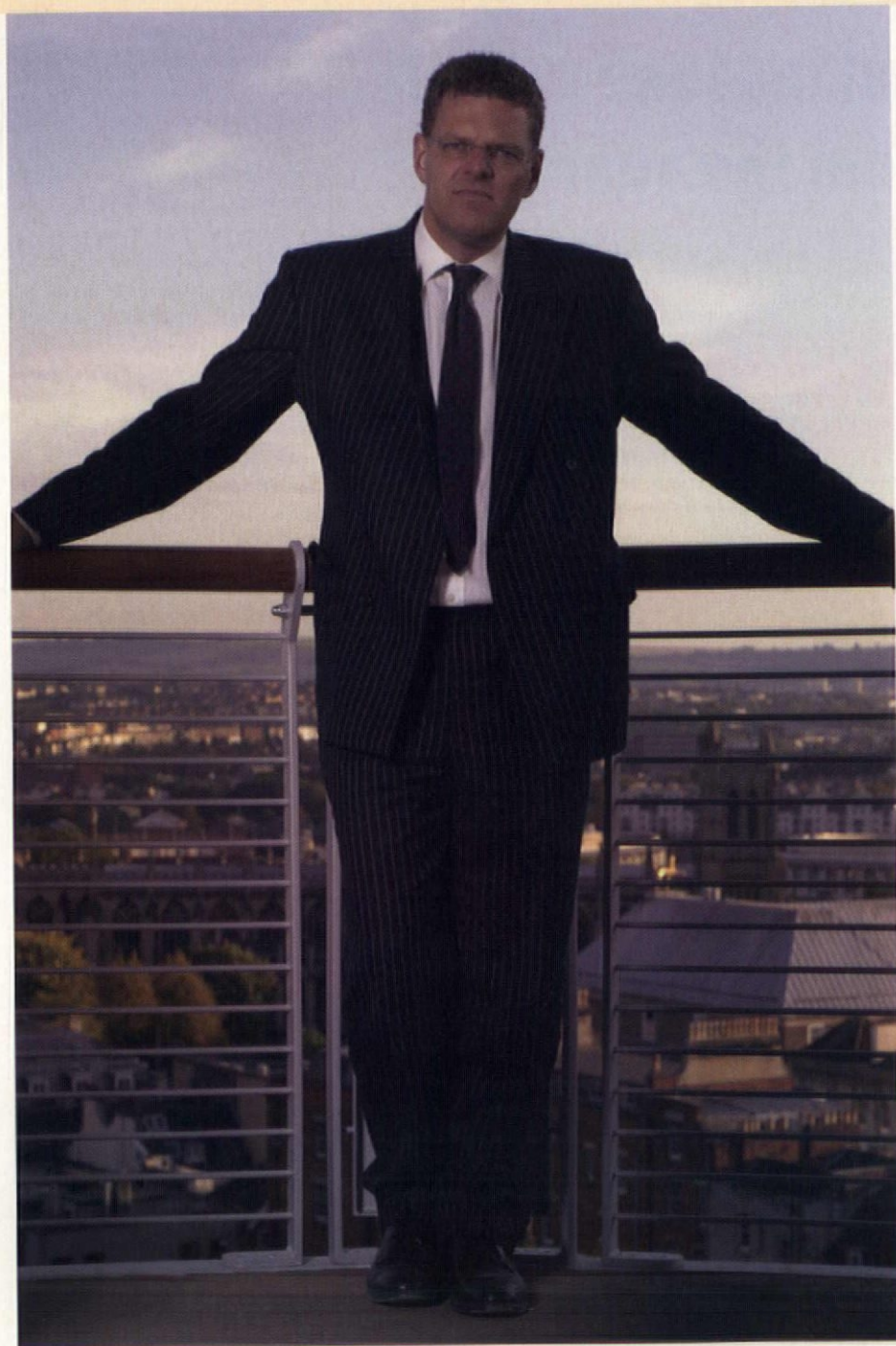
Ware grew up in Hotwells, a Georgian development of houses built to serve the lodgings trade of the spa on the Gorge. His father, Peter Ware, was one of the first conservation-conscious architects in Bristol – he bought the near derelict 11 Dowry Square in the 1950s and set about repairing and restoring it in high SPAB manner. Ware learnt from his father by a process of aesthetic osmosis: 'Everything he did looked like it grew there,' he says. An architect with such an understanding of buildings was a rare animal in the 1950s, and it was this love of architectural detail, of retaining the distinct atmosphere of a building, that Ware remembers most about his father.

This attention to detail, and insistence on a building's fitness for its site and particular function, has become the cornerstone of Ware's design philosophy. He insists that 'we still undervalue good architecture and good place-making'. So, in accordance with the RIBA's recent encouragement of developers to employ quality in-house designers, he has gathered around himself a small, dedicated team. Richard Silverman, his director of design, is the former head of the Welsh School of Architecture, Neil MacOmish is the in-house architect, and Heidi Davis (formerly of DTZ) handles the planning process. All three are focused upon giving Bristol the best possible design solutions for interventions in the historic city.

Edward Ware Homes has used a number of local practices for design work, with mixed results. Ware is philosophical about this – 'Not enough architects are prepared to put their trust in development companies,' he says; hence his formation of a company team to aid the design process as well as oversee the projects. Outside consultant architects will still be used, but they will have to match MacOmish's high standard of design. MacOmish believes that 'design can make a difference',

Edward Ware is the developer behind the Panoramic, the Bristol scheme in which Cherie Blair controversially managed to buy two cut-price flats. But he is making his mark on the city for purely architectural reasons
by timothy mowl. photograph by stephen morris

'boxes are for shoes'



and that local authorities 'must be more robust on inner city densities'.

What particularly characterises the firm is its brave choice of difficult brownfield sites. Currently it is projecting seven residential developments, all in sensitive urban, suburban and rural areas. Ware remarks bullishly that '90 per cent of the sites are purchased without planning consent, so it is all risk management', but once the site's

potential has been identified, the team goes out to public consultation, long before any planning application is launched. 'The resulting package has such extensive supporting evidence that planners and councillors' jobs are made easy,' says Ware.

To buy, as Ware did a few years back, a Powell and Moya building in the heart of Clifton's conservation area, and then apply for permission to demolish it and replace it

with a mews-square of high-class housing, required some nerve. Protesters in such an area are informed and formidable, the city planners consequently not easy to please. The sheer charm of the designs that Ware's architect, Andrew Wotton, produced, won the day. Instead of yet another cost-cutting exercise in glass, steel and concrete, the firm projected an updating of Clifton's building idiom in uninhibited Classical invention.

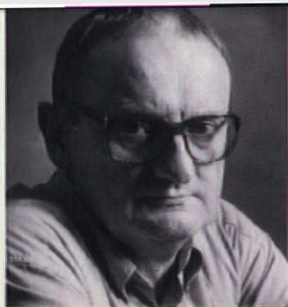
What resulted was Rodney Lodge, arguably the most successful addition to Clifton's housing stock in the past 100 years, a terrace of seven town houses and a 14-bay terrace of flats that raise your spirits simply to walk through them. Profits must have been cut to the bone by the sheer generosity of the design. The terraces have no typically dreary, Georgian backsides; instead they have two main elevations, both flaunting wave-crested brise-soleils.

The catchy company slogan, 'Boxes are for Shoes', is blazoned across the Panoramic, Ware's 53-unit development overlooking the city centre, and the building at the centre of the kerfuffle about Cherie Blair's property dealings for son Euan. This was once a drab 1970s office building – now it has sleek balconies and a shimmering roofline. The units are surprisingly spacious, with full-height doors, chunky detailing and light wood finishes. On a tour of the five penthouses, I began to regret living in my terraced Victorian house with its busy William Morris wallpaper and Arts and Crafts oak furniture. But then I am not a single professional, or one of a retired couple, or a property investor – the main targets for the sales team.

The most exciting of Ware's current projects is an elegant serpentine of flats climaxing in a round tower, with Acanthus Ferguson Mann as architect. It is for the St John Reade site in Redland, a well-heeled Bristol suburb where the amenity society members are sharp as knives.

The firm's planning dossier is full of photographs of the Victorian, Edwardian and Art Deco houses of Redland, which, however, the proposed elevations completely ignore. Campus-style blocks can look awesome on paper but often stand cold and unrelated when built. Redland is essentially a suburb of streets, in no need of a railed-off enclave for professionals.

Might simple streets have been a more sensitive solution? When you have perfected the art of infill in one area of the city, it makes no sense to avoid it in another.



martin pawley

The architectural lessons we all need to learn from the year 2002

What a difference a year makes (to misquote the songwriter). Not very much, perhaps. Everyone accepts that the 19th century did not start until 1815 and the 20th century until 1914, on which basis it must be possible to argue that 1 January 2002 was no more than an inconspicuous footnote to a year that had really begun four months before with the destruction of the twin towers. And why stop there?

We could even claim that this 'big year' version of 2002 ended with the December topping out of the Swiss Re tower, an event accompanied by a defiant laser light show in the style of Olympia and York that must have been close to tempting providence, with the building only half occupied.

On the basis of this kind of hubris, one could even claim there is a gap in the calendar, with the first day of 2003 not scheduled until the beginning of congestion charging in February.

To be sure, there may be only spin doctoring to back up such tinkering with the calendar, but that does not mean there is nothing to it.

There was an ominous resonance in the media pictures of the laser light show that marked the Swiss Re occasion, a flavour of the eve of bankruptcy at Canary Wharf 10 years ago that merits a reminder because it does not illuminate the glory of the advanced technology architecture so much as point up its inability to keep up with the economic facts of life.

The purpose of all commercial buildings is to exploit commercial opportunities. In the case of Canary Wharf, this meant exploiting to the hilt the potential of a designated Enterprise Zone. But if the site and the financial inducements were secured in masterly fashion, the world market for financial services was entirely beyond the developers' control.

Things were already shaky when construction of Cesar Pelli's tower began in 1988 and, by the time

the first tenants moved in, there was a global property recession. The tower was a formidable achievement, but not formidable enough. Nine months after it was finished, the developers filed for bankruptcy and, with no assistance from their architecture whatever, all the buildings at Canary Wharf changed from assets into liabilities – a fate that could still overwhelm the Swiss Re tower, for in today's climate of economic uncertainty, insurance is no more flexible and no less vulnerable.

How could the resultant debt-shedding and refinancing be avoided in future? Only by thinking our way out of the box of the standard office building in the same way as I tried to think my way out of the box of centuries above. In short, by subjecting the design of new commercial buildings to flexibility requirements far in excess of the measures understood by that term today.

Swiss Re obtained planning permission from a City of London committee strongly opposed to high-rise buildings because its promoters insisted that it needed enough floor space to centralise all its offices.

Simple enough, but while the design of the building was gone over with a fine toothcomb, the uncertainties of the insurance market – the *raison d'être* of Swiss Reinsurance's project in

the first place – were simply ignored. No more proof of this is required than Swiss Re has already supplied by reducing its occupancy of the building to half that originally required.

To this weakness, the only answer is a new conception of architecture that does not stand inert while the storms and stresses of the market whirl around it, but moves as fast as the market does.

And to realise this, we need not a bureaucracy for untouchable masterpieces but a construction industry that can build and unbuild at the speed of dot com.

'There was an ominous resonance in the media pictures of the laser light show that marked the Swiss Re occasion'

a life in architecture

miles kington

Writer and columnist Miles Kington nominates the domed Devonshire Hospital in Buxton, Derbyshire (below), as one of the most dramatic buildings he has ever been in. He was flabbergasted to find that the dome was almost as big as St Paul's.

'When you go to St Paul's,' says Kington, 'you know you're in for something grand, and so you're expecting it. When you go into a hospital you never expect a vast dome overhead. It was one of the few times I have been genuinely awestruck in a building. I've been back as often as possible, sometimes masquerading as a doctor, sometimes pretending to limp badly.'



His second choice is Ardblair Castle, a rambling Scottish building near Blairgowrie which belongs to a distant Scottish cousin. He describes it as 'a defensive series of turrets and spiral staircases that have grown like coral over the centuries round a small garden'. Kington has stayed there as often as he tactfully could over the years, and loves the history and eccentricity of the place, which he says is 'simultaneously romantic and severely impractical.'

The third notable landmark is the collection of ancient pre-Buddhist temples at Pagan in Burma, which Kington visited when filming for the BBC's *Great Journeys* series. The temples comprise a series of domes of all sizes, set on little hills across a huge plain. 'The place was almost deserted when I visited. I hired a bicycle and just pedalled around, climbing as many as I could, and only disturbing the odd lizard. It was a day of heat and dust and magic.'

Sarah Cuddon

19/26 December 2002

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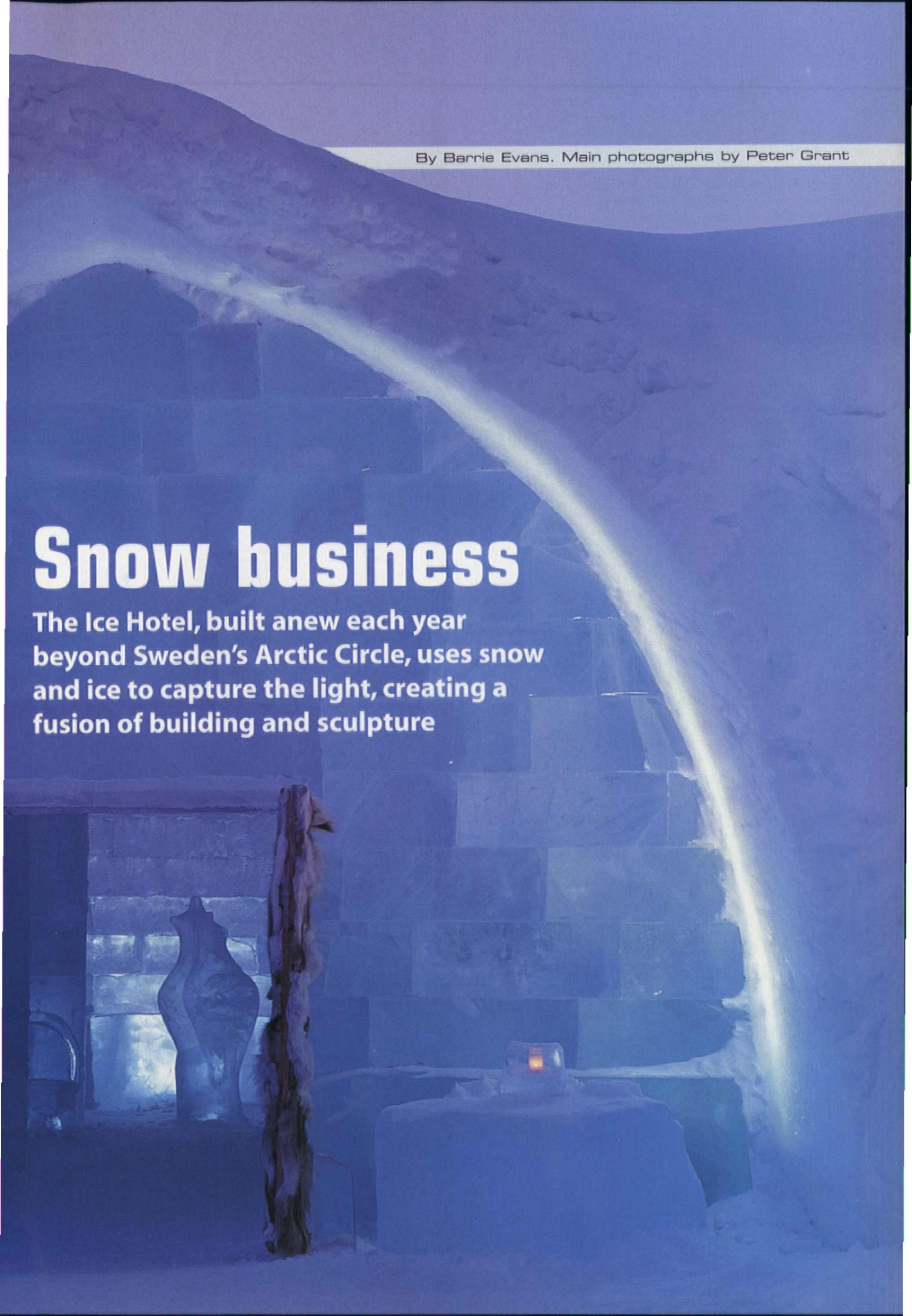
aj building study



By Barrie Evans. Main photographs by Peter Grant

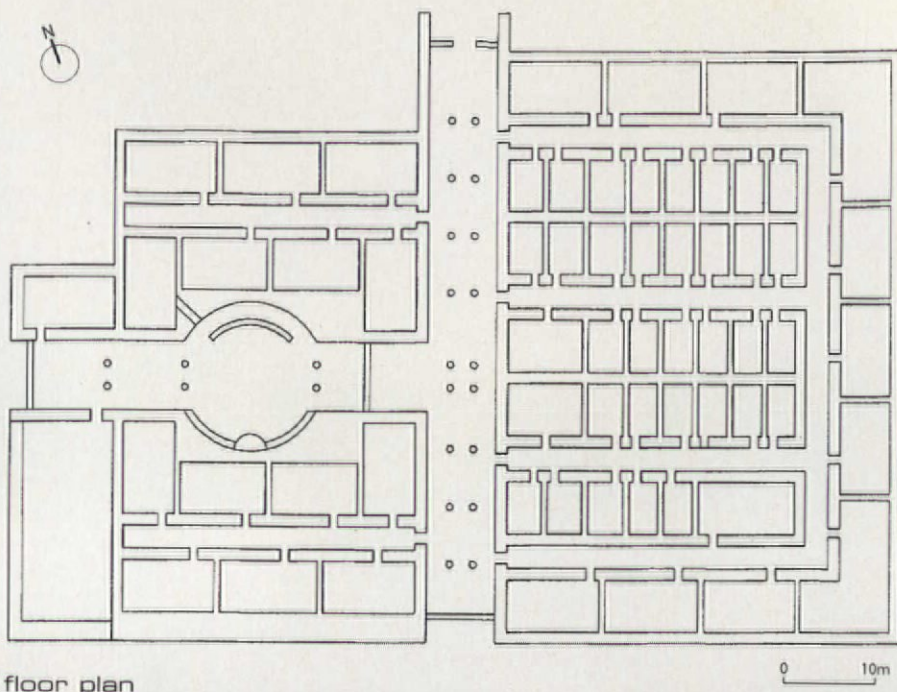
Snow business

The Ice Hotel, built anew each year beyond Sweden's Arctic Circle, uses snow and ice to capture the light, creating a fusion of building and sculpture



In Jukkasjärvi, a small town 200km north of the Arctic Circle, it is usually cold enough to start building with snow at the beginning of November. This leaves six to seven weeks to complete the Ice Hotel for opening on the festival of St Lucia, 13 December, marking the loss of daylight sun in the Arctic. (Because of this timing, photographs show last year's completed hotel.) Around the end of April, the hotel begins to melt. In between, there can be clear days when daytime temperatures are above zero and windswept days, with temperatures falling last year as far as a reported low of -58°C . This is a cold country, where sledges and snowmobiles sit next to Volvos in the drive, and the school ice hockey pitch is outdoors.

Building with snow as they do here is a new, evolving technology being pioneered by the Ice Hotel. In the chilled museum, there are 'Greenlandish' igloos – recognisable ice block domes – but there is no Swedish tradition of building this way. The native Sami people are nomadic, living in



floor plan



Snice technology

If you are using more than 50,000 tonnes of snow per season, collecting it is impractically labour intensive. Instead, water from the River Thorne is piped to snow-making machines, as used on ski slopes. Later it becomes 'snice', to use Arne Bergh's term, when mixed with water as it is sprayed into the formwork using the sort of cannon used for snow clearing of runways. The largest arch forms were devised first, coming to a slight point at the top. The middle-sized ones are near pure catenary. Snice creeps over the season, in a uniform way for the catenary arches. But the large, pointed arches tend to sag near the apex with time, so the ice columns on the

main axes do develop a structural function. By April, the discerning eye can detect a 'draping' of the roofs over the column heads.

During snice spraying, side shutters are used to tunnel sides and ends to provide flat surfaces for the next batch of tunnels to abut. There are enough arch moulds to create the building shell in seven to eight 'castings'. Once sprayed, the snice is around 1m thick at the base of the arch, and 40-50cm at the apex where it simply falls on top of the arch forms. The workability of the snice leads to good compaction but less air entrainment than pure snow and thus less thermal insulation. (The density of snice is $5\text{--}600\text{kg/m}^3$, snow $150\text{--}200$, pure ice about 900 .)





tents in summer and timber cabins in winter. The first attempts to build with snow, some 12 years ago, used vertical walls between shutters, to create a 60m² art gallery. In the second year of the gallery, a group tried sleeping in it overnight and the idea of the Ice Hotel was born. In 1992/3, it was 600m², this year it is 5,000m².

Early construction was with compacted snow between shutters, much like earth construction – an unreinforced mass material used mainly for its compressive strength. They soon graduated to a more pure-compression structure, the arch, using steel moulds, and industrialised the process by using a cannon to spray on 'snice' – a mix of snow and water midway in density between snow and ice.

While the design of the hotel changes each year, this sprayed arch technology sets a clear design framework. Lining up arched forms creates straight tunnels. Tunnels run parallel or abut at right angles, and after 24 hours or so freeze thoroughly. They can be

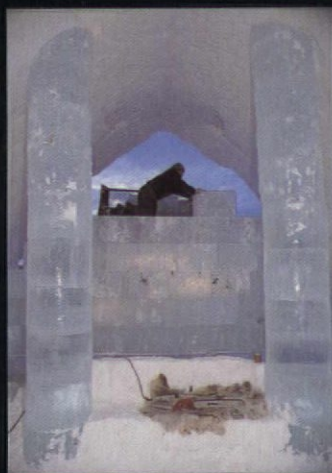


However, snow falling over the season builds up to improve insulation, except where wind-blowing of the snow leads to marked asymmetrical loading. Then it is up on the roof with the shovels to shift it. The fact of continuing seasonal snowfall also points to why it is not worth putting much effort into finely shaping the exterior.

The Ice Bar dome rises above the rest of the building so is vulnerable to early melting in the sun. Its permanent steel grillage is covered with a long spiral tube carrying coolant at -18°C. Dome-building entails, first, working from a cherry-picker to hand seal the grillage from the inside with snow, then spraying it from the outside.

Ice is the other main building material. The River Torne widens to lake-like width adjacent to the hotel. The pure water creates excellent, clear, bubble-free ice. Snow is cleared from the ice to increase exposure to the cold, so thickening it more. Ice blocks are cut from the river in March when it is thickest and kept to the following winter in a shed held at -5°C. These blocks are cut around 75cm thick as cuboid blocks. Discs of ice are also taken with a special cutter for creating ice columns.

The end walls of the main axes are sometimes made of ice blocks. Since ice melts faster in the sun than snow, in spring a protective coating of snice may be needed or an outer layer of new ice blocks added.





One of the main axes of the Ice Hotel, where a 'set' has been sculpted for a photo shoot, a common use of this iconic building

linked by cutting through the walls with a chainsaw. Currently, there are three sizes of arched forms – small for corridors, medium-sized for bedrooms and large for the main circulation axes. There is also a permanent metal grillage dome for the ice bar. Once the snice shell is built, the ice artists can follow, sculpting from ice blocks in the main axial routes, the ice bar, the chapel and the main bedroom suites.

The plan shows the logic of building contiguous tunnels. It also reflects the use of the hotel, set out like rows of monks' cells, using crosswalls to divide the mid-sized tunnels. The hotel has no heating; it is kept at between -4 and -7°C all season by the thermal inertia and insulating properties of the snice walling. Only 10cm-diameter holes in

the roof for ventilation break the shell. (The compact form of the building also limits exposure to the sun and thus the rate at which melting occurs in the spring.)

Most people staying at the Ice Hotel do so for just a single night, with the rest of their stay in nearby heated cabins. When in the Ice Hotel, an adjacent timber building provides bathrooms, saunas and luggage storage – luggage would freeze in the hotel. Guests meet in the evening in the ice bar, drinking from glasses made of ice, of course. They sleep on reindeer skins in polar sleeping bags and are greeted in the morning with hot lingonberry juice. During the day they move out and the hotel is a gallery of the ice sculpture for day visitors – 37,000 last year – another reason for the building layout. And a

reason for the room service routine of brushing icicles from ceilings and laying fresh snow on the floor.

It is not just technology constraints that make the one plan the only drawing for the hotel (building regulations do not apply). Many of the people here, such as Åke Larson (self-taught architect, formerly a furniture maker) and Mark Armstrong (ex-Oxford Brookes architecture undergraduate), have the artist-craftsman's hands-on approach to designing and making as an integrated process. Much design development is done on site, though Larson now spends a lot of time planning each day's work. Both have worked as ice sculptors. Larson designed the ice chapel for the past two years – with a granddaughter christened there in the first



Top left: glasses of ice – thousands are machine-cut each year. **Top right:** chapel. **Above left:** individually sculpted suite. **Above right:** in the ice museum

year and a daughter married there in the second. This year, two other architects, who have been around the hotel for a couple of years, will design and build the chapel – Mark Szulget from Arizona and Luca Roncoroni from Italy. (The chapel, which is handed over to the parish each Christmas Day, hosted 130 weddings last year.)

If the Ice Hotel building shell has become conventional, at least to those involved, the ice sculpture maintains its annual variety. Ice is integrated into the snice tunnels by the sculptors (some of them builders too) through the use of ice blocks, either as complete tunnel end walls or as pieces cut into the snice. Art director Arne Bergh has worked as ice architect and ice sculptor and is now one of those who chooses the 20-30 ice sculptors,

a few of them new each year, to create the bedroom suites and shared-space icework.

Bergh hates ice swans and is looking for anyone but restaurant ice artists to take a fresh approach. He expects to see interactive technologies used soon. He has employed set designers, web designers, graffiti artists, painters, sculptors, industrial designers and more. With a short timescale (though some sculptors work on into January), they have to submit sketches and are tutored in the practicalities of working with ice. (The ice store shed contains cutting machinery including a numerically controlled ice cutter.) They are free to choose lighting, though normally light is kept cool in colour. There is a 12V lighting main and (expensive) fibre optics for chandeliers. Bergh is looking for-

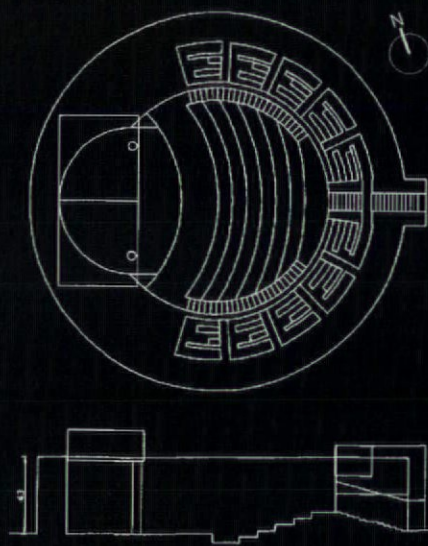
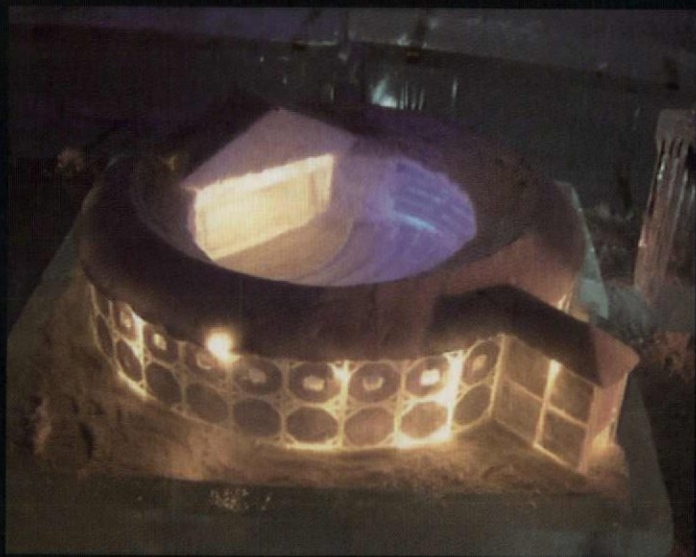
ward to using LEDs in the future.

In one sense they are sculpting with ice, in another sense with light. For those approaching the huddled form of the hotel, the wow factor is a space filled with light, almost larger than life with its multiple inter-reflections and diffractions. The ice bar welcomes them in. The prospect of spending the night there may cause apprehension, but as Bergh says, 'the experience should be primitive but not frightening, a challenge with a parachute'.

Where next for this architecture? Tight budgets do not leave much opportunity for development work, but new projects can be explored. There are two such projects this year – the Globe Theatre and the igloos.

Informed by a visit to London's South

Vodka on the rocks takes on a whole new meaning beneath the dome in the ice bar



Left: the design for the Globe Theatre. Opposite: the inevitable end as the thaw sets in



Ice work, if you can get it

Ice Hotel founder Yngve Bergqvist started small, with help from a friendly concrete contractor. The hotel has been put on the map especially by responses to its photogenic quality. Versace brought models including Cindy Crawford and Naomi Campbell to be photographed in ice. Absolut Vodka sponsors the ice bar. And the ice hotel has informed the latest Bond movie.

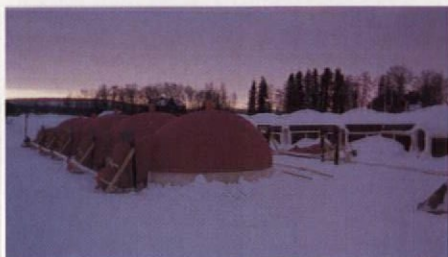
This year the hotel is much like last year's in size. Currently, business growth is sought through quality rather than quantity – there are more upmarket suites this year – and through diversifications, such as the

igloos and the Globe Theatre described in the main text. Will the crowds of theatre-goers come? It is a thinly populated area, though Kiruna airport is only 20 minutes away.

They are keen to develop a new ice industry, which could also help spread jobs through the year. They have an ice museum in the ice store building which is open all year. You can buy six ice glasses in a Styrofoam box, claimed to last 35 hours; one visitor did make it to his freezer in Australia. They export ice blocks and ice sculptures. There is a first Ice Bar in Stockholm and another Ice Hotel in Canada. There are dreams too of ice galleries and ice exhibitions around the world.

Bank, Larson is now completing designs for a single-storey Globe Theatre, which will start on site as the hotel opens, ready for a first performance on 23 January. A stepped floor will accommodate around 300 standing, with another 90 in terraced seating. Sami theatre companies will perform a Sami-language 'reduced' *Hamlet* and a Sami production; reduced means two half-hours separated by an interval – probably all people will be able to stand if the temperature is -35°C . The stage and lighting rigs will be timber-framed, and the seating will be within snice walls and arched roofs (the model shows an earlier design with timber roofs).

Another project is for 140 igloos for a Tetrapak company staff event, for which they have sewn fabric into inflatables to use as formwork for spraying snice on. The



Inflatable forms for igloos; near-finished beyond

igloos are huddled back-to-back in rows with entrances facing outward. Larson sees potential in the inflatable technology, for example, tubes as tunnel forms. And by squashing the tubes at intervals by tying them down with ropes, the sprayed snice could then create ribbed vaulted structures.

One concern in all this, and one reason

for caution, is people's safety. They do not employ engineers simply because they know none with appropriate, validated models. However, work is beginning on snow and ice construction engineering at the nearby university of Luleå.

Whatever they build in future, spring will still come around. Åke Larson will need to poke a rod into the snice shell to see if the shell is hard, and close down the rooms selectively where the shells have become soft. But soon the inevitable melt comes, and all the season's work flows into the Torne River.

● Our visit to the Ice Hotel was supported by the Swedish Travel & Tourism Council, freephone 00800 3080 3080, www.visit-sweden.com Tour operators include Arctic Experience, tel 01737 218 800. For more on the Ice Hotel visit www.icehotel.com

Festive spirits

KRO², Stephenson Bell's Danish-style bar in Manchester, incorporates an outside extension to deal with the crowds

BY SUSAN DAWSON. PHOTOGRAPHS BY ROGER STEPHENSON

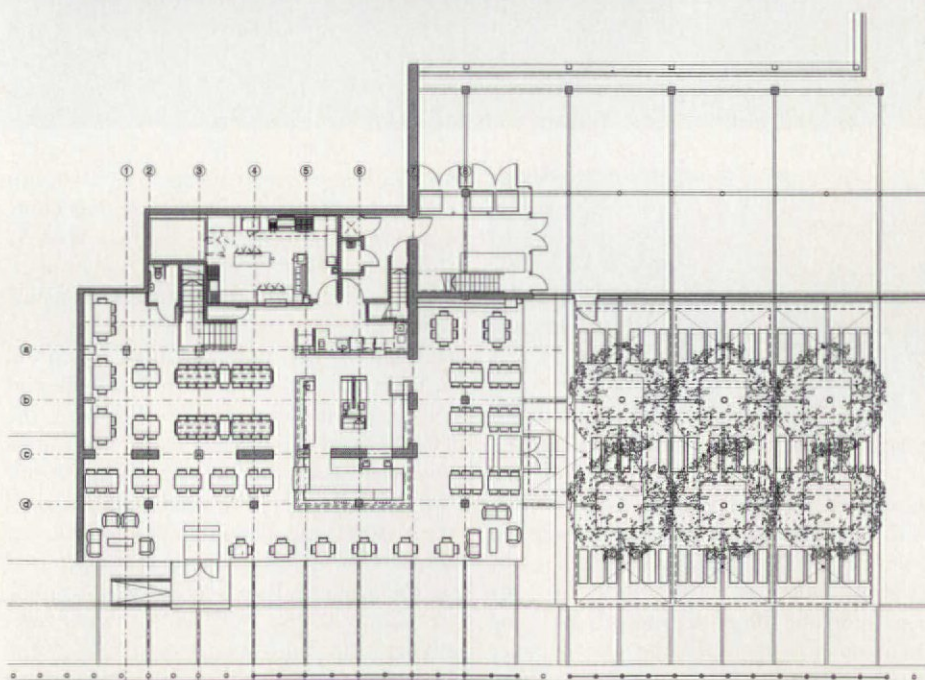
Even at 4.30pm it is hard to find a seat in KRO² – the spacious new bar is an oasis of space and light which attracts urban Mancunians like moths to a candle. But if the interior is full, you can just take your drinks outside; the bar extends into a delightful tree-lined courtyard with seats and tables under heated umbrella canopies which cope with northern November weather.

The bar's success owes much to its design; the long glazed facade reveals enticing

glimpses of a dramatic lofty interior. It is also in an ideal position on Oxford Road just off the city centre. The BBC headquarters, the Palace Theatre and the town centre lie in one direction; Manchester Metropolitan University and Manchester University in the other. For quality of design and success in attracting both city and student Mancunians, the bar has just been named the City Life Bar of the Year, and has recently received a Manchester Civic Society award.

Kro means 'inn' in Danish – an acknowledgement to the Danish owners, the company Ruby and Ruby, and to the Danish cuisine. Stephenson Bell started working with the firm three years ago on the first KRO bar, a conversion, appropriately enough, of the former Temperance Society premises further up the Oxford Road.

The origin of the new bar is even more bizarre – it was a lecture theatre which was once part of the National Computing Centre at the University of Manchester. Built in the 1970s, the building is typical of its period, with a concrete frame and shear wall structure. The lecture theatre was at ground floor/basement level; the external wall to Oxford Road was set well back behind the concrete column structure, which appeared as a row of two-storey high concrete pilots



ground floor plan



The long bar leads to an outside courtyard, fitted with seats, tables and heated umbrella canopies, that is popular even in winter



With its lofty ceiling and the double row of white concrete columns, the bar has a strong, vertical emphasis. The glazed facades allow light to flood the simple yet dramatic interior, furnished with robust tables and chairs



running along the frontage to Oxford Road.

Made redundant to university needs some years ago, the building was subsequently sold to a developer who filled in the space in front of the pilotis with a frameless glass extension supported by a heavy, steel-frame structure with clumsy and oversized members. The new frontage and accommodation behind was divided into two retail units, one of which is now KRO². Together with the lecture theatre, Ruby and Ruby also acquired a huge bonus – a neglected piece of urban space next to it paved with cobbles and planted with mature trees. Now fitted with seats, tables and umbrellas, this has become a popular outside extension to the bar.

Before the fit-out could begin, Stephenson Bell had to transform the lecture theatre volume into a space suitable for a bar. 'It sounds impossible,' explains Roger Stephenson, 'but in fact the concrete raked floor of the lecture theatre worked in our favour. With a new ground floor on top of it and some additional excavation, the raked seating and podium

area made an ideal cellar for bar storage.' Five huge openings were made in the original external concrete shear wall of the lecture theatre to connect the frameless glass extension to the interior behind. Back of house spaces – kitchen, WCs, offices and stores, are stacked up in a two-storey block at the rear of the building. An Iroko staircase, screened with a massive glass balustrade, leads to the upper floor. The bar itself is set in the centre of the main floor and wraps around existing walls and columns to unify the space.

Despite the complexity of the structural enabling works, the end result is remarkably clean and simple, with an unusual quality of light and space. The combination of a lofty ceiling, more than 6m high, and the double row of white concrete columns – the original pilotis and shear walls – give the space a strong vertical emphasis. The white walls and cream limestone floor create a simple yet dramatic interior which is flooded with light from the glazed facades on two sides. The furniture is designed using a limited range of

materials (see *Working Detail*, pages 30-31) which are robust enough for heavy use.

The glazed elevations make the interior look like a shop-front – ideal for looking in, and for looking out at passers-by. At night, dramatic theatre lighting reveals enticing layering of the interior spaces beyond.

No wonder there is little room at the inn.

CREDITS

ARCHITECT

Stephenson Bell: project architect – Victoria Hilton, Roger Stephenson, Jeffrey Bell

STRUCTURAL ENGINEER

RoC Consulting

QUANTITY SURVEYOR

Simon Fenton Partnership

MAIN CONTRACTOR; STRUCTURAL WORKS

Excavation & Contracting

MAIN CONTRACTOR; SHOPFITTING

Oakland Interiors

SUPPLIERS

slate Burlington; vinyl floor Altro; external umbrella/heater units Motif; pendant light fittings Böhmer Leuchten (supplied in UK by Tally Ho Lighting); theatre lighting PG Stage Electrical; neon lighting Taylor Electronics; floor sealant Lithofin

The bar counter and the fixed furniture have been designed with a limited range of materials – Jura limestone, Iroko timber and dark blue-grey Westmorland slate. The floor is of 600 x 600mm Jura limestone tiles, 20mm thick, sealed on site with a Lithofin finish to prevent staining.

Four fixed high tables run at one side of the bar; they are arranged in pairs so that an additional Iroko leaf can be laid between them to form a long table for large groups.

The tables have a concealed steel structure of 25 x 25mm SHS; the end supports and the central bracing panel of each table are clad with limestone panels bonded to 21mm WBP ply. The top is formed of 35mm-thick Iroko timber with limestone trims recessed below it to conceal the steelwork. The top is cut back at the short ends to reveal the limestone and to act as a housing for the additional leaf insert.

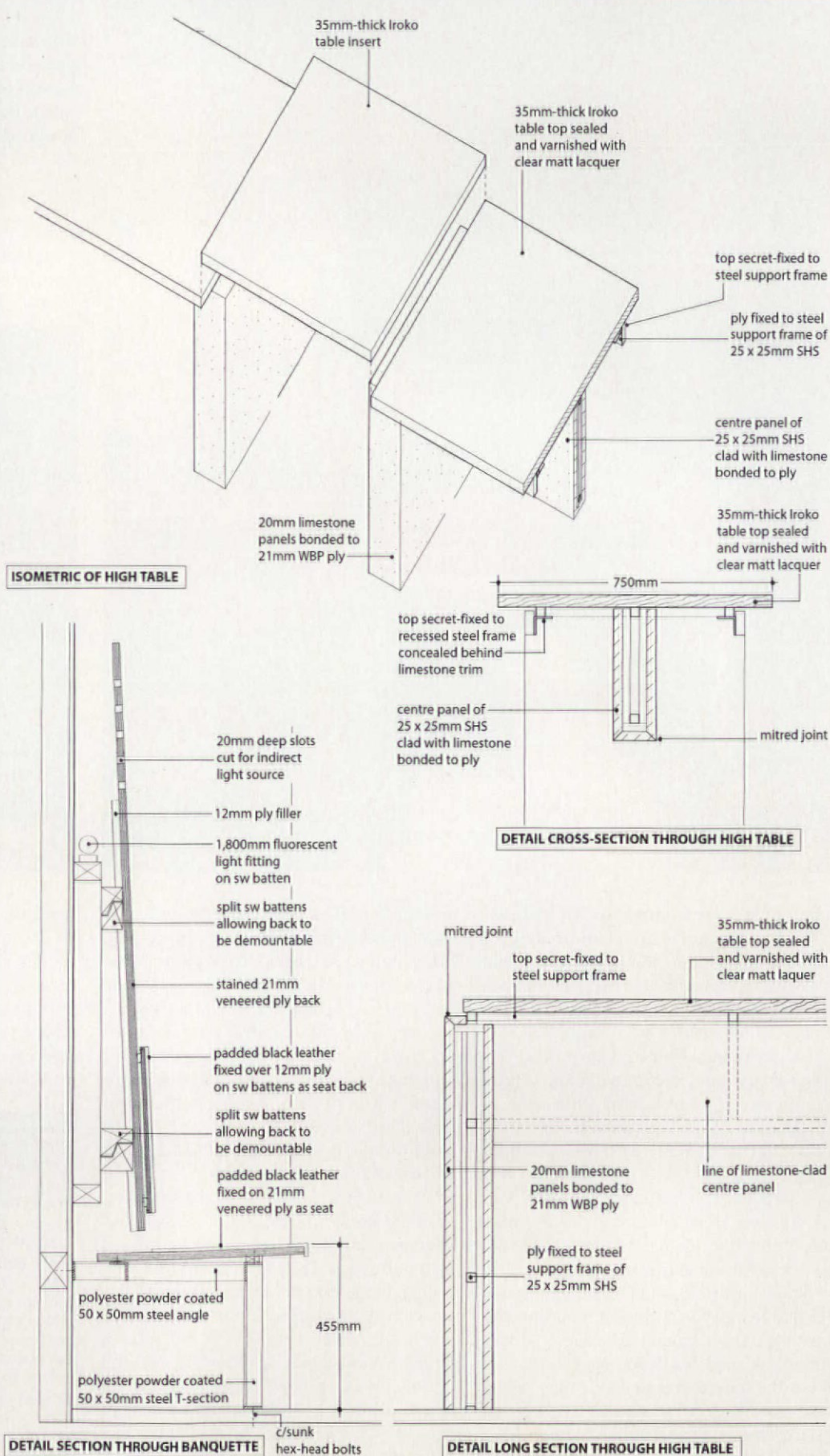
The architect also designed square standard-height movable tables to match the high tables, with 80 x 80mm Iroko tops on square section steel frames.

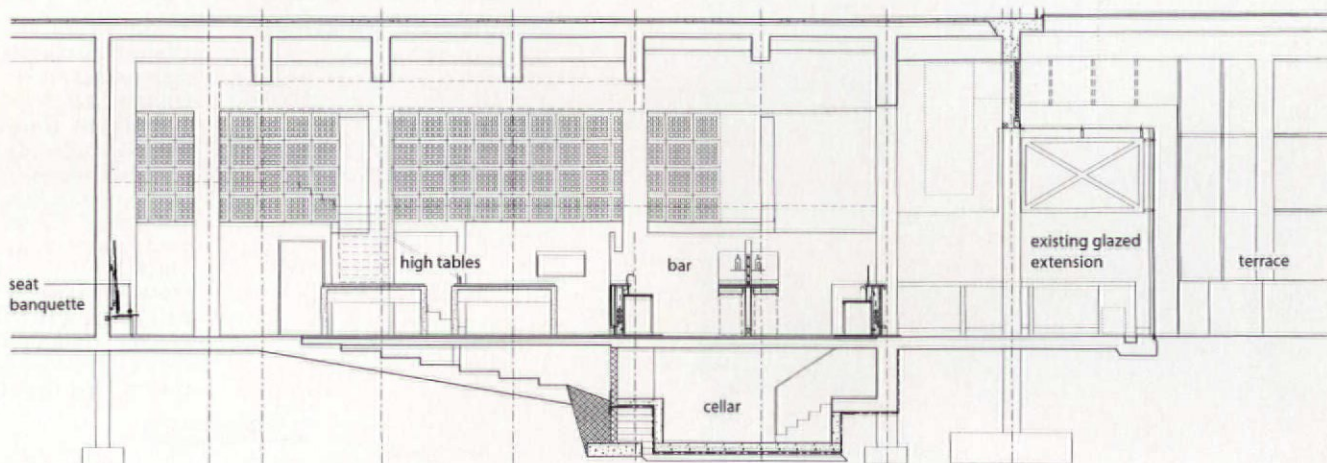
A series of banquette seats runs along the side wall between the original piers. Slots cut into the backs act as screens for concealed lighting. The backs are fixed with split battens to give access to the light fittings for maintenance.

The bar counter is a steel-frame, clad with slate bonded to 18mm WBP ply; the bar fronts are fitted with recessed limestone panels.

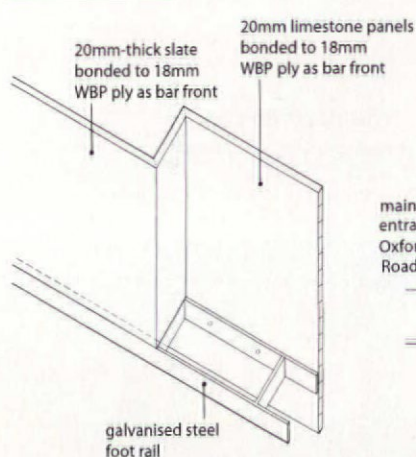
A sub-bar, with a lowered top to accommodate beer engines, has a stainless steel counter with inset ice wells and sinks. 'Pythons' – flexible insulated pipes carrying beer, lager and soft drinks from the cellar – fill the space behind it.

Susan Dawson

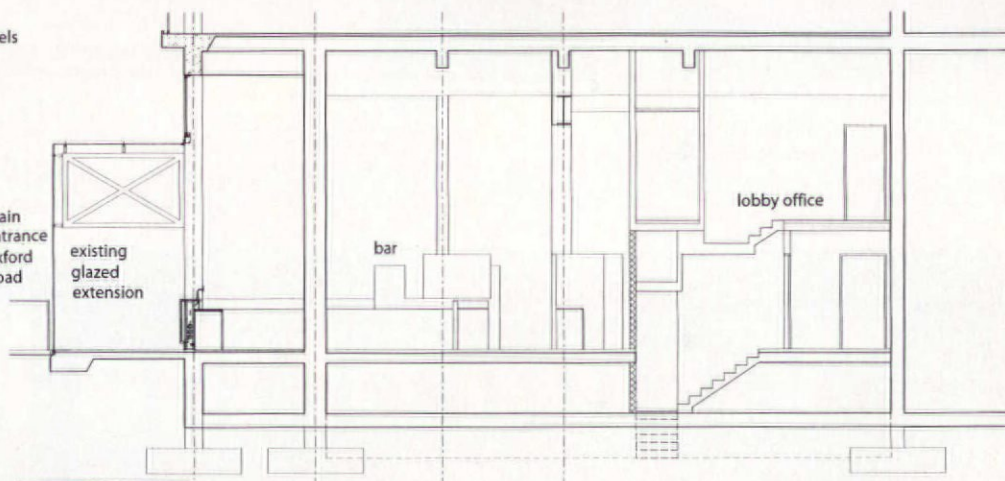




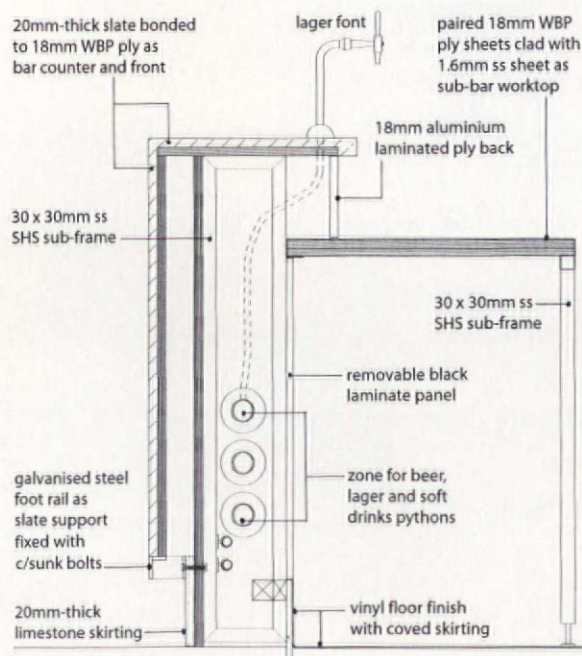
KEY LONG SECTION



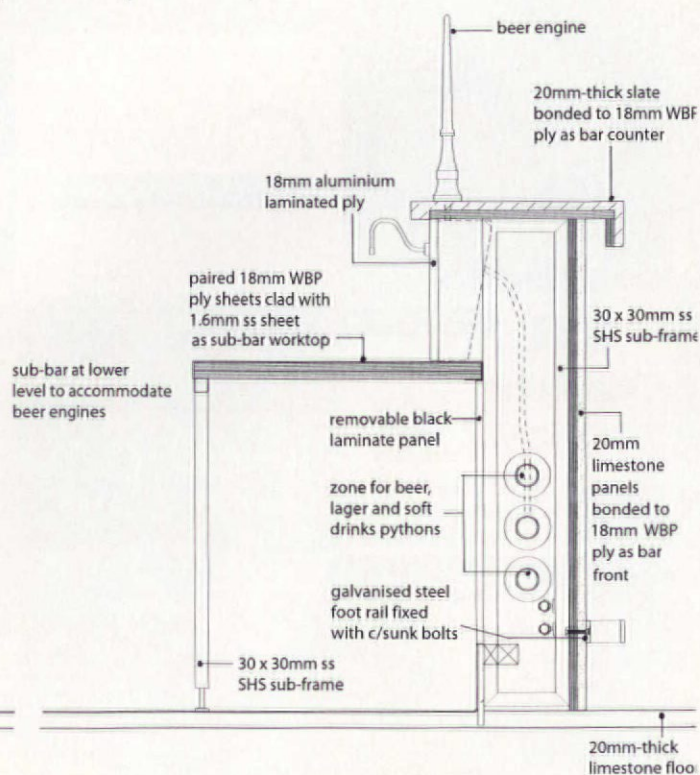
ISOMETRIC DETAIL AT BAR FOOT



KEY CROSS-SECTION

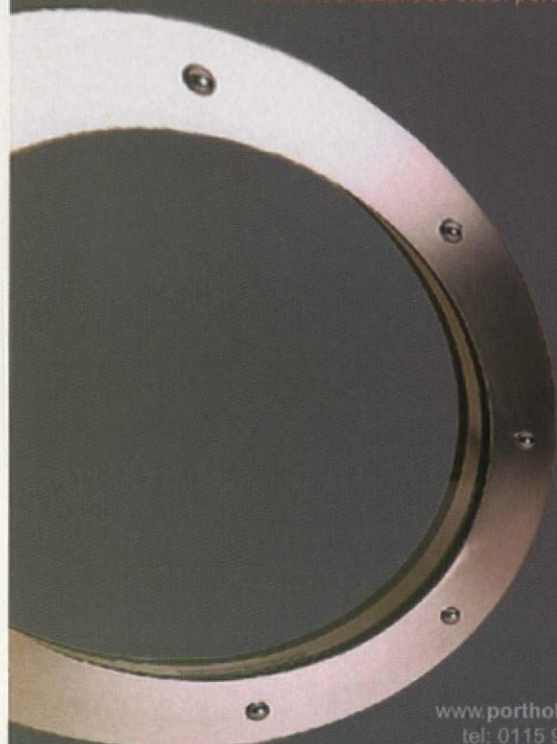


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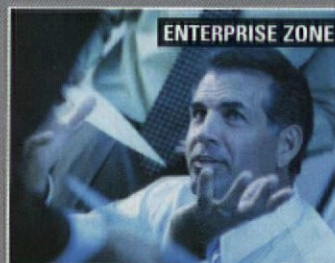
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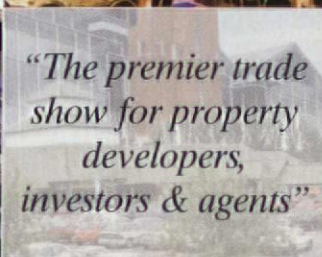
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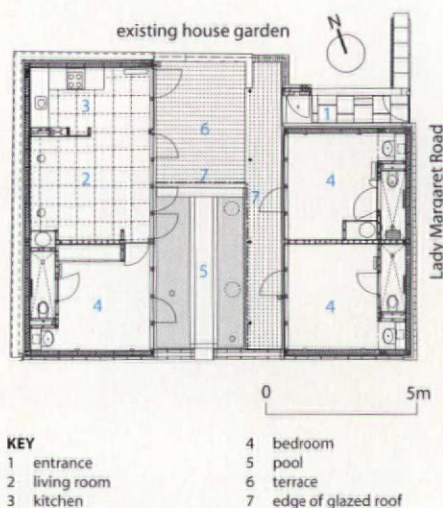
By David Taylor

In September 1990, AJ sister title *The Architectural Review* carried a five-page piece about Richard Burton's house in London's Kentish Town as part of a special issue on 'green architecture'. Now the ABK partner has added a three-bedroomed annex to the arrangement for his daughter, Kate, her partner and son.

The original house lies on Lady Margaret Road, at the end of a terrace and not far from Kentish Town Tube station. Finished in 1987, it is a courtyard house with four structural pavilions, linked by a light, plant-filled conservatory. The house is a series of spaces with quite different atmospheres, formed of varying ceiling designs and glazing in walls and roof, and furnished with sculptures and artworks by artists such as Bill Pye, James Hope, and Stuart Hill.

Burton went on to design a studio, built in 1990, which doubles up as a guesthouse pavilion and balcony, and which is currently home to an impressive model of ABK's Moscow embassy project.

Now, through an agreement with his developer neighbour Eric Reynolds, Burton has found space to build a new addition in the



annex, still further south and down the plot. This 67m², single-storey accommodation is ranged around a central water feature courtyard and garden. The central area is partially glazed and includes decking and an 'outside' eating area which is used surprisingly often.

Interiors are kept simple, with kitchen semi-partitioned from the main living space

and bedroom by furniture and fittings made by Burton's sons Mark and Bim, and a main bedroom beyond with en suite shower room.

Artworks include pieces by Kate Burton's sculptor partner Bernard McGuigan, while light floods in from six special Solatube domed skylights through the flat, plant-covered, lightweight roof. That is all on one wing of the annex, framing the courtyard garden. On the other side is space for Kate's study area and children's bedroom.

As with the original house, low energy is a consideration, with U-values of 0.2W/m²K achieved for the roof, walls, and floor. And the cost of the project came in at less than £150,000. Burton is now attempting to lease some garages nearby from the local council with the intention of building accommodation made from containers for key workers there.

Ultimately, both the annex and these projected new keyworker homes show a commendable skill in squeezing as much use as possible out of small, 'leftover' urban sites.

CREDITS

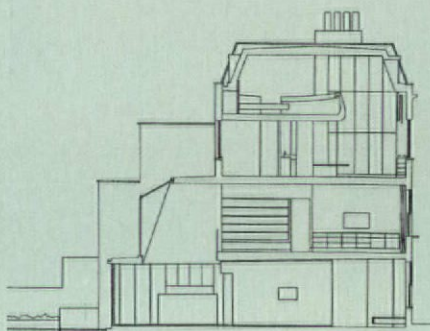
ARCHITECT
Richard Burton: Ahrends
Burton and Koralek
Executive Architect:
Harriet Edgerley
STRUCTURE AND ENVIRONMENT
Arup

CONTRACTOR
GND Construction
SUBCONTRACTORS
Kitchen and joinery Mark
Burton; sculpture
Bernard McGuigan

By Victoria Huttler
Photographs by Hélène Binet

By Victoria Huttler

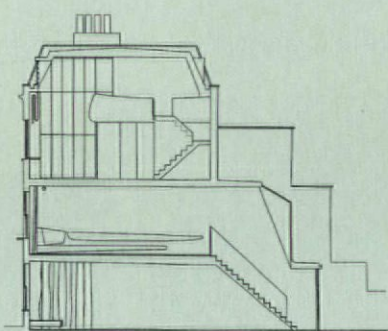
Photographs by Hélène Binet



section aa



A double-height glass extension with new staircase was added at the back of the house to create light, bright public areas on the ground and first floors. The private areas are reached via a separate staircase at the front of the house



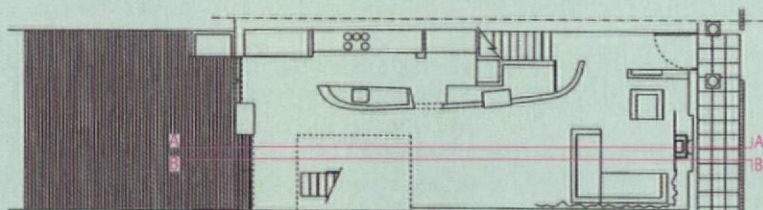
section bb

separate staircases for each area.

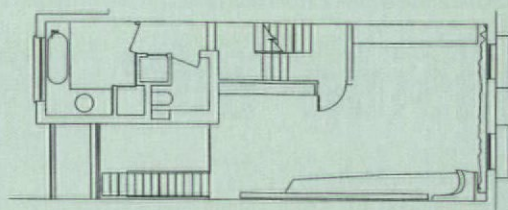
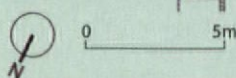
The first, the original staircase, runs from the front of the ground floor up to the private second floor sleeping and dressing areas. It has a half landing at the first floor with a guest bathroom, WC and boiler room off it.

system. Boyarsky Murphy also designed a long bench that runs almost the entire length of the room. Interest and texture have been created by the use of a double-layer metallic fabric drape at the window.

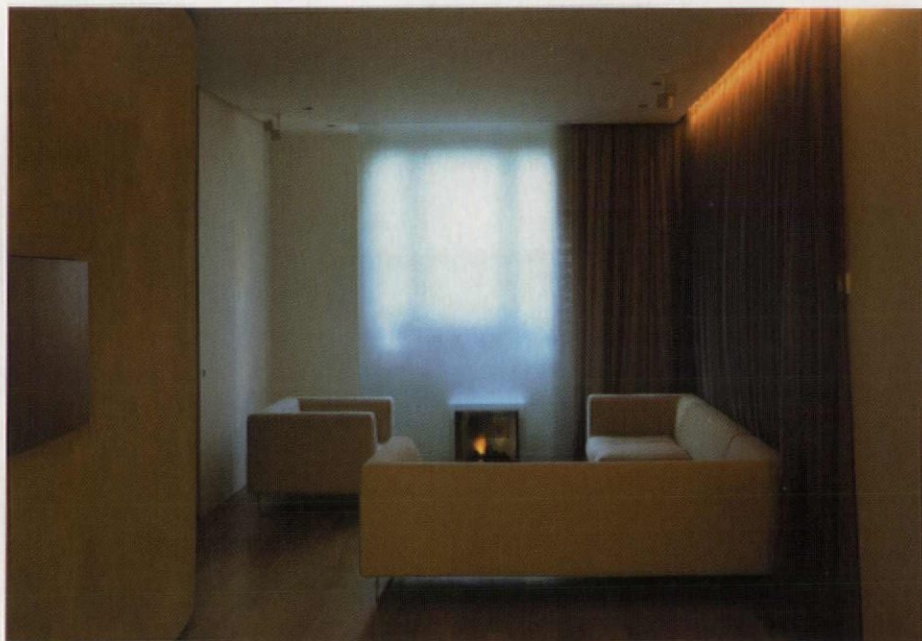
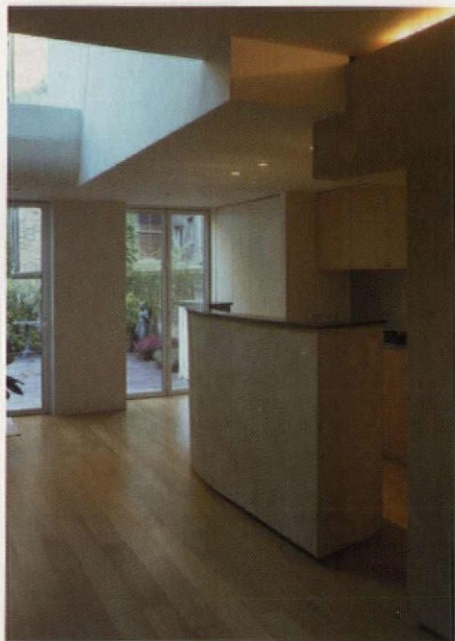
To provide space for the new rear staircase, a double height glass extension was added, with folding glass doors at ground level, leading out to the decked garden area. Blinds can be pulled down to give privacy and shade from the sun. The glass extension fills the



ground floor plan



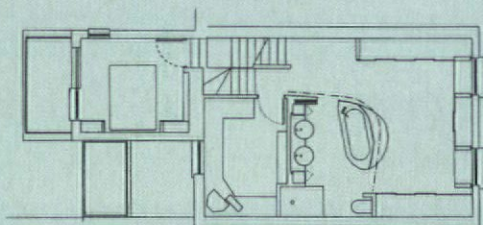
first floor plan



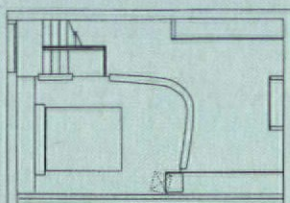


back of the house with daylight and gives a bright, open feel to the main living areas.

The second and third floor volume is private, with the third floor removed to create a double-height space, providing sleeping, washing and dressing areas as well as a small study. For part of the floor area, a platform has been created at the old third floor level as a small, enclosed sleeping pod. It was constructed from a series of plywood fins fixed around the steel-framed platform. The fins



second floor plan



third floor plan

The bed is housed in a sleeping 'pod' at third floor level, while beneath are the bathroom and dressing areas. Storage was a priority for the clients and this has been fully addressed on the second floor

were then covered in concrete and given a waxed plaster finish. The interior of the pod has been carpeted on both the floor and walls with a thick shag pile, creating a luxurious, textured effect. The sides of the pod curl over slightly at the top to conceal hidden lighting, which washes down the inner sides of the pod to give a soft ambient light that emphasises the heavy texture of the carpet. A large natural leather headboard gives a soft contrast in colour and texture.

Storage cupboards and wardrobes line the walls and are stacked vertically to emphasise the height of the room. Nicholas Boyarsky explains: 'We wanted to create a very extreme vertical space which we did by stacking the storage units three high'. The higher cupboards are reached via a ladder that can be rolled around the room on a track.

The area beneath the pod provides a study, accessed through a door to the left of the stairs, and a bathroom. The bath is set

into one large piece of stone that appears to protrude through the bathroom wall and into the dressing room. On that side the stone slab acts as a dressing table with more storage. A guest bedroom has also been added, off the staircase at second floor level.

The main living area is on the ground floor, with three defined areas for cooking, sitting and dining. A translucent glass wall sits in front of the ground floor window to give privacy from the street but still allow in light. 'What's nice about it is that you have a sense of things going on outside the window without them becoming intrusive', explains Nicholas. A gas fire has been installed into the glass wall, creating a focal point for the sitting area, which is further defined by the use of metallic fabric drapes on the wall.

In organisation, the public and private areas are clearly separated. In the treatment of all the spaces we have that rare phenomenon, a successful public-private partnership.

CREDITS

ARCHITECT

Boyarsky Murphy Architects

STRUCTURAL ENGINEER

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McDonnell Langley

QUANTITY SURVEYOR

Stockdale

CONTRACTOR

Rudgard City

TEXTILE ARTIST

Sharon Ting

HIFI CONSULTANT

West One

SUBCONTRACTORS & SUPPLIERS

Harness maker Catrin Coppens; joinery Edgardo Aranovich, Goodingham Brothers; seamstress Debbie Panford; upholstery Eric Blackburn; glazing Preedy, 100 Percent, South London Glazing; sanitaryware

Vola, Grohe, Bette, Starck, Colourwash, Alternative Plans; radiators Hudevad, Thermoboard; mosaic tiles WG Heath; stone Kirkstone, Livra; ironmongery Allgood D-line, Haele, Charles Collinge, Coburn; kitchen fittings AEG, Smeg, Neff, Miele; lighting SKK, Lightgrafix, Kreon, Concord, Genesis, Erco; rubber flooring Dalsouple; oak stair treads JSM Joinery; quarter-sawn oak flooring FSB; blinds Design Studio, Stark Carpets; security ADT; sliding-folding doors MS; furniture Viaduct; fireplace JJ Fireplaces; metal fabricator Welding & Erection Services (Cliff Riley)

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Lawrence Webster Forrest

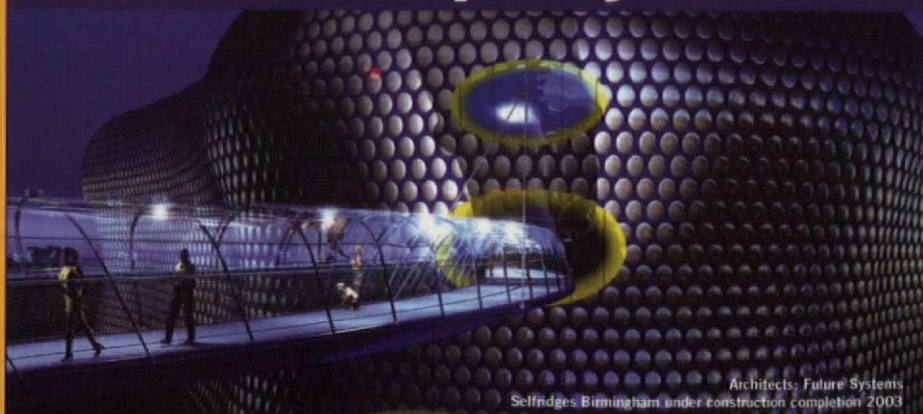
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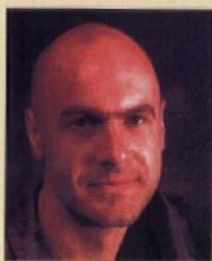
Winter 2002



MetalWorks

Sports buildings





It was Oscar Wilde who said: 'Whenever I get the urge to take exercise I lie down until the feeling passes'. This used to be my attitude to sporting life. The cross-country run-

ning course was a particular example of the maxim 'A bit of cold water never hurt anyone', and the main object of the gym equipment seemed to be to extract a retraction from a particularly recalcitrant heretic.

That sport has evolved from punishment into entertainment over a relatively short period is a myth. The environments designed for the enjoyment of sport have undoubtedly changed, 'The Stadium of Light' and 'The Theatre of Dreams', Sunderland's and Manchester United's characteristically modest venue titles, imply that we are to be enlightened as well as played to. The players of almost every popular sport are venerated and showered with gifts, but this has always been the case, or at least models of the same sort of behaviour can be found from the earliest times.

Easily the most famous built example of the veneration of sport and sporting heroes would have to be the Colosseum in Rome, where a successful gladiator could enjoy the sort of attention usually reserved for Irish boy bands today. Before being skewered, or eaten, or both.

While our ancestors were still booting an inflated pig's bladder across a field, others had recognised the ability of sport to turn a disparate public into supporters rather than tribes, and therefore control public opinion. This required a type of building that underlined the importance of sport and maximised the effects of crowd psychology. Sport is a substitute for conflict, and the buildings that contain competitive activity are about sorting winners from losers. Otherwise 'sport' loses its edge. It is not accidental that most sport is dualistic in both meanings of the word; two players, two teams, two sides. Two ends of the pitch, two corners of the ring, and the sports building reflects that duality while ensuring the best viewing angles to boot.

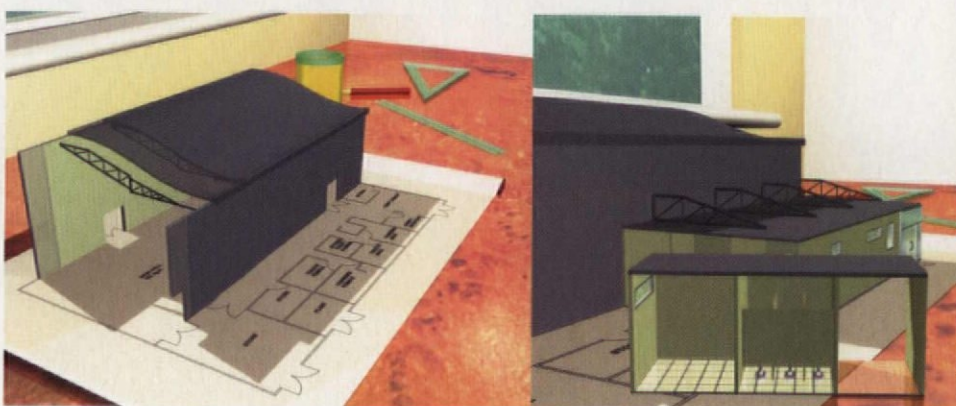
Having said that, the point of this issue is to highlight some of the innovation in sporting buildings with an underlying theme of temporary or to some degree prefabricated buildings and spaces, which in turn reflects a more egalitarian and enlightened attitude to sport.

Matthew Teague

Cover shows Tattersalls Grandstand at Newbury Racecourse.

Photograph by Nigel Young

MetalWorks Technical



Sporting solutions

Recent work by Corus has involved the development of a pre-engineered system to enclose and equip a multi-sports facility

BY MATTHEW TEAGUE

Specialist venues for specific sports are not new. Since the earliest civilisations, certain activities have been codified by the enclosures in which they happened. As more sports are incorporated into the national repertoire, so the buildings, structures and 'areas' in which they happen become either more specialist or more general in their nature. You cannot, for instance, hold a 4x100m relay race for sprinters in a swimming pool, any more than you can race bicycles on a running track or ride horses on a half-pipe.

All this is fine as long as the activity contained within the building remains the same, or is related to a number of sports using similar equipment; for instance tennis and badminton. Problems occur when multi-sport venues are attempted, because they almost without exception produce a compromise between the quality of the experience and the quality of the actual sporting facilities.

Recent work by Corus has concentrated on the development of a pre-engineered system that can provide the means to enclose and equip (in terms of the building componentry) a multi-sports facility of varying sizes. This would go from just one badminton court – the suggested provision for facilities linked to schools* – to four badminton courts plus other sports, which is the usual model for which Lottery funding is sought.

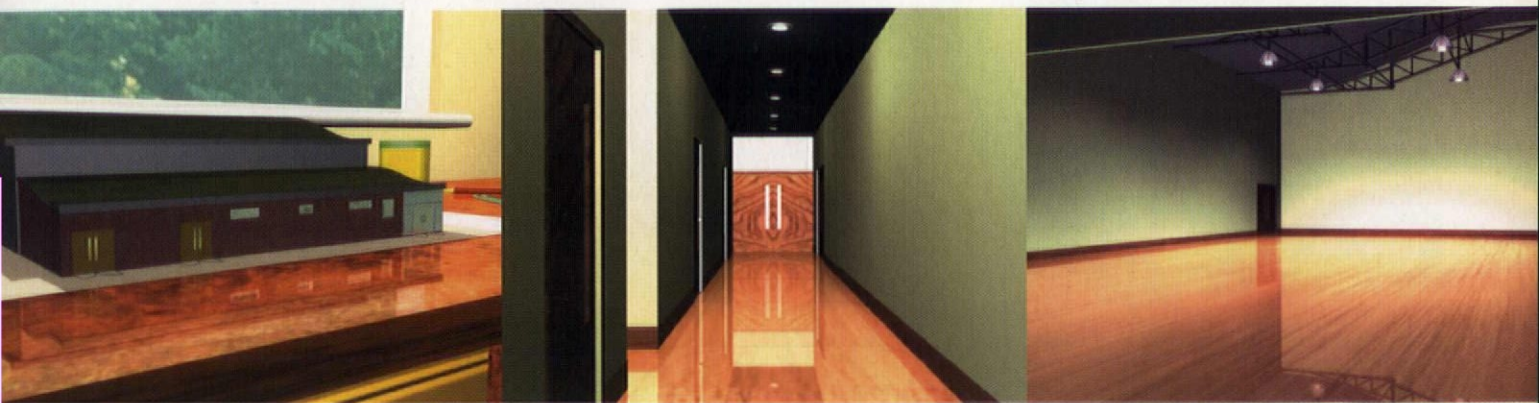
The challenge is a common one, especially where the facility is attached to a school building and has dual school and community use. The building has to provide a combination of functions that may at first

inspection appear to be mutually exclusive. The school building is a typical example, where a social club for elderly members of the community might be taking place at the same time as examinations or a gym class next door. Fitting the needs of a disparate cross-section of a community to a standardised system for building further complicates planning because the optimal positioning for the system (ie spaces with long straight sides and minimal changes in level are easy to detail) is not always optimal for the activities that are planned to take place inside.

The first problem with any standard system is that it relies on a number of prerequisites, which when designing on a blank sheet of paper appear perfectly reasonable, but rarely reflect the actual conditions on a site. An example of this might be the tolerance of the foundations (pads and slabs) upon which the frame is to bear. Prefabricated frames have an unusually strict tolerance, typically +0, -3mm. A concrete slab, on the other hand, can vary by as much as 10 times that amount. This has necessitated two complementary approaches to the operations on site.

First, there is an inbuilt one-week inspection period built into the programme (this is possible because of the saving in overall programme that adopting off-site fabrication brings). Second, the frames can be supported on secondary ground-bearing steelwork, which can be produced at a similar tolerance to the frames. The substrate for most sports floors is assumed to be of concrete** and an oversite slab is prepared to the required size.

A third option, and one that has particu-



lar relevance to offices and, more recently, the domestic market, but could also have applications in sports and leisure facilities, would be to use a flooring system based on a metal deck. The advantage here is that the edge beam, forming the containment for the concrete as well as structural edge support, can be levelled prior to filling with concrete. The long spans would necessitate additional dwarf walls under the floor (typically at approximately 6m centres).

Nature of the beast

The second problem with a system is that in order to enable a cost-effective solution, the number of interfaces and junctions should either be kept to a minimum, or should be as standard as possible, preferably both. This does not make for interesting plan forms or bode well when choosing cladding materials. But for once the nature of the beast is in our favour. Most sports have evolved so that they take place within strictly defined limits. This is most commonly the pitch or court and, presumably because it is usually easier to make a corner than a curve, these tend to be rectilinear in plan. The largest indoor-sports pitch tends to be for basketball, but the largest floor area is devoted to badminton. This gives a main enclosure of approximately 35m x 20m. Overall height should be 9-10m. This makes the main space a pretty good candidate for one of the most cost-effective steel structures, a portal frame.

These structures have the considerable advantage of being totally understood by all members of the supply chain, having a huge range of internal and external finishes available both as traditionally fixed items (such as brickwork) or more sophisticated alternatives, including several brick-slip systems. The basis of the Corus approach has been to adopt as many exterior finishes as possible, including a large selection from the Corus product range. The simplicity of a portal frame ensures that there are pre-

existing solutions to most of the detailing situations encountered on the envelope, not to mention a good infrastructure of suppliers and installers countrywide.

Happy coincidence

The third problem is posed by the ancillary spaces – reception, changing rooms, fitness suites etc. By happy coincidence, the main hall at 35m, will fit (with a 1m tweak) 10 3.6m volumetric units along its length, 3.6m being the maximum width transportable by road without a police escort. Lengths of more than 12m are not uncommonly transported, giving a significant portion of the building which can be supplied pre-finished, literally 'off the back of a lorry'. The modules simply butt up against the portal frame, giving a fairly deep wall section (the space between the inside finish of the volumetric unit and the inside finish of the main space might typically be 400mm) into which storage and lockers can be incorporated.

It is possible to seat the portal frame so that one side is supported by the end of the volumetric units, but this requires the finished units to be on site while the frame is erected, and does not exploit the benefits of this method of construction fully. The material and labour saved by adopting what at first appears to be the best use of space are more than offset by the possibility of damage occurring to the volumetric portion of the building during the building of the frame.

The fear that many designers have is that standardisation makes for boring and predictable buildings. This is of course true only if designers persist in using systems in boring and predictable ways. The rationale behind simplifying the frame behind the facade ought to allow more opportunity for expression, not less.

Stripping down

This points out an important consideration when designing a system for manufacture.

The modular system is intended to provide the wide range of facilities that are needed both in and out of school hours

Namely, often the most architectural solution is not the easiest to manufacture and the challenge actually lies in stripping down the requirements of the system to its basic parts in order to reintroduce a design aesthetic. This naturally tends towards the utility end of the design spectrum, but is no worse for that.

However, look at it this way; we are constantly being told to regard design as a 'holistic' process. Most of the Egan agenda is summed up by that rather glib phrase, as well as a good few of the aspirations of the green lobby. What this approach actually suggests is that there is an appropriate level of design above which there is no 'added value' and, if a standard design satisfies 90 per cent of applications, then the standard design has a value in terms of decreased effort.

This is what Corus has done and the resultant streamlining of the building programme, which is possible with such an approach, typically halves the time on site for the 'average' 1,500m² facility. However the plan form, the simplicity of the componentry and the relative flexibility of the ancillary spaces offered by adopting a modular approach mean that the multi-sport facility could just as easily be sport-specific.

It is possible to imagine, for instance, that the development of the standard product for specific sports would involve specialisation in floor performance, lighting and ventilation. The material size and shape of the container need not necessarily change by much.

Judging by the recent Ashes performance, my vote is for a few hundred more cricket academies.

**Designing Space for Sport and Art. DfEE Publications 2000*

***Floors for Indoor Sports, Sport England ref: 877*

MetalWorks Sports buildings



A stand of two halves

Careful planning of Chelsea FC's West Stand, now in its second design stage, has enabled AFL to create an extra 750 seats

BY SUSAN DAWSON. PHOTOGRAPHS BY RICHARD BRYANT/ARCAID

In 1905, when the first fans passed through the gates of Chelsea Football Club's Stamford Bridge ground, the only shelter was a single covered stand on the east side of the pitch. The other three sides were terraces, open to the weather and formed of banked earth – conveniently provided by excavation of the Underground's District Line. Stands were built and improved over the years, but an attempt in the 1970s to develop the ground into a 50,000 all-seater stadium ended in disaster – rising debts forced the club to sell the ground to developers. After some anguished years, it was finally bought back in 1992.

The Stamford Bridge site on Fulham Road has now been transformed into the largest league ground in London, with covered stands on all four sides of the pitch, seating 42,450 fans. Three stands have been rebuilt in the past five years, with the last of

these, the West Stand, now completed.

The West Stand was built in two phases: the concept and first phase – the lowest tier and ground-floor concourse – was designed by KSS Architects; detailed design of the second phase – three upper tiers, executive and conference suites and the roof – was won by Atherden Fuller Leng (AFL) in competitive interview. 'We won the job,' explains architect John Roberts, 'because we found that we could, with careful planning, get more than 750 extra seats in without compromising comfort or increasing the plan or overall building height.' (Like many other traditional football grounds, Stamford Bridge is hemmed in by adjacent buildings, which severely restricted the size and height of the new stand). Whitby Bird & Partners was the structural engineer for both phases.

Stand design is determined by spectators'



need for a good view of the whole pitch over the head of the person immediately in front. The sectional shape of the second phase was determined by the rake of the upper tier, with 23 rows of seats, and the need to slot in three levels of executive seating between the upper and lower tiers.

The tiers rest on a cast in situ frame six levels high, which accommodates concourses, WCs, lifts, staircases and circulation areas. A row of executive boxes with glazed fronts and outdoor seating – eight people per box – runs at the back of the lowest tier with two lounges at the rear. Projecting above it, in an 11.5m cantilever, is the prime viewing area, eight-seats deep and projecting where club directors sit. The chairman's lounge and two VIP suites are at the rear, together with two lounges for 300 people on each side.

A third level, two-seats deep and projecting in an 8.2m cantilever over the directors' seating, is linked to the Millennium Suite, a series of 24-person self-contained suites. They are available for daily use as individual offices and are designed to ensure that the club maintains an income whether or not matches are being played. The suites, which have fully glazed openings facing the pitch, contain conference and dining facilities

The second phase manages to fit in an upper tier with 23 rows of seats, plus three executive levels between the upper and lower tiers

including kitchens and WCs, and are backed up by additional clubrooms at the rear. The upper tier is the largest and most dominant element when seen from the pitch – it rises at the rear to just below the back edge of the roof, a gently arched steel canopy of steel cellular beams supported by a pyramid mast structure (see *Working Detail*, pages 6 and 7).

The new stand gives fans comfortable seats, shelter and a clear view – something to celebrate in addition to scoring goals.

CREDITS

ARCHITECT
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(AFL)

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STRUCTURAL ENGINEER

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Ben Rowe

PROJECT MANAGEMENT

MPM Capita

MAIN CONTRACTOR
Multiplex Constructors

SUPPLIERS

steelwork Westbury
Tubular Structures;
roof covering Lexan
polycarbonate,
Plannja profiled steel
sheet

Ben Rowe of Whitby Bird & Partners describes the design of the two cantilevered tiers...

Two executive tiers cantilever forward from the main reinforced concrete frame by 11.5m and 8.2m respectively. The cantilever forces generated from these tiers were of such magnitude that anchorage to the slab edge, and the control of the deflections and dynamic behaviour, could not be achieved within the structural zones at each level. To accommodate the forces, steel bracing was introduced within the walls between the Millennium suites to create deep trusses, and fabricated steel elements were cast integrally into the reinforced concrete frame to ensure the safe transfer of loads between the steel-framed cantilever tiers and the main in situ concrete frame.

The trusses allow the cantilever tiers to pivot on the front edge of the reinforced-concrete frame, with post-tensioned cables anchored down to the lower transfer beams where sufficient loads exist to avoid uplift. A movement joint was introduced to isolate the braced bays from the upper-floor diaphragm. This prevents the cantilever forces being attracted to the vertical cores and having an unnecessary impact on wall and foundation sizes.

Just before the second phase came on site, we were asked to investigate whether four of the structural columns could be removed to improve the flexibility of the conference rooms. This was a challenge – these particular columns incorporated the post-tensioned cables. Without the option of anchoring the tiers down, the only way was up! The braced bays were therefore allowed to thrust upwards against the upper-tier framing which was strengthened to cope with the 14m span created by removing the columns. Additional members to strengthen the upper-tier framing could be incorporated without affecting the original use or floor layout.

Isolation of the braced bays from the rear cores was maintained with the introduction of sliding bearings between the middle-tier braced bays and the trussed framing of the upper tier.

MetalWorks Sports buildings

A steel canopy roof supported by a pyramid mast structure

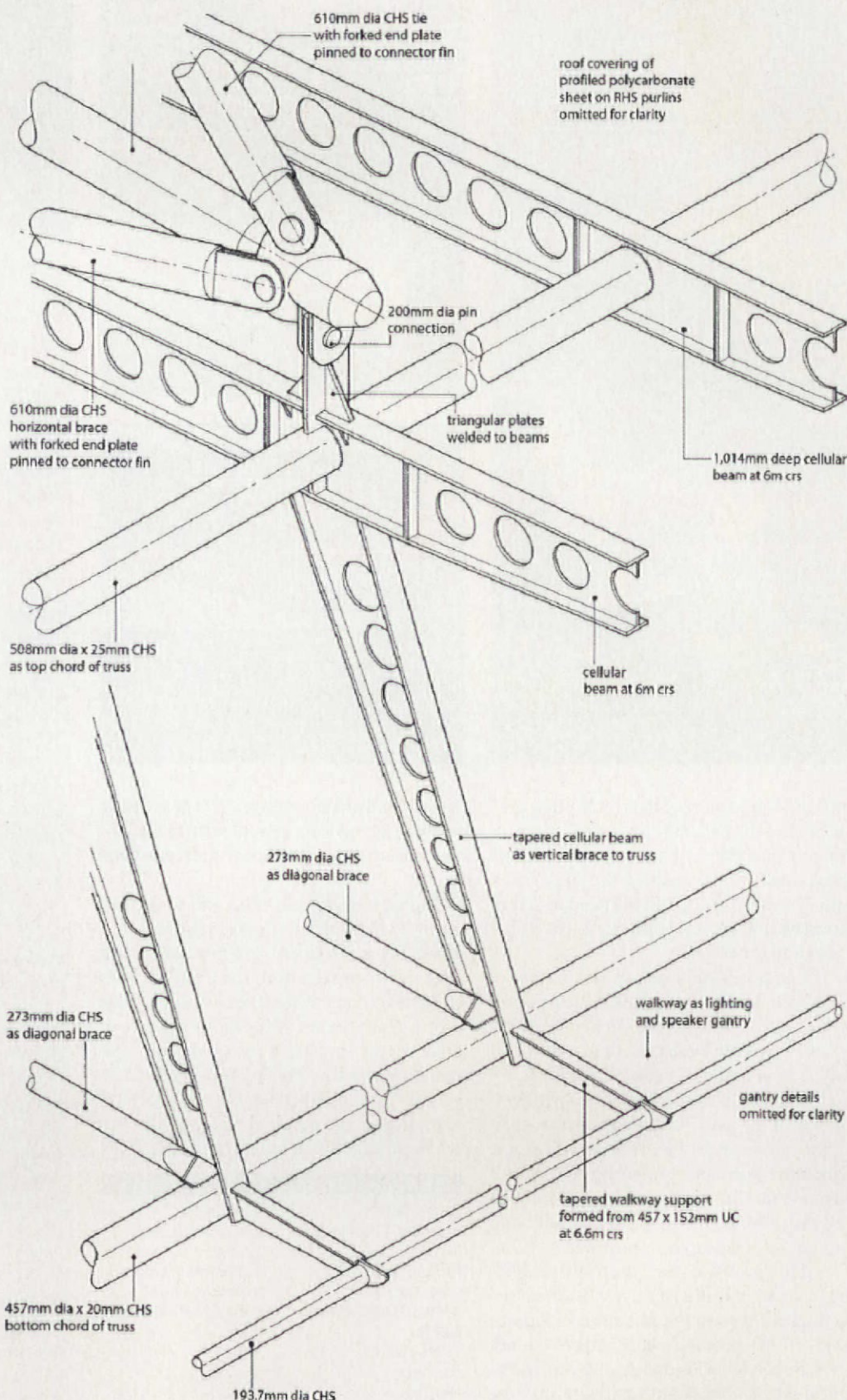
The roof is a gently arched canopy of steel cellular beams supported by a pyramid mast structure that spans 104m to shelter the stand.

It is covered with profiled steel sheet at the rear, and with profiled polycarbonate sheet at the front to ensure that high levels of light are transmitted through it to promote healthy grass growth on the pitch. The sheeting is supported by rectangular steel purlins 2.8m apart. These are supported in turn by 1,014mm-deep cellular beams at 6m centres. The beams are propped at the rear of the stand, and span over an inclined truss to cantilever 15m beyond it to the edge.

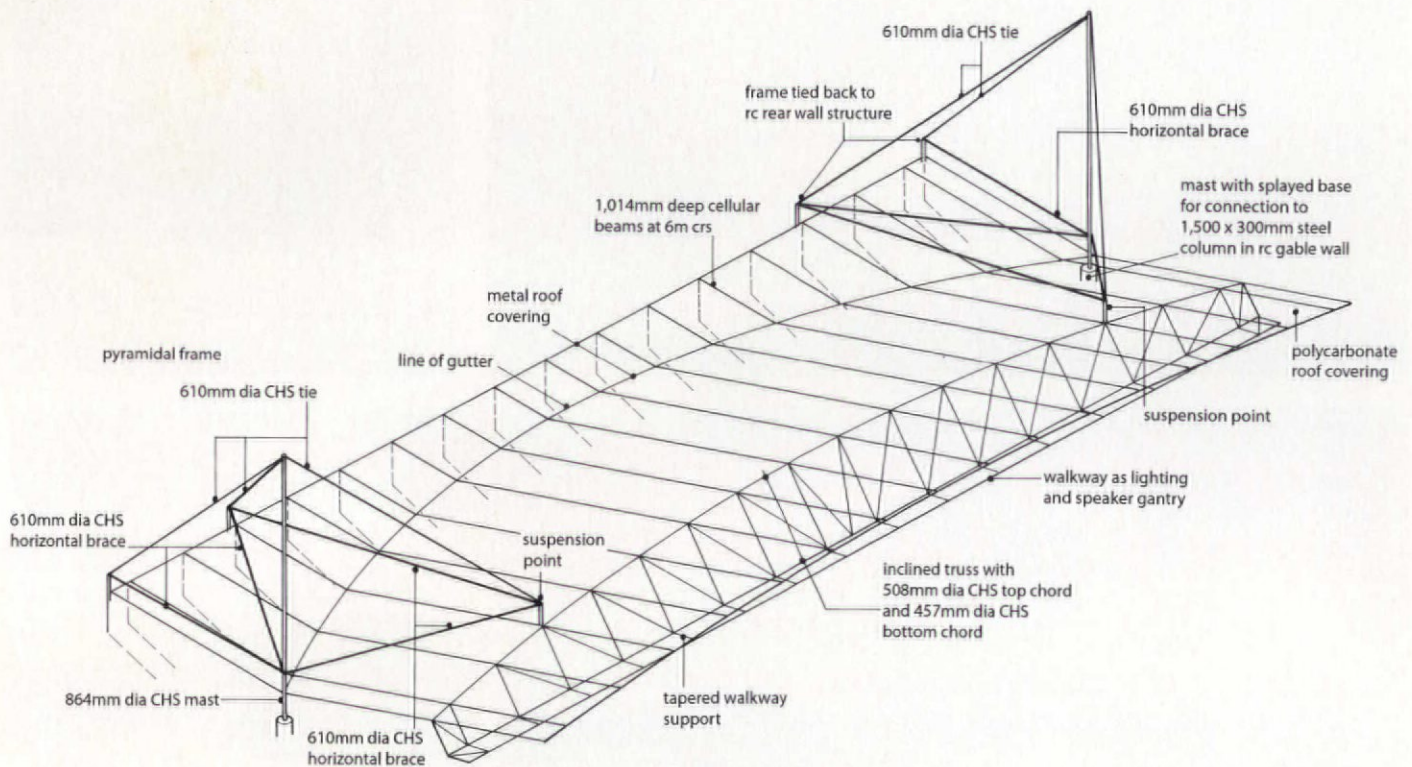
The inclined truss runs the length of the stand, with a central span of 72m and cantilevers of 16m at each side. The top chord of the truss follows the curved profile of the roof while the bottom chord is straight, so that the truss depth varies across the length of the roof.

A walkway gantry for lighting and speakers cantilevers from the bottom chord of the main truss. Vertical truss members are rigidly connected to the cellular beams to carry the gantry and the end cantilevers.

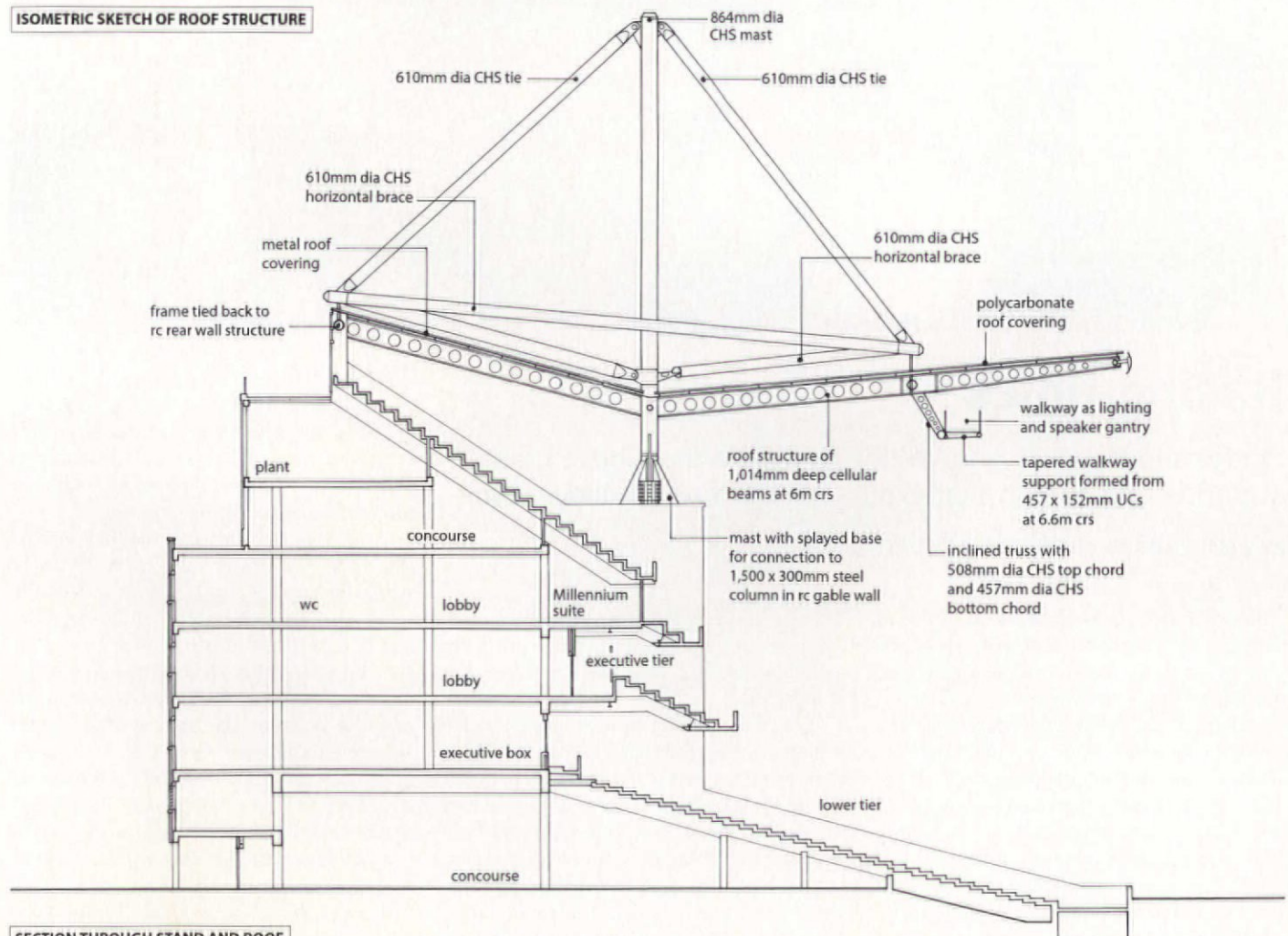
The truss is supported at two pinned suspension points, 72m apart, by 'pyramid' structures, each an asymmetric 'A-frame' of three 610mm-diameter CHS supports. Two of the supports transmit large compression forces, while the third, at the rear corner of the roof, transmits a large tension force. Each pyramid structure is supported by an 864mm-diameter CHS mast at the gable; the mast has a splayed base for connection to a 1,500 x 300mm steel column in the reinforced-concrete gable wall.



CUT-AWAY ISOMETRIC OF ROOF STRUCTURE

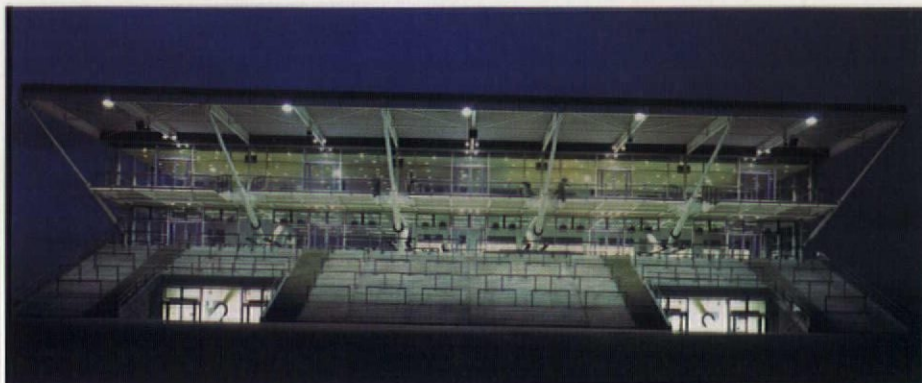


ISOMETRIC SKETCH OF ROOF STRUCTURE



SECTION THROUGH STAND AND ROOF

MetalWorks Sports buildings



Racing times

Foster and Partners and Whitby Bird & Partners have created a grandstand design that avoids the obvious cantilever roof

BY SUSAN DAWSON. PHOTOGRAPHS BY NIGEL YOUNG

The new Tattersalls Grandstand at Newbury Racecourse, Berkshire, demonstrates that a simple cantilever roof is not the only way of sheltering large numbers of viewers – whether of racehorses or football. The building is formed of six huge steel X-frames, 12m apart. The top legs support the roof – rather like the legs of an ironing board – while the lower legs enclose a large betting hall on the ground floor and follow the line of the ‘steppings’ – the stepped terraces on which spectators stand to watch the races. They have open corridors between them

that give access to the betting hall.

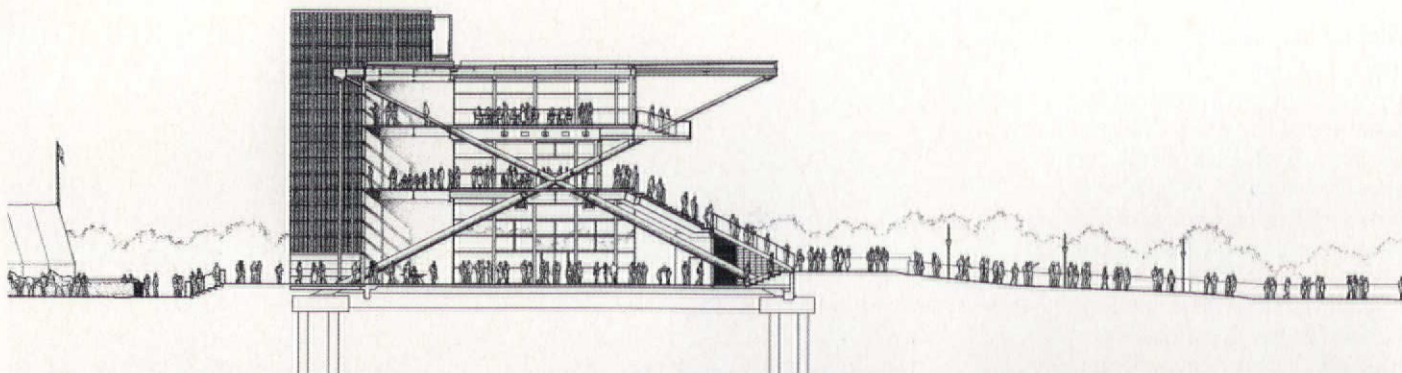
The steppings rise to a bar, with fully glazed walls that run the length of the grandstand.

The floor above houses a 600-seater restaurant, also fully glazed for racecourse views, with projecting balconies set between the upper legs of the X-frames. The rear of the grandstand, a conventional steel-frame structure set within the X-frame legs, is four-storeys high and accommodates staircases, WCs, plant and services. The new grandstand is designed primarily for racing but,

like other new sports buildings, the restaurant and bar have been designed so that they are suitable for receptions, banquets, exhibitions and conferences, and are available to generate revenue throughout the year, not just on the days of racing fixtures.

Steel was the obvious material for the structure. The simple logic of the X-frame structure ensured value for money – the whole project cost only £9 million. Steel's ability to be prefabricated ensured fast construction – the client had stipulated that the old stand be demolished and the new one be in place between the dates of the annual November Hennessy Gold Cup race meetings. With less than a year allowed for construction of the grandstand, the design made the most of off-site fabrication so that it could be delivered to site as a ‘kit-of-parts’, ready to be assembled.

Charlie Benson of engineer Whitby Bird & Partners explains the advantages of the

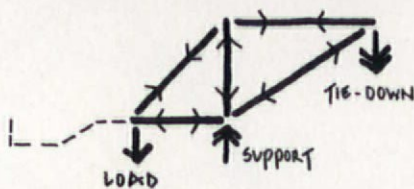


The X-frame provides structural stability that can cope with both the static loads and the dynamic loads when racegoers move about. It was modelled using Xsteel software

design: 'Structural stability is inherent in the plane of the X-frames, although the layout created significant "out-of-balance" forces which had to be stabilised'.

These forces, which include the load created by the large balconies cantilevering from the front edge of the restaurant floor, would tend to cause the upper sections of the X-frames to pivot forward at the node crossing. To prevent this, an exposed vertical tie was fixed between the rear upper and lower tip of each X-frame leg, and connected to an adjacent column at the rear of the restaurant support beam.

Unlike football fans, racegoers move around between races. This imposes unusual dynamic loads on what is essentially a lightweight structure. Due to the angle of the raking legs, the X-frames do not behave like simple columns but combine vertical deformation with sway. A finite-element analysis showed that, even with a restaurant



full of spectators jumping up and down in unison, there was no risk of excessive movement.

The structure was modelled using XSteel software, a package that forms a three-dimensional model of the steel structural members from the earliest stages of a project. The model was passed to Watson Steel, which won the contract to fabricate and erect the steelwork, and was used to provide all workshop drawings. An electronic format of the model was also issued with the tender documents, so that an exact schedule of components could be extracted from it. This removed the need for a detailed Bill of

Quantities and shortened the tender period.

The front and side walls of the grandstand, giving important views of the racecourse, are largely glazed. The four-storey structure at the rear is clad with grey profiled metal sheeting – the 'crinkly tin' familiar on industrial estates, but here enhanced by an overlay of stainless steel mesh. The two materials combine to produce a material of classic quality with a matt finish so that horses are not dazzled by reflections as they race towards the winning post.

CREDITS

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MetalWorks Sports buildings

A steel X-frame structure

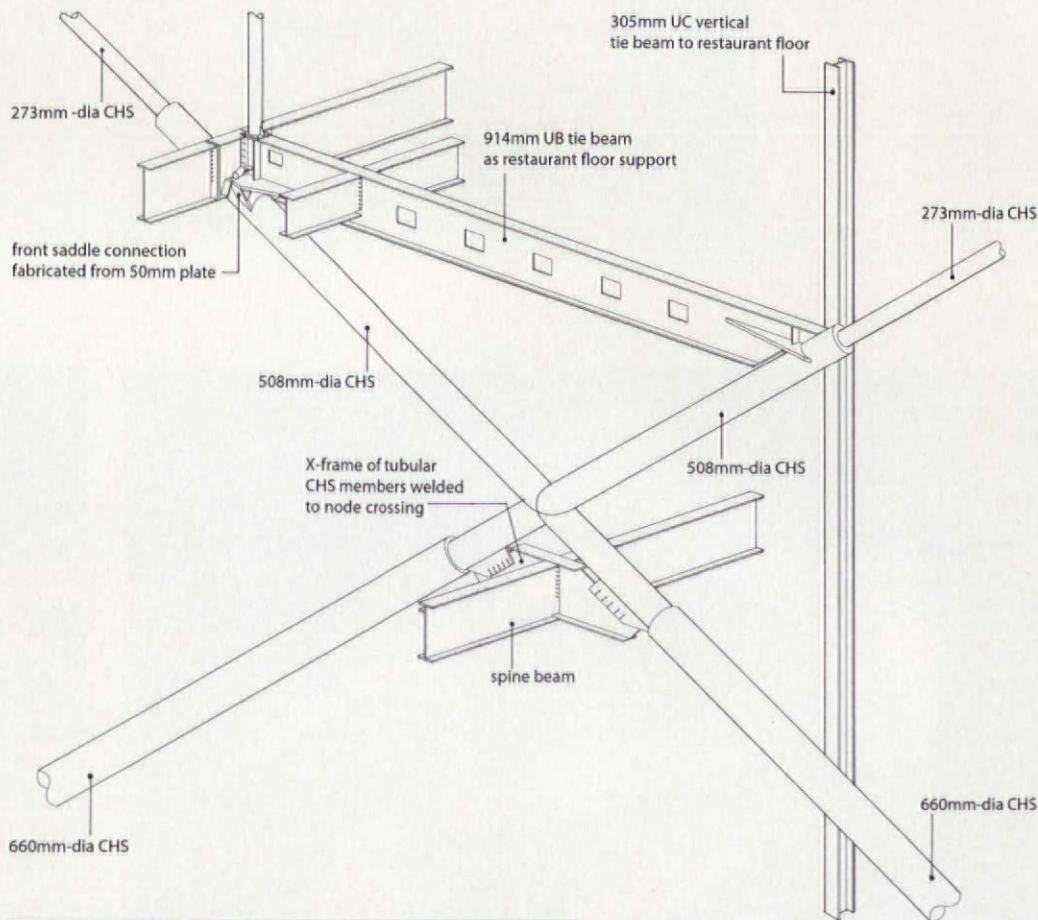
The new grandstand has a structure of six exposed X-frames set 12m apart. The legs are formed of CHS members, chosen for their capacity to accommodate high compressive loads. The node crossings were prefabricated in the factory and brought to site, where the legs were welded to them. The lower legs are formed of 660mm diameter CHSs; the upper legs are formed of 508mm diameter CHSs from the node crossing to the balconies, and of 275mm diameter CHSs from the balconies to the tips.

At foundation level, the ends of opposing legs span 18m; they are set in precast shoes and tied together with a 356 x 406mm UC which is cast into the ground-floor slab so that only vertical and lateral wind loads are transferred to the piled foundations.

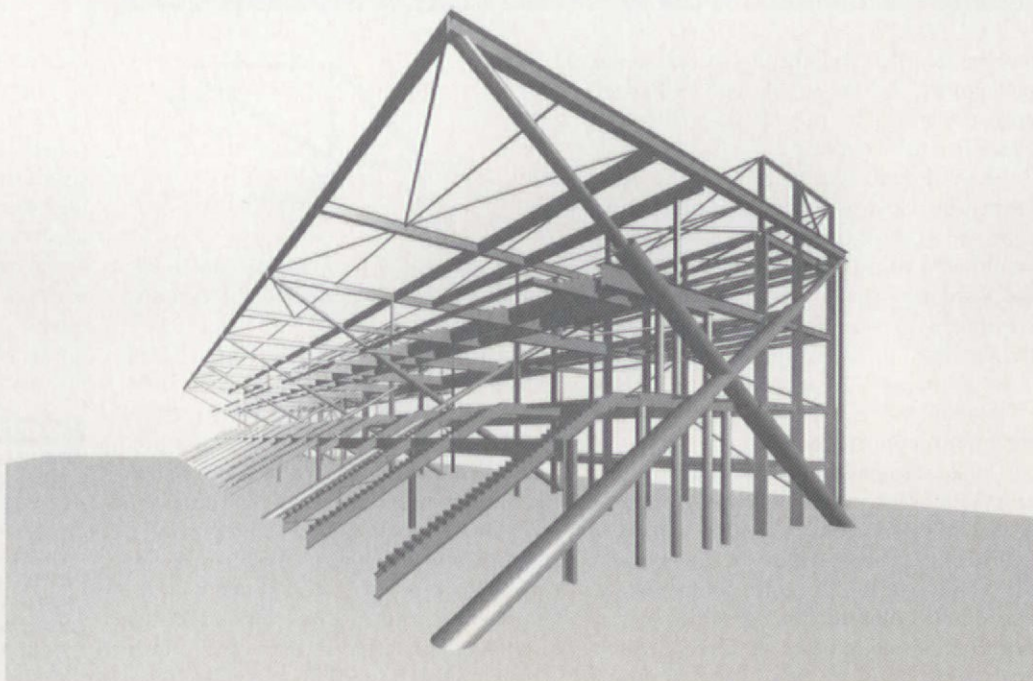
The six lower members of the X-frame enclose the main betting hall. The floor of the bar above rests on a central steel spine beam fixed just below the node crossings of the X-frames. The stepped beams that support the steppings are fixed to the spine beam.

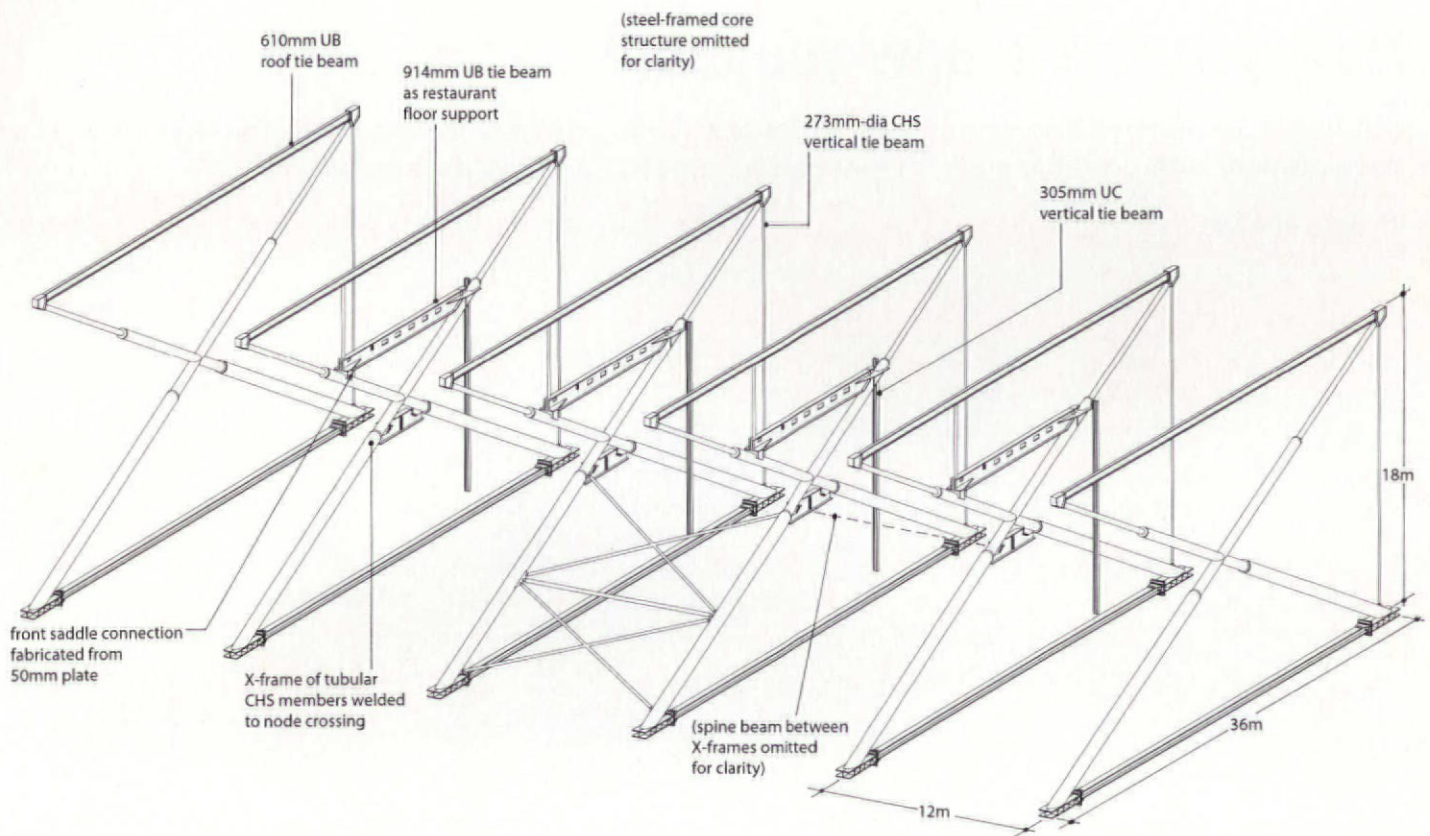
The restaurant floor rests on fabricated steel beams fixed between the upper legs of the X-frames. The beams are connected to them by saddle-plates; each end is also bolted to a vertical column that prevents the tendency of the upper section of the X-frame to pivot at the node crossing. Bar and restaurant floors are constructed of precast concrete planks with structural topping, which reduced the need for secondary steelwork and shortened the construction programme.

The diagonal framework of the roof structure acts as a diaphragm and ties the top ends of the X-frames together to prevent sway. It supports a profiled metal deck covered with a single-ply membrane.

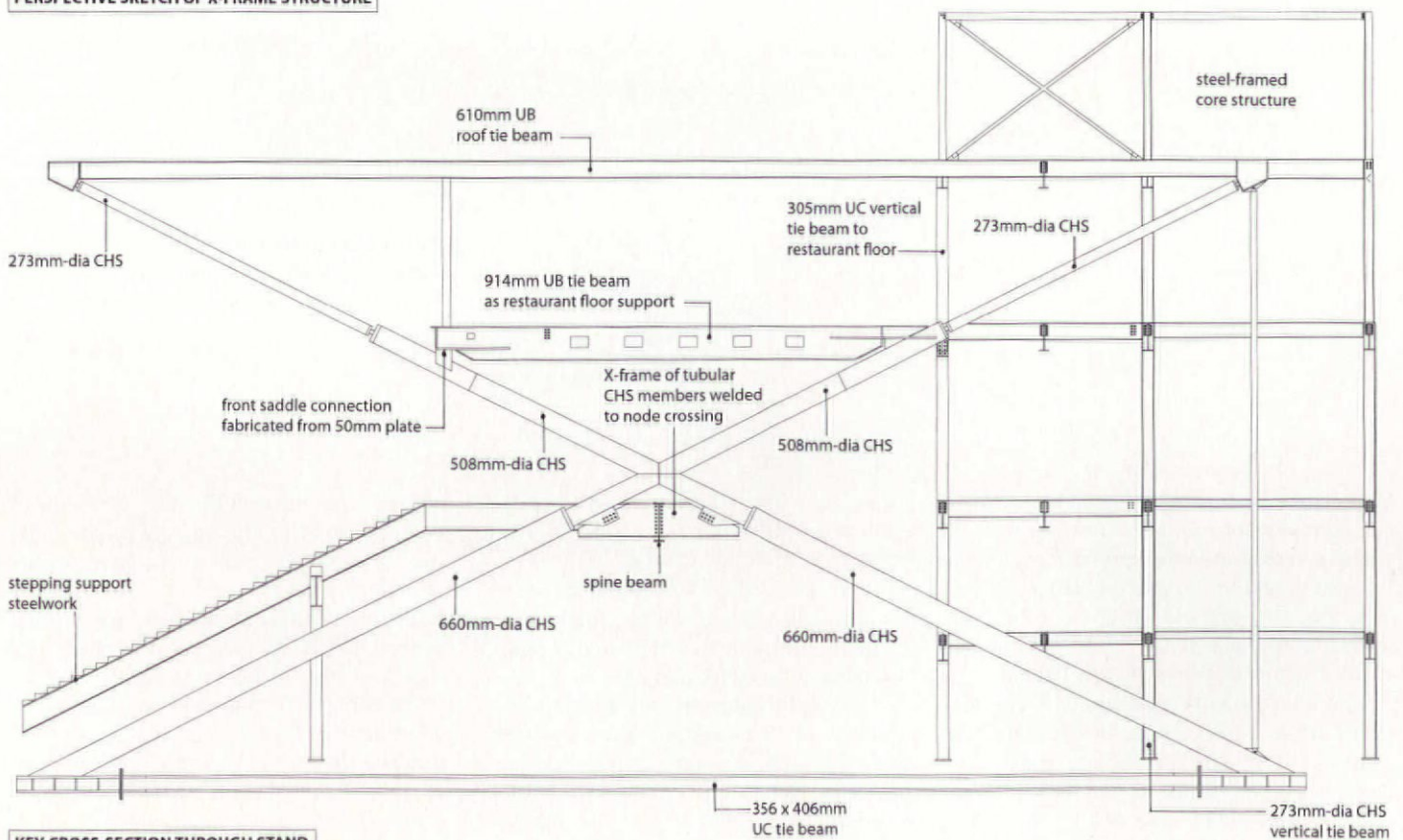


CUT-AWAY ISOMETRIC DETAIL OF NODE CROSSINGS AND BEAM SADDLE





PERSPECTIVE SKETCH OF X-FRAME STRUCTURE

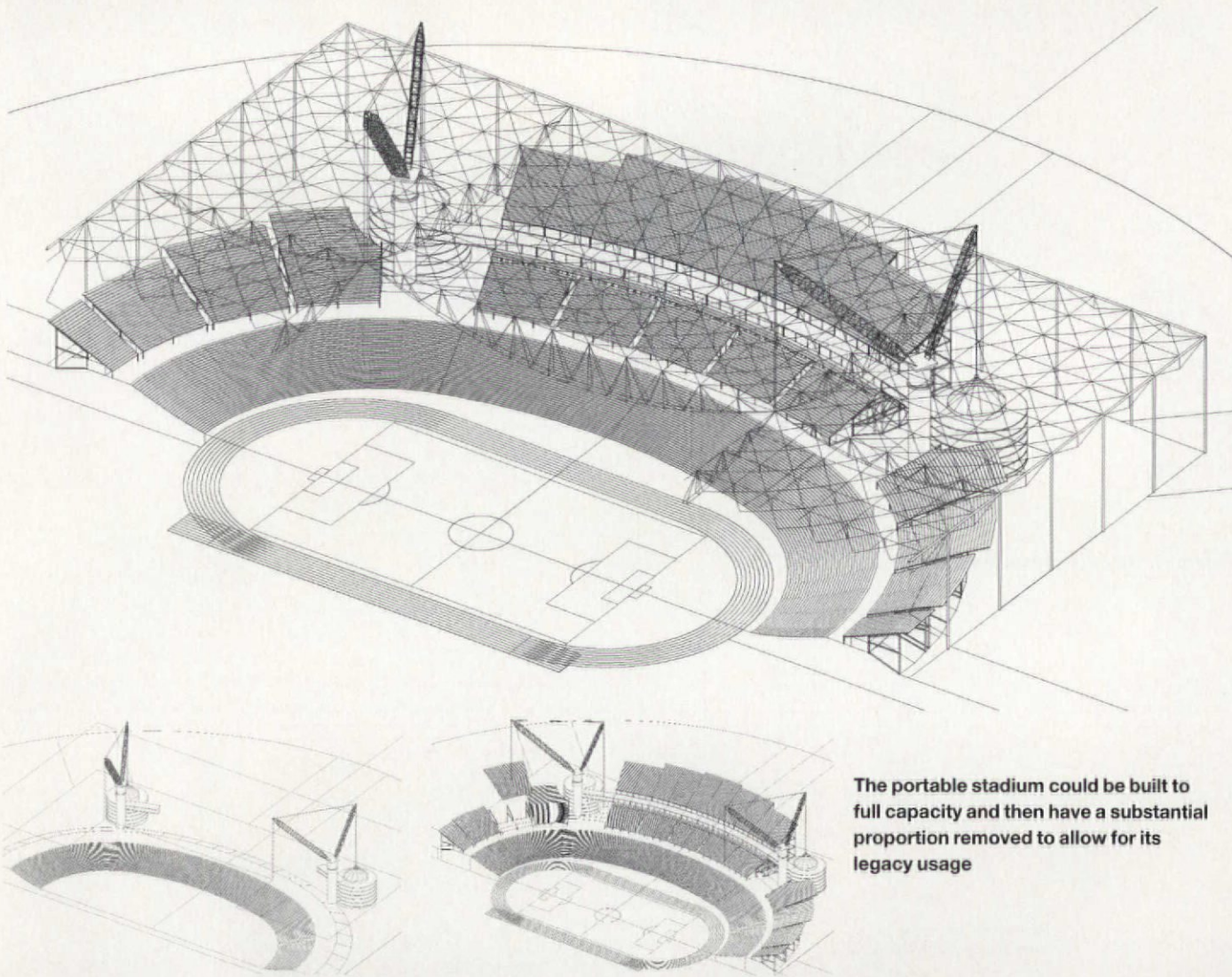


KEY CROSS-SECTION THROUGH STAND

Now you see it, now you don't

Stadia are expensive and permanent structures. One way of resolving this is through the development of a portable stadium that can be moved on to the next venue

BY JAMES BURLAND



The portable stadium could be built to full capacity and then have a substantial proportion removed to allow for its legacy usage

How could it possibly be a good idea to build an 80,000-seater stadium and take it down again when the event is over? It is not as if one can do so without having any lasting impact on the environment. Even a completely portable superstructure will leave costly infrastructure and substructure behind.

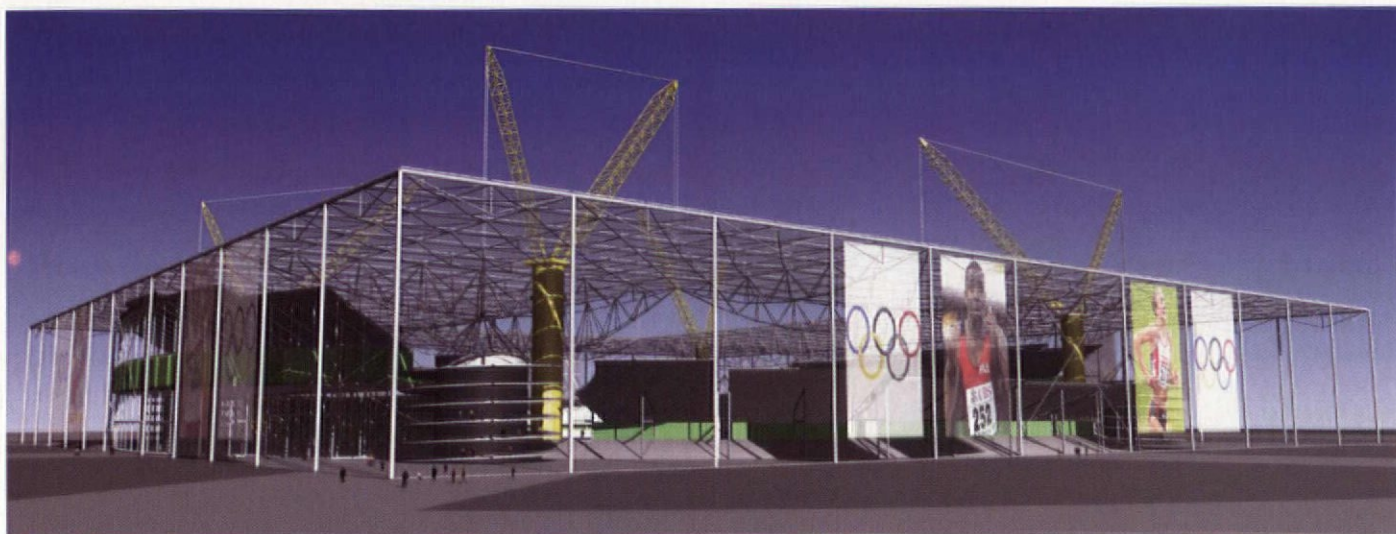
But that infrastructure could be a permanent armature for future development for which a large stadium is not needed. The memory of the event and its ceremony could become folklore for the places created. The roads, services and the foundations could all become a base for a new district in a city. There are glimmers of what might be possi-

ble at Lucca in northern Italy, where the Via Amfiteatre exists as an oval of shops and houses on the site of the city's ancient amphitheatre. Could it be possible to recreate this effect from a huge single sports event, to inform the masterplan of a new or regenerative city development?

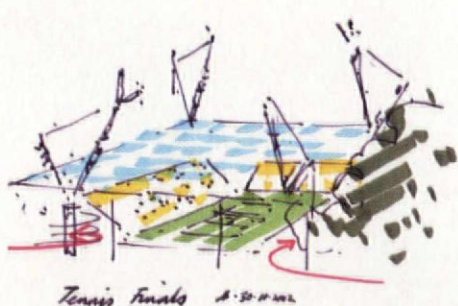
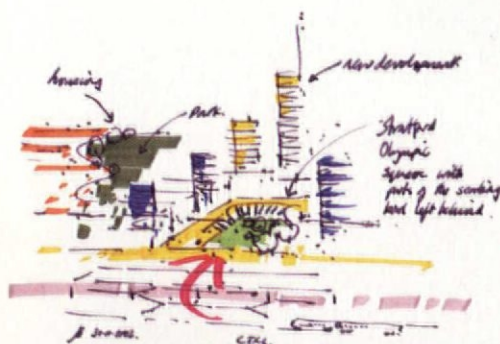
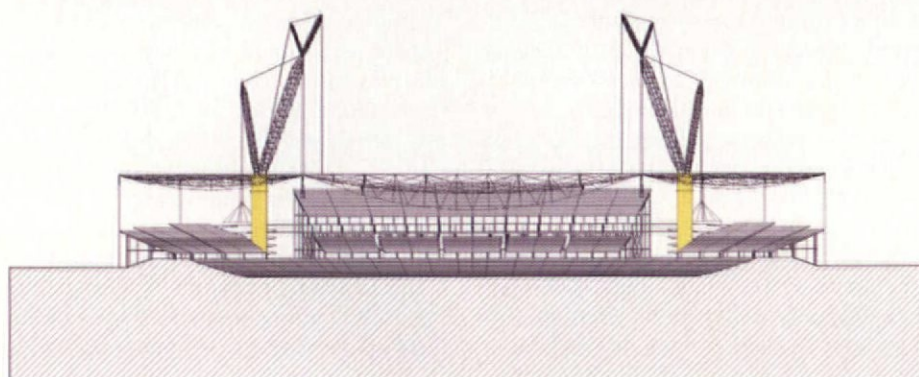
There is an inherent axis of intensity in stadium geometry around which memories of great events are created. If the decision had been taken to move Wembley to another location, do we really believe that Olympic Way, the axial centre line running from Wembley Park Underground Station through the royal box to where the cup is

awarded and through the very centre line of competition, would have been forgotten? A new development with no relation to what has happened in the past, but with a tremendous sense of place, could be built around the residual 'archaeology' of Wembley Stadium's footprint and its formal axis.

Of course, Wembley will be rebuilt on its site, but now there is Stratford, the east London site that has been tentatively proposed for the 2012 Olympiad. This site, planned as a new quarter of London, could be much more than a major stop on the CTRL. It could become 'Stratford Olympic', but without the stadium and its awkward post-



Above: external banners provide local identity. Left: section through the stadium. Below: an Olympic proposal for Stratford. Right: reconfigured for tennis



games cost problems. It could be a great new development focused around and on the residual infrastructure and the overwhelming sense of history associated with such a prestigious sporting extravaganza. It looks like a great site for a portable stadium.

Portable stadia superstructures

Stadia superstructures vary in their plan geometry for different sports, but there are some common factors that can be exploited to create a flexible portable package. Seating rakes can be designed in steel, with banks of aluminium seating to the maximum gradient. Sightlines can be adjusted by position-

ing seating banks to suit a specific sport. Parts of the seating and roof could be deployed for events such as tennis or golf that require small spectator stands but a range of different ones.

We can draw lessons from Brisbane, where the 1982 Commonwealth Games stadium had 60,000 seats, of which the majority were on steel temporary stands. These appeared in subsequent years at smaller athletics events and golf tournaments.

Amenities for spectators are formulaic. Boxes, refreshment outlets and WCs are often provided in temporary forms (the ubiquitous Portaloo – which is often unsatisfactory at

large events). I remember an Eric Clapton concert at Wembley which was literally surrounded by temporary bars and food wagons. Reusable prefabricated aluminium amenity pods could form part of travelling seating modules and be built to high standards, providing a unified solution that is satisfactory in both practical and aesthetic terms. These and the seating can be designed to container sizes.

The real challenge is the roof: stadium architects can see their designs come to grief because of the cost of the roof. This is hardly surprising, since cantilevers of 50m are common in order to give the spectators on the back seats an uninterrupted view. This is often achieved with large leading-edge arches as seen at Sydney's Olympic Stadium or with masts as at Manchester. At the San Siro in Milan the architects' challenge was to build a roof over all seats including the existing 50,000 and a new 30,000 upper tier. They achieved this with four enormous trusses which were craned into position using two specially designed mobile luffing jibs.

They looked capable of holding up the roof permanently. Probably they could in an all-steel portable stadium. The infill of the roof was modular and translucent, the sort of geometry that would suit a highly repetitive layout of photovoltaics. Roofs of this magnitude could power 2,000 homes for a year – or provide more than enough power for the athlete's village and staff catering.

These are very attractive ideas, but there are problems with taking them further. Cranes like these are expensive. We approached a firm that has the biggest

MetalWorks Sports buildings

cranes in the world, but at a price: £10 million each. Hiring costs are subject to location. So we looked at sequence. A modestly counterweighted moving crane could erect most of the superstructure and then be set up permanently to carry the roof by using spectator circulation ramps as ballast.

Coping with the climate

Using modular seating banks and a big flat roof would leave large gaps open to the wind; this would not be good for achieving world records. To obviate these problems, the outer edge of the roof would need columns between which meshes could be stretched. These meshes should be both porous and capable of taking large graphics: wind protection and decoration. The leading edge of the roof could be adjusted to sun conditions, using an extension to the cranes, a kind of 'hand on the arm' arrangement. A more elaborate version could provide a closing roof.

Lighting and sound are also essential considerations. In this case, portability would be a great advantage, as these could be updated with each installation of the superstructure, keeping up with changing technology. Similarly media facilities, which are already mostly demountable and transportable, would fit well with the portable stadium concept.



Inspirational: the San Siro, Milan

Putting on an identity

Bidding countries want to impose their own strong identity on an event, not inherit another country's imagery. Will a 'second-hand' portable stadium debase the unique setting and identity of an event? No, not if these issues are dealt with properly.

Most events are seen on television through interior views of the track and field or the pitch, with close-ups of the athletes and the spectators. Aerial pictures of the setting will take in the landscape character of the location. The stadium itself will be set up to suit specific aspects of the event masterplan and to suit the local climate. Major

events tend to be resourced with large numbers of volunteers, as at Manchester where more than 12,000 were involved with the Commonwealth Games.

So the staffing itself is temporary, and the uniforms and logos are specially designed for the occasion. The portable stadium could also be treated as a kind of 'volunteer' with a uniform of super graphics to match. Local culture and the heroes of the sport, the athletes, overwhelm the architecture of sports venues and the ephemeral nature of the spectacular imagery, colour and competition. Afterwards, the event is incarcerated in video and statistics. The stadium itself, unless offered as a permanent home for a football team or some other use (which often requires expensive compromises in the initial design) can be part of the overall passing image.

And if required, some elements could remain. A reduced stadium could serve more modest functions, while still retaining the history of the grander event. For example, in Ferrara, the Piazza Ariostea has a modest seating bowl that was built in the 1930s for the local historic Palio.

But whether a portable stadium is demolished altogether, or whether some elements remain, the legacy will be in the impact on the city. Meanwhile, the stadium itself will move on to a new destination.

Structural considerations

The key consideration in devising a structure for a portable stadium of this size is ensuring that the entire structure can be dismantled into components that can be transported and re-erected easily.

This is particularly relevant to the roof structure, which may be required to span up to several hundred metres column free and would, for a permanent stadium, usually result in very large components of structure such as masts, arches or trusses. Three important factors contributing to ease-of-transport are component weight, size and 'compactability'. With this in mind the essentially flat stadium roof is composed of a series of structures of increasing span which are ultimately supported at the inner opening corners by four large cranes. The four levels of structure to achieve this are described below.

- The lowest level of structure is that which forms the typical 12m x 12m bays making up the roof surface and supporting the photovoltaic panels. These modules comprise extruded aluminium beam sections spanning onto perimeter steel channels. When plan cross bracing is added, these create rigid flat frames and an overall stiff roof diaphragm.

- The second level of structure comprises the four three-dimensional, two-way spanning cablenets which span up to 100m over the main seating areas. Each cablenet is formed of steel spiral-strand cables draped beneath the 12m x 12m frames in a diagonal pattern, with the roof propped off it by tubular steel struts up to 8m long. Further smaller-diameter cables are added to create vertical diagonal bracing within the cablenet to resist non-uniform applied

roof loads. All connections of cables to props and the frame are via clamps. This makes erection easy and maximises the lengths of cable between terminations. The main advantage of this system is that the vertical props are all kept to lengths which are easily transportable, and the cables are in long lengths which can be rolled onto drums for transport.

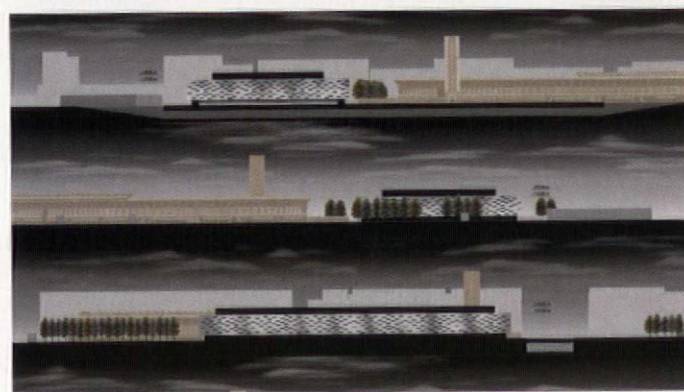
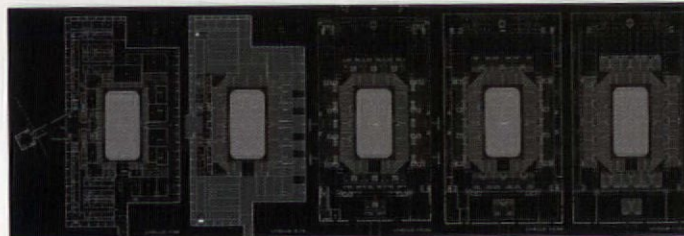
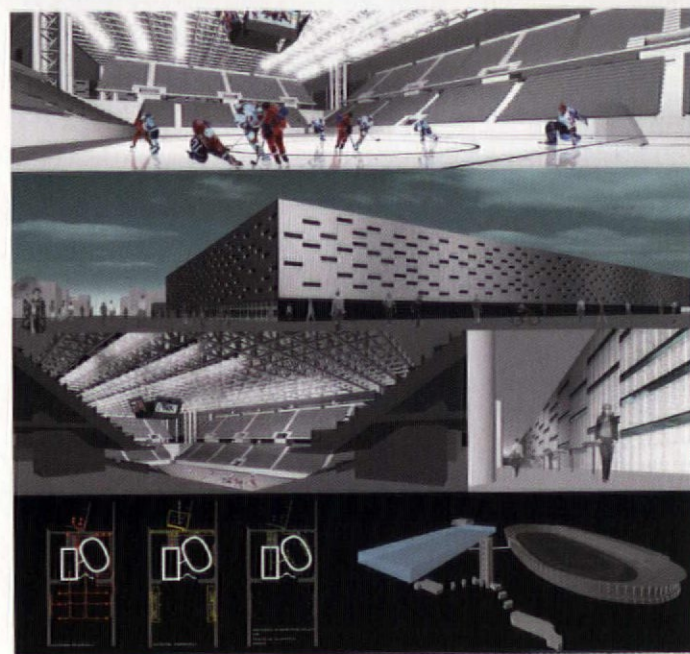
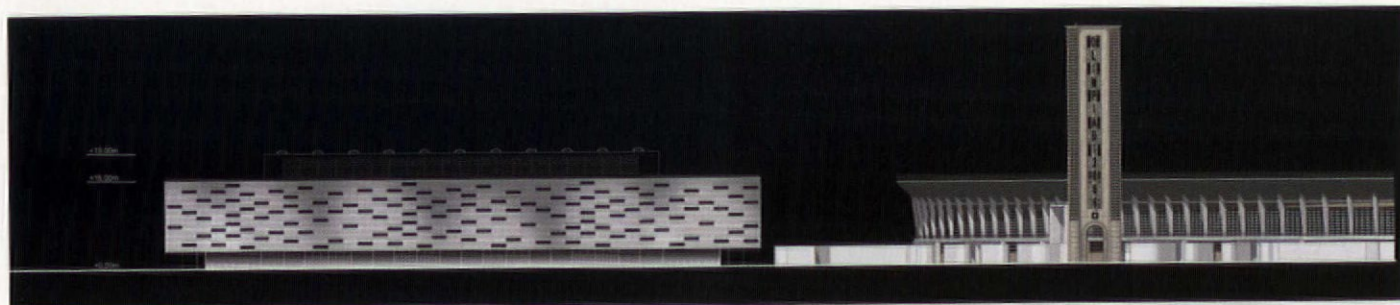
- One side of each of the above cablenets is supported by the stadium perimeter columns, with the remaining three sides gaining support from vertical cable trusses spanning up to 138m. As with the cablenets, the principal advantage of the cable trusses is ease of transport. The cables can again be rolled onto drums, and the strut elements are all less than 12m long. The lower chords of the leading-edge cable trusses can also serve as lighting and speaker gantries for the main stadium events.

- The primary support system of the roof comprises the four corner cranes, which have been used throughout the construction and are now used to carry up to 1,250 tonnes of dead and live load in the final, static condition. These cranes support the cable trusses at the four inner corners of the roof opening.

The structure to a roof of this size has principally to resist downwards or gravity loads. It is for this reason that cablenet and cable-truss systems can be used to minimise weight and bulk for transportation. Wind loading on the roof is likely to create some localised zones of uplift loads which, where these exceed the weight of the roof itself, will be resisted by moment continuity of the perimeter beam elements of the 12m x 12m modules.

Mike King, Arup Building Engineering

MetalWorks Sports buildings



A moveable feast

Turin's 2006 Winter Olympic Ice Hockey Stadium is a highly adaptable structure, with capacity varying from 2,000 to 15,000

BY RUTH SLAVID

Japanese architect Arata Isozaki and engineer Arup Milan are to have their second collaboration in Italy with the construction of Turin's 2006 Winter Olympic Ice Hockey Stadium. The architect and engineer (which are already working together in Florence on a canopy for the Uffizi) won the project in an open international competition.

The building is in the city centre, next to a 1930s football stadium whose refurbishment was originally included in the terms of the competition, although it is now being dealt with separately. With completion needed by February 2005, to allow time for tuning, the stadium design has to be one that can be built quickly, and it also has to be adaptable to other uses post the Winter

Olympics. Although ice hockey will be played regularly, other uses will include boxing and volleyball.

The design team has come up with a total of six configurations, mostly dependent on moving the seating. Capacity, which will be 12,000 at the Winter Olympics, can vary from 2,000 to 15,000.

For most of these uses, the ice platform will be covered. Quick transformations are made possible by state-of-the-art freezing technology. Whereas in the past an ice pad took three days to freeze and a further three to mature, making it advisable to keep it frozen for the duration of the project, now the process is much faster.

The stadium will be supported on eight major columns, giving a clear span in the

centre of 60m by 90m. The height of the steel structure is the same as for the adjacent football stadium. Gabriele del Mese, director of Arup Milan, described the steel structure as 'very, very nice'. He said: 'The most interesting thing is that everything can be produced as almost a prefabricated technique and delivered to site.' There is as much repetition in the structure as possible, and a designated narrow zone around the exterior from which most erection can take place.

'There was a lot of thinking at the competition stage,' said del Mese, 'about how to design, assemble and transport the structure.'

And with its city-centre position, the way the stadium relates to its surroundings is nearly as important as its suitability for sports. 'It sits well on the ground in a very comprehensive and urban manner,' said del Mese.

CREDITS

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MetalWorks Round-up

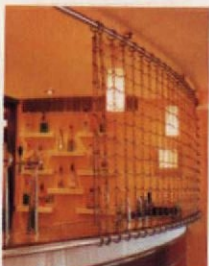
On the tiles

Pressed steel tiles were originally intended as an alternative to ornate ceiling plasterwork, but Andy Thornton, which manufactures them, believes that they have a much wider range of uses. These include as wall coverings and to clad bar fronts, shop counters and screens, as well as for drop panels in suspended ceilings. Tiles can be used in their natural satin metal finish with a clear lacquer or with a range of metallic and ham-

mered finishes. Standard BS or RAL colours are available. They are available in a standard 1,220mm x 610mm size for nailing together onto timber grounds or in standard metric and imperial sizes for dropping into ceiling grids.

Twist and shout

Alex Clive is a designer and maker who enjoys pushing the boundaries of what can be done with stainless steel. At a bar at the Brigstow Hotel, Bristol, he worked with architect Langford & Williams to produce an overnight security screen. Because the bar forms part of the reception area, a conventional roller shutter would not have been appropriate. Instead Clive produced a 'chain mail' curtain that provides the requisite security while remaining visually open. At a bar in London, working with the same architect, Clive produced surprisingly freeform balustrading from randomly bent and twisted stainless steel round bar. Back at the Brigstow hotel, he produced a staircase balustrade in which the handrail runs inside the newel post but the other, horizontal, elements run outside. This means that the balustrade is not climbable.



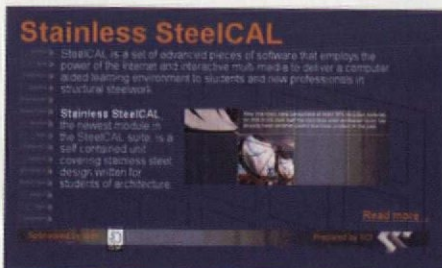
Green credentials

A report called *The UK Aluminium Industry: Progress on Sustainability: November 02* has been published by the Aluminium Federation. It describes initiatives on mining, recycling and the reduction of emissions, and outlines the environmental social and economic Sustainability Performance Indicators developed by Warwick Business School for aluminium and other non-ferrous metal industries. For a copy of the report, call 0121 456 1103.

Stainless lessons

The Steel Construction Institute has produced a computer-aided learning CD, *Stainless SteelCAL*, to help architectural students and young architects learn about the benefits and versatility of stainless steel.

Stainless SteelCAL can be used either



independently or in conjunction with 10 other modules in the SteelCAL family. SteelCAL was a four-year, European-funded project to produce interactive learning material for students. Eight European organisations were involved in the development of the original modules, and students all over Europe are now benefiting from the result.

The package comprises six application areas: Fit-out, Art, Fixings, Street, Structure and Envelope. And each application area can be investigated under any one of six investigation topics: Material, Style, Fabrication, Detailing, Environment, Market Place.

For a free copy of the package, visit www.worldstainless.org

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Our Christmas round-up includes books on reactionary sustainability, barbed comments and how to grow your own house. By Austin Williams



Human nature

Understanding Sustainable Architecture

By Terry Williamson, Antony Radford, Helen Bennetts. Spon Press, 2003. 160pp. £18.99

It is at once fascinating and horrifying to see how anti-human has become the project of sustainability. Even in such a well-researched and presented book as this one, mankind, it would seem, is the problem.

The authors state that 'considering the world as something to be exploited and manipulated for human purposes has resulted in the destruction and pollution of much of the natural environment and the extinction of whole species'. Some might have a positive view of the former and a critical assessment of the latter – after all, what is this natural environment that the authors seem so keen to endorse? But the damage is in the message: that mankind's careless advances – what used to be called human progress – have been generally destructive. With John Gray's recent virulent tome, *Straw Dogs*, still in the shops, it is hardly surprising that anti-human positions are newly legitimised.

During the course of the book there is much to credit in its rigour and presentation. The authors examine a variety of

interpretations of sustainability and ease the reader through the minefield of philosophical treatises on the subject. This is all handled extremely adroitly. After reading this book, for example, I am encouraged to seek out Parfit's *Reasons and Persons* (OUP, 1984), simply on the back of the authors' precis in Chapter 3. But still they come back to the theme that architects, should 'reconceptualise... architecture in response to the myriad contemporary concerns about the effects of human activity.'

Admittedly, the peculiarities of Australian environmentalism, from whose stable this originates, do not yet transfer directly to the UK condition. However, history has shown us that the well-articulated arguments originating in community-based ecology movements Down Under (read Engwicht's *Reclaiming Our Cities and Towns*, for example), quickly transfer to these shores like a bad episode of *Neighbours*. On the very first page the authors posit: 'The concept of good architecture has shifted to encompass the notion of a building that...

will adequately protect the environment from the potential pollution and degradation caused by human habitation.'

A society filled with such self-loathing would love to impose a moral imperative in the guise of ideological conviction to engender cohesion, but it is difficult so to do if relativism and doubt pervade every attempt. In the end, the authors' pluralistic appreciation of the terms 'sustainability', 'stakeholder', etc, enables them to endorse nothing but the process. But this they find a positive and non-conflictual 'good', expressed in Habermas' concept of 'discourse ethics': a kind of mediated conflict resolution with no particular 'end'.

This is all done in the best possible taste. However, once in a while the mask slips and the critique becomes a clarion call for design to be increasingly justified in terms of its ethical responsiveness to 'the stakeholders'. Most things can, in time, be justified in a cynical trade off between competing environmental stakeholder interests. But by broadening the concept of 'stakeholder' beyond the local – to those, nationally or globally, who might be affected by, and therefore have a say in, a building's creation – we have either a positive model of universalism, or the potential for legitimised imposition of authoritarian moral authority on lesser states. Unfortunately, the relativist's denial of the universal (by definition) will undoubtedly end up endorsing the authoritarian.

Between the lines of this interesting book, and more overtly in the sustainability industry, there lies a relentless trajectory towards accusatory vigilance, guilt and paranoia.

understanding
sustainable
architecture

terry williamson
antony radford
helen bennetts

Sustainable Development: Understanding the Green Debates

Mark Mawhinney. Blackwell, 2002. 190pp. £34.95

The opening of this book labours through definitional angst in the way that students might waffle on about the meaning of an essay question that they do not understand, just to fill up space on the page. However, as with my previous comments (*Understanding Sustainable Architecture*), there seems to be no such thing as critical analysis, nor meaningful discourse on the issue of sustainable development.

Mawhinney speculates that the 'Mainstream Economist', 'Strong Environmental' and 'Middle

Ground' perspectives are 'representative of the range of views available in the field of sustainable development', subsets of which are reminiscent of Williamson, Radford and Bennetts' 'shallow', 'deep' and 'intermediate' environmentalism. Each is then examined in counter-relation to each other (rather than independently critiqued), effectively examining each of the so-called triple bottom line headings in turn.

The debate develops reasonably well, with quite a rigorous analysis of various schools of

thought within the confines of the author's set parameters. Mawhinney's statement that preventative principles (usually called the 'precautionary principle') 'assumes guilty until proven innocent' is absolutely correct. However, he thinks that this is positive, indicated by his belief that such an approach 'has a strong basis in logic and, in fact, in legal circles there are similar arguments. For example, is it better to prevent crime or should assumption of innocence prevail?' To equate crime prevention with the denial of legal rights reveals a dangerous contentment with intrusion and a willingness to make democracy subservient to moral value judgements.

Architecture and the Urban Environment: A Vision for the New Age

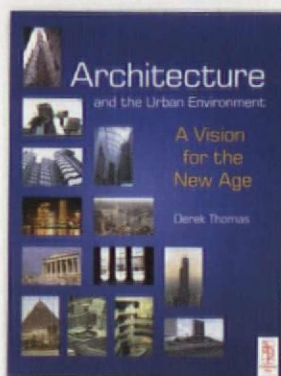
Derek Thomas. Architectural Press, 2002. 224pp. £24.99

There's nothing like setting out your stall early in a book. The opening line, even in the contents page, announces: 'All great ages of architecture are known by their grand period titles – ours will probably be known as "Architecture in the Age of Consumerism" arising from the self-indulgent intemperance of the developed world, the declining quality of urban life globally, and a universal disregard for proper stewardship of the natural resources of the planet.' This book is an ambiguous polemic about the dangers of materialistic development; preferring to laud the 'horizontal relationship with nature.' Thomas espouses a pared-down architecture – as opposed to alleged anti-democratic modernity. Phrases such as 'respect for the site' become almost literal, and 'vernacular' and

'organic' need little justification; while fractals, the new organicism, are praised for their chaotic

grammar. This is the architectural Third Way. I paraphrase, but you get the drift: 'The city can be likened to a machine, consuming and squandering enormous quantities of energy and materials, producing mountains of garbage and poisonous emissions into the air which the city dweller breathes.' Instead of a positive critique that cities are centres of excellence; of productive dynamism – or even a subtle criticism of the city's shortfalls – Thomas prefers to

bemoan their so-called waste, to decry their achievement. Recognising some examples of poor design is one thing, condemning the age in which they were given rise, is quite another. What does this interpretation say about the author's world view?



NanoArchitecture: A New Species of Architecture

John M Johansen. Princeton Architectural Press, 2002. 160pp. £24.00

John M Johansen has something of a mercurial pedigree. He is a wartime graduate of the Bauhaus, Gropius' son-in-law, classmate of I M Pei and Paul Rudolph, and influenced variously by Aalto, Breuer (in whose office he was a draftsman), Nervi, Palladio and Metabolism. As it says in the introduction, 'throughout his career, Johansen has been a kind of architectural omnivore.'

Influenced by Ronchamp, his work with gunnite in the 1950s led to an interest in biomorphic structures such that Archigram stated that he was 'our genuine American hero: each successive project a radical departure not only from conventional practice, but even from his own previous oeuvre.' Johansen then veered in to kinetic and kit building, condemning his previous stylistic forays, saying 'architecture as we knew it is no longer effective in its solutions, nor even compelling in its aesthetic expression.' So it goes. Then demoralised by the lack of promise in Post-Modernism of the 1970s and 1980s, he seems to have found expression in his sketchbooks – preparing fantastical projects which form the main pictorial substance of this book.

While the book explains that Johansen 'tirelessly refused to abandon his optimistic faith in the process

of science'; it must be said that he has seemed willing to go wherever the wind has taken him. Omnivorous he may be; but he is undoubtedly somewhat bulimic.

Admittedly, some of his ideas are attractive – the metamorphic capsule, for example, deformed into new shapes by electromagnets; or the Mag-lev theatre, providing a truly theatrical experience.

Most schemes displayed in this book, though, are badly illustrated and the text is thin.

The book culminates with his recently publicised molecular-engineered house – 'organically grown' buildings. While his vision of nano-technologies changing industrial processes will undoubtedly come true, this positive futuristic vision is confused by an over-reliance on techno-fantasy.

Once again, Johansen seems to have thrown himself wholeheartedly into a project; innocently immersing himself in the rhetorical promise of new ideas. There is very little critical analysis, or even self-awareness.

I fear that just as he seems to have grown despondent with every 'ism' that he has encountered during his long life, so too might he become disappointed by the slow progress towards the fanciful escapism craved by this book.



A Guide to Negotiating the Planning Maze



John Collins and Philip Moren

Small Practices

A Guide to Negotiating the Planning Maze

John Collins and Philip Moren.

RIBA Enterprises, 2002. 89pp. £12

Further to Brian Waters' latest planning article (AJ 28.11.02), it seems that planners still bear the contempt of architects; somewhat justifiably in the case of authorities that are understaffed, undertrained and with whom the notion of planning being a consultative process is seen as something of an aberration.

This guide is intended to bridge the professional divide between architects and planners, as well as that between ordinary punters and 'the planning maze.'

This is an exhaustive but very readable book which demystifies much of the planning process. All architects should read it, not just students cramming for their finals, to ensure that they understand properly the issues at stake. Commonly used and oft-misunderstood phrases are expounded, relationships between various agencies are unravelled, and policy formulation processes, together with applications and appeals and many, many other topics are set out in a clear and unambiguous way.

The wheels of publishing turn slowly and it is always unfortunate that documents such as this are unable to include up-to-the-minute changes in planning legislation. Section 8 makes a valiant attempt at predicting the trajectory of forthcoming changes, signalling the most relevant aspects of various government reforms, and it manages to provide a helpful checklist of things to look out for. This is one of the better books in the Guide to series.

Code of Practice for Project Management: For Construction and Development

Third Edition. Chartered Institute of Building, 2002. 214pp

This updates the 1996 second edition to include guidance on, among other things: EU procurement procedures; project planning; partnering; environmental impact assessments; and value-for-money frameworks.

Guide to WCD98

Sarah Lupton. RIBA Enterprises, 2003. 150pp. £32

A practical guidance document examining the operation and administration of the Standard Form of Building Contract With Contractor's Design 1998. It groups topics in a sequence that follows the real life progression of construction work using real case law examples (to illustrate the point).

The Devil's Rope: A Cultural History of Barbed Wire

Alan Krell. Reaktion Books, 2002. 222pp. £16.95

If you did not know there are at least 10 different varieties of barbed wire – from Brink's Balanced Diamond to Washburn's Seated Barb – you are not alone. Fortunately Alan Krell is on hand to tell you this and much more about 'the devil's rope'. So extensive is his grasp of his subject matter, in fact, that his ability to make barbed wire seem tedious is nothing short of amazing, writes *Liz Bailey*.

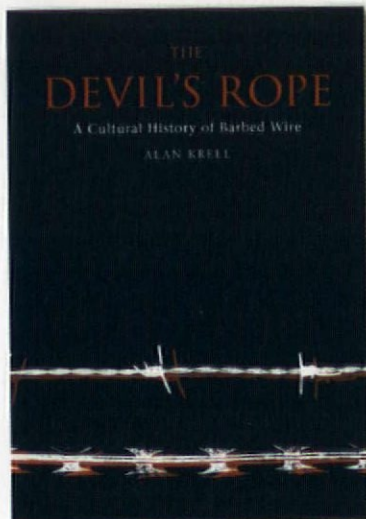
Barbed wire, originally developed as an agricultural tool more-or-less simultaneously in the US and France, has a fascinating, chequered chronological history. US ranchers used it to maintain the purity of their stock by keeping others' bulls out, while farmers used it to keep roaming herbivores from devouring their crops.

Texans, in particular, divided up nearly their whole state with 'the devil's hatband', leading to the outbreak in 1883 of the great Texas Fence-Cutting Wars. About the time of the First World War, barbed wire – used to demarcate the trenches – began to keep not animals but humans in or out. This trend continued into the Second World

War, when, used by both Allied and Axis powers to incarcerate prisoners, it began to symbolise, and indeed facilitate, genocide.

If only this book had stuck to the chronological and let the cultural speak for itself. Instead it shows the

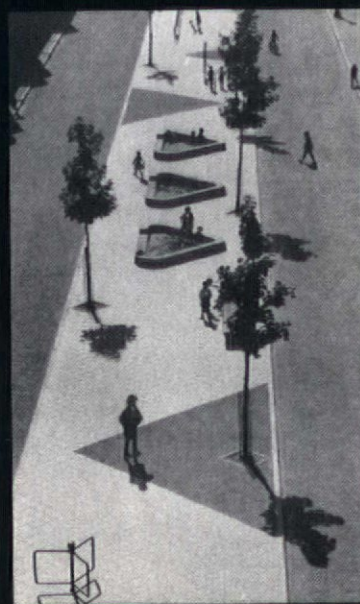
devil's hatband in a slew of cultural contexts: everything from spectacles to a brassiere made of the stuff; a 1968 sketch of Nelson Mandela attired in a crown of barbs; a cartoon of Martha Stewart showing it off as the perfect accent to your Y2K decor; an advert for sticking plasters showing it made into a pair of slinky sandals; wrapped around Amnesty International's logo. Rigorous, and diverting, but hardly edifying. Krell's interpretations of these images are self-serving and, worse, dull; failing signally to provoke or indeed offer any meaningful insight. Though he paints an



evocative and engrossing picture of barbed wire's evolution from agritool to symbol of man's inhumanity to man, this done, Krell's choice of cultural history as a lens through which to view this extraordinary invention leaves him with little of substance to say.

Aldo van Eyck: the playgrounds and the city

Various. Stedelijk Museum Amsterdam, 2002. Rotterdam



Dutch architect Aldo van Eyck designed an astonishing number of playgrounds. Between 1947 and 1978, more than 800 were built in the city of Amsterdam to his design, writes *Maisie Rowe*. While his contemporaries engaged in large-scale, plan-led reconstruction, van Eyck chose to work within the existing grain of the war-damaged city, inserting play spaces into gaps and derelict sites. Playgrounds were even put on traffic islands.

Van Eyck brought high art to the design of playgrounds to produce works of extraordinary clarity and simplicity. Children's capacity for imagination and creativity were recognised for the first time, along with the value of play. Amsterdam hoped to instil public spirit in a new generation by making space for this. Having confidence in the child's ability to imagine, there were no play structures shaped like animals; van Eyck saw these as out of place in the city.

The playgrounds had no extraneous safety measures. Even on traffic islands and pavements, the play equipment existed within the streetscape as sculptural elements and risks were managed through good design. Climbing structures were high, but bars were carefully spaced so children could clamber with ease. Compared with our contemporary

precautionary approach to playground design, which regards children as a liability to themselves, van Eyck's designs reveal a confidence in children's ability to survive childhood.

Exposed to the elements and subject to intense wear and tear, all playgrounds are ephemeral. Most of the van Eyck playgrounds have now disappeared and not been replaced. This book, written to accompany an exhibition at Amsterdam's Stedelijk Museum, is a serious attempt to analyse and document his designs using wonderful photographs and plans, as well as a gem of a chapter containing letters from the city archive written by citizens to the Amsterdam Department of Public Works. This particular chapter offers a unique historical perspective on the tensions that playgrounds generate within communities. Even in the 1950s, it seems, grumpy residents were complaining about playgrounds and noise, drifting sand, dogs, urinating children, sweet wrappers and teenagers hanging around after dark.

Contrary to popular claims that children's behaviour is getting worse, childhood has always been a gloriously messy affair. But, unlike today, for the post-war generation, children were viewed confidently as a symbol of hope and renewal.

Construction futures

In our regular overview of construction economies, E C Harris examines the potential for future growth in the economy

BY PAUL MOORE

The construction industry is going through one if its periodic shake-ups, and when the smoke clears it is likely that the industry which emerges will be of a radically different character.

In the City, equities are still falling, and the insecurity has led to further shake-ups in the banking and investment market with a knock-on effect for commercial property. At the same time, government spending on health and education has risen rapidly and these two sectors are also attracting private funding which, in

different circumstances, might have been invested elsewhere. The rise in infrastructure spending is continuing and, even when the present water programmes come to an end, infrastructure spending is likely to rise annually.

At the time of writing, the possibility of all-out war with Iraq lies in the balance. Although world oil prices have fallen, the start of hostilities in the Middle East would almost certainly push prices up again, affecting general levels of inflation.

Input costs

Construction input cost increases appear to have eased, following substantial rises in materials costs earlier in the year, while labour rate rises appear to have slowed at last. Average site labour rates actually fell marginally during the past three months, although rates were still approximately seven per cent higher than in December 2001.

Materials price increases in the third quarter could be tracked to problems in rebar supply, which have to an extent settled down, and hikes in ready-mix concrete prices, which were primarily due to the industry responding to the introduction of the Aggregates Tax.

Civil engineering

The value of new orders for infrastructure works is forecast at £6 billion for the year-end, representing a 15 per cent increase compared with last year. Key drivers of this improving workload are the water and road sectors, where provisional orders' figures for the first three-quarters of this year have already surpassed figures for the whole of 2001.

The improving infrastructure workload, together with resource availability problems, continues to fuel tender prices, which are forecast to rise by at least 5 per cent over the next 12 months.

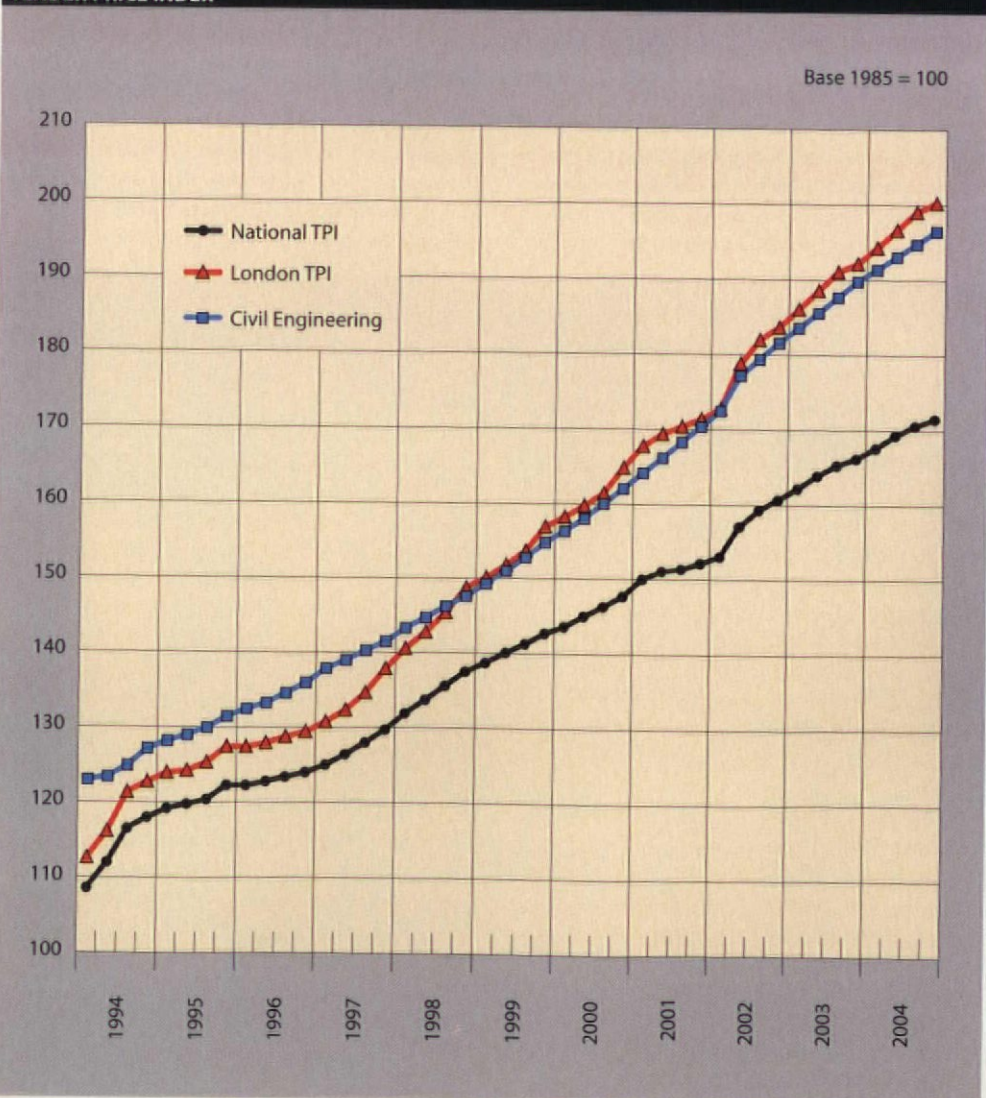
The position is different in Scotland, where there is concern about falling workload levels. Scottish Water is currently letting a massive framework deal, but in other sectors there is a lack of new schemes being converted to real orders. The only common problem is the lack of resources.

Construction activity

Construction workload figures continue to reflect a positive view of the industry. Output in the second quarter of the year was 1 per cent higher than the previous quarter and 7 per cent higher than the second quarter of 2001. Output of new construction work for the whole of 2002 is on line to show a rise of almost 6 per cent.

Looking ahead, the main forecasts of construction activity have been revised upwards since the summer 2002 forecast, to reflect a continuing

TENDER PRICE INDEX



rise in activity during the next two years; total output is forecast to be 3.8 per cent higher in 2003 with a further 2.9 per cent rise in 2004, according to Construction Forecasting and Research (CFR).

However, construction is going through a sea change. In the past 10 years, we have seen a wholesale shift in procurement to strategic alliances, framework arrangements and partnered deals, often utilising open-book tendering. At the same time, the procurement of major public sector schemes has swung towards PFI/PPP type deals. Further changes ahead include a shift in workload away from the private office sector and to more money being invested in health, education and infrastructure.

The shift in emphasis brings its own problems. Increased investment in infrastructure is expected to see workload in this sector rise by 40 per cent between 2001 and 2004. To many contractors these increases will be of academic interest since they will be unable to shift their operations into this sector due to the very different nature of civil engineering works with its much greater heavy plant requirements.

The latest RICS Survey found that available office space in London in September rose for the sixth consecutive quarter. According to the RICS, demand for space has been falling steadily since the beginning of 2000. Commercial office rents in the City of London have fallen by 13 per cent during the year to October 2002, and there is a million square metres of office space available, with a further 0.5 million square metres due for completion over the next two years. Several projects have been put on hold, and despite the large number of multimillion-pound office schemes currently on site in London, very little speculative work is now being commissioned.

The rise in house prices continues and while it is universally agreed that the rises are unsustainable, continued high levels of affordability and low interest rates should mean that the market escapes relatively unscathed when the inevitable slowdown comes. Despite the slowdown in the City of London, developers are still interested in building high-quality residential schemes.

REGIONAL TENDER PRICE INFLATION

	Year to fourth quarter 2003 (per cent)	Year to fourth quarter 2004 (per cent)
Scotland	3.9	3.6
Northern	4.2	3.8
Yorks and Humber	4.8	4.0
Midlands	4.0	3.7
East Anglia	3.9	3.6
South East	4.0	3.7
London	4.6	4.2
South West	4.0	3.3
North West	3.8	3.4
Wales	3.8	3.4
Northern Ireland	2.5	2.5

Local variations in workload can greatly influence contractors' input costs and their ability to increase prices.

In London and the South East, a continued rise in workload has resulted in a shortage of skilled labour, resulting in increases in contractors' costs.

'Independent analysts predict economic growth in the UK of 1.6 per cent this year, rising to 2.5 per cent in 2003'

MAIN POINTS

- Construction output in the second quarter 2002 was 1 per cent higher than the previous quarter and 7 per cent higher than the second quarter 2001.
- Construction output is forecast to increase by 4.4 per cent this year, by 3.8 per cent in 2003 and by 2.9 per cent in 2004.
- Skilled labour rates showed a marginal fall during the past quarter, but are still 7 per cent up on December 2001.
- Commercial and industrial sectors face a slowdown. Infrastructure output expected to rise by 40 per cent between 2001 and 2004.
- Tender prices are forecast to rise nationally by 3.4 per cent in the next year and by 3.2 per cent in the year to fourth quarter 2004.
- Tender prices in London to rise by 4.6 per cent in the next year and by 4.2 per cent in the following year.
- Civils tender prices to rise by 4.5 per cent in the next year with a further 3.5 per cent rise in the year to fourth quarter 2004.
- Underlying rate of retail price inflation expected to run at 2.1 to 2.4 per cent during the next five years.
- Economic growth in the UK to rise by 1.6 per cent this year, 2.5 per cent in 2003 and thereafter at 2.3 to 2.7 per cent in the following three years.

Tender prices

Tender prices were at a virtual standstill during the fourth quarter 2001 and first quarter 2002, but since then have made a substantial recovery. Year-on-year rises for the fourth quarter 2002 and first quarter 2003 have been boosted by the low figures of a year ago.

It would appear that the targeted increases of spending on health, education and infrastructure, which will carry the construction industry's fortunes with it, are reliant upon the government having money in its coffers. Should economic growth falter, spending plans would almost certainly be re-assessed.

With workload rising, the forecast is that building tender prices nationally will increase by 3.4 per cent in the year to fourth quarter 2003 and by 3.2 per cent in the following year. In London, the current extra workload is forecast to lead to tender price increases of 4.6 per cent in the next year and by a further 4.2 per cent in the year to fourth quarter 2004. Civil engineering tender prices are forecast to rise by 4.5 per cent and 3.5 per cent over the same periods.

Macro economic factors

A round-up of views of independent analysts carried out in an October survey predicts economic growth in the UK of 1.6 per cent this year, rising to 2.5 per cent in 2003. Underlying rates of inflation are expected to remain within the government targets, with year-on-year increases of 2.1 per cent forecast for this year and 2.4 per cent for 2003.

In keeping interest rates unchanged at its November meeting, the Bank of England indicated that any cut in rates is almost certainly off the agenda in the foreseeable future because of fears that it would fuel the unsustainable boom in house prices, which topped 30 per cent in the past year. The bank's considerations also covered the risks of the US economy faltering, growth in the Eurozone remaining sluggish and the increases in National Insurance contributions next spring, which will feed through into higher labour costs.

Paul Moore is an associate and head of the cost research department at EC Harris. Email paul.moore@echarris.com



Is adjudication vulnerable to abuse by overbearing lawyers?

There was much to be learnt at the first annual conference of the Adjudication Society*, held last month. The keynote speech was given by Mr Justice Forbes, the presiding High Court judge of the Technology and Construction Court.

The judge is a keen bee-keeper and professed that, upon taking up the post in 2001, he knew more about bees than about adjudication. Since then, he has been called upon by the government to assist in a written answer to a parliamentary question along the lines of 'Has adjudication been hijacked by the lawyers?' This question has been considered before in these pages (AJ 11.7.02), but as the day's events unfurled, there was again cause to reflect upon the lawyer/adjudicator dichotomy.

On the one hand, we have hundreds of adjudicators conducting thousands of adjudications, mostly without incident. On the other hand, we have a hundred or so court decisions on adjudication, which are scrutinised as the thermometer by which the health of the process is judged. Is adjudication unstable and vulnerable to abuse by overbearing lawyers? Or do these cases represent the tiny volatile tip of an otherwise vast and inert iceberg?

As Mr Justice Forbes pointed out, there are essentially only two grounds upon which an adjudicator's decision, even an obviously erroneous decision, can be challenged. They are want of jurisdiction and procedural unfairness.

Debate on the topic was fuelled by two recent cases. *Edmund Nuttall Ltd v R G Carter Ltd* (2002) revisited the question of what is 'a dispute'. An adjudicator has jurisdiction only to decide 'a dispute' as opposed to, for example, an unrejected claim. Knotty issues arise as to whether the dispute referred to the adjudicator should be the mirror image of a previously rejected claim, or can the referring party add or subtract from the subject matter? Similarly, are responding parties entitled only to defend the claim on the previously disputed basis, or may they come up with eleventh-hour arguments?

The court held that the adjudicator had decided something which had not been referred to him, and that the decision was unenforceable. In

passing, the judge observed that the whole concept underlying adjudication was that the parties should first have attempted to resolve their differences by an open exchange of views. While this may have come as news to those who believe that the whole purpose of adjudication is to give a non-paying party a thoroughly hard time, those who are anxious to avoid 'no dispute' arguments have suggested that a pre-adjudication protocol should be bolted onto the process. Potentially disputing parties would thereby be required to exchange 'statements of position' before being allowed to commence an adjudication.

In *Balfour Beatty Construction Ltd v London Borough of Lambeth* (2002), the adjudicator was presented with an extension of time claim which had not been adequately particularised by the referring party. The adjudicator called for more information but, without it, he prepared his own critical path analysis which showed that the

contractor was indeed entitled to a substantial extension of time and damages. Lambeth refused to pay, claiming that it had never been afforded an opportunity to review or comment on the adjudicator's work. The court agreed and found that by seeking to make good the deficiencies in the contractor's claim, the

adjudicator had trespassed into the danger zone of potential bias. In such circumstances, the adjudicator was obliged to tell both parties what he had in mind and give them the opportunity to comment before publishing a final decision.

It has been suggested that in order to overcome this potential pitfall, adjudicators should produce their decisions in draft and invite comment from the parties before publishing their decision.

If these cases are typical of the problems facing adjudicators, perhaps pre-adjudication protocols and draft final decisions would be necessary to stabilise the process and take the wind out of the hijacking lawyers' sails. If, on the other hand, they are isolated examples of aberration in an otherwise healthy process, why burden it with yet more procedures – and legal procedures at that?

*The Adjudication Society is based at 46 Essex Street, London WC2R 3GH

Kim Franklin

Installing Linux and the baffling powers of ESP

On the grounds that anything is worth trying again, I thought I would try to install Linux, the increasingly serious alternative (say its adherents) to Microsoft Windows. This was the very latest Mandrake Linux version 9, straight off the CD copying machine somewhere in deepest France. Reviewers said that this was the easiest to install of a group of recently released versions of Linux.

Regular readers will know that this column is not exactly enamoured of old-style Linux geeks – who hate the idea of ordinary people doing useful officey things with Linux-like word processing and drawing and using a mouse-controlled, Windows-style user interface. They see Linux as their very own secret language in which they do things by typing in cryptic commands like `startx` and `tar cvf myarchive.tar`. No, don't ask.

The difficulty is that, to an extent, the continuing development of free software such as Linux depends on geeks continuing to get kicks from finding cleverer/faster/nicer ways of doing things with computers. Whatever, a day after getting the much-delayed set of three CDs, I was on the internet attempting to get Mandrake to explain why the installation had failed at the penultimate stage – about 40 minutes after starting. Not once but six times.

Weeks later I still haven't an explanation, despite having paid for a month or so of free advice. The press office hasn't been any more forthcoming. An old hand at computers not working, I eventually tried out a different video card and, hey presto, it worked. I would have written this column on it but I am using the LCD screen to set up a replacement for a Windows machine with an enduring affection for the Blue Screen of Death.

OK, here's a Christmas treat – thanks to the *Guardian's* Simon Hoggart. It is at www.pickover.com. Click the top-right logo to open the main page and then select ESP Experiment. It has had AJ staff entranced. When Hoggart revealed all earlier this month we all decided we were very stupid. Noel to all.

sutherland.lyall@btinternet.com

19/26 December 2002

diary

Information for inclusion should be sent to Andrew Mead at The Architects' Journal at least two weeks before publication.

London

Beyond Limits *Until 20 December.*

An exhibition of current Korean building/landscape projects at London Metropolitan University, 40 Holloway Rd, N7 (020 7133 2485).

Sphere *Until 21 December.* An exhibition at Sir John Soane's Museum, 13 Lincoln's Inn Fields, WC2. Details 020 7405 2107.

Fitzroy Robinson: Changing Images *Until 4 January.* An exhibition at the RIBA, 66 Portland Place, W1. Details 0906 302 0400.

Coming Homes: Housing Futures *Until 11 January.* An exhibition at the RIBA. Details 0906 302 0400.

Building Pathology: Implications for 20th Century Listed Buildings *Wednesday 15 January.* At Bevin Hall, SW1. Details 0118 959 1590.

Construction: The Challenges and Opportunities Ahead *Friday 17 January.* A conference at the RIBA, 66 Portland Place, W1. Details Lucy Daniel 020 7886 3037.

Joel Sternfeld *Until 18 January.* An exhibition at the Photographers' Gallery, 8 Gt Newport St, WC2. Details 020 7831 1772.

The Adventures of Aluminium *Until 19 January.* An exhibition at the Design Museum, Shad Thames, SE1 (020 7940 8790).

Erwan and Ronan Bouroullec *Tuesday 28 January, 19.00.* A lecture at the RCA, Kensington Gore, SW7. Tickets Celeste Channer 020 7590 4567.

Technological Innovation in Design & Construction 2003 *Wednesday 29 January.* A BIAT conference at the British Museum. Details Adam Endacott 020 7278 2206.

Doing the Knowledge II: How To Manage What Your Company Knows *Thursday 13 February.* A conference at the RIBA. Details 020 7505 6745 (magda.lojczyk@emap.com).

Priceless Objects: How Information Modelling Is Taking Off *Thursday 27 February.* A conference at the RIBA. Details 020 7505 8614 (natalie.rubinstein@emap.com).

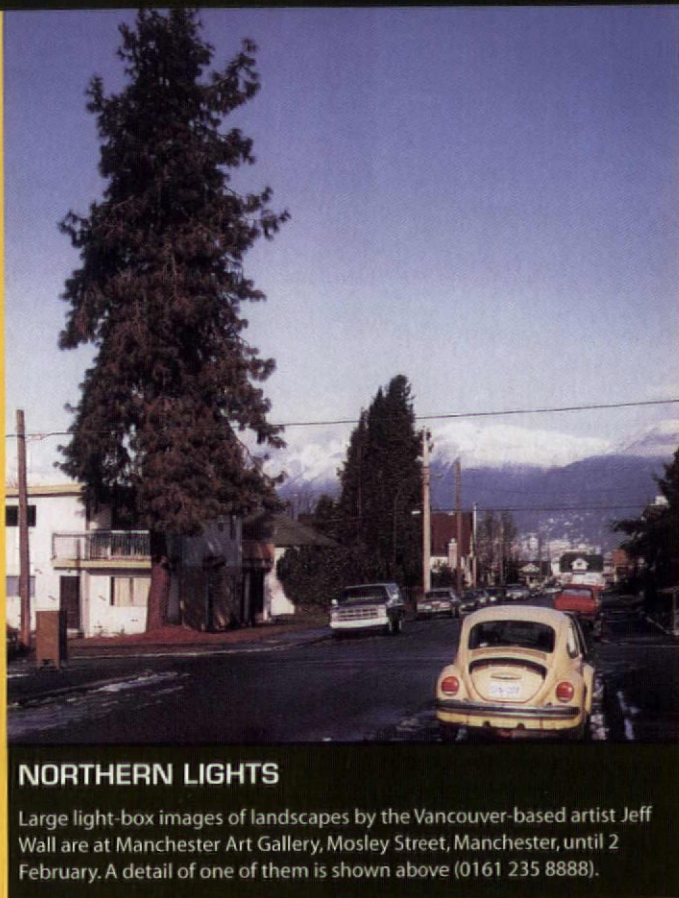
Mies van der Rohe 1905-1938 *Until 2 March.* The Museum of Modern Art retrospective is at the Whitechapel Gallery, Whitechapel High St, E1. Details 020 7522 7888.

Eastern

Face/Off: A Portrait of the Artist *Until 5 January.* An exhibition at Kettle's Yard, Castle Street, Cambridge. Details 01223 352124.

Bridget Riley: Screenprints 1962-2001 *Until 1 February.* At the Minorities Art Gallery, 74 High St, Colchester. Details 01206 577067.

19/26 December 2002



NORTHERN LIGHTS

Large light-box images of landscapes by the Vancouver-based artist Jeff Wall are at Manchester Art Gallery, Mosley Street, Manchester, until 2 February. A detail of one of them is shown above (0161 235 8888).

Repair and Conservation of Historic Joinery *13-14 February.* A hands-on course at Cressing Temple. Details Pauline Hudspeth 01245 437672.

East Midlands

Like Gold Dust *Until 31 December.* The transforming power of gold in an exhibition at the Angel Row Gallery, Nottingham. Details 0115 915 2869.

North West

John McAulan *Thursday 16 January, 19.30.* A lecture at the Foster Building, University of Central Lancashire, Preston. Details Doug Chadwick 01254 59835.

Ted Cullinan *Thursday 24 January, 19.30.* A lecture at the Moat House Hotel, Trinity St, Chester. Details Mark Kyffin 0161 237 5566.

A New World Trade Center: Design Proposals *Until 8 February.* An exhibition at CUBE, 113-115 Portland St, Manchester. Details 0161 237 5525.

South Eastern

RIBA CPD Event: Party Wall Act *Thursday 23 January, 16.00.* At Le Meridien Hotel, Gatwick. Details 01892 515878.

Specialist Science & Crafts for the Conservation of Historic Buildings

Wednesday 29 January. A one-day course at the Weald & Downland Museum. Details 01243 811464.

Under the Surface: Special Interest Tour *Wednesdays until 19 February.* At the Weald & Downland Museum, Singleton. Includes the Downland Gridshell. Details 01243 811464.

Southern

Machu Picchu & The Camera *Until 31 December.* An exhibition at the Oxford University Museum, Parks Rd, Oxford.

Bruce McLean & Will Alsop: Two Chairs *Until 19 January.* An exhibition at Milton Keynes Boulevard, 900 Midsummer Boulevard, Milton Keynes. Details 01908 558 307.

South West

RIBA CPD Event: Building Conservation Accreditation *Thursday 23 January, 18.00.* With John Fidler. At Plymouth School of Architecture. Details 01752 265921.

Wessex

Workers' Playtime *Until 12 January.* An exhibition at the NMR, Swindon. Details 01793 414797.

Barbara Hepworth Centenary *12 January-6 April.* A major exhibition

at the New Art Centre Sculpture Park, Roche Court, East Winterslow, Salisbury. Details 01980 862244.

Eric Parry Architects: An Eye for the Whole *Until 17 January.* An exhibition at the Architecture Centre, Narrow Quay, Bristol. Details 0117 922 1540.

West Midlands

On Kawara *Until 26 January.* A retrospective at the Ikon Gallery, Birmingham. Details 0121 248 0708.

Yorkshire

Sculpture/Architecture in 50s and 60s Britain *Until 5 January.* An exhibition at the HMI, 74 The Headrow, Leeds. Details 0113 234 3158.

John Newling: Currency and Belief *Until 6 April.* An exhibition at the Yorkshire Sculpture Park, Bretton, Wakefield. Details 01924 830302.

Scotland

James Simpson *Thursday 9 January, 17.30.* A lecture at the Scottish Centre for Conservation Studies, Edinburgh College of Art. Details Moira Sefter 0131 221 6072.

Glasgow Institute of Architects Annual Awards Show *Until 12 January.* At The Lighthouse, 11 Mitchell Lane, Glasgow. Details 0141 225 8414.

Zoo Architects *Thursday 23 January, 17.30.* A lecture at Edinburgh College of Art. (ARCHIE@eca.ac.uk)

Terry Farrell & Partners *Until 24 January.* An exhibition at the RIAS Gallery, 15 Rutland Sq, Edinburgh. Details 0131 229 7545.

Bennetts Associates North South *Until 26 January.* An exhibition at The Lighthouse, 11 Mitchell Lane, Glasgow. Details 0141 225 8414.

Tommy Perman *Thursday 6 February, 17.00.* At the Scott Sutherland School, Robert Gordon University, Aberdeen (5710@lecture.co.uk).

Wales

Patel Taylor Architects *Until 25 January.* An exhibition at Ruthin. Details 01824 704830.

Stuart Bond *Thursday 30 January, 19.30.* A lecture at Faenol Fawr Hotel, Bodelwyddan. Details Peter Stonebridge 01745 815600.

International

Arne Jacobsen *Until 12 January 2003* A retrospective of at the Louisiana Museum, Humlebaek, nr Copenhagen (www.louisiana.dk).

Unknown Quantity *Until 30 March.* An exhibition conceived by Paul Virilio at the Fondation Cartier, 261 bd Raspail, Paris. Details www.fondation.cartier.fr

Books of the year

A selection of the titles that AJ reviewers have most enjoyed during the past 12 months

COMPILED BY ANDREW MEAD



Utzon

By Richard Weston. Edition Blondal, £99.95

'A magnificent monograph – the first that Upton has sanctioned. With Weston's book in our laps, we can reconsider the whole history of the last 50 years as never before.' (Alan Powers, AJ 4.4.02)

RM Schindler

By Judith Scheine. Phaidon, £39.95

'Extensively researched – we can understand this fascinating man and his work better than ever before.' (Dean Hawkes, AJ 10.1.02)

Back from Utopia: The Challenge of the Modern Movement

Edited by Hubert-Jan Henket. 010 Publishers, £24

See Colin Davies' review, overleaf.

Towards Universality: Le Corbusier, Mies and De Stijl

By Richard Padovan. Routledge, £28

'Padovan is crystal clear – this book is a little classic.' (Patrick Hodgkinson, AJ 7.3.02)

As Found: The Discovery of the Ordinary

Edited by Claude Lichtenstein. Lars Muller, £36

Back to the 1950s: 'Key documents that still make fascinating, stirring reading.' (Bob Allies, AJ 14.3.02)

Body and Building: Essays on the Changing Relation of Body and Architecture

Edited by George Dodds. MIT Press, £37.95

'Fascinating essays of lasting interest.' (Kate Fusin, AJ 25.7.02)

Steps to Water: The Ancient Stepwells of India

By Morna Livingston.

Princeton Architectural Press, £35

Well-researched and illustrated account of monuments that are often overlooked. (AJ 29.8.02)

The New Paradigm in Architecture: The Language of Post-Modernism

By Charles Jencks. Yale University Press, £19.95

'As ever, Jencks is entertaining, verbally inventive, vastly knowledgeable and witty.' (Louis Hellman, AJ 17.10.02)

An Architect of Promise: George Gilbert Scott junior

By Gavin Stamp. Shaun Tyas, £49.50

'Fascinating insights... Rekindles interest in a lost genius.' (Dan Cruickshank, AJ 21.11.02)

Emmet Gowin: Changing the Earth

Yale University Press, £35

Stunning, hand-toned aerial photographs of landscapes transformed by nuclear tests, quarrying, etc. (AJ 14.11.02)

Claus en Kaan: Buildings

By Hans Ibelings. NAI Publishers, £48

'Claus en Kaan's work is beautiful, intellectually and physically – an extraordinary book.' (Charles Rattray, AJ 25.4.02)

Visionary Gardens: Modern Landscapes by Ernst Cramer

By Udo Weilacher. Birkhäuser, £45

'A treasure trove of ideas which may well excite a new generation of designers.' (Richard Weston, AJ 18.4.02)

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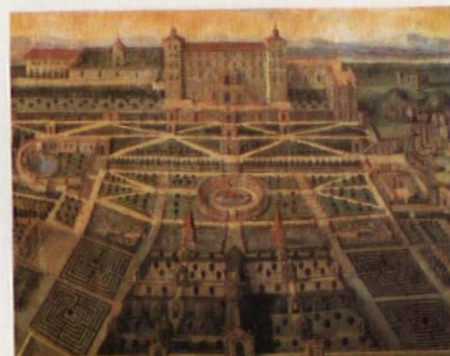
By Kenneth Frampton. Phaidon, £29.95

'It takes a position, and argues, always architecturally and always in detail.' (Iain Borden, AJ 5.12.02)

The Nature of Landscape: A Personal Quest

By Han Lorzing. 010 Publishers, £16

'Thoughtful and opinionated. Anyone who reads it will surely look at landscape anew.' (Andrew Mead, AJ 31.1.02)



Landscape Design: A Cultural and Architectural History

By Elizabeth Barlow Rogers. Abrams, £49.95

Ambitious in scope and a valuable long-life reference book. (AJ 31.1.02)



Reynier Banham: Historian of the Immediate Future

By Nigel Whiteley. MIT Press, £27.50

'This is no hagiography; Whiteley reads closely and critically.' (Simon Sadler, AJ 28.2.02)

Le Corbusier before Le Corbusier 1907-1922

Edited by Stanislaus von Moos.

Yale University Press, £45

'An exemplary piece of history.' (Alan Powers, AJ 24.10.02)

Jean Prouvé Highlights: 1917-1944

By Peter Sulzer. Birkhäuser, £29.50

'Sulzer has an unshakeable enthusiasm for, and encyclopedic knowledge, of Prouvé's life and work.' (Martin Pawley, AJ 12.9.02)

Modern Architecture

By Alan Colquhoun. OUP, £11.99

'Students, take heed. If this does not appear on your reading list, buy it anyway. Here at last is a concise, readable and cheap introduction to the period 1890-1965.' (Elain Harwood, AJ 24.10.02)

Berthold Lubetkin

By John Allan and Morley von Sternberg.

Merrell, £29.95

'It admirably fulfils its intention to make Lubetkin's work more accessible.' (Robert Elwall, AJ 9.5.02)

The House in the Twentieth Century

By Richard Weston. Laurence King, £40

'Weston tells the story well in an easy-to-read style but with enough historical depth and detail to satisfy the scholar.' (Colin Davies, AJ 20.6.02)

Dom Hans van der Laan

By Alberto Ferlanga. Architectura & Natura, £27.50

'Seeing his buildings in colour, as we do in this fine new monograph, is a revelation.' (Richard Weston, AJ 4.7.02)

Dixon Jones

Edited by Ian Latham. Rightangle Publishing, £35

'Its presentation is exemplary – a perfect primer for students.' (Richard Weston, AJ 5.12.02)



Craig Ellwood

By Neil Jackson. Laurence King, £35

'Finely written and well-illustrated.' (Richard Weston, AJ 21.3.02)



Elger Esser: Vedutas and Landscapes 1996-2000

Schirmer/Mosel, £49.95

Superb townscape photographs by a former pupil of Bernd and Hilla Becher. (AJ 21.2.02)



Central European Avant-Gardes 1910-30

Edited by Timothy O Benson. MIT Press, £41.50

'The catalogue of an amazing exhibition – the design and layout of the book reflect the period beautifully.' (David Wild, AJ 18.7.02)

The Yokohama Project: Foreign Office Architects

Actar, £19.95

'Elegantly laid out with numerous drawings and excellent photos. The attention to detail matches the building.' (Barrie Evans, AJ 28.11.02)

Approximations: The Architecture of Peter Märkli

Edited by Mohsen Mostafavi. AA Publications, £30

'We are faced here with a greatness which does not need to shout to convey its message.' (John Bancroft, AJ 14.3.02)

The Charged Void: Architecture

By Alison and Peter Smithson. Monacelli Press, £50

'This volume is filled with projects worthy of hours of study; many have planted seeds that are still dormant.' (Stephen Greenberg, AJ 6.6.02)



Complex Ordinairiness: The Upper Lawn Pavilion by Alison and Peter Smithson

By Bruno Krucker. ETH, £25

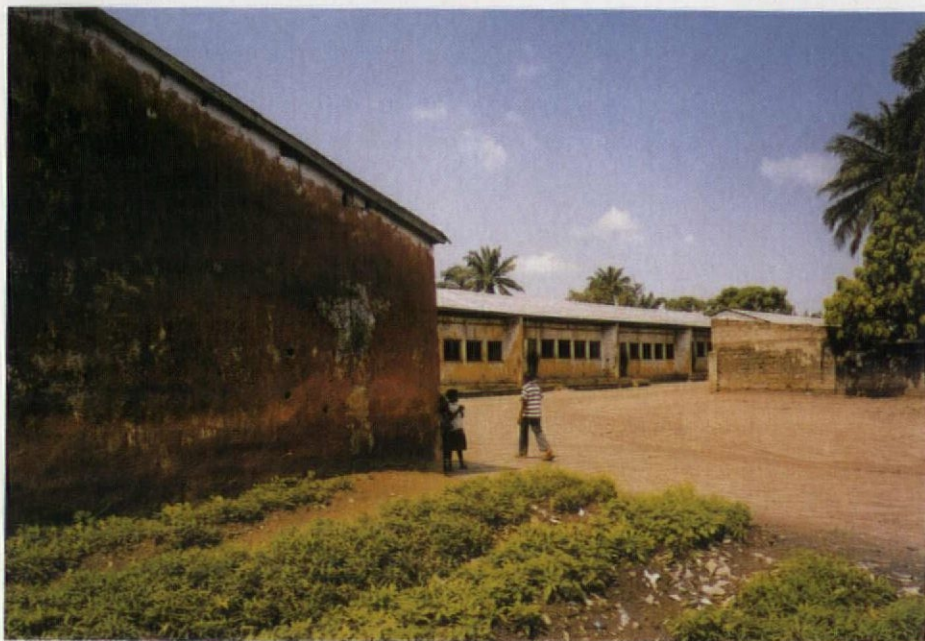
'Exquisitely designed – an absorbing exploration of the Smithsons' ideas and work.' (Richard Weston, AJ 28.3.02)

End of the road?

COLIN DAVIES

Back from Utopia: The Challenge of the Modern Movement

Edited by Hubert-Jan Henket and Hilde Heynen. 010 Publishers, 2002. 412pp. £24



The century turns and Docomomo, curator of the Modern Movement museum, reviews its collection – classifying, labelling, recording, restoring and reflecting on the meaning of it all, now that it is over.

For it is over, there can be no doubt about that. It is the one thing that all 45 contributors to this book agree on, as Hilde Heynen admits in her summing up at the end. Even practitioners like Norman Foster, Harry Siedler and Tadao Ando, who might be expected to see themselves as the inheritors of the Modern Movement tradition, talk about it in the past tense. Hannah Lewi, in an essay about the battle to preserve the Council House in Perth, Australia, puts her finger on the whole Docomomo conundrum: 'Perhaps conservation is paradoxically dealing a final blow to the real existence of Modernism.'

Now that we can see the whole movement – beginning, middle and end – a terrible possibility occurs to us: that perhaps it was not as important as we thought it was. In architectural history, the Modern Movement looms so large as to almost obliterate all other movements and styles, leading Heynen to assert, wrongly, that it 'encompassed the larger part of the architecture produced in the 20th century'. But in the daily lives of ordinary people, the very place where, by its own lights, its impact ought to have been

greatest, the Modern Movement seems hardly to have been noticed.

Certainly it inspired little loyalty or affection. Several times in the pages of this book, the true situation is suddenly, embarrassingly exposed. Gerard Monnier, for example, in his essay about the conservation of some buildings by Le Corbusier, states laconically that 'the appreciation of architecture by those that live around it is independent of its reputation among experts.' In other words, people don't know great architecture when they see it. Or, to put it another way, they have to be told by an expert that a building is great before they can see its greatness, and even then they probably won't.

At Pessac, the first inhabitants innocently and uninhibitedly adapted the houses to their own tastes and way of life, oblivious of the architectural importance of their surroundings. By the 1980s Corb was a known value and a new wave of owner-residents initiated a snowballing process of gentrification that eventually restored the whole estate. It became a desirable place to live, not because of its intrinsic qualities, but because it had become historic.

Even in a planned city like Chandigarh, where one would have thought Modernism impossible to ignore, inhabitants apparently fail to register it.

After recalling his own tendency to see the city in terms of its masterplan, Jagdish Sagar goes on: 'Yet one found that these elements, and the unity they were intended to make up, could be remarkably invisible to people not trained to look at the city through those same spectacles.' Among non-architects, Chandigarh is seen as a version of New Delhi's 'Bungalow Zone' and its dwellings are altered and embellished accordingly. Its biggest tourist attraction is not the awesome Capitol complex but Nek Chand's Rock Garden, a 'small miracle' of folk art made of scrap materials and cement.

As with Corb, so with Mies. Catherine Cooke, in her sceptical look at British architectural education, relates Peter Eisenman's remarks on the inability of young students to see Mies van der Rohe's restored Barcelona Pavilion as the masterpiece history says it is. To initiate it is 'what presentness is'; to everybody else it looks like a car showroom. And pointing out that it was designed in 1929 makes no difference.

Rem Koolhaas is a devotee of Mies and his contribution, a collection of long-captioned images, tells a revealing story about a proposal to revitalise the Illinois Institute of Technology campus. The local architectural fraternity was up in arms about Koolhaas' plan to incorporate the Commons Building into a new Student Center. But as Koolhaas points out, 'the adjustments necessary were a fraction of the abuse the building had already undergone'. After years of being periodically altered and refitted just like any other building, it only became 'visible' as the work of a famous architect, and therefore worthy of preservation, when another famous architect intervened.

Inevitably the contributions to this book are of variable quality. The architects mostly talk about their own work, while the historians/theorists mostly fulfill their more specific briefs to write about particular themes or regions. There is a good deal of repetition of familiar ideas and examples, so that it sometimes seems like a collection of introductions, but there is plenty of thought-provoking material too: Kenneth Frampton's short but incredibly condensed lament for a despoiled environment, for example, or Marie-Francoise Plissart's photo essay on colonial Modernism in Kinshasa (see picture).

But the thoughts provoked are not necessarily those that the editors intended. The book was presumably meant to confirm the historical importance of the Modern Movement. It might have the opposite effect.

Colin Davies is a professor at London Metropolitan University

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Hurley, Robertson and Associates has moved to 111 Southwark Street, London SE1 0JF, tel 020 7633 5100, fax 020 7620 0091.

Broadway Malyan Landscape has promoted **Peter Dikhuus** to associate director. **Roger Lomas** has also joined as associate and team leader landscape architect. Also, **Broadway Malyan España** has appointed **Jorge Ponce Dawson** as the new Madrid office director, working alongside current director **Jeremy Salmon**.

Duffy has moved to 50-52 Great Sutton Street, London EC1V 0DF, tel 020 7490 0456, 020 7490 4956, email@duffydesign.co.uk.

PRP has appointed **Frances Chaplin** to head up its newly opened Manchester city centre office.

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Craig Douglas and Martin King have set up a studio called Douglas & King at 150 Curtain Road, EC2A 3AR, tel 020 7613 1395.

● Send details of changes and appointments to Victoria Huttler, The Architects' Journal, 151 Rosebery Avenue, London EC1R 4GB, or email victoria.huttler@construct.emap.com

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THE ARCHITECTURAL
REVIEW

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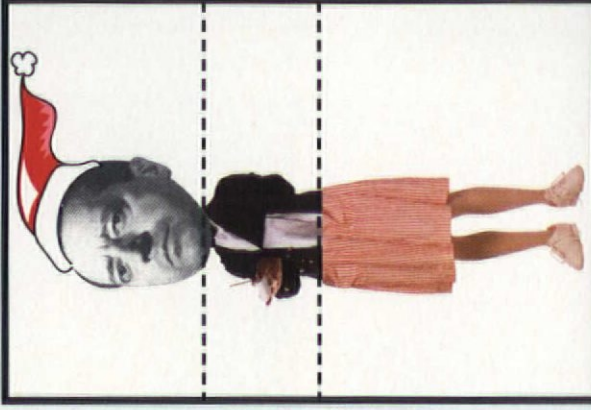
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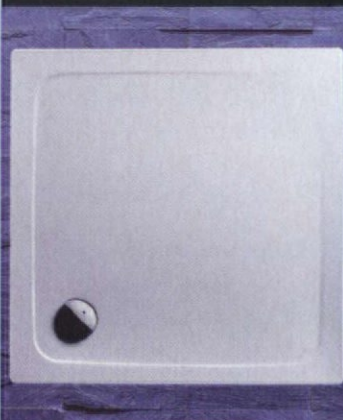
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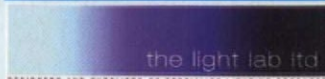
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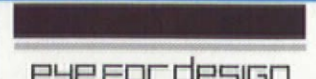
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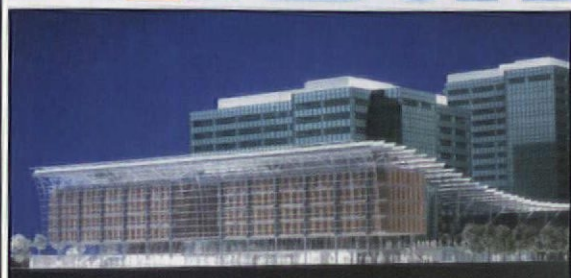
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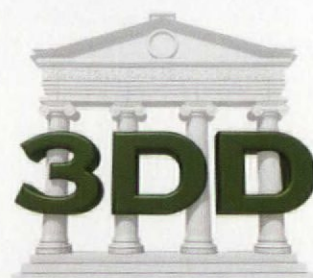
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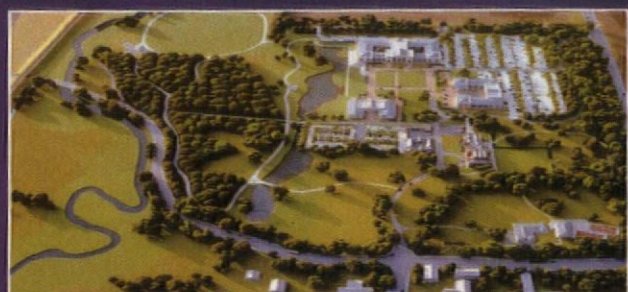
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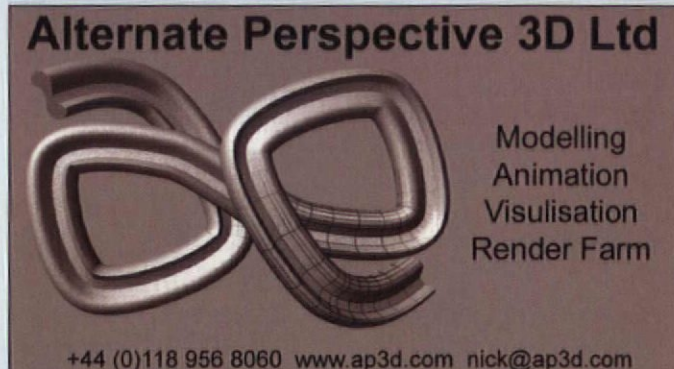
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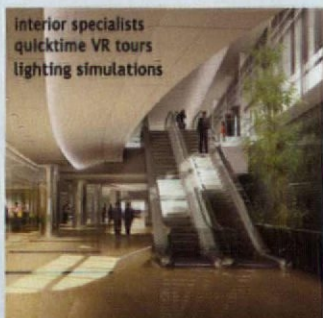


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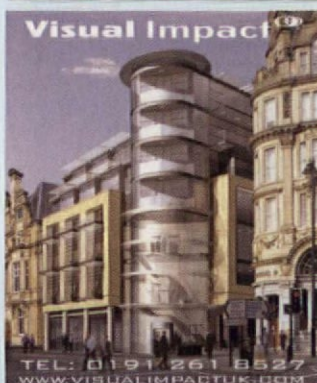
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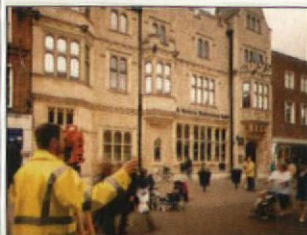
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Champagne goes to Alex Roberts of Byron Clark Roberts in Sheffield, who identified Gunnar Asplund from the clues in our previous issue. For the final time, can you identify the architect from the clues here? Send your answer on a postcard please, by first thing Monday morning, to: AJ Astragal, 151 Rosebery Avenue, London EC1R 4GB, or fax your entry on 020 7505 6701. The first correct entry out of the hat wins a bottle of bubbly. Watch out for a brand new Astragal competition in our first issue of 2003.

The year that was

So how does the architectural profession find itself at the end of that numerically palindromic year, 2002? As usual, the brightest stars in the architectural firmament have tended to burn brighter given the continuing market for large-scale developments, particularly in London. So, once again, **Lord (Gherkin) Foster**, **Lord (Canary Wharf) Rogers**, **Sir Michael (Chester city centre) Hopkins**, **Sir Nicholas (Minerva Tower) Grimshaw** and **Sir Terry (Greenwich Peninsula) Farrell** have continued to flourish. To this list we must add the hero of Arsenal, **Piers Gough**, who has popped up here, there and everywhere, including Brighton, Sunderland and California (with Frank Gehry); and **Will Alsop**, who had a spectacular end to his year by winning the Liverpool Fourth Grace competition, having delighted or shocked the citizens of Barnsley with his walled town proposal.

Sweet and sour

It has also been a great year for **Wilkinson Eyre**, whose Stirling Prize victory confounded those critics who assumed that the firm could not win the prize two years running. The Gateshead Millennium Bridge achieved truly iconic status from the moment of its completion, which is rare for any piece of architecture, or in this case engineered architecture; Giffords should not be forgotten as the first-rate bridge designer that made the thing happen, in the best traditions of professional collaboration. Will this sort of

collaboration continue? Probably, since it has proved a winning formula for both sets of designers, in relation to bridges and other structures, such as **Ted Cullinan's** wonderful gridshell in Sussex. Watch out for proposals for a bridge across the River Lea where it meets the Thames opposite the Millennium Dome.

Spirit of '68

When **Mike Davies** went to the Architectural Association to do his diploma, concentrating on lightweight structures, his tutor was **Peter Cook**. And the Dome represents the apotheosis of an attitude to the temporary, although the contents would have been much better had they been left to **Archigram**, rather than the New Labour committee which screwed up the Millennium. Anyway, it was definitely Archigram's year in more ways than one. Not only did it win the Royal Gold Medal, sparking 10 days' events of piquant nostalgia and provocation, but Messrs Cook and David Greene won the Annie Spink education award for exemplary teaching; an architectural movement needs its teachers and its apostles. In the case of Archigram, there have been hundreds of them, carrying on those free-and-easy '60s ideas for the past 40 years, not necessarily as car-carrying proselytisers, which Cook and Greene would never have wanted anyway.

Price of success

That proto-Archigrammer **Cedric Price** ended the year in spectacular fashion, winning the Kiesler Prize (worth

50,000 euros) in a sort of cyberspace lifetime achievement award. Having given up his old eyrie at Alfred Place, Price has been putting his ideas about transience, change and anticipation by keeping people guessing about where the next meeting with him might be – a cafe, the RIBA restaurant, the bar in St John's – it is all on best Architecture Club principles. No fixed abode and all the better for it. The Club's secretary, **Peter Murray** of Wordsearch fame, celebrated 25 years in that post with a splendid reception in the former Russian embassy in Bayswater. Closer to his own offices in Clerkenwell, he is now working on an ambitious scheme to create the Clerkenwell Biennale as a counterpoint to the Venice Biennale, successfully curated by the Stakhanovite **Deyan Sudjic** who, by common acclaim, put on a splendid show this year; he is signed up to do the same in 2004.

St Paul's gospel

Globetrotting RIBA president **Paul Hyett** can count 2002 as a successful year, both for the practice he chairs, Ryder, and for the institute. As far as the latter is concerned, there were a number of successes: the RIAS put on a proper footing as far as subscription moneys are concerned; the deal with the V&A over the Drawings Collection signed and sealed (with £3.4 million of Lottery money ready to be had once the formalities are completed); a deal achieved with the ARB over school validation, which should mean stability from next year over this vexed

question; and, not least, progress on an agreement with the American registration board over the status of British professionals across the Atlantic, the outcome of which will have to wait until next year. Further pluses included a positive RIBA conference (with the AJ), including a highly thoughtful keynote address by **Sir Richard MacCormac**, and the first formal dinner for winners of the RIBA national awards, which is set to continue next year. The institute also showed maturity in adopting the Eganite agenda in the report 'Accelerating Change', and accepting the principle of Public Private Partnerships at the council meeting last week.

CABE Christmas

CABE had a pretty successful year. Its joint document with the Office of Government Commerce on public procurement has set the foundations for a revitalisation of the PFI programme, putting design matters at the heart of the process. The National Audit Office was helpful in pushing the design quality line, and the scene is set for a conversion process of all the public authorities who have been slow to pick up on government thinking. CABE's year was crowned (at the Urban Summit) by **John Prescott's** announcement that the commission would be taking on responsibility for improvements to urban space, particularly in relation to green spaces. So remember: you may think you are simply walking down the street or taking a stroll round the park. In fact you are inhabiting CABEspace. Happy Christmas!

astragal ●

HUNTER DOUGLAS

AJ ENQUIRY NO: 201



The attractive new Chelsea Football Club complex demonstrates the architectural intent and outstanding design possibilities of the Luxalon Insulated Cladding Total Wall concept. The designers used 1,200mm module curved Bi-Modular 'D' panels, incorporating false joints, to produce an extremely smooth and attractive appearance.

FENDORHANSEN

AJ ENQUIRY NO: 202

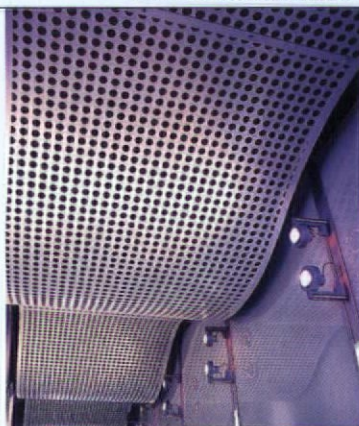


Working with architect FaulknerBrowns of Newcastle, Gateshead-based FendorHansen designed, supplied and installed its Fineline internal glazed fire screens to the English Institute of Sport, Manchester. FendorHansen's fire-glazing specialists used Fineline to protect the fire escape routes and staircases, and incorporated Swingline glazed doors, ensuring up to 30 minutes' fire integrity.

GOODING ALUMINIUM

AJ ENQUIRY NO: 203

Gooding Aluminium has soared to new heights of innovative aluminium design by producing a truly inspirational perforated ceiling contoured into waves at offices in New Bond Street, London W1 for Prudential Property Investment Managers. GA's service was specified by architect Paul Wahda of Haddon Few Montuschi to form the spectacular curved tapering ceiling.



BAGGERIDGE BRICK

AJ ENQUIRY NO: 204

The 110-116 Wigmore Street project in London's West End, which uses Baggeridge bricks, has been selected as the best commercial building in the coveted brick industry's national awards organised by the Brick Development Association. Classic Buff Multi bricks from Baggeridge were specified by architect Kalyvides Partnership for external brick cladding.



MENDIGER BASALT

AJ ENQUIRY NO: 205

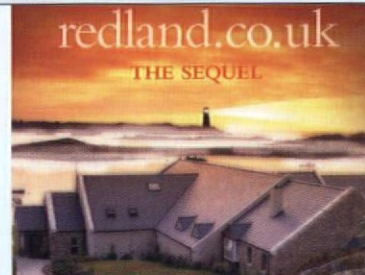
Mendiger Basalt Lava was used to build Ortner and Ortner's MUMOK modern art museum in Vienna – for the 100mm-thick facade, the curved roof, and the inside walls. The entrance hall is fully lined with Basalt slabs. It is a homage to this volcanic material, chosen for its character and resilience. For details, tel 020 7407 1157 or email info@lavastone designs.co.uk



REDLAND ROOFING SYSTEMS

AJ ENQUIRY NO: 206

Click onto www.redland.co.uk for the best website in the industry for pitched roofing – that's according to the annual Barbour Index Report, for the second year running. It is packed with even more information for 2003, ranging from simple product selections to the most complex technical specifications. ViewMaster is, letting you visually 'try before you buy' products on sample buildings and see how they look in full colour. Also new is Photo Gallery, which lets you see how different products look on completed buildings.



FORBES AND LOMAX

AJ ENQUIRY NO: 207

Forbes and Lomax's Dimming System alters lighting levels at the push of a button or by remote control. It is quick to programme and simple to install. Available in a number of high-quality finishes and two sizes, the smaller fits into a standard double-depth wall box with separate power unit, and the larger model is entirely self-contained. Call 020 7738 0202 or visit www.forbesandlomag.co.uk for more information.



SENIOR ALUMINIUM SYSTEMS



AJ ENQUIRY NO: 208

Five commercial buildings at Solar Park in Solihull have been supplied with a Senior Aluminium Systems' glazing package. Polyester powder-coated grey and recessed into the surrounding silver cladding, the 6.5m-high double-glazed curtain wall integrates thermally broken SX 200 windows with top-hung vents, and SAS commercial doors.



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