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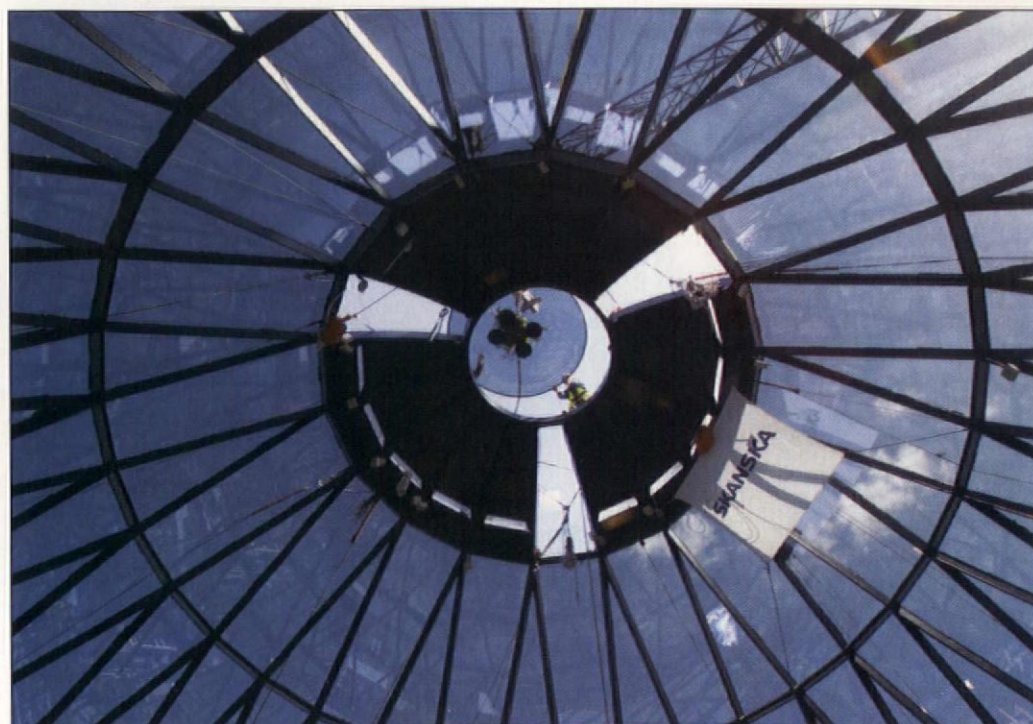
16,447

(July 2001-June 2002)

ISSN 0003 8466

emap communications

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The glass lens at the apex of Foster's Swiss Re skyscraper was lifted into place by contractors last week. The only piece of curved glass in the building in the City of London, was installed with the aid of abseilers. The lens, measuring 2.4 meters in diameter and weighing 250 kgs, is the topmost element in the 180m tower, which contains a total of 5,760 glass panels. The fitout is due to be completed by the autumn.

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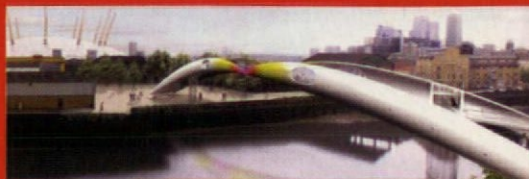


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Visit our website for daily news, the AJ archive, buildings, competitions and product information. Magazine articles marked + are available in greater detail online.

“Landscape architecture as big architecture and architecture as small landscape”

Jonathan Ellis-Miller blurs the boundaries >> page 7



Thames Gateway bridges revealed: match the architects to the designs >> page 8

aj news

Richard Rogers back on Welsh Assembly project

The Welsh Assembly looks set to reappoint Richard Rogers Partnership to complete its Cardiff Bay parliament building, at a fixed cost of £48 million. Rogers was originally dropped from the project after a row over rising costs.

The RRP design team won the bid following a series of project presentations this week, and the full assembly will be asked to approve the contract during a plenary session next Tuesday. With only 11 Conservatives in the 60-strong Welsh Assembly likely to oppose the project, approval is expected to be a formality.

Contractor Taylor Woodrow, which will carry all risks with RRP as its subcontractor, will begin on site in August, with an occupation date set for September 2005.

The biggest design challenge on the project had been how to fix the wavy glass roof to the largely glass sides, said an assembly member who had attended the presentations. 'But an engineering solution has now been found which accommodates the lack of interior walls,' he said.

Reciprocal agreement to open doors to China

A deal that will open up China's vast architectural market to British practices is in the pipeline, the AJ has learnt.

The Architects' Council of Europe (ACE), an umbrella group that includes the RIBA, is on the verge of signing a Mutual Recognition Agreement with the Chinese government.

The move – which could be completed within six months – will mean that British architects will be allowed to work freely in China without having to work in collaboration with local practices.

UK offices have welcomed the move, saying an agreement would make taking on design jobs in the booming economy 'considerably more attractive'.

However, any agreement will also be reciprocated, allowing Chinese-qualified architects to pick up jobs in Britain. The ACE's chief negotiator, former RIBA presidential candidate John Wright, said that the Chinese representatives at recent World Trade Organisation negotiations were 'extremely enthusiastic' when an agreement was proposed.

'The Chinese are keen to see a deal,' he told the AJ. 'Their ambassador to the World Trade Organisation is currently finding out from the Chinese government how fast they can deliver it.'

Wright added: 'There is a real opportunity here. If this agreement goes through, which I think it will, it will mean a lot more freedom for both UK and Chinese architects.'

London-based Botschi Vargas – which has just picked up a major competition win for a new quarter in Yichuang city – said an agreement would make working in China much easier.

'A move like this would be extremely welcome,' founding partner Luz Vargas said. 'It would be advantageous for anybody who wants to work in China in the future.' She added that she hoped it would also ease the 'bureaucracy and cultural difficulties' currently experienced by many British practices when working in the country.

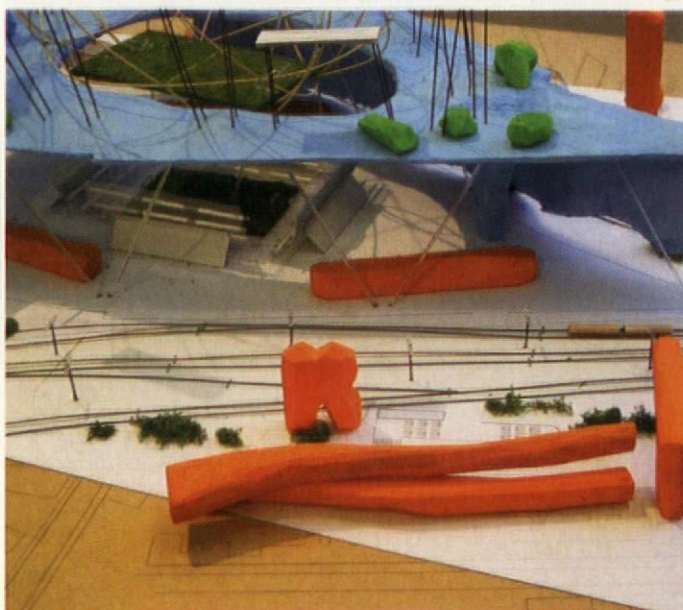
Roger Ingell, the director for overseas development at Aedas AHR – a practice with a 250-strong office in Hong Kong – added that Brits should have nothing to fear from an influx of Chinese architects.

'Assuming that those who come are suitably qualified, then they would be a considerable asset to this country's architectural community,' he said.

'This is only the start, but I think it will be great news.'

Ed Dorrell

Alternative designs for prestigious sites are simply child's play



Schoolchildren have teamed up with UK architects for Architecture Week to explore alternative designs for famous sites including Arsenal FC's proposed new stadium at Ashburton Grove (pictured).

Teenagers from schools in Birmingham, Derbyshire and London have worked up new designs with practices including Allies and Morrison, Alsop Architects, HOK Sport and Richard Rogers Partnership. Drawings, paintings and models for the 'Designs on Britain' project will be judged today (26 June) and exhibited at the RIBA in Portland Place until 28 June.

Alsop Architects worked with London's CIC sixth-form college on a new stadium for Arsenal, while Richard Rogers teamed up with Christ the King College A level students to redesign Convoys Wharf.

Islington Green School worked with Allies and Morrison on a new 'folly' in the grounds of the current Arsenal stadium, and Timothy Associates and Northbrook School have designed public art for the site of the Stephen Lawrence Techno Centre, London.

Also taking part were CZWG, Derbyshire County Council, Rodney Melville and Partners, Glenn Howells Architects, Mansel Architects and Rick Mather Architects.

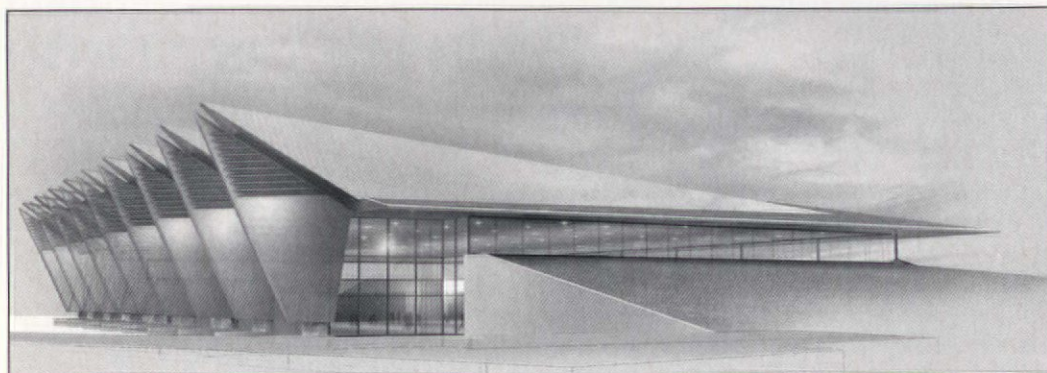
Architecture Week events continue throughout the weekend. For a full list of events visit www.architectureweek.org.uk.

Nigel Griffiths MP
has a 'keen interest'
in architecture.
What is his new job?
→ page 14



“You don't fatten a pig by weighing it”

QS Paul Morrell persuades delegates at the AJ's PPP:PFI conference that the industry needs less auditing → page 22



Grimshaw has won an invited competition to design a semi-underground extension to Hamburg Congress Centre worth almost £14 million. The building will be sited at the edge of the city's Planten un Blomen park and be clad in steel, glass and aluminium. The extension could be complete by 2005. ➤

MPs set to back Early Day Motion to save 'country house' clause

MPs are pledging their support for an Early Day Motion (EDM) in support of the AJ's campaign to keep PPG 7's 'country house clause'.

Labour backbencher Barry Sheerman is set to table the EDM this week. Those backing him include Labour MP and planning specialist Christine Russell.

The EDM will call on the government to pledge that the Office of the Deputy Prime Minister's (ODPM) forthcoming revised countryside planning guidance, PPS 7, will retain the provision which allows that – in exceptional circumstances – permission may be granted for an isolated new house in the countryside provided it is of the highest quality, is outstanding in terms of architecture and landscape design, and would significantly enhance its immediate setting and wider surroundings. The EDM will aim to influence the

draft of PPS 7, which is shortly to be issued by the ODPM for public consultation.

Keith Hill, new minister of state for housing and planning, this week responded to the AJ's campaign by denying that removal of the 'country house clause' would spell the end of the country house tradition. See Editorial (page 26) and visit ajplus.co.uk to read Keith Hill's response in full or to register your views.

● The Great Country House Debate, organised by the AJ and the RIBA, will take place at the RIBA, Portland Place, on Wednesday 9 July at 6.30pm. It will be kicked off by John Gummer MP, who introduced the PPG 7 legislation when he was environment secretary, and will be one of George Ferguson's first appearances as RIBA president.

Email angela.newton@construct.emap.com to register for free entry.



Prefab award-winner 'cuts losses and closes'

One of the UK's highest-profile prefabrication housing firms, Hanson TiS, has ceased trading and closed its factory in Trafford.

The firm blamed its failure to stay afloat on clients' obsession with experimentation and a lack of reliable orders.

The company – which won a series of awards for its work including its Prefab House in Birmingham – will close at the

end of this month and all contracts will be completed by the end of July.

Marketing director Brian Garratt said that there had been a lot of one-off interest and some 'very interesting experimental schemes' but not enough regular work. 'We were finding interest was beginning to snowball, but it wasn't the right kind of interest,' he told the AJ. 'What we

needed was the repeat work on the big schemes. Regrettably we could not see this changing for the better for quite some time in the future so we were forced to cut our losses,' Garratt added.

Keith Blanshard, the managing director of Yorkon, a major competitor of Hanson TiS, said that it was always a disappointment when another prefab operation went under.

RIBA ANGER AT HEFCE

The RIBA has demanded that grants body HEFCE abandons plans to redistribute grants away from schools with lower research ratings. The HEFCE plans to reallocate money assigned during 2001, so that '4' graded departments will lose their funds to those with '5' and above. RIBA's vice president for education, Jack Pringle, said: 'First we were concerned that our schools' research efforts may not have been judged fairly. Now those who scored 4 look as if they will have their research funds stripped away.' ➤

WESTMINSTER HALL PROBE

Conservationists are assessing the damage to a lantern in London's medieval Westminster Hall after a section of the structure collapsed during rehearsals for a royal concert. The reverberation from the bass notes of an electric organ dislodged two main sections of the lantern's timber vaulting during preparations for the concert, due to be held last Wednesday. ➤

LIVERPOOL QUALITY BID

Following Liverpool's failure to pick up a single award in last week's RIBA Awards, a group of architects is pressuring the city council to do more to encourage quality architecture. The group, headed up by Richard Cass, wants Liverpool to put design at the forefront of its preparations to be City of Culture 2008. ➤

WOOD AWARDS SHORTLIST

Niall McLaughlin Architects plywood bandstand at Bexhill's De La Warr Pavilion is one of 21 schemes shortlisted for the Wood Awards, formerly the Carpenters Awards. Also on the list are Wilkinson Eyre's Bridge of Aspiration at the Royal Ballet School and van Heyningen & Haward Architects' Sutton Hoo visitor centre. Winners will be chosen on 15 October. Full list at www.woodawards.com ➤



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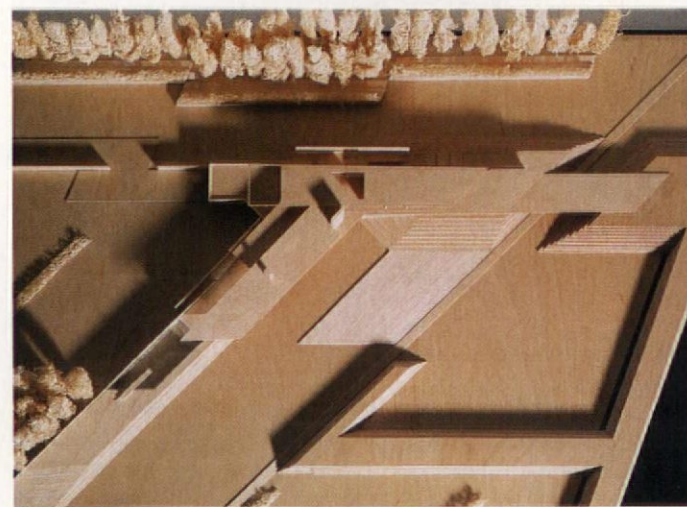
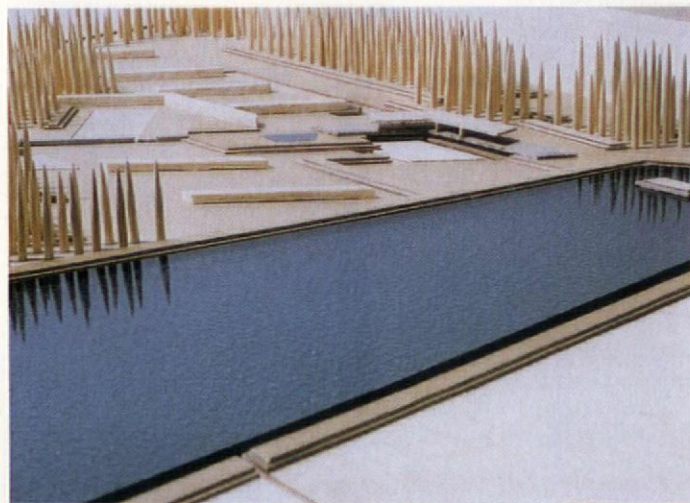
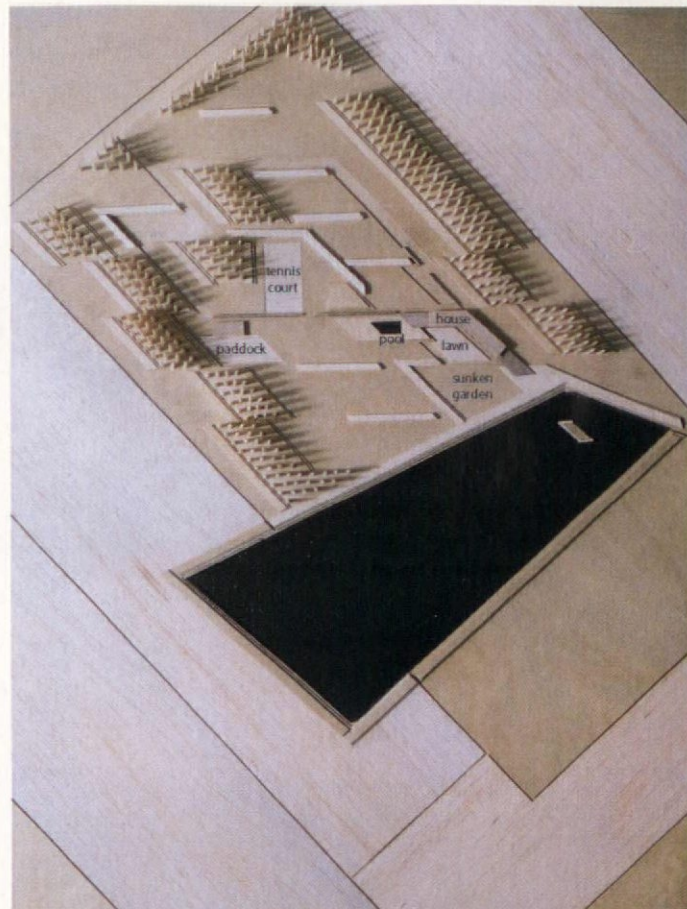
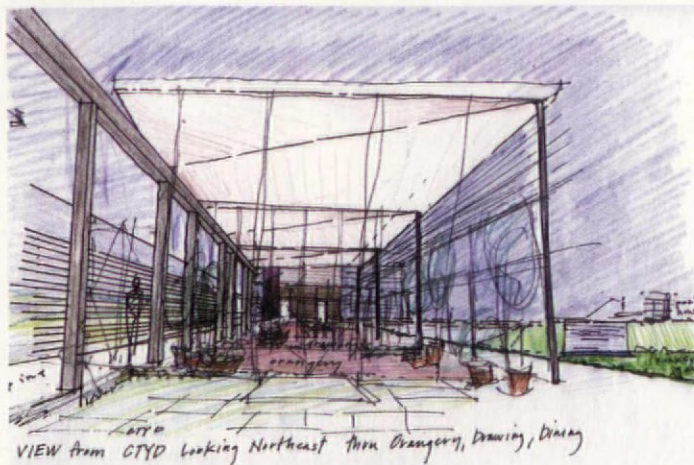

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Ellis-Miller hopeful for PPG 7 win



Ellis-Miller is hoping to clinch approval for a modest home on 400ha of farm land under the threatened PPG 7 'country-house clause'.

The 650m² home for a local farmer is due before Fenland District Council within three months and, said director Jonathan Ellis-Miller, epitomises the spirit of the rule being championed by the AJ.

Ellis-Miller said the design for the house and landscape 'exemplifies the firm's responsiveness to the site's history and features'. It will 'lever' into features of the flat fens in Cambridgeshire, which include earth mounds called berms and 'bog oaks' – jet-black prehistoric oak buried in peat.

'The four-bedroom house will be woven into the landscape and take cues from fenland history,' Ellis-Miller said. 'Its palette includes terraced earthworks, wattle fencing and green roofs. The frame will be dark-stained wood, recalling the black soil and old oak forests.'

Ellis-Miller said the project would 'cost millions' and take in the entire 400ha of land, three miles in length. A 'parallelogram tartan grid' of

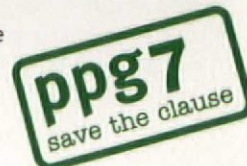
trees planted in rectilinear patterns would create vistas across the entire site while providing wind shelter.

The house is surrounded by 17th-century canals and stands beside a wedge-shaped reservoir, strong in form, he said. 'We saw the land as an abstract painting and this generated ideas of creating perspective-type shapes like '60s art by Bridget Riley,' Ellis-Miller added.

'The building will be more like a geological outcrop and we see the landscape on a massive painterly scale. We've explored the nature of a modern house in a substantial landscape.'

'The design team, including the Landscape Partnership, saw landscape architecture as big architecture and architecture as small landscape,' said Ellis-Miller. Building dates have not yet been finalised.

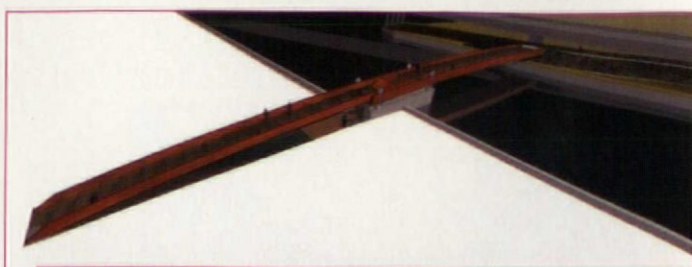
Jez Abbott



Bridging the gap in east London



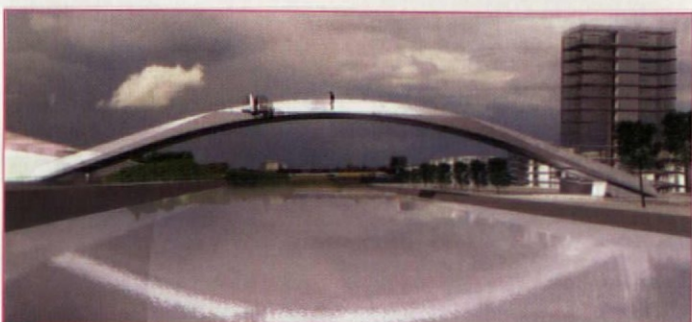
Design A



Design D



Design B



Design E



Design C



Design F

The six leading architects shortlisted to design a landmark bridge for London's Thames Gateway have revealed their proposals in an anonymous exhibition.

The teams have all produced concept designs for the £2 million pedestrian and cycle bridge, which will span the River Lea opposite the Millennium Dome, linking the isolated Leamouth Peninsula to Canning Town Station. It is intended to breathe new life into this underused area of the Docklands and help create a new urban quarter.

The six teams are:

- Future Systems (with Strasky, Husty & Partners);
- McDowell + Benedetti (with Arup);
- Ian Ritchie (with Techniker and Faithful & Gould);
- Whitby Bird;
- Filippo Brogini (with Air Light Research); and
- Niall McLaughlin Architects (with Price and Myers).

The winner will be chosen in mid-July by a jury chaired by CABE deputy chairman Paul Finch and including Piers Gough, Alex Lifschutz and Lord Rogers.

The chairman of Leaside Regeneration, Eric Reynolds, said: 'The

Leamouth area has incredible potential, as any visitor to Trinity Buoy Wharf will tell you.

'With this competition, we can mark Leamouth as a new urban quarter, symbolise its aspirations and enable residential and business communities to take advantage of this historic waterside site.'

Design jury chairman Paul Finch said: 'Bringing the best in design to our communities is essential if we are to develop environments which add value to people's lives and work.'

'With the Leamouth Bridge competition we are setting the standard to which future London developments will aspire.'

As part of the competition, each of the design teams will lead an architectural workshop in a local school, and all six designs will be on view to the public at an exhibition at Trinity Buoy Wharf until 14 July. Planning permission is

expected later this year, with a possible opening date in 2005.

The competition is supported by the Greater London Authority, Thames Gateway London Partnership, Transport for London, the London Development Agency and Tower Hamlets and Newham councils.

Zoë Blackler

Match and win

Can you match the correct architects with the six designs? For the chance to win a bottle of champagne, send your answer on a postcard by Monday morning to: 'Match the Bridge Competition', The Architects' Journal, 151 Rosebery Avenue, London EC1R 4GB, fax 020 7505 6701, or visit ajplus.co.uk.

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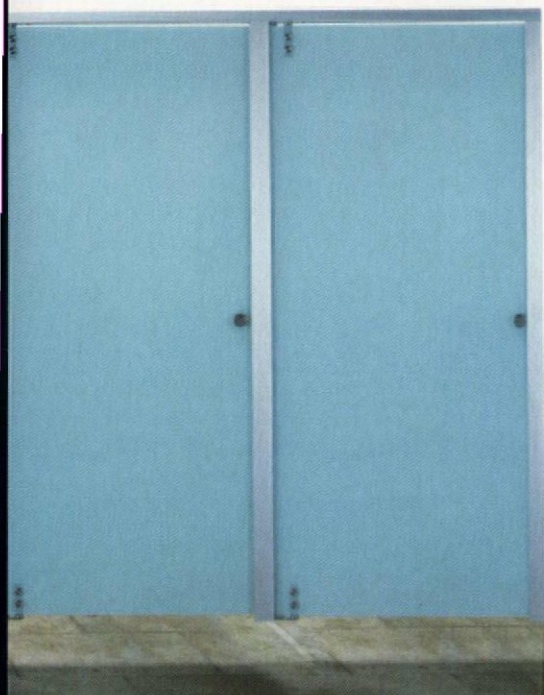
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Lax schools face fines over CDM

The TUC and Health and Safety Executive (HSE) are pushing the government to fine architecture schools that fail to fully train students in the CDM Regulations.

The TUC has become increasingly infuriated about schools' failure to pay attention to these regulations. Health and safety coordinator Tom Mellish told the AJ that many in the HSE believe this 'last resort' could be the only way of making them sit up and take note. 'I've been talking to schools of architecture about CDM for years and have got a very mixed response,' he said. 'I've heard there is one school that teaches only eight hours over its whole course.'

Mellish said financial penalties are one of a series of measures being considered at the HSE as a way of increasing CDM education in schools. 'But,' he said, 'there is a growing belief that this could be the only way to ram the message home'. Mellish said there is 'increasing frustration within the rest of the construction industry, because

most contractors are taking health and safety seriously but architects and their schools still seem ambivalent'.

The RIBA has reacted to the proposal with horror. Vice-president for education Jack Pringle described the idea as 'outrageous and counterproductive'. He said there would be little point in penalising schools as it would 'simply lead to a vicious circle', leaving them less financially capable of training students at all. 'We all understand that the government and the HSE are keen to improve health and safety in construction,' he said. 'But there are so many areas that schools have to teach and it seems daft to focus purely on the CDM regs.'

The HSE is on the verge of launching an offensive on the CDM regulations. The AJ revealed last month that the agency's inspectors are readying themselves for a series of unannounced inspections of architects both in their offices and on site.

Ed Dorrell



Hordes of hopefuls turned up at the RIBA last Wednesday seeking fame and fortune as BBC talent-spotters set up shop outside the institute's Portland Place headquarters. BBC staff estimated the queue was 200 strong, with an average wait time of six hours for the screen tests, which were held in the back of two specially refitted black cabs. The auditions, timed to coincide with the AJ/RIBA annual conference, were for the chance to front a new architecture show in 2004 for the digital channel BBC 4. The wannabes included architects and architectural historians as well as members of the public. One architect, Tara Thomas of Lewes-based Bradford & Thomas, said that the 'few hours' she had waited were well worth it. 'I'd love to be on TV,' she said. 'And if I could combine it with my passion for architecture, well that would be wonderful.'

Three new sectors to get Bench Mark

Specialist reports on the education, housing and offices sectors will be offered this year for the first time as add-ons to the AJ/ Colander Bench Mark 2003 survey. These reports, each comprising 36 pages of graphs and analysis, will use the same measures included in the main Bench Mark report. Sector surveys will only be available to subscribers to Bench Mark 2003, and there will be a special offer for the first 10 subscribers to each of the sector reports. The main Bench Mark, an in-depth look at success in running a practice will, as previously, comprise an analytical overview and an inter-firm comparison in which your performance is compared to that of your peers. For more information contact caroline@colander.co.uk

Big-name practices line up for BCI awards

Judges have announced the shortlists for the British Construction Industry Awards, supported by *The Architects' Journal*.

The lists were whittled down from 157 entries for an award that includes categories for major projects costing at least £50 million, small projects worth less than £3 million, a general building award, international schemes and civil engineering as well as the Prime Minister's Award for Better Public Building, which was announced last week.

The eight major projects include Edward Cullinan Architects' Centre for Mathematical Sciences in Cambridge, BDP's Royal Albert Hall restoration, and the Royal Infirmary of Edinburgh & University of Edinburgh Medical School by Keppie Design.

The awards, in their third year and to be announced on 22 October, include a small projects shortlist of 10. Marks Barfield Architects' Millbank Millennium Pier made the list, as did Allan Murray Architects' Cowgate Under 5s Centre in Edinburgh.

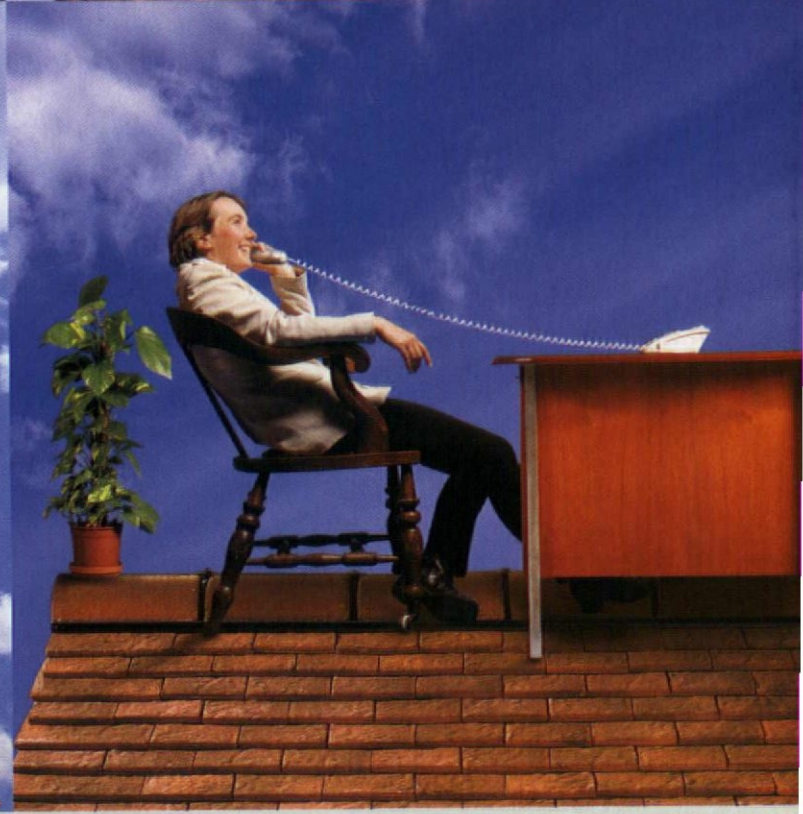
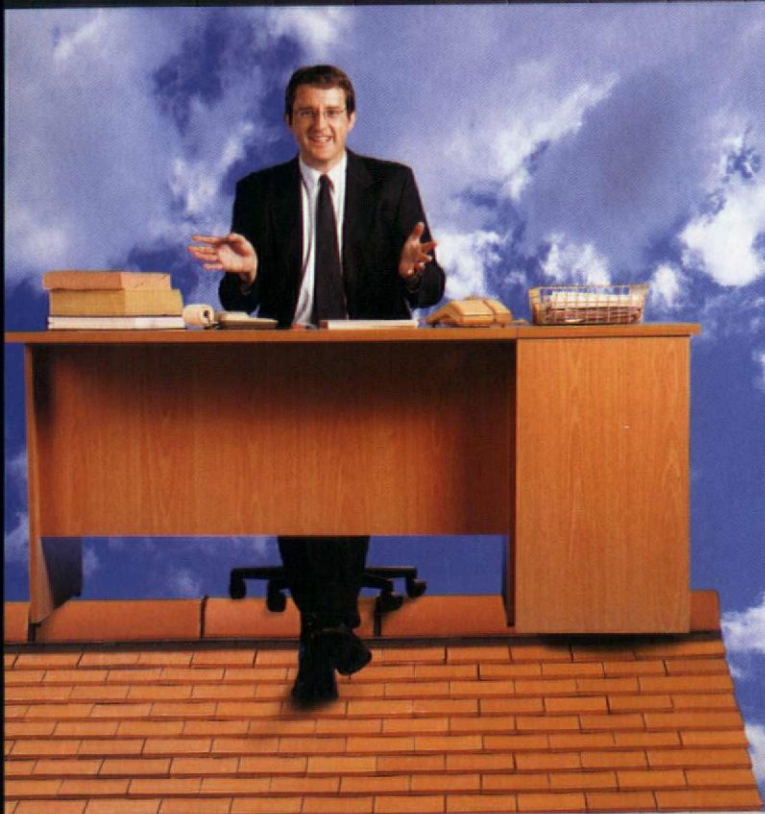
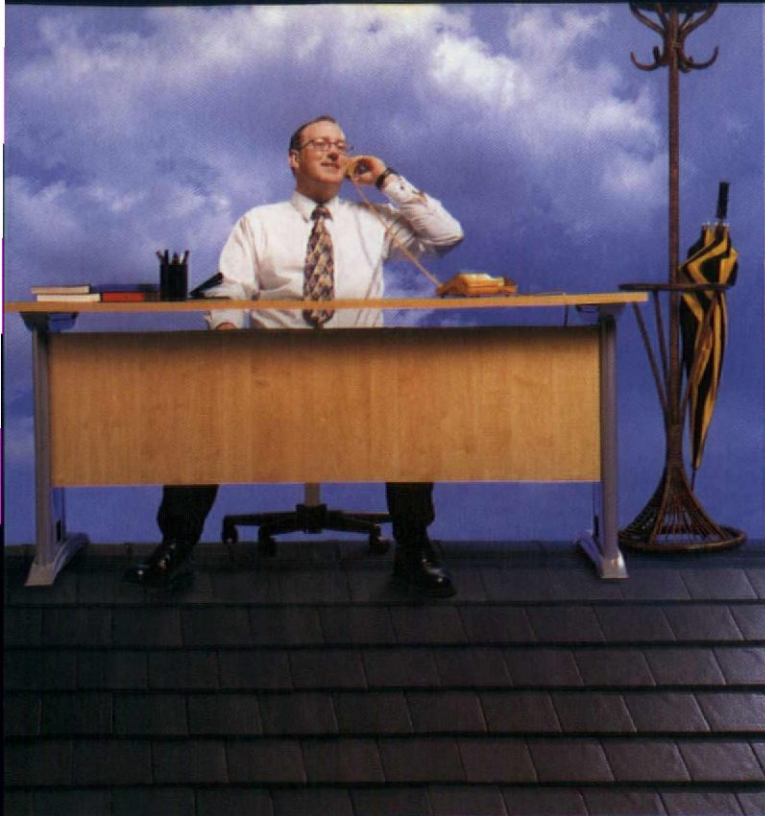
Edgbaston cricket ground's Eric Hollies Stand by Bryant Priest Newman Architects is also on the list, along with Wilkinson Eyre's

Bridge of Aspiration at the Royal Ballet School. They are joined by John McAslan + Partners' Benenden Hospital wing in Kent, Terry Pawson Architects' St Mary's Church Hall in London, and de rijke marsh morgan's No. One Centaur Street, also in the capital.

Foster and Partners made the shortlist for the building category with its City Hall in London, as did Daniel Libeskind's Imperial War Museum North, Allford Hall Monaghan Morris' Jubilee Primary School, Miller Partnership's Kingston upon Hull Community Stadium and Herzog & de Meuron's Laban Dance Centre in London.

Michael Hopkins and Partners' Manchester Art Gallery is also in this category with Long & Kentish Architects' National Maritime Museum in Cornwall, Fletcher Priest Architects' Peoplebuilding scheme in Hemel Hempstead, Hertfordshire, Eric Parry Architects' Finsbury Square, London, and Glenn Howells Architects' Timber Wharf in Manchester.

The six designs shortlisted for the international category include Ian Ritchie Architects' Spire of Dublin and The Manser Practice's Umoja House in Dar es Salaam, Tanzania.



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Reshuffle renews fears of lack of focus for construction and design

Full details of Tony Blair's new-look government have now been finalised in a reshuffle of MPs that continues to carve up responsibility for architecture and the built environment.

One of the biggest unknowns is Streatham MP Keith Hill, who replaces Lord Rooker as planning minister. At the Department of Trade and Industry (DTI), Nigel Griffiths becomes the minister for small business and enterprise, where he oversees one of the largest sectors, construction.

Meanwhile, former education secretary Estelle Morris stole the headlines when she replaced Baroness Blackstone as minister for the arts, museums and galleries and cultural property.

CABE commissioner and Egan agenda champion Robin Nicholson said of the reshuffle: 'The biggest worry is that construction is still spread across several ministries.' The split lands the culture ministry with architecture, the DTI with construction and the Office of the Deputy Prime Minister (ODPM) with planning.

'The focus is diluted and this does not help those trying to do urban management. Yet the Prime Minister's shortlist for the Better Building awards shows we still have good leadership from the top.'

He said he regretted the resignation of construction minister Brian Wilson, who 'understood the importance of joining design quality with values contained in Rethinking Construction'. But Nicholson said Estelle Morris was 'extremely positive' as education secretary and he had every confidence in her.

RIBA head of government affairs Jonathan Labrey also welcomed Morris' appointment, saying education was George Ferguson's major thrust as new RIBA president and her background would be useful.

He said: 'Keith Hill is highly regarded and it means planning and regeneration matters will come from the House of Commons from a ministerial level.



ESTELLE MORRIS

The minister of state for the arts is described by political pundit Andrew Roth as 'widely admired or tolerated and only rarely criticised'.

She is the highest-profile appointment to affect architecture, having walked out of her post as education secretary last October, saying she was not up to the job.

The former teacher, the MP for Birmingham Yardley, replaces Baroness Blackstone and has responsibility for museums, galleries and libraries, cultural property, heritage and the government art collection.

The 51 year old is a keen advocate of teaching creative skills in schools and told a Tate Britain seminar last year that poets, artists, actors and museums should be more involved in education.

Last week she was back at Tate Britain in a much-publicised opening of the exhibition of work by British abstract painter Bridget Riley.

Lord Rooker debated from the House of Lords.'

However, Labrey said Nigel Griffiths' appointment marked a downgrading from minister of state to a junior minister. He said he was also worried that the word 'construction' was not part of his title of minister for small business and enterprise.

Within the Department for Culture, Media and Sport, Lord McIntosh becomes minister for the historic environment



NIGEL GRIFFITHS

The minister for small business and enterprise oversees the construction industry as well as small business and social enterprise.

The 46-year-old MP for Edinburgh South has no ministerial experience of architecture but lists it as a keen interest.

One of his biggest claims to fame is his work in setting up the Competition Commission when he was a DTI minister for consumer affairs. He also worked with Body Shop tycoon Anita Roddick to found the *Big Issue* magazine in Scotland.

Before entering parliament he built a reputation as chair of Edinburgh's housing committee, spearheading bold schemes to clean up bad housing and help the homeless.

Between 1999 and 2001, Griffiths was a member of the Public Accounts Committee, one of the most powerful committees in the House of Commons.

and takes over chairing the ministerial design champions. This was headed by Lord Falconer, who has now become secretary of state for constitutional affairs.

Other changes within the ODPM see Lord Rooker move from planning to regeneration and the regions, and Nick Raynsford switch from local government, regions and fire to local governance and fire.

Minister for energy Stephen



KEITH HILL

The minister for housing and planning takes over from Lord Rooker and is a former Home Office minister.

Described by Simon Hoggart in *The Guardian* as a 'kindly man full of common sense, good humour and merry banter', the 59-year-old MP for Streatham in London was once an officer for the RMT transport union and has been a politics lecturer and a researcher.

He is strong on urban issues, using his maiden speech in the House of Commons to call for a 'constructive relationship between central and local government and the public and private sectors to improve the conditions of the inner city'.

A member of Amnesty International, Friends of the Earth and Greenpeace, he was a deputy chief whip until recently and is a former under-secretary at the Department of the Environment, Transport and the Regions. His leisure interests include reading, cinema, concerts and walking.

Timms handles the areas of sustainable development and corporate social responsibility.

Another major new mover is Barbara Cassani, who chairs the bid for the 2012 Olympic Games. She will form the bid company, to work at arms-length from the DCMS, which reckons the bid alone could cost £30 million. Cassani is a former chief executive of the airline Go Fly.

Zoë Blackler



PHOTOGRAPH BY CHARLES OLIVER

AR/MIPIM award winners and sponsors enjoy a convivial lunch at Elana's L'Etoile in London's Charlotte Street

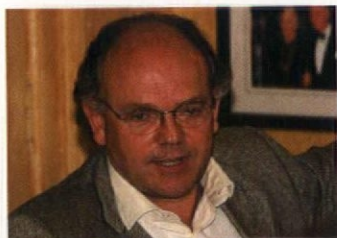
AR/MIPIM Awards in call for 2004 entries

Earlier this year saw the formal presentation, at the MIPIM Awards ceremony in Cannes, of a new awards category, organised by *The Architectural Review*. This was for future projects: designs still on the drawing board, or which had resulted in buildings under construction.

A number of awards were presented in London earlier this month at a lunch hosted by Tim Battle of Tim Battle Associates, and the AR. AR editor Peter Davey made the presentations.

The magazine plans to repeat the exercise in 2004, and the initial call for entries will take place this summer. Entrants will be invited to submit entries for a series of categories, each sponsored by a major company in the field. Entries will be judged before Christmas by an international jury chaired by Peter Davey; all entries are then exhibited at MIPIM and featured in a special AR catalogue, which is distributed at the show.

Emap Construct editorial director Paul Finch said: 'This has been a very worthwhile initiative, promoting the benefits of good architecture and urban design to the widest possible property audience.'



Top left: sponsor Julian Barwick of Development Securities. Right: award winner James Pickard of Cartwright Pickard. Above: Lee Polisano (left) and Keith Williams flank *Estates Gazette* editor Peter Bill



Getting their awards from AR editor Peter Davey: Ken Shuttleworth (left); and Peter Cole of developer Hammerson with BDP director Peter Coleman

26 June 2003



The perfect partners...



Neville Conder (1922-2003)



Awarded the CBE for his work on the Ismaili Centre in Kensington for the Aga Khan, Neville Conder was among those who shaped post-war British architecture

Neville Conder lived architecture. He was just emerging from the Architectural Association as I joined the school in the country house they were using at Monken Hadley to escape wartime London. With a ginger group of colleagues whose names and work were to shape the character of post-war architecture, he shared a small house by the church, which they all, predictably, called Taliesin.

After a short burst in Dennis Clarke Hall's office, Conder won a small competition that gave him the confidence to work on his own, though he shared space with another group, which included Hugh Casson, who had just been appointed director of the Festival of Britain.

This coincided with the untimely death of Christopher Nicholson, Hugh Casson's partner, and Conder found himself not only helping with the festival work, but with work that was just starting, the development plan for the Sidgwick Avenue Arts Faculty site in Cambridge.

Conder began to attract more independent work and was involved in designing a block of flats in Hammersmith, west London.

The need to move office consolidated the beginnings of the new practice. Invitations went out to me and to Michael Cain to form the new partnership, which was to last for 35 years.

A very active period ensued, the practice taking on a broad range of design work that developed from its earlier post-war involvement with the Festival, Coronation decorations, exhibition stands, and a number of interior design commissions.

Casson and I were working from the Royal College of Art, while Conder and Cain pursued the Cambridge work in the main practice building, developing an increasing number of the buildings on site. Conder maintained a keen guardianship over the character and nature of the practice while steering it into mainstream architecture.

While contributing to, and 'speaking the language' of, most of the work



Conder's best known work: the Ismaili Centre in London's Kensington

being produced in the office, Conder's most personal and individual involvement came in the development of the Pestalozzi Children's Village in Hampshire, The Derby Civic Halls, The Wyvern Theatre Swindon, Basingstoke Civic Offices and racing stable accommodation for the Aga Khan in Ireland. His landscaping and waterscaping at Birmingham University is beautifully modest, and how many people recognise his magnificent profiling of the Pulteney Weir at Bath?

Conder's most significant and well-received piece of architecture is the Ismaili Centre in Kensington, for the Aga Khan, for which he was awarded a well-deserved CBE.

Ronald Green

Forthcoming **aj** Events

16th July Access All Areas, RIBA, London

The revised Disability Discrimination Act comes into force in 2004, and will have far-reaching consequences for all new and refurbished buildings. This conference will look at the implications for professionals involved in public and commercial design: architects, developers, planners, funders, facilities and portfolio managers.

The Construction Careers Event 23rd- 24th October Manchester 7th - 8th November London

A two-day recruitment event that will be bringing together some of the country's leading construction companies - all with career opportunities waiting to be filled.

30th October Thinking outside the box - The European Hotel Design Conference, London

The theme 'Thinking outside the box' recognises that the hotel industry is going through a period of turbulent change as savage economic conditions buffet owners and operators alike. The conference sessions closely examine the issues and give key figures the opportunity to provide answers as well as ask questions. This conference is a must for owners, operators, designers and providers in the European Hotel market.

27th November Burning Issues: Fire & Insurance, RIBA, London

This one-day conference will discuss the implications of designing to lower the fire risk and the impact on insurance cover.

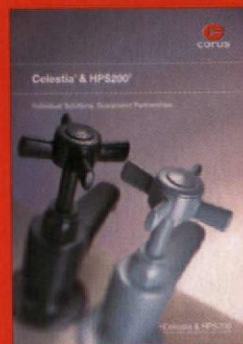
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who said what

'Imagine Garbo or Sinatra in their prime, and performing now. With this week's opening of the 2003 Serpentine Gallery pavilion, just such a time-warping miracle is taking place'

Rowan Moore on Oscar Niemeyer. *Evening Standard*, 17.6.03

'Because it is too big to be a pavilion, and too small to carry the load of all its architectural gestures, there is a jarring awkwardness about its scale, almost as if it were one of those two-thirds full-size doll's houses on Disney's Main Street'

Deyan Sudjic on Niemeyer's Serpentine pavilion. *Observer*, 22.6.03

'By some measures of architectural greatness... he is Brazil's fifth greatest architect'

Rowan Moore on Oscar Niemeyer. *Evening Standard*, 17.6.03

'He is friendly and chatty, with a mop of hair that you instinctively want to ruffle'

Catherine Moyes on RIBA president-elect George Ferguson. *Daily Telegraph*, 21.6.03

'There are still a lot of people who look at you pretty blankly when you start talking about design - and that includes a lot of our politicians'

George Ferguson. *Daily Telegraph*, 21.6.03

vital statistics

- The Eiffel Tower is lighting up Paris again after 20,000 bulbs were switched on last week. The one-year lighting project cost £3 million and involved 25 mountain climbers laying 25 miles of cable. It is expected to be 10 years before rewiring is needed.
- Scottish parliament builder Bovis Lend Lease has had to tweak the building design on average three times each hour, reports the *Scotland on Sunday* newspaper. From October 2002 to last month, 1,825 changes were made, and Bovis says it cannot say what the final cost will be. At present the estimated final cost is £400 million.
- About 30,000 people descended on Stonehenge to see in the summer solstice, according to the police and English Heritage. Visitors to the 5,000-year-old monument included druids, pagans, new age travellers and samba bands.
- The redevelopment of Trafalgar Square, which includes the pedestrianisation of the north side, is causing traffic delays of up to 30 minutes, says the RAC Foundation.

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From left: Crispin Kelly; Julia Barfield; and Graham Ive

The value of plain speaking

The Economics of Architecture – and more specifically the concept of added value – was discussed at the AJ/RIBA conference last week. Austin Williams reports

'Add value' is the clarion call of most current business strategies and, as businesses, architects are no exception. At a time of increasing competition, architects are having to seek new ways to differentiate themselves from the rest of the pack. At *The Architects' Journal's* conference, *The Economics of Architecture*, sponsored by Union, Cadtest and Kalzip, 180 people gathered at the RIBA's Jarvis Hall to discover a few tricks of the trade.

First up was Ted Cullinan – who did a very good impression of Ted Cullinan. Mus-ing on life while he sketched on his acetates and rambled coherently about his interest in, and his enthusiasm for, design, he began his one-hour talk with a slide of the prehistoric settlement of Scara Brae in Orkney. In a style reminiscent of *Dad's Army's* Frazer, he told the tale of a wild and stormy night in 1850 when the sandy dunes of the bay were pounded by the winds to give up their hidden secret that had lain undisturbed for 400 years. Aye! Seventy-five years later and careful excavation revealed a Neolithic settlement of family homes, 'granny flats' and interstices, which Cullinan raved about as 'truly designed objects.' This, he said, gives lie to the notion that 'prehistoric man was simply a sweaty, hairy beast... how could anybody think about questioning the value of design after so beautiful a place?'

The first of three of his own projects reviewed was the reinstatement of Bristol's Brunel mile – the link between Isambard Kingdom Brunel's Temple Meads station and the *SS Great Britain* (AJ 11.7.02). He said it reflected a 'way of thinking about buildings for a purpose in a situation and responding to it poetically – beyond comfort and usability, but as a response to a situation.'

Marco Goldschmied discussed 'Construction industry finance and the role of architectural practice within it'. Admitting that the title was too complicated, he proceeded to talk about the Centre Beaubourg and the impact of the design on traffic patterns and urban flows: how the project had created new 'value' by opening up undiscovered uses and spaces. It was this 'added value', he suggested, that had put them into pole position for the scheme.

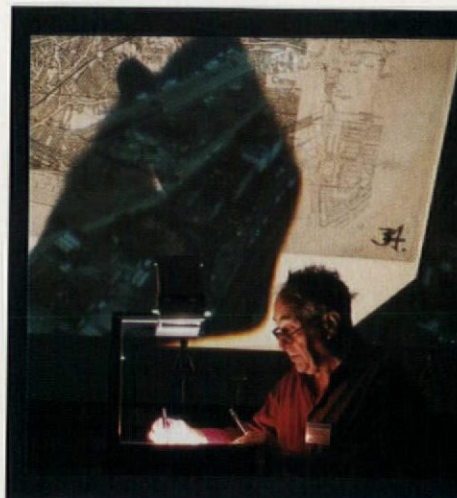
Similarly, putting the escalators on the inside of the building would have been cheaper, but would have lowered the tourist returns on the investment which had come from putting them on the outside. The enhanced local VAT on the project, he said, had recouped the cost of the Beaubourg 100 times over since it was built. He then said that it might be 10 times... or 1,000 times... or probably will be by 2050.

Mercifully, while Goldschmied is adding aesthetic value, someone else is doing the accounts.

Moving on to a slide marked 'Creative Lewisham', Goldschmied proceeded to talk about his proposals for a 40-acre waterfront site in Deptford. He explained the catch-22 of having to justify schemes in terms of employment opportunities created, and he showed a graph of the history of the site, comparing built area of employable space with the actual number of employees.

With the decline in heavy industry, fishing and related trades, the site has seen a dramatic natural decline, from about 100 jobs per acre to about 0.25 jobs per acre; that is, there are currently around 10 people over the whole site employed in security jobs to stop people coming in.

When the planners requested an ideal job creation plan of 10,000 new jobs, Goldschmied expressed his exasperation at the mismatch between desirable objectives and what is in the gift of an architect to deliver.



Cadtest

Kalzip

UNION



From left: John Smith; John Weir; and Marco Goldschmied

'We are completely stuffed,' he said, referring to the generic rather than the site-specific problem, 'unless we can unlock the conundrum.'

From the Bartlett School of Architecture, Graham Ive boasted that, in 25 years teaching economics at an architecture school, he had never once used a slide of a building. This presentation was an attempt to understand the concept of value and value engineering. Some over-the-top calculations masked a straightforward proposal: that architecture is a business, and using the Micawber maxim, incomings should exceed outgoings at all times. Or as Ive put it, while V_i may be less than V_m (the mean value), V (revenue minus running costs) should exceed I (the construction cost+land opportunity cost+design fees+price of equipment).

He ended on a footballing note, with an explanation of the Nationwide League and the Premiership, where those practices in the former have low returns, but work on lower risk projects producing safe solutions. The Premiership players, on the other hand, have higher returns, their clients get greater NPV (Net Present Value – pay attention at the back!), but they have to settle for more risk. To start to play with the big boys in the Premiership, architectural firms will have to build up repeat clients and begin to invest in 'learning how to deliver'.

Julia Barfield rounded off the morning session by recounting how she invented the wheel – or at least, the London Eye. With the audience interested in the quantification of value, her Economic Impact Study of the project showed that it had contributed to

1.5 per cent of London's tourist income. Sometimes cause and effect issues mean it is difficult to interpret the figures, but the iconic status of the wheel might have been less if Mitsubishi's accounts-led proposal for fairground-style capsules had gone ahead.

BDP director Richard Saxon made the interesting observation that value, or 'worth', means different things to different people, citing the difference that healthcare design has in France and the UK.

Peter Rogers of Stanhope also noted that value engineers are not always the best people to understand the issues, since they often don't understand 'the product'. In their view, he said, they will understand that fewer hinges on the door will save money, but an architect should be asking whether the door is needed at all.

John Smith, director of finance, property and business, the man who has driven through the major new procurement packages for upgrading the BBC, celebrated the Reithian attention to detail in the old BBC building stock and condemned the 1970s and '80s when 'design became subservient to detail'. However, while the BBC is currently going through an identity crisis of programming, Smith wanted to have value added so that people would identify with the BBC brand as something – like Bill and Ben – that would stick with you for life. He is keen therefore to encourage open, transparent and permeable spaces for the public to engage with the BBC as a corporate Auntie. 'You can't put a value on that,' he said.

The problem is, he continued, that 'the public' is alienated, even by the security guards (cue slide of burly authoritarian-look-

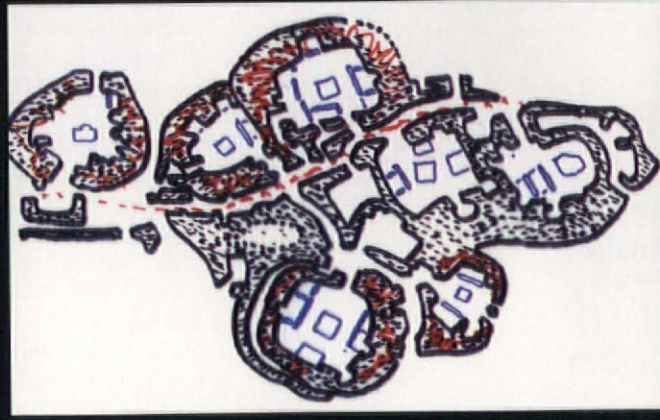
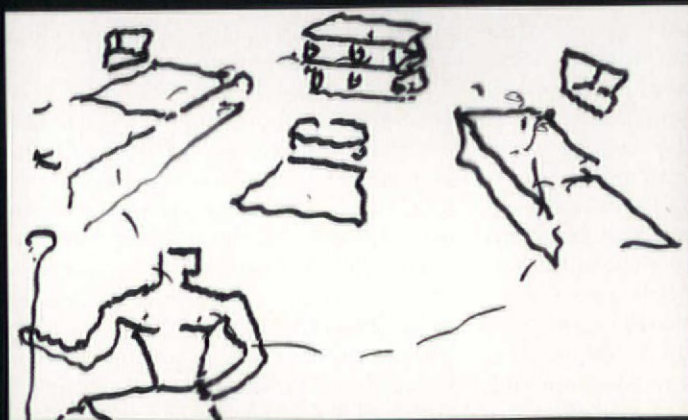
ing bouncers in Broadcasting House). To this end, they are having a Peter Bazelgette-style makeover. Their uniforms – if they will be called uniforms – will be designed by Prada and they will be taught to stand differently (in a non-intimidating way).

Finally, in a roundtable debate, architect-turned-developer Crispin Kelly of Baylight Properties complained that 'the system is against us', since 'the appeals system is less of a help (than it used to be) because the UDPs are too thorough'. Roger Zogolovitch of AZ Urban Studio design management practice argued from a client/developer perspective that architects should be mindful of the number of staff they take to meetings, and that fees based on construction costs as opposed to service and value offered were unacceptable.

John Weir, another ex-architect, was blunt about volume builders: they understand net profit and that's it, he said.

While he, as a past managing director of Wilson Connolly Homes, might be swayed by an impressive track record of a top-quality architect, he would still make the equation: how much extra to employ a 'name' to add value? – answer about 10 per cent; how much increased monetary value does that put on the property in the market? – answer, about 3 per cent. As a businessman, 'seeing that comparison, I would say thanks but no thanks and go back to what I know would keep the margins up', he said.

All in all, this was an interesting day's debate and will probably need a rematch to tease out the real driving force between the aspirational business interests and practical reality. More plain talking is needed.



Ted Cullinan in action, left and, above, his sketches of Scara Brae – ancient man knew about site planning and internal comfort...



From left: David Stark; Rab Bennetts; James Pickard; and Jonathan Bailey

Work in progress

Paul Finch reports on the questions surrounding the PFI process, reviewed at an AJ conference earlier this month, and finds it still has along way to go

Given the significance of the Public Finance Initiative and Public Private Partnerships in the procurement of public buildings and the culture of architecture, the subject is still capable of generating heat as well as light, and a perhaps appropriately cynical analysis of the gap between ambition and delivery. The one-day conference on this topic at the RIBA attracted a good audience of mixed professional backgrounds. It is one of those issues that is truly of interest to all involved in the supply chain, so it was good to note a few manufacturers in the audience.

Their world, as much as that of the architect and the contractor, has been shaken up by the ingenious financial mechanism that is PFI, for some rather good reasons: a new attention given to lifetime costs; a direct relationship between building provider and what is provided over at least 30 years (although, of course, this can be subcontracted out); and a focus on integrated supply chains, which must bring a little skip to Sir John Egan's heart.

And yet, as conference chairman Tim Battle pointed out in his opening remarks, we now have enough experience of PFI to notice that there is a spectrum of quality in the product delivered. It is not the case that every client manages to attract a consortium comprising Sir Stuart Lipton, Bovis Lend Lease and Lord Foster, though the Treasury managed to do it for its own refurbishment project. Perhaps there are some lessons to be learned there. For example, how is design quality included in the contractual and economic equations?

Cost guru Paul Morrell, recent past-chairman of Davis Langdon & Everest and a CABE commissioner, gave the first keynote speech. He believed those responsible for the inception of PFI had done a good job in getting it going, and suspected that answers to the question of how good the product is are

too often political. In his view, buying on the basis of output was essentially a good idea, and PFI offered incentives to properly take into account facilities management and long-term costs; it encouraged integrated chains and use of the same team on repeat jobs; and it offered a potential for efficiency, lower costs and shorter build periods.

But he had serious concerns, too. The downsides of the current system included the limitation of a pure market approach (ie only answering the question asked, not necessarily the real question); the skewing of public sector expenditure to private sector desire; the limitation on room for manoeuvre within the contract; the higher cost of borrowing; higher tender costs; the displacement of the often-admirable not-for-profit

ethic of good public sector workers; and, not least, the temptation to continue going for lowest cost bids. (He gave a graphic example of the latter, where a consortium proposed using low-cost windows on the grounds that a sinking fund could be set up to replace them periodically over the lifetime of the building.

When someone asked where the money for the sinking fund was coming from, the attractions of using better quality windows suddenly re-emerged.)

Refreshingly, Morrell nailed the fantasy about risk transfer as a fundamental benefit of PFI by observing that if all the PFI providers of hospitals in Hertfordshire go bust, the government, in reality, will ensure that NHS services continue to operate. And he attacked the obsession with process in its effect on design quality, which he believed could be good or bad under PFI.

In an unusual plea for a quantity surveyor, he urged less measurement and auditing of others' efforts, and in one of several striking phrases, reminded us that 'you don't fatten a pig by weighing it'. And he contrasted what



Paul Morrell (left) and Keith Clarke – keynote speakers with sharp and perceptive messages

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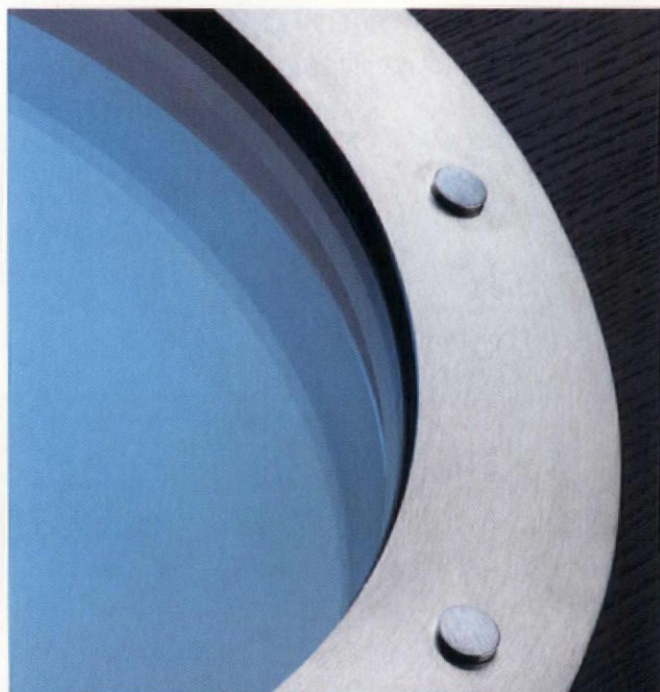
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From left:
Michael Forster;
Tim Battle;
Phil Nedin;
and Sylvia
Wyatt

he called the 'dogma of input specifications' with the need to set real measures of value, which government should undertake, based on outcomes. In any event, why be dogmatic when none of us can predict what people will make of PFI in decades to come?

Morrell's nuggets of advice included the importance of asking the right question (for example, how do you keep people out of prison, rather than how do you keep them in safely?); encouraging healthy market competition (as a Conservative minister once remarked, 'you've got to let the boys smell breakfast'); that the government should capture and communicate best practice; and that if public authorities want a good job, they have to be good clients.

This excellent address was matched by the second – a very frank view from the executive vice-president of Skanska Construction, Keith Clarke (a former architect). At worst, he began, what PFI did was 'pay people to cut corners or answer the wrong question'. In any event, PFI could only work properly where there was clear government policy. But the need for long-term maintenance of our public building stock was vital – currently it is a mess, with too many mediocre products left to decay.

For Clarke, the split between private and public sectors was simple: the private sector was efficient at winning contracts and making money, while the public sector 'has all the clever people answering far more complex questions'.

Prisons are particularly suitable for PFI, he suggested. Each one his company had undertaken had got cheaper for government; prisoners were happier; and the public sector kept the asset. But linking sentencing policy, or by contrast making reading standards in schools part of PFI, would be wrong, he said. Not because it could not be done, but because it would mean nationalising the service. In short, PFI does not supersede public sector responsibility.

In a closing section on the future of design under PFI, Clarke had several pertinent observations. Having been responsible for the new Dartford Bridge, he noted that the result was an ugly design that responded to demands for speed and finance. The result had been a sea change among major contractors in how to approach bridge design.

Panel sessions during the rest of the day reflected many of the themes raised by the keynote speakers, but with added spice.

Douglas Brown and Fiona Duggan from DEGW raised questions about design responsibilities, questioned the notion that 'zero risk' equals no risk, and made a case for an 'optimal degree of uncertainty' in the creation of client briefs, and the importance of working at the right speed for the client.

Sylvia Wyatt, from the NHS Future Healthcare group, dropped a little bombshell into proceedings by suggesting that PFI as the sole procurement route for major new hospitals might already have had its day because of its lack of flexibility and some complicated internal Treasury and NHS accounting procedures, which might affect the long-term valuation of PFI contracts as a result of changed discount rates. It looked like one to watch, since 50 NHS trusts are spending 75 per cent of a £7 billion budget in the current round of construction provision.

pancy studies are neither centralised nor comprehensive (Malcolm Reading, client consultant); and

- hospital design is about 'teaming' and building efficiently so more resources can be spent on saving lives; 'only whores and architects look at ceilings'; architecture in PFI is like a neoprene gasket – don't let the government or consortium know they are vibrating (Jonathan Bailey, client consultant).

An afternoon session on the PFI design agenda saw thoughtful contributions from Richard Saxon, Rab Bennetts, David Stark of Keppie and Sir Richard MacCormac, which would have made a conference in itself, so apologies for devoting so little space to their comments here – Bennetts' quote that PFI is 'design-and-build on steroids' was appreciated, as was Saxon's analysis of PFI upsides and downsides.



Conference chairman Tim Battle (left) – panel sessions probed questions of cost, organisation, process and value, and examined the role of the client as patron using PFI procedures

Michael Forster of BAA was altogether more happy with current procedures, which was comforting given his company's planned capital expenditure of £8.1 billion over the next 10 years (from huge work on Terminal 3 as well as Terminal 5). BAA does not transfer risk in its operations, 'we keep it and manage it', he said. He gave details of product monitoring measurement, including 40 per cent savings achieved through repeat orders for particular doors. It was up to clients to measure these things.

Key points from other sessions included:

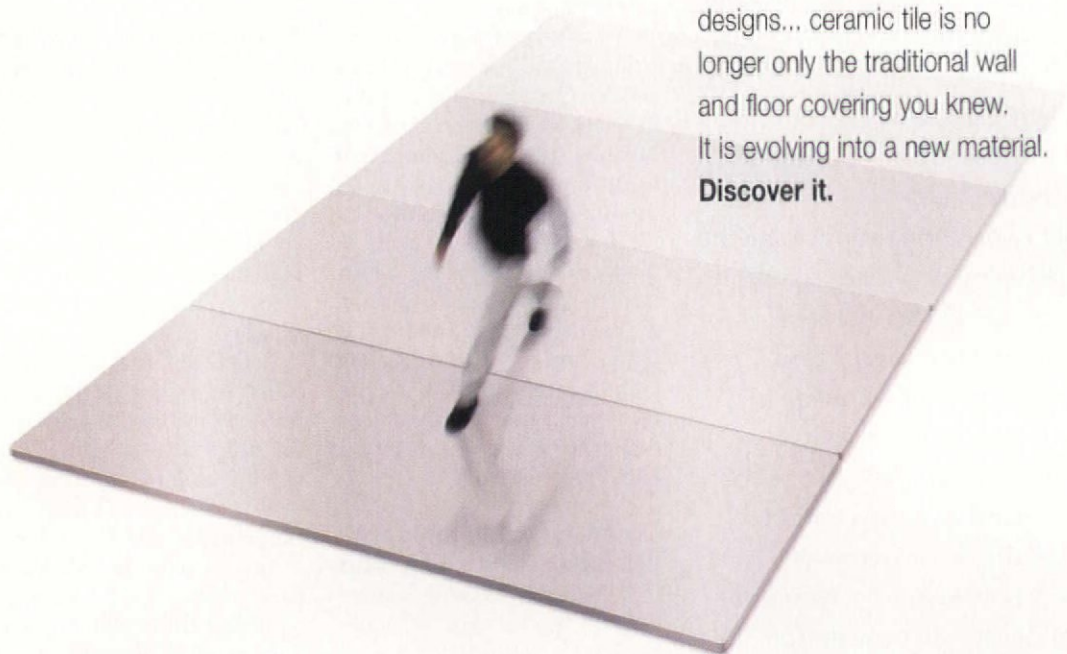
- why should PFI projects ever be worse than best practice? (Paul Lewis, Stanhope);
- PFI procedures tend to jumble up preparation of the brief and the resulting design (Joanna Averley, CABC);
- best and final offer (BAFO) sweeps quality out of the window; impediments to good design are cost and willpower; post occu-

There was a brilliant technical presentation by Phil Nedin of Arup on new ways of thinking about hospital design. MacCormac reminded us of what happens when a big industry rolls over users, as happened in the 1960s, and questioned whether dumb buildings could satisfy the creative economy, which now flourishes so strongly.

A closing session on patronage from John Smith and Tony Wilson, who reviewed current BBC building projects, and James Pickard of Cartwright Pickard on how the firm designed the new Health and Safety Executive headquarters in Bootle, were encouraging reminders of the constructive possibilities of PFI. But there is still a long way to go if we are to avoid what, in summing up, your correspondent described as the reality of BAFO, namely CRUDDO – Construction Returns Up, Dumbed Down Operation. It doesn't have to be like that.

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The word from the ODPM: no special treatment for the country house

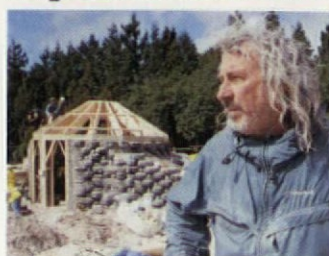
The ODPM gets full marks for efficiency for its handling of the AJ's letter concerning PPG 7. Amid the chaos of the Cabinet reshuffle, Keith Hill MP, Minister of State for Housing and Planning, delivered a thorough and coherent response by return of post (Lord Rooker, to whom the letter was originally addressed, having been 'shuffled' to Regeneration). Hill's letter, along with the original letter from the AJ and its 250 or so signatories, can be viewed online at ajplus.co.uk. It reiterates the belief that 'good design is central to achieving well-planned, high-quality, sustainable communities in both urban and rural areas' and that 'architects have a crucial role to play in helping to deliver these communities and a better quality of life for all'. In short, it looks promising for architecture in general, but less so for the future of the contemporary country house.

Hill stresses that he is not in a position to anticipate the precise content of the forthcoming public consultation draft of the revised planning policies for rural areas. But he also argues that abolishing the 'special case' proviso for outstanding isolated houses would be 'a perfectly equitable solution' – suggesting that its chances of surviving the revisions are small. The gist of his argument is that removing the policy exception would not necessarily outlaw the construction of isolated high-quality country houses, since it would still be possible for individual applicants to provide 'special justification' for any particular scheme.

Which sounds fair enough in theory. Had the policy exception never existed, this might be a realistic option. But taking a deliberate decision to remove the provision gives planning authorities a clear message that such projects are no longer in line with government policy, making their chances of gaining planning approval even slimmer than before. Even with the 'special treatment' afforded by the current PPG 7 the number of 'PPG 7 houses' which have actually been built is negligible. Estimates vary from two to 15 in the past six years. If the government expressly removes its support, it seems highly unlikely that a single project of this type will see the light of day.

Isabel Allen

Are 'earthships' really as green as we're told?



Are we to believe that 'earthships' (AJ 19.6.03) are as eco-friendly as Mike Reynolds (above) suggests?

My particular concern is that, although the use of expended car tyres may seem sustainable in the short term, the earthship building system may only serve to justify further car use in its promotion of tyre recycling.

This approach is akin to biodegradable packaging, which justifies landfill use by playing on the misconception that it is OK to bury waste because it will eventually break down. Is not the earthship methodology doing the same for car users?

Chris Brimble, Cardiff

Country house builders are least favoured group

In her article arguing against PPG 7 (AJ 5.6.03), Margaret Mackinder has totally missed the point.

Architects and builders of country houses are the least favoured group, not most favoured, even with PPG 7. In the past 50 years, we have built 10 million new town houses, village houses and executive homes, but virtually no new country houses (the very few country houses that have been built are almost all replacement houses or agricultural tie houses). I sympathise with Mackinder's difficulties in obtaining planning permissions for 'modest dwellings', but her job has been infinitely easier than trying to obtain planning permission for a country house, even with PPG 7 in place.

It may come as a surprise to Mackinder, but the 'injustice' is towards the all-but-outlawed country house and not to her clients, who have enjoyed a relatively huge bonanza in house building for the past 50 years. It is time to redress the balance by making country houses more achievable and less of a planning lottery, with the odds heavily stacked against.

David Cardale, Shipton Moyne, Gloucestershire

Self-sufficient 'arty' folk are a recipe for elitism

Though it might create headlines for its headline act Richard Florida, and may appear cheaper to the government, getting all the arty types into one self-sufficient community is not regeneration, merely elitism (AJ 12.6.03).

Most creative people have the capacity to exist and survive just that little bit more than most. Most creative people have always had the capability to work out of the office or establishment and develop communities of their own. Anyway, surely one Brighton is enough?

It is much more beneficial for the 'creative class' to spread themselves throughout the community, like teachers, doctors and policemen, and form their own institutions to promote their purposes, like the RIBA.

Too much elitism (see Nicky Gavron's comments, AJ 12.6.03) can be a pitfall, and it is not my main point to criticise architects or Brighton specifically, rather to encourage proper regeneration that benefits the whole community, not landmark buildings. Though an outstanding individual achievement and a triumph for its creator, Bill Dunster's Bedzed is still an individual exploitation and is only marginal when it comes to regeneration.

The government has got to be made to realise that good facilities must benefit everyone,

including the creative class. If our urban areas are to flourish, vast amounts of money are required for infrastructure improvements. It must not be an exercise in do-it-yourself or marginalisation.

Rex Hawkesworth, Portsmouth

Liverpool deserves its City of Culture status

Having written chapters for both stages of Liverpool's European Capital of Culture bid, I know how rigorous the judging process has been.

Detailed questions had to be answered in the bid documents, there were two judging panel visits and there was further interrogation of Sir Bob Scott and other senior representatives.

The competition from other shortlisted cities was tough and they are now all to be Centres of Culture. The definition of culture expected by the judging panel was, rightly, broad in scope: high and low culture; inclusive, not exclusive.

Culture is also now well recognised as an integral element of urban regeneration, which all the bids will inevitably have reflected.

Apart from the many qualities and ambitions outlined in our bid, Liverpool is renowned for outstanding architecture. This is recognised in its huge number of listed buildings and recent success as the UK's nomination as a World Heritage Site (for the waterfront and other building groups related to its maritime heritage). Well-known architectural journalists, including Jonathan Glancey, Kenneth Powell and Deyan Sudjic, have written ecstatically about the city's buildings, and it is regularly used as a historic or capital city backdrop for films, including *Moscow* and *Dublin*. A Pevsner guide to Liverpool architecture is also due to be published next year.

The city has never pretended

to be like Florence; it has unique qualities of its own. However, it has been described as the 'Venice of the north'. It is time for Mr Adul (AJ 19.6.03) to revisit Liverpool – and, indeed, all the competing cities – as his knowledge appears to be out of date.

Sue Carmichael, principal, Constructive Futures, Liverpool

Minister set to scupper schools' development

SCALA is concerned about the announcement by secretary of state for education Charles Clarke that he intends to allow schools to transfer delegated capital money to cover the predicted shortfall in many of their individual budgets this year.

Though it is appreciated that many schools face real difficulties this year, with the prospect of teacher redundancies and/or a shorter teaching week, we do not believe this is the right solution to the funding crisis.

Schools have been encouraged by ministers to produce their own building development plans through asset-management schemes and to use their delegated capital allocation to make improvements to their buildings on a year-by-year basis.

The technical and professional members of SCALA have been very supportive of this approach – it appeared to be the only way that many schools would be able to make real

improvements to their buildings in the absence of other sources of funding.

Many of our members have gone even further, encouraging smaller schools in particular to enter into partnerships with their local education authority (LEA) by combining their delegated capital with the authority's own modest minor capital. This has produced projects that achieve real improvements to the learning environment and provide better value for money.

This short-notice transfer arrangement will put many of the long-awaited projects for schools this year in doubt, and could discourage further long-term planning and partnerships with LEAs if schools feel they need to husband their delegated capital to resolve similar difficulties in future years.

I have written to Charles Clarke informing him of SCALA's view.

Nigel Badcock, president, SCALA (Society of Chief Architects of Local Authorities)

Sealed environment of tall building is no answer

Norman Foster's new-old idea to build towers to house 50,000 people is nuts. The reasons he gives (or is it really just an excuse – look at what a big one I've got?) are overcrowded cities and land prices. What happened to town planning and economic development?

Why do people have to live in overcrowded cities and the emerging mega-cities?

New technologies were supposed to allow us to spread out and work and live anywhere on the planet. Instead, the opposite is happening.

Tall buildings mean sealed environments, and I'd rather be out there feeling the wind, rain, sleet, snow and sun. It's healthier for mind and body.

Larry Parker, via email



If you really want light-sensitive concrete slabs in different colours, why not B&Q it?

I had to check the date was Friday 13th, not April 1st! I may be missing the point, but couldn't Daniel Edwards (AJ 12.6.03) have saved himself considerable time and effort (not to mention the rain forests – six pages!) had he made a trip to his local B&Q and purchased two no. 3'x2' concrete slabs, which are also 'highly sensitive to changes in the light'?

He may even be able to select some slabs that vary in colour. I'm sure B&Q's highly trained staff would have been able to assist in the selection process from the shop's wide range. The lighting department could also have provided some fittings capable of 'ethereal light projection' with which to illuminate these 'works of art/paving slabs'.

Douglas McKirdy, armarchitect, Glasgow

Strange vibrations from Future Systems' tower

Items of architectural synchronicity are rare these days. But your photograph of Future Systems' tower at the RA Summer Exhibition (AJ 12.6.03) came to my eye at the same moment as an executive from Ann Summers was being interviewed on TV after the company won the right to advertise in job centres. Strange.

J C Harding, South Wales

Huge internal plazas would suit NY better

I am struck that the two respondents to my epic letter on Libeskind's World Trade Center design (AJ 17.4.03) both complained that they 'had to read it twice'. How many times does an architect look at anything that fascinates him? Why should a piece of writing be any different? Why do architects expect to consume writing like a car driver glimpses a glass box (even one by Herzog & de Meuron), as it flashes by on the freeway (blink and it's gone)? What else is there to dwell on after the first visceral impact? In Herzog's words, post-architectural tristesse?

I cannot but treasure the description of my literary style as 'intensely decorative and heavily embellished with obscure references'. The aniconic, grey-cement architecture that replaced the inter-War Moderne (Art Deco to Thing-Collectors) accompanied a determined attempt to control the populations of Europe by denying anyone (whatever their class, for it was a blanket taboo) the ability to write on the walls of public space.

In the US, after the 1939-45 war, they went even further by abolishing public space itself. Architects are known, by the mass public, to have collaborated in this repressive project. As welfare state politics crumbles before the assaults of capitalism,



Will Alsop's design for Barnsley... will it inform the public or is it all too abstract?

Regarding Will Alsop's prizewinning RA model (AJ 5.6.03).

May I ask whether the model is to convey information to the people of Barnsley as to the future of their neighbourhood, or is it only for those versed in signature sloping columns and bright coloured abstractions? Depending on the answer to that will be the answer to the question: 'Are just the blobby bits meant to be bollocks, or is it all a load of them?'

David Clark, via email

the mass media, and so on, architects scramble for any mythology that justifies their control of both exterior and interior surface-scripting (or rather de-scripting).

Decoration is the conceptual medium of lifespace-design. Everyone except architects recognises this. But styling buildings to look green with softwood plank walls and vent cowl is dumb. Destyling their surfaces with the nonsensical scribbles of Libeskind merely puts off the evil hour when architects must face up to the fact that they will either show themselves more capable of iconic engineering, or be replaced, as they have been in Las Vegas, by illustrators and film-set designers. Architects in the

hotter spots of the US now work only as project managers.

How are the mighty fallen! Everything that man makes is 'embellished with arcane references'. It is politically repressive at worst and blissfully ignorant at best to refuse to recognise this fact and deal with it openly and professionally. The only thing that matters is the intellectual sophistication and quality of the surface-scripting.

So what is so illuminating about planar glazing and rivetted zinc? Is this free-thinking or empty-headed? This is why I asked what the difference was between Vegas and the WTC design? Maybe someone would be so kind as to tell me. For my part, Libeskind's WTC is (as Lord Fawcley used to remark)

'fundamentally flawed'.

New York has a confused and violent climate, and no tradition of lazy outdoor Latin-living – even though it has the same latitude as Rome.

Its tradition is for giant and wonderful internal public spaces – lost railway stations and skyscraper lobbies. Why make the monument to the fallen a giant bomb-pit overhung with crazy-paned architectural deco-wreckage?

In summer it will fill with the irrigation sprays needed to water the plants and become a broiling soup-pit of humid heat unswept by the sea breeze. In winter the humid cold will sink down into its depths and freeze at night to kill all but the hardiest plants and stiffen the sleeping winos into human ice-men.

It would be far more authentically NY (a far from chaotic and highly regulated city) to oblige all of the developers to build huge internal plazas and then make sure their external doors all lined up so that one could walk from one to the other through that city's humid heat or whistling cold.

At least these monumental compositions would be alive – and what a chance for surface-scripting. NY was, after all, the capital of the 'Moderne'.

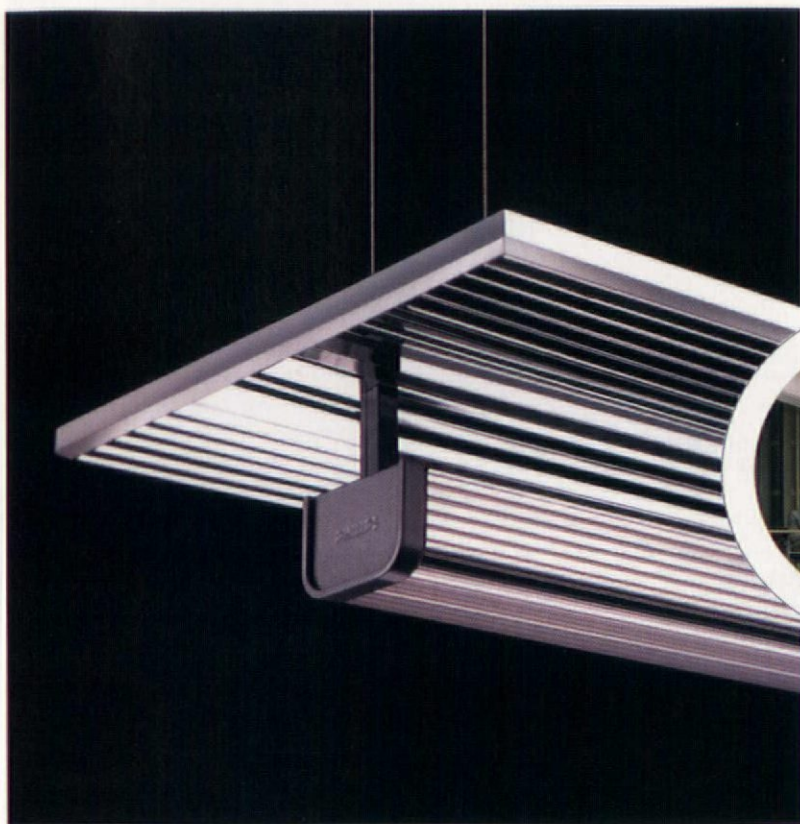
John Outram, by email

Faraday House has to go; please tell me how

Instead of fussing about the view of St Paul's from Heathrow (AJ 20.3.03), could your imaginative readers perhaps think up some way to demolish Faraday House?

Brian Knox, London

Please address letters to the editor at *The Architects' Journal*, 151 Rosebery Avenue, London EC1R 4GB, fax 020 7505 6701, or email angela.newton@emap.com to arrive by 10am on the Monday before publication.



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Seeing through new eyes is the first step towards vision

Russia is very empty and Europe is rather full. While flying over Mongolia, the plains of the River Ob, and later the River Volga, I was struck by the lack of signs, at least from the air, of habitation.

In reading the landscape from 11,000m, the opportunity arises for the mind to wander, and imagine occupying these seductive sites. It is like choosing picnic spots – the ideal is never quite found. There is always the sense that travelling a further mile would reveal something even better. After Moscow, the signs of habitation increase until the interruption of the North Sea, that unloved but important stretch of water announcing the wall-to-wall conurbation of south-east England.

The view from on high changes our perception of places we know, which is one of the wonderful qualities of air travel – there are precious few others apart from speed. The ability to change people's perception of what they know is an essential ingredient of change. Patrick Geddes understood this well in his proposals to improve the city of Edinburgh. His list of relatively simple things to do, which could be achieved by the majority of people, was, he recognised, missing a necessary component. This was solved by the construction of a camera obscura over the castle. This magical device allowed the good burghers to see their city through a new pair of eyes, including the rubbish, untidy washing and general detritus that detracted from its quality. Forcing people to recognise that they had become blind to such problems was a brilliant move. Becoming immune to shit is normal, and a shock to the system, to create new eyes, is important.

In Amman, the people are charming. They are very well-mannered, happy and optimistic, though they are surrounded by

problems, with Iraq to the east, the West Bank to the west and the possibly difficult Saudi Arabia to the south. Jordan, with its royal family, 5.5 million people and short history, is a place that reviews itself regularly because of its strong international links, which allows its inhabitants to leave and come back to 're-see'.

Stagnation is not a problem here, because nothing has been around long enough to stagnate, but there are problems that they would like to address. The city is growing. People are moving into it from the more rural areas and putting pressure on areas for housing. The barracks, all 37ha of it, used to be on the edge of the town, but is now in the middle, giving the wrong impression that the Jordanians deliberately place their military targets in the centre of civilian areas, thereby creating a dilemma in the enemy, whose moral values will be challenged before attack.

The city is largely unplanned and consists of beautiful gardens and courtyards, attached to houses, which passers-by cannot see. To pedestrians (who are few in number), the perception is of a hot, relentless stretching of shades of whiteness. It is this perception that has become the accepted norm, almost acting as a class barrier. Those that walk are seen as second-class citizens – presumably because if you were rich enough to avoid it, you would.

The challenge exists to change this and to find devices that allow the people to see their city in a different way – to break down the edges, open the interiors and, above all, provide cool, beautiful places to sit.

The \$93 billion (£56 billion) cost of the Iraqi war would permit these things to be achieved, as well as replace every school in England.

I see what I see, but others choose to remain blind.

WA, from the Palace Garden of Prince Hassan in Amman

Sir Cameron Mackintosh has got big development plans, and not just for a £20 million new transfer theatre for the West End, he reveals.

With a name like Mackintosh, it's perhaps not surprising to find that Sir Cameron has a 'passion' for buildings. But it's more of an eye-opener to discover that the famous theatrical producer is now spending far more time with architects on an extraordinarily long list of building projects than with the luvvy set on his many shows.

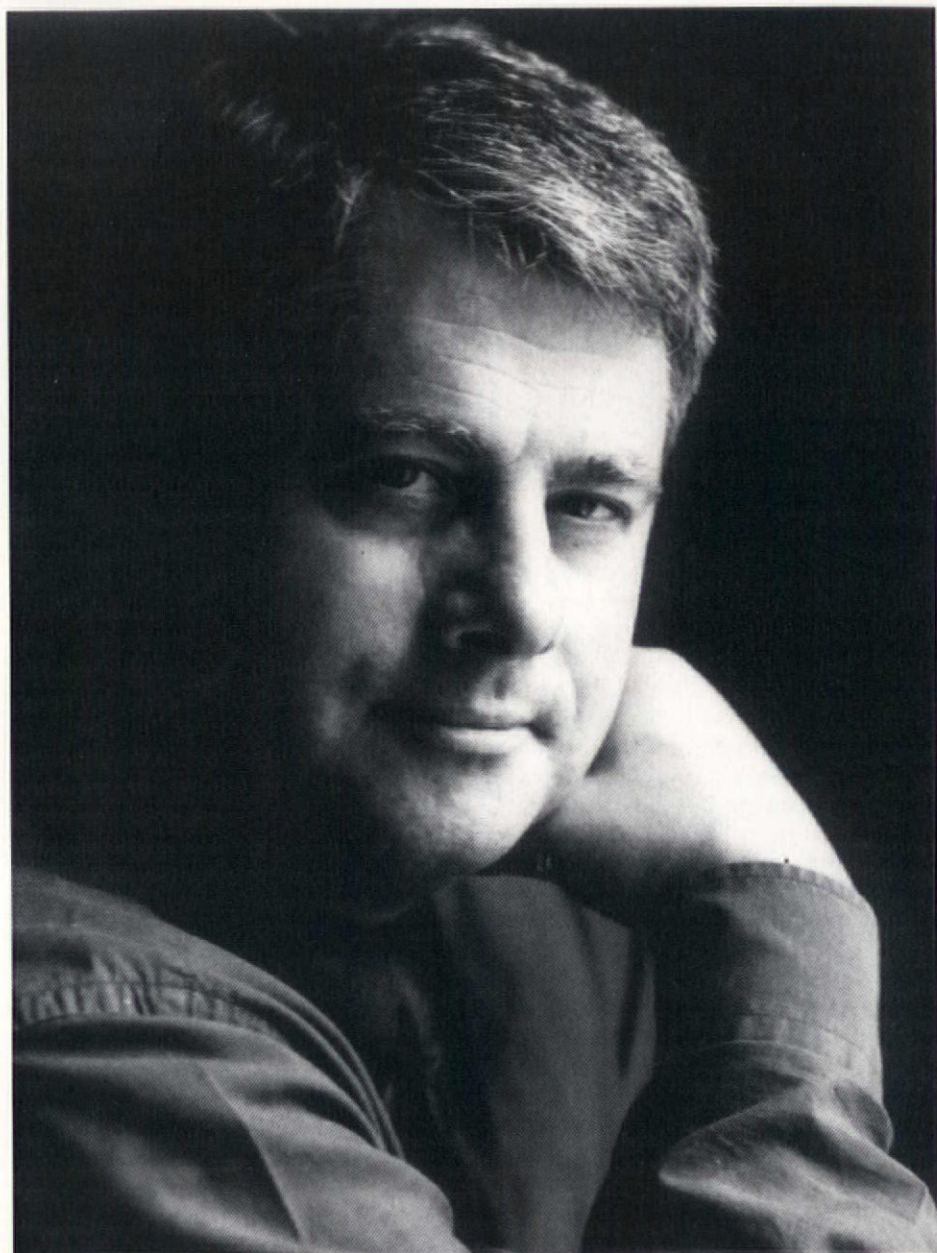
Cameron Mackintosh (he doesn't use the 'Sir') is a youthful, energetic 56 year old who is becoming the new saviour of theatre fabric in London's West End. His plans include a major refurbishment and renewal programme for the sites soon to come under his ownership, plus a new £20 million venture – to be called the Sondheim theatre and unveiled this week – which will be built straddling the tops of the Queen's and the Gielgud theatres on Shaftesbury Avenue.

This, he explains, will be a new, 500-seat central studio theatre venue for transfer shows – musicals and plays – from the fringe. And because it is connected to the two existing venues, it will enjoy economies of scale, using the same house staff and box office for all three and lifting total capacity to almost 2,600, easily beyond that of the Palladium. Clever.

'Together', he says, 'it is going to be like a commercial version of the National. There should be a terrific buzz in one building housing three completely different kinds of entertainment and massive bars that can cope with all of them'. Why Sondheim? 'Because he's a great friend and somebody I admire hugely, it's one of the great names of the theatre that will live for a long time and a huge amount of his work does get done in these kinds of theatres. And I think Sondheim is a fairly unique name in international theatre – the nature of what you think about him is that it is slightly different from the normal commercial musical.'

But there is much more. Mackintosh wants to revitalise the currently 'tacky' and 'supper club 1950s' Prince of Wales theatre he already owns: 'It's sort of been an unloved auditorium, just drifted on. I feel it's like one of those boats that's been left to rot in a creek which was probably nice in the 1930s but hasn't been nice since'. So it will get a new auditorium, bigger bar, and mesh-clad, copper and gold boxes designed with his architect, the Arts Team at RHWL. The £7 million scheme will have to be finished next April for the opening of *Mamma Mia*:

'The challenge exists to find devices that allow people to see their city in a different way – to break down the edges and open the interiors'



CAROLYN DUNN

A sense of drama

Mackintosh's aim is to bring back the ocean liner-like glamour to the place (he remembers sailing on the *Queen Mary* and *Queen Elizabeth*). The exterior will be more in the simple spirit and clean lines of original architect Robert Cromie's 1937 vision: signage will be improved, the tower and flagpole accentuated and an American bar will project out across the street. The aim: to connect people to the theatre and animate the building.

Next there is the Strand, which will get an extended upper bar, repaired stonework facade, altered signage and repainted auditorium. 'It's lost some of the glamour over the years, which I hope to restore.' Refurbishments will be in line with the Shubert in New York, which is fitting. The Shubert dynasty

was behind a range of theatres in New York and Sam Shubert had plans for six or seven for London beyond the Strand, which it built to the designs of WGR Sprague. With his characteristic relish for a good story Mackintosh relates, however, how Shubert met an untimely end when a train he was in collided with one carrying dynamite.

Overall, the new-look Strand will boast half as much space again and Mackintosh is considering renaming the venue. 'My theatres are either named after famous theatre owners/producers or the Royal Family,' he says. 'I'm not sure I'd want to do "the Harry" or "the William" at the moment'.

Then there are the Albery and Wyndhams theatres he is getting 'back' (freehold now after having them on a very long lease). He

wants to update them too – better bar facilities, again, more contemporary access and a more 'egalitarian' feel. Plus a Mackintosh makeover and expansion for the 1957 Queen's: 'I personally think that this needs a complete major reinvention, of a drastic kind,' he says, 'It's hideous – even the 20th Century Society don't fight for it and they fight for most things.'

Total cost: around £35 million.

We meet at Stavordale, Mackintosh's magnificent 13th century priory in Somerset. He's proud of the additions he has made to this pile, set in beautiful countryside and including an indoor swimming pool and gym, follies, water features, and lush gardens.

He's developed four other buildings nearby, some for the workers who serve Mackintosh, his photographer partner Michael, and two dogs Tor (South African ridgeback) and Dodger. But he is also building a family house using locally quarried stone on a promontory opposite the Isle of Skye, with magnificent views from its circular tower across Loch Nevis. Then there's his offices in Bedford Square ('probably Adam's nicest house'), a Nash property in Park Village West, another scheme in Malta overlooking the wonderful bay to Fort St Angelo, while the Rosé wine we drink bears the stamp of his place in Provence. Nice work if you can get it.

Mackintosh was born to a Maltese mother and a Scots jazz-playing father. The family business was timber, in Cuffley, Hertfordshire. Mum Diana is the practical one. Dad Ian was the creative.

Clearly that musical tradition, coupled with Mackintosh's early brush with *Salad Days*, informed his desire to become a successful producer of hit musicals. His involvement in the playhouses came via the late Bernie Delfont, who while at First Leisure offered the Prince Edward theatre and Savoy to Mackintosh. The former venue has already had the Mackintosh touch: 'we turned it from being, "Well, there's always the Prince Edward", to everybody wanting it as their first choice for musicals.'

But beyond the production of *Mary Poppins* next year – a collaboration with Disney – buildings are taking centre stage in Mackintosh's life 'I don't want to find lots of new shows, because I enjoy doing this,' he says.

'It's been a passion I've had. I've always loved buildings. I'm lucky that I've got the financial resources to do what I want – they're not cheap to do – but the thing is, I only want to do it for a purpose.'

His other love is cooking, which he shares with brother Nicholas, a chef and restaurant owner. 'But, again,' Mackintosh points out, 'you can all buy the ingredients: it's how you put it together that really makes a difference.'

David Taylor



From GM crops to listed buildings explosive opposites are at work

Last week, the panic over wind-blown contamination by GM crops turned out to have been misplaced. Why? Because the little devils have been spurning the wind and hitching a ride into neighbouring organic fields in mud that sticks to the tyres of tractors instead.

No surprise, then, that today's other extravagantly feared pollutant – the euro – has also been creeping into civilisation as we know it by way of unscrupulous minicab drivers, street traders and frequenters of car boot sales. By this means, the serious debate about whether we should join the common currency (which I wrote about last week) has become something of a farce, and concerns about the risk posed to humans by GM crops have been exposed as too little too late. In both cases, attempted prohibition by government has begat the political fiction that a choice is still possible long after it has ceased to be.

This process of *de facto* adoption in the face of *de jure* rejection is interesting and constitutes a true phenomenon of our time'.

This process of *de facto* adoption in the face of *de jure* rejection is interesting and constitutes a true phenomenon of our time'.

Nor is this pattern of contradiction confined to the ceaseless spinning and unspinning of government policy. Rather, it stems from the intractable facts of life that govern engineering and the physi-

cal world as well. For example, cars, some of which are technically capable of speeds greater than 200 miles an hour, have their engines governed so that they cannot exceed 155mph, but are then allowed onto a road network where all traffic is limited to 70mph. In the same way, though the mobile phone is seen almost as a standard accessory by drivers, they face a vociferous lobby that would like to see their use while driving made illegal.

This pattern of universal success hunted down by legal banishment is neither new nor solely sentient. Behind the Dolby hush of the typical superstore there are forces at work that are inanimate analogues of the battle over cigarette advertising on racing cars. For example, carbonated beverages, found in innumerable retail outlets, conceal a protean clash of forces as well as a breathtaking display of advanced technology. The current Coca-Cola six-pack simultaneously features high-tech metal and plastic in both tension and compression – the former in the shape of the shrunk-on sheet plastic wrapper that holds the six multipack beverage containers in place, the latter in the shape of the six pressurised recyclable 330ml beverage cans themselves, an explosive combination of opposite forces that no traditional beverage pack can match.

Is there an architectural contrast to match this minor miracle, or indeed an example of early architectural enthusiasm followed by rejection more recent than glass fibre-reinforced cement? Perhaps rusting nail plates need another look, or high alumina cement – if there is any of it left standing.

More fruitful perhaps is a different line of inquiry. How many householders, overjoyed to learn that their dwelling was listed or located in a conservation area, revised their opinion when they became aware of all the associated costs?

Alan Dunlop

Gordon Murray and Alan Dunlop Architects

When are where were you born?
In 1957, in Glasgow.

What is your favourite building?
Lou Kahn's Library at Phillips Exeter Academy because of the tricks of scale and combination of the materials.

What is your favourite restaurant/meal?

Mussels, French bread and a cold beer, eaten anywhere with my family and a beach.

What vehicle do you own?

Black Cherokee Jeep.

What is your favourite film?

The Last of the Mohicans.

What is your favourite book?

A Prayer for Owen Meany by John Irving.

What is your favourite design classic?

E-Type Jag.

What is the worst building you've ever seen and why?

Tay House in Glasgow, because of its pivotal location and damage to the aspect of the Mitchell Library. But if you walk around Glasgow's central business district you will see a number of buildings where no thought whatsoever has gone into their design or construction.

Who or what is your biggest influence?

Lou Kahn, Alvaro Siza, Raphael Moneo, Robert Matthew, Barry Gasson, Wiel Arets.

Who is the most talented architect you've worked with?

David McMillan, Ian Simpson, Gordon Murray, and Alison and Peter Smithson spring to mind, but the most talented and intuitive designer was not an architect but Ken Grange of Pentagram.

If you hadn't been an architect, what would you have been?

A painter. I was offered a place at St Martin's School of Art, but turned it down.

What would your advice be to students?

Keep drawing.

What would your motto be?

You're no better than you should be.



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Quarts in pint pots

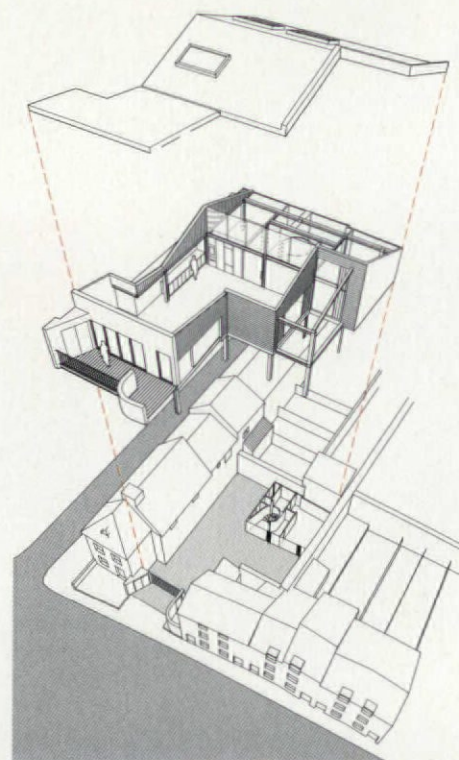
We look at individual houses by five designers, all tight for space and all adding an extra dimension through design. The first is a landlocked site in Malmesbury, Wiltshire, by AEM Studio

By Barrie Evans
Photographs by Alan Williams

It needed an architect to see that this site in Malmesbury had potential. Previously occupied by a shed, used variously as workshops and for storage, the L-shaped building was tightly surrounded on all sides, except for a narrow street frontage.

AEM Studio has used this constrained footprint to build a house for practice director Pascal Madoc Jones' mother. There was more difficulty negotiating with the six party wall owners than for planning permission – the planners were happy to see the original building go and did not push for pastiche in this historic town.

Set back from the narrow street to allow a



car to sit off the carriageway while the garage door opens, the house's street frontage explains the plan layering. The solid ground floor doors open on to predominantly open space for access/parking/storage plus a requirement for turning a car within the curtilage. The dwelling itself is largely behind the first-floor balcony.

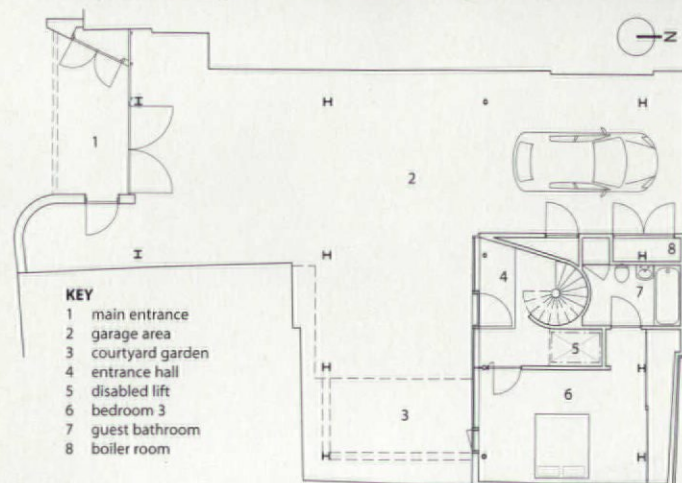
The enclosure of the site means that the only access to daylight and views is from the street or the roof, so manipulation of daylight has been a key element of the design. When entering from the street the open floor reveals the columns of the steel frame, set inboard from the edge of the plan on



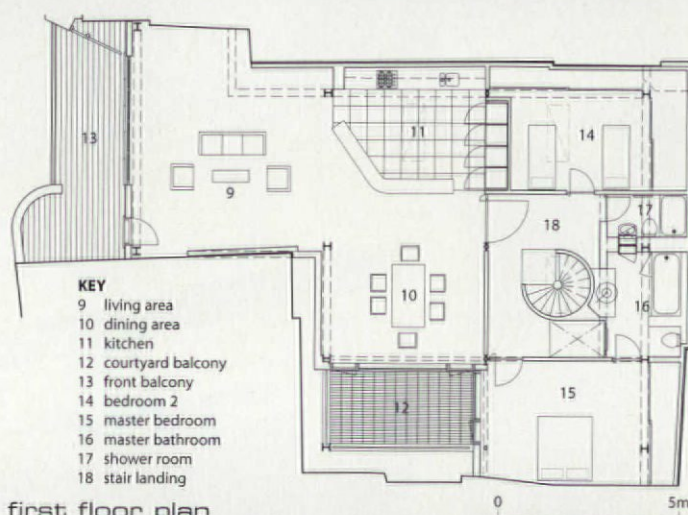


Previous page: the only visible exterior. Above: ground floor entrance and bedroom

First floor courtyard balcony, lit from perimeter



ground floor plan



first floor plan



View from the living area: glass-topped partitions (plus rooflights) bring light to the rear range of spaces. To the right is the courtyard balcony



Top: kitchen with locally made joinery. Above: head of the stair at first floor (the lift is behind this)

concrete pads on bedrock, avoiding neighbouring footings. The few built spaces on the ground floor are a stair core, including passenger lift, and a guest bedroom set adjacent to an open courtyard, which brings sky light down to this level. There are also narrow light slots at other points between the new building and existing party walls.

On the first floor much of the layout is open-plan, looking on to the front balcony and courtyard. South-facing, the balcony is protected both by a yellow retractable awning and by heavyweight horizontally sliding/folding timber screens, which, when closed, let through a barn-door-like striped light. The view from the balcony is over rooftops to the valley beyond. For the rear range of first-floor spaces – core, bathrooms, bedrooms – the high roof allows partitions to be glazed above normal ceiling height, providing borrowed daylight to these spaces. There are also skylights.

The undulating roof had to follow the shape of the original shed's accumulated roof planes. The clever use of this folded plate to help daylight penetration and the whole packing of the spaces into the enclosed site set a puzzle for the builders, which Madoc Jones elucidated with a set of three-dimensional sketches.

Materials are basic: timber, plaster, render, glass, wood-like composite resin siding and existing stone, which is left exposed in the north-east bedroom. Underfloor heating helps keep surfaces clear.

There is still a lot going on visually, though, and Madoc Jones wonders whether, given another start, he might pick up more on the barn-like theme, making the whole building more rudimentary. But it is not overly busy. Rather, the sense of lit space flowing from front to back belies the site's constraints.

CREDITS

START ON SITE DATE	PARTY WALL SURVEYOR
February 2002	John Williams
CONTRACT DURATION	MAIN CONTRACTOR
8 months	AC Nurden
GROSS EXTERNAL FLOOR AREA	SUBCONTRACTORS AND SUPPLIERS
170m ²	Joinery Steve Grey; lift Stannah; concrete stairs Blanc de Bierges; ironmongery Higrade; lights GFC; roofing, sidings Eternit; composite floors and tops Marble Flooring Specialists; lino Forbo Nairn; kitchen Falcon Interiors; gate mechanisms FAAC; sliding/folding doors Sunplan; infills to storage screens Rohm Makrolon
FORM OF CONTRACT	
Minor Works 1998	
ARCHITECT	
AEM Studio: Nic Bone, Richard Gollidge, Kirsten Haggart, Pascal Madoc Jones, Alex Young	
STRUCTURAL ENGINEER	
Elliott Wood Partnership	
QUANTITY SURVEYOR	
Jenkins Hansford Partnership	
SERVICES ENGINEER	
Max Fordham	

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AEM Studio
www.a-em.com
 Elliott Wood Partnership
www.elliottwood.co.uk
 Max Fordham
www.maxfordham.com
 AC Nurden (Malmesbury)
www.nurden.ac

New outlook

Photographs by David Grandorge



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In approaching this mews house in London W11, architect Lisa Shell Design has taken an apparently relaxed approach to reordering the front facade – a contrast to the busy, mixed-quality of neighbouring houses. The framing of ground-floor openings echoes the large doors typical of mews in their original use, while above, the placing of windows follows the common asymmetry.

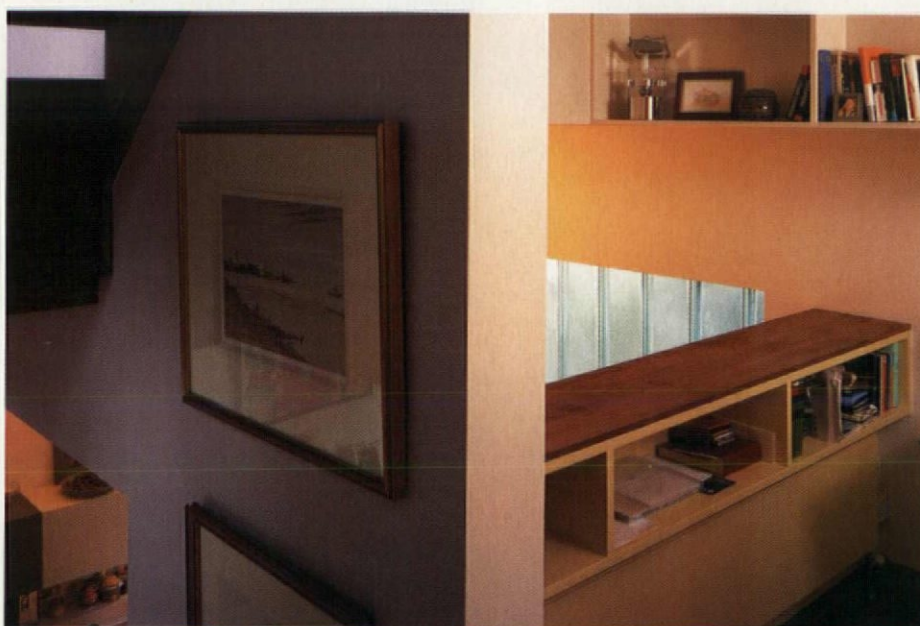
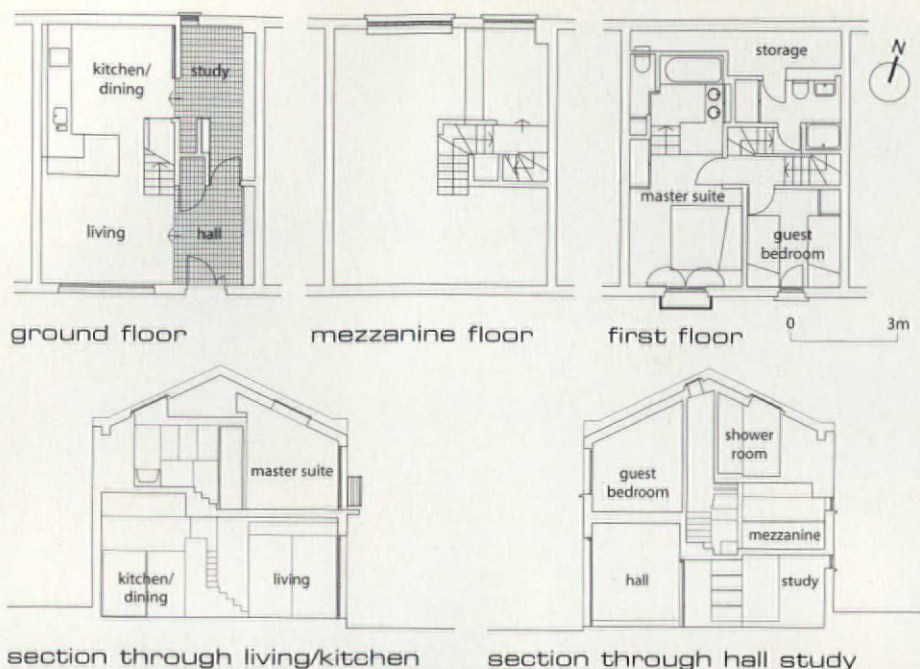
The untypically large scale of these openings, though, suggests a bare minimalism within. Not so. Rather, there is a compression of spaces and interlocking of levels that spiral up the house. Ingeniously, in the north-east quadrant of the plan there are three storeys set directly beneath the rafters. Yet by limiting ceiling heights, to 2.1m for the mezzanine study, the top floor

is less than 4.5m above ground level and so the stair has not had to be made a protected escape route, with all the self-closing doors that entails. This allows the ground floor and the mezzanine study looking down on it to be largely open plan. This and the fenestration give breathing space to a ground floor area that is only 6x7m overall.

The large openings at the front are much needed to bring in daylight, given the constraints at the rear. The mews forms the endstop to the back gardens of houses behind, which the mews cannot overlook. So obscured glass lights the lower levels (glass troughs in the case of the kitchen, others allowing ventilation, too) and rooflight glazing is used at the rear of the first floor.

As to the staircase, the 'how did she get





Previous page: stair in living room with mezzanine balcony beyond. Above: view from mezzanine down to kitchen. Top and far right: first floor stair

that through the building regulations' question is answered by Lisa Shell that it is designed to the millimetre. Open at the ground floor, it winds upward in a box with glass balustrade and open, floating treads. On the first floor, the plan steps up from front to back to accommodate the mezzanine below. The flow of space and light is helped in the master suite by making the

bathroom space continuous with the bedroom space – only the WC is closed off, in a run of cupboards. Indeed, storage is a preoccupation in Shell's design, not just conventional cupboards but in the rear eaves and surprise ones built into the sides of staircases.

For one of the clients, who had lived in the house for 10 years before this project, having essential repairs valued at £50,000

and an unsuitably conventional cellular plan, moving house was the first thought on his impending marriage. What the architect has achieved instead is a newly functional living and working environment for this couple, not simply animated by its daylighting but providing an open aspect throughout what is essentially a single-aspect plot.

COST SUMMARY

Cost data based on final account

	Cost per m ² (£)	Percentage of total
STRIP-OUT, DEMOLITIONS	58	3
SUBSTRUCTURE	116	5
SUPERSTRUCTURE	577	25
INTERNAL FINISHES	218	10
FITTINGS AND FURNITURE	356	16
SERVICES	437	19
MAIN CONTRACTOR'S PROFIT AND ATTENDANCE	297	13
PRELIMINARIES & INSURANCE	226	10
TOTAL	2,285	100

Cost data provided by Lisa Shell, Lisa Shell Design

CREDITS

TENDER DATE

Negotiated contract
during design

START ON SITE DATE

4 March 2002

CONTRACT DURATION

30 weeks

GROSS INTERNAL FLOOR

AREA

95m²

CONTRACT

JCT Minor Works 98

TOTAL COST

£217,075

CLIENT

Richard Mayson and

Katrina Blandy

ARCHITECT

Lisa Shell Design: Lisa

Shell, Adela Askandar

STRUCTURAL ENGINEER

Osborne Edwards

Consulting Structural

Engineers

PARTY WALL SURVEYOR

R Paice and Associates

MAIN CONTRACTOR

Roy Cox Contracts

Management

SUBCONTRACTORS AND

SUPPLIERS

Glass planks Reglit; glass

Greenberg Glass;

metalwork Fida

Engineering;

ironmongery Strada,

Hettich, Hafele, Bevan, DR

Services (London),

Allgoods; security alarm

Tara; electrics MK,

Wandsworth; hardwood

supply EC Forest; counters

(Quartz Virgo) Classico

Marble and Tiling Co;

taps (Dombracht),

shower controls (Grohe),

sanitaryware (Duravit)

Edwins; lighting Poulsen

(from Skandium), SKK,

Aktiva, Emcolite, Davey

Lighting; rooflights

Barnglass, Stoakes

Systems, The Metal

Window Co; panel

radiators Hudevad;

trench heating Gunning

Engineering; towel

radiators Runtal Zehnder;

boiler Potterton; hot

water storage Heatrae

Sadia; appliances Buyers

and Sellers; tiles Galleria

Ceramics; tile trim

Schluter Systems

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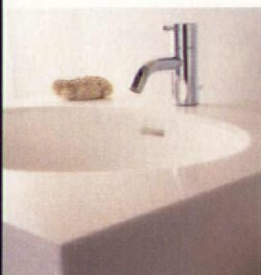


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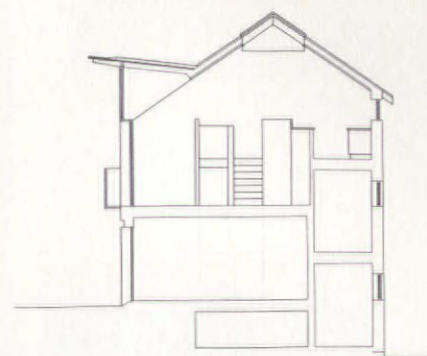
Stepping up

Photographs by Douglas Corrance

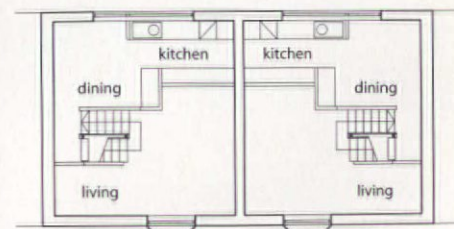
Like the previous two houses – from AEM Studio and Lisa Shell Design – this matched pair of houses in Merchiston Mews, Edinburgh, has no outdoor space. It does, however, have dual-aspect, though no rear access, the rear looking on to a former industrial site that is now four-storey housing in render and facing blockwork. Another idiosyncrasy of the site is the fall of half a storey from front to rear of the building, which has been cleverly exploited by inserting staircases across the houses on the centre line and putting en suite bedrooms in the extra half level created at the rear. Thus, the

front half of the plan is entrance plus garage with living space above. The rear of the plan – offset half a level – is two storeys of bedrooms with kitchen-diner above. This difference in level is resolved at the top of the houses by creating for each of them one large living/kitchen/dining volume under an exposed pitched roof soffit.

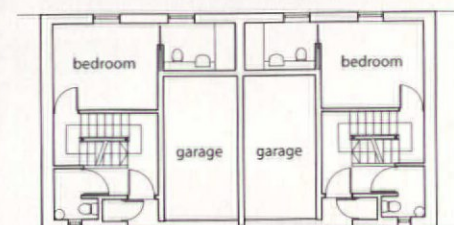
While windows to the rear provide immediate illumination to the kitchen/diner, other windows have been strategically placed to emphasise the scale of the large volume. A skylight running continuously along the ridge draws the eye up and



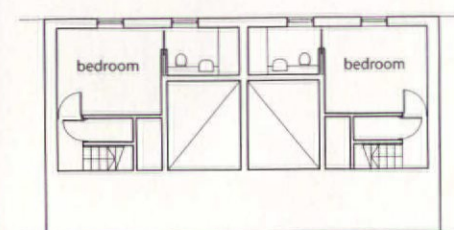
cross section



upper floor plan



ground floor plan



lower ground floor plan



Main image: living room with storage wall
fronting higher level kitchen area beyond.
Left: pair of houses, lit both by dormers and
ridge rooflights. Above: rear elevation of small
bedroom/bathroom windows and more
expansive top floor



Left: kitchen seen from dining area with the view down to the living area on the left.
Bottom left: the stair lightens as it rises.
Bottom right: doors have sliding shutters

COST SUMMARY

Cost data based on tender sum

	Cost per m ² (£)	Percentage of total
SUBSTRUCTURE	76.59	7.31
SUPERSTRUCTURE		
Frame	17.23	1.64
Upper floors	28.23	2.69
Roof	70.32	6.71
Rooflights	65.96	6.29
Staircases	31.99	3.05
External walls	106.94	10.20
Windows	44.10	4.21
External doors	24.07	2.30
Internal walls and partitions	22.35	2.13
Internal doors	31.72	3.03
Group element total	442.91	42.26
INTERNAL FINISHES		
Wall finishes	48.14	4.59
Floor finishes	19.08	1.82
Ceiling finishes	18.05	1.7
Group element total	85.27	8.14
FITTINGS AND FURNITURE	62.48	5.96
SERVICES		
Sanitary appliances	38.73	3.69
Disposal installations	19.87	1.90
Water installations	18.21	1.74
Space heating and air treatment	62.38	5.95
Electrical services	25.74	2.46
Protective installations	6.16	0.59
Communication installation	13.80	1.32
Builders' work in connection	2.47	0.24
Group element total	187.36	17.89
EXTERNAL WORKS	38.64	3.69
PRELIMINARIES & INSURANCE	154.96	14.79
TOTAL	1,048.21	100

Cost data provided by JM Bishop

CREDITS

TENDER DATE

20 December 1999

START ON SITE DATE

29 May 2000

CONTRACT DURATION

37 weeks

GROSS EXTERNAL FLOOR AREA

230m²

CONTRACT

Scottish Building

Contract with Quantities

(April 1998 Revision)

CONTRACT SUM

£241,089

CLIENT

Mr & Mrs Mossman

ARCHITECT

ARCADE Architects:

Alison Blamire, Alistair

Blamire, Thomas

Hamilton

STRUCTURAL ENGINEER

Wren & Bell

QUANTITY SURVEYOR

JM Bishop

PLANNING SUPERVISOR

Alistair Blamire

MAIN CONTRACTOR

Richard Street

SUBCONTRACTORS AND SUPPLIERS

Kitchen Magnet;

bathroom sanitaryware

Roca, Bette; taps Bristan;

marble vanity tops

Toffolo Jackson; ceramic

wall, floor tiles (Grespor)

CTD; Stancliffe stone

Capital Stone Co;

McAlpine slate Harrison

and Duff; patent glazed

rooflight Peter Noble and

Sons; windows Nordan;

special metalwork

Nordan; structural

steelwork George Legge;

special glazing BLU,

Speedglaze; light fittings

Reggiani, iGuzzini (from

Scott Coppola); d-line

ironmongery Allgood;

doors McTavish Ramsay;

timber flooring Kahrs;

underfloor heating

Purmo; limestone

flooring Kirkstone

Quarries; garage doors

Seceurodoor, SWS UK;

paint to steelwork

Hammerite

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provides some apparent height for the kitchen/diner under the asymmetrical-section roof. To the southerly front, the first-floor window (with internal double sliding timber screens) is extended upwards with matching windows above the roof plane, so emphasising the height of the living space and providing enhanced views out to the front from the higher kitchen/diner.

At the lowest levels of the houses the interior is mainly cellular accommodation in painted plaster. For the large single volume there is a transition to lighter weight – the stair returns are divided by metal mesh and then the timber roof structure lined with plywood.

Externally, there are two different contexts. To the rear, the neighbouring new housing layout is relatively large scale, the two mews houses aligning with their neighbours to create a windowed boundary wall to this development. The two houses, now called

Mossman Houses after the clients, are simply rendered with punched windows at bedroom levels, the kitchen/diner level expressed with larger openings and timber boarding.

The front context is mews-like in scale, though varied. The houses occupy the site of three single-storey garages. Existing buildings are mixed in use, style, age and quality, typically two or three storeys high. While the eaves of Mossman Houses line through with adjoining buildings, the three-storey scale of the extended windows and their projecting roofs is not out of place here.

The front is stone, crisply detailed, certainly the best of the mews. Standing out, with quality, is more appropriate than self-effacing fitting in. But it is inside where the client is most appreciative: of the amount of accommodation worked into a small volume and especially the creation of the spacious single volume in a building that might appear unable to accommodate it.

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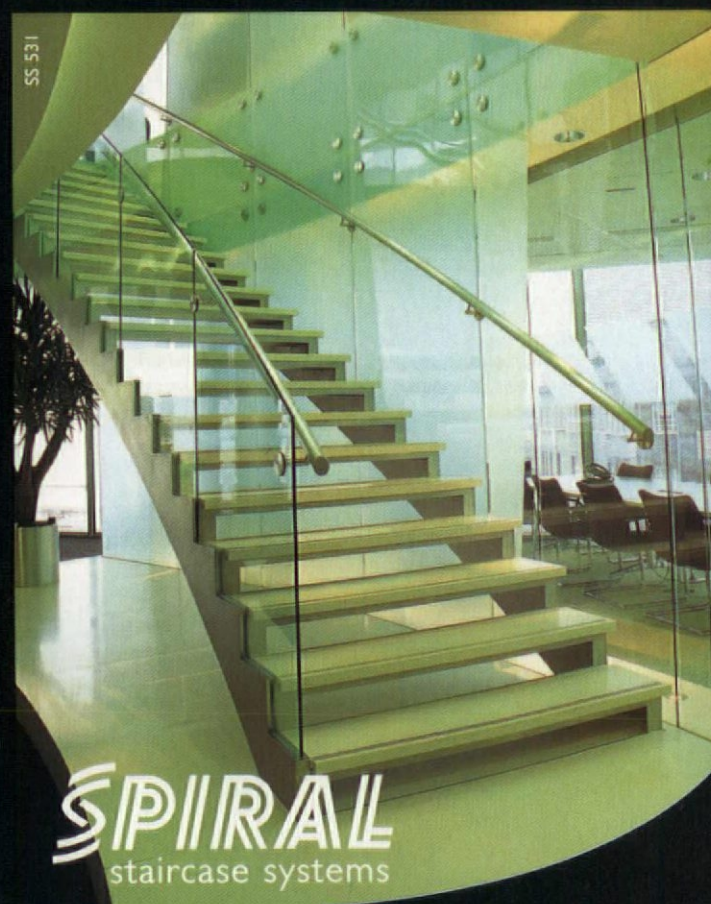
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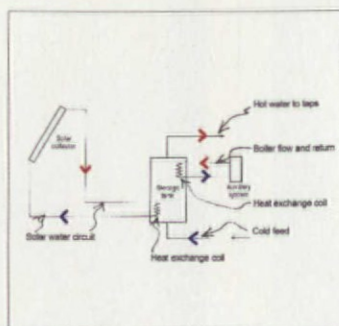
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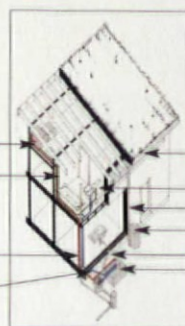
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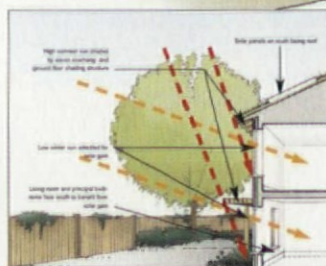
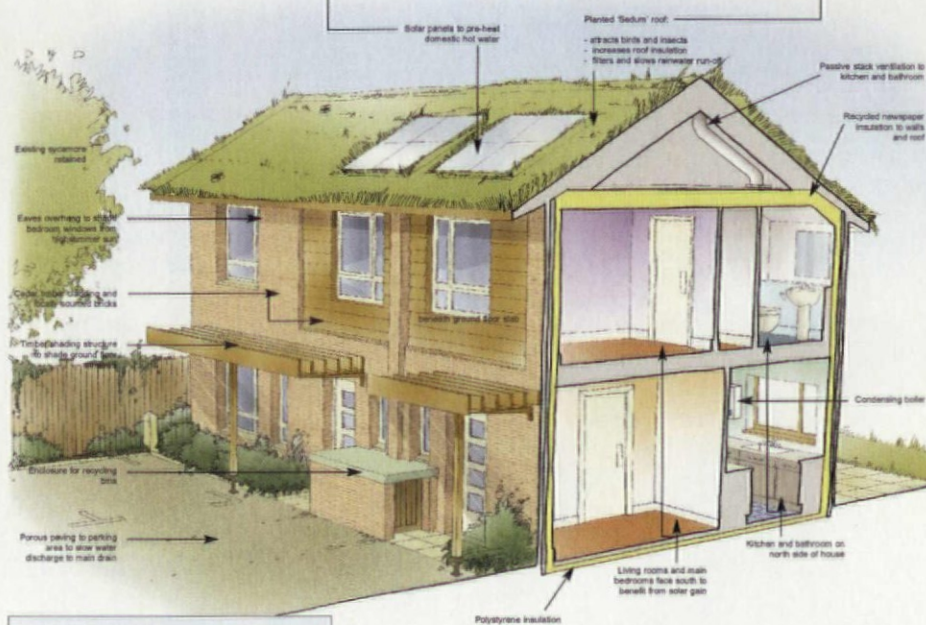
Single cylinder indirect solar hot water system



Water recycling details



Sedum roof detail



Shading features and seasonal solar gain

<p>House Construction (well insulated to reduce heating bills)</p> <ul style="list-style-type: none"> Timber frame construction with 200mm recycled softwood insulation to walls and roof High performance timber windows double glazed with low emissivity glass 100mm polystyrene insulation beneath ground floor screed 	<p>Natural Finishes (to reduce toxic emissions in the home)</p> <ul style="list-style-type: none"> Natural paints and stains Limestone flooring to ground floor Solid refinished boarding to first floor
<p>Natural Ventilation</p> <ul style="list-style-type: none"> Operable windows Passive stack ventilation to kitchen and bathroom 	

Green houses

Photographs by Express Photo Services

When neighbouring houses were built by Countryside Homes for several housing associations some 10 years ago, the site for the two three-bed semis now completed at Eider Close in Newham, London, was an electricity sub-station. Since then decommissioned, the small site provided East Thames Housing Association with a chance to try something different. The association is committed to exploring and developing a sustainability agenda in the longer term, within the normal cost constraints of Housing Corporation Funding. For this project, some extra costs were deliberately incurred to seize the opportunity of the site as a test bed for the viability of a range of predominantly energy-saving measures.

Scheme design and subsequent monitoring are the responsibility of PRP Architects. Detailed design was passed to ECD Archi-

ects, which worked to a large extent within the framework of BRE's EcoHomes assessment scheme. The scheme embraces:

- energy – CO₂ production, envelope performance, exterior clothes-drying space, eco-labelled white goods (not done here), low-energy security lighting;
- transport – access to public transport and local amenities, cycle storage (not done here), home office potential;
- pollution – avoiding CFCs/HCFCs and limiting NOx emissions;
- materials – timber for fabric and finishes, recyclable materials, materials' environmental impact (*Green Guide for Homes*);
- water – low consumption;
- land use and ecological value – ecological value of site and change in that, building footprint; and

● health and well-being – daylighting, sound insulation, private outdoor space.

While conventionally planned, PRP has included some exterior untreated larch boarding to signal the fact the house is timber-framed, though its area was limited by the client's concerns about maintenance costs (which should be minimal) and impact damage. Envelope U-values are about 15 per cent better than Part L1. Window areas are larger on the south elevation for solar heat/light input and amenity. A sedum roof has been a talking point in the neighbourhood, the summer flowering awaited. With a conventional roof pitch, roof watering should not be needed in summer.

Two particular technologies introduced are solar panels for pre-heating hot water in one of the houses, and grey water recycling for flushing WCs in the other. (Cost constraints prevented both systems being put in both houses.) The solar collector works via a coil in a larger-than-normal storage tank, which also has a coil from the boiler. The southerly-facing 4m² selectively coated flat plate collector is expected to provide 50 per cent of family water needs year-round. Since occupation in late April, top-up from the gas boiler has not been required. Details needed developing with the sedum roof manufacturer to deal with fixing the collector. (There were also discussions – too late – about detailing other roof penetrations that would have allowed trialling of a Passivent passive stack ventilation system to kitchen, bathroom and WC. A fan-assisted version has been installed.)

The grey water system collects water from baths, hand basins and showers, then filters and disinfects it in a tank under the patio, and pumps it to a header tank for use in flushing WCs. The header tank drains after 48 hours if not used. It is a self-cleaning system incorpo-

rating slow-release bromine tablets.

As well as energy modelling, other measures included Hep2O push-fit plumbing rather than copper, newsprint insulation, recycled materials in manufacturing dpcs, improved party-wall sound insulation, waste segregation and porous external paving (to avoid drainage to sewers). Paints are water based – the association might try earth-pigmented paint in future. Dedicated car parking is at a standard 1.5 spaces per house. The houses also conform to Lifetime Homes standards.

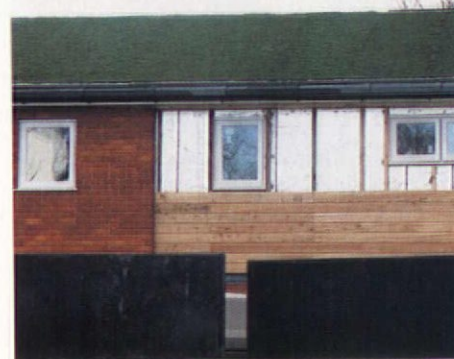
The two major systems – solar and grey water – demand little of occupants beyond accepting being part of a trial. (The slower-response nature of passive ventilation might have required more change of behaviour.) This is a small trial, and individual energy consumption is notoriously variable, but PRP has sought some comparability by obtaining bills from the occupants' time in their previous home. During the next year bills will be monitored for gas, electricity and water.

Cost-wise, such grey water systems require an initial investment of between £1,400 and £1,800 each, which could produce a saving in the order of 30 per cent in water bills. The £200-2,500 cost of the solar system could lead to a saving in bills around £100 per year. So straight paybacks are about 20-25 years. The sedum roof does have some insulation and ecological value but in economic terms it is an expensive nice-to-have.

The BRE EcoHomes rating is provisionally 'very good'. For the housing association there is more to this scheme than money – cash savings go to the tenant and no premium is currently added to the rent for this. Rather, as a committed housing-provider it is prepared to take a long-term view both of the costs and benefits for sustainability.



Clockwise from below: front elevation; rear elevation under construction with more extensive timber; solar panel; rolling out the sedum roof



COST SUMMARY

Cost analysis based on contract sum, for gross external floor area

	Cost per m ² (£)	Percentage of total
DEMOLITION, SITE CLEARANCE	10.81	0.9
SUBSTRUCTURE	90.07	7.3
SUPERSTRUCTURE		
Upper floors	7.16	0.6
Roof	84.63	6.8
Staircases	7.61	0.6
External walls	42.78	3.5
Windows, external doors	54.34	4.4
Internal walls and partitions	12.62	1.0
Internal doors	18.32	1.5
Joinery	17.58	1.4
Group element total	245.04	19.8
INTERNAL FINISHES		
Wall finishes	39.31	3.2
Floor finishes	23.07	1.9
Ceiling finishes	14.35	1.2
Internal, external decoration	19.04	1.5
Group element total	95.76	7.7
KITCHEN FITTINGS	13.76	1.1
SERVICES		
Sanitary appliances	12.85	1.0
Services equipment, inc disposal and water	29.65	2.4
Space heating, air treatment	64.39	5.2
Electrical, communications	142.36	11.5
Group element total	249.25	20.2
EXTERNAL WORKS	89.17	7.2
PRELIMINARIES & INSURANCE	442.08	35.8
TOTAL	1,235.94	100

CREDITS

CONTRACT START

8 March 2002

START ON SITE DATE

24 June 2002

CONTRACT COMPLETION

25 October 2002

PRACTICAL COMPLETION

10 March 2003

CONTRACT DURATION

33 weeks contract (52 weeks actual)

PROCUREMENT

JCT with Contractor's Design, negotiated

GROSS FLOOR AREA

203.5m² (external), 174.8m² (internal)

TOTAL COST

£251,514

CLIENT

East Thames Housing Group

ARCHITECT

ECD Architects; PRP Architects

ENERGY CONSULTANT

ECD Project Services

SERVICES ENGINEER

Fulcrum Consulting

MAIN CONTRACTOR

Botes Building

SUBCONTRACTORS AND SUPPLIERS

Timber frame MTE

(Leicester); Aquasol Duo

solar hot water system

Construction Resources;

grey water recycling

system Water Dynamic

Group; sedum roof Erisco

Bauder; ventilation

system Passivent; hard

landscape, including

porous paving Marshalls;

windows Chadwick and

Paxman; plumbing

Hepworth; green product

supply Construction

Resources

WEBLINKS

East Thames Housing Group

www.east-thames.co.uk

ECD Architects, ECD Project Services

www.ecdarchitects.co.uk

PRP Architects

www.prparchitects.co.uk

Fulcrum Consulting

www.fulcrumfirst.com

Botes Building

www.botes.co.uk



HOUSE 1
AEM Studio
Malmesbury, Wiltshire



HOUSE 2
Lisa Shell Design
London W11



HOUSE 3
Arcade Architects
Edinburgh



HOUSE 4
ECD Architects
PRP Architects
Newham, London



HOUSE 5
Picardi Architects
Holland Park, London



Attic light

By Susan Dawson. Photograph by Morley von Sternberg

A spiral staircase and a glass-floored mezzanine gallery form the centrepiece of Picardi Architects' alterations to a third-floor attic flat in London's Holland Park. The staircase and gallery are slotted within the volume of the pitched roof. Their components – glass, steel and acrylic – were chosen to create a structure that would transmit light from a new overhead rooflight, creating a feeling of spaciousness in the refurbished interior.

The alterations address and solve some problems common to design within listed buildings. The flat is on the attic floor of a grand 'villa' designed by Francis Radford in the 1860s. It is Grade II listed and within the Holland Park Conservation Area.

In its original state, the flat had been dark and gloomy – in spite of its elevated position. In particular, the kitchen/dining space had low ceilings and although it adjoined the terrace, access and view were limited by an obtrusive utility room. The client wanted a brighter, more functional kitchen/dining area and improved access to loft storage above the bedrooms – formerly reached by means of an awkward concertina ladder.

The architect's response comprised a series of alterations, relatively small in themselves but with a dramatic cumulative effect:

- the utility and boiler room was resited, creating a more spacious kitchen/dining area;
- this allowed the opening to the terrace to be enlarged into a double-leaved patio door;
- a new kitchen was installed;
- the ceiling of the dining/kitchen was removed and an open gallery at mezzanine/loft level was created;
- a new spiral staircase was installed to give access to the gallery and to the loft storage;
- a new rooflight was installed above the gallery;
- the terrace was refurbished with new flags and a purpose-designed balustrade.

Even though the alterations – apart from a wider opening to the terrace and a rooflight – did not affect the exterior, Picardi had to deal with objections from the planning authority. Opening up the ceiling to the loft space and new roof openings were against current local authority policy for listed buildings; similar treatments on

neighbouring dormers and roofscapes was not seen to change this. 'It took a lot of patience and dialogue to overcome their objections,' explains Gennaro Picardi. When permission was finally granted, the ceiling of the kitchen/dining area was removed and the pitched roof was strengthened, insulated and fitted with a large new rooflight, motorised and fitted with a rain sensor.

The staircase is a delicate spiral with a central circular column of satin-finished stainless steel. The triangular glass treads are fixed to the column and to a helical stainless steel string, which curves sinuously up to the gallery, supporting a curved balustrade of translucent acrylic sheets. The treads are sandblasted to give grip, except at the outer edge where small circles of clear glass have been left to allow light to shine through – a delicate tube light fitting has been placed in the corner of the wall.

At gallery level, the stair opening is flanked with a floor of laminated glass panels with a sand-blasted finish. Beyond this, the gallery is floored with sycamore boards – it is large enough to fit a desk and chair. At night, the gallery and pitched roof profile are lit by uplighters lined with perforated steel mesh, fixed to the gallery fascia.

The new kitchen/dining room opens directly off the main hall but the staircase has

been screened with a translucent glass panel to reduce its visual impact when viewed from the hall, allowing the main rooms to have more emphasis. The screen has, in the architect's words, a 'beautiful but cool' effect on the interior; it gives a hint of what is to come and transmits shadows of people going up and down the staircase. Indeed, 'beautiful but cool' sums up the whole of this small, but carefully conceived, project.

CREDITS

ARCHITECT

Picardi Architects:
Gennaro Picardi, Peter Gosney

STRUCTURAL ENGINEER

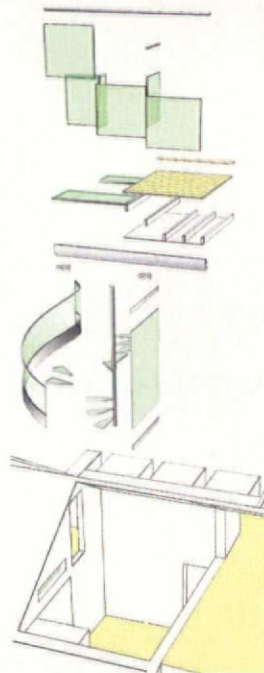
Ian Drummond

CONTRACTOR

Ruggles & Jeffery

SUPPLIERS

Staircase and gallery fabricator Campion & Partners;
rooflight Velux; lighting GSC Lighting, Erco; timber floor
Junckers; ironmongery Allgood; boiler and h/w cylinder
Vaillant



A spiral staircase and mezzanine gallery

Picardi Architects' new staircase and mezzanine gallery are set within the volume of the pitched roof of this third-floor flat in London's Holland Park. Around the staircase opening the gallery floor is formed of laminated glass panels; on the far side it is floored with t&g sycamore boards.

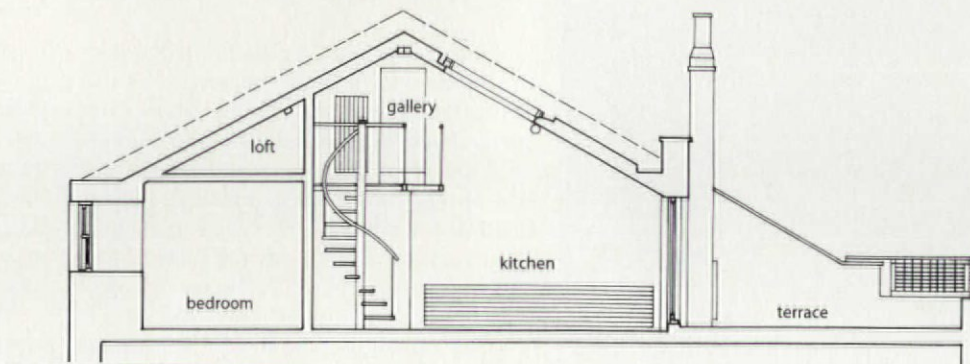
The gallery is set between the original walls, and a simple steel beam structure spans between them. It consists of a fascia beam, a 100 x 100mm SHS, and two inner beams which are 100 x 60mm RHSs. A 12mm glass balustrade runs at the edge of the gallery. It is clamped with a silicone seal between a pair of steel angles; an upper 90 x 90mm RSA is screwed to a lower 100 x 100mm RSA, creating a slot in which the lower edge of the glass is clamped.

The angles and the SHS beam are clad with a stainless steel fascia, which also accommodates cables serving a pair of down-lighters. The balustrade has a 42mm diameter stainless steel handrail set onto the top edge.

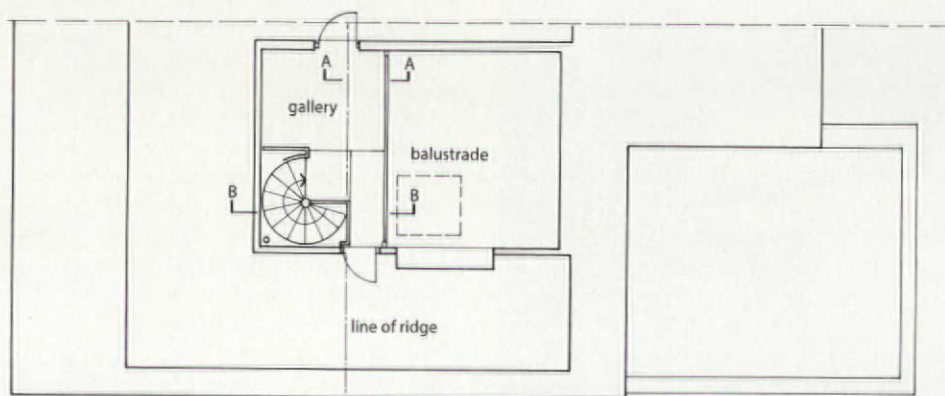
The two laminated glass floor panels that fit round the staircase opening have a sand-blasted top surface to give grip; they rest on neoprene gaskets in a 25 x 25mm stainless steel tray/frame fixed back to the beams.

The staircase is a spiral; it consists of a central 100mm diameter stainless steel column with triangular laminated glass treads and a helical string rising on the outside to support the treads and balustrade. Each tread is notched at the edges to slot into a triangular stainless steel tray. The helical string comprises a pair of stainless steel flats spaced with hardwood packers; the balustrade, a series of curved 12mm thick translucent acrylic sheets, is clamped between the flats. It has a curved 42mm diameter stainless steel handrail fixed to the top edge.

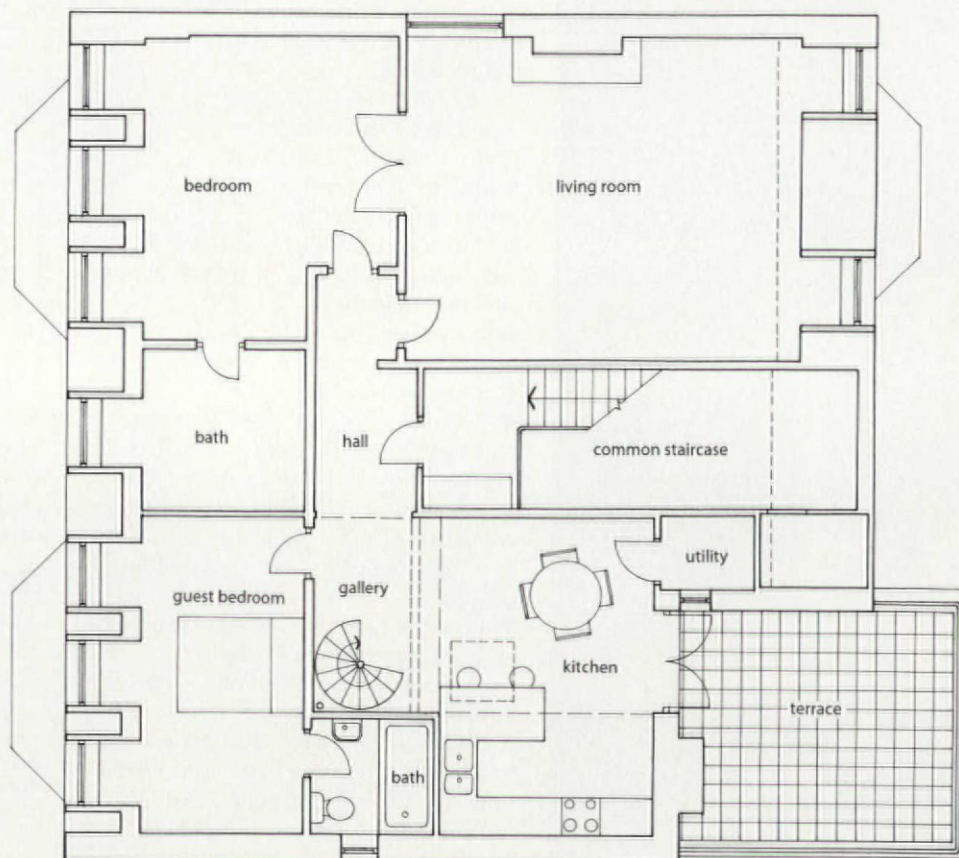
Susan Dawson



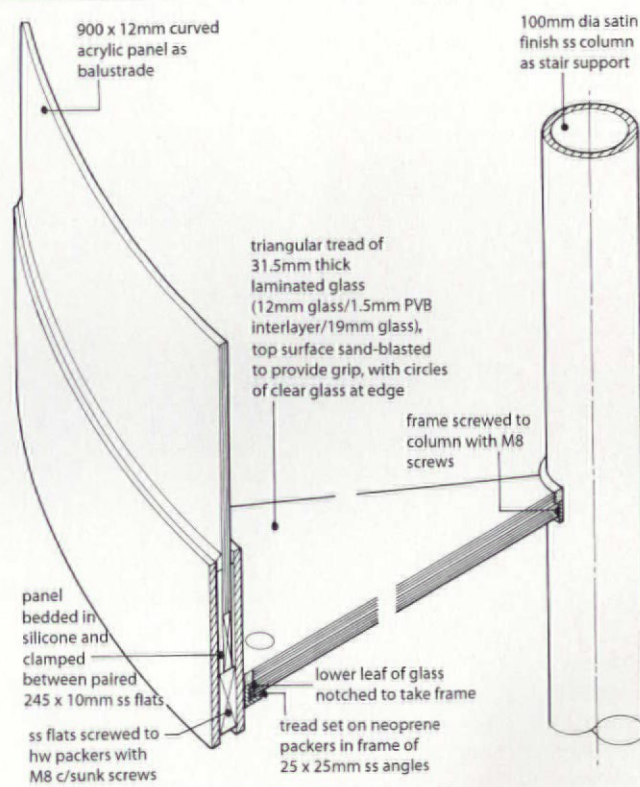
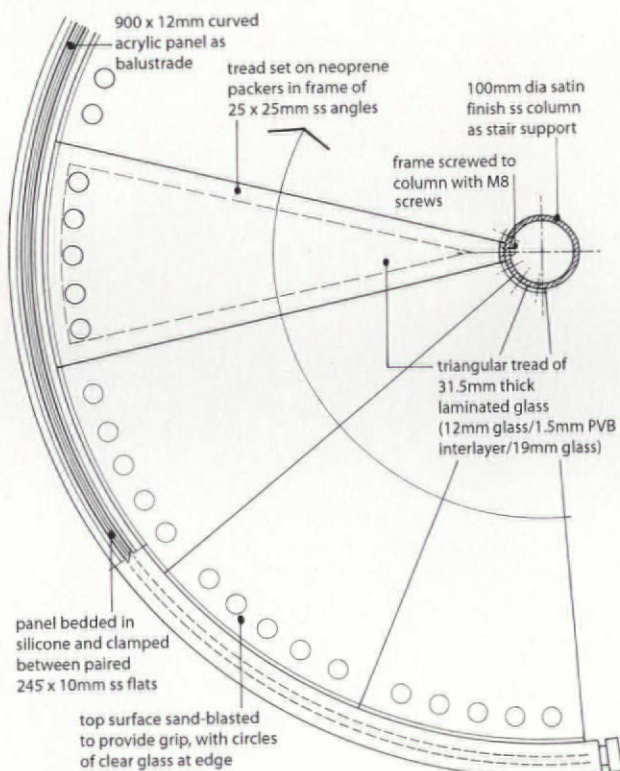
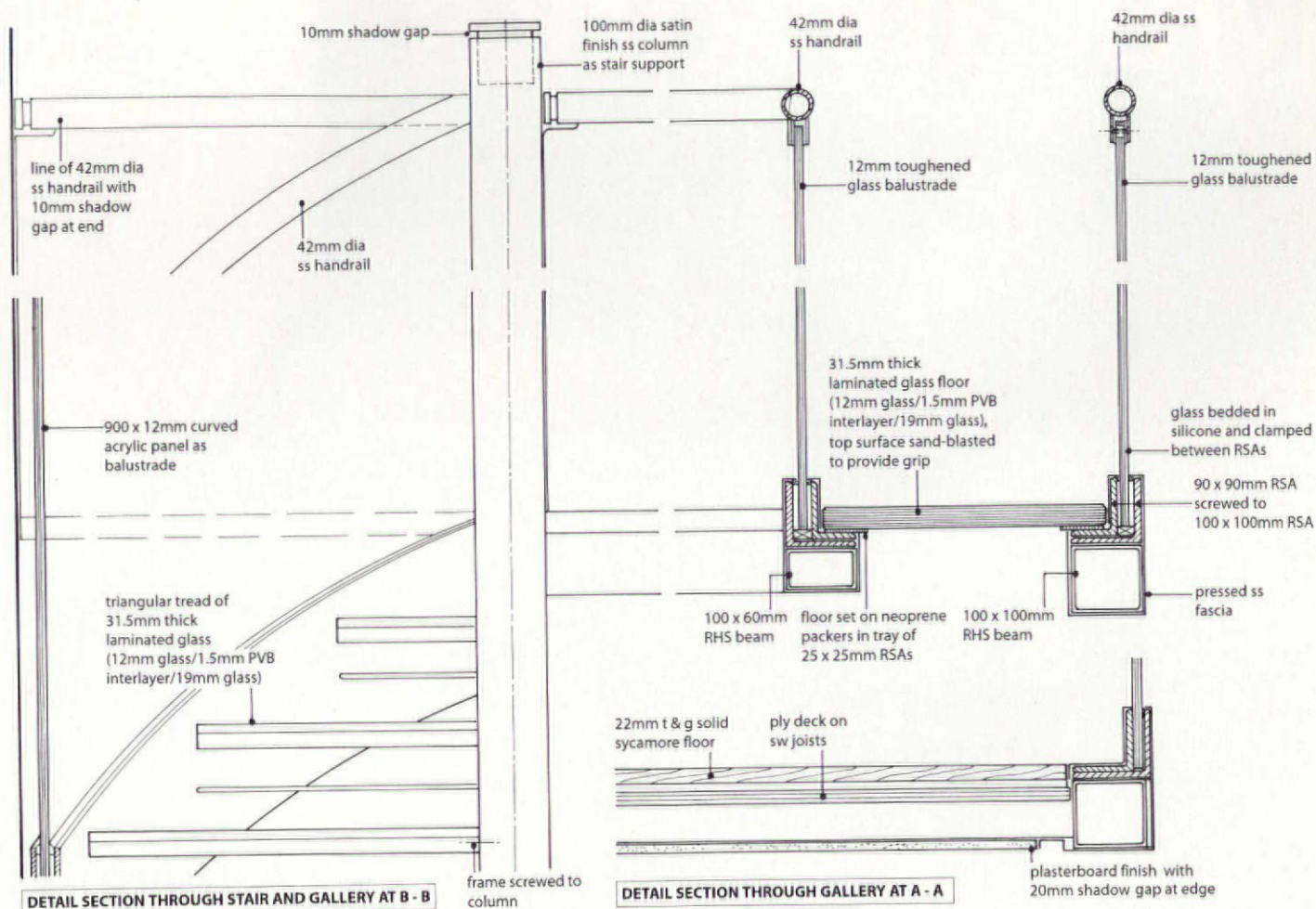
CROSS-SECTION THROUGH FLAT



KEY PLAN OF GALLERY



KEY PLAN OF THIRD FLOOR FLAT

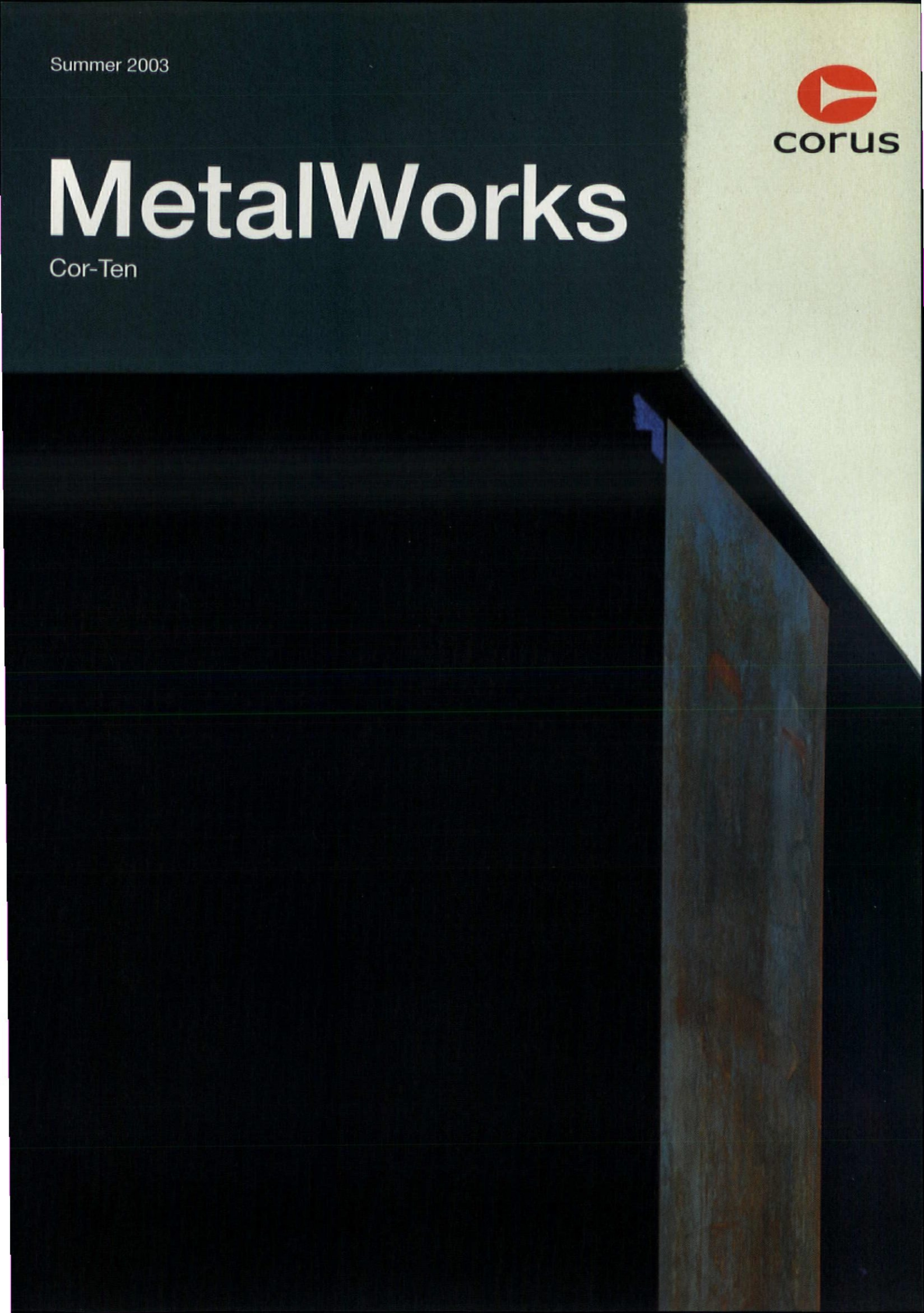


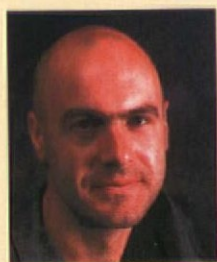
Summer 2003



MetalWorks

Cor-Ten





If someone offered you pre-rotted timber for your building, they would be given short shrift. But when it comes to Cor-Ten, or weathering steel, we're selling broken

biscuits, damaged goods, seconds.

The reaction of the man on the Clapham Omnibus is 'cor-blimey, guv'nor, you was sold a pup an' no mistake.' Quite why Dick Van Dyke travels on the Clapham Omnibus, I don't know, but within the design fraternity there is a different set of opinions. The appeal of something that decays in a predictable and graceful fashion is hard to deny, and the fact that the material needs no other treatment than a care in detailing is the sort of practicality of which Ozymandias would approve.

Cor-Ten was originally produced in 1930s America for railway coal wagons. Some time later its suitability for civil-engineering structures was explored; buildings soon followed. Most architects of my generation will have been shown the Saarinen John Deere headquarters building at some point. I suspect a few of us will have used Cor-Ten in student projects or competitions. The problems occur when the real world brings real clients and planners, rather than compliant figments.

Next to the man on the Clapham Omnibus sits the typical client, who says: 'You're not sticking a rusty box on my Grade II*-listed church.' A mortgage provider adds: 'We would need to be assured of the longevity of the product.' And an insurer pipes up: 'Can you guarantee at least 100 years' design life?'

Rust has an image problem. It is steel rot, after all. So let's accentuate the positive: it is a great colour. Designers love the stuff. It is a self-finished material and in that context it falls into the same group as timber and masonry – and self-finishes or natural finishes are inherently honest, aren't they? No nasty duplicitous paint or morally objectionable powder coating. Weathering steel – what you see is what you get, for years.

Cor-Ten is lying to us, you see. The rust layer is tough and impermeable, and behind it lies metal as genetically manipulated as any super-bug. This stuff is as resistant to water as MRSA is to antibiotics. If only old Ozymandias had built in weathering steel: look on my works ye mighty and despair...

Matthew Teague

Cover shows the Michael Young Building at the Open University Business School.
Photograph by Peter Cook/VIEW

MetalWorks Cor-Ten

Rust, baby, rust

Weather-resisting steel has been around for a long time, but at last it is being used in more elegant surroundings

BY MATTHEW TEAGUE

In the 1930s, the United States Steel Corporation developed Cor-Ten, primarily for use in railway coal wagons. The controlled corrosion that is a feature of the material was a welcome by-product of the need for a tough steel capable of withstanding the rigours of America's burgeoning marshalling yards and collieries. Because of its inherent toughness, weathering steel (the generic name for Cor-Ten, along with weather-resisting steel) is still used extensively for containers.

The civil engineering applications that appeared in the early 1960s made direct use of the improved resistance to corrosion, and it would not be long before the applications in architecture would become apparent.

Cor-Ten gets its properties from a careful manipulation of the alloying elements added to steels during the production process. All steel produced by the primary route (in other words, from iron ore as opposed to scrap) comes into being when the iron smelted in blast furnaces is reduced in a converter. The carbon content is lowered and the resultant iron, now steel, is less brittle and has a higher capacity for loading than before.

Other material is commonly added during the process. Stainless steel has added chromium and molybdenum, for example, and weathering steel has a combination of chromium, copper, silicon and phosphorus,

the amounts depending on the exact attributes required.

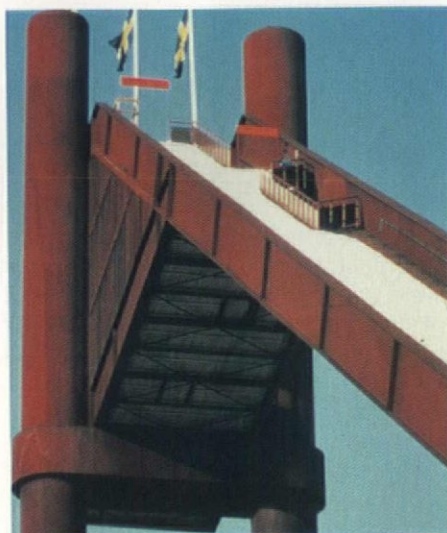
Weather-resistant steel works by controlling the rate at which oxygen in the atmosphere can react with the surface of the metal. Iron and steel both rust in the presence of air and water, resulting in the product of corrosion – rust, iron oxide. Non-weather-resisting steels have a relatively porous oxide layer, which can hold moisture and promote further corrosion. After a certain time (dependent on conditions), this rust layer will delaminate from the surface of the metal, exposing the surface and causing more damage. Rusting rates seen on a graph would appear as a series of curves approximating to a straight line.

Rate of corrosion

The oxide layer on weathering steel is not as porous because it adheres more firmly to the base metal. The curve of rate of corrosion initially progresses at the same rate as ordinary steel, but soon begins to level out.

The weathering process is dependent on the aggressiveness of the environment into which the steel is placed. As might be expected, rural sites fare the best and marine ones the worst when it comes to the eventual longevity of the material. Another factor to consider is the aspect of the weathering steel. West- and south-facing surfaces weather at a more even rate and form a more even oxide layer. North- and east-facing surfaces tend to be wetter for longer periods of time and often have areas that are darker and more uneven in colouration. This is unavoidable, unfortunately, and is a feature of the material. In the same way that timber bleaching in red-cedar cladding is regarded as something mildly unpredictable, we should look upon the eventual appearance of the oxide layer in weather-resistant steel as an equally natural, and therefore serendipitous, process.

The wetting and drying cycle is important. Continuous dryness is obviously not a problem, *pace* those burned-out Second World War vehicles that litter North Africa and are destined to remain for some time because they don't rust. Continuous wetness can be problematic, however. Some time ago a series of bridges was constructed from weather-resistant steel for some forest roads.



Ski jump tower: applications of weather-resisting steel vary



Clockwise from the top: 3M offices; WD & HO Wills, Bristol; Royal Belge Assurance, Brussels; typical Cor-Ten bridge section

The condition of the forest floor was typical, moist and mildly acidic. The bridges rusted in the same way as ordinary steel, with the oxide layer attacked by the corrosion products of leaves and the continual exposure to moisture.

Ideally, to weather in the expected fashion, weather-resistant steel needs wetting and drying cycles. This is because moisture activates the corrosion process but, with the drying, the oxide layer obtains its non-porous state. The more rapid the wet-dry cycle, the more even the oxide layer.

Another factor that can affect the finished appearance is size. One reason the Angel of the North exhibits an even orange layer of rust is because of its mass. The south- and west-facing aspects, which collect the majority of the sun's energy, absorb and transmit sufficient heat to limit the amount of condensation that can form on the rest of the statue. If the north and east aspects are borrowing the heat, they will tend to weather at more or less the same rate. Try that one the next time someone complains about cold bridging.

Two types of weathering steel are commonly produced. These are sometimes referred to as Cor-Ten A and Cor-Ten B. The types differ primarily in the amounts of phosphorous alloyed into the mixture. Uses reflect the different properties imparted to the steel. The first type is typically produced as sheet or coil and has applications in cladding and ductwork. The second type is more commonly produced as plate, structural sections or tube.

Applications of weather-resisting steel vary widely but recently there has been a trend towards an appreciation of the finish in more elegant surroundings. The Royal Court

Theatre (featured on page 4) is a good example of the gentrification process slowly happening to what has been regarded as one of the more muscular industrial products.

Another application is in high-temperature environments. Normal steel grades – that is, carbon or carbon/manganese steels – form an oxide layer in the absence of moisture at around 400°C. Weather-resisting grades of steel typically exhibit an improvement in the region of 50°C. In practice, this means that where surface loss due to oxidation in normal steels might be 1mm per year, the temperature to achieve the same loss in weather-resisting grades would be that much higher. Load-bearing capacity can be maintained up to temperatures of about 450°C. Improved abrasion resistance (as in the coal wagons) is another feature.

Wetting-drying cycle

Designing in weathering steel is primarily concerned with ensuring the wetting-drying cycle, which forms the protective oxide layer, is allowed to happen. As in previous technical articles, the importance of detailing out pockets, crevices, upward-facing channels and so on cannot be over-emphasised. Where such a condition is unavoidable, say for structural reasons, then it is important to include drainage holes or to ensure sufficient ventilation. Anything that retains moisture should be discouraged, again preferably by design.

Leaves, moss and the proximity of trees can all affect the performance of the material adversely.

When viewed in conjunction with the intended environment, detailing can make the difference between success or failure of a weather-resisting steel structure. There are

some environments where special care must be exercised. First, atmospheres where there is a high concentration of industrial fumes (thankfully increasingly rare). Second, submerging, or burying in the ground. If this is unavoidable other methods of protection can be employed such as concrete encasement or cathodic protection. Third, exposure to chloride ions, such as in a marine environment or close to a highway, where exposure to salt may pose a problem. Salt can affect the oxide layer because it is hygroscopic and will retain moisture.

Another detailing problem is that of run-off from the steel. It will be impossible, especially while the oxide layer is forming, to prevent the run off from staining susceptible materials unless the detailing of channels and the juxtaposition of such materials is considered carefully.

Organic coatings

Non-porous materials are much better. Glass, stainless steel, glazed bricks and tiles, washable organic coatings and paints, aluminium (anodised or non-anodised), polycarbonates and neoprene remain unaffected or can be cleaned if need be.

The rules that apply regarding the electrochemical series of metals should be observed. If dissimilar metals must be placed in proximity to weathering steel, then good detailing practice should ensure the elimination of traps for water and/or the separation of the metals with an inert material.

This will apply in some cases with fixing techniques. It is common to specify weathering-steel nuts and bolts in conjunction with the main structure. It is also possible to use stainless steel or even galvanised steel fixings, providing the latter are isolated from the surface of the weathering steel. Welding poses no problem. Most manufacturers of welding materials provide consumables suitable for the fabrication of weather-resisting steel.

It is possible to paint weather-resistant steel. The requirements of such a paint system do not differ from those required for normal grades of steel. One significant advantage that occurs when doing this (as is common in containerised storage) is that damage to the paint does not result in under-creep corrosion to the surrounding painted area.

In summary, then, the success of weather-resistant steel in a building or structure is highly dependent on the level of thought applied to three main areas: its immediate environment; the creation of the wetting-drying cycle; and its relationship with other materials. If these simple rules are followed, weather-resistant steel should do exactly what it says on the tin.



Right Royal restoration

The Royal Court Theatre in London's Sloane Square was kept alive by the architectural equivalent of open-heart surgery

BY SUSAN DAWSON. PHOTOGRAPHS BY ANDY CHOPPING

On 8 May 1956 the Royal Court Theatre in Sloane Square, London, staged John Osborne's *Look Back in Anger*. The play was to change British drama forever, yet its showcase was an utterly conventional Victorian theatre in what was – and still is – a swanky shopping area. But all that has now changed; the theatre, lately refurbished and extended by the architect Haworth Tompkins, now reflects the radical and contemporary approach of the stage company under its roof.

In 1995, the theatre faced closure. The

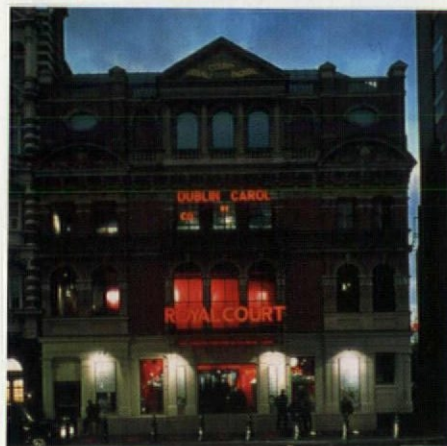
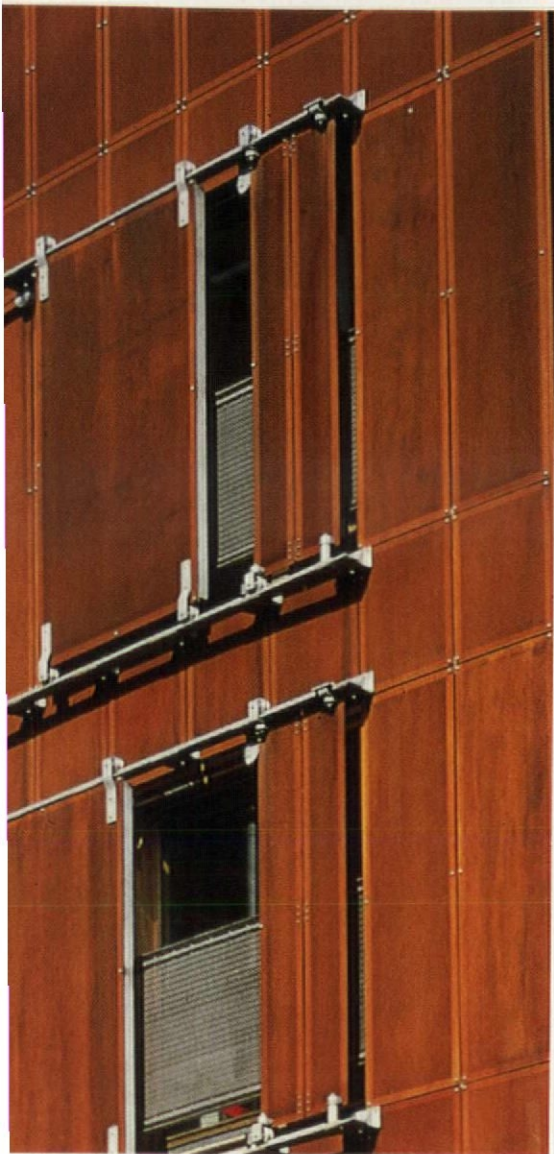
structure was unsound, and front-of-house and backstage conditions were damp and overcrowded. Haworth Tompkins was asked to double the floor area of the building, adding new facilities while respecting the theatre's history.

'It was a fantastically delicate operation' explains Steve Tompkins. 'Instead of a complete reconstruction behind the original facade, which was the easy option, we undertook a kind of open-heart surgery'.

The Victorian Sloane Square facade has been retained – it was listed – but is now

more open and 'permeable', and the inviting entrance gives tantalising glimpses of a curved vermilion wall beyond. This, the original rear wall of the auditorium that rises through the building and is visible on all levels, was painted by artist Antoni Malinowski. The heart of the scheme is the original auditorium, which has been stripped down to its essentials. The frilly plasterwork – a post-war pastiche – has been removed to reveal the tough, bolted iron plates of the original structure which supports the upper circle.

The original theatre needed refurbishment, but it was also seriously short of ancillary space: backstage facilities were cramped, there was no access for scenery and the stage itself lacked any modern technological systems. But the site was restricted, flanked by Sloane Square underground station and the residue of the River Cranbourne, which is culverted in a sewage pipe



The four-storey extension features sliding panels to allow for shade and privacy, while the theatre's listed facade on Sloane Square remains intact

at basement level. The only two directions to expand were along the side of the theatre and beneath Sloane Square.

New backstage and administration facilities are housed in a four-storey extension at the side of the theatre, while a cavernous new bar/restaurant was created by burrowing beneath the road and the square. Matching the stripped-down aesthetic of the refurbished interior and auditorium, the new spaces are clad with simple materials that will weather and age naturally. The bar is fitted with reclaimed timber and dark leather seating, and its walls are of polished cast in situ concrete.

The four-storey extension houses dressing rooms and offices on the upper floors. These are clad with an open rainscreen of flat weathering steel (Cor-Ten) panels, perforated to allow actors and office workers to control any problems of overlooking, sound attenuation, solar glare or gain (the

side extension runs alongside an alley which is only 3m wide in some places). Sliding doors and hinged screens of Cor-Ten are fixed in front of the oak-framed windows to give further control of view. They are operated by a pulley-and-wheel system. The ground floor is clad with solid profiled weathering steel Cor-Ten panels, painted to take additional wear and tear.

'Cor-Ten is a very attractive material,' says Harry Montrésor, who acted as cladding consultant to the project, 'but the detailing is critical. All joints and profiles must be designed so that rainwater can run off – there must be no retention of water. And all contact with other materials – fixings, electrical conduit, lighting – must be avoided.'

In practice this meant that the Cor-Ten facade panels and their stainless-steel fixings had to be clearly separated (*see Working Details, overleaf*) with nylon spacers, washers, bushes and sleeves. An additional prob-

lem is the rust-coloured rainwater run-off from the panels which occurs during the first few years after installation. A wide stainless steel gutter has been positioned at first floor level to collect this. Run-off from the painted Cor-Ten panels below is directed into a stainless-steel box gutter inset into the floor slab and covered with a perforated stainless-steel plate.

Cor-Ten was chosen as a cladding material for its inherent richness and durability. Since it has been installed the cladding has weathered from light orange to a subtle dark purple-brown. Like the theatre, it should grow old gracefully.

CREDITS

Architect
Haworth Tompkins
Structural engineer
Price & Myers
Services engineer
Max Fordham

Cladding consultant
Montrésor Partnership
Fabricator
Custom Metal
Fabrications

MetalWorks Cor-Ten

Rainscreen of weathering steel panels

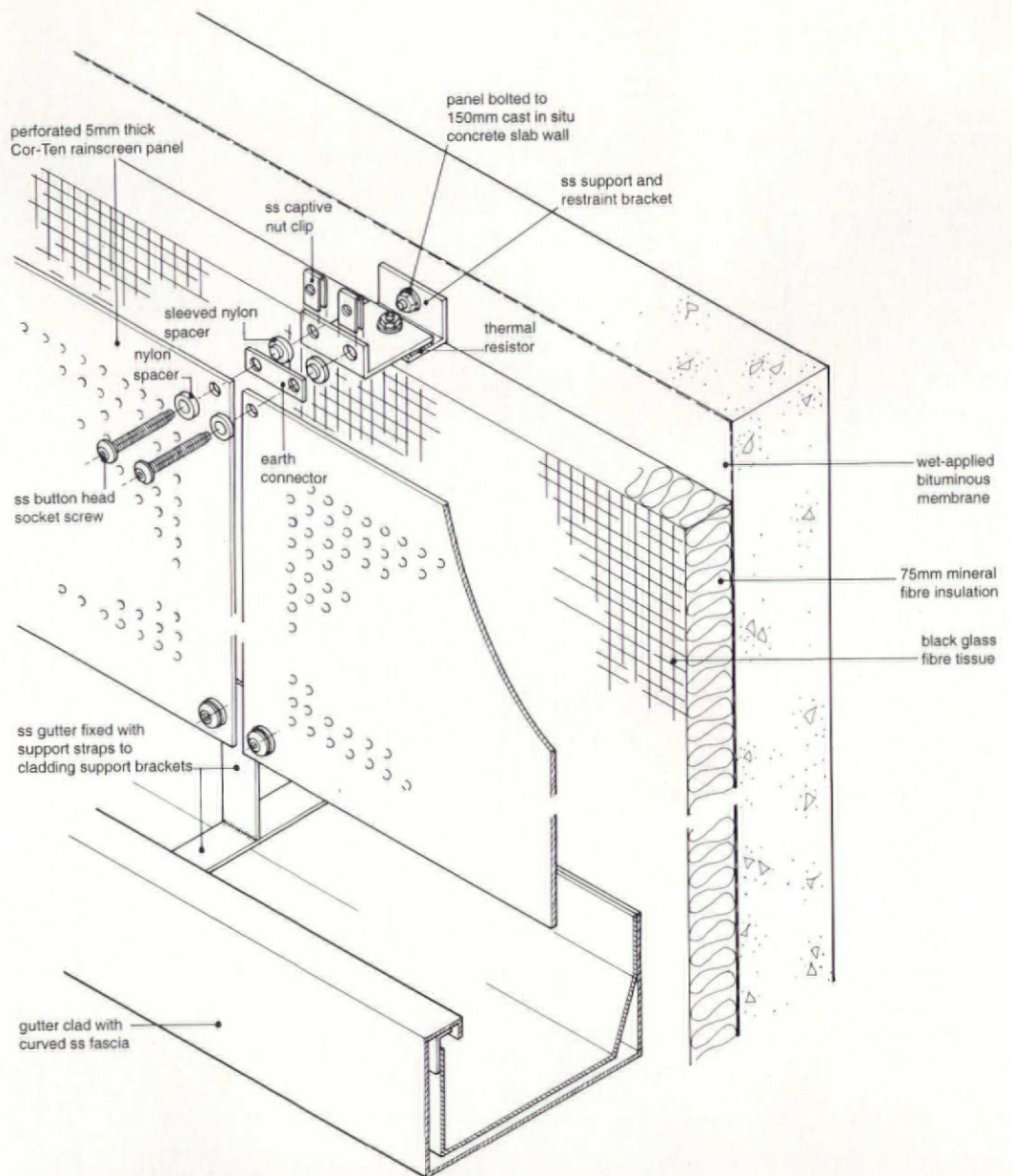
The new four-storey extension to the theatre, containing offices and dressing rooms, is clad with a rainscreen of solid and perforated weathering steel (Cor-Ten) panels. They are sized to reflect storey heights and spandrel areas and are fixed, except in front of window openings where they are formed into sliding and hinged screens.

The 150mm thick cast in situ concrete structure was water-proofed with a liquid bituminous membrane and fitted with a series of stainless steel support and restraint brackets, which were lined and levelled. Mineral-fibre insulation bats, 75mm thick, were then pinned to the structure; they are lined on the outside with black glass-fibre tissue to assist in shedding water and to give a neutral background to the perforated screens.

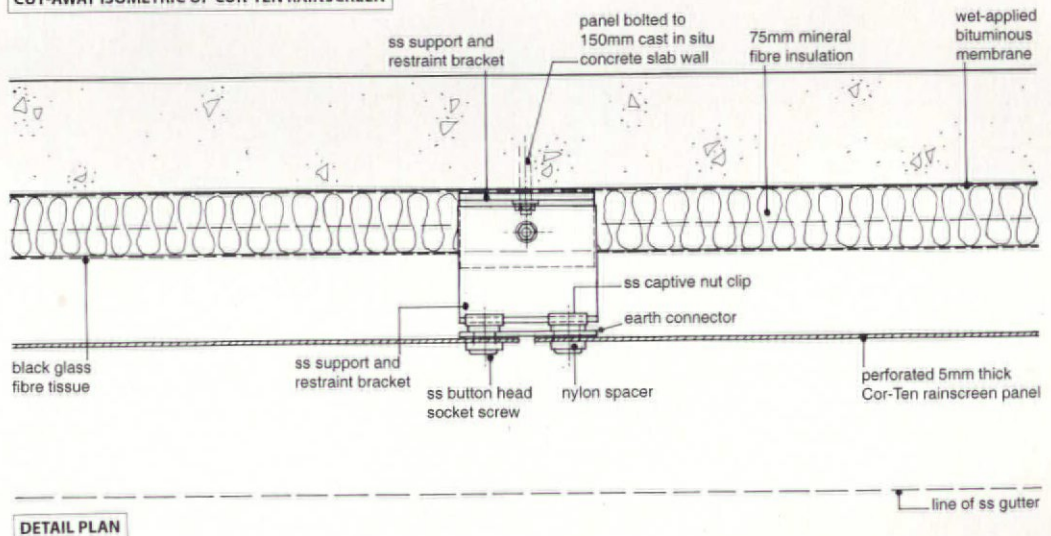
The oak windows were sealed to the waterproofing and a second series of stainless steel support and restraint brackets was fixed to the first, with a thermal resistor between them. Each 5mm thick perforated Cor-Ten panel is fixed through the unperforated perimeter zone to a bracket with a stainless steel button-head socket screw. To ensure that the stainless steel and Cor-Ten are totally separate, the screw is sleeved in nylon spacers and washers; the spacer is thick enough to avoid rainwater bridging from Cor-Ten to stainless steel and vice versa by surface tension. Stainless steel captive nut clips were fitted over the top of each bracket to enable the button-head socket screws to be tightened from the outside.

Cor-Ten earthing connector tabs are used to achieve electrical continuity between panels.

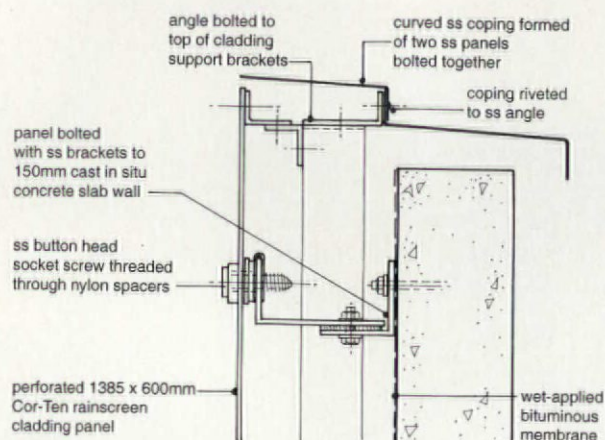
At first-floor spandrel level, a stainless steel gutter is set below the rainscreen to collect the run-off. The ground floor is clad with red-painted solid profiled panels of Cor-Ten, fixed in the same way as the upper panels.



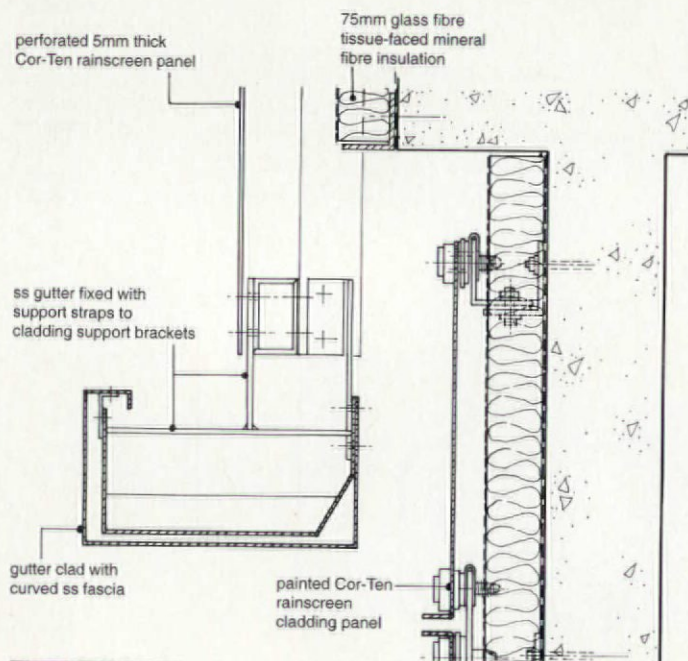
CUT-AWAY ISOMETRIC OF COR-TEN RAINSCREEN



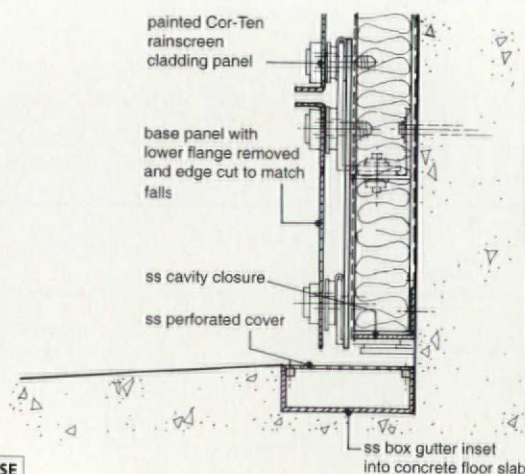
DETAIL PLAN



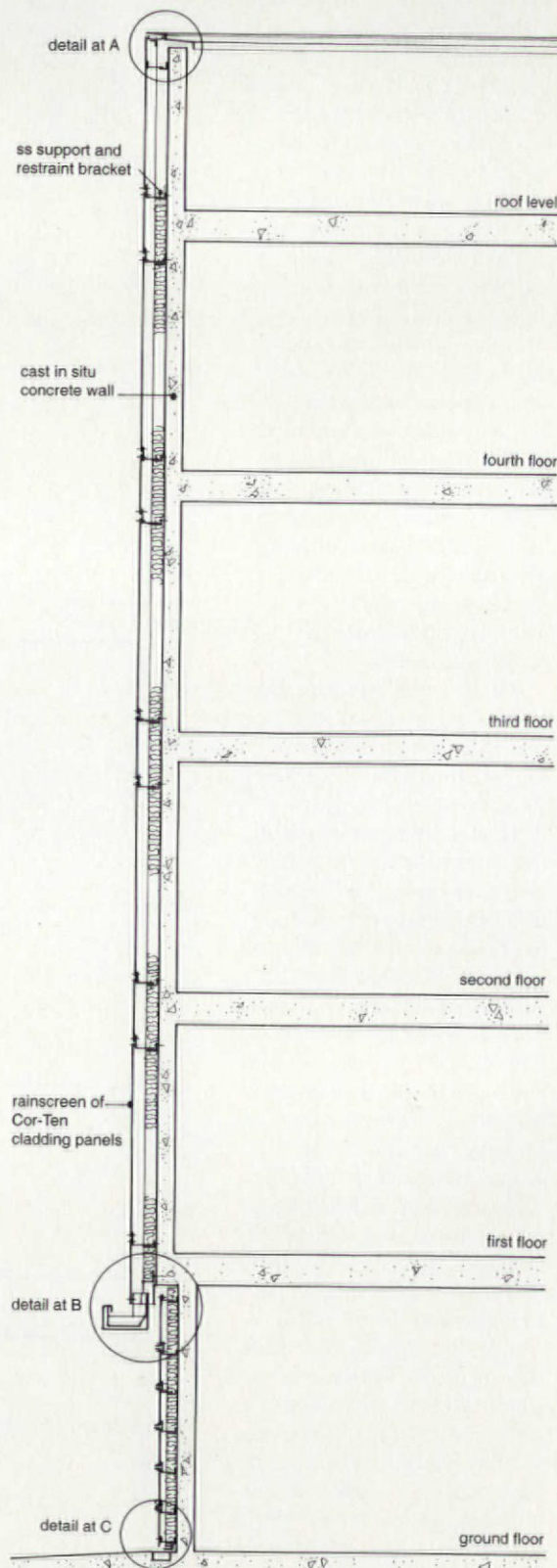
DETAIL A AT COPING



DETAIL B AT GUTTER



DETAIL C AT BASE



KEY SECTION THROUGH COR-TEN RAINSCREEN

MetalWorks Cor-Ten



Flexible faculty

The exterior of the Michael Young Building at the Open University Business School shows its environmental credentials

BY SUSAN DAWSON. PHOTOGRAPHS BY PETER COOK/VIEW

The Open University Business School is the largest in Europe. Thirty thousand students – from the UK and at least 40 other countries – sign up each year for its distance-learning courses. The 350 academic and administrative staff who run the courses previously occupied temporary offices scattered around the Milton Keynes campus. Now they are housed in the purpose-built Michael Young Building, designed by Jestico + Whiles and named after the radical thinker and inspiration of the Open University who died last year.

The building occupies a pleasant site overlooking fields and countryside on the Walton Hall campus at Milton Keynes. In the spirit of its namesake, it is radical in terms of planning, environmental approach and construction. This is evident at first glance; the main entrance is a ramp that passes between walls of white and cobalt-blue render, with a plinth of weathering steel Cor-Ten cladding.

Although most of the staff are academics, the Business School is not a conventional university faculty – for a start there are no resident students. Together with the architect, the staff were keen to explore new ways of working. 'We wanted to challenge the conventional notion of academics and their



staff confined to cellular offices,' explains project architect Jude Harris. Client and architect analysed different 'work settings' and evolved a concept: to provide an environment that would act as a catalyst, encouraging interaction among staff in an informal, 'serendipitous' manner, such as impromptu meetings in corridors and break-out spaces.

The building has been designed to be as flexible as possible, so that a range of working configurations (cellular, group and open plan) can be created wherever they may be needed. It is three storeys high and H-shaped in plan. The central core contains communal areas and links the four 30m x 12m wings, which house workspaces. The central core is a place for informal interaction – all staff enter, circulate and leave through it – and it houses a cafe and a range of more formal meeting rooms. The column-free wings are designed on a 2,700mm planning grid, which allows partitions to be installed to create cellular offices or group working areas.

The building has been designed to achieve the sustainable development requirements of the brief: low consumption of fossil fuels and electricity, combined with high levels of thermal and visual comfort.

The main entrance to the school is via a ramp between walls of white and cobalt-blue render, while the end walls are clad with untreated oak slats and the windows are a generous 1,800mm wide

The workspaces are naturally ventilated, with individual control, and face east/west to maximise views of the landscape and passive solar gain, while limiting unwanted solar glare.

Assessed by the BREEAM 98 method for offices, the building was rated 'excellent' with nearly 80 per cent, one of the highest assessments ever made.

The end walls of the workspace wings are glazed and clad with a rainscreen of untreated oak slats. The side walls are formed of blockwork piers used as permanent formwork for cast in situ concrete infill, and clad on upper floors with white insulated acrylic render. This allowed the windows, which are set between the piers, to be a relatively generous 1,800mm wide. A Termodeck floor-plank system rests on the piers.

To give the building a visual solidity at its base, the ground floor walls are clad with weathering steel Cor-Ten panels. The piers and window spandrels are clad with panels running alternately along the facade, form-

ing a strong articulated plinth-like facade.

The panels are an open rainscreen, standing proud of the rendered reveals of the windows to acknowledge their independence. They form an intriguing contrast to the render, particularly at the main entrance ramp, where the window reveals are rendered in a vivid cobalt blue.

To prevent rainwater run-off from the panels staining the ground, a margin of local ironstone pebbles is set below it.

The external appearance of the building – its Cor-Ten panels, untreated oak cladding and render – provides appropriate outward signs of its environmental credentials and radical approach to layout and design.

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MetalWorks Cor-Ten

Open rainscreen of weathering steel panels

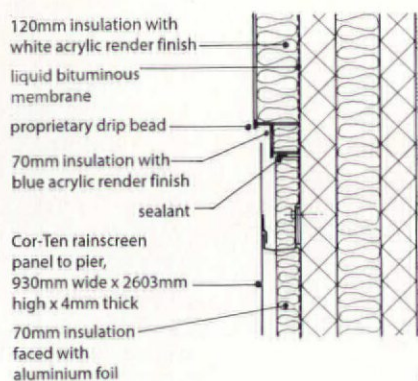
The three-storey building has four 30m x 12m wings of precast floor slabs, supported on reinforced blockwork piers set between window openings. The external walls of the upper two floors are clad with white insulated acrylic render.

The external walls at ground-floor level are clad with a series of 4mm-thick weathering steel Cor-Ten panels. The piers are clad with single panels, 930mm wide x 2,603mm high and the window spandrels are clad with single panels, 1,637mm wide x 840mm high. The panels act as an open rainscreen. They are flanked by aluminium window sills and jambs clad with insulated acrylic render.

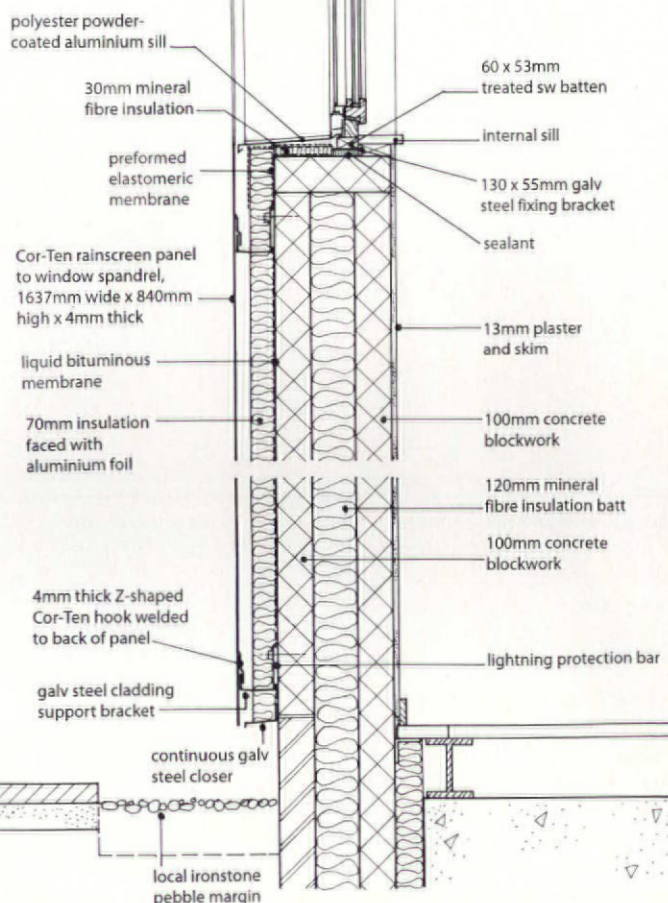
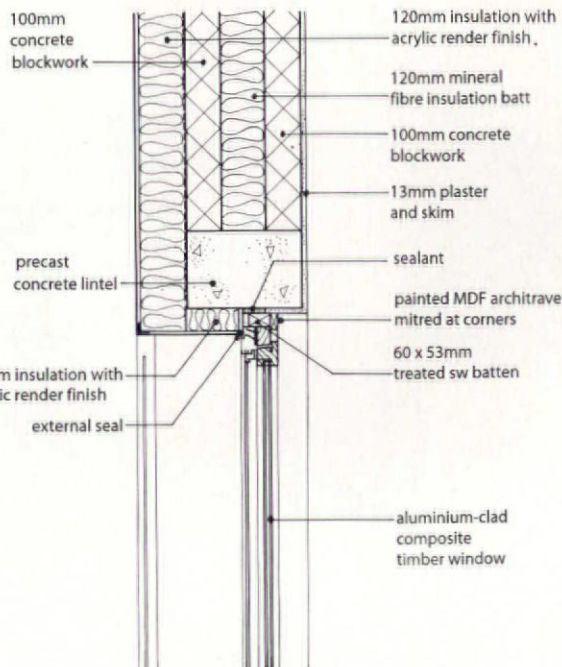
A series of cladding support brackets of heavy duty hot-dip galvanised steel was bolted to the blockwork piers and spandrels. Each bracket was specially pressed, profiled and fitted with drain holes to encourage rainwater to run off away from the cladding panel. The brackets were sealed to the blockwork and both were waterproofed with a liquid bituminous membrane. A 70mm layer of aluminium foil-faced insulation was then fixed to the blockwork, with the brackets projecting through it.

The upstand leg of each bracket was wrapped with a separating membrane to prevent panel and bracket touching and to cushion the panel, preventing it from rattling. The membrane overlaps the bracket by 10mm on each side to direct rainwater beyond its edges.

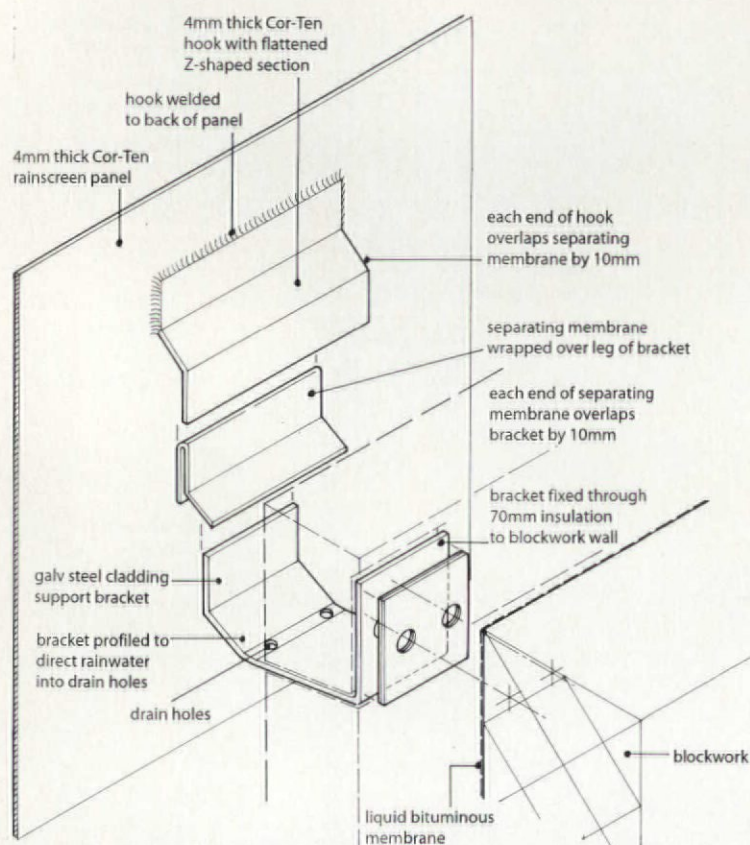
The backs of the Cor-Ten panels were pre-welded with 4mm-thick Cor-Ten 'hooks' – flattened Z-shaped sections – to correspond with bracket positions. Pier panels have six hooks. They were lifted manually into position and 'hooked' on to the brackets. Lightning protection is achieved by using Cor-Ten connecting bars fixed to studs pre-welded to the backs of adjacent panels.



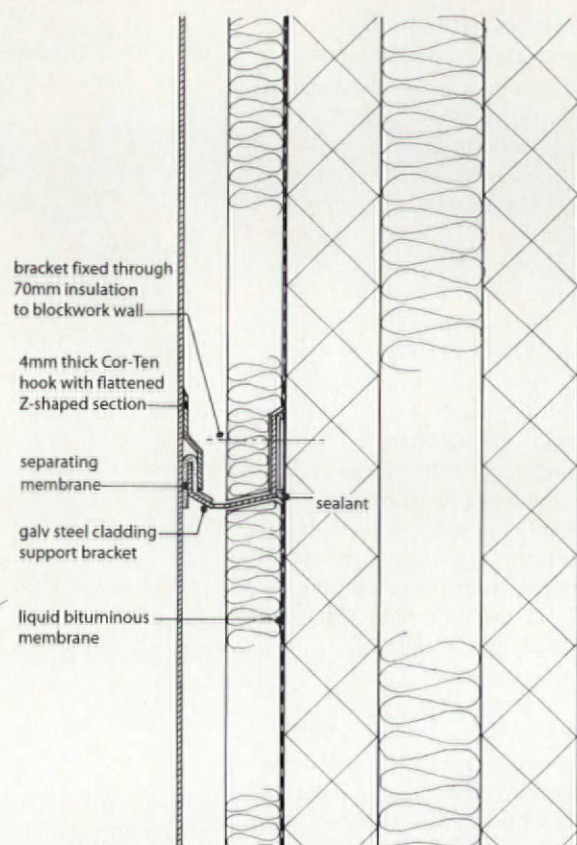
DETAIL AT TOP OF PIER



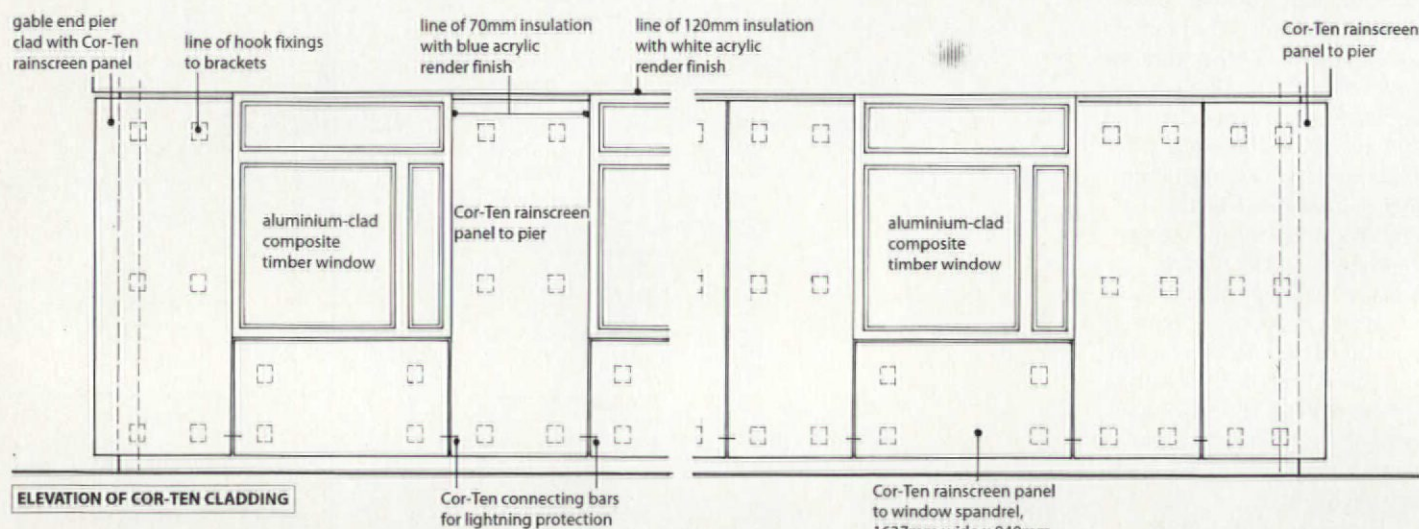
DETAIL SECTION THROUGH GROUND FLOOR FACADE



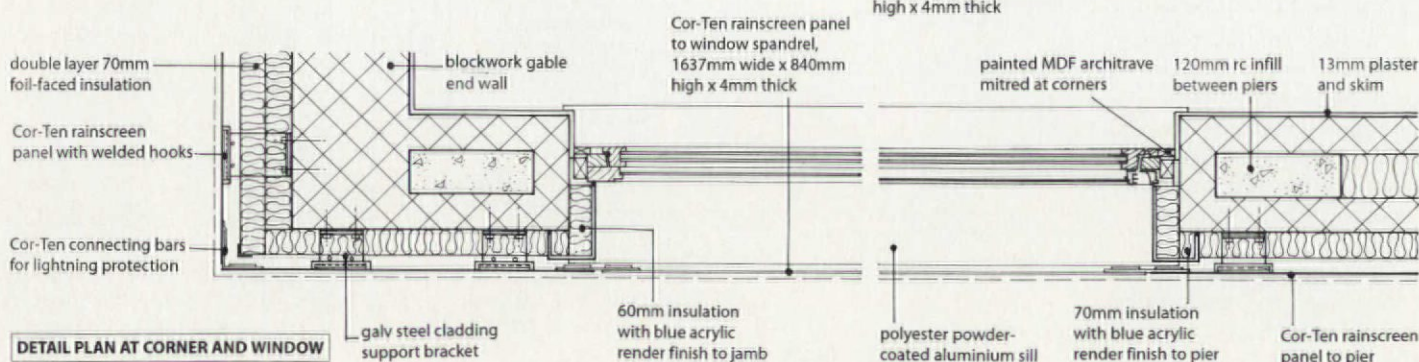
EXPLODED ISOMETRIC DETAIL OF CLADDING BRACKET



DETAIL AT BRACKET



ELEVATION OF COR-TEN CLADDING



DETAIL PLAN AT CORNER AND WINDOW



Charity work

Amnesty International's necessary makeover of its Rosebery Avenue base gives the organisation a more public presence

BY SUTHERLAND LYALL

The secretariat of Amnesty International occupies a deep block fronting on to Rosebery Avenue in central London, a couple of hundred metres down the road from Sadler's Wells Theatre. It is an undistin-

guished building with a three-storey, vaguely Edwardian facade along the main street. On the side streets, there are four storeys of steel-framed strip windows plus brick spandrels, which could date from any time

between the late 1930s and the mid '50s, and denote a semi-industrial original use. At the north-east corner, the two elevations are patched together, or perhaps held apart, by a drab brick entrance tower, whose long window lights the stairway behind.

Amnesty is an utterly virtuous institution and part of its baggage is to eschew ostentation – including ostentatious accommodation. But because it was expanding its activities, its building had to be rethought and it called in City-based architect Artillery. Artillery's revised layout increases the organisation's conference area by more

The refurbishment of Amnesty's central London headquarters seeks to unite the two disparate halves of the building

ground-floor level, which had been messed around over the decades, could be changed.

Artillery's Karl Taylor says: 'Where we were coming from was to make an intervention in the facade that was faithful to the openings already there. The lower elevation was an interesting disjunction of later elements, which we quite liked because here was an interesting opportunity to articulate the ground-storey elevation – slightly out of kilter with the upper facade – but using the found openings.' Because these were all over the place, it was possible to use them only, as Taylor explains, 'as the generating size'. He adds: 'But then [the idea was] to shift it all slightly to create equal openings so you have a margin, a kind of negotiation between the given and the desired size. There was this metaphorical thing of Amnesty negotiating between two positions. And, quite by chance, there are six programmes in Amnesty's work – and six potential openings along the Rosebery Avenue facade.'

What Taylor has done is to continue down to the ground the main brick divisions between windows of the upper two levels, which you might call bays. These are not equal in width and one of them slants at an angle around the corner. At ground level, the bays are to be almost filled with storey-height plate glass windows set back 346mm from the face of the brick facade. The deep reveals are in 6mm plate Cor-Ten. Because the windows are of equal width and the bays are not, there are solid panels of Cor-Ten of between 200mm and 1m widths, filling the spaces adjacent to the glass. Taylor says: 'We want it to be quite refined, so the Cor-Ten will be sandblasted before it is installed.' Cor-Ten oxidises outdoors but not in, so the continuation of the reveal inside is a clear powder-coated bright steel.

One of the great urban legends about Cor-Ten concerns that man with a wheelbarrow who every week did the rounds of the Cor-Ten Cummings factory and swept up the rust. At Rosebery Avenue, along the bottom of each of the windows there is a grate over a little bucket containing an uplighter and a collection of stones. Taylor says: 'Over time the stones will turn orange and you can pop the Cor-Ten grate off to access surface drainage.'

Taylor took the view that 'the openings in the brickwork should look undisturbed'. He adds: 'It was important that it looked as though the glass and Cor-Ten had been

pushed into the face of the building; an additional layer; a palimpsest of different ages. We didn't want to wreck what was there.' I put it to him that Palladio had done something similar at that basilica makeover in Vicenza – but he didn't take that bait.

Making an entrance

The new entrance is a weatherboarded cube with a projecting lid. It has doors at the front, which fold back and are contained in side pockets. It is to be seen at night as a timber box and during the day as a timber portal inside a Cor-Ten frame. The long window over the old corner entrance is to be adorned by the Amnesty logo of a candle and barbed wire, with a long trailing tail integrated with the right-hand jamb.

Why Cor-Ten?

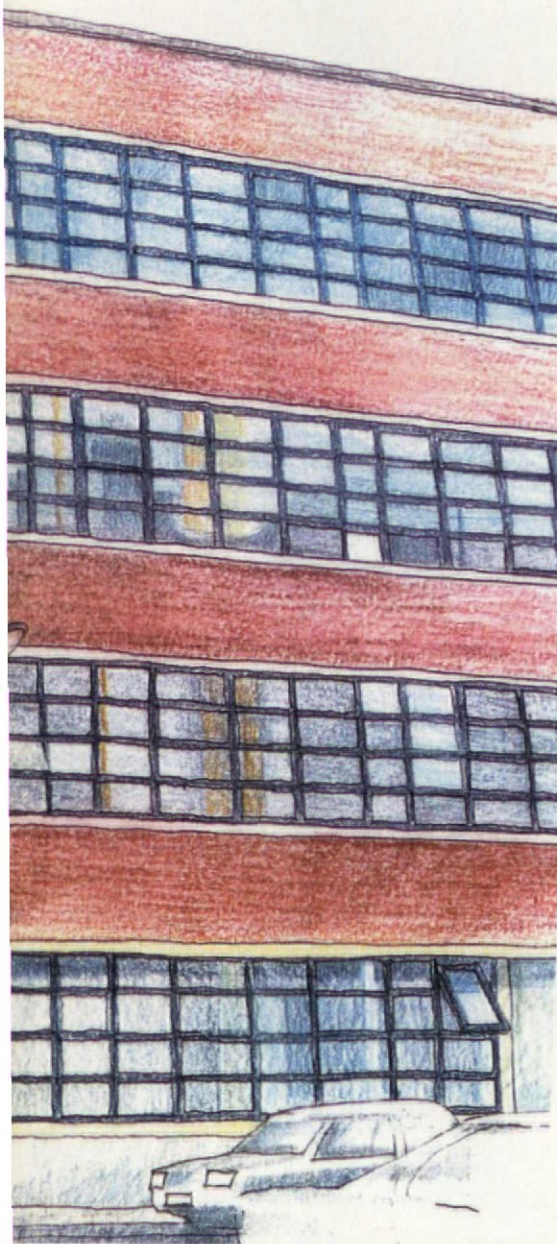
'All the way through the project we have been trying to use materials in a natural way, in a kind of untreated form,' says Taylor. He notes the difficulty of doing this when, for example, the inner linings to the window are of steel plate, because Cor-Ten will not rust properly if it is inside. 'But,' he adds, 'there was the aspiration to let steel be steel and timber be timber, without over-egging the applied finishes. Cor-Ten seemed like the closest we were going to get to steel performing at its best, with the oxidation forming a natural protective finish.'

Persuading the contractor

In the pre-contract stage, Taylor's team was dissuaded by the quantity surveyor from pre-ordering the Cor-Ten. 'There's no difficulty getting Cor-Ten but there's not an abundance of contractors who have seemed happy and confident to use it,' explains Taylor. But he wanted to have the fabrication completed and the rusting started. So, as a solution, Taylor says, 'one of the guys whose plant is close to a river recommended that the fabricated bits be stored on a windswept section of his site and blasted with water'.

Handle with care

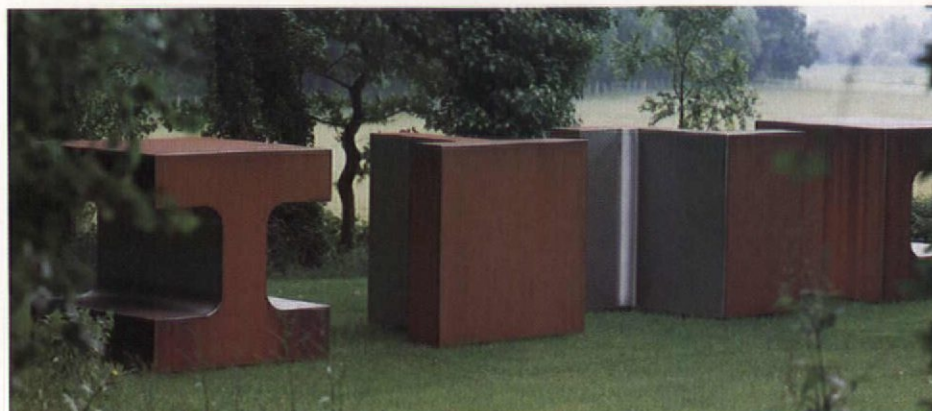
As a material that goes rusty, many (wrongly) assume Cor-Ten does not have to be handled with great care. But welding, weld bloom, grinding and even crayon identification marks have to be kept to a minimum, and are better avoided altogether. Taylor says: 'We have detailed it in such a way that the welds are internal and, if face grinding should be required, we would anticipate that the grinding would cover the whole face of the element. Protection is important for the oxidation process, especially after arrival on site – even against fingering.'



than three-quarters and provides new exhibition space, an eating area and the potential for a threefold increase in the size of its conference space. Security is an issue because of what Amnesty does, and because of the regular presence of so many distinguished figures who give their time to the organisation.

Taking the opportunity of the makeover to create a more public presence, the client asked for the entrance to be relocated from the corner to somewhere in the main Rosebery Avenue facade. The planners had made it clear that there could be no alterations to the upper two levels – but that the facade at

MetalWorks Cor-Ten



Mark Firth, *Primary Sections*, Goodwood



Antony Donaldson, *Master of Suspense*

Under the weather

As Cor-Ten becomes ever more popular for outdoor sculpture, conservators are playing catch-up on preservation techniques

BY SUTHERLAND LYALL

You know that Cor-Ten has come of age as a legitimate material for sculptors when US museum conservators write learned articles about its preservation and maintenance.

Like ordinary steel, the way it is used in sculpture is conditional on the forms in which it is produced – which are mainly plate, rod, flats and structural sections.

One exception, and probably the only

major example worldwide, is Antony Donaldson's giant inhabitable sculpture *Master of Suspense* at the Munkenbeck + Marshall-designed Gainsborough Studios, currently going up in Hackney in east London. It was cast using standard steel, to which the special elements were added.

Ordinary steel surfaces can be treated after the work has been completed, and

sculptors have used everything from powder coating through paint to acid etching. Cor-Ten, on the other hand, is normally used out of the mill because of the rough, purple-brown surface that is eventually revealed when its rusting stabilises.

That means that most Cor-Ten sculpture is found out of doors. It also means that, in the making, sculptors have to take a great deal of care when they are welding and grinding and mixing with other materials. When they don't, the conservators eventually get interested – although British sculptors are amused by the idea of needing to conserve an essentially found material.

Visit http://aic.stanford.edu/consp/osg/abstracts/ab1989/ab1989_10.htm



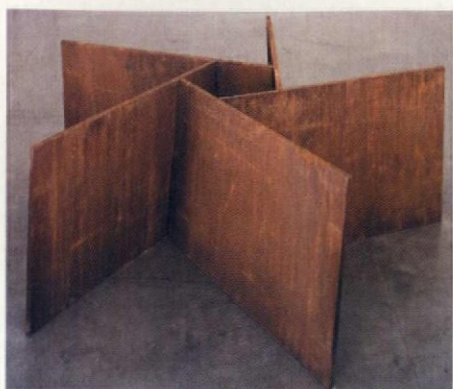
Greg Johns, *Silent Figure*, Roche Court



Ray Smith, *Flying Spiral*, Crawley



Louise Nevelson, *Night Tree*, Roche Court



Richard Serra, Counter Clockwise, Pentagon



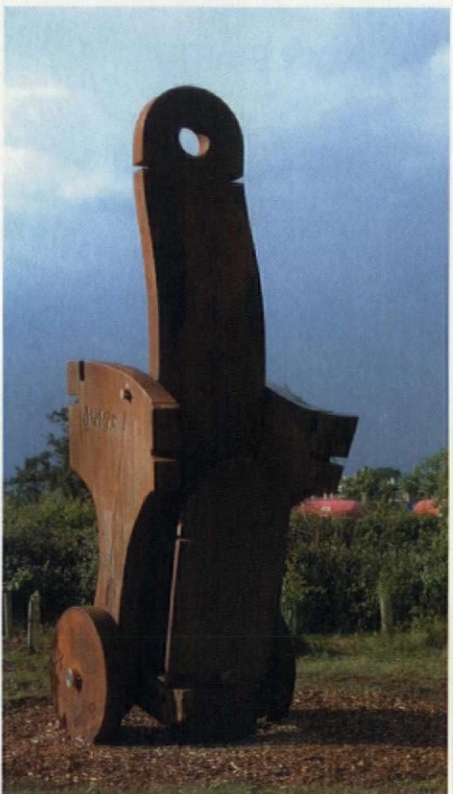
Andrew Burton, Cycle: Plough Cinder Bank, Dudley



Allen Jones, Temple, Goodwood (painted steel, Cor-Ten, mosaic)



Peter Burke, Janus Column, Goodwood (cast iron and Cor-Ten)



John Atkin, The Navigator, Ipswich



Ann Christopher, Towards the Sky, Portishead

MetalWorks Round-up



Take the stairs

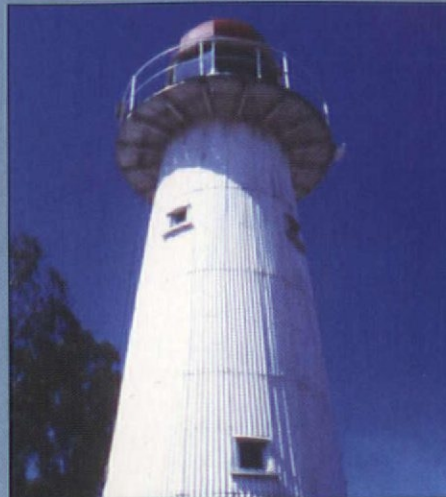
Spiral Staircase Systems has designed what it claims is the first example of a helical stair supported entirely by space frame balustrading for a swimming pool at the Throstles Nest site in West Yorkshire. Unlike traditional helical stairs which use solid stringers to support the structure, the Throstles Nest stair has a pair of cross-braced frames running on either side of glass treads, using the top bars to form a double handrail. Stainless steel bars with forked castings at either end are welded to all four tubes. Finally, stainless steel cables pull the frame together. The structure is finished with 12 32mm glass treads leading to a glass landing. Swimmers can also use the back of the stairs as a ladder when climbing out of the pool.

Bridging the gap

Bridge Engineering is the new technical journal by the Institute of Civil Engineers, dedicated to the design, construction, maintenance and management of bridge structures around the world. Projects featured in the first issue will include Gateshead Millennium Bridge, the El Ferdan Bridge in Egypt and the Jiangyin Yangtze River Bridge. Telephone 020 7665 2450 for subscription details.

Sandwich spread

With an estimated 80,000 tonnes of composite sandwich panels used each year in the UK, the disposal of end-of-life panels has significant implications for the environment. In recognition of the fact that composite panels are not being recycled at the same rate as other steel products, the Steel Construction Institute has begun work on a project to investigate the barriers to recycling composite sandwich panels. The project, attracting support from companies including Corus Colours, the MCRMA and Corus Panels and Profiles, will endeavour to understand and resolve the issue of sustainability in relation to the product and will involve all members of the supply chain. Contact the SCI on 01344 623345 for further information.



Passionate about corrugated iron

'We are not alone in having a passion for old tin sheds' claims Sue Clifford, director of Common Ground 'but we also love joyous new buildings built of corrugated iron.' The Corrugated Iron Club is part of Common Ground's campaign for Local Distinctiveness. In denouncing corrugated iron's cheap-yet-bland status, or its 'homogenising influence' on the landscape, the club advocates the material's flexibility for the designer in creating small yet distinctive local buildings. The Corrugated Iron Club is always keen to hear about interesting architectural applications of the material. Traditionalists and romantics alike should visit www.corrugated-iron-club.info for more information.

Another fine mesh

An interesting new addition to the range of architectural wiremesh products currently available comes from Potter and Soar. St James mesh is tightly woven in a complex pattern to create an unusual 'herringbone' effect, which changes when viewed from different angles. The mesh is intended to offer designers maximum flexibility in creating dramatic vistas for wall coverings, room dividers and screening. St James mesh is available in polished or natural recycled stainless steel or alternatively, a range of non-ferrous metal alloys. Click on www.architecturalmesh.co.uk for more information.



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MetalWorks is a quarterly publication showing the best of steel and aluminium design published by *The Architects' Journal* for Corus

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There ain't no sanity clause?

The PPG documents will be replaced at the end of the year but should we really be worried about particular clauses?

BY BRIAN WATERS

Clause 3.21 of Planning and Policy Guidance Note 7 (PPG 7) (The Countryside, Environmental Quality and Economic and Social Development) begins: 'New house building and other new development in the open countryside... should be strictly controlled.' (As an aside, should architects really be campaigning for strict planning controls?) The clause within the clause, which the AJ is campaigning to keep and which John Gummer added, much to his credit, says: 'An isolated new house in the countryside may also exceptionally be justified if it is clearly of the highest quality...'

In other words, it is not the clause the AJ wants to keep but the exception. When inspectors allowed Robert Adam's design for a large country house in undeveloped coun-

tryside in Hampshire's Test Valley (see my article, AJ 22.2.01), it showed how the exception had fulfilled Gummer's purpose. Subsequently, it has allowed planning inspectors to permit one or two (some say up to 15 since 1997 but the Office of the Deputy Prime Minister does not know the number) exceptionally well conceived, designed and landscaped new country houses on exceptional sites to go ahead. I say 'inspectors' because, by their very nature, exceptions tend to come up against the overriding prohibition contained in the guidance, which itself is generally also the local plan policy.

The Adam case indicated how the Planning Inspectorate should use the clause as a way of addressing the integrity of the design – as distinct from the integrity of the style. Hopefully, the long-overdue replacement for PPG 1, which is the umbrella government policy note, will include the involvement of a qualified designer – most probably an architect – as a material consideration where design matters are at issue in a planning application.

Statement of intent

Under the White Paper planning reforms due to be enacted by November, PPGs are to be replaced by PPSs (Planning Policy Statements). The G for guidance will be dropped and the new notes are to be more concise statements of strategic policy, free of prescriptive guidance. The intention is to give more room for local policy in the new frameworks, which are to replace turgid development plans.

Come July, the ODPM will have published the new draft PPS 7 for consultation. The main concern should be

'In the original PPG 1 the involvement of an architect was itself a material consideration in a planning decision but this was dropped in the current version'

to influence the PPS policy in such a way that it does allow flexibility at the local level.

But the nub of the issue is the concern we architects might share that, in general, an exceptionally good design might make acceptable something that would otherwise

not be. And the place to do this will be the replacement for PPG 1. In the original PPG 1, the involvement of an architect was itself a material consideration in a planning decision but this was dropped in the current version. Reviving the campaign to reinstate this position may seem a bit retrograde but times and the climate have moved in our direction with the Task Force, the Urban and Rural White Papers, and the successful establishment of CABE.

In reviewing the imminent PPS 7, we might be well advised to seek CABE's support so that we do not lose sight of the bigger picture.

Brian Waters is principal of the Boisot Waters Cohen Partnership. Contact brian@bwcp.co.uk

Outstanding issues

New guidelines may result in a more explicit promotion of good design as a way of convincing planners of an application's merits

BY BRIAN WATERS



An early contribution to the PPG 7 debate (AJ 22.2.01)

Clause for thought

PPG 7, clause 3.21 says: 'New house building and other new development in the open countryside, away from established settlements or from areas allocated for development in development plans, should be strictly controlled. The fact that a single house on a particular site would be unobtrusive is not by itself a good argument; it could be repeated too often. Isolated new houses in the countryside require special justification – for example, where they are essential to enable farm or forestry workers to live at or near their place of work. Advice on the special considerations which may arise in relation to agricultural and forestry dwellings is given in Annex 1. An isolated new house in the countryside may also exceptionally be justified if it is clearly of the highest quality, is truly outstanding in terms of its

architecture and landscape design, and would significantly enhance its immediate setting and wider surroundings. Proposals for such development would need to demonstrate that proper account had been taken of the defining characteristics of the local area, including local or regional building traditions and materials. This means that each generation would have the opportunity to add to the tradition of the country house, which has done so much to enhance the English countryside. Sensitive infilling of small gaps within small groups of houses or minor extensions to groups may also be acceptable, though much would depend on the character of the surroundings and the number of such groups in the area.'

✚ What do you think? Post your comments at www.ajplus.co.uk/forum

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- **What every architect should know...(but was afraid to ask)**
George Oldham, Chairman, Accesssite
- **Never mind the wheelchairs – other aspects of disability**
Adrian Cave, Chairman, Centre for Accessible Environments
- **Doors – open & shut cases**
Jacky R Sinclair, Professional Development Manager
- **Attitudes of mind**
Louis Hellman, Architect and Cartoonist
- **What is reasonable access?**
Peter J G Williams, Property Support Manager, Eversheds
- **Lifts – entry for all**
Simon Russett, Lift Engineering Principal, Hoare Lea
- **Admit one – access for arts & entertainment**
Axel Burrough, Director, Levitt Bernstein
- **Keeping the faith – heritage buildings**
Richard Griffiths, Principal, Richard Griffiths Architects
- **Access to learning – schools and universities**
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Speaker (tbc)

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From bijou to bidet

From après-ski to WC, from cinema to solar, here we present a smorgasbord of news and reviews from the broader architectural table

Total sport

High performance and energy efficiency in construction might also be the motto for users of a new sports facility in Birmingham, writes Austin Williams.

The Birmingham High Performance Centre (BHPC), currently featured on a rather naff advert singing the praises of the Lottery, includes a 132m sprint straight, two long jump areas, a pole vault run-up and landing bed, a practice area for throws and a high jump, all to Olympic standard. In addition, the 4,000m² facility has a physiotherapy suite and a strength and conditioning suite operated by the English Institute of Sport. Situated at Alexander Stadium in the centre of Birmingham, the BHPC also claims a bigger array of roof-mounted photovoltaics than any other building in Europe.

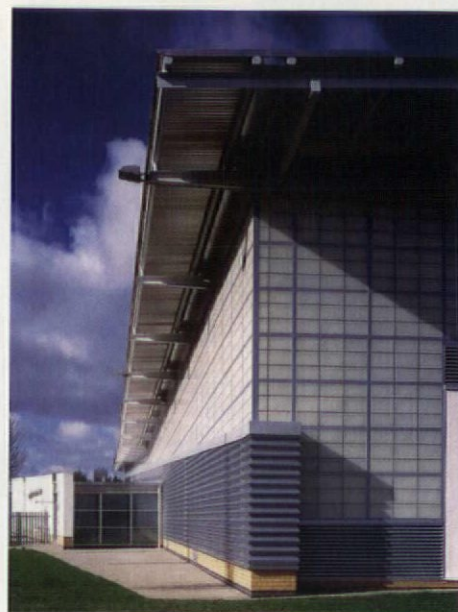
The BHPC has been designed to minimise its total energy consumption, contributing towards its own running costs, as well as making significant savings in greenhouse gas emissions. By exceeding current best practice, the architects expect this building to act as a catalyst for similar projects in the UK.



Birmingham High Performance Centre: minimising the lighting load with translucent gable walls

As one of 18 successful projects to receive Department of Trade and Industry funding for the development of solar technology, the BHPC demonstrates how solar photovoltaics can be integrated sympathetically on a large-scale building, by using them alongside energy saving features, such as lighting management, halide lighting and zoned heating systems.

The 1,500m² of thin-film photovoltaics will generate more than 80MWh of electric-



ity per annum – an energy equivalent of some £6,292 a year and a saving of 61,100kg of carbon dioxide annually.

Gas-fired radiant heaters have been used and are arranged in zones for maximum efficiency and low emissions. Low-pressure hot water heating to ancillary areas is zoned. The main sports hall is naturally ventilated, with the vents forming part of the external design of the building.

Kalwall's insulated translucent panels, in

HOT FLUSH

For the young, the europhile or those of you of a nervous disposition, stop right now. Those less likely to be offended – or, should I say, those who don't suffer from queasy stomachs – read on.

A recent press release on the 'Ultimate Toileting Experience' has reached us from Geberit, promoting its amazing Shower Toilet – a combined WC, bidet and dryer. Not only this, but 'on contact with the seat' the 'user' (at least they didn't say 'customer') activates the built-in air purifier, which extracts air from the WC and directs it through an active carbon filter.

In a delightfully euphemistic way, it states that 'when the user is ready, the spray arm is released from its protected sleeve and ejects a spray of comfortable, body-temperature water'. The showering action, which intriguingly can be operated by remote control, is accompanied by a 'gentle flow of warm drying air'. On retraction into its protected sleeve it is rinsed with fresh water. Please!

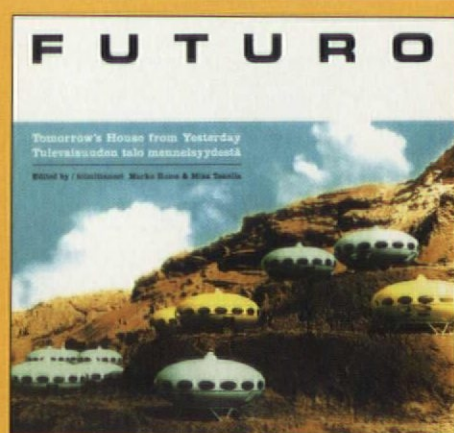
Futuro: Tomorrow's House from Yesterday

Edited by Marko Home and Mika Taanila. Desura (Finland), 2003. 192pp. £35

The book of the film of the concept of the building. When, in 1965, Dr Jaakko Hiidenkari asked Matti Suuronen to design a ski cabin that would be 'quick to heat and easy to construct in rough terrain' the result was a simple, space-age structure that divided public opinion, writes Maari Vertainen.

It was eventually named the Futuro in 1968. When it was installed aboard a ferry on the Thames at the 'Finfocus' export fair, the *Daily Mail* wrote: 'This object, looking like everyone else's idea of a flying saucer from outer space, is the Finnish idea of a perfect weekend cottage.' Straight after that the model went into large-scale production by the Polykem factory.

When it was displayed in a Helsinki department store (in the main hall rather than in the window), more than 50,000 people came specifically to see it. At the time, it was treated with contempt by many architectural commentators for its lack of site-specific contextualism – and with



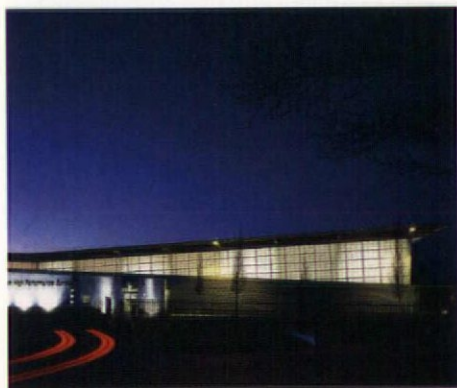
bewilderment by the public. Even so, it continued its journey to expos and trade fairs around the world, and soon it was being manufactured in the US – only to fold four years later.

As well as the six documented case studies, the authors of *Futuro: Tomorrow's House from Yesterday* have tracked down a further 24 surviving houses. Some are holiday homes – principally those in New Zealand – but others form part of Canberra's Planetarium or are

an aluminium framing system, have been included to the gable ends and at high level on the side walls, affording large amounts of natural lighting without glare to minimise the lighting load.

The largest electrical consumption for the building is the lighting loads, so high-frequency control gear and low-energy halide lamps have been used throughout the main hall. The overall lighting requirement is 60 250W units, a total of 15kW. The expected year-round energy consumption of 55MWh, which includes predicted small power loads, is less than the annual production of photovoltaic electricity.

Direct solar radiation onto the roof heats the structure and can adversely affect the quality of the internal environment. The reduction of summer heat gains due to the presence of the solar array facilitated the



museum pieces, while one, more tragically, is part of a UFO exhibition in Finland. With this latter example, the authors try to put on a brave face, describing it as a 'transformation from utility building to art icon'. Sad, indeed, that a groundbreaking piece of architecture should be transformed into a mere curio.

Other chapters in the book explore some of the more positive aspirations of the age, so that we can enjoy the context, which seems an eternity away from today's architectural vision. The best chapter is undoubtedly Harri Hautäjarvi's examination of the architectural utopias of the space age. From the Italian Futurists to Archigram, it is noticeable that examples do not figure substantively after the mid-1970s (although he suggests that Foster, Rogers and Piano 'have kept alive the stylistic legacy... albeit on a smaller scale and within a strictly formalist framework').

In 1975, Hautäjarvi reminds us, a team of scientists commissioned by NASA published a plan for the settlement of 11 million people in space colonies by 2008. Unable to grasp the dynamic of the age, Hautäjarvi says: 'Today, as we

decision to avoid installing costly and energy expensive summer cooling systems. Stack-effect ventilation to the main hall is via low and high-level louvres.

Kaneka thin-film, solar modules require significantly less silicon and energy to produce than crystalline solar modules, hence energy payback periods are lower, cost per Wp and kWh are lower, while the technology lends itself to mass production and cost-per-unit volume production savings more readily than crystalline versions.

A novel purpose-designed bracket resulted in a quick and efficient form of installation of the photovoltaics.

In summer, the dark modules (with an anti-reflective coating) absorb a significant amount of solar energy and heat up as a result (in largely still air, the modules may reach over 70°C).

However, because these modules are mounted at least 100mm above the roof, both the front and rear sides of the modules are exposed to the cooler air stream, increasing the heat-shedding characteristics of the roof. The designers are currently attempting to quantify the benefits of this cooling effect. Low-angle solar gain is controlled by overhanging roof sheeting to shade the Kalwall glazing.

Rainwater from the roof is discarded into grass-covered swales, where it is able to permeate naturally back into the subsoil and provide new wildlife habitats.

struggle to cope with the environmental hazards of modern construction – crumbling, eco-toxic (sic) synthetic materials, mould damage and asbestos – we can only be amazed at the optimistic faith of early scientists.' His amazement marks his demoralisation at today's culture of limits.

He adds: 'Their utopian notions of space settlement were little more realistic than contemporary sci-fi fantasies. With the dark cloud of nuclear war hanging over a planet already grappling with a population explosion, pollution and ecological disaster, it was probably easier to gaze into space than to try to deal with more tangible terrestrial problems.'

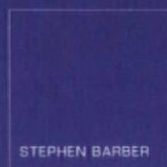
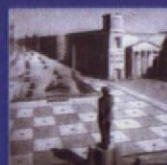
The fact that 1960s society saw the opportunities rather than the dread, means Hautäjarvi has turned reality on its head.

This is an enjoyable and quirky history of a lost period of transgressive architecture. Also, as a nice touch, the book – developed from a TV documentary – includes a DVD of the original programme in the back.

Maari Vertainen is an architect and interior designer working in Stockholm

projected cities

cinema and urban space



LOCATIONS

Projected Cities: Cinema and Urban Space

By Stephen Barber. Reaktion Books, 2002.

208pp. £10

This is the latest in the 'Locations' series of books examining the relationship between cinema and broader cultural themes or national context. This book specifically addresses the way cities have been portrayed. As with many Reaktion books, the theme suffers from a cultural relativism and a somewhat politically incestuous relationship with the subject, writes *Harvey Gould*.

Speaking of the inter-war and immediate post-war years, Stephen Barker asserts that 'film images developed the authority to accord validity or veracity to (politically violent) acts and physical gestures'. This is something of an old debate. Were certain actions in Vietnam preordained by the immediacy of the TV coverage? It reminds us of Baudrillard's insistence that the Gulf War really didn't happen, all the way through to the modern delusion that reality TV aspires to broadcast 'honesty'.

Barker shows how film-makers have used cities to make us see bigger pictures. This is undoubtedly true, although probably less so today than ever before – and Barker's tone has a kind of eulogising conservatism about it, a remembrance of things past, depressed at the shift to digital and the more transient requirements of the modern 'corporate' media.

Admittedly, there is an interesting discussion around the fact that we develop preconceptions of a place on the basis of its cinematic representation, but ever has it been thus. Books, holiday snaps and family horror stories all colour our perception of places, but that is not what the place is and it certainly doesn't create the place. *Harvey Gould is freelance journalist*



Why a trip down memory lane could pay dividends in court

This column, like others of its ilk, tends to focus on the latest case to hit the headlines, but this can obscure the fact that many principles of construction law are based on old cases that are still sound. What comes over loud and clear when looking at these cases that set out the basics of construction law is that in the 19th century the employer was king, and the other participants in the building process were far less important.

As a result, many general principles are today heavily modified by contract terms, explaining much about the standard forms we regularly encounter. In addition to being informative, old cases are frequently entertaining; they often involve well-known buildings and characters popping up in the *dramatis personae*. So for some light summer reading, try these samples of the 'lore' of building that still hold good.

Back in the days when Thomas Telford was an engineer rather than a publishing concern, he had a walk-on part in an 1826 case, *Money Penny v Hartland*. Telford took over from George Money Penny as engineer of a bridge across the River Severn. Unhappily for Money Penny, he relied

on the advice of his own predecessor as to the site conditions, not having troubled to inspect them for himself.

Money Penny estimated the cost of the works at £1,700 but it overran by some £3,300. The employer did not want to pay Money Penny's fees, so Money Penny sued. The court decided Money Penny had been negligent in relying on the site inspection of his predecessor, encouraged in this view by Telford's evidence. It was held that having negligently delivered a low estimate, and thereby induced his employer to undertake work that he would not otherwise have started, the engineer was not entitled to be paid, and this principle remains good law.

The judge noted in passing that the doctrine also applied to public works: 'There are many in this metropolis which would never have been undertaken at all, had it not been for the absurd estimates of surveyors.'

If a dim view was sometimes taken of consultants, contractors had an even harder time of it.

In 1858, Major Fitzmaurice entered into a contract for a house to be built for him. For £1,100 the contractor, Williams, was to provide all necessary materials and work. There was a specification but some things were missing from it. In particular it did not mention flooring. The contractor refused to put a floor in unless the major paid extra. The court decided the contractor was obliged to provide a floor, even though it was not in the specification. When a contractor agrees to build a building for a lump sum, for that lump sum the contractor agrees to do everything necessary to achieve the end result.

The contractor's lot was still an unhappy one when, in 1876, the House of Lords deliberated on the case of *Thorn v the Mayor and Commonalty of London*, which concerned the demolition and rebuilding of Blackfriars Bridge. Joseph Cubitt designed and specified the new bridge. Part of his design was to use caissons during the construction.

The contractor, who was obliged to follow the engineer's directions, built the caissons, but they did not achieve their purpose. A different method was then

employed, the contractor having lost time and money following Cubitt's original scheme. The contractor claimed for his losses, arguing that by stipulating that the work should be done in a certain way, the employer had impliedly warranted that that was achievable. The House of Lords not only disagreed with the contractor but found the possibility that his argument might be correct 'most alarming'. So no implied warranty by an employer to a builder that the scheme they want built is in fact buildable.

That all three of these examples still encapsulate sound principles of law goes some way to explaining why we see standard forms of consultants' appointments and building contracts that are commonly regarded as anti-employer. But it is healthy to remember that much of our construction law, which we would have to fall back on in the absence of such express terms, dates from an age when the boot was firmly on the other foot.

Sue Lindsey

Cleaning the hard drive rather gives the game away

A reader has emailed me with a worrying popup ad that makes the claim: 'Your computer is being watched!' and goes on to note that every site you visit is logged and, really worryingly for 85 per cent of the computer-using population, every picture you have ever viewed is recorded. The consequences of being caught are horrific. The solution is, of course, to buy the wipe-clean software behind the grim warnings. Not, you will note, that you might desist from looking at Sodom and Gomorrah images during office hours.

BT has sacked 200 of its 100,000 staff in the past 18 months for accessing naughty bits, so some people are interested – a few in downloading and the entire management in keeping an equally sticky fingered watch over what staff do download. But, if I were BT, I would be checking staff hard drives for the existence of the above your-computer-is-being-watched software.

Then, you ask, what about all the rude spam that readers complain about? Do its seedy images lurk among your folders after you have angrily closed them down? Dunno, but possibly. At least this was the successful defence argued in a recent porn-download case. Whatever, it is said by disk recovery people that the only way to really cleanse a hard drive is to take it along to the local foundry and chuck it in with the molten pig iron.

It has been put to me that dim horseless-carriage thinking by web designers and their clients noted last week is not all that lies behind the evil of the gateway page. Another reason for this useless, click-here-to-enter title page, often with a cheaply coded (in terms of memory use) animated transition follower, is that the time it takes to get from here to the useful bits disguises the fact that the site is secretly pre-loading images, which subsequently pop up apparently instantly. I am sure this is true. The animated transitions often have a 'click to skip' button. I always click. sutherland.lyall@btinternet.com

'In addition to being informative, old cases are frequently entertaining; often involving well-known characters'

London

Bartfest 2003 27 June-5 July. To be opened by Daniel Libeskind on 27 June, 17.30, with international guest speakers during the week. Details 020 7679 4815 or www.bartlett.ucl.ac.uk/architecture

Housing Design Awards 2003 3 July-30 August. An exhibition at the RIBA, 66 Portland Place, W1. Details 020 7307 3659.

AA Projects Review 2003 3 July-1 August. At the Architectural Association, 36 Bedford Sq, WC1. Details 020 7887 4000.

RIBA Competitions Winning Designs 5 July-23 August. An exhibition at the RIBA. Details 020 7307 3770.

Trial and Error: Working Models Until 5 July. An exhibition at the Building Centre, 26 Store St, WC1. Details 020 7692 6209.

Creating Places Tuesday 8 July. A conference at Tate Modern on the role of studio and workspace provision in regeneration. Details 020 7247 4710.

AJ Great Country House Debate Wednesday 9 July, 18.30. On the PPG 7 clause, with John Gummer, at the RIBA. Details 020 7505 6700.

Simon Conder: Small Works 1994-2003 10 July-30 August. An exhibition at the RIBA, 66 Portland Place, W1. Details 020 7307 3770.

Ken Yeang Friday 11 July, 18.00. A UDG event at The Gallery, 70 Cowcross St, EC1. Details 020 7250 0892.

Access All Areas Wednesday 16 July. An AJ conference on the Disability Discrimination Act. At RIBA. Details Nyaiika Kamurasi 020 7505 6608.

Art Deco 1910-1939 Until 20 July. An exhibition at the V&A, Brompton Rd, SW7. Details 020 7942 2000.

East

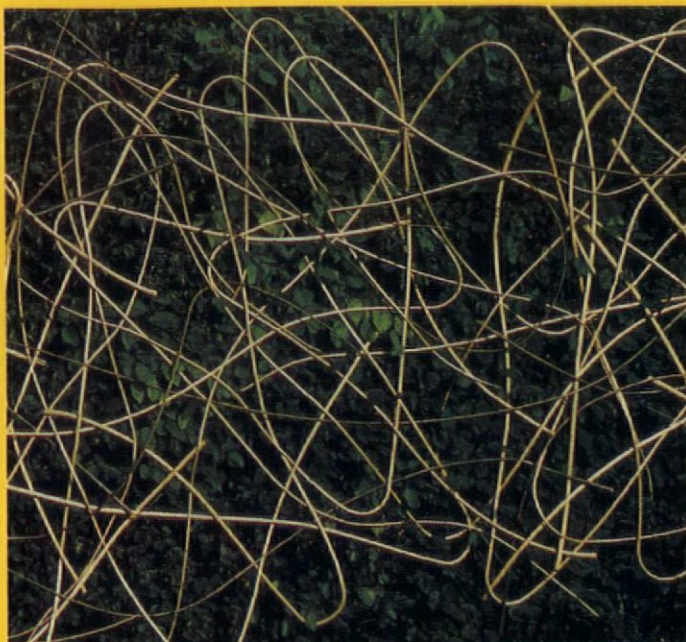
Essex Historic Homes Show 28-29 June. At Cressing Temple. Details Pauline Hudspeth 01245 437672.

RIBA CPD Event: Construction Law Update Thursday 3 July, 13.15. At New Hall, Huntingdon Rd, Cambridge. Details 01223 566285.

Understanding Historic Buildings Tuesday 22 July. A one-day seminar at Cressing Temple. Details Pauline Hudspeth 01245 437672.

Exodus Until 3 August. Victorian photographs of the Sinai desert and work by contemporary artists. An exhibition at Kettle's Yard, Castle St, Cambridge. Details 01223 352124.

Sainsbury Centre 25th Anniversary Exhibition Until 31 August. At the Sainsbury Centre, University of East Anglia, Norwich. Details 01603 593199.



DOWN TO EARTH

The latest show at London's Crafts Council Gallery, 'Out There: Crafts for Exterior Living', is a seasonal look at the role of contemporary crafts in garden design. Twenty artists are featured, working in materials that include wood, steel, stone, glass, plastic and gold. Pictured above is a piece by Mary Butcher. At 44a Pentonville Road, London N1, until 3 August (020 7278 7700).

East Midlands

Making a Move 28 June-7 September. Kinetic art at Nottingham Castle. Details 0115 915 3684.

Nottingham School of Architecture End of Year Show Until 9 July. At St Mary's Church, The Lace Market, Nottingham. Details 0115 951 3134.

RIBA CPD Event: Rural Development Grant Workshop Wednesday 9 July, 14.00. At Nottingham. Details 0121 233 2321.

Northern

Piranesi: The Imaginary Prisons Until 19 July. At the University Gallery, Northumbria University. Details www.hayward.org.uk

North West

William Taylor (Michael Hopkins) Thursday 26 June, 19.30. A lecture at the Grosvenor Museum, Grosvenor St, Chester. Details Mark Kyffin 0161 237 5566.

Thomas Ruff Until 6 July. An exhibition of Ruff's photographs at Tate Liverpool, Albert Dock, Liverpool. Details 0151 702 7402.

Making Manchester 1990-2003 Until 23 August. Photographs by Len Grant at CUBE, 113 Portland St, Manchester. Details 0161 237 5525.

South

Roma: John Melvin Until 20 July.

Paintings at the Stone Gallery, 93 High St, Burford. Details 01993 823302.

Richard Wentworth/Tom Phillips Until 27 July. An exhibition in Powell & Moya's Christ Church Picture Gallery, Oxford. Details 01865 276172.

South East

The Wood Show 28-29 June. At the Weald & Downland Open Air Museum, Singleton, Chichester. Details 01243 811363.

RIBA CPD Event: Romney Marsh Visitor Centre Thursday 3 July. A talk and tour. Details 01892 515878.

Traditional Roofing Methods 14-18 July. Five linked day courses at the Weald & Downland Open Air Museum. Details 01243 811464.

Simon Gallery: Segsbury Project Until 1 August. An exhibition of paintings, photographs and sculpture in the Officers' New Barracks, Dover Castle.

South West

Plymouth City Centre Walking Tour Saturday 28 June. With Jeremy Gould. Details 01752 265921.

Wessex

Westonbirt International Festival of Gardens Throughout the summer. At the National Arboretum, Westonbirt, Tetbury, Glos.

Gavin Turk/Alice Maher Until 13 July. Exhibitions at the New Art Centre, Roche Court, East Winterslow, Salisbury. Details 01980 862244.

Istanbul: Revealed or Mystified? Until 25 July. An exhibition at the Architecture Centre, Narrow Quay, Bristol (0117 922 1540).

West Midlands

Designing Arts and Cultural Buildings Monday 30 June, 19.30. A talk by Ian Standing at Victoria Hall, Hanley, Stoke-on-Trent. Details Patrick Redmond 01538 373477.

Contaminated Land Risk Assessment Tuesday 1 July. A CIRIA workshop at Birmingham. Details 020 7222 8891.

RIBA CPD Event: Rural Development Grant Workshop Thursday 3 July, 14.00. At Worcester. Details 0121 233 2321.

Yorkshire

In Good Form 27 June-19 August. Recent sculpture from the Arts Council collection at the Yorkshire Sculpture Park, Bretton Hall, Wakefield. Details 01924 830 302.

States of America Until 9 August. Photographs by Michael Ormerod at the Graves Art Gallery, Surrey St, Sheffield. Details 0114 278 2600.

Sculpture from Fascist Italy Until 31 August. At the Henry Moore Institute, The Headrow, Leeds (0113 246 7467).

Scotland

The North Holyrood Site 28 June-24 August. An exhibition at The Lighthouse, 11 Mitchell Lane, Glasgow. Details 0141 225 8414.

University of Strathclyde End of Year Show Until 10 July. At 131 Rottenrow, Glasgow. Details 0141 548 3023.

Emerging Architecture 3 Until 10 August. Austrian architecture at The Lighthouse, 11 Mitchell Lane, Glasgow. Details 0141 225 8414.

Wales

EcoFun Festival Saturday 28 June. At the Museum of Welsh Life, St Fagans. Details Sarah Arnott 029 2057 3422.

Thomas Jones: An Artist Rediscovered Until 10 August. An exhibition (including buildings of Naples) at the National Museum & Gallery, Cathays Park, Cardiff. Details 029 2039 7951.

International

The Architect's Studio: Renzo Piano Until 28 September. An exhibition at the Louisiana Museum, Humlebaek, nr Copenhagen. Details www.louisiana.dk

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



Skin deep

JEREMY MELVIN

Surface Architecture

By David Leatherbarrow & Mohsen Mostafavi. MIT Press, 2002. 264pp. £26.50

Surface Architecture tackles one of architecture's most enduring theoretical conundrums. 'Once the skin of the building became independent of its structure, it could just as well hang like a curtain or clothing. The relationship between structure and skin has preoccupied much architectural production since this period and remains contested today. The site of this contest is the architectural surface.'

Perhaps no other single issue could illuminate so clearly the contortions, contradictions and foibles of architectural thought during the past century and, not surprisingly, it is an area where myth and prejudice often overwhelm serious study. In its directness and range, *Surface Architecture* opens with the promise of redressing that balance; sadly, it is not quite fulfilled. Even so, it should still be required reading for any architect who wants to 'utilise the opportunities of current industrial production so that the practice of architectural representation is neither independent of nor subjugated to the domination of technology'.

The book slyly splices the traditional view of Modern architecture as originating in the Chicago frame and reaching its denouement in Le Corbusier, with more recent interpretations that have shown up the problems this narrative brings. Notions of production and reproduction à la Beatriz Colomina weave

within the frankly Giedion-esque, but, cleverly, David Leatherbarrow and Mohsen Mostafavi locate the nexus between production and reproduction right at the heart of the construction process: the interface between design and industrialisation.

They can justly claim that it is a fraught subject, but it is this very condition that gives it such power as an interpretative prism. As they show, at least implicitly, it offers a way of treating each of the various architectural modes of the period equally; it runs through different guises of Modernism and traditionalism.

In Britain, it has a particular piquancy because the long and malign tentacles of William Morris dictated that function, meaning and structure were one, thus precluding any serious understanding of the potential of surface to carry meaning irrespective of its structure. To some extent this explains the sweeping popularity in the UK of post-war Mies, whose American work seemed to merge wall and structure. Fortunately, Habsburgian and American critics were less squeamish. Rightly, Adolf Loos and Albert Kahn – the prolific architect to US capitalism who theorised a distinction between industrial 'building production' (factories) and 'architectural representation' – receive lavish attention. But – and this is the first point where Leatherbarrow and

Mostafavi do not quite capitalise on their extraordinarily fecund opening – the historical origins of this distinction in theory, as opposed to practice, do not. French Neo-Classicism, as they imply, might have suckled some part of them, but a more explicit (if less fashionable) starting-point is Hegel's perceptive analysis of architecture as irredeemably trapped between the need for functional enclosure and the urge to embody 'spirit'.

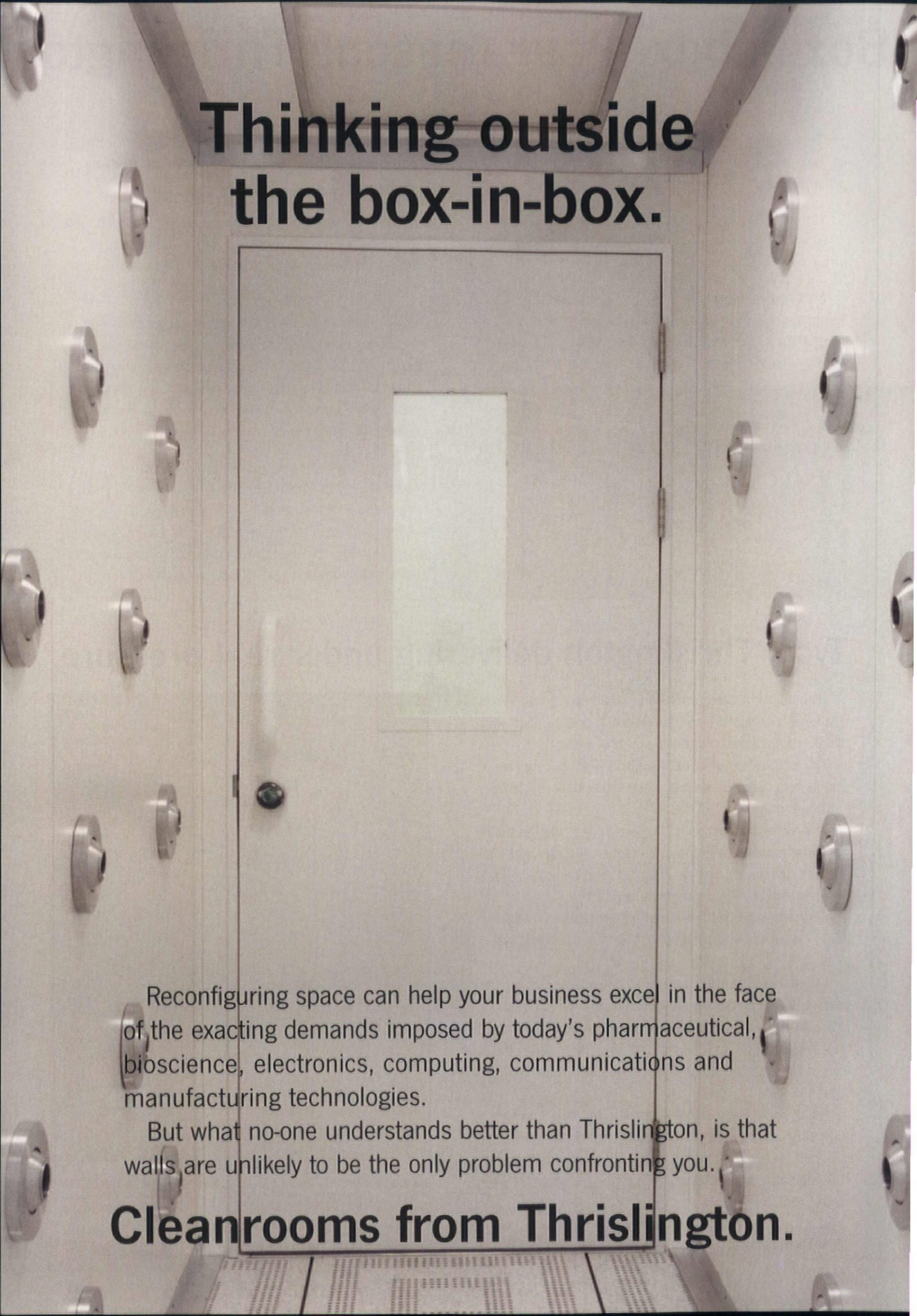
That not only encapsulates the dichotomy but also renders it unstable and thus problematic. Semper, whom the authors do treat, brought that perception explicitly into the realm of architecture, both in theory and practice. Ignoring Hegel elides the entire corpus of German Idealism on which his *Aesthetics* drew. It distorts the emphasis of the book towards practitioners and away from those who were not architects, but who still may have known something whereof they spoke.

This lacuna affects an otherwise fascinating discussion of the mid-20th century Spanish architect Alejandro de la Sota. The authors say that the public nature of his civil government building in Tarragona (pictured) – an arrestingly mute, eroded cuboid – meant that 'the problem of representation could not be neglected'. So de la Sota 'came face to face with one of the main dilemmas of the period – how to achieve monumentality within the "project" of modern architecture'. That a discussion of Sigurd Lewerentz follows, introduced by the assertion 'the use of brick in some of de la Sota's early work bears a resemblance to the work of [the Swedish master]', reinforces one's unease.

It may be true that Fascist Spain and Social Democratic Sweden both struggled with the issue of monumentality – Jose Luis Sert and Gregor Paulsson were two of the major protagonists in the debate – but they also had rather significant differences, which such inward focus on hermetic architectural issues ignores. Monumentality can hardly have been the same in each country.

If, towards the end, the book loses its historiographical focus as Herzog & de Meuron, Gehry and Jean Nouvel take their bows (as they would in almost any account of contemporary architecture), it does not dilute the power of the original perception. Architecture has to face both the consequences of industrialisation and the challenge of representing ideas. Leatherbarrow and Mostafavi may not have had the last word but they have highlighted this crucial dilemma.

Jeremy Melvin is a writer and teacher at South Bank University

The background of the advertisement is a photograph of a cleanroom. In the center is a white door with a rectangular window. The walls on either side of the door are covered with a grid of circular air filters. The floor at the bottom has a perforated metal grate.

Thinking outside the box-in-box.

Reconfiguring space can help your business excel in the face of the exacting demands imposed by today's pharmaceutical, bioscience, electronics, computing, communications and manufacturing technologies.

But what no-one understands better than Thrislington, is that walls are unlikely to be the only problem confronting you.

Cleanrooms from Thrislington.

Box-in-box. Four reasons Thrislington

Thrislington enjoys an unparalleled reputation for thinking its way through the planning and implementation of box-in-box solutions in the face of every kind of obstacle and complication. It's due, largely, to four key advantages in the company's offer.

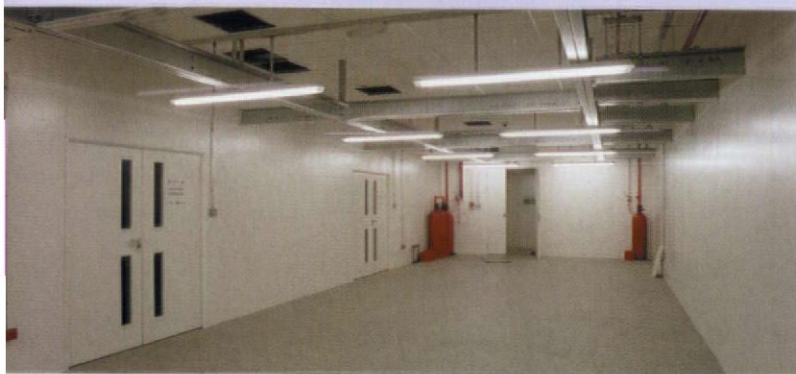
The first of these is Thrislington's application of rigorous and continuous control from initial design, through manufacture of quality components, to installation.

Next comes the on-site benefits. Control of the design and manufacturing means installation can be accomplished faster, with limited waste, less cutting and cleaner working. Panels are pre-finished to meet fire and acoustic

requirements, pre-glazed, where required, and each module can be interchanged on site without disturbing its neighbours. Additional units are easily reordered to identical specification.

Thrislington's third key advantage comes in two of its engineering attributes. Their purpose-designed post and beam steelwork system offers unrivaled versatility and performance, while their large span, walk-on ceilings offer top access to the enclosed environment for more flexible management of maintenance and space reconfiguration.

These engineering approaches contribute to Thrislington's big advantage. The limited effect of installations on host buildings, and the simplicity of integrating services and associated penetrations, all contributing to major cost savings when clients grow to larger premises and have the ability to take Thrislington with them.



Tyco. Thrislington delivering under real pressure.

Global security, electronics and healthcare group Tyco's Heathrow site project was undertaken in collaboration with major process contractor Earthtech Engineering.

The issues here involved a sophisticated gas suppression system which protects the building and its resident hardware in the event of fire.

This system releases fire dampening gas into the building under massive pressure to smother a fire rapidly, avoiding damage to costly equipment, and minimising loss of connectivity for Tyco's customers.

Earthtech's problem was that the pressure of the gas would be sufficient to blow apart normal partitioning systems.

In collaboration with Earthtech's engineers, Thrislington developed special narrow panels with extra stiffening and with a denser wool packing. Each panel was made to be blast resistant, and to a height of 5.6m. Those below the level of the raised floor were specially sealed to prevent ingress of water.

Fixing points were incorporated into the structure to allow services to be suspended, and special steelwork designed for corners and tee intersections. In addition, Thrislington's unique walk on ceiling was installed in tight eaves locations.

The installation at Tyco Heathrow demonstrates once again Thrislington's ability to consider application or site-



specific problems, and then design and manufacture solutions capable of delivering the kind of space required regardless of the problems, solving these with the client's team and delivering to the tightest possible deadlines.

excel. And projects that prove it.



Digital Island. Spreading the load to carry the day.

Digital Island's Managing Contractor was having detailed discussions with an interiors fit-out contractor by the time they met Thrislington.

Their project called for the construction of a three level switch centre which would host internet traffic for hundreds of clients throughout Europe.

The surprise for Thrislington, as they viewed the project, was the lack of real consideration being paid to the sub-floor, and its ability to withstand the weight of the three level installation being planned.

The client's structural engineers listened as Thrislington's specialist engineering team explained the issues that would be encountered, and that major reinforcement of the host building's existing floor and construction of a new foundation would actually prove the optimum solution.

Convinced by the argument, but unable to schedule the time required to do this, Digital Island threw the problem back to Thrislington.

The result was the development of an imaginative alternative plan, in which the loading of the new facility would be distributed via a 'spreader' structure onto the pile caps of the existing structural floor.

The headroom taken up by the depth of the 'spreader' would then be compensated for by 'slim' design, which would keep maximum possible headroom available for

services, plant, equipment and, of course, people. This was achieved even though Digital Island were keen to keep the space as open as possible, which normally involves increased beam depth to deal with extended spans.

In the face of enormous competition, and with a tender price reflecting the specialist design, Thrislington was awarded the contract for their expertise, problem solving and the assurance that they could deliver.

Digital Island awarded Thrislington the contract for their expertise, problem solving and the assurance that they could deliver.

This certainty, of course, was backed up by their manufacturing capability for steelwork of very considerable tonnage.

Panels were constructed to special heights without horizontal jointing, doors were built with special integral wireways, and both were made, delivered and installed with maximum possible speed to ensure the tight programme restraints were met.

The result is a superb installation, recognised as such by the Highly Commended status received from the Association of Interior Specialists.

No-one touches Thrislington for Cleanrooms.

Thrislington are major players in the design and construction of box-in-box cleanrooms for the pharmaceutical, bioscience, electronics, telecoms, food processing and automotive industries. Two recent projects show why.

GlaxoSmithKline



The magnificent new MDPI line at pharmaceutical giant GlaxoSmithKline's facility in Ware, Hertfordshire, offers the most advanced inhalation treatment production line in the world, with materials entering at one end, and packaged finished product emerging from the other.

Thrislington were contracted to provide cleanroom walls and walk-on ceilings for the class 10,000 (J) filling room, as well as walls, doors and glazing for the ancillary rooms and adjacent laboratory, packaging and plant areas.

The project's most sophisticated features, however, lie in the way that the cleanroom structure has been created to futureproof the building.

Cleanroom panels line the walls to a height of 9m, enabling an intermediate floor to be removed to allow rapid change of space usage should larger plant or vessels be introduced.

The lining also, remarkably, permits the building's

external walls to be removed without the need to stop production, so that a major extension could be undertaken without disruption.

For GSK, the project at Ware has provided an adaptable, purpose built and up to the minute production environment.

For Thrislington, it provides another example of imaginative problem solving in partnership with architect, contractor and client.



Biotech Specialist

An intrinsic requirement of Thrislington's two-storey cleanroom laboratory and change room for a leading UK Biotech company, was that the solution provided 16 metre clear spans.

Working in partnership with turnkey operator Thermal Transfer, Thrislington utilised custom built steelwork which also carries all services, lights and fan filter units.

In another project, similar cleanroom steelwork is to support the weight of an overhead crane.



Thrislington brought to book, then awarded for it.

A prestigious project recently and successfully undertaken by Thrislington, working with Service Group Interiors of Brandon, Suffolk, for Cambridge University presented its own unique challenges.

During the re-equipping of a library, matching 70 year old partitions, down to finish, colours and fittings, the library itself had to remain open throughout, with construc-

tion interference and noise kept to academically tolerable levels.

Yet again, Thrislington proved its ability to understand and work with the most exacting client requirements.

Thrislington comes highly commended.

At the Association of Interior Specialists Awards in June 2003, Thrislington was awarded the Highly Commended status for two projects, GlaxoSmithKline Ware and Cambridge University Library.



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Spaces of Uncertainty

By Kenny Cupers and Markus Miessen. Verlag Müller + Busmann, 2002. 192pp. £17.95. Available from Triangle bookshop 020 7631 1381

Back in 1990, soon after the Wall came down, Alan Balfour's *Berlin: The Politics of Order 1737-1989* appeared. Its focus was the huge void then at the heart of the city: the desolate expanse of Potsdamer Platz and Leipziger Platz. 'Fifty years ago this was a centre of world power; now, in the twilight, there is a sense of standing on the edge of existence,' wrote Balfour. His analysis of two centuries' worth of schemes for the site – whether built, left on paper, or destroyed – was highly cautionary. It showed how full of ghosts this vacancy was and how complex any question of rebuilding would be (AJ 8.5.91).

No one would claim that the commercially driven reconstruction we see at Potsdamer Platz now is a remotely adequate response. But while, despite the downturn in the German economy, Berlin still has a skyline of cranes, it also still has many less conspicuous voids; leftover areas, or 'spaces of uncertainty', as Kenny Cupers and Markus Miessen call them. And one message of their book, as far as architects are concerned, is – for goodness' sake, tread gently.

In defining these marginal zones in relation to 'public space' as it has been understood historically and is today – the gentrified, consumerist, exclusionary model that currently prevails – the text sometimes seems like a name-checking PhD thesis, if an agreeably lucid one. But the authors know Berlin quite intimately – both were in Libeskind's office for a time – and their discussion is not just theoretical. Halfway through the book, for instance, and clearly based on close observation, is a four-page description of such spaces, attentive to their disparate nature and uses (often ephemeral): parking lots, marketplaces, gay rendezvous, gypsy camps, 'informal wild parks', and much else.

Illuminating though this catalogue of activities is, such instrumental emphasis rather underplays the *aesthetic* value of these leftover spaces – their charm, even, as colourful weeds sprout, grass is left untended and a scarred brick wall remains the backdrop. Fortunately, this quality emerges in some of the book's many photographs, when the 'wild park' element predominates; while one waterside scene could be an update of that National Gallery staple, Seurat's *Bathers at Asnières*.

'The functional units, the highly structured, programmed and controlled spaces in the contemporary city, mean to threaten the city's crucial characteristics, namely openness and unpredictability,' say Cupers and Miessen. Past a certain point, design can become a straitjacket; hence the importance of these marginal spaces, which are 'both a relief and a promise' and 'as undefined as we are'.

So the authors call for 'an increased sensitivity of the professionals involved in our urban environments towards the hidden possibilities that lie within the margin' – and who would argue with that? Berlin may have such 'spaces of uncertainty' in profusion, but every city needs them, and this timely little book helps to demonstrate why.

Andrew Mead



Smoke: A London Peculiar

36pp. £1.70. (£2 including p&p, from PO Box 14274, London SE11 6ZG)

No 1 Poultry: 'that jaw-droppingly ugly lump of pink and beige-striped marmoreal vulgarity,' writes Matt Haynes, joint instigator of this new occasional magazine for lovers of London; and he laments the fact that the 'eye-dazzling Mies van der Rohe sky sculpture' intended for the site was never built. He's none too happy either on a trip to St Pancras, where, with the Channel Tunnel link under construction, the Grade I-listed gasometers (pictured) have been dismantled and the area 'is once more a victim of railway-driven desecration'.

Smoke, its first edition comprising 36 pages of small, dense type interrupted by occasional photos, is quirky, entertaining and written from the heart. It's in the lineage of offbeat city exploration that includes the Surrealists (Aragon's *Paris Peasant*), the Situationists and Iain Sinclair – though Sinclair is amusingly sent up. The majority of pieces in this miscellany are brief but there is room for more extended ones – Haynes again, in the further reaches of the Docklands. As if to guarantee future issues, the magazine inaugurates several series, among them 'London Pop Girls' (Alma Cogan), 'Bus of the Month' (No 253), and 'Lost London Books' – a 1963 volume on London pubs by Alan Reeve-Jones, with its 'rich Wodehousian prose'.

At £1.70, self-indulgence and rudimentary design can be overlooked – *Smoke* deserves to prosper. Its editors should send copies to the London Metropolitan Archives, because future historians will value it.

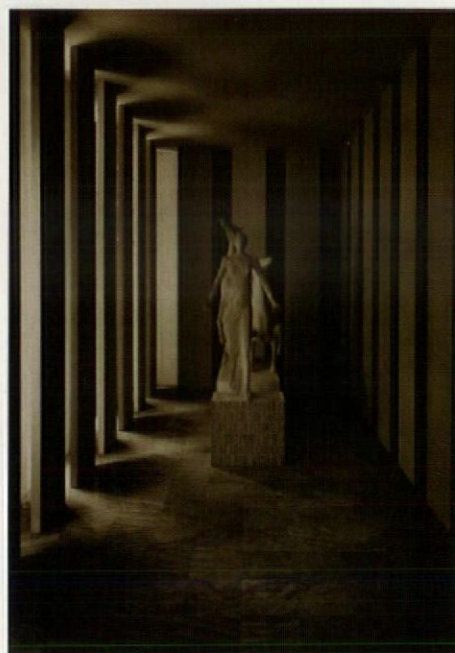
Potential contributors to *Smoke* should contact matt@smokelondon.co.uk

Golden age?

KENNETH POWELL

Scultura Lingua Morta: Sculpture from Fascist Italy

At the Henry Moore Institute, 74 The Headrow, Leeds, until 31 August.



Above left: Lucio Fontana's *Portrait of Teresita*. Above right: *Victory Room* at 1936 Milan Triennial

The Henry Moore Institute, a reworking of a former wool warehouse designed by Jeremy Dixon and Edward Jones, is an appropriate setting for this revelatory exhibition. The dramatic southern elevation of the building, faced in black granite, is an urban and scenographic gesture worthy of an Italian Rationalist. Indeed, Dixon and Jones, in common with many of the best designers who practised in Italy during the 20-year Era Fascista, are architects who have sought in their work to create an imaginative fusion of tradition and modernity.

As the institute's director (and curator of this show) Penelope Curtis freely admits, architecture itself is, inevitably, a largely missing presence in 'Scultura Lingua Morta'. The Italian sculptors of the period, she writes in an introduction to the exhibition catalogue, were architectural artists by definition: 'They came to develop the concept of "installation" 50 years before that category becomes understood as such.' The sculpture of the Fascist period was 'architectural in a manner which can be simultaneously academic and avant-garde, and combines the monument with Modernism'.

Much of this work, of course, remains in situ in towns and cities throughout Italy,

where it is frequently undervalued to this day. Most of the pieces on display here – 45 works in dense formation, all but one from Italian collections and including maquettes for large-scale works, as well as gallery pieces – were in storage, and many have not been publicly shown since the Second World War.

There are, of course, good reasons for this. In Britain, Mussolini is often depicted as a ridiculous, and not especially threatening, buffoon who famously made the trains run on time. To many in Italy, he is remembered as a brutal thug who brought the country to disgrace and near-ruin. The fact remains, however, that, at least until the late 1930s (when Il Duce came increasingly under the baneful and tasteless influence of Hitler), Italian art and architecture flourished under Fascism.

While Gropius, Mendelsohn and (reluctantly) Mies were obliged to exit Nazi Germany, Modernist Italian architects like Albini, Terragni, Figini & Pollini, Ponti, Moretti, Libera and Michelucci – the list could be extended – happily worked on. The efforts of traditionalists like Muzio and Piacentini notwithstanding, they built on a large scale for a modernising, expansive regime, and most of them subsequently

became pillars of the post-war Italian scene.

For sculptors, this must have seemed a golden age. The foundries of Pietrasanta (where Moore was later to cast works) and the marble workshops of Carrara were kept fully occupied as monuments to the dead of the First World War – in which Italy had played an heroic role – were followed by those marking the achievements and victories of Fascism. There was work to be done on post offices, stations, schools and law courts around the country, while Rome was reconstructed as the capital of a new empire, its ancient monuments ruthlessly unpicked from the accretions of later centuries.

The prerequisite for success was, of course, a commitment to the figurative. The years between the wars, however, saw a revival of figurative sculpture that embraced not only the totalitarian countries but equally the western democracies (Epstein and Gill in Britain, for instance).

As with the architects, the successful sculptors of Fascist Italy largely thrived after 1945, sometimes (as in the case of Marino Marini) seeking to rewrite their own histories. After the war, the figurative ideal was again cast aside. The sculptor Arturo Martini, in an essay of 1945 from which the title of this show is taken, rejected much of his own past work as the product of a 'dead language'.

Three works by Martini form the climax of the exhibition, the extraordinary *Death of Sappho* (1940), appearing to point a way forward from the figurative that is distinct from that of Moore and Hepworth. What is omnipresent throughout the show is the Classical inheritance, which in the hands of Martini, Libero Andreotti, Lucio Fontana and other major artists of the period was transfigured into work of great originality and real beauty. I know nothing of the female sculptor Lina Arpesani, but her tin figure of *The Fascist Victory* (1937) is absolutely riveting.

Two years ago, the HMI staged a controversial exhibition including sculpture made in Nazi Germany. *Scultura Lingua Morta* (which, incidentally, marks the 10th anniversary of the institute) is altogether a more substantial and more thought-provoking show. In Nazi Germany, creativity and the state were at odds from the start. Unpalatable as it may seem, Mussolini's Italy did produce much architecture and art of outstanding quality, alongside a certain amount of bombastic kitsch, and provided a foundation, after the cathartic catastrophe of 1943-44, for the immense cultural achievements of the post-war years.

Kenneth Powell is an architectural journalist

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Design submissions are invited for the refurbishment of low-rise housing on the Brooks Estates in Plaistow, east London, as well as the refurbishment of two high-rise housing tower blocks on the estate. The deadline for design submissions for both competitions is 19 August. Further details on how to register for the brief are available from the RIBA Competitions Office. Visit www.ribacompetitions.com

STUDENT DESIGN COMPETITION

wood.for good invites submissions for an open ideas competition, based on an imaginary inner-city site. The competition is open to students of architecture and those in relevant associated disciplines (engineering, interior design, product design, etc). The submission deadline has been extended to September 2003.

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bookings: 5pm monday
copy: 5pm monday
artwork: 12 noon tuesday
cancellations: 12pm monday

Cheshire Vacancy**Architectural Technician****Permanent****Vac Ref 0306-82**

My Client is seeking a senior Architectural Technician with at least five years in practice experience. Knowledge of the industrial and commercial sectors would be an advantage along with proven team management ability. AutoCAD literacy is essential.

Manchester Vacancies**Architect / Technician****Permanent****Vac Ref 0305-65**

The ideal candidate will have a Minimum of 5 years Post Qualification experience working in the retail and commercial sectors. A Proven track record as a Project Architect. Good organisational skills essential. Must be computer literate (Vector Works/Micro station) and be able to produce working drawings. Must have own transport for site visits. A good knowledge of Building Regulations and of the Design & Build process is a must!

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Architect**Permanent****Vac Ref 0306-62**

My Client requires an architect who has strong design skills, isn't afraid of juggling a few jobs (i.e. likes a challenge) and likes dealing with clients. Residential experience is very important. This is a good opportunity to join a young forward thinking practice.

Sheffield Vacancy**Office / Design Manager****Permanent****Vac Ref 0306-64**

My client is a medium sized, expanding Architectural practice based in Sheffield. They are currently seeking an Office/Design manager who can manage 3 / 4 office based design teams. This is an excellent opportunity for someone who is a keen designer with proven management abilities.

Newcastle Upon Tyne Vacancy**CAD Technician****Vac Ref 0305-4****Permanent**

A young / 2yr experienced Technician is required to join an existing team of technicians and architects. The ideal candidate will be confident and proficient with AutoCAD and looking to develop their career within a technician's role.



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The Girls' Day School Trust
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Telephone 0207 393 6686 (Direct Line)
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Architectural Technician

Pay: Negotiable

Based: Northamptonshire**Ref: 2363**

A Snr Archit Tech is required for this small but vibrant practice based in Northants. Candidate will have excellent AutoCAD skills as well as exceptional knowledge of planning applications and Building Regs.

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London Vacancy**Senior Architect or Technician****Ref 0306-81****Permanent**

My client has an urgent requirement for a Senior Architect or Technician for a Project Management role. They specialise in Social Housing and Light Gauge Steel Framed Buildings. You will have a minimum of 3 years UK based post graduate experience ideally gained in a relevant sector. Your sound track record coupled with your skills will ensure a rapid career development.

Birmingham Vacancy**Senior Technician****Ref 0306-80****Permanent or Contract**

My client is urgently seeking a Senior Technician to join their existing team. They get involved in a wide variety of projects including Residential, Healthcare and Commercial schemes. Ideally you will have at least 1 year's post graduate experience, and be thoroughly conversant with Autocad.

Northamptonshire Vacancies**Architectural Technician****Ref 0306-70****Permanent**

My client specialises in Residential and Commercial work, and is now seeking a Technician with good Autocad skills to join their existing team. You will have a minimum of 12 months in-practice experience, and want to develop your Architectural and Construction skills.

Junior Cad Technician**Ref 0306-56****Permanent**

My client is seeking a Junior Cad Technician with a good knowledge of Building Construction and Autocad.

Warwickshire Vacancy**Landscape Architect****Ref 0306-68****Permanent**

My client is a small but thriving practice who specialise in Landscape and Golf course Architecture. They are seeking a fully qualified Landscape Architect to join their existing team. Ideally you will be a recent graduate, but they will consider people with some in-practice experience.

Derbyshire Vacancy**Architects and Senior Technicians****Ref 0306-63****Permanent**

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Architect or Senior Technician, Canterbury, Kent, c£25k - Established Practice with a team of 55 people across 3 offices. This is a busy and dedicated department which requires an additional Conservation Architect or experienced Technician to work within the Conservation unit under the direction of its experienced members. This role will give you the opportunity to become heavily involved in projects from both an onsite and office based perspective. The workload involved will be varied. This position would best suit a candidate with a driving interest in the care, adaptation and extension of listed buildings or an interest in ecclesiastical work, therefore some experience is essential, although training would be given. AutoCAD essential. Ref J74

Architects & Architectural Technicians, Dartford, Kent, c£25-35k - Required by extremely busy and growing practice with a portfolio of education projects. Good design, detailing, technical ability & established AutoCAD skills. You must be a driver with your own transport. Ref J5

Architectural Technologist, Bristol, c£32k - Required by extremely busy & expanding practice with a foothold in the public sector. You will be required to produce detailed & working drawings on education projects. Strong AutoCAD skills and an in-depth technical knowledge and the ability to work on your own initiative are essential. Ref J68

Part II Assistant, Bristol, c£28k - Expanding practice with an exciting portfolio of education projects are urgently seeking a Part II Assistant with a good technical knowledge and accurate AutoCAD skills. You will be required to prepare production information including drawings, documents, specifications and risk assessments. Ref J69

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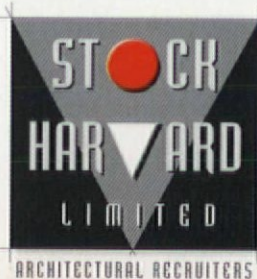
The position offers an opportunity for graduation to a senior management role working with Michael Clews who is Cathedral Architect at Llandaff and Coventry.



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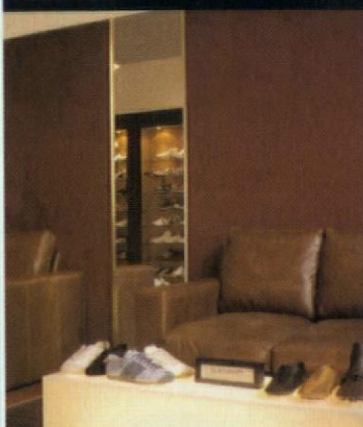
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FORMICA

AJ ENQUIRY NO: 301



Ebony, from the Formica Ligna range, has been used as the finish for the main display wall in the Trainer Lounge of Nottingham based retailers Solution Footwear. Durable and easy to maintain, the Formica Ligna range uses real wood veneers for a natural appearance. Ebony was used alongside red carpet, gold wall finishes and leather sofas to create an 'exclusive' feel.

TWYFORD

AJ ENQUIRY NO: 302



Twyford bathrooms has teamed up with specialist hydrotherapy manufacturer Domino to bring its Revita Hydromassage range to the UK. The domestic range is designed to massage and de-stress the body, and comprises hydromassage baths, shower cabins and combination units. To create a home spa, a steam option for cabins is also available.

WEBER SBD

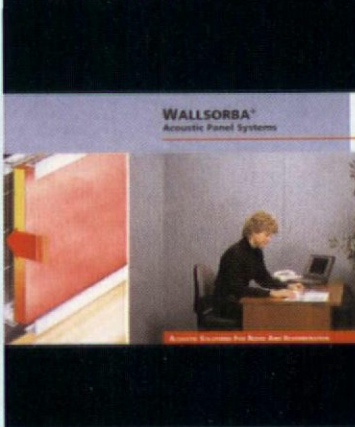
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Weber sbd Howtex brand adhesives and grouts were used for the tiled areas of the Porsche Showroom in Chiswick. The adhesive, a high performance single part material requiring only the addition of clean water on site, is suitable for high traffic areas. The wide joint grout is designed to withstand the stresses wide joints place on grouting materials.

TRIM ACOUSTICS

AJ ENQUIRY NO: 304



The Wallsorba acoustic panel system is now available from Trim Acoustics. Durable and fire rated Class 0 to BS476, three versions in tee, butt and shadow joint system are available in various sizes. Customised panels can be made to specification and are finished in wipe-clean acoustic fabric in a range of 40 standard colours. Email sales@trimacoustics.co.uk

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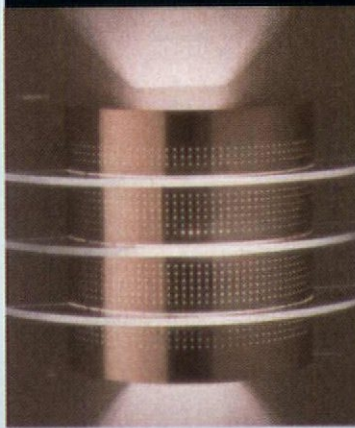
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Geberit's Total Washroom Solution for commercial applications provides top-class facilities. Its Duofix frame system for wall-hung WCs and urinals can be combined with Electronic Urinal Flushing and the Geberit Electronic Tap to give excellent water-saving options. The sturdy Duofix metal frame supports wall-hung sanitaryware without the need for supporting walls.

AQUILA DESIGN

AJ ENQUIRY NO: 306



The Moonlight Spheo fitting is the latest elegant interior lighting unit from Aquila Design. The stainless steel body with three clear glass plates give a soft diffusion of light creating a modern architectural feel. The Spheo takes lamps up to 150 Watts and is available in two shapes, the Spheo Wall and the Spheo Angle designed to fit into any 90° space.

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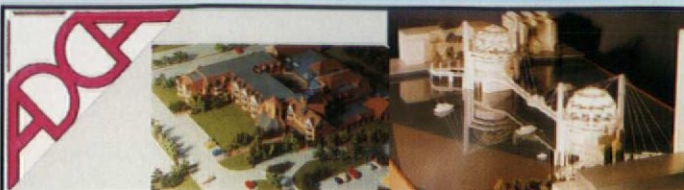
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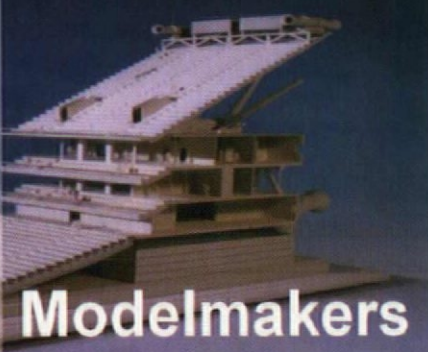
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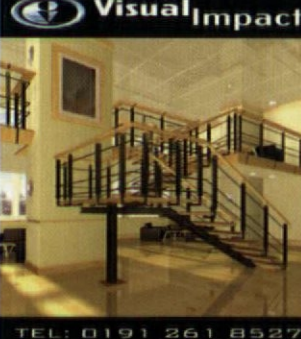
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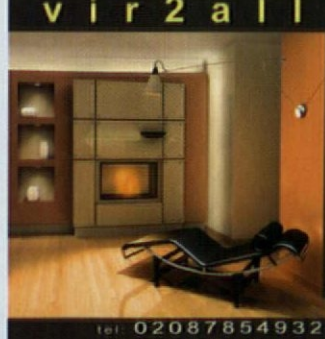
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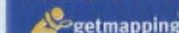
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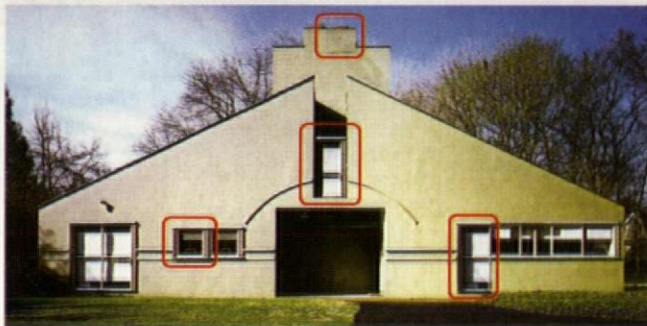
Big build-up

There was an unprecedented build-up to Architecture Week, with a plethora of lectures and other events testimony to the health of the UK architectural sector, including **Ian Ritchie's** Bossom Lecture at the Royal Society of Arts, a deeply thought-through exploration of architectural ideas. The previous evening, **Renzo Piano** gave a charming performance at the Royal Academy annual architecture lecture, after a glowing introduction from **Lord Rogers**, who described Renzo's architecture as a 'marriage of the organic and the Platonic'. He said English Heritage had failed to recognise the qualities of his 'Shard' building and suggested that, when it was built, EH would try to freeze it and its surroundings, 'the last thing a living building needs'. He recalled their competition success with the Pompidou Centre as a tiny new practice ('a tremendously difficult jump') and paid tribute to one of the judging panel charged with getting the building through: 'We asked him what his qualification was for doing this; he told us he had overseen France's withdrawal from Vietnam.'

Piano's forte

Renzo Piano is described by some as a supreme masterbuilder rather than an architect who relies on ideas. His lecture suggested this may be a reasonable view. He began by observing that architecture is 'a real adventure: it has action, you fight against the sharks [surely not his 'Shard' client Irvine Sellar?], you deal with earthworks, hurricanes, unexploded bombs'. The latter happened in Berlin at Potsdamerplatz, where the Germans told him the bombs wouldn't explode 'because they were Russian'. The action theme continued: 'In architecture, rationality is not enough... you need intuition.' For Kansai Airport, the architects were working with a team of 10,000 men on site; in Berlin, 120 divers worked for a year on foundations because of high water levels. In New Caledonia, the architectural task

ring the changes



A bottle of champagne is on its way to architect **Richard Pain** of Hampton Wick, Surrey, who spotted the four changes we made last week to **Robert Venturi's** Vanna Venturi House in Philadelphia (above). This week, can you spot the four changes made to **James Stirling's** Cambridge History Faculty (top)?

Post your answers, to arrive by first thing Monday morning, to **AJ Ring the Changes**, 151 Rosebery Avenue, London EC1R 4GB, or fax your entry on 020 7505 6701. The first correct entry pulled out of the hat will win the bottle of bubbly.

had been about understanding local culture. Of course, he had to say something about towers, acknowledging that they could represent power, arrogance and money, though he described the latter as 'unphotogenic'. His own current tower projects in New York and London were briefly presented and prompted the thought that architecture is about thinking, then linking vision with technique. He ended with a hymn of praise to gravity and lightness, transparency and opacity, with their 'endless oscillation, like a pinball'.

Nice support

Mary-Anne Stevens of the Royal Academy offered support for Renzo's London Bridge Tower. 'Let us hope it finds its way on to the London skyline,' she said, in an unusual RA endorsement. The lecture was followed by a splendid dinner in the Reynolds Room, with academicians and a bevy of architects, many of whom have worked for the RA's estimable architectural sponsor, developer **Derwent Valley**. Renzo reminded us that, in Italy and

France, people cross themselves at the mention of the Academia or the Academie, but in London it is different. Irvine Sellar looked on approvingly.

Future perfect

Jan Kaplicky gave a spirited lecture at the V&A on Sunday afternoon on what makes thinking about tomorrow so much fun, not least new materials and methods of construction. The Future Systems guru said work with sculptor **Anish Kapoor** was now on the cards and the Birmingham Selfridges is set to open in September. The drawings of old, unbuilt projects look fresh and inspirational – in one or two cases, inspiration indeed for architects who have completed remarkably similar-looking buildings. Kaplicky acknowledged other designers as sources of inspiration – the Birmingham cladding of aluminium discs was inspired by a **Paco Rabanne** dress, for instance. Fashion, he remarked, not only attracts very creative designers but is quick to put their work into effect.

Laugh a minute

I noticed **Paul Finch** chatting to **Zaha Hadid** at the opening of the Serpentine Gallery's summer pavilion. He was getting her opinion on a joke he had told at the RIBA Awards. It concerned the George Bush Jr Spelling Bee Award for 2003, which went to Zaha on the grounds that she could spell Cincinnati correctly (she has just completed an arts centre there). Finch said the president would be soon pinning a medal on her; Zaha's only worry was that when George Bush pins something on an Iraqi, Tony Blair sends in ground troops. Zaha laughed; Finch looked relieved.

Royal touch

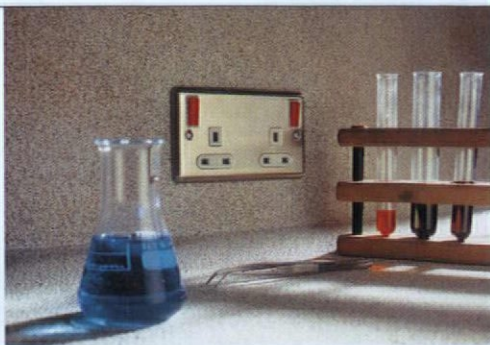
Fred Barschak, father of 'stand-up comedian' **Aaron**, who gatecrashed **Prince William's** birthday party dressed as **Osama bin Laden**, told Radio 4: 'My son isn't anti-monarchist. He is pro the monarchy, in particular **Prince Charles**. He thinks his views on architecture are absolutely right.' What else do you expect?

astragal

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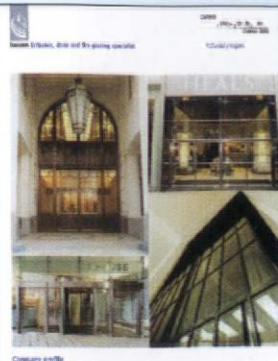
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Omega Doors, one of the UK's leading specialist suppliers of hinged steel doors, is working with Cooks Blinds and Shutters to help QD deliver the highest levels in fire safety at its new 14,400m² warehouse and distribution centre in Snetterton, Norfolk.

Cooks Blinds and Shutters supplied QD with a full package of Omega hinged steel fire-resistant doors for use on the project.



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Leading roof and cladding systems manufacturer Ash & Lacy has added a range of bi-metal stainless steel self-drilling fasteners to its widely acclaimed Ashfix range. The new Ashfix Bi-Metal 304 range offers specifiers and contractors a quality solution with a competitive edge that will address the cost premiums usually associated with this type of product.



KALWALL PROJECT OF THE WEEK

AJ ENQUIRY NO: 206

Apart from cladding, Kalwall is widely used for rooflighting to introduce natural and evenly diffused daylight – as architect Ainsley Gomon has done for this new engineering block at Deeside College. *Kalwall in the UK* is the latest guide to many roofing and cladding projects. Call Stoakes Systems on 020 8660 7667 or visit www.stoakes.co.uk



LINFORD

AJ ENQUIRY NO: 207

A £2.3 million contract to transform offices in the heart of Birmingham city centre has been completed by construction group Linford. The work at Aqua House, Lionel Street, has created extra office space by adding an entire new floor to the existing building. This was accomplished by removing the existing plant room and adding the new floor using a steel frame, with beam and block floor.



BAGGERIDGE BRICK

AJ ENQUIRY NO: 208

Dewi Sant Housing Association has specified the use of Baggeridge stock bricks for a second new housing association scheme, following the successful first application of its bricks at Addison Place in Port Talbot. Yellow, Red and Sea Sand Multi Rudgwick Stock ATRs were used at Bryn Teg in Briton Ferry, Neath.



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