

aj the architects' journal



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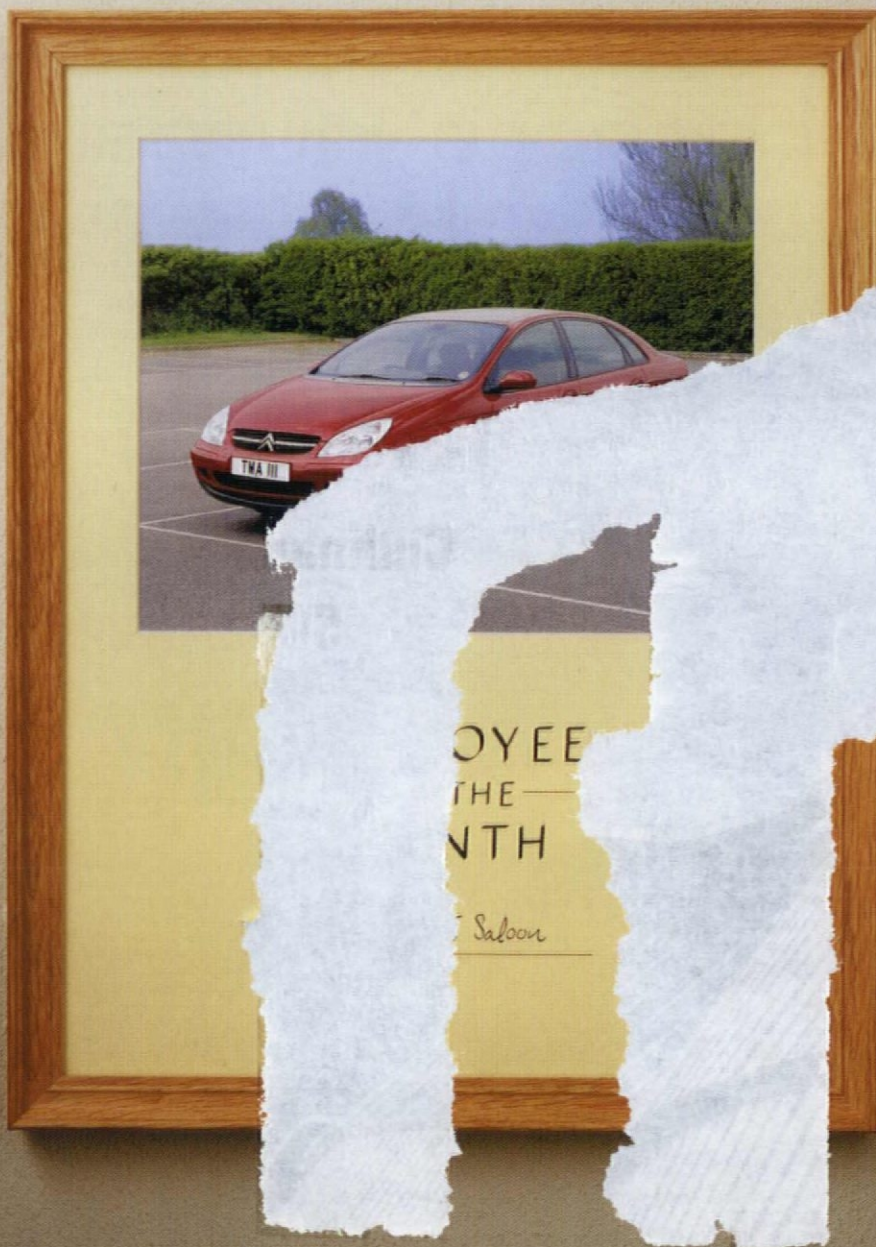
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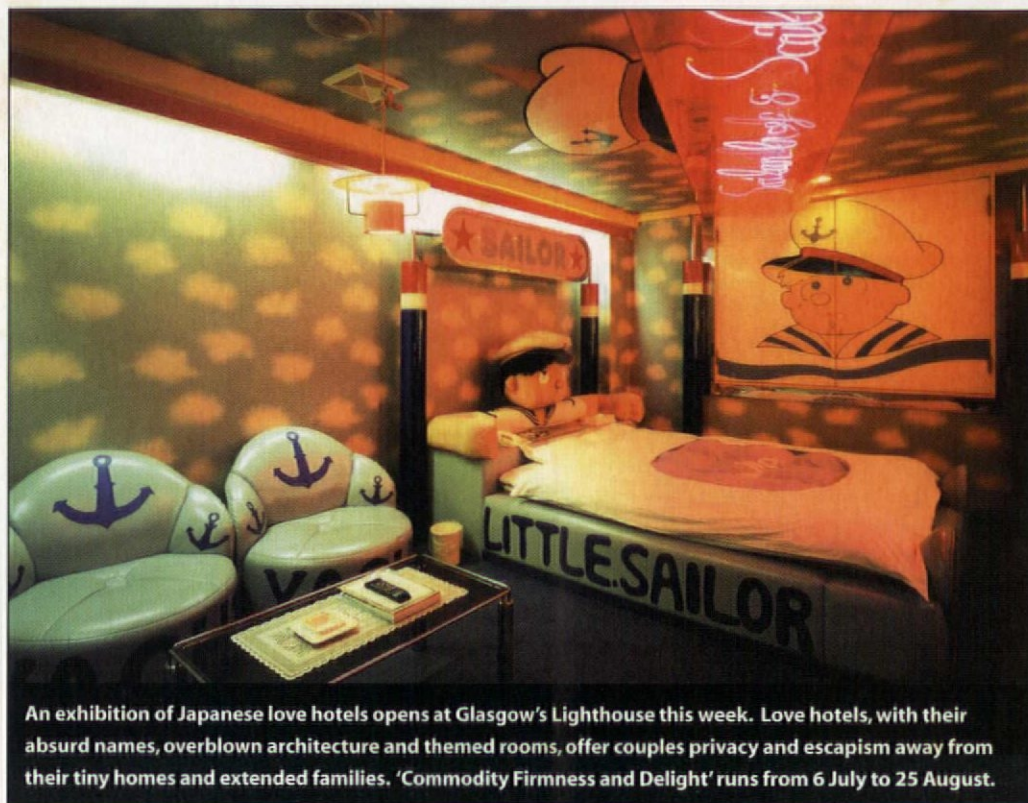
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An exhibition of Japanese love hotels opens at Glasgow's Lighthouse this week. Love hotels, with their absurd names, overblown architecture and themed rooms, offer couples privacy and escapism away from their tiny homes and extended families. 'Commodity Firmness and Delight' runs from 6 July to 25 August.

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COVER

Cullinan's Downland Gridshell, near Chichester
Photograph by Dennis Gilbert/VIEW

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'The Lowry and Imperial War Museum North are real achievements, but with unexpected consequences – they have raised land values just enough to see redevelopment, but not enough for it to have any quality.'

Deyan Sudjic. *Observer*, 30.6.02

'I never wanted to do little additions, jobs of that sort... Go through some kind of apprenticeship, from small to large, decorate store fronts. I always felt that, if I get lucky, I'd like to do something in the public world.'

Daniel Libeskind. *Guardian*, 29.6.02



news

HOLL MAKES HISTORY IN LA

Steven Holl Architects has won the job to be the design architect for the \$100-\$300 million (£65-£195 million) Natural History Museum of Los Angeles County new museum project. The practice beat a shortlist including David Chipperfield Architects, Foster and Partners, and Herzog & de Meuron. 

'FLAGSHIP' PFI ON SHOW

The government is to show off its Foster and Partners-designed Treasury building as an example of a successful 'flagship' government PFI refurbishment project completed on budget and ahead of time. The scheme will allow staff to be able to work together in the same building for the first time in more than 50 years. It has been built by Exchequer Partnership, a consortium of Stanhope, Bovis Lend Lease and Chestertons.



Toyo Ito and Arup's summer pavilion (above) at the Serpentine Gallery will open to the public on 12 September with a talk from the engineer Cecil Balmond. There will be a series of films, poetry-readings and talks. This pavilion is the third to be commissioned by the gallery following Zaha Hadid in 2000 and Daniel Libeskind in 2001. Call 020 7298 1515 for details.

For the best jobs in architecture turn to page 49 or visit www.careersinconstruction.com



Foster and Partners has unveiled its new £10 million city academy in Bexley. The project, organised around three courtyard spaces devoted to business, art and technology, avoids the use of corridors. It is designed to be highly flexible with partition walls adding to the adaptability of the classrooms. The secondary school will make its facilities available to others in the area. The City Academy Programme is a scheme by which 20 per cent of a new school's cost is covered by a private entrepreneur.

Brown in boost for housebuilding

Chancellor Gordon Brown has pledged his commitment to a radical new programme of housebuilding in the UK and wide-sweeping planning reforms.

In his influential Mansion House speech last week, Brown said a wholesale change in planning policy and a massive house-building programme are vital to the country's economic prosperity.

The speech is a signal of what to expect from the Comprehensive Spending Review – the Chancellor's six-monthly statement on governmental finances, expected within weeks. It is also seen as a pointer to the planning policy document – the next stage on from the Planning Green Paper – also to be published shortly.

Brown stressed in his speech that the government is determined to solve the 'desperate need' for more new homes in the UK. He said streamlining planning regulations would 'both develop the British economy and help to ease the housing crisis'.

The comments suggest the government will step up funding for affordable housebuilding and could promote limited construction on Green Belt land.

Pierre Williams, head of public affairs at the House-Builders Federation, said he was aware of planned funding increases. The Housing Corporation – the government agency that funds affordable housing – could have its budget

doubled to £1.2 billion in the review, he claimed.

The chancellor is also expected to massively increase the financing of planning departments in the spending review. David Rose, the Royal Town Planning Institute's director of public affairs, said he believed the government could raise the planning budget by up to 60 per cent.

Town and Country Planning Association director Gideon Amos applauded the commitment to housebuilding and social housing: 'We hope this means a change for housing policy. Government funding in social housing has fallen from £28 billion in 1989 to £15 billion in 2001.'

Amos said that giving money to planning departments would speed up the planning process. 'They are the Cinderella of local government and chronically underfunded,' he said.

CABE's head of government relations Steven King agreed that the speech is a sea change in housing and planning policy. 'This is the first time there has been an axis between Brown and John Prescott. It is the first time they are working together to achieve reform.'

However, Friends of the Earth's Hugh Ellis slammed the possible Green Belt relaxations. 'They must be mad to give up one of the only social policies that is publicly understood and supported.'

Ed Dorrell

'As a pure virtuoso of design, she has no living rival.'

Herbert Muschamp applauds the Zaha Hadid show in Rome. *New York Times*, 23.6.02

'Baltic's director Sune Nordgren describes the place as an "art factory" and Williams and Atelier One have taken him at his word. You can drive trucks in downstairs and put a Sherman tank on the fifth floor...'

Hugh Pearman. *Sunday Times*, 30.6.02

'The Prada store [in New York's SoHo] suffers from OMA's usual problems: sloppy detailing and stunningly inattentive craftsmanship...'

Sarah Williams Goldhagen. *The American Prospect*, 17.6.02

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

Clean up your safety act, HSE warns architects

The Health and Safety Executive (HSE) has warned that architects must radically reform their attitudes to construction safety or face legislative action.

The HSE hopes to force architects to take safety issues more seriously during the design stage. Measures could include reform of the Construction Design Management (CDM) regulations or more far-reaching changes in the law. It will be producing a report of its recommendations within the next few weeks.

A senior insider at the HSE's Construction Division told the AJ it was pushing government to force a 'culture change'.

'The HSE is determined to change the architecture profession,' he said. 'The culture is that it is not part of construction and this needs to be reformed. They need to see it as their industry too.'

Design Build Foundation's director of operations Nigel Finn confirmed the HSE was right to be concerned.

'Although it would be wrong to say that architects are often culpable for deaths, it is true that they rarely take safety into account when designing,' Finn said.

'I would like to see safety have a much higher profile in the profession's training process. We need to increase its prominence and see the issue debated by architects. I want to encourage collaborative working on safety between the different strands of the industry.'

However the RIBA's assistant director of prac-

tice, Brendan O'Connor, defended architects as the 'scapegoats' of the construction industry.

'We get blamed for all the industry's failings even when they are nothing to do with us,' he claimed.

'We are as enthusiastic as anybody else in our efforts to cut site deaths,' he added. 'But because architects are higher profile than most of the rest of the industry, they often get the blame. It is simply not fair.'

Ed Dorrell

Clerkenwell Biennale set to emulate Venice festival

London's Clerkenwell could become the venue of a second architecture biennale to rival that of Venice.

Plans are in the pipeline to launch a major international architecture festival in the fashionable central London district – the home to many 'leading-edge' architects such as Zaha Hadid and Wilkinson Eyre.

The Clerkenwell Biennale could begin as soon as next year – timed to alternate with the exhibition in Venice.

Architecture communications firm Wordsearch is currently drumming up support among the architectural world, from the 'golden oldies' such as Pritzker Prize winner Glen Murcutt to the 'cutting edge', including young Dutch and Norwegian practices.

Wordsearch's Peter Murray said he was confident the idea would get off the ground and that there would be sufficient financial support within the industry.

ARSENAL STADIUM CHALLENGE

HOK Sport's Arsenal scheme is facing a possible judicial review after local opposition group the Islington Stadium Community Alliance won the right to an 'oral hearing' at the High Court in late July. ⊕

PORTSMOUTH TOWER DELAY

Harrington Design's 110m Spinaker Tower in Portsmouth looks set to run late and over budget. Mowlem, the main contractor, has not yet signed a contract with Portsmouth City Council and is demanding a further £2.75 million on the £18 million scheme.

RIBA RINGS CHANGES

A RIBA special general meeting has accepted proposals for a widespread restructuring of the institute. From the start of 2003, the RIBA Foundation will look after the promotion of architecture to the general public while RIBA Professional Services will provide support for the membership. ⊕

CHARITY BEGINS AT HOME

The Architecture in the House events during last week's Architecture Week raised more than £108,000 for the charity Shelter.



Daniel Libeskind's first building in the UK, the £30 million Imperial War Museum North in Manchester, opens this week. This building, a 'striking emblem' of the effects of war, is based on the concept of a world shattered by conflict – a fragmented globe reassembled in three interlocking shards. The Earth Shard houses the main exhibition space and the special exhibitions gallery. The Air Shard provides the main entrance and viewing platform, and the Water Shard has a 160-seat restaurant (pictured). See pages 10 and 24

LEN GRANT

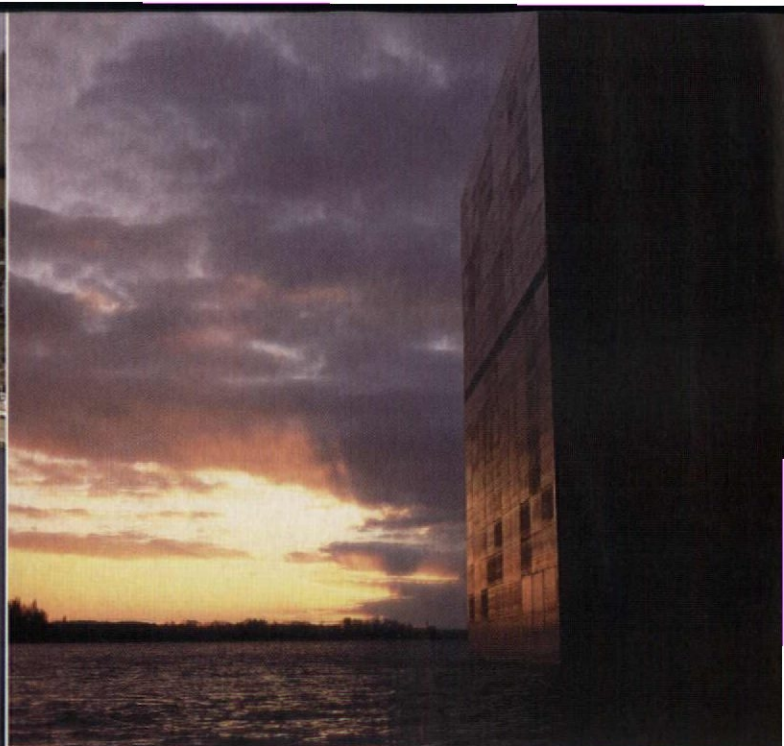
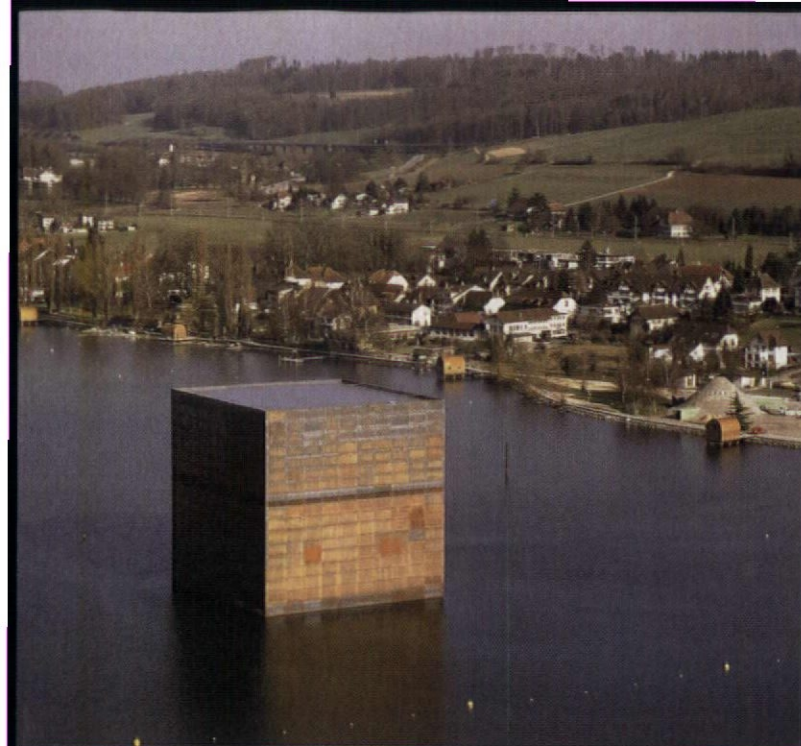
Q&A

92%

... of voters in a poll on the AJ's website believe Ken Livingstone's London Plan will never come to fruition.
Respondents: 306

This week's question:
Is the housing price bubble about to burst?

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



Swiss Expo shames Dome failings

The Three Lakes region (around the lakes of Neuchatel, Biel and Morat, roughly equidistant from Basel and Geneva) is prosaically described as 'Switzerland's biggest vegetable patch'. Though not a prime tourist destination it is, in fact, visually stunning – a terrain of water, fields and vineyards, set against mountainous backdrops and dotted with small and prosperous historic towns of alternately French and Germanic character.

Switzerland has no equivalent to Gateshead, east Manchester or London's Docklands, so regeneration was hardly an issue when the siting of the country's Expo.02 was discussed – the Pays des Trois Lacs is close to the borders of France and Germany and to major airports. Implicit in the entire operation is a new sense of openness to a wider world – Switzerland recently joined the UN and the debate over EU membership will not go away.

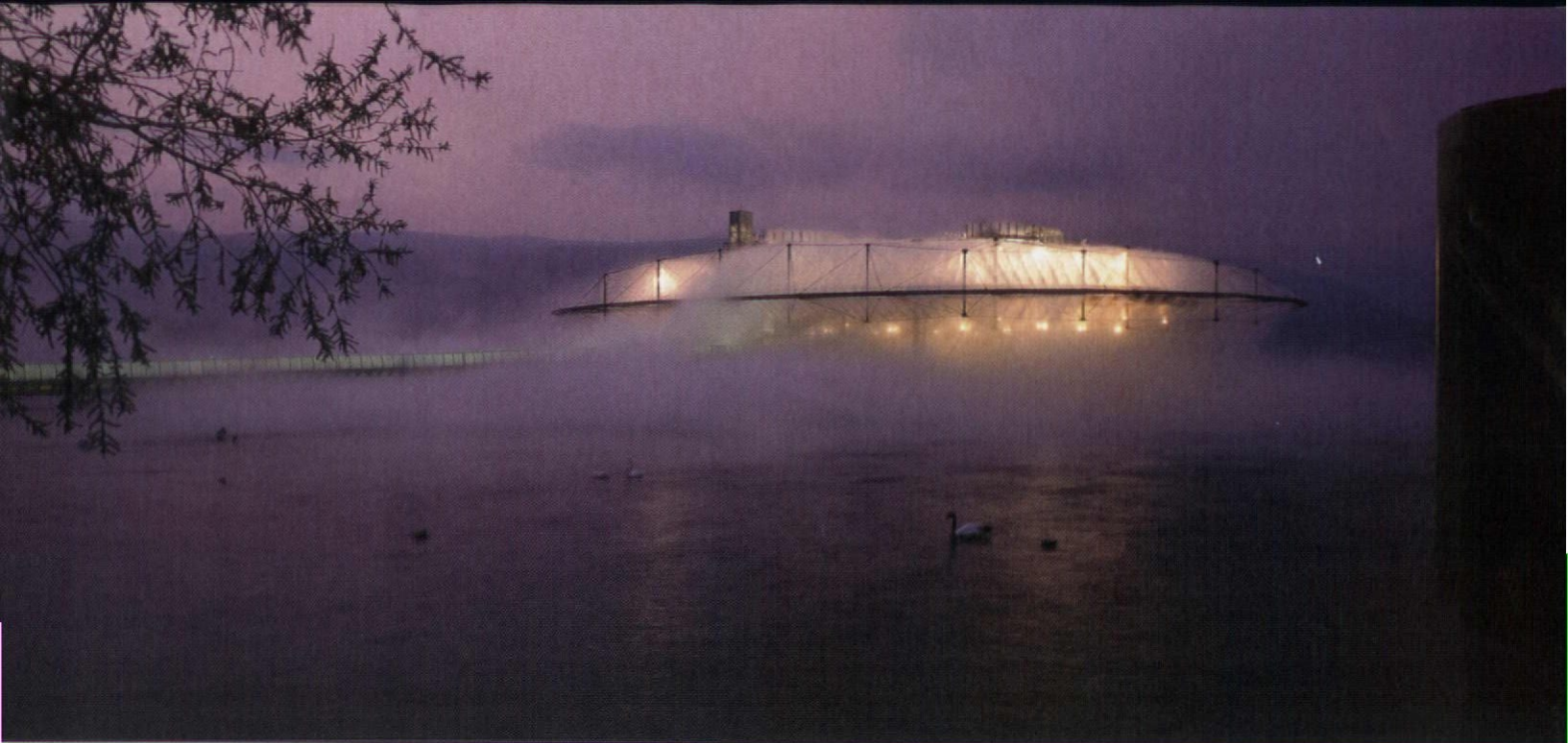
This spirit is reflected in the architectural programme. The Expo is officially the 'Swiss National Exhibition' but, in terms of the landmark structures at least, Swiss architects appeared to have fared badly – no Herzog & de Meuron, Morger Degelo Kerez, Mario Botta, Diener & Diener

or Peter Zumthor. (The last was responsible for the Swiss Sound Box at the 2000 Hanover Expo, an event which scored over the Millennium Dome in terms of dullness if not of sheer tawdriness.)

A competition process in 1998-99 – the Expo was officially launched in 1995, after some years of advance planning – resulted in the major buildings going to New York-based Diller & Scofidio, to Jean Nouvel and the French MULTIPACK practice and to Coop Himmelblau from Vienna, with the late Enric Miralles, Ben van Berkel and Lifschutz Davidson (the only shortlisted British practice) among unsuccessful contenders. The jury, chaired by Emilio Ambasz, chose well. Each of the four sites, at Yverdon-les-Bains, Neuchatel, Murten and Bienne, has a distinct theme and focuses on a memorable landmark pavilion, with smaller commissions going to a range of international practices, including some relatively little-known (in international terms) Swiss firms. The competition brief stipulated that the landmark structures should provide a connection between terra firma and water – the lakes should be part of the experience, not just a backcloth.



Top: Nouvel's 34m square cube of rusting steel. Above: MULTIPACK's futuristic UFOs at Neuchatel and artificial, glowing reeds



Diller & Scofidio's Cloud at Yverdon has to be the star of the show. By night, eerily lit, it looks like an alien ship from the *X-Files*, moored in the lake. Set in a landscape by Dutch practice West 8, the 100m long, lightweight steel structure is equipped with 33,000 fine jets spraying water from the lake. Clad in a free plastic raincoat, you walk out into a cloud of moisture which varies in intensity from a fine Irish mist to a wet afternoon in Llandudno, emerging dripping but refreshed (and probably exhilarated). It is a surreal, disorientating experience (especially for anyone wearing glasses) where architecture and nature meet.

The space travel theme re-emerges in MULTIPACK's 'UFOs' at Neuchâtel – typical, rather than exceptional, Expo-architecture. (Groupe H's Palais de l'Équilibre is more striking, resembling a timber version of the Foster Reichstag dome, a statement about sustainability – sponsored by the Swiss oil industry.)

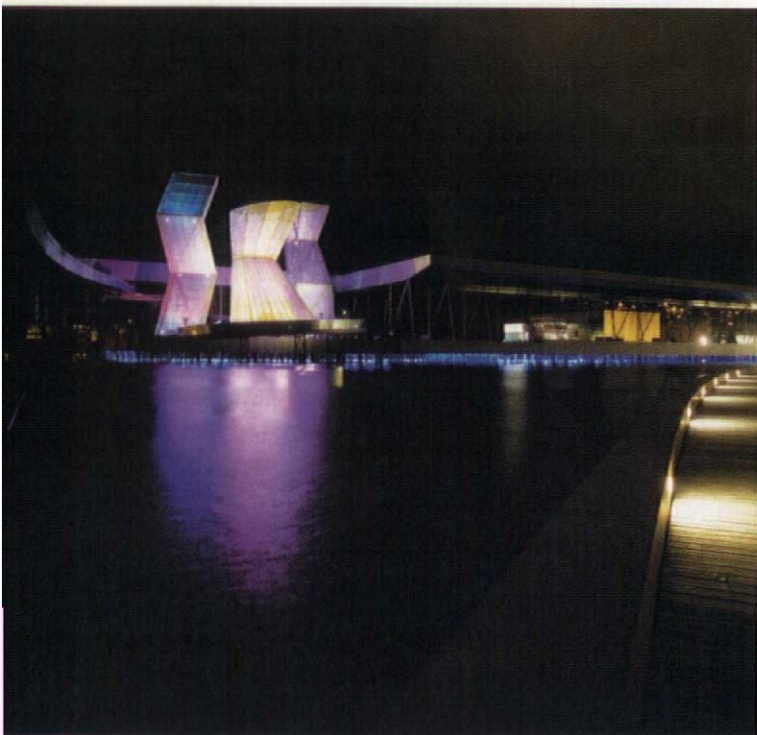
At Bienne, the largest of the sites, Coop Himmelblau scores strongly with its soaring group of towers, bridge and pier allegedly illustrating the theme of 'power and freedom', while the 'Strangers in Paradise' pavilion, sponsored by supermarket chain Migros, provides one of the most entertaining 'rides' in the whole expo (in a supermarket trolley).

Murten (Morat) is the most picturesque of the host towns, a half-

timbered William Tell wonderland. The sheds, scaffolds and freight containers that Nouvel has scattered around the town are clearly a challenge to its cosy complacency. His 34msquare Monolith of rusting steel, anchored in the lake, provides the most memorable image of Expo.02, though the interior spaces disappoint.

The Expo has, of course, been controversial – they always are. Thanks largely to technical director Ruedi Rast, a potentially disastrous overspend was reined back, with a quoted expenditure on buildings of SF450 million (£198 million) – a third of the total cost of the Expo. Visitor figures so far look good but only the crucial holiday period will confirm the popular success of the project. (Five million visitors are expected, in a country of seven million people.) With its wholesome catering, wide range of accommodation options, excellent public transport links, consistently good design code and genuine roots in local communities, Expo.02 reminds Brits forcibly of the failings of the Dome, though it is unclear what its long-term impact on the Three Lakes region will be. You can travel there on the restyled SWISS airline, stay in a modular hotel (with cardboard furniture) or a tepee village, and enjoy the key architectural experience of summer 2002.

Kenneth Powell



Top: Diller & Scofidio's show-stopping Cloud at Yverdon. Above: Coop Himmelblau's 'power and freedom' at Bienne



HOK Sport bets on £180m revamp for Ascot

HOK Sport has applied for planning permission for its proposed £180 million revamp of Ascot racecourse in Berkshire. Central to the scheme is the creation of a new grandstand, curved in plan to maximise views. The building sits between the edge of the Royal racecourse and Ascot High Street, with an arched parasol roof in the centre and a series of stepped terraces at each end. A naturally lit internal galleria runs through the centre of the stand to form the main public concourse. The galleria also acts as the 'lung' of the building and provides a natural ventilation system – large louvres on the south side combine with the parasol-like fabric roof to protect the space from overheating in the summer and maximise heat in the winter. The roof structure is constructed from a filigree of lightweight, tubular steel which is covered in Teflon-coated glass fibre.

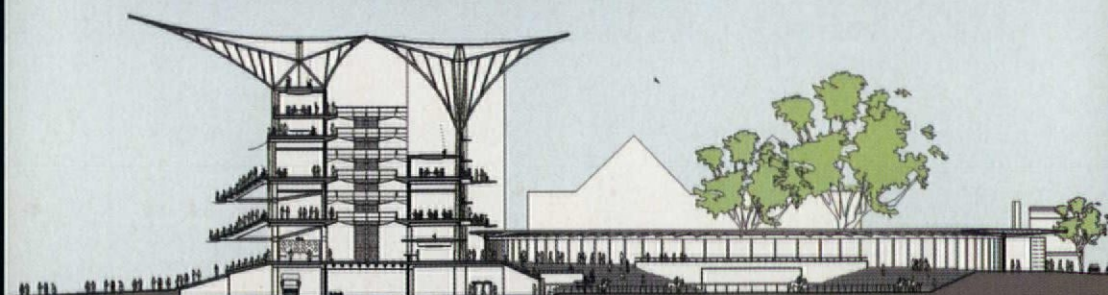
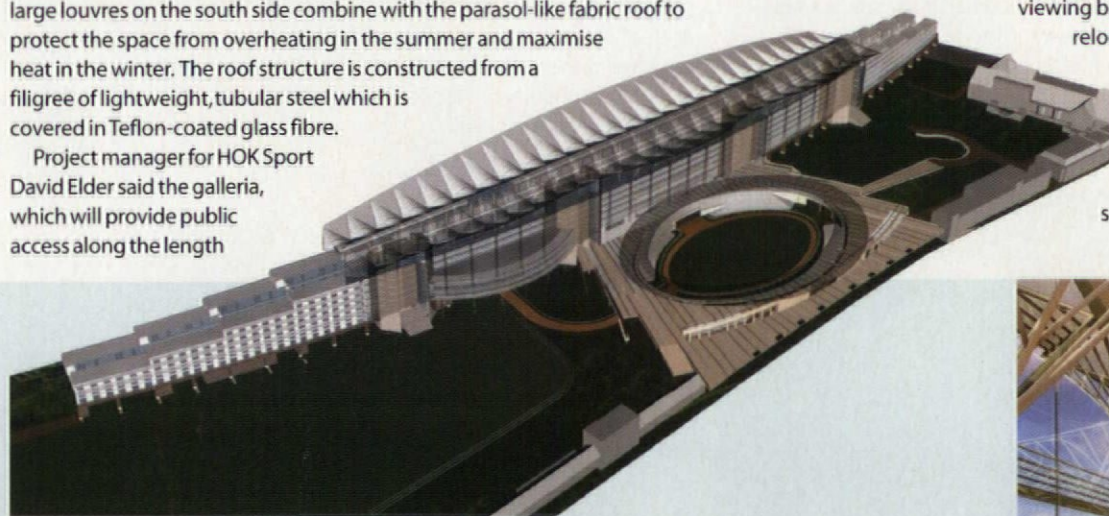
Project manager for HOK Sport David Elder said the galleria, which will provide public access along the length

of the racecourse, would be 'unique' to Ascot. The scheme moves the track and parade ring to improve circulation and views, and could be followed by the addition of a dirt track, which would enable the course to hold races such as America's Breeders' Cup in the long term. An oval-shaped parade ring roof, which provides shelter for spectators and a covered entrance to the racecourse, is made of a lightweight frame clad with ETFE.

The scheme also includes an integral hotel to attract visitors outside the racing season. The six-storey hotel has a panoramic restaurant, additional viewing boxes and a health club. Track relocation is scheduled to begin in late 2002, with construction of the stands due by late 2004.


CABE has asked to examine the finished scheme.

Zoë Blackler



Central to HOK's Ascot overhaul is a new, curved grandstand featuring a naturally lit internal galleria, which acts as the 'lung' of the building

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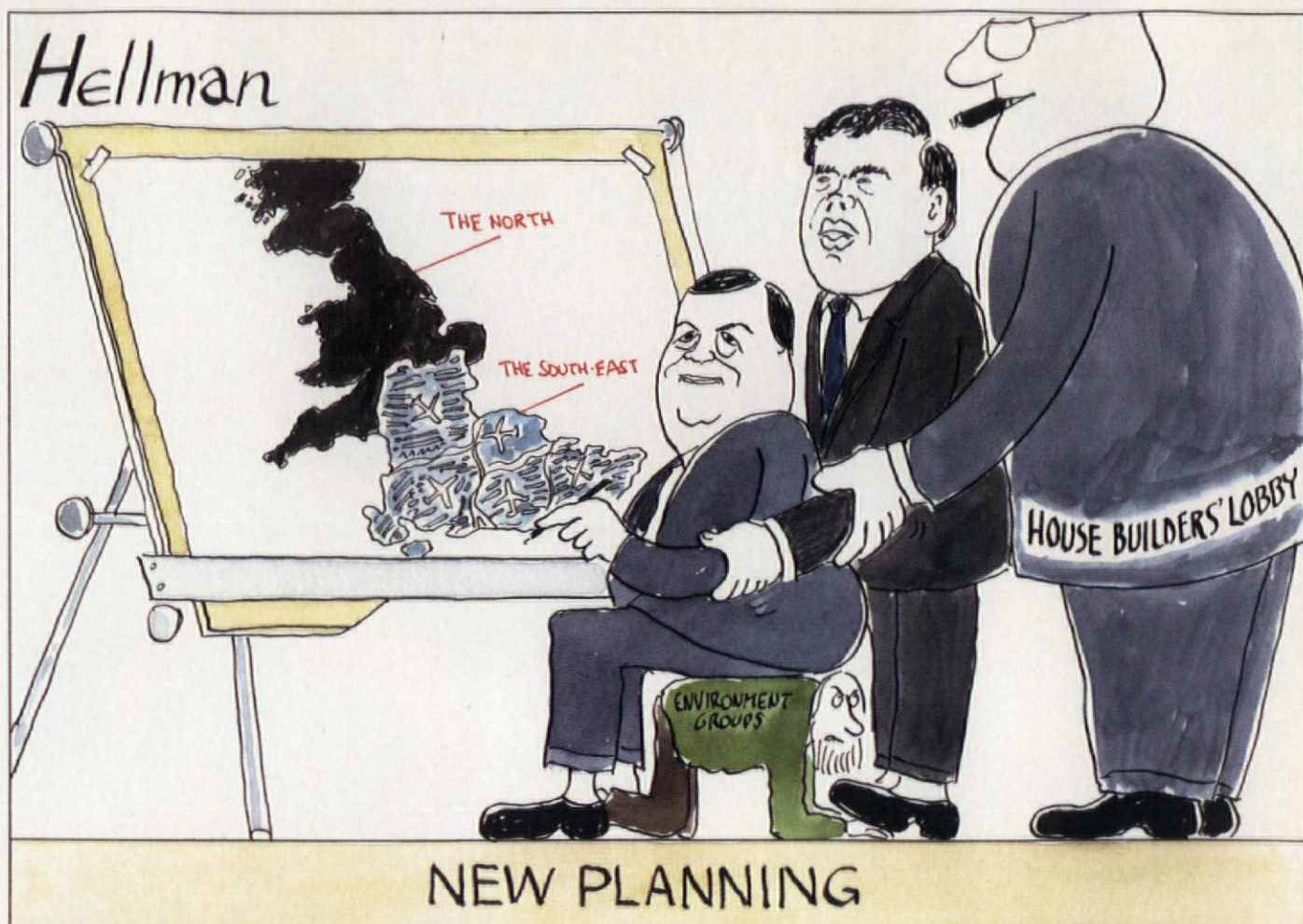


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vital statistics

- Researchers and scientists at the Natural History Museum moved 22 million different fish specimens out of storage and into the new HOK International-designed Darwin Centre, which has just been completed.
- Houses are over-valued by 30 per cent in London and 10 per cent in the UK as a whole, according to research published by the professional services firm PwC.
- The combined size of all European real estate investment funds grew from £3.88 billion to £18.12 billion in the three years to December 2001, according to a *Financial Times* Property Fund Survey.
- More than two thirds of female interviewers said a woman interviewee's appearance was at least as important as what she said, while only 30 per cent of men agreed, according to a survey of resource managers in London.

Clare Melhuish reviews... refugee architects and their cultural ambitions

A 'close nexus between historicism and intolerance' was highlighted by Marco Goldschmied in the second part of the London Jewish Cultural Centre and RIBA's symposium on 'Exile, Legacy and Memory'. Daniel Libeskind, meanwhile, stressed the 'vitality of history' as a force shaping what humans are and become in the future and thus the generator for progress, originality and innovation – not a justification for freezing the legacy of the past in the present.

Goldschmied described Poundbury as 'a more dangerous historicism', and questioned whether a development such as Lawn Road, Hampstead, would get planning permission today. The Modern Movement may have 'represented a threat to traditional values' then but, nevertheless, immigrant architects such as Lubetkin built standard council housing in the 1950s 'full of optimism'. Today, when traditional values have almost been dismantled, the experimentation and risk represented by the Modern Movement seems to be held at even greater distance.


Goldschmied described the 'hidden... lottery of taste' as having 'turned up a winner' in the shape of Libeskind's Spiral for the V&A, described by director Mark Jones as the most original of all the new architecture spawned by the lottery. Libeskind himself gave an elevating presentation, sufficiently eloquent to dispense with the need for visual images, which revealed a passion for human culture, past, present and future, and for buildings and

civic space as the primary key to awareness, communication and identity.

Libeskind spoke with confidence and optimism, which, coupled with the fact of having a partner and wife whose background is in politics, has no doubt contributed to his increasing success in obtaining commissions for public buildings designed to enshrine the legacies of the past. He suggested that the architecture which has survived through successive generations is that which has 'a communicative power that [goes] beyond the material world'. In his own work, the conception of a blurred distinction between word and material object, between text and architecture, has generated a very particular approach to design. One which aspires to embodying a 'notion of the spiritual' – which he is quick to distinguish from 'kitsch' ideas of spirituality associated with a very different kind of architecture, lacking the intellectual input which underpins his own.

The symposium preceded by a few days the opening of Libeskind's latest building, the Imperial War Museum North in Manchester, intended to foster an understanding of war not simply as conflict in negative terms but as part of the 'permanent struggle to attain peace'. This attitude enables him to approach the site of the World Trade Center with the confidence to propose building new high-rise housing and vertical gardens which would transform it into a world monument embodying a vitality and faith in the future.

Daniel Libeskind, Marco Goldschmied, and Mark Jones were speaking at the RIBA in the second part of 'Exile, Legacy and Memory', an LJCC and RIBA symposium on Refugee Architects



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APETHORPE HALL SAVED

The government has stepped in to save the Grade I-listed manor house Apethorpe Hall in Northamptonshire. Arts minister Baroness Blackstone has served a compulsory purchase order on the present owner, who has allowed the building to fall into disrepair. +

SIGN UP TO BENCHMARK 2002

There is still time to sign up to Benchmark 2002, the largest benchmark survey for the architectural profession in the UK. A collaboration between architectural management consultancy Colander and the AJ, the survey will address all aspects of practice management: finance, personnel, marketing, procurement, market sectors, fee arrangements and IT. Costs are between £500 +VAT and £800 +VAT. Call 020 7580 3058 or visit www.colander.co.uk



HOK International has completed its £30 million Darwin Centre at the Natural History Museum in London (pictured). The eight-storey building, to house the museum's specimen collection and research facilities, features a series of zoomorphic brackets lining its south-facing glass facade; terracotta tiling to reflect Alfred Waterhouse's original museum building; and a curved roof made from ETFE. +

QUEEN SHOWS OFF GIFTS

The State Rooms at Buckingham Palace will open to the public for the 10th summer on 5 August. The Ball Supper Room will house a special exhibition featuring 200 gifts that the Queen has received during her 50-year reign.

IMPROVING STANDARDS

The Design Museum in London is to host a year-long series of installations to explore innovative ways of improving living standards in compact homes. 'Living in a Tank' will begin on 20 September with 'Playing' by designer Jerszy Seymour.

MJP wins the green light for BBC's broadcasting flagship



MJP had to rethink its original plans for the BBC

MacCormack Jamieson Prichard (MJP) has won the go-ahead for its plans to overhaul Broadcasting House – the BBC's West End headquarters.

Westminster council last week gave the green light for the new flagship building, which has been the focus of protracted negotiations between the corporation and the borough's planners.

In February, BBC senior executive Alan Yentob reacted angrily after planners called for major modifications to the scheme, including the replacement of the glass facade with Portland Stone and a reduction in the overall height and bulk. The BBC denied at the time that it was threatening to move its entire operation out of Westminster if its plans were thwarted.

The scheme has now changed considerably – MJP has remodelled the facades and relocated and redesigned the two northern staircores as well as the staircores over Hallam St and Portland Place. The south-eastern promontory has also been extensively remodelled to improve the relationship between the Portland stone and glass elements of the facade.

The BBC claims 'the overall result has been to resolve issues of apparent height and bulk while preserving the quality and integrity of the underlying architecture'.

CABE and English Heritage have teamed up to give their united, 'wholehearted support' to the design. However, local residents have accused the BBC of falsifying data submitted to the planning committee. Yann Lotheri, representing the residents of 89 Great Portland Street, said the residents will appeal to mayor Ken Livingstone to order refusal.

Zoë Blackler

Jowell calls on architects to 'solve social exclusion'

Culture secretary Tessa Jowell has accused architects of 'falling behind' in the fight against social exclusion. Jowell called on architects to help overcome local people's alienation from public buildings – in particular through better design of schools, art galleries and local government offices.

Jowell – speaking at the launch of a new government policy document on social exclusion, 'People and Places' – said: 'Contemporary buildings are a vital part of everybody's cultural heritage. But many people, such as those with disabilities, the unemployed and those living in communities

which suffer from deprivation, are prevented from fully connecting with their surroundings.

'We need to ensure that architects learn from the terrible mistakes of the 1960s when buildings were built with terrible effects on the communities they were designed to serve.'

Architects are in a 'fantastic position' to help, she added, 'through design quality, engagement with the community, education and improving access'.

'We want to make people believe that public buildings belong to them, ensuring they are not alienated and feel comfortable visiting them,' she said.

Smith in 'build the Spiral with £25m Dome rebate' plea



Former culture secretary Chris Smith has called for a potential £25 million rebate from the winding down of the company which ran the Dome to be pumped into building Daniel Libeskind's 'truly spectacular' Spiral at

the V&A museum. Smith made his claim for the controversial £75 million building during a speech he gave to RIBA London members last week at a special dinner as part of Architecture Week at the RIBA.

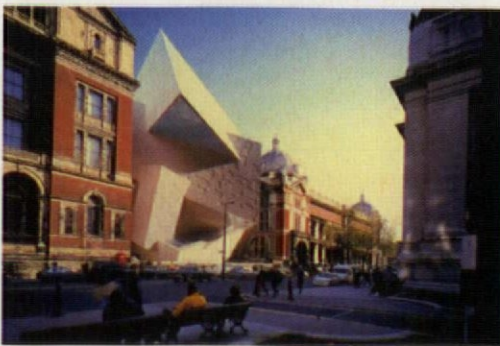
He said he thought £25 million or more will come to the Millennium Commission – which funded the Lottery contribution to the Dome in the first place – from winding down the New Millennium Experience Company. And that cash could be used for other projects, with the Spiral being the most worthy cause.

'First, because it is a truly spectacular piece of contemporary architecture and will not only enhance the V&A itself, but will set London more firmly on the architectural map,' he said.

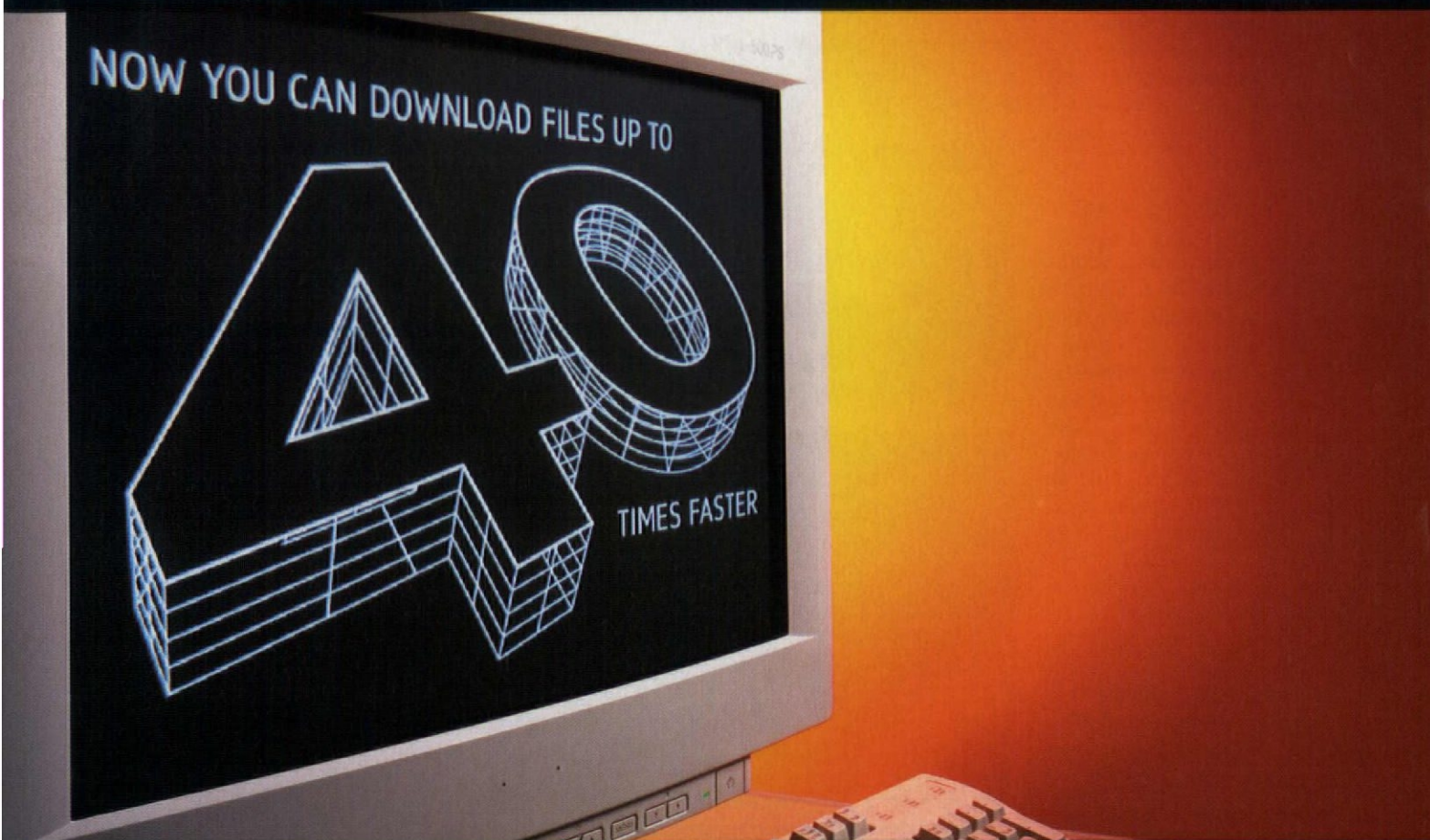
Second, he added, it will 'give the Commission the chance to do what it has done in every other great city in the country: to create a significant modern building'.

And third, because it could mirror the history of the V&A itself – which was first built out of the surplus from the Great Exhibition of 1851 as a permanent showcase for the best of British creativity. 'To the Millennium Commission, and to the Arts Council, too, I would say: it is time, please to get behind the Spiral,' Smith said.

The V&A said it is 'actively fundraising' for the Spiral project and aims to start building towards the end of next year. It has raised £31 million of the £75 million cost, so the £25 million would still leave the museum £19 million short. +



Libeskind's 'truly spectacular' Spiral at the V&A



Either that or it's back to the drawing board.

Architecture is increasingly dependent on internet communications. The industry uses some of the most sophisticated design technology available, and CAD files of steadily increasing size change hands over the web every day.

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GLASGOW'S VIRTUAL CENTRE

The Lighthouse, Scotland's architecture centre in Glasgow, has unveiled its Virtual Architecture Centre, the largest of its kind in the world. Further details can be found online at www.scottisharchitecture.com +

HOUSING DESIGN WINNERS

The RIBA has named the six winners of its Housing Design Awards as part of Architecture Week 2002. Haworth Tompkins Architects, Burrell Foley Fischer, Proctor Matthews Architects and Shed KM each took an award, while Feilden Clegg Bradley Architects scored twice. The winning schemes are all examples of the latest in UK housing design, and range from regeneration projects in Liverpool to social housing in inner-city London. +

FANCY 5-A-SIDE?

The Elms London Professions' 5-a-side football competition is asking for entries from the construction and design sectors. The one-day event, to be held on 4 August, costs £464 to enter and is open to teams from all over London.

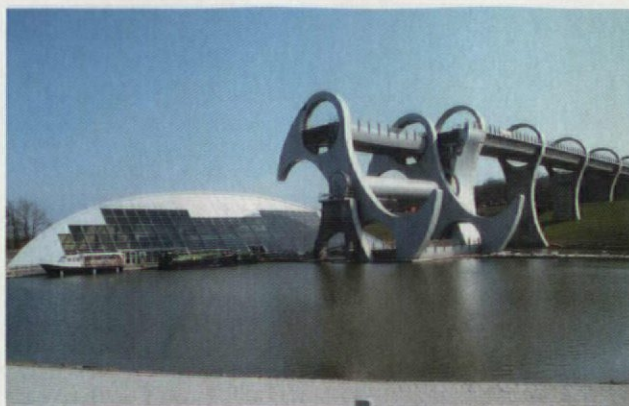
POST-DOCTORAL CALL

The Canadian Centre for Architecture's Study Centre is calling for applications for its 2003-04 Visiting Scholars Programme. The scheme is aimed at those conducting research at post-doctoral level. For additional information on the programme call 00 514 939 7000.



BDP's £10 million Bournemouth Central Library (above) was opened to the public last week by arts minister Baroness Blackstone, who said it was the best she had seen. The project – one of the treasury's pathfinder PFI schemes – also includes retail space and a foyer cafe. +

BCIA shortlist revealed for 2002



A selection of the projects shortlisted for awards in the British Construction Industry Awards 2002

The shortlist for the AJ-backed British Construction Industry Awards 2002 was revealed this week, including a diverse range of publicly funded projects.

Wilkinson Eyre's Gateshead Millennium Bridge, Munkenbeck + Marshall's Mount Stuart Visitor Centre and Richard Rogers and Partners' Chiswick Park are all in the running.

Awards coordinator David Helsen said the judges had been surprised that this year's entries were equal in both quality and quantity to last year's awards, which were dominated by Millennium-funded projects. The judges consider projects 'holistically', from concept through to completion, including the success of the construction process and the scheme's final impact on its surroundings.

The awards also include the Prime Minister's Better Public Building Award. CABE will be announcing the shortlist for this scheme on Friday (to be posted on ajplus.co.uk on Monday).

Architect-designed projects in the Small Project Award shortlist (up to £3 million) are:

- The Conference Building, the Earth Centre, Doncaster, by Bill Dunster Architects (pictured above, bottom right);
- Mount Stuart Visitor Centre, by Munkenbeck + Marsall;
- City Learning Centre, by Whicheloe Macfarlane MDP;
- 4 Alfred Place, by MM.ad;
- Juniper House, by Jeremy Stacey Architects;
- Sixth Avenue Apartments, by Cartwright Pickard Architects;
- Dowland Gridshell, Weald & Downland Open Air Museum, Chichester, by Edward Cullinan Architects (featured on page 26); and

- Memorial gardens and refurbishment of cadet blocks, the Peel Centre, Hendon, by landscape architect Churchman Associates.

Projects in the running for the Building Award (£3 million-£50 million) are:

- The Royal Academy of Music, London, by John McAslan & Partners (top left);
- The Deep, Hull, by Terry Farrell & Partners;
- Meadowfield, Worthing, by Nightingale Associates;
- Persistence Works, Sheffield, by Feilden Clegg Bradley;
- William Gates Building, University of Cambridge, by RMJM;
- The Broadway Cinema and Theatre, Peterborough, by Tim Foster Architects;
- Windsor Office Park, by Hamilton Associates Architects;
- Girls Boarding Houses, Haileybury and Imperial Service College, Herts, by Studio E Architects; and
- Honda's New European Plant, Swindon, by SSOE.

Two projects designed by architects are up for the civil engineering award (£3 million-£50 million):

- The Falkirk Wheel, by RMJM (top right); and
- Gateshead Millennium Bridge, by Wilkinson Eyre Architects.

The major project category (more than £50 million) features five architect-designed schemes:

- The City of Manchester stadium, by Arup Associates;
- Chiswick Park, London, by Richard Rogers Partnership (above, bottom left);
- Lowestoft Waste Water Treatment, by Barber Casanovas Ruffles;
- GSK House, Brentford, by RHWL; and
- Norwich and Norfolk Hospital, by Anshen Dyer.

Zoë Blackler

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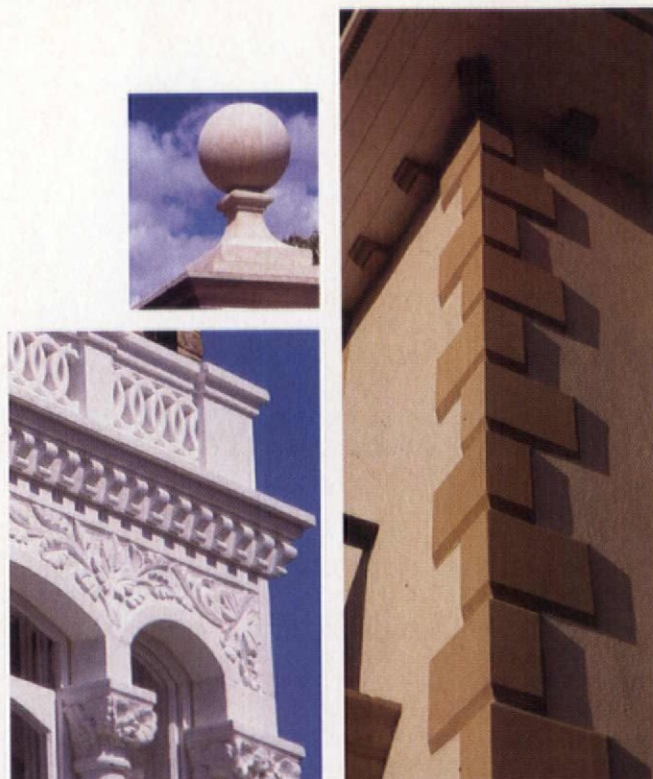
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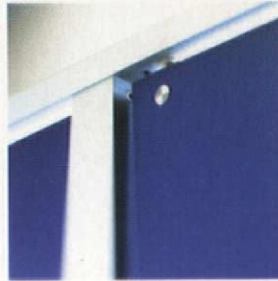
The clean lines, the thoughtful details, the strength, the durability. It all adds up to a cubicle that looks way over budget. Look again. This is **icon** from Thrislington. Designed for you to put quality cubicles into all types of building, putting paid to the idea that you can't afford Thrislington.



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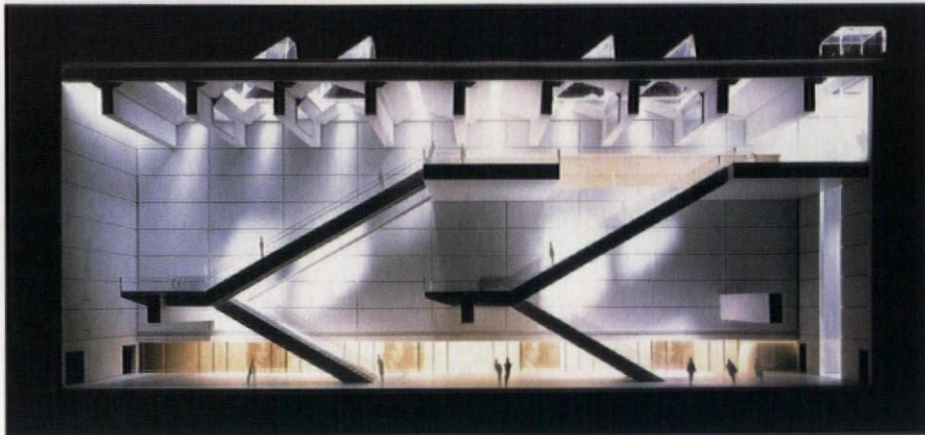


The deep aluminium sections provide added strength.

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Shedding light on station design

Designing stations that successfully meet the needs of passengers was the theme of a brainstorming conference last month. Ed Dorrell reports



As government investment in rail infrastructure gets back on track with the reinvention of Railtrack, a group of experts in train station design met in London on 20 June for a 'round-table' debate.

The central theme of the event, sponsored by products manufacturer Marshalls, was how architects could successfully design stations that meet passengers' needs. Vinita Nawathe, policy and research manager for

the Rail Passengers' Council, gave the user's perspective. All passengers want is to get on a train with the least possible hassle, to have easy interchanges with other trains or forms of transport, and not to feel threatened, she said.

Tony McGuirk, director of architecture at the Building Design Partnership, which has been closely involved with London's long-awaited Crossrail development, said that it

was crucial to passengers that they have personal space. 'They all need territory if they are to feel secure.'

'We need to try to create a human environment,' he said. 'One idea we have is to create a part of the city landscape within a station. It is an environment that most people understand and it makes people comfortable within the station.'

Irvin Morris, technical director of the Design Research Unit, agreed that the key is to make stations more relaxing. 'For example, it is fantastic if you can get natural light into Tube stations – it makes people feel relaxed. The Copenhagen metro has pipes to the surface with mirror pyramids directing light into the station below,' he said.

Copenhagen's metro – which was 'comfortable, convenient and safe to use' – should provide a model for British stations, Morris argued.

Lighting was a continuous theme in the debate. Morris highlighted the problem in many underground stations, where the light gets more dull the deeper into the station you go, 'giving the impression of disappearing

The Swedes have an affinity with nature.

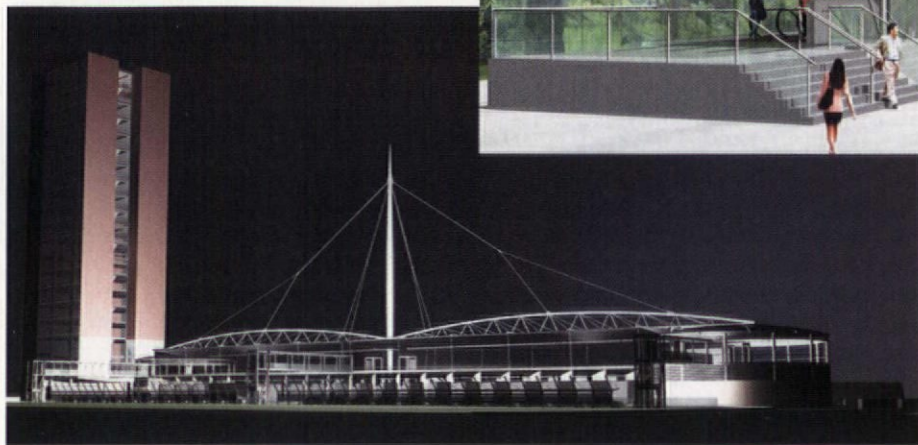
Any excuse to take their tops off.



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Official fuel consumption in mpg (litres/100km): Urban 21.7 (13), Extra Urban 42.8mpg (6.6), Combined 31.4 (9.0). CO₂ emissions 217g/km. Price correct at time of going to press. All figures for Saab 9-3 Aero Convertible fitted with manual gearbox.

Opposite page: Copenhagen's 'comfortable, convenient and safe' metro was cited as a model for British designers



Design Research Unit's Bangkok metro system (above) and Nanshan passenger transport centre (left) – both are examples of good station design

into a black hole'. He argued that lighting intensity should be maintained or even increased at deeper levels.

Taylor Woodrow's Ray Lascelles questioned architects' aspirations when designing stations. 'What is a station?' he asked. 'Is it just a utility space or is it a public space that could be a visitor attraction?'

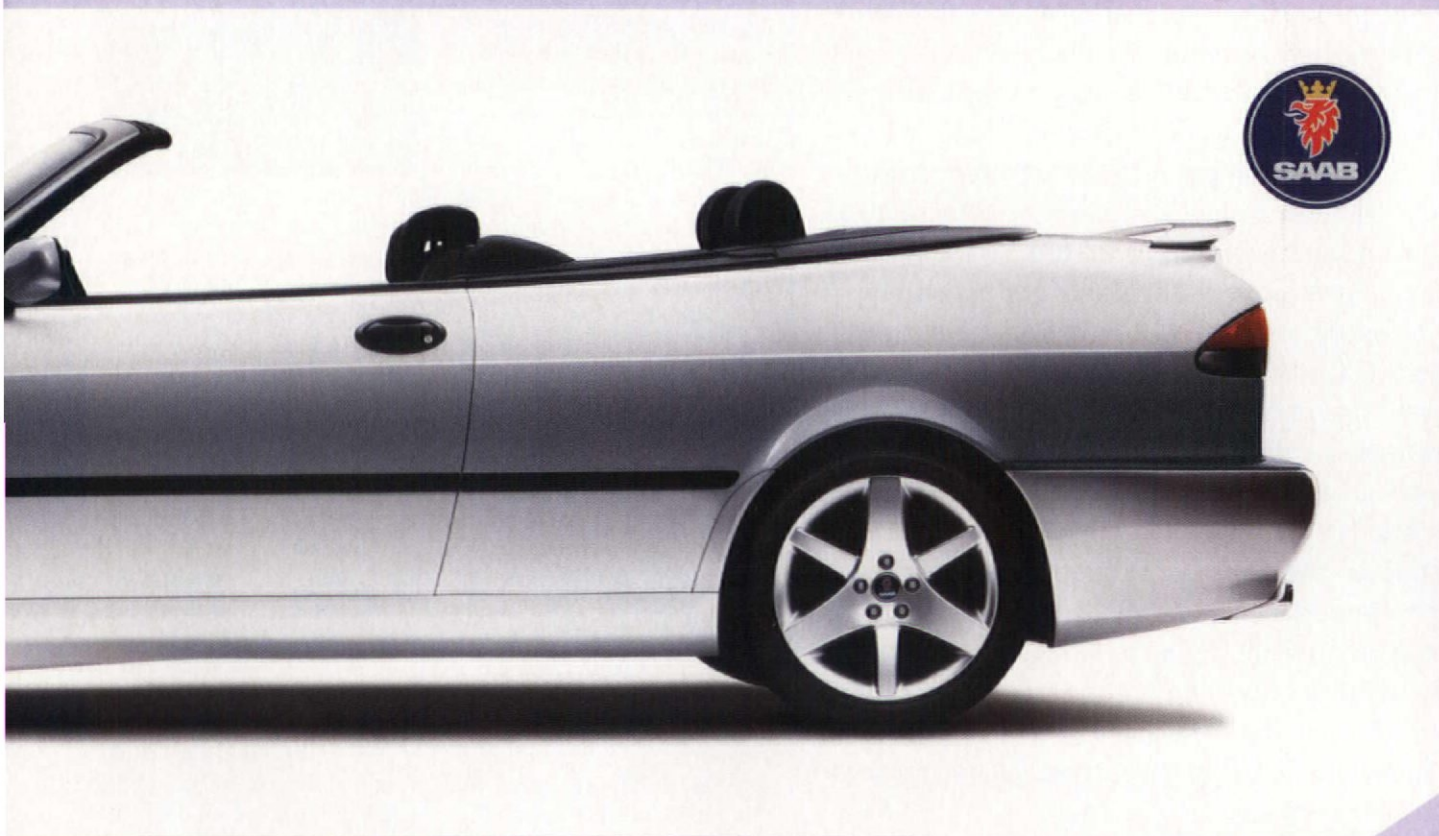
Nawathe responded that the challenge was to accommodate the many different

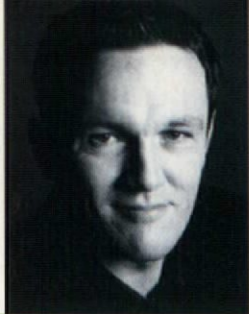
types of traveller. 'Commuters want to be in and out of a station as quickly as possible,' she said. 'Holidaymakers would ideally like to see the station as part of their trip and business travelers are halfway between. Striking the balance is the key.'

Morris added that any station designer has to be realistic about the possibilities; for example, small-scale village stations could not, or should not, be transformed into retail centres.

Most agreed with Design Research Unit senior associate Tim Nicholls that an 'honesty system' would be the greatest aid to improvement. 'The process of joining a train would be so much easier if you got rid of the barriers,' he said.

'They are one of the chief causes of hassle in stations. If you could trust passengers to have a ticket, then boarding would be much easier.'





House rules: the challenge of easing the pricing crisis

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editorial

Finally, the housing situation in this country is being called what it is: a crisis. Nationwide Building Society figures, out this week, put the average price of a property in London at £200,000 – far beyond most workers, who would have to have a salary of more than £60,000 a year to afford a five per cent deposit and a mortgage of three times that figure. Prices nationally have hit a £106,000 average, almost a fifth higher than their levels just 12 months ago. And prices, we are told, are set to rise by 20 per cent more this year in the capital, 18 per cent beyond.

The time-bomb disparity between supply and demand – the main reason for the steep prices – is deeply worrying, with fewer homes built in Britain last year than at any time since 1950. Something, somewhere, has to give. So how will the government and its construction industry – architects, housebuilders, developers – respond? The answer from government appears at least to be coming from the top man with the purse strings, chancellor Gordon Brown.

We will, we hear, be getting a comprehensive spending review which acknowledges the problem, planning restrictions will be 'eased', and money will be found for deputy prime minister John Prescott to push through a doubling of the number of new houses to be built in the South East. Supply will be bolstered to meet demand. But why own at all? Is it not odd that in this country, as opposed to say, Holland, owning your own property is a must? Renting is viewed as 'money down the drain' since it is not 'an investment', although it is also about paying for flexibility and freedom. Brown's answer will be to channel extra cash to housing associations for new rented properties, thereby also boosting so-called 'affordable' housing numbers.

But it is important that the mindset of the Englishman's home as his castle must change. We may get used, once more, to high density living. And the ticky-tacky *Brookside* homes referred to by CABA chief Jon Rouse in a speech at the RIBA's Housing Design Awards last week might begin to subside from the public consciousness. If, that is, the professions mobilise to take on the challenges, defuse the time bomb, and meet the demand.

David Taylor

letters

The right medicine for health buildings

Ron Morgan, in response to the review of 'Building Futures 2020 Vision: our future healthcare environments', questions the warning that, unless we are aware of future changes in both healthcare and building procurements, we may be building problems for the future.

The report addresses the future of healthcare design politically by reviewing both changes in delivery of healthcare and buildings. It sets out the exciting challenges ahead, and identifies that a well-designed environment has a role to play in patient well-being and healthcare productivity.

What I describe as 'worrying' are the implications of the current mode of PFI procurement, with an emphasis on 'risk transfer' and measurable value for money. These demands are militating a process of briefing, design, development and construction that does not easily allow for a flexible, interactive and iterative process of briefing.

The significant opportunities of the PFI approach is it aims to take a 30-year perspective, with the intent to ensure the best interest of the client's business over the life of the contract.

Design should respond not just to the output requirements predictable today, but also to the potential demands of the future. The initial competitive stage of the current PFI process distances designers from clients and users, and results in over-detailed briefs with exact activity requirements, with straight-jacket solutions, rather than opening up opportunities to provide solutions that can respond to future change.

I would agree with Ron Morgan about the value of good design in healthcare facilities. I also believe this can be achieved

within PFI, provided it allows for iterative design and reflects wider social, demographic and technological trends.

The 2020 Vision sets a clear challenge for architects. The appropriate briefing, design and procurement process can be a catalyst for change, encouraging fresh approaches to both the organisation of healthcare and the design of the environments in which it takes place.

There needs to be an interactive exchange between informed clients and expert designers in order to explore the potential.

John Worthington, chairman,
RIBA CABA Building Futures

The Moulton metaphor for architecture today



Is Matthew Teague absolutely convinced that the 'Moulton' is the acme of bicycle design? (MetalWorks, AJ 27.6.02)

Being a seasoned cyclist, I always found Moultons inherently unstable, even dangerous, especially when fitted with shopping baskets. I am no scientist, but I think it must be connected with the limited gyroscopic effect produced by the smaller wheels compared with a bike fitted with conventionally sized wheels. And I forget who, but didn't someone say that the Moulton is a 'superb answer to a self-imposed problem'?

It is evident from the illustration that there is some exquisite engineering going on, but 'sustainable'? Well, I suppose it could be 'molten' and 'recycled'.

And is not the thinking behind it akin to the current fad

Ask Austin. If you have a technical query, look out the discussion forum to debate the latest issues, or get the answers to problems from your peers – or from AJ technical editor Austin Williams.

Check out all the latest news stories, including Mediawatch – Astragal's wry look at the architecture stories covered by the weekend newspapers. Mediawatch goes up on Mondays. And stories such as the completion of the AJ's near neighbour – the N1 centre in Islington. The £25 million project, by Chapman Taylor, includes shops, restaurants and a cinema for Warner Village. It will also include a 9m high Angel sculpture in September.



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

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in architecture for protuberances and bits sticking out everywhere, both internally and externally? You must know you have failed when you find yourself putting 'plastic prongs' on your exquisite external steelwork to discourage pigeons, or when the flocculent dust and grime is an inch thick on your internal structure.

No, when I see the 'yellow jersey' hurtling around La Belle France on a Moulton is when I will be convinced that this is state of the art, or even sensible.

Joe Hayward, Stanmore

Ensure your couriers handle with extra care

I'd like to issue a dire warning. Last year I was invited to exhibit at the Barcelona School of Architecture (etsaB) and the exhibition opened in October 2001. Due to illness, I was unable to attend the opening and did not see the show. When the material was returned to me, in December, I was dismayed to find that the boxes were badly dented and all the glass in the frames was broken, as well as the glass protecting a three-dimensional Frank Lloyd Wright item which had severely damaged the work.

In addition, all the expensive mounts where drawings were unframed had been punctured by pins; presumably the Catalans do not know about double-sided tape.

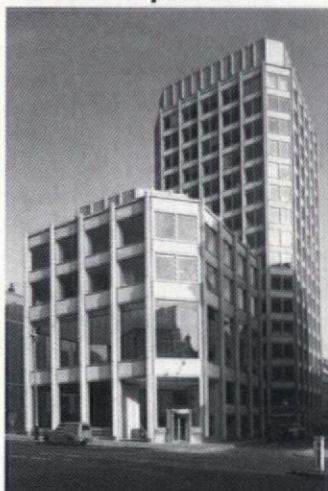
Clearly the school had not employed couriers experienced in transporting art works, but some cheap alternative who had just thrown the stuff about. Despite the school's assurance that the material had been fully insured, a visit from the loss adjuster who inspected the damage and numerous letters, faxes and e-mails to Barcelona, there has now been a deafening silence for more than two months.

I have learned a painful les-

son. Make sure transportation is carried out by bona-fide couriers and get copies of the insurance documents before letting anything go anywhere.

Louis Hellman, London W3

The Smithsons: inflated importance?



I must support Jim Jarvis' questioning of Stephen Greenberg's euphoric review of the Smithson book (Letters, AJ 20.6.02).

It seems to me that far from 'leaving the style to others', the Smithsons flitted from style to style, whose importance was inflated by their own pretentious writings. Hunstanton was pastiche Mies, and while it might be an appropriate influence on Hopkins' factories, it is pretty dire as a school (see Martin Pawley's revisit).

What evidence is there to suggest the boring Sugden house influenced the Venturi's silly pseudo-vernacular efforts, and who would want to admit that anyway? The House of the Future was *Dan Dare* fantasy, only less imaginative, and looks pretty risible today. The Economist Building (pictured) is reminiscent of American stripped Classicism, but to suggest it is 'to the Rockefeller Center what Chiswick House is to the Villa Rotunda, scaled down and intense', is quite ludic-

cous. Watered down and bland, more like, and the much-vaunted social conscience seems to have been no deterrent to working for developers.

As for Robin Hood Gardens, where the Smithsons switched to Corbusian Brutalist rhetoric, did anyone tell the tenants it was meant to be 'robust... heroic... and deliberately almost ugly', as opposed to just another patronising piece of council housing?

John Tringham, London NW9

A biblical response can save the inner city

The Jekyll and Hyde nature of the city (Martin Pawley, AJ, 20.6.02) is nothing new, and can be traced throughout history. Even the Bible can be viewed as 'A Tale of Two Cities' from when Cain, the murderer, is accredited with building the first city, through the Old Testament conflict between Jerusalem and Babylon, and ending with heaven described as the New Jerusalem built by God.

'Fundamental changes in human behaviour' are indeed necessary for the positive aspects of cities to overcome the negative, and this theme of changed behaviour is what the Bible is all about.

A biblically based concern for the poor, as the prophets had, and is outlined in 'Proverbs', is necessary if British inner urban areas, and outer estates, are not to be deserted or taken over by fascism – and if Third World cities are not to be breeding grounds for terrorists.

The poor and marginalised, whether in British or Third World cities, have a right to their share of British and global wealth. Politicians, economists, planners and architects, indeed all responsible citizens, should seek to enable and empower them to meet their own aspirations. Pockets of affordable housing alone are not enough.

Leslie Barker, Wembley

Will Alsop – shome mishtake, shurely?

I greatly appreciated Astragal's listing of new definitions c/o Eric Ericsson (AJ 13.6.02) and Ian Martin. In particular, I found 'Alsoppy' most apt; it being defined as 'having maudlin sense of own heroism after a few drinks'. This may ring some bells for those who witnessed Alsop's 'heroism' on TV last year.

Also within the same issue was a letter from Mira Bar-Hillel highlighting Alsop's 'slurred-speech' rendering of the English language.

In Will Alsop's own column he describes Toronto as 'the state capital' and alludes to 'the state of Ontario', thus proving that his grasp of both history and geography are somewhat slurred too.

Elsewhere in the same edition, Alsop is quoted as saying, in connection with his Royal Academy hanging committee duties, that Gareth Pearce is a 'rip off' and that Pearce owes a debt to Koolhaas/OMA for the presentational style that he acquired while working for them, briefly, in the 1980s – not the reverse, as has been the core of a lengthy plagiarism law suit.

One wonders how Alsop knows this with such certainty, or must we take it that the comment is as ill informed as his other slurs?

After all, how much trust can be invested in a practitioner who cannot even get his structural columns to assume the vertical?

Perhaps everything he touches suffers from inherent slurring!

Robert A Warren, Gravesend

Correction

The photographer for last week's building study of Nicholas Grimshaw & Partners Plant Science Center in St Louis, US (AJ 27.6.02), was Timothy Hursley.



will also

Retail therapy offers chance to reunite artists and artisans

Valencia will stage its next Biennale on 1 March 2003, for three months. It will be devoted to art in its broadest sense.

I was asked to prepare a concept for part of the event, for which the theme is 'The Idea City'. The theme is a good one because it immediately raises questions about the quality of life contained in such a static, well-known picture. I invited Bruce McLean and Peter Gabriel to join the search for a concept. In March we visited Valencia and looked at a number of places as possible locations. Three sites caught our attention, and on our return we made a book as a means of exploring them further. We were excited by an old palace that would soon become a hotel, a street of 'gaps' created by old buildings either falling down or being taken down for safety reasons, and a disused department store.

We noticed that a 'proper' form of life existed in the city. For example, the market place is extraordinary, with a variety of good quality food that we in the UK cannot imagine. Life there is lived with a passion and a pace designed for people – not an idea of a life imposed by modern day practice. We proposed an urban villa for the hotel site, a sound track or urban opera for the street and a department store – *departemento* – for the department store. The latter is the project we are taking on.

Shopping is a part of life, a leisure activity as well as a necessity. People are not born to shop, but they need to shop to live. Shopping should be a delightful experience that contributes to the quality of an urban existence. The reactivation of the department store will also regenerate the passage between two important streets in the medieval heart of the city. The original shop represented a short cut from one street to the other. This route has been denied to the public

for a long time and our concept includes the idea of the space as being a three-dimensional public space. For this reason it is necessary to adapt the building by taking out all the doors and windows as well as the roof over the atrium. A public space must, by definition, be able to feel the elements. An enclosed space, even though it might be public, is perceived as a building, as opposed to a place. By dematerialising the building we create public ownership. A true ideal.

The new public space will then undergo a further transformation by making it into a new department store. New departments of proper behaviour will be inserted into the public space. For example, there will be the departments of flower arranging, smoking, drinking, clothes, music and dancing, among others. The space will contain soft furnishing as well as the department of department. Each of the installations will involve an artist and/or an artisan. The whole is a celebration of bringing together of artists, artisans and those who make an art out of serving. The relationship between these categories is at the heart of the quality of life, and yet in so many cities there is a separation enforced between these titles that are the essence of life. The whole *departemento* will be a performance work lasting three months. We wish to celebrate the importance of the artisan and make a stronger relationship between those who serve us. Every job is a 'proper' job.

The 20th century has seen a huge rift appear between so-called 'fine art' and common skills. The *departemento* is an expression of a reunification of the artist with society and 'normal' life. The real gallery is the street. It cannot exist within the tea strainer of our institutionalised museums. The work is both enjoyable, accessible and useful.

WA, from seat 4A, flight BA 697 from Vienna

'People need to shop to live. Shopping should be a delightful experience that contributes to the quality of an urban existence'

people

There you are, ambling north across Waterloo Bridge watching the left-hand side of Tower 42 (the former NatWest Tower) way off in the distance and keeping an eye on St Paul's Cathedral, some way to the left.

It's not actually you but a steadicam operator doing the walking, for this is the crucial Hayes Davidson's movie visualisation for the recent Heron Tower inquiry. By the time you hit the corner of Somerset House and the obscuring foliage of the Embankment trees, the Heron Tower has detached itself by the merest sliver of light from Tower 42, St Paul's dome is more or less the same distance away on the left and you are already grinning to yourself at dear old English Heritage's miscalculation.

It had claimed that the view of the cathedral dome from Waterloo Bridge is sacrosanct. But, you have just discovered, that is just as true *with* the Heron tower in place. This telling moving image is the work of Alan Davidson's company, Hayes Davidson. Already the best three-dimensional architectural visualiser in the business and, come to think of it, anywhere in the world, Davidson's company has claimed a new high ground. It is the new territory of verifiably *accurate* representations of both buildings and, as at the Heron inquiry, their environments.

Everyone at the inquiry was horrified at the amount of time spent on trying, unsuccessfully, to take apart the Hayes Davidson visualisation methodology, which is based on mainline surveying techniques. Davidson is now arguing for a code of practice to minimise this kind of process in planning inquiries: 'I think the most professional thing we could do is to make both sides comfortable with the methodology – and get on with the serious debate,' he says.

On the whole, he is pitted against the conservation lobby, mostly, he says, 'because our clients are people who want to build. But we do talk to the conservation lobby, or we try to, as much as with developers.' And he is currently meeting with English Heritage on the agreed methodology issue. Davidson's soft Aberdonian burr and courteously diffident, boyish, slightly self-deprecating manner all briefly lull you into forgetting that a few millimetres under the surface is a steely persistence and a preoccupation with knowing exactly what is going on. He is occasionally accused of being overly secretive. In his business,

Alan Davidson's fame grew with his evidence to the Heron Tower inquiry. There, his ground-breaking visualisation methods stood up to fierce scrutiny – now he'd like the profession to be more receptive to his innovations
by sutherland Iyall. photograph by david cowlard

perfect vision



confidentiality can be a critical issue. But it is true that he gives away little about himself.

It's not always appreciated, for example, that he is a registered architect. He read architecture at Edinburgh University first, recalls one of his contemporaries, as a civil engineer, then as a fine artist, before he settled into architecture. He was that rare thing, a bright Scot among the mainly English students at Edinburgh University. He was computer-literate, already marked for great things. And he drew like a dream.

At the beginning of the 1980s he took a double year out to work with Stuart Huggett's Fiji practice, Architects Pacific, before returning to complete his MA. 'I learned so

much,' Davidson says. 'I did a lot of tropical swim bars and fire-walking arenas and became a dab hand at thatch details.' The work might have been conventional, but Stuart Huggett had a vision. 'He had bought four or five early pre-Mac Apple computers and the second time I was there he had bought the first Macs with MacPaint and a spreadsheet. I had been an adolescent Sinclair ZX81 programmer and in Fiji it was natural for me to get into using spreadsheets for analysing architectural problems.' Back in the UK Davidson worked for ORMS and was inspired by the leading-edge Mac architectural nexus populated by people such as by Andrew Herron and Ben Banham.

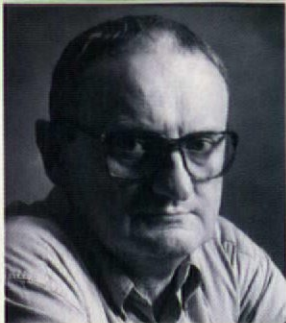
Davidson says: 'I wasn't part of their circle, but I was fascinated with what they were doing. They were so passionate about the Mac. At that time the big advantage the Mac had was that it had Photoshop and Electric Image. Here was visionary software on a visionary machine.'

Davidson moved to the Richard Rogers office but scarcely two years after coming to London he set up Hayes Davidson, in 1989. Within a couple of years his team was winning awards – the CICA had to enlist Davidson as a judge because, embarrassingly, he had won its computer graphics award for the previous three years and looked like doing so forever more. By then the *de rigueur* three-dimensional visualiser for the British architectural illuminati, he moved his company, numbering around 30 staff, in under the high roof of what had been Peter Gabriel's music studio at the back of Paddington Tube station.

Davidson may have come into visualisation because of an enthrallment with what the hardware and software could do. But the reason for his excellence in the field is because he deploys the eye of an artist, rather than that of an architectural renderer or watercolourist. He worries about how car tail lights can best be reflected on wet tarmac, how the shadows of the open door on a third floor will help to illuminate the depth of the space behind the windows, how the reflections of adjacent buildings help to model the irregular profile of a building's skin. Applied to computer imaging, this has been pioneering stuff. But his architectural background means there are more dimensions than even verifiable visualisation. One of these is his eCity, a three-dimensional digital model of London. It's not the only one. But what Davidson does with it is probably unique. It is based on a very complex database/spreadsheet which enables him to run what-if analyses of the city based on a wide range of criteria, including price per square foot, area, height, rateable value and a lot more. You suddenly realise how utterly primitive is conventional planning. With eCity you can see immediately what the consequence of a building or planning proposition is.

Davidson says: 'All this other stuff we do is subsidised by our broader work. It's a shame there isn't a client for it.'

Maybe it says something about our planners that there isn't.



martin pawley

The curse of the in-trays and a treasure trove of 'useless' trivia

Nowadays, when every architectural magazine that is not about suspended glass facades is about the keyworker housing problem, it is time to strike out in a different direction entirely.

My starter for 10 this week is in-trays, of which I have five, plus one massive slush pile that is bigger than than all the in-trays put together.

The first in-tray is called 'Countryside'. This was originally intended to hold cuttings from newspapers about the evils of building in the countryside. But on examining it now I find that on top of the heap is a story about Prince Charles agreeing with farmers that their outlook is grim, followed by another story in which he tells the owners of pubs how to turn them into 'village hubs' instead of more houses. The next story is about farmers in Hampshire and Wiltshire growing poppies to make morphine, and the next about how agricultural shows are subtly turning themselves into 'countryside' shows.

Finally, about an inch down the heap, comes a piece predicting a government crackdown on local councils who won't use empty offices and wastelands as sites for housing instead of green fields. After that it is back to HRH, with 'My vision for rural renewal', followed by 'Prescott opens the way to 900,000 homes'. Then comes a rant about uncontrolled litter in National Parks, followed by a gloomy 'Farming exodus now running at 450 a week', and then a solid wodge of articles on foot-and-mouth, ending with a final vintage item from 1996, 'Gummer urged to fight urban sprawl'.

The next tray is called 'Transport', but a single glance shows not only that it is full to the gunwales, but that its contents have become gravely polluted with other subjects. For example, the top item is a months old expose of the 'Dot-com myth'. Underneath is a piece about a smart car 'that can

keep your life running smoothly.' Next up is a piece about insurance companies backing out after 11 September followed by a scrawled note, 'Joke about Caxton, great invention, pity nobody can read', folded inside an impassioned piece demanding more London skyscrapers, not less. Then comes 'Glut of empty offices fuels fears', and 'Big banks exposed by threat to aviation industry'.

Still nothing directly about transport but after 'Terminal 5 not the answer' comes at last 'King of Jordan trapped in M4 tail-back', and 'School run a deadly menace', after which the contents flop back to 'Wembley costs soar to £660 million', 'Black Tuesday on tube as six lines close down', and 'Police abandon cities to anarchy'.

Glossing over bulging trays labelled 'Projects' and 'Technology', I reluctantly decide not to reveal their contents, switching instead to the enigmatically titled tray 'Others'.

Here, at last, I shall no doubt find the treasure trove of useful information that has so far eluded me. On top is an item recording the resignation of the head of the London Tourist Board following a drop of 16 per cent in overseas visitors.

Next comes 'Mortgage lending jumps £4.2 billion', and then 'Stolen art in France ended up in canal', followed by 'Green is new red for traffic lights', 'Wall Street duped by fake Enron dealing room', and 'Pigeon loses by a beak in race with top dog'.

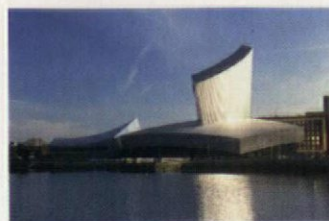
Further down I find 'Fury at mail-by-milkmen plan', 'Come and abstain plea to voters', 'Hong Kong to kill 1.2 million chickens', and 'Black market jumps to 13 per cent of economy'.

Then, right at the bottom of the heap, is the real nitty-gritty. 'E-mails deliver financial disaster to US postal service', and, at last, the oldest of the old, a 1971 original, 'Living with the decimal revolution!'

'A single glance shows not only that it is full to the gunwales, but that its contents have become gravely polluted with other subjects'

a life in architecture

jim forrester



Jim Forrester, director designate of the Imperial War Museum North, says he loves many buildings around the world, but that he only has eyes for his new workplace, which opens to the public tomorrow (5 July). It was quite a coup for Trafford Metropolitan Borough Council to secure Daniel Libeskind's first UK project (at least the first to be built), which faces Michael Wilford's Lowry across the Manchester Ship Canal.

The story goes that Libeskind brought a child's globe to his first client meeting and smashed it on the table, stating that war shatters lives and that his building would reflect this. Three stark, angry shards represent the three zones of conflict – land, air and water. 'It's such an extraordinary building as a concept, but it's also so well executed,' says Forrester. 'It's essentially a sculpture and also functional – he hasn't shied away from that challenge. I love the spaces within it, that there is a certain disruption to the eye and an abstraction in every room.'

It may be the first time an architect has so thoroughly married form with content in a museum building – its restless, uncomfortable spaces are meant to make visitors consider the effects of war and conflict. 'We are not pro-war or celebrating war, we are saying look at what war does to us,' says Forrester. 'It may have been broken into pieces, but you can put it back together and it can still be beautiful and sculptural. There is always a faction of humanity that wants to destroy our world but we can still cherish it. This is what this building is saying.'

Deborah Mulhearn

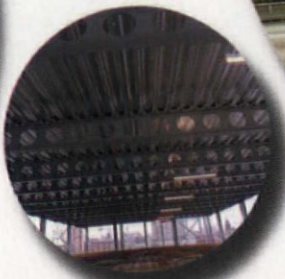
One Beam,



Many Uses.



enquiry 4 on card
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Photography by: Kludo Studios, Leeds

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Fruits of the forest

Edward Cullinan Architects' RIBA Award-winning Downland Gridshell triumphs by combining the use of modern timber technology with energy efficiency and sustainability

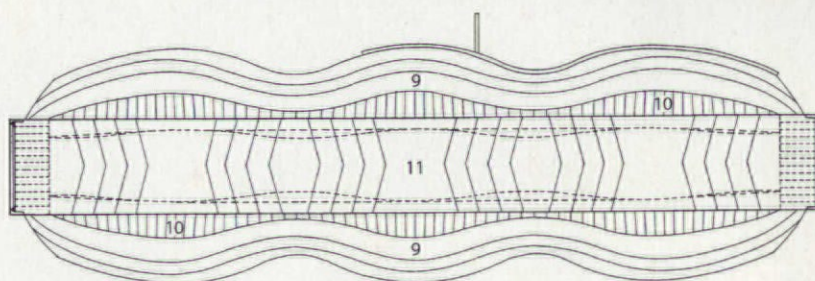




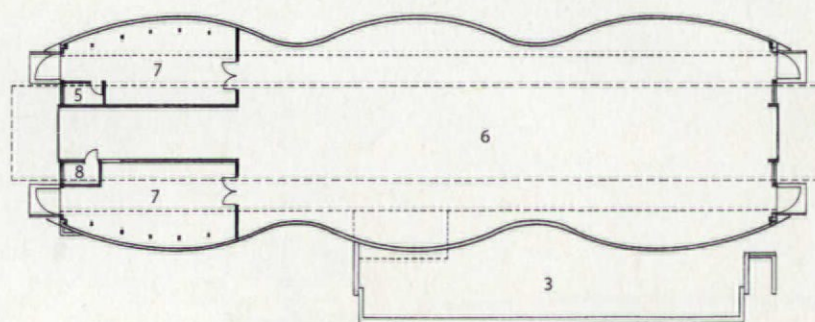
Edward Cullinan describes The Downland Gridshell at the Weald & Downland Open Air Museum as 'far beyond Hi-Tech, in that it prophesies a new and ecological use of materials in the light of the knowledge gained during the last, high-technology century'. The recently opened building, already a RIBA Award winner and surely a strong candidate for this year's Stirling Prize, could be seen as a 'return to the roots' for Edward Cullinan Architects (ECA), the practice which Ted Cullinan founded in 1965. For Cullinan, however, 'it's not a matter of returning to roots – we never left them behind'.

The Gridshell, designed with engineer Buro Happold, is a highly innovative, frankly sculptural and thoroughly 'organic' structure that firmly locates ECA where it has always belonged – in the progressive regionalist camp of, for example, Murcutt, Sverre Fehn and the Patkaus, part of a romantic modern tradition which reacted against the certainties of the International Style. Cullinan's 'baggage', as he calls it, includes the work of Lubetkin and Lasdun, the Greene brothers and Wright, Rietveld and Corbusier, as well as the English Arts and Crafts sensibility in which he was nurtured as a child.

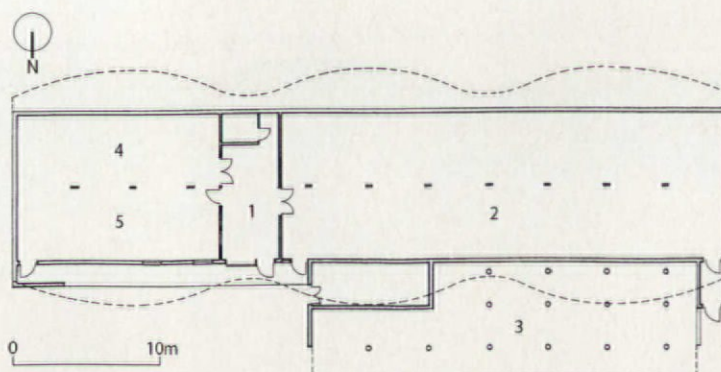
It would be all too easy, though misguided, to interpret the Gridshell as no more than a super-barn, a conscious reinterpretation of a traditional English building type using up-to-date materials and design technologies. As the museum's director, Richard Harris, points out: 'The most obvious solution to our space requirements would have been to put up a straightforward barn – but that would have been a cop-out'. The Weald & Downland Open Air Museum was launched in 1971 on a sublime site at Singleton, near Chichester, provided by that extraordinary figure, Edward James of West Dean. Since then it has rescued and re-erect-



roof plan



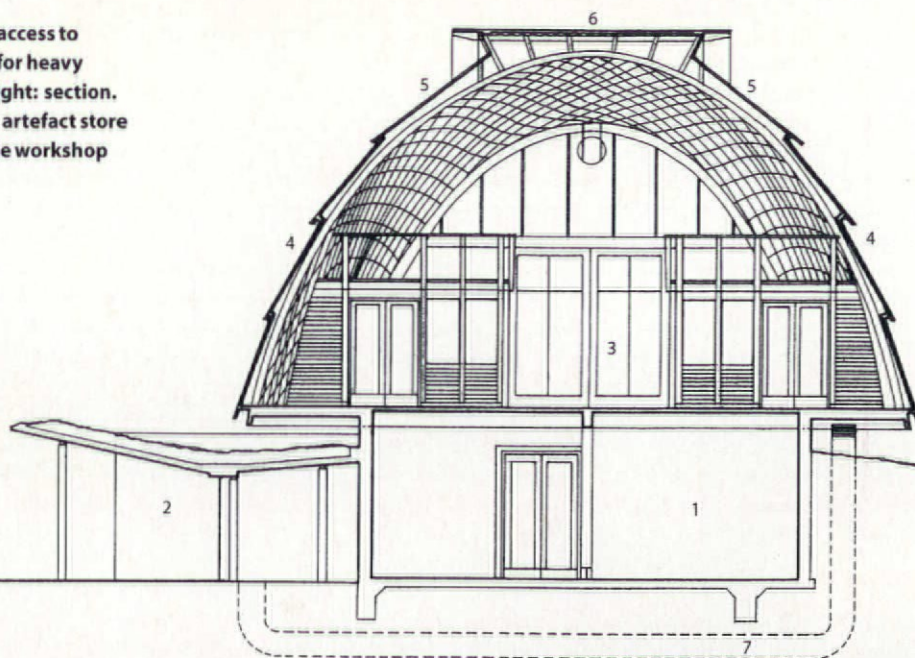
workshop plan



artefact store plan

- | | | | |
|------------------|--------------------|---------------------|-----------------------------|
| KEY | 3 timber store | 6 workshop | 9 timber boarding |
| 1 reception | 4 exhibition space | 7 enclosed workshop | 10 polycarbonate clerestory |
| 2 artefact store | 5 office | 8 WC | 11 ribbon roof |

Opposite: access to workshop for heavy timbers. Right: section. Below: the artefact store beneath the workshop



- KEY**
- 1 artefact store
 - 2 timber store
 - 3 workshop
 - 4 timber boarding
 - 5 clerestories
 - 6 ribbon roof
 - 7 earth tubes
 - 8 chalk bank



ed a series of threatened vernacular buildings, mostly timber-framed, ranging in date from the 15th to the 19th century, from a wide area of the south-east. The museum is much more than a popular (140,000 visitors annually) tourist attraction. It is a centre for recording, research and conservation with a strong interest in fostering practical craft skills. The traditional vision of architectural history is stylistic – the Pevsner tradition of analysing facade details as part of a line of progress from Romanesque to the Modern Movement. At Singleton, the emphasis is on structure, technology and materials, so that history appears more as a continuum – the Gridshell is clearly, on one level, a response to an age-old 'functional' tradition based on the use of readily-available, locally-sourced materials.

The practical brief presented to ECA when it was selected for the project in 1995 was quite loosely defined, but specified two spaces/buildings – a climate-controlled store for its huge collection of historic artefacts (everything from Georgian planes to Victorian door handles) and a large, lofty working space in which timber frames could be conserved and reconstructed. The former would have limited public access, but the latter would form an important element in the visitor's experience of the museum and would be fully accessible. Low energy/sustainability issues should be to the fore in the scheme. The brief was developed with the help of a grant from the then newly established Heritage Lottery Fund (HLF) which subsequently provided two-thirds of the £1.8 million budget for the project. Construction work began in May 2000.

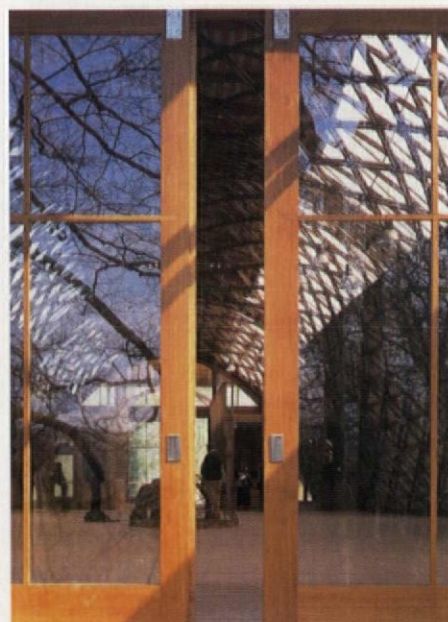
The siting of the new development was critical. For Steve Johnson, ECA's project architect, 'this wasn't to be an icon. We saw it as an industrial building, though I think the HLF – this was their first new-build project – wanted a landmark.' The site was away from the main groups of reconstructed buildings, on sloping ground, hard against a dense copse, close to the main entrance and parking area. The topography suggested a single two-storey building made sense, but the section is also the classic Cullinan juxtaposition of structure and superstructure, solid and lightweight, 'stones and sticks'. It first emerged nearly 40 years ago in Ted Cullinan's own self-built house in Camden Mews.

In this instance, the base structure housing the artefact store and a small display area is a heavy concrete structure dug into the chalk hillside, so energy efficient that a simple domestic boiler serves to maintain stable temperatures within. The heavy timber roof (locally grown ash) forms the floor for the Gridshell itself (now known as the Jerwood Gridshell Space).

Buro Happold was brought into the project at an early stage (as was project manager Boxall Sayer). The late Ted Happold had worked with Frei Otto on the timber gridshell at the Mannheim Garden Festival back

in the 1970s. Built of softwood, it was constructed on the ground and raised up, using construction techniques that would be outlawed by current health and safety regulations. At its most basic, The Downland Gridshell would be a functional space enclosed against the elements with good natural light for those working there. 'You can see it as an engineer's building or a carpenter's building', says Steve Johnson. 'It's both – but it's also architecture'. Indeed, it is the luminous beauty of the Gridshell which strikes you first – then you want to know how it was achieved.

ECA's aim was to build something which was 'of the soil', using local materials as far as possible. But getting the green oak, strong but supple, which the structural agenda for the frame demanded, from within Britain meant bringing it long distances by road – the south-east lacked adequate supplies. 'It was "greener" to bring it from Normandy,'



A flight of stairs leads to this workshop entrance. In the distance, to left and right, are the enclosed workshops

says Johnson, 'where there are large, renewable plantations.' When the reconstructed buildings at Singleton were first built, Kent and Sussex were rich in woodlands and timber could be used freely. As a result, the woodlands largely vanished. Timber may be a renewable material, but architects have a responsibility to design with economy in mind. One of the proudest boasts of the Gridshell team is that 'this was virtually a skip-free site – nothing was wasted'.

The 48m long Gridshell is made of green oak laths, 36m long and 35 x 50mm in section. Lightweight timber frames were nothing new for ECA – it had used them in its 1990s housing at Hooke Park (where ABK had already blazed the trail with its timber workshops). But both these projects were relatively straightforward, producing cheap and highly practical, if quite rough-hewn, enclosures. The elegant precision of the Gridshell has, in contrast, been aptly

compared with the handbuilt frames of Second World War aircraft or classic sports cars. As Ted Cullinan points out, Singleton is close to the sea and there is a local boat-building tradition – 'you could compare the building to a huge boat', he says. The boat-like structure produces an interior totally free of columns and other obstructions.

With Happold and other professionals already on board, the choice of contractors was clearly significant. Fortunately, locally based E A Chiverton could offer the skill and commitment required of the main contractor, while The Green Oak Carpentry Company was commissioned not only to construct the Gridshell but also to make an input to the later stages of the design process. To ensure stability, the structure is not a simple tunnel, like a huge garden cloche, but a complex arrangement of three humps which strike off from the curved floor. Computer modelling at Buro Happold was integral to the development of the designs, ensuring maximum economy of means, but it was a highly practical mind at Green Oak that devised the (now patented) pinless connecting device for the laths that provides both stability and the necessary degree of movement in the frame. The shell was constructed, top-down, using an internal scaffold – the Gridshell may be, in Ted Cullinan's words, 'a hippy building', but site conditions acceptable in 1960s California would not wash in 21st century Britain.

The exterior of the building uses locally grown red cedar planks rather than the fabric coverings more commonly used in structures of this kind. 'We looked at fabric and metal,' Steve Johnson recalls, 'but there wasn't really a choice – timber seemed true to the spirit of the project and Ted was adamant from the start that we should use it'. The aluminium foil inner lining, covering a highly efficient but slimline (25mm) layer of insulation, enhances the luminosity of the interior. The clerestory glazing is of polycarbonate. ETFE was considered, but glass ruled out as incompatible with the degree of movement in the structure.

In essence, the Gridshell is a very unprecious working building (though it is equally a great place for a party – a consideration for an institution which always needs more money). The simple enclosed workshops inserted into the space and the timber stores clamped on to the interior reinforce its essentially practical nature. But it is also a building of memorable beauty, which genuinely draws on tradition and modernity to make something timeless – there is nothing hairshirt about this vision of sustainability. ECA stresses that the Gridshell was a collaborative project, the result of teamwork, and pays tribute to the late Chris Zeuner, museum director until last year, for backing its radical proposals. But it has generated innovative and inventive architecture of international quality, confirming the dynamism of the Cullinan office and inviting a reassessment of four decades of practice.



Soon to be home to the repair of timber frames, the first time the process has been open to visitors

Engineering the Downland Gridshell

The environmental design of the building is simple but effective. The lower level, containing the archive store, is dug into the chalk hillside. Its retaining walls are insulated on their outer faces, creating a temperature-stabilising earth shelter. Fresh air is brought into the building through 600mm-diameter concrete pipes laid under the ground slab. In this way, the building benefits from passive cooling in the summer, or warming in the winter, from the constant temperature of the ground at an effective depth of 5m below surface level. The thermal mass of the walls is used in moderating the environment for the archive store. A small, efficient gas-fired boiler provides underfloor heating.

In winter, cold fresh air is warmed in transit under the building; while underfloor heating warms the archive store. There is heat exchange between hot extract air and inlet air; heat lost in rising from the archive store warms the floor of the workshop above. There is a potential top-up in the workshop from three roof-mounted warm air heaters.

On a summer night, warm outside air is cooled in its passage under the building, moderating the temperature of the fresh air input; heat is lost from the walls and removed from the building by circulating the fresh air.

On a summer day, warm outside air is cooled in its passage under the building; heat from the archive store is lost into the night-cooled walls. The workshop ventilates from end to end, as with traditional workshops, by opening the large doors.

The gridshell roof

The roof of the archive store forms the floor of the workshop. It is constructed with glued laminated beams and solid timber flooring. It cantilevers over the reinforced masonry walls of the archive store, providing the support to the gridshell.

The Downland Gridshell is the first double-layer timber gridshell in the UK and only the fifth worldwide. This roof is a doubly curved shell made from 50mm wide x 35mm thick oak laths in four layers. It is a double hourglass shape, 48m long, 16m across at its widest points and 11m wide at the waists. The internal height varies between 7m and 10m. The lath spacing is 500mm in areas of high load, increasing to 1,000mm over substantial areas of the shell. Diagonal bracing of longitudinal and transverse timber rib-laths, fixed to the nodes once the shell is formed, provide shear resistance and lock-in the shape. The bracing also supports the wall and roof cladding.

Shear blocks are screwed into place between the layers of the shell. In this way, parallel lines of laths act compositely; the size and position of the shear blocks is arranged to suit the forces derived from the analysis. Only at this stage could the temporary props be completely removed.

The node connector consists of three plates, the centre one having pins to locate the grid geometry of the middle lath-layers and the outer plates loosely holding the outer laths in place, allowing sliding during the formation of the shell. Two of the four bolts locating the plates are used to connect the diagonal bracing bolted in place to provide shear stiffness after forming the shell. This specially-developed connector has been patented.

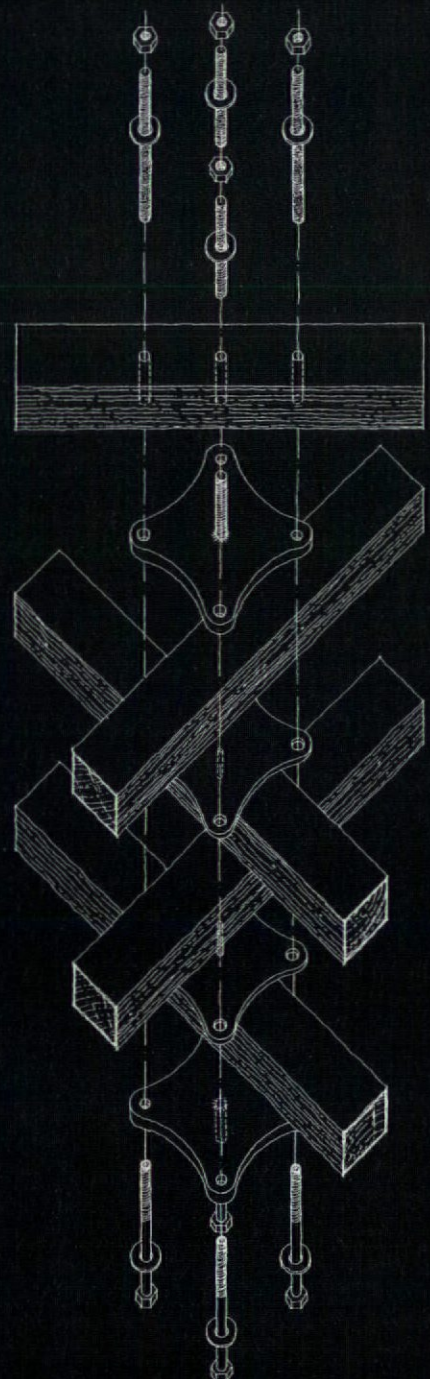
Computer and physical modelling were carried out side by side throughout the design development. The difficulty of this process may explain why such an apparently attractive method of construction has been rarely used since the success of the Mannheim Gridshell in 1975. The geometry of a physical model was used to determine the boundary conditions for the computer form-finding model. It also served as a presentation model, which was of great use in persuading the funding bodies of the viability of the scheme.

Oak was selected because it is naturally durable and it is possible to omit timber treatment, because oak is the most common material used in the museum's collection of buildings and because oak is readily available from sustainable sources. Tests showed that while oak is stiffer than the other timbers tested, so needing a larger force to achieve a given curvature, it had a considerably higher bending strength, achieving a smaller bending radius prior to failure.

To overcome the problem of defects in the 35 x 50 mm oak laths, defects were cut out and the remaining short lengths of this improved graded timber were reconnected into 6m lengths using finger joints. These joints can be produced very quickly and cheaply with minimum waste. The 6m lengths were then joined on site using traditional scarf joints to produce continuous laths up to 37m long for the lattice laths and 50m long for the longitudinal rib laths. Of the 10,000 finger-joints in the structure there were only some 145 breakages during shell-forming. Repairs consisted of introducing solid blocking between laths at the point of failure.

Instead of laying out the mat at or near the floor level, as had been done on previous gridshells, a birdcage of PERI-UP scaffolding with a plan area the size of the layout mat was built at a height of 7m above the workshop floor. By laying out the mat at the height of the valleys, the lattice could be lowered into position, providing a safe access platform at all times and harnessing gravity in achieving the desired shape.

Richard Harris, senior associate, Buro Happold



The carpenter's view

The Green Oak Carpentry Company (GOCC) was invited to join the engineers and architects as carpentry design consultant 10 months before work began on site in June 2000. It was, in our view, a far-sighted decision that was to offer significant advantages to the project.

GOCC played an active role in designing some of the timber-to-timber and timber-to-steel connections with the rest of the team. We were able to bring an in-depth understanding of the material and wide-ranging experience to the task. I think it likely that, in time, carpentry specialists will do much more of this sort of work. A key advantage will be to reduce the cost of timber engineering, which can be prohibitively expensive.

From the outset we were keen to establish a good understanding of the diverse properties of different timbers available to us for use in the building. Scottish-grown whitewood was used in the deck as an inexpensive, but non-durable option. Oak was used green for the gridshell where suppleness was important, but dry for lamination into the round-section catenary arches that form the awnings of the building. Fir was used for the ribbon roof as it combined durability and suitability for small section material in the long lengths required; and locally grown Red Cedar for the cladding as it combined stability and durability.

An important innovation in the Downland building was to construct the gridshell using green oak, freshly sawn with a moisture content of more than 40 per cent. This approach was possible because of advances in adhesives tolerant of high moisture levels. The green timber's flexibility was key to the success of the project. Nearly 3,000 fractures had occurred in the Mannheim gridshell 25 years earlier. Yet the Downland Gridshell had much tighter curvature – 6m radius in places – hence the concern. Few fractures occurred, though the Downland Gridshell represents the minimum curvature possible for this building.

Timber grading was another crucial issue that required a flexible approach. It was very important that the grading rules for supply of the timber were written with timber type, source and the end use in mind. Too often they are applied without sufficient thought and simply add cost needlessly. In the end we wrote our own grading rules, applicable to all the diverse timber applications throughout the building, and agreed them with the rest of the team.

The construction industry's focus on the cheapest rather than best value has been gradually deskilling construction. This is now having a catastrophic effect on the level of carpentry expertise. Again the approach of the team was unusual – and, in the context of a Heritage Lottery Fund project, extraordinary. The carpentry team was appointed on the basis of best price, enthusiasm and expertise. We think the building speaks volumes for this approach to be more widely adopted.

Andrew Holloway,

The Green Oak Carpentry Company

Costs

Cost analysis based on the tender sum after negotiation

SUBSTRUCTURE

FOUNDATIONS/SLABS	£63.91/m²
RC35 foundations and 200mm bed	

SUPERSTRUCTURE

FRAME	£176.61/m²
Oak lath gridshell and oak framed end walls	

UPPER FLOORS	£132.78/m²
75mm timber structural decking covered with cork, plywood insulation and ash	

ROOF	£98.57/m²
Plywood ribbon roof covered with Roofcrete	

EXTERNAL WALLS	£182.23/m²
Rendered block cavity walls at lower level. Western red cedar cladding to sloping/curved walls of gridshell at upper level with polycarbonate sheet clerestory windows	

WINDOWS AND EXTERNAL DOORS	£34.59/m²
Oak windows and external doors.	

INTERNAL WALLS AND PARTITIONS	£20.40/m²
Generally timber stud covered with plasterboard or timber cladding	

INTERNAL DOORS	£29.07/m²
Oak – generally glazed	

INTERNAL FINISHES

WALL FINISHES	£21.63/m²
Fair faced blockwood or painted plasterboard	

FLOOR FINISHES	£10.20/m²
Supaflow screed to lower level	

CEILING FINISHES	£10.31/m²
Exposed timber	

FITTINGS AND FURNISHINGS

FURNITURE	£8.66/m²
Metal sliding racking at lower level	

SERVICES

SANITARY APPLIANCES	£1.13/m²
----------------------------	----------------------------

DISPOSAL INSTALLATIONS	£12.85/m²
PVCu wastes – aluminium rainwater goods	

SPACE HEATING/AIR TREATMENT/WATER	£54.38/m²
LPG gas-fired low-temperature hot water heating. Gas fired heaters to workshops. Domestic hot and cold water.	

ELECTRICAL SERVICES/COMMUNICATIONS	£50.89/m²
Lighting and power, comms	

BUILDERS' WORK IN CONNECTION	£6.52/m²
-------------------------------------	----------------------------

CREDITS

TENDER DATE	architect)
3 March 2000	STRUCTURAL ENGINEER
START ON SITE DATE	Buro Happold: Michael
5 June 2000	Dickson, Richard Harris,
CONTRACT DURATION	Chris Williams, James
18 months	Rowe, Oliver Kelly, Shane
GROSS EXTERNAL FLOOR AREA	Dagger
1,220m ²	SYSTEMS ENGINEER
FORM OF CONTRACT	Buro Happold
AND/OR PROCUREMENT	QUANTITY SURVEYOR/
JCT IFC 1998/selected	PLANNING SUPERVISOR/
competition	ACCESS CONSULTANT
TOTAL COST	Boxall Sayer
£1,337,931	CARPENTERS
CLIENT	The Green Oak Carpentry
Weald & Downland	Company: Andrew
Open Air Museum	Holloway, Stephen
ARCHITECT	Corbett, Jon Billinghurst,
Edward Cullinan	Julian Anderson, Guy
Architects: Edward	Bagshaw. Subcontract
Cullinan, Robin	carpenters - Tim Taylor,
Nicholson, John Romer,	Steve Sula, Jan Wikes,
Steve Johnson (project	Nick Taylor, Warren
	Clifford, Darren Cocking,

PRELIMINARIES AND INSURANCES

PRELIMINARIES, OVERHEADS AND PROFIT	£154.94/m²
Includes contingency sum	

EXTERNAL WORKS

LANDSCAPING, ANCILLARY BUILDINGS	£26.99/m²
Includes drainage	

Cost summary

	Cost per m ² (£)	Percentage of total
SUBSTRUCTURE	63.91	5.83
SUPERSTRUCTURE		
Frame	176.61	16.10
Upper floors	132.78	12.11
Roof	98.57	8.99
External walls	182.23	16.62
Windows and external doors	34.59	3.15
Internal walls and partitions	20.40	1.86
Internal doors	29.07	2.65
Group element total	674.25	61.48
INTERNAL FINISHES		
Wall finishes	21.63	1.97
Floor finishes	10.20	0.93
Ceiling finishes	10.31	0.94
Group element total	42.14	3.84
FITTINGS AND FURNISHINGS	8.66	0.79
SERVICES		
Sanitary appliances	1.13	0.10
Disposal installations	12.85	1.17
Space heating, air treatment, water	54.38	4.96
Electrical services, communications	50.89	4.64
Builders' work in connection	6.52	0.59
Group element total	125.77	11.47
LANDSCAPE, ANCILLARY BUILDINGS	26.99	2.47
PRELIMINARIES AND INSURANCE	154.94	14.12
TOTAL	1096.66	100.00

Costs supplied by Paul Comins of Boxall Sayer

WEBLINKS

Weald & Downland Open Air Museum
www.wealddown.co.uk
 Edward Cullinan Architects
www.edwardcullinanarchitects.com
 Buro Happold
www.burohappold.com
 Boxall Sayer
www.boxallsayer.co.uk
 The Green Oak Carpentry Company
www.greenoakcarpentry.co.uk
 E A Chiverton
www.eachiverton.co.uk

Timber Services; heavy softwood decking BSW; hardwood decking West Dean Estate; cork floor membrane Siesta Cork Tile Co; timber glues Collano Ebnother AG; underground insulation Pittsburg Corning UK; underground waterproofing Grace Construction Products; gridshell insulation Actis; gridshell membranes British Sisalkraft; gridshell clerestories & façade glazing Amari Plastics; gridshell ribbon roof covering Roofcrete; structural blockwork Thakeham Blocks; excavations/groundworks subcontractor Oakwood Groundworks

working details

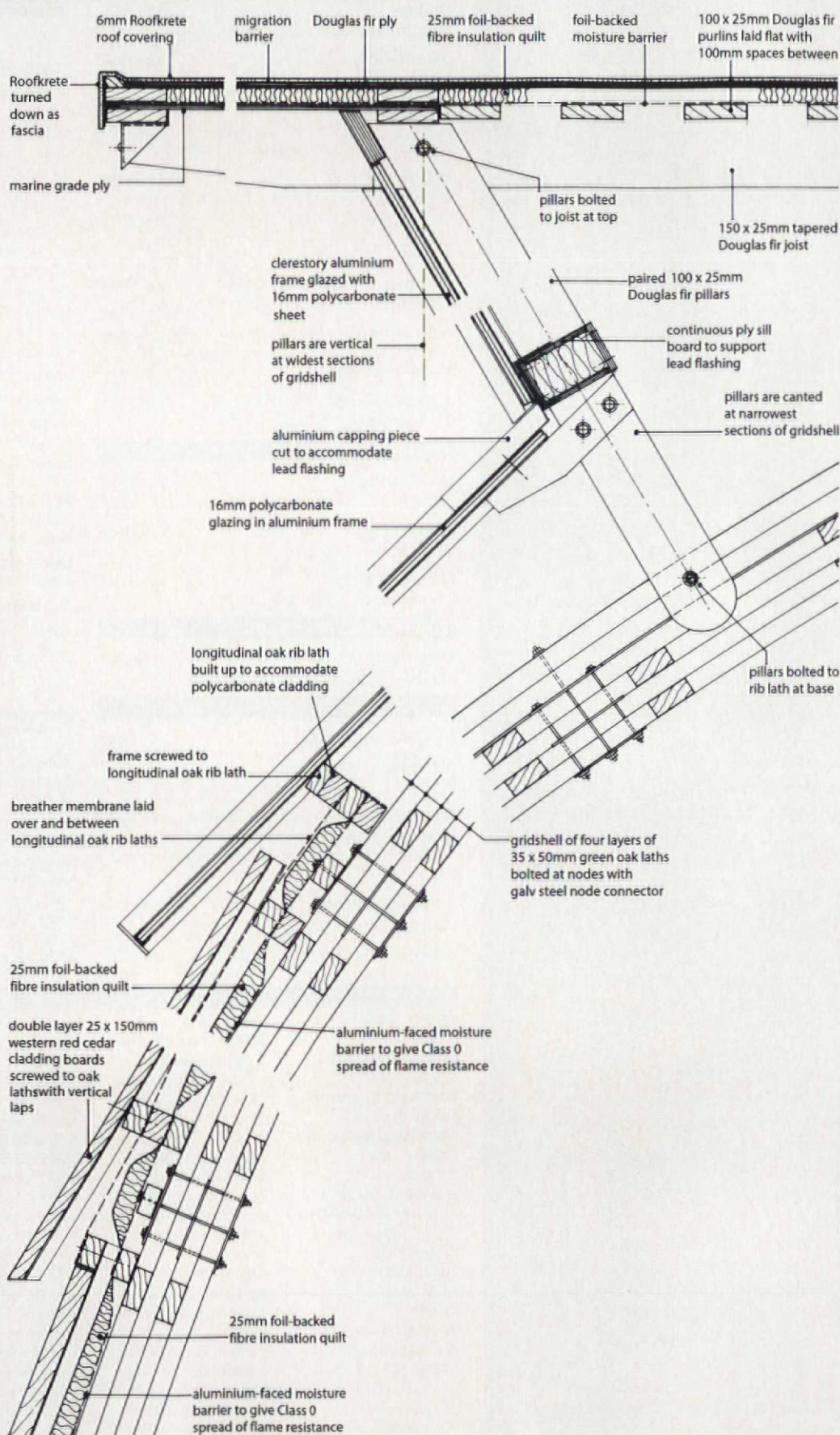
The museum enclosure, 58m long and 16m wide, is a series of undulating domes and valleys. It is formed of a gridshell of green oak laths, connected by galvanised steel nodes.

The lower levels of the shell are clad with vertical cedar boarding; the upper levels are clad with triple-wall polycarbonate sheet. A roof runs above the apex of the shell, propped on paired Douglas fir pillars, which are flanked by polycarbonate clerestories. It is flat in cross-section but follows the undulations of the shell.

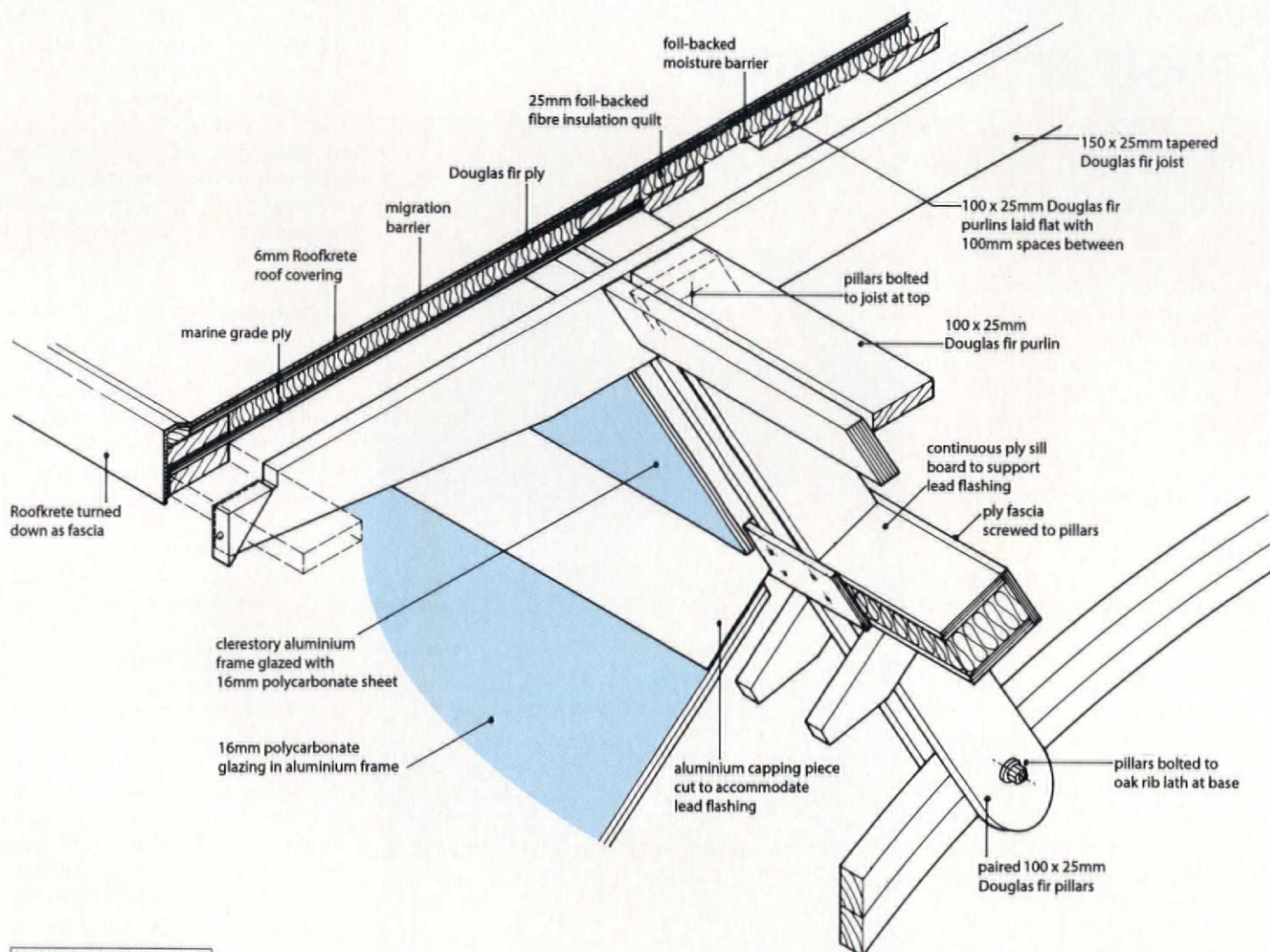
At their bases, the paired 75 x 100 x 25mm pillars are bolted to transverse oak rib laths which run over the gridshell at 700mm centres to brace it after assembly. To maintain the roof soffit and clerestory head at a consistent height yet accommodate the undulating shape of the gridshell, the pillar bases fan out and back as they run along the roof. They run from maximum inclination where the cross-section through the roof is narrowest, to vertical where the cross section through the roof is widest.

The paired pillars are bolted at their tops to a series of 150 x 25mm Douglas fir joists which oversail the clerestories, giving shelter to the structure below. The tops of the joists were notched to receive 100 x 25mm purlins laid flat with 100mm spaces in between. The purlins are covered with a succession of layers – moisture barrier, insulation, breather membrane and plywood. The final roof covering, Roofkrete, comprises four layers of steel mesh stapled to the ply deck and covered with a trowel-applied cement layer. The roof edges were formed by dressing the mesh up to stainless steel stop beads and rendering down to them.

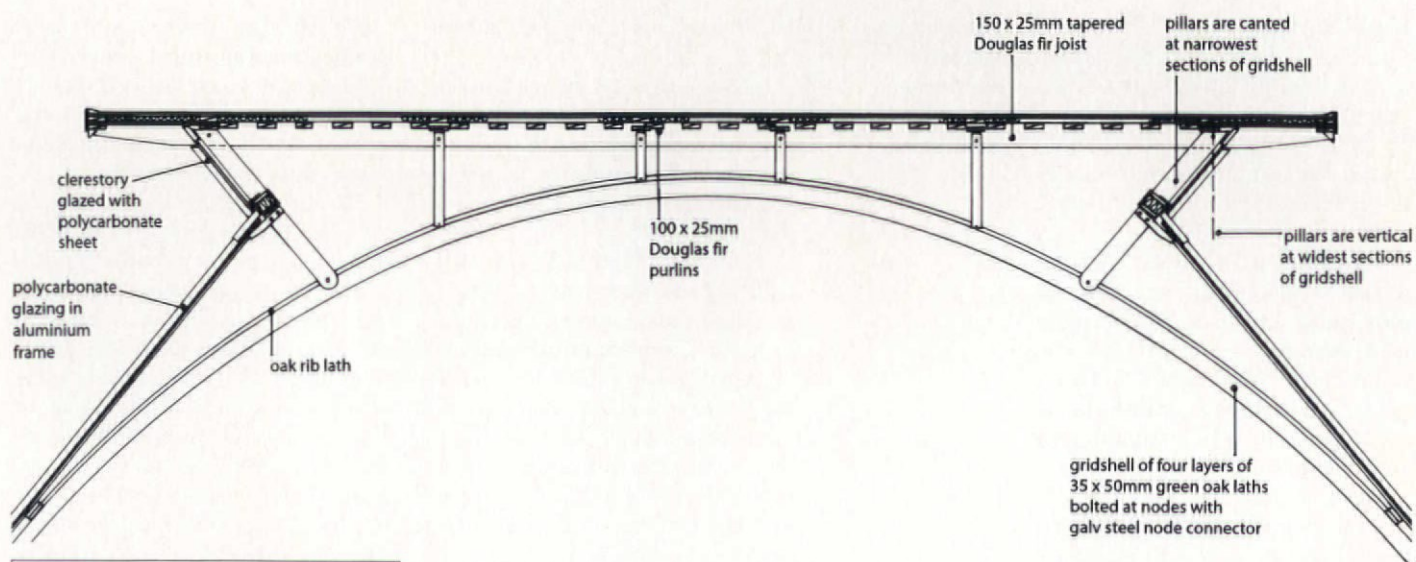
Susan Dawson



DETAIL SECTION THROUGH EAVES, CLERESTORY AND CLADDING



ISOMETRIC AT CLERESTORY



KEY SECTION THROUGH ROOF AND CLERESTORY

Construction futures

In our quarterly feature on trends in construction, E C Harris examines the changes in workload and prices

BY PAUL MOORE

Despite a degree of resilience, general nervousness in the money markets has been reflected, in part, in construction workload. Although new orders for the first quarter of 2002 were 18 per cent higher than the previous quarter, these figures were boosted by a 115 per cent increase in substantial orders for roads and water infrastructure.

Workload outlook

Most industry forecasters expect workload to continue to rise, with increases of 2.8 per cent in 2002 and a further rise of 2.5 per cent in 2003; the main drivers for growth will be the repair and maintenance sector and continued spending on infrastructure.

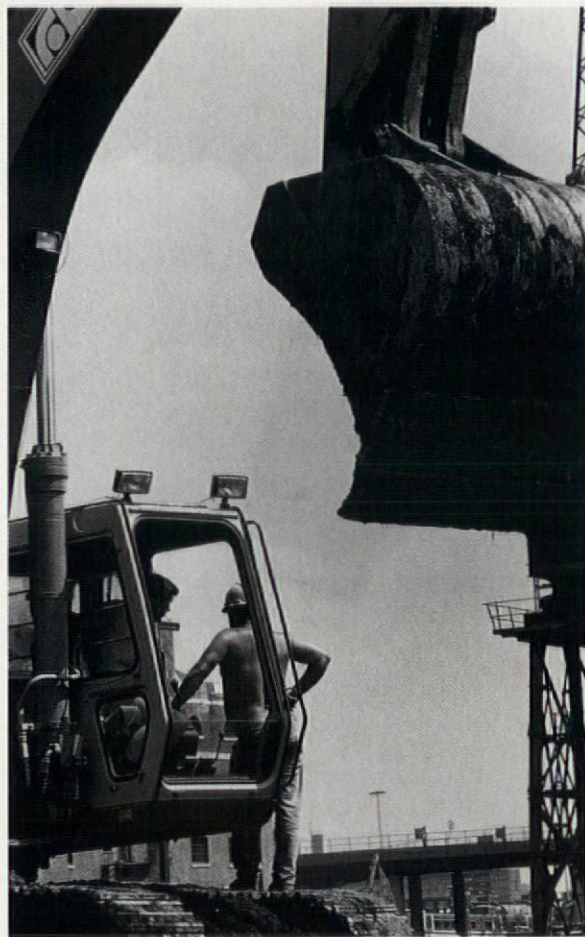
Tender prices for construction work are expected to reflect this continued rise in activity levels, although some contractors are nervous about longer-term workload. As a result, tender prices are forecast to rise by 2.8 per cent in the year to the second quarter of 2003 with a further three per cent increase in the following year. In London, it is forecast that tender prices will rise by 4.3 per cent next year and then by 3.8 per cent in the year to the second quarter of 2004.

Input costs

Contractors' input costs throughout the UK rose by 2.9 per cent in the year to March 2002, with labour rates up by seven per cent and materials costs 0.5 per cent higher, but with little movement in the past three months.

Variations in workload continue to lead to regional differences in the movement of costs. The largest increase in costs in the past year was in the North West region, up by 8.1 per cent over the year, mainly due to a 12.6 per cent hike in labour rates and a rise of 5.3 per cent in materials prices.

At the other end of the scale, costs barely moved in the South West, with labour rates up by five per cent, but a



Nice work if you can get it: constructors grab a piece of the action

fall of three per cent in materials prices.

London remains the most expensive region, 14 per cent above the national average, driven primarily by rates for skilled craftsmen, with some bricklayers now able to command up to £146 a day.

Continued high levels of workload in the South East are expected to see labour rates in the region continue to rise. Contractors on Heathrow's Terminal 5 have started a recruitment drive which is likely to put pressure on other schemes in the region. National Insurance contributions will probably add 0.5 per cent to construction costs across the board from April 2003.

The US government's decision to

impose steel embargoes in March this year has added to the problems of the oversupply of steel around the world and prices are likely to reflect this situation in the future. Prices for reinforcement and structural steelwork both fell in the past year and are now seven per cent and three per cent cheaper, respectively.

Civil engineering

Road building boosted new orders for infrastructure in the first quarter of 2002, 14 per cent up on the corresponding period for 2001; there is also clear evidence of increased activity in the water sector, with orders in the first quarter up by 57 per cent.

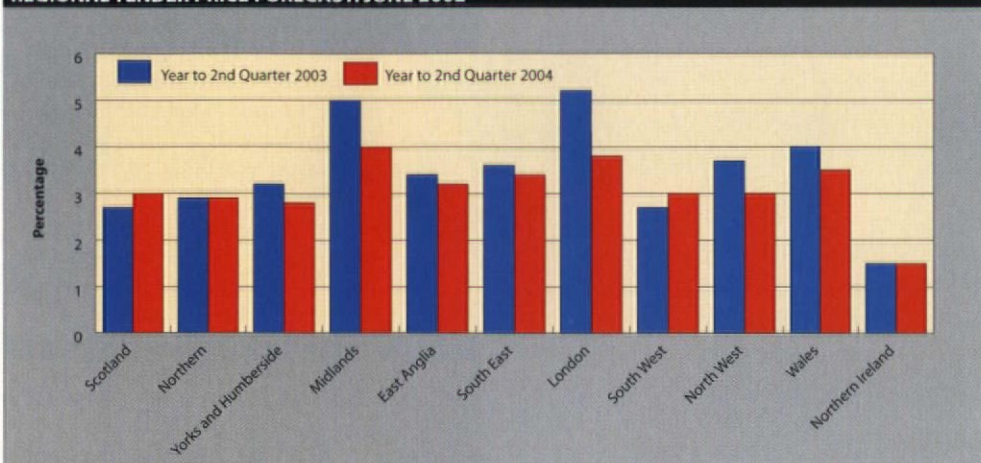
Construction activity

Against the general slowdown in the UK economy, activity in the construction industry appears to be holding up, although the private industrial and private commercial sectors have been hit by substantial falls in new orders. With confidence in British industry at a low ebb, it is no surprise that the erosion in new orders in the private industrial sector continued, with a fall of 27 per cent during the first quarter of the year, compared with 2001. New orders for offices fell substantially in the first quarter and only a rise in private education and the entertainment sectors saved the private commercial sector from falling more than 13 per cent during the same period.

Construction output during 2001 rose by four per cent compared with 2000 with the infrastructure sector leading the way with an increase of nine per cent year on year. Private commercial (up four per cent) and private repairs and maintenance (up 12 per cent) also showed strongly.

In the March Budget, chancellor Gordon Brown reiterated his plans for improvements to public services which should see further high levels of capital spending on health and education. Orders for health building during 2001 were already some 25 per cent higher than the average of the previous two years, while education new orders, on the same basis, rose by 130 per cent. There remains continued concern within the industry whether the various government departments will be able to deliver

REGIONAL TENDER PRICE FORECAST: JUNE 2002



on these investment plans.

Looking ahead, no growth is expected in the commercial offices sector during this year, primarily due to an easing in demand from tenants, and a fall of two per cent is forecast for 2003.

Tender prices

The continued rise of building tender prices was slowed by the reaction to world events in the fourth quarter of 2001 and there has been further retrenchment during the first quarter of this year. However, notwithstanding the slowdown during the first quarter, contractors generally appear optimistic.

As ever, there is no single view on what is happening within the industry and it would be a mistake to view it as a monolithic entity. The state of order books very much dictates the views of contractors of their own market; in some parts of the country, contractors are keen to secure work, while in other 'hot spots', tender invitations are being turned down due to commitments elsewhere.

Tenders for larger schemes seem to be more consistent; on the largest schemes, package procurement and partnering arrangements result in risk being shared and lower pricing levels generally. Contractors tendering for smaller jobs are a little more worried about the future and competitive prices are being found on some of these schemes.

There is a possibility that the shortfall in the skilled workforce could be affecting the construction industry's ability to respond to

'The shortfall in the skilled workforce could be affecting the construction industry's ability to respond to increased demand'

increased demand. Certainly there are reports of shortages of specialist sub-contractors capable of taking on complicated schemes and on more complex and less desirable schemes, prices are likely to be affected.

Activity within London and the South East remains at a higher level than the rest of the country. However, even within London, there is no universal view on tenders; large, straightforward, new-build schemes continue to attract keen bids, particularly where contractors are looking to establish or further develop their relationships with 'blue chip' clients. Keen prices are being received for office fit-outs in the capital as

demand seems to have slowed and the specialist contractors in this market have become more competitive.

Steady house price rises, particularly in the South East, have done a lot to fuel housing demand, although, once again, there are suggestions that the market has peaked. Notwithstanding forecasts of rises in interest rates later this summer, the high-quality private residential sector in London is still very bullish and for some developers, selling 'off plan' has become the key to getting the scheme on the go.

Macro economic factors

In the immediate aftermath of the 11 September terrorist attacks, and the subsequent nervousness in the markets, it looked as if the UK economy had escaped relatively unscathed, although the latest figures on growth show the UK economy has only just missed going into recession in the past two quarters.

The UK economy is still confidently expected to recover during 2002 and a roundup of views of independent analysts predicts a growth of 1.9 per cent, accelerating to 2.8 per cent in 2003.

Underlying rates of inflation are also expected to remain within the government targets, while interest rates are perceived as being unlikely to change before August.

The latest house price figures are being treated with caution. The Halifax figures show the annual rate of house price inflation was 15 per cent in the year to April, with prices forecast to ease to seven per cent by the end of the year. The Nationwide figures show a rise of almost 18 per cent over the past year with a four to five per cent increase forecast.

Away from the UK, the recovery of the American economy continues apace; US retail sales rose substantially in April although the spending spree was accompanied by inflation. Closer to home, 2001 was a dismal year for continental Europe with recessionary trends in Germany and stalled growth in other Euro-economies. For 2002, the most that is hoped for is a return to positive figures.

Paul Moore is an associate and head of the Cost Research Department at EC Harris

CONSTRUCTION FUTURES SURVEY: AT A GLANCE

- Construction output forecast to increase by 2.8 per cent this year and by 2.5 per cent in 2003.
- Construction new orders for the first quarter of 2002 were 18 per cent higher than the previous quarter, mainly due to infrastructure orders.
- Skilled labour rates up by seven per cent nationally over the year to March 2002.
- Materials prices rose by 0.5 per cent over the year.
- Commercial and industrial sectors facing a slowdown. Infrastructure and repair and maintenance to rise.
- Tender prices forecast to rise nationally by 2.8 per cent in the next year and by three per cent in the year to the second quarter of 2004.
- Tender prices in London to rise by 4.3 per cent in the next year and by 3.8 per cent the following year.
- Civils tender prices to rise by almost five per cent in the next year with a further four per cent increase in the year to the second quarter of 2004.
- Underlying rate of retail price inflation expected to run at 2.1-2.2 per cent for the next five years.
- Economic growth in the UK to rise by 1.9 per cent in 2002 and 2.8 per cent in 2003.



This sporting life

If sport is the new religion, stadia are the new cathedrals, demanding increasingly complex and dramatic design

BY AUSTIN WILLIAMS

From the Olympics in Stadium Australia to the Commonwealth Games at Manchester to the FA Cup final in Cardiff's Millennium Stadium; from Ascot and Arsenal, to Benfica and Taipei, HOK Sport has had a lot of work on recently. And that is not to mention Wembley and the new proposals for the Millennium Dome.

It all seems a long way from Huddersfield Town's McAlpine Stadium, the building that established its reputation – chosen by the RIBA as the building of the year in 1995.

Formally HOK+Lobb, a merger between two leading sports architects, HOK and Lobb Sport (a deal allegedly sealed over a pint in a London pub in 1999), it is now the largest and one of the most successful companies providing sports facilities on the international scene. In January this year, the name changed again to HOK Sport+Venue+Event (HOK

Stadium Australia: a suitably dramatic setting for its Millennium Olympics

S+V+E), merging offices in Kansas City, Brisbane and London. By so doing, it is now able to operate a 24-hour architectural practice and share diverse expertise.

Of the 300 staff worldwide, 80 are based in offices in Putney, next to the Thames and Wandsworth Park. In this London office alone, 25 different languages are spoken, although the *lingua franca* is English.

Tie-breaker

With 450 projects on six continents, Rod Sheard, the Australian-born chief executive, says that 'you don't have to be a sports fan to work here – but it helps'. As a matter of fact, he says, if you are to get involved in arena architecture you can't help but grow to love your particular sports speciality.

When he first arrived in Britain in the 1970s, without an old school tie

of any worth and no network of contacts, Sheard quickly realised he needed to offer something other people wanted. He decided to specialise in high-profile stadium buildings. Recognising that all architects need to develop a reputation in design, and that sports facilities at that time tended to be built by engineering firms, he developed a strategy to 'embody functionality in design'. With only a few competitors for this market, it was not long before instead of having to pursue elusive potential clients at cocktail parties, they were asking for him.

Initially, it was a difficult decision to make the design of sports facilities the practice's sole activity, meaning that it had to turn down several lucrative offers to design offices and residential schemes. But its resolve held, and now its workload includes 25 European soccer and rugby clubs and 50 North American NFL and Major League Baseball parks. Each design is particular to the club. Usually, every client is a one-off and the design must reflect that. 'They are not all the same,' insists Sheard.

Sheard is obviously happy with his lot. 'Designing stadia,' he says, 'is a nice way to spend your life. It's not like designing an office where you never go back to it; it is a monument that you can return to time after time. And there is no shortage of people who will give you "post-occupancy evaluations" whether you want it or not. Stadia are very real parts of a city's regeneration; flagship buildings which can kick-start development, improve a site's visibility and produce a reference point for civic aspiration.'

Who ate all the pies?

The real business of sports stadia, says Sheard, is not so much the sporting facilities, but its commercial arm: the restaurants, the beer concessions, the T-shirts, etc. Ten years ago, a 60,000-seat venue would have 30,000m² of leisure, retail and circulation space, now that provision is in the order of 75,000m². In the case of Stadium Australia, there was 100,000m² and Wembley Stadium will have 200,000m². Wembley, for example, will have to cater for 10,000 food transactions – meals or snacks – every hour. The motivation for lucrative

financial returns is driving the stadia brief and influencing the design.

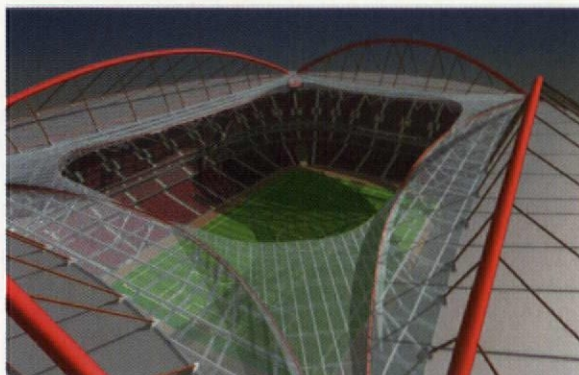
In order to thrive in such a ruthlessly commercial world, HOK S+V+E is very rigorous: systematic in its approach to internal office procedures and to its subject knowledge. On appointment, the office internally designates a project manager, design manager and project architect who remain throughout the project. If the staff with the necessary specialisms are based in another of the global offices, they are transferred to the relevant office – and for a young office this can be alluring. 'Several staff who went to Brisbane to work on the Olympic stadia haven't come back,' says Sheard.

Although there is no such thing as a typical scheme, generally a project takes six months to sort out the brief and another six months to get the rest of the designs, approvals and finances in place. By getting into the process early, HOK S+V+E's team of brief writers question everybody involved in the project – from the popcorn franchisee to the ticketing agency to the managing directors. The results are then studied for disparities to ensure the most satisfactory brief with adequate space standards is chosen. Further to this, using its specialised knowledge bank, HOK S+V+E helps with business plans, market research and financial advice.

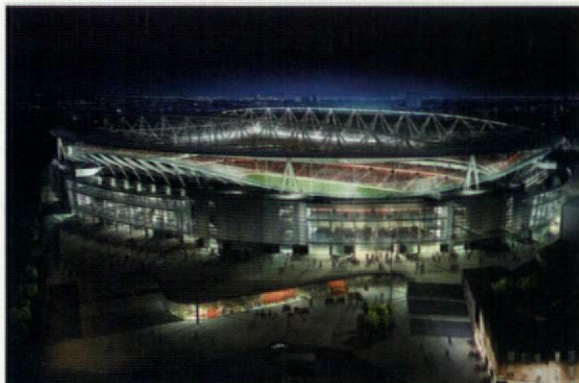
For example, clients are apparently unaware of the true 'value' of their stadia; not realising the prestige prices they can charge for corporate boxes or the revenue benefits of minor alterations to commercial and retail locations. Often this has to be pointed out to the client or user group, as decisions have to be signed off at the briefing stage to avoid alterations – the request for more boxes, after work has started, for example, would be catastrophic.

The new religion

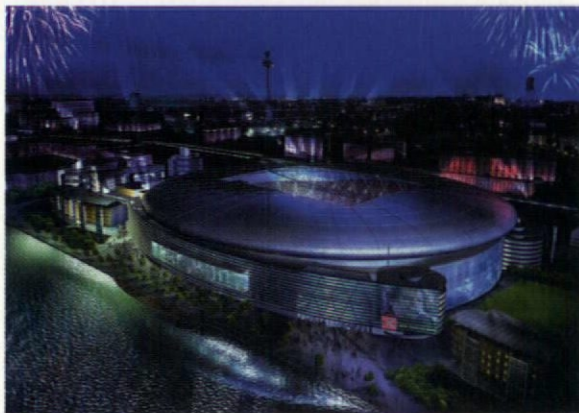
Sheard sees the trend for improvements in user comfort and retail opportunities signalling the continued rise of sporting venues and safeguarding his offices' workload for a long time in the future. In a rare philosophical moment, he suggests that the clamour for a shared



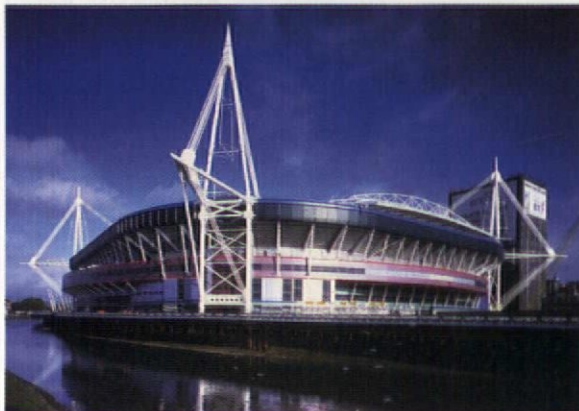
The 75,000-seat Benfica Stadium will be ready for Euro 2004



Arsenal FC's new stadium proposal in Ashburton Grove



Moveable pitch and roof at Everton FC's 55,000-seat stadium



The UK's first acoustically insulated retractable roof, Cardiff

national experience witnessed during the World Cup – where peoples from around the globe have come together harmoniously to celebrate sporting excellence – is a growing trend, and signifies sport as the new religion.

Mindful of not 'giving a John Lennon critique of God', he still considers stadia to be cathedrals of the new millennium and 'if sport helps international political détente, then...', he trails off.

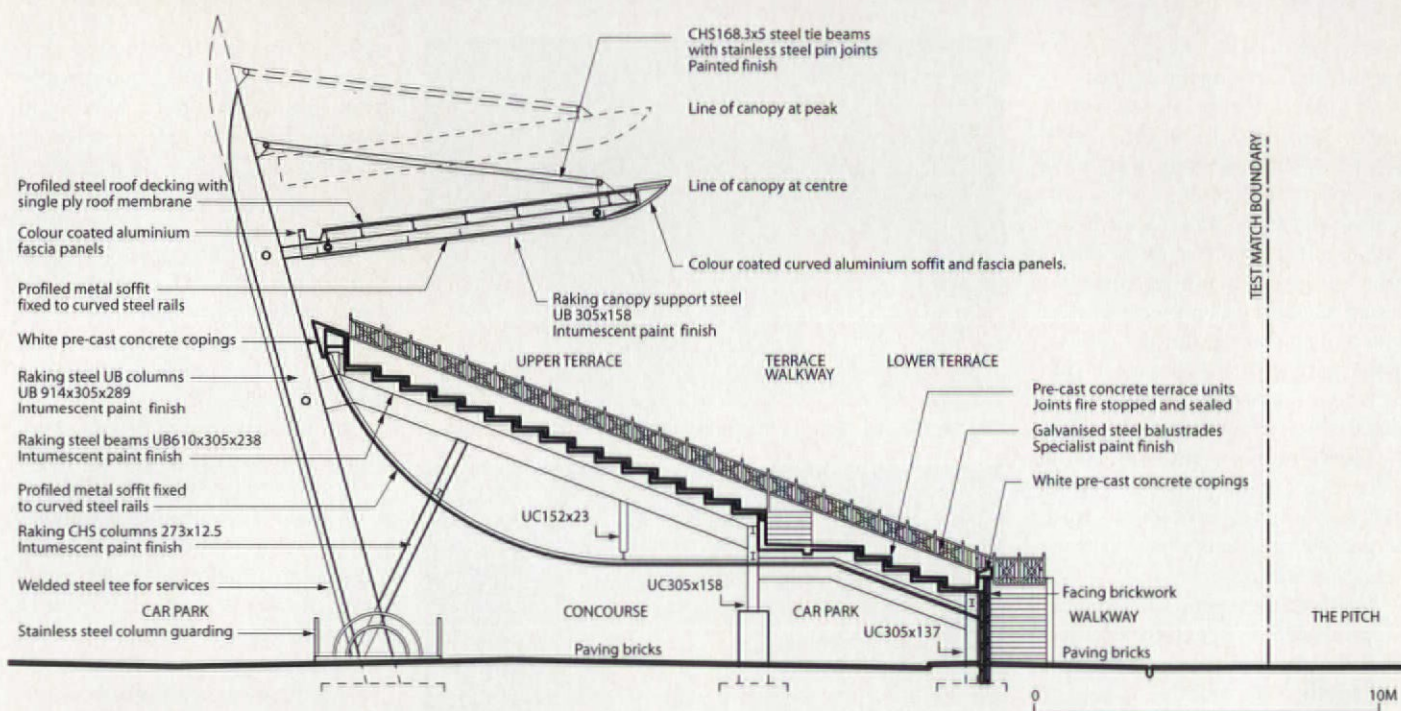
Stadia are having to become multifunctional venues to maximise use and turnover. In America, switching from baseball to NFL is reasonably easy, says Sheard, but changing from a cricket to a rugby venue, for example, is not so clear cut. HOK S+V+E has done it in Wellington, New Zealand, though.

Larger crowds bring greater expectations and Sheard looks forward to the technological changes that are on their way. Retractable roofs are no longer seen as luxury specification items, and regulatory changes allowing outdoor sports to be played 'indoors' have helped. Now we have moving pitches or moving seating.

The Great American Ballpark in Pittsburgh has an intelligent transfer system that broadcasts information to links situated two blocks away, telling people to avoid congestion at Door X, or to buy certain items from Door Y.

In an analogy with airports, the TV screens that were in pay-per-view lounges 10 years ago and are now common in headrests onboard aircraft may soon be installed in armrests in stadia, enabling punters to see instant replays. More importantly, relaxations in gaming legislation, brought on by the advent of the Internet, may enable immediate bets to be made at your seat. The revenue advantages for the client are huge. Imagine, says Sheard, being able to swipe your card and order beers at your seat without having to queue; or impulse-buying tickets for the next game.

Sheard says he gets a bit blasé at the number of major sporting events he gets to attend, but once at an event he can't help but enjoy himself. 'I still gets goosebumps at Ascot,' he says. It's a tough job, but, I suppose, somebody's got to do it.



Hitting a boundary

Maber Associates was batting on a sticky wicket when it designed its new stand at Trent Bridge cricket ground

BY AUSTIN WILLIAMS

In architecture, getting a good site in a prime location is an important first step in the scheme's viability. When Maber Associates was commissioned to design the Fox Road stand at Trent Bridge, it knew it had a prime location (having already designed two of the ground's other spectator stands) – the only problem was, it did not seem to have a site.

The stand was desperately needed to provide extra capacity to meet Nottinghamshire County Cricket Club's target of 15,365 seats.

Since there was only one open end of the ground remaining undeveloped, there was no other option. It was

'Owzat? The elevated design of the Fox Road stand at Trent Bridge was dictated by the car park on the site

agreed that this area needed some kind of architectural closure to enhance the intimacy of the Trent Bridge venue – but the site had been leased to Nottingham County Council as a car park. Fortunately, the terms of the lease allowed the cricket club to develop air rights above the car park. This dictated an elevated design to allow vehicular movement underneath.

The basic structure, which seats 2,300 people, has been constructed on a raised steel frame faced at the boundary side with brickwork. The main columns supporting the rear of the seating extend upwards to take the canopy and steel stays. The

canopy provides a longitudinal curve of tubular steel and Zed-purlins, clad in profiled metal and colour-coated aluminium. The underside of the raked steel support beams has been framed out with tubular steel hangers and I-section purlins to carry the sweep of the profiled metal cladding which act as the car park soffit.

Only three metres above the ground level at its highest point, the downstand steel beams and the rake of the soffit in the designated car park reduces the clear height further and it appears somewhat oppressive. Clearly, design solutions were governed by site constraints.

Because of the site restrictions, the terracing does not extend down to ground level – as in 'traditional' cricket venues – but the architect pragmatically cites several advantages to this; not least the excellent sight lines and the fact that people walking around the pitch will not obstruct the action.

CREDITS

CLIENT: Nottinghamshire County Council
ARCHITECT: Maber Associates
CONTRACTOR: Clegg Construction
QUANTITY SURVEYOR: Gleeds
PROJECT COST: £1.9 million
CONTRACT: JCT 98 with Quantities
START ON SITE: 18 November 2001
COMPLETION: 18 June 2002



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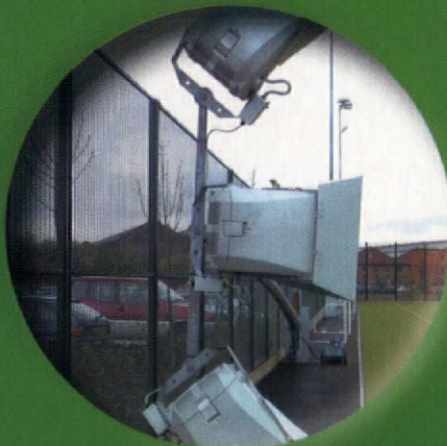
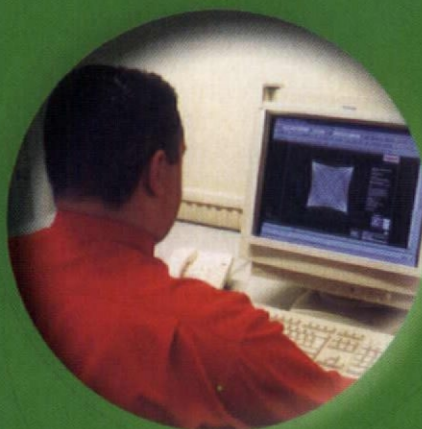
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Who will take the blame when the cracks begin to show?

A flaw in the design of a building is sometimes discovered by the owner who procured the project in the first place. More often, however, it is the ultimate occupier, who has no contract with the design team, who discovers their building is dodgy only after they have been in it for a while.

The landmark decision in *Murphy v Brentwood* (1991) held, and I paraphrase here, 'no contract – no claim'. In its wake, claims against design professionals by ultimate occupiers in respect of latent defects became rare.

But to every legal rule there is an exception, and not even the seven Law Lords who decided the *Murphy* case sought to let the designers off the hook if the defect in their design was likely to injure someone or damage property other than the building itself.

The point was illustrated admirably in the case of *Morse v Barratt (Leeds) Ltd* (1992) in which residents of a new housing estate complained that by increasing the level of fill behind a retaining wall at the rear of the development, Barratt had made the wall liable to collapse. When the residents were served with a local authority dangerous structures notice, they were obliged to rebuild the wall. The court had no difficulty, however, in holding Barratt liable for the costs incurred.

In *Blaxall Securities Ltd v Sheard Walsh Partnership* (judgment 22.1.02) the defendant architect Sheard Walsh Partnership (SWP) admitted that its design of the roof of the claimants' industrial unit was defective and the gutter was unable to cope with heavy rainfall. The Court of Appeal has recently exonerated SWP from any liability for subsequent flood damage. How so?

The building, described as a large shed, had twin-pitched roofs running lengthwise, separated by a valley gutter with a flat base and vertical sides. In the base of the gutter were outlets leading to drain pipes.

There was, however, no seal between the lip of the gutter and the underside of the metal roof. If the gutter overflowed, water would pour into the building. And this is precisely what happened on

two occasions in 1995, damaging the contents of the building.

The experts agreed that some sort of overflow was needed to ensure that if, for whatever reason, the gutter overflowed, the overflows would take the excess water away.

It was accepted that SWP was at fault but it argued that when the claimant bought the building it had an opportunity to inspect it and that its own surveyor ought to have spotted the problem with the roof.

SWP went further and pointed out there had been signs of flood damage from the outset, which was wrongly attributed to blocked outlets and debris in the gutter.

In short, it said that the roof may have been faulty, but it was obviously so. The defects were not latent, but patent – and you can have no

claim in tort for patent defects.

Unattractive though such an argument may sound at first, the Court of Appeal agreed with it. It said that the concept of a latent defect is not a difficult one. It simply means a concealed flaw that would not be discovered during the sort of inspection one might expect the object to be subjected to.

Harking back to the days of *Donoghue v Stevenson* (1932), and the decomposing snail in the bottle of ginger beer, the court recognised that the consumer of a fizzy drink will not, in the ordinary course of things, bring in an expert to inspect the goods they purchased. In contrast, however, the buyer of a building almost invariably would.

The court found that the first flood was caused by a combination of blockages and absence of overflows, which the claimant's surveyor ought to have detected.

The cause of the second flood was a combination of the patent defects and a shortfall in the design capacity of the roof for the rainfall to be expected in the area, which was a latent defect.

Ultimately, however, the effective cause of both floods was the absence of overflows, a patent defect which ought to have been identified and remedied by the claimants.

Kim Franklin

Less is more for the admirable Adrian James

Now here's a site for sore eyes. It is the website of Adrian James Architects at the easily remembered

www.adrianjames.com. This is the Oxford-based practice that does that quirky and seriously interesting brick stuff which tends to involve idyllic lake- and riverside sites. No messing about here with pop-ups-as-you-scroll, clever rotating axes or anything intricate. Simplicity and clarity is the basic proposition here. So it is all on one page – actually around twice the depth of an average screen. And it loads in a flash.

Pictures are down the left, a thinner column of sketches in the middle and the text is on the right. And that is it. The text starts with disarming directness: 'We deliver beautiful buildings which clients love.' You warm to the practice at once. The text column ends with a list of awards and a big e-mail button. So, you ask, what happens later on when it has done lots of buildings? What happens to simplicity then? The answer, I guess, is that they do a bit more of the same – not much, of course – and they are really selective about what they show.

Unless you are producing the site for posterity, students and nosey rival practices, there's no particular reason why you have to include details of every building the practice has ever done.

Don't get me wrong, on this side of the fence we are grateful for practice websites which do. Also, there are a lot of congenitally nosey architects about: it does not hurt to rub their noses in the fact that you have done a squillion office blocks and houses and whatever – and they probably have not. But think of the relief potential clients must feel when they look at Adrian James' site. No clicking on enigmatic links, no ponderous taxonomy, no animated Flash whatsits – just a single, clear page and the promise that 'we can transform apparently mundane projects into wonderful buildings'.

OK, so you can't change the size of text and you should be able to. But that is all the carping I can manage.

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Cloister of the convent for Franciscan nuns at Waasmunster-Roosenberg, 1972-75

In his true colours

RICHARD WESTON

Dom Hans van der Laan

By Alberto Ferlenga and Paola Verde. *Architectura & Natura*, 2001. 204pp. £27.50

Like the Jesuit Abbé Laugier and Franciscan Carlo Lodoli, the Benedictine Dom Hans van der Laan (1904-91) belongs to a small, but distinguished, company of architectural practitioners and theorists whose lives were spent in religious service. The ninth child of an architect father, van der Laan was, however, more than a talented amateur: he studied architecture at Delft before taking his vows at the age of 25, and throughout his life worked with the practical support of his architect brother, Nico.

In the black and white photographs through which his work is generally known,

van der Laan's buildings can appear forbiddingly austere; seeing them in colour, as we do in this fine new monograph, is a revelation: austerity mellows and sweetens into beauty.

Most accounts of his work, of which the best known in English is by Richard Padovan (AJ 6.4.95), revolve around attempts to explain the fascinating but elusive proportional theory van der Laan called the 'Plastic Number'. Ferlenga and Verde prefer to allow the work and ideas to speak for themselves: the documentation in drawings and photographs of his few, hard-won buildings is thorough and persuasive, while the long essay 'Architec-

tonic Space' – one of three by van der Laan with which the book concludes – contains a complete account of his architectural system.

Van der Laan liked to quote Saint-Exupéry's observation that 'rites are in time what the home is in space'. He saw architecture as the counterpart of liturgy, a symbolic transformation of everyday materials into clear forms, and conceived his task as being that of stripping his buildings bare to reveal their essence.

It is tempting to explain the austerity simply as a necessary consequence of their monastic function, but as Ferlenga argues in a widely allusive essay, van der Laan's goals and methods have much in common with the wider architectural culture of his time. He shared with Mies van der Rohe a determination to re-establish architecture as the art of building – in which endeavour, we may recall, Mies drew deeply on Catholic theology – and his commitment to archetypal forms and a system of order which transcends function has obvious affinities with Aldo Rossi's typological conception of architecture. Nor is it entirely coincidental that the models he used to study proportions recall both Elementarist art and the maniacal urban visions of Ludwig Hilbersheimer.

Like Le Corbusier, van der Laan had a passion for the Cistercian monastery of Le Thoronet: the austere spaces he built for his own monastery at Vaals, and for a convent in Roosenberg, were grounded in the same fundamental culture of making, the same search for order, the same struggle to render wild nature habitable. These remain the perennial challenges of architecture, and you do not have to fully grasp, let alone subscribe to, the proportional theory which guided their composition to sense here the hand and eye of a master builder.

As with many of Aldo Rossi's buildings, in distant views van der Laan's exteriors can appear almost toy-like. From closer to, any suggestion of schematic reduction is eliminated by the tectonic vigour of the brick walls and piers, and, once inside, the clarity and power are compelling. Kahn, Lewerentz, Ando, Utzon's 'Can Lis', Aldo van Eyck's blockwork church in The Hague – all come to mind; and it is no exaggeration to say that, judging by photographs, Van der Laan's spaces can stand comparison with these modern masters of the elemental. And for anyone who doubts his gifts as a designer there are the working drawings and photographs of the furnishings – as beautifully made and definitive in form as the architecture.

Richard Weston is a professor at the Welsh School of Architecture, Cardiff University

Returning the compliment

SARAH JACKSON

American Beauty

At Annely Juda Fine Art, 23 Dering St, London W1 until 13 July

'American Beauty' is a joy. Featuring 12 American artists from the past four decades, it is a mixed show, both in media and scale, but with a common Minimal or abstract vocabulary. Much of the work is well known – Donald Judd, Dan Flavin, Richard Serra, and Sol LeWitt are all represented – but the intelligent selection, and the unusual juxtapositions created by both the hang and the fixed connections between the gallery rooms, allow you to see the pieces in new ways.

A stark Ellsworth Kelly is at the end of the main gallery: the black angled rectangle visually slides off the hypotenuse of the small white triangle below, making it appear to rotate. Two Judd wall pieces are either side, just in your peripheral vision. One of them – five stainless steel boxes sized in the rhythm ABCBC, set box-depth apart – has an awkwardness not normally associated with Judd. Like the Kelly, it is fixed, but has no stasis, whether because of the movement that the strange uneven rhythm produces, or the imperfect finish caused by the spot welding on the sheets of steel. But the vertical face is inset with a deep blue-red that draws you in.

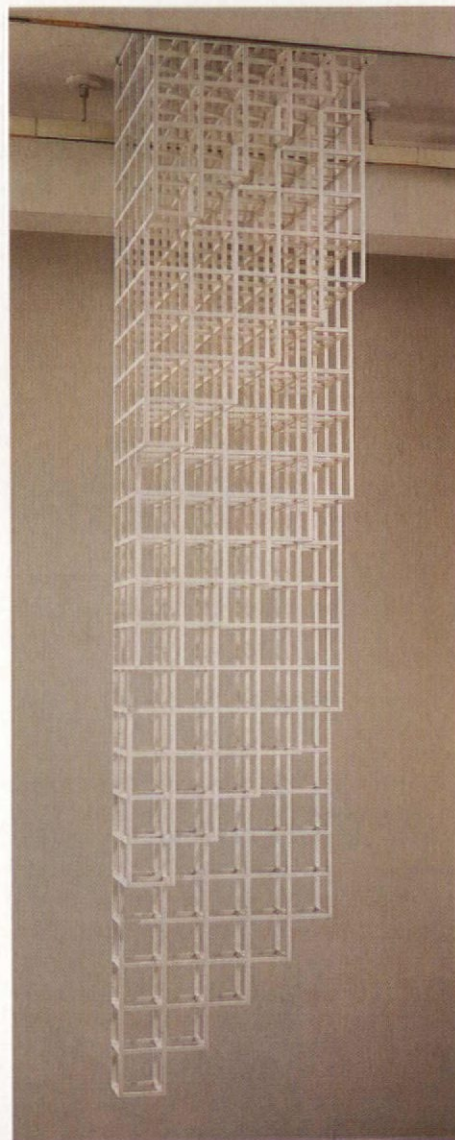
A green glow seeps out of the door in the corner, a clear calling card of Flavin. Inside the tiny room, there are, incredibly, five light pieces. Formally they are all the same – three horizontal fluorescent tubes, two of equal length sandwiching one half the size – but

each has differing colour combinations of red, yellow, green and blue. Each piece holds its own, the room itself does not feel green; colours morph but do not merge into one.

Past a formless Ryman wasps' nest (highly textured white shapes painted onto a flat, thin, square board) hangs a Sol LeWitt. A three-dimensional grid of open timber cubes, five by five by 25, which are regularly eroded downwards until there is only one, it stops just before it skims the floor. Suspended Sol LeWitts are relatively unusual: the inverted, stalactite form gives it a tension that is both inherent in the material itself and apparent in the way it is perceived. It also prevents the usual architectural comparisons, as a perfect, white, constructed 'tower' becomes a more natural, organic form.

Behind the structure is a crusty, tar-like Serra. At first it reads just as a plain black backdrop, but, close up, its thick grainy texture provides a strong conceptual sounding board to the ordered Sol LeWitt. These three pieces, the Ryman, the Sol LeWitt and the Serra, work with and against each other, teasing out personal definitions (what is white, what is order, what is pure?); and this is typical of the show as a whole, focusing as it does on dualities, on contrasts and similarities.

There is a strong traditional relationship between this type of art and architecture. The 1960s Minimalists (Judd et al) were

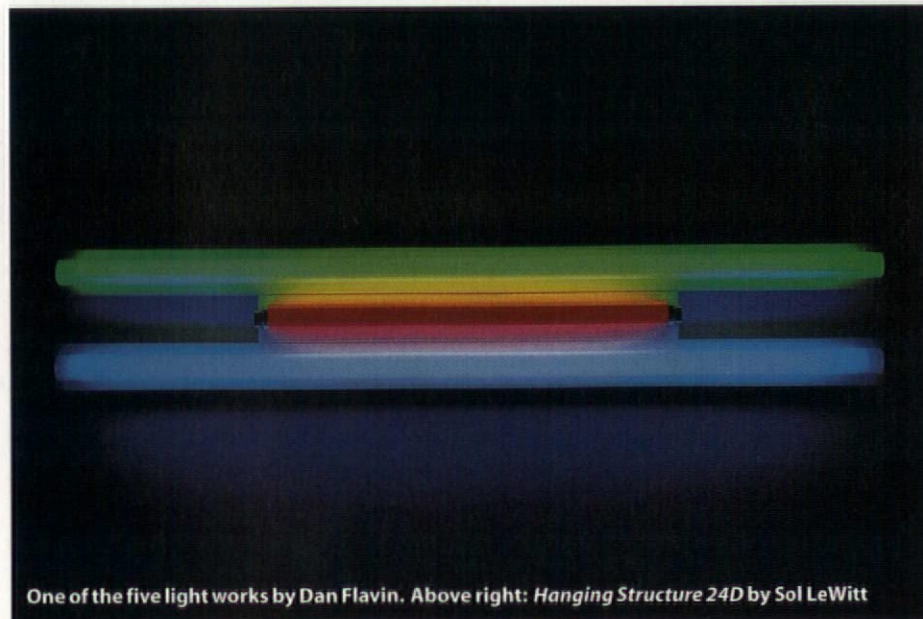


strongly influenced by such architects as Mies and early Le Corbusier. They designed their 3D works using industrial rather than 'high art' materials, explored ideas such as standardisation, repetition, and the machine aesthetic, and questioned spatial experiences.

But if Minimal art borrowed something from architectural Modernism, contemporary architecture is now returning the compliment – many architects, the Swiss school in particular, site Minimalism as a major influence. However, the similarities are more in spatial impact and surface effects than in process. The illusionary quality of Flavin, the depth of surface of Judd, those Ryman ways with white; it is these aesthetic aspects that architects use and respect.

Judd once said that 'a work only needs to be interesting'. Not now, they are more than that. They are objects of beauty too.

Sarah Jackson is an architect in London



One of the five light works by Dan Flavin. Above right: *Hanging Structure 24D* by Sol LeWitt

Back and forth

CLARE MELHUISE

Origins, Imitation, Conventions: Representation in the Visual Arts

By James S. Ackerman. MIT Press, 2002. 328 pp. £30.95

This collection of essays, written over the past decade, is presented by the author, a historian of Renaissance architecture, as an antidote to a history of the arts based on the notion of a continuous evolutionary progress towards modernity, marching hand in hand with social, economic, political and cultural change.

Ackerman acknowledges his own former contribution to sustaining this meta-narrative of art history, while suggesting that anyone of his generation is likely to have been a subscriber. So this book is an attempt to redress the balance between the blind faith in progress which drove previous generations of society, and the reassessment of the historic values and practices, specifically in the field of the arts, which has taken place in recent decades – to the extent that nostalgia for 'heritage' can also be seen as a blight on western culture.

This is not an issue Ackerman discusses, in a book that is essentially a fairly academic exploration of the way in which historic precedent drove innovative art practice in the Renaissance period. He shows that the exploration of origins – through the practice of imitation and the use of established conventions – was regarded as the foundation of the arts in the culture of the time, and, along with the mimesis of nature, the basis of any

notion of progress in art history.

It was not until Vasari (inspired, Ackerman suggests, by the example of Leonardo da Vinci) introduced the radical idea of the creativity, and thence potential divinity, of the artist – creativity being a property formerly considered unique to God – that the way was paved for modern concepts of artistic achievement fuelled by creativity alone, and autonomous in relation to the past.

Ackerman repeatedly throws into the historical discussion fragments of provocative commentary pertinent to a debate about contemporary practice and values, but without elaboration or substantiation. For example, in the essay on da Vinci's church designs, he states that Leonardo's 'leap forward' based on a return to ancient models 'seems only paradoxical to us now', while the essay on imitation (of ancient precedent), providing a survey of Renaissance writings on this theme, incorporates a rather casual comparison between the concepts of historic 'imitation' and modern 'influence': 'imitation was in premodern times an explicit principle of creative formation and procedure, while influence has been a relation that has oppressed the modern maker.'

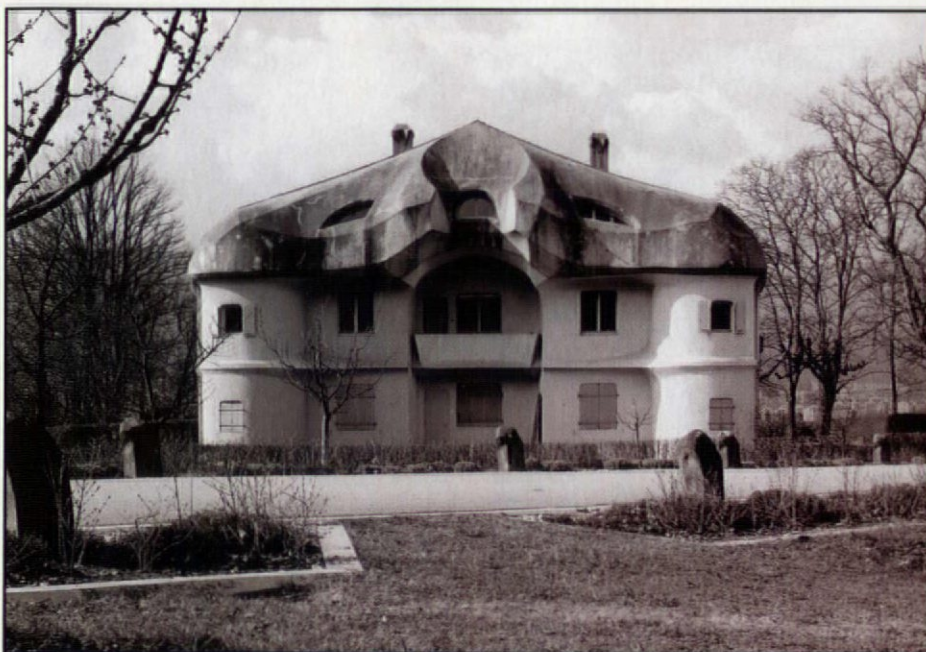
Imitation went forward, 'as if in competition with one's antecedents', while influence looks backward: 'Indeed it is hard not to tire

of the often mindless search for artistic ancestry that supposedly validates many books and dissertations', he observes.

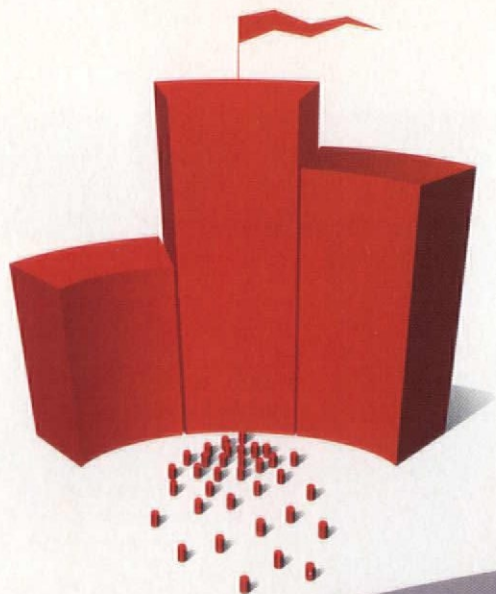
This would be a fascinating subject in itself if dealt with cohesively and substantially, but the pull between informative historical disquisition and unfulfilled contemporary theoretical debate makes the book oddly unsatisfactory. This sense is heightened by the inclusion of some chapters which seem out of place, for instance one on the origins of architectural photography in the 19th century.

Here Ackerman makes the interesting assertion that the early history of architectural photography reveals two basic principles: 'first, that modes of representation are not significantly altered when new techniques are discovered, but perpetuate existing conventions [ie as established in the Renaissance – hence the chapter's inclusion]; and second, that representation itself is 'not a reflection of some "reality" in the world... but is a means of casting onto that world a concept – or sublime sense – of what reality is.' These points are recapitulated in a final chapter on architectural drawing, in which CAD, Frank Gehry and others suddenly make an appearance, and where Ackerman questions the possibility of developing 'radically new expressions' through any means other than 'established conventions'.

Ackerman's discussion of the issues of artistic and architectural representation could have been compelling and valuable if the relevance to contemporary culture had been fully developed, but as it stands, this book is an awkward read.



A photograph near the end of *Nature in Building: Rudolf Steiner in Dornach* (Birkhäuser, 128pp, £18) shows Frank Gehry's Vitra Design Museum: what Werner Blaser suggests is that Steiner's buildings, dating from the early 20th century and conceived to precise (if esoteric) symbolic ends, can be seen as presaging today's 'organic architecture' of Gehry and others. The argument is not explored at any length and is anyway contentious. 'Every building is something special, unique, is something that relates with the location and can be integrated into the landscape,' says Blaser of organic architecture; one could hardly say that 'integration with the landscape' is a Gehry trademark these days. Nor are Steiner's buildings analysed in detail in the book, but they have been sensitively photographed by Blaser, allowing us to decide for ourselves how germinative, expressive or simply perverse they might be.



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University of Westminster End of Year Architecture Show Until 5 July. At 35 Marylebone Rd, NW1. Details 020 7911 5000.

AA Projects Review 2002 5 July-2 August. At the AA, 36 Bedford Sq, WC1. Details 020 7887 4000.

Adriaan Geuze Wednesday 10 July, 18.30. The UDG Kevin Lynch Memorial Lecture at The Gallery, 77 Cowcross St, EC1. Details 020 7250 0892.

Hong Kong: A City on the Move 10 July-15 August. An exhibition at the RIBA, 66 Portland Place, W1, with a discussion on 12 July, 18.30. Details 0906 302 0400.

Architects in the Fast Lane Thursday 11 July, 19.00. An Architecture Foundation discussion at New Designers, Business Design Centre, Upper St, N1. Details 020 7253 3334.

Reassessing Nikolaus Pevsner: A Centenary Conference 12-13 July. At the Clore Management Centre, 25 Torrington Sq, WC1. Details www.bbka.ac.uk/hafvm/pevsner.html

American Beauty Until 13 July. American Minimalist works at Annely Juda Fine Art, 23 Dering St, W1. Details 020 7629 7578.

Julia Farrer: Towers & Bridges Until 2 August. An exhibition at the Eagle Gallery, 159 Farringdon Rd, EC1. Details 020 7833 2674.

Till Exit Until 1 September. An architectural installation at Matt's Gallery, 42 Copperfield Rd, E3. Details 020 8983 1771.

England's Lost Houses Until 21 September. An exhibition drawn from the archives of *Country Life* at Sir John Soane Museum, Lincoln's Inn Fields, WC2 (020 7405 2107).

Gio Ponti Until 6 October. An exhibition at the Design Museum, Shad Thames, SE1 (020 7940 8790).

Eastern

Control of Solar Shading Wednesday 10 July. A course at the BRE, Garston, Watford. Details John Kempster 01923 664800.

The Eco-Friendly Historic Building Tuesday 23 July. A craft day at Cressing Temple, nr Witham. Details 01245 437672.



JUST IMAGINE

No, it's not one of Will Alsop's contributions to the RA's Summer Exhibition. While 'Northern Exposure' continues in its main gallery, CUBE has launched its Young Persons Gallery with a show in which children create fantasy cities in paintings, drawings and sculptures. 'Visible Cities' can be seen at 113-115 Portland Street, Manchester until 20 August (0161 237 5525).

Ben Nicholson: Drawings and Painted Reliefs 27 July-22 September. An exhibition at Kettle's Yard, Castle St, Cambridge. Details 01223 352124.

Historic Barn Conversions Thursday 22 August. A one-day seminar at Cressing Temple, nr Witham. Details 01245 437672.

Construction Law Summer School 2-4 September. A three-day event (worth 16 CPD hours) at New Hall College, Cambridge (01932 893852).

East Midlands

Working at Heights Wednesday 24 July. A free seminar at ESS Shorco's new Working Heights Training Centre, Wellingborough. Details 0800 652 6603.

Northern

Are You Sitting Comfortably? Until 28 August. An 'interactive seating exhibition' at Belsay Hall, Northumberland. Details 01661 881636.

North West

Simon Hudspeth Thursday 25 July. A lecture at Cube, 113 Portland St, Manchester. Panter Hudspeth's winning Lincoln museum scheme is currently on show (0113 234 1335). **Cultural Impact 2002** 30-31 July. A two-day conference on architecture,

tourism and urban development. At Liverpool. Details 0161 443 0100.

Northern Exposure Until 20 August. An 'innovative' presentation of work by selected practices in the north west region. At CUBE, 113 Portland St, Manchester (0161 237 5525).

South Eastern

Langlands & Bell at Petworth 6 July-29 September. An exhibition in Turner's studio at Petworth House, Petworth, West Sussex. Details 01798 342207.

Colour White Until 7 July. An exhibition at the De La Warr Pavilion, Bexhill-on-Sea. Details 01424 787900.

RIBA CPD Event: Sustainability Masterclass Wednesday 10 July, 10.30. At Canon UK HQ, Reigate. Details 01892 515878.

Traditional Roofing Methods 15-18 July. Four linked one-day courses at the Weald & Downland Museum, Singleton, Chichester. Details Diana Rowsell 01243 811464.

South West

RIBA Event: Site Visit to the O'Sullivan House, Salcombe. Saturday 6 July. Details Alan Cook 01404 813675.

Wessex

Juha Leiviska Until 2 August. An exhibition at the Architecture

Centre, Narrow Quay, Bristol. Details 0117 922 1540.

Richard Long Until 22 September. An exhibition at the New Art Centre, Roche Court, East Winterslow, Salisbury. Details 01980 862447.

West Midlands

The Effective Management of Fast-Track Projects Tuesday 16 July. A CPN workshop in Birmingham. Details 020 7222 8891.

Yorkshire

Maintaining Safe and Secure Housing Thursday 11 July. A one-day BRE seminar at Leeds (01923 664766).

Wakefield Summer School 2-4 August. Led by Will Alsop and Irena Bauman. At the Orangery, Wakefield. Details 01924 215550.

The Object Sculpture Until 1 September. An exhibition at the Henry Moore Institute, 74 The Headrow, Leeds (0113 246 7467).

Scotland

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

University of Edinburgh Degree Show Until 12 July. At 20 Chambers St, Edinburgh. Details 0131 650 2305.

The Great Divide Until 27 July. An exhibition on man's relationship with the environment. At the Frutmarket Gallery, 45 Market St, Edinburgh. Details 0131 225 2383. **The Alchemy of Light** Until 7 September. An exhibition at the Hunterian Art Gallery, 82 Hillhead St, Glasgow. Details 0141 330 5431.

Wales

Welsh School of Architecture End of Year Show Until 20 July. At the Old Library, Trinity St, Cardiff. Details 029 2087 4430.

Northern Ireland

Memorials Until 18 July. Photographs of public memorials by Peter Richards at Belfast Exposed, 44 King St, Belfast. Details 028 9023 0965.

International

UN Studio: Ben van Berkel / Caroline Bos 1987-2002 Until 15 September. An exhibition at the NAI, Museumplein 25, Rotterdam. Details 003110 4401200.

Image, Use and Heritage: The Reception of Architecture of the Modern Movement 16-19 September. The Seventh International Docomomo Conference takes place in Paris (contact.adcep@wanadoo.fr)

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people & practices

Nightingale Associates has joined with **Tribal**. It will continue to trade under the name Nightingale Associates and the management team remains the same.

Brian Walker has taken up the post of Northfield Town Centre manager in Birmingham.

Deputy Arup chairman **Turlogh O'Brien** has been appointed chairman of the **Construction Industry Council**.

Steven Barker has taken over as senior partner in leading construction and property consultant **Robinson Low Francis** following Peter Venn's retirement.

Oxford Architects has appointed **Charles Webster** as partner.

Urban Splash has relocated to Timber Wharf, 16-22 Wordsley Street, Castlefield, Manchester M15 3LD, tel 0161 839 2999, fax 0161 839 8999.

Christopher Frost has been promoted to director at the **Halpern Partnership**.

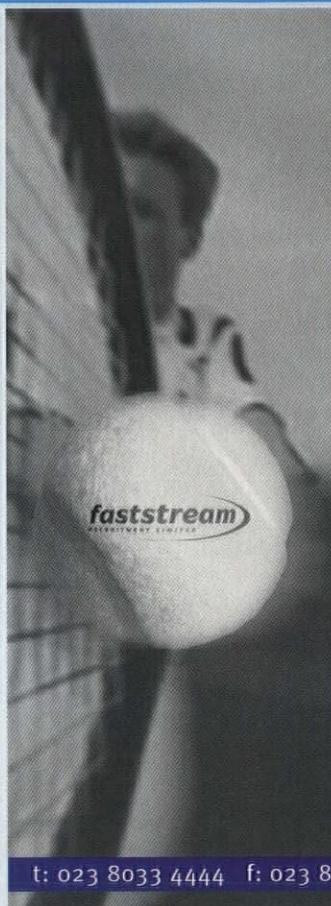
Sjolander da Cruz Architects has moved to 57 Frederick Street, Birmingham B1 3HS, tel 0121 200 1072.

David Beardsmore, previously non-executive deputy chairman for Mansell and a past chairman of Amec Holdings, is joining retail property support services group **Styles & Wood** as non-executive deputy chairman.

Helen Berresford has joined **Sheppard Robson** as the new head of interior design and the firm's 10th partner.

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

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● Richard Haut operates a weekly 'competitions' e-mail service, telling architects about projects they can apply for across Britain, Ireland and Europe. Tel 0033 673 75 02 76, e-mail hautrichard@hotmail.com, web.communities.msn.com/RichardHautcompetitions



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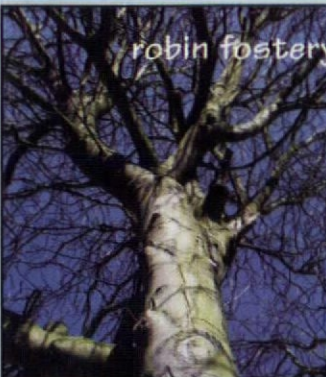
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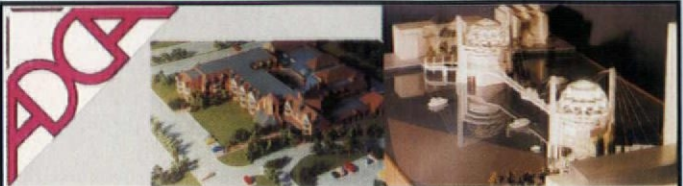
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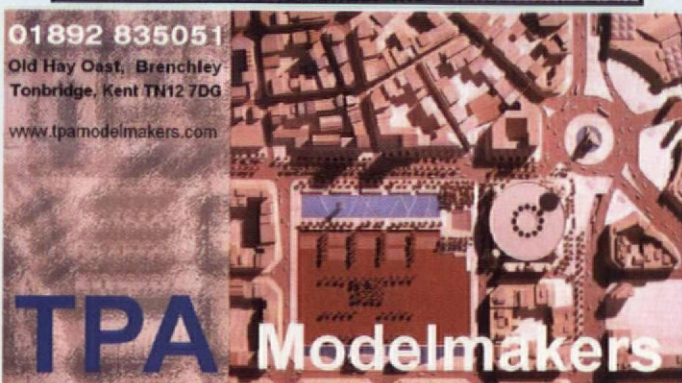


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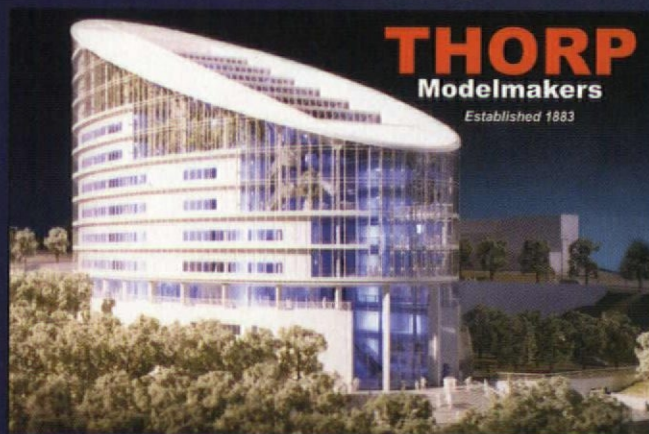
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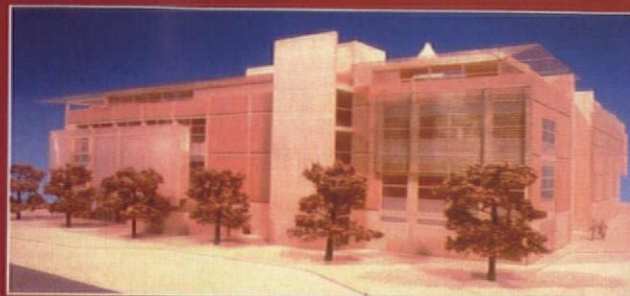
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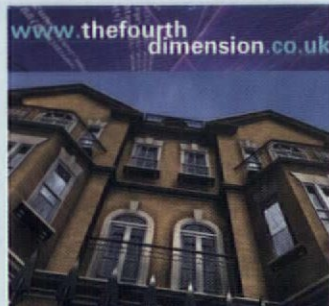
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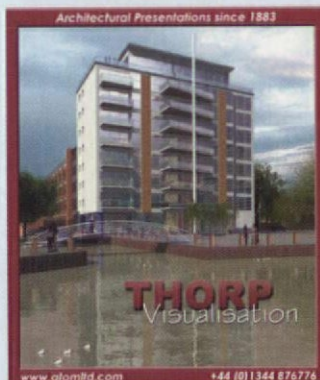
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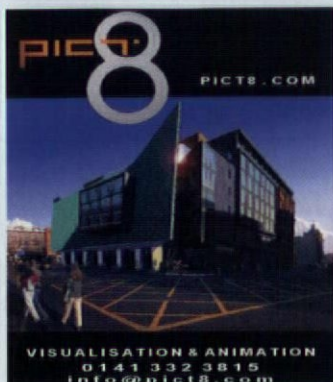
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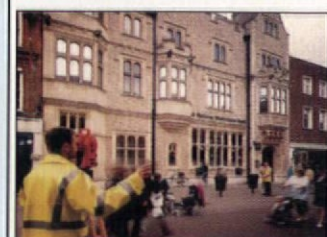
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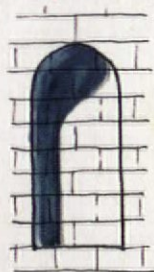
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archicharades

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Champagne goes to architect Robert Seymour of Richard Reid and Associates in Sevenoaks, Kent, who correctly identified Toyo Ito from the clues in our 'archicharades' competition last week. Can you identify the famous architect from this week's clues? Send your answers on a postcard please, by first thing Monday morning, to: AJ Astragal, 151 Rosebery Avenue, London EC1R 4GB, or fax your entry on 020 7505 6701. The first correct entry pulled out of the hat wins a bottle of bubbly.

Wise words

Daniel Libeskind was on good form at an Architecture Week event on Sunday afternoon at the RIBA. He recalled the surprise he felt at winning any competition – competition schemes often ending up as 'tickets to oblivion'. He was interesting about the relationship of new architecture to history, suggesting that new buildings were partly 'evolving the conditions of memory'. He pointed out that the phrase 'in the beginning was the Word' had more complex meanings in the original Hebrew, including the idea of architecture itself. He was able to talk about his completed buildings (there are only three of them so far) as to some extent representing journeys from darkness into light, though one might see the V&A spiral as all about light, presence and connection (of the Jewish Museum, all about darkness, absence and disconnection). **Marco Goldschmied** made a thoughtful contribution to the afternoon, including a funny anecdote about **Lubetkin**, supplied by daughter Sasha. Lubetkin was introduced to **Clough Williams-Ellis**, who suggested that the former might like to contribute a house to his Portmeirion project in Wales. The proposed name for it? 'The Red Army House'. Those were the days. Goldschmied also had a nice line about the Lottery: 'We also have the hidden lottery ... the lottery of taste.'

House style

CABE chief **Jon Rouse** was on fine form last week at the RIBA's Housing Design Awards, standing in for **Lord Rooker**, who himself had replaced **Lord Falconer**. Rouse started his address – on the dire nature of volume housing in the UK and how the houses will come from the factory floor in future – with a quip. It was about the last time he stood in for a minister, back in the time when he was a private secretary to the then housing minister (unnamed), who had chosen to go on a freebie with Allied Domecq to Royal Ascot. Rouse had told the minister he had to be back at 5.30pm to meet up with some homeless charities who were paying a visit. With an hour to go and still no minister, Rouse was getting worried. Two minutes later, a call came through, purporting to be from the minister. Could Rouse stand in for him, because the minister was 'stuck in traffic'? Unfortunately, said Rouse, the noise of the tannoy at Ascot announcing the winner of the last race and his rather slurred words gave the game away. Rouse's excuse for the homeless people? Dreadfully sorry, the minister is delayed at a community event in Berkshire!

Big night

Proctor **Matthews** had an exceptional night at the RIBA Housing Design Awards. Not only did the practice win two awards – one for Mile End Road in east London, the

other for Newhall in Harlow – but **Stephen Proctor** walked off with some rather posh-sounding plonk – a magnum of Chateau Pavie-Decesse 1990 was his reward for guessing the most completed scheme winners in a sweepstake. And a female colleague walked off with another bottle for being runner-up in the contest to guess the project award winners.

Seen and heard

Just imagine – an architect could have the ultimate say in Ken Livingstone's future as mayor of London. No, not Lord Rogers. Step forward one **Stuart Williams**, 32, an architect who lives next door to where that infamous party was held. The *London Evening Standard*, leading the charge against Livingstone, reported Williams as saying he saw the mayor 'lashing out' during the Tufnell Park shindig, but wasn't around when the police came, and that he saw Livingstone pushing his girlfriend down the stairs. It is not going to (London) plan for Ken.

Nice one, squire

France won the World Cup last week. Astragal is talking here about the **Squire and Partners'** six-a-side World Cup, which took place on the hallowed, but fairly scruffy looking, turf at Chelsea FC's Stamford Bridge ground last Friday evening. Architects, developers, clients and agents split into teams such as Brazil (in which an AJ journalist took part), England, Germany, Spain,

Scotland (yes, Scotland), Ireland, Italy, and Argentina, the last of which all sported Gabriel Batistuta comedy wigs, including avid Chelsea fan **Michael Squire** himself. Much fun was had by all inside the stadium, with the ultimate winners France decided by way of an exciting penalty shoot-out in front of a select crowd. Brazil couldn't adapt to the conditions.

Dance chance

A good time was had by all at the V&A Architecture Week extravaganza last Friday evening. Luminaries including **Eva Jiricna**, **Eric Parry** and **Simon Allford** took guests on whistle-stop tours of the collection, showing off their favourite objects. Star of the evening was ex-fashion supremo **Wayne Hemingway**, who has converted to the joys of architecture and construction and is building houses with Wimpey in Gateshead. He was resident DJ, featuring naff old records with a faint relevance to architecture. 'Living on the Ceiling' resulted in various tyros demonstrating skills in dancing (or at least walking) on their hands.

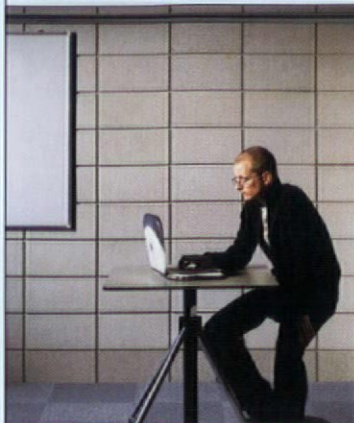
Odour eater

The same event featured that little discussed aspect of architecture and place: smell. The Pirelli Courtyard was given over to an installation about London smells, including tar on the Pentonville Road, the Algerian Coffee house on Old Compton Street, and a curry house on Brick Lane.

astragal ●

LIGNACITE

AJ ENQUIRY NO: 201



Polished Snowstorm Facing Masonry from Lignacite has been stylishly used in a Learning Resource Centre designed by Richard Rogers Partnership. Lignacite is keen to demonstrate that Facing Masonry works aesthetically, not only in external applications but also to create different and unique interiors. For information contact 01842 810678 or info@lignacite.co.uk

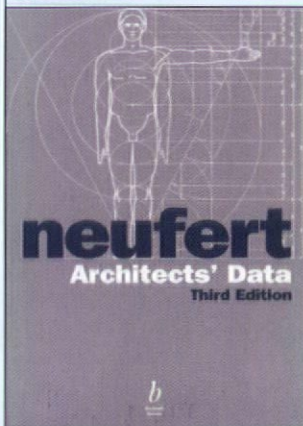
HANSENGROUP PRESTIGE CONTRACT 26 AJ ENQUIRY NO: 202

AccentHansen has installed its MultiShield double doors at the National Football Museum in Preston. The MultiShield steel doors, between the museum and Preston North End FC's Deepdale Stadium, provide access and protection for museum visitors and football supporters. MultiShield all-purpose doorsets can be used for stores, service areas and escape route applications.



BLACKWELL PUBLISHING

AJ ENQUIRY NO: 203



The third edition of *Architects' Data* is now out in paperback. It includes more than 6,000 diagrams packed full of data; is 40 per cent larger than the previous edition, with 3,000 extra illustrations; and contains expanded sections on building components, services, heating, lighting and sound. To order a copy call Marston Book Services on 01235 465500 or call Blackwell Publishing on 01865 206083. The book's price is £39.50.

HARTINGTON CONWAY

AJ ENQUIRY NO: 204

Hartington Conway's GRP factory-assembled insulated rooflights (FAIRs) have been installed by Keyclad on the 60,000m² roof of Sainsbury's new distribution centre in Stoke-on-Trent. The 4,800m² of Harcon translucent double-skin FAIRs were manufactured to suit Kingspan's KS1000RW profile and have a 40mm-deep box. Hartington Conway's unique rigid HardPak internal supports were also incorporated to ensure optimum performance, weather-tightness and longevity.



REHAU

AJ ENQUIRY NO: 205

Rehau's signo BS cable management system has been used by North Lanarkshire council as part of a major installation to upgrade the fire alarm system at Caldervale High School. Rehau was specified for its cost-effectiveness by both the council and the main M&E contractor, Scotshield, which installed about 1,200m of signo BS through the school corridors. The system is available in a comprehensive range of sizes and comes with standard accessories.



KINGSPAN INSULATION

AJ ENQUIRY NO: 206

High-performance flat-roof insulation by Kingspan was chosen for Independent News and Media's £14 million new Dublin printing facility, which publishes the group's three flagship newspapers in Ireland. Gerald F May Roofing installed a Trocal single-ply membrane roof with a total 8,000m² of Thermaroom TR26 insulation in two layers on the white aerofoil-shaped roof, which extends well beyond the building's footprint.



REHAU

AJ ENQUIRY NO: 207

Musgrave Manor, a new-build development of exclusive apartments in Belfast, has benefited from the installation of acoustic windows fabricated by Bowman Windows using Rehau uPVC profile. The four blocks of four-storey apartments are sited close to the M1 Dublin-Belfast motorway, and the architects' main criteria in selecting windows for the development was that they should be able to minimise traffic noise in rooms overlooking the motorway.



WARD

AJ ENQUIRY NO: 208

Ward's new Topdek insulated membrane roof system has recently been installed at Derwentside College, Consett, County Durham. Ward's ability to deliver high-quality engineered products was instrumental in its selection by Shepherd Construction. Arthur Harrison, project manager, said: 'The roof has saved us 30 per cent in installation time compared with traditional systems.'



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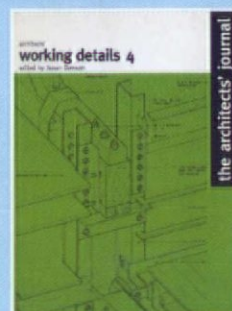
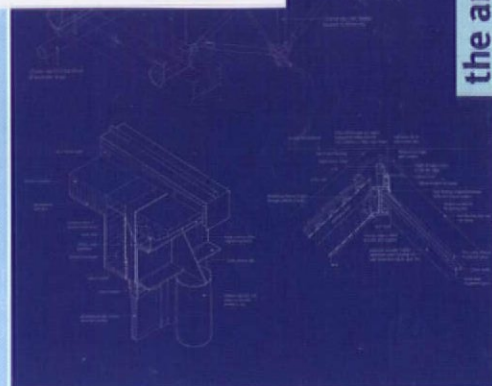
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