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EMERGING ARCHITECTURE AWARD Inaugura
by The Architectural Review and d line™ *internation*
design firm. Intended to bring wider international r
architects and designers under 45, in previous ye
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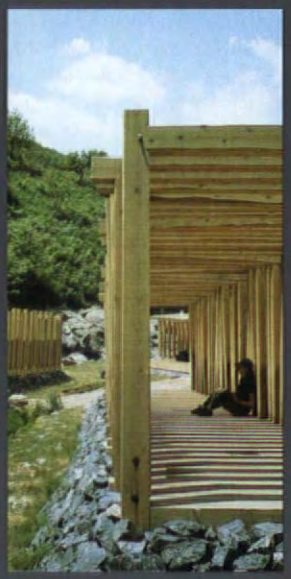

The world's leading emerging architecture award

JURY

The Jury will be:

STEFAN BEHNISCH
Behnisch, Behnisch & Partner, Stuttgart, Germany

MARGRÉT HARDARDOTTIR
Studio Granda, Reykjavik, Iceland

RICK JOY
Tucson, Arizona, USA

CARME PINOS
Barcelona, Spain

HIN L. TAN
Hin Tan Associates, Kuala Lumpur, Malaysia

PETER DAVEY
Editor of The Architectural Review

ELIGIBILITY

1 Who Can Enter

Architects and other design professionals whose qualifications are recognized by their local accreditation organization, provided that they are 45 or younger during the Year 2002.

Entries are encouraged from individuals, groups, partnerships, and those working for larger practices. Those working for larger practices must provide written evidence from their principal in the employing office guaranteeing that the work is that of the entrant(s).

2 Completed Work

ar+d emerging architecture celebrates excellence in completed work. Entries can be made for any building, interior, landscape, urban or product design.

3 Categories

Categories will not be decided beforehand, but decided on by the Jury. Entries to the 1999, 2000 and 2001 awards represented some of the following areas:

- Buildings – new build and refurbishment: offices, shops, schools, houses, housing, industrial, transport, restaurants, recreational, cultural, municipal and religious
- Interiors – new build and refurbishment: similar to building category, in particular restaurants, shops, houses, clubs and galleries
- Urban design
- Product design – light fittings, architectural design, furniture, cladding, and structural systems
- Street Furniture – lights, bus stops, bollards, post boxes, signs
- Landscape – soft and hard
- Bridges
- Temporary or portable structures – exhibition stands
- Theatre works

4 Age Restriction

The age limit of 45 has been chosen on the basis that many emerging architects are unable to realize designs or develop an original vision before that time, either because of the long education and training period, or because of lack of opportunity.

WINNING ENTRIES

5 Prizes

The total prize money is £10 000 sterling. The Jury may choose a number of winners and highly commended entries (there was one winner with 20 highly commended entries in 1999; three winners in 2000 with 12 highly commended entries; and eight winners in 2001 with 18 highly commended entries).

6 Publication

Winners and those highly commended by the Jury will be published in December 2002 issue of The Architectural Review and on the site www.arplusd.com.

7 Prize Giving Ceremony

The **ar+d** prize giving will be held at the new Danish Design Centre, Copenhagen on 28 November. The winner(s) will receive a trophy designed by Knud Holscher Industriel Design, and will be invited by The Architectural Review and **d line**™ *international as* to the event.

8 Lecture Series

In spring 2003, winners will be invited to give talks on their work at the Royal Institute of British Architects in London as part of the RIBA's Spring Lecture Series (schedule to be confirmed). The programme of talks will be accompanied by an exhibition of winning entries at the RIBA.

9 Worldwide Exhibition

Winning and other highly commended entries will be exhibited at the prize giving, and subsequent exhibitions in major cities worldwide (schedule to be confirmed). Winning boards may be reproduced to protect originals.

10 Other Media

The **ar+d** team will provide information on all winning entries to other architectural magazines, newspapers and relevant media worldwide. Please help us by choosing your preferred local media on the entry form.

11 Providing Additional Materials for Publishing

Additional photography, drawings and other information from winning entrants will be urgently requested for the December publication during the week beginning 30 September. Entry will acknowledge that The Architectural Review and **d line**™ *international as* have the right to reproduce materials in whole or part without payment of copyright (where we are made aware of their names, photographers will be acknowledged).

ENTRY REQUIREMENTS

12 Entries

The maximum number of entries from any individual, group, partnership or larger practice is three – with each entry showing only ONE scheme. As there is a new Jury, work entered for the previous awards may be re-submitted on new boards. Incomplete work, unrealized schemes, projects, CD-ROMS, videos, transparencies, models, prototypes and multiple schemes entered on one board will NOT be accepted.

13 No Entry Fees

There are no entry fees to the **ar+d** award to encourage the widest possible selection of entries from around the world.

14 Boards

Each entry should be mounted on two A2 sized boards, and must include photography (in either colour or black and white), drawings, and if appropriate a brief written description in English. The identity and location of the submission is helpful to the Jury. Maximum board size (portrait) is 420mm x 594mm or approximately 16.5in x 23.4in – preferably lightweight art board or equivalent.

15 Anonymity

To ensure anonymity in judging, no names of entrants or collaborating parties may appear on any part of the board. On receipt, each board and entry form will be allocated a number allowing identification – for extra security please include your international telephone number on the back of the board. Only after the Jury has made its decisions, will the identity of the winners be revealed.

16 Entry Forms

Each submission must have a separate entry form. All entrants must be named in the submission. Please copy the entry form where necessary. Complete the forms clearly and enclose in a sealed envelope attached to the board.

17 Entry Deadline

Deadline for receipt of entries is 17 September. To ensure timely receipt, we recommend using a carrier that guarantees delivery. All entries received will be acknowledged on our website at www.arplusd.com/received.htm as soon as possible after the deadline.

DELIVERY AND COURIER

18 Send to:

Entries should be properly packaged and clearly marked '**ar+d**' on the outside. They should be sent to:
The Architectural Review, 151 Rosebery Avenue, London EC1R 4GB, United Kingdom.

19 Documentation

Please ensure that entries are delivered by the closing date. Entries posted on the closing date will be accepted but must be received before 20 September.
IMPORTANT:
Your entry must be marked as NCV (no commercial value) on any courier documentation. The **ar+d** emerging architecture award will NOT accept any courier charges or taxes resulting from delivery. Personal deliveries to the AR editorial offices are accepted during normal working hours.

20 Return of Entries

Entries will not be returned. The **ar+d** emerging architecture award assumes no liability for loss or damage of entries.

www.arplus.com

ENTRY FORM
Deadline: 17 September 2002
Please complete this entry form as clearly as possible. Photocopies of this form may be used. Complete in capital letters.

FIRM/PRACTICE

ADDRESS

CITY/TOWN

POST/ZIP CODE

COUNTRY

TELEPHONE NUMBER

FAX NUMBER

EMAIL ADDRESS

CONTACT NAME FOR ENTRY

NAMES OF THE DESIGN TEAM

1

2

3

4

5

PROJECT NAME

CITY

The **ar+d** team will be sending information about all the winning entries to media worldwide. Please let us have your preferred choices of your local relevant media:

1 ARCHITECTURAL MAGAZINE .....

2 NEWSPAPER

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ecognition to a talented new generation of
ars it has attracted entries from over 60
omitted has ranged from small domestic
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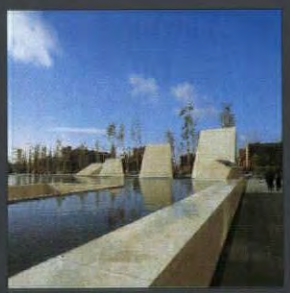

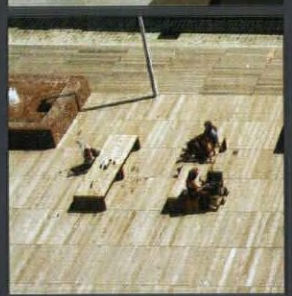

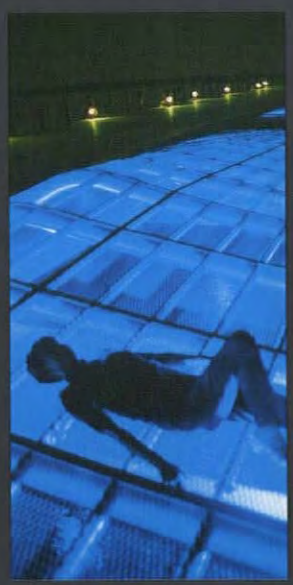

ar+d d line
Emerging Architecture

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Bound volumes (UK only): contact John Lawrence. Tel: 01234 346692

The Architectural Review (ISSN 0003-861X) is published monthly for $105 per year by EMAP, Royal Mail International c/o Smartmail, 140 58th Street, Suite 2B, Brooklyn, NY 11220-2521. Periodicals postage paid at Brooklyn NY and additional mailing offices. Postmaster: send address changes to The Architectural Review, c/o PSMJ Resources Inc., PO Box 95120, Newton, MA 02495.

THE ARCHITECTURAL **REVIEW**
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FOUNDED 1896
Published monthly
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ABC circulation 23 211 (audit issue May 2001)

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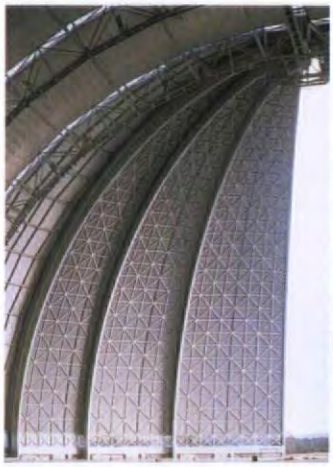

Airship hangar by SIAT (p56)

Biology institute, Heikkinen-Komonen (p52)

Trade fair hall by Nicholas Grimshaw (p60)

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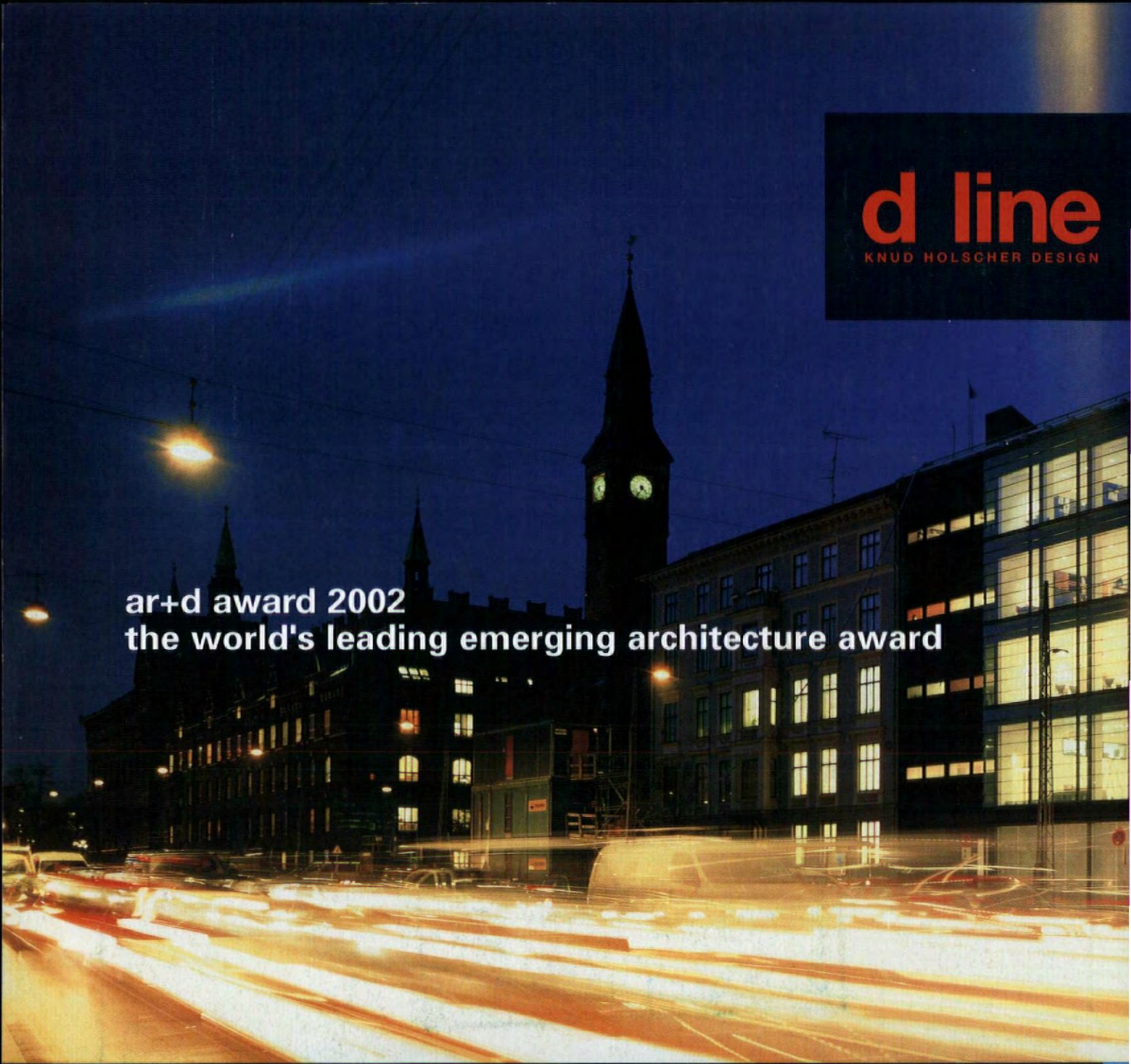


ar+d award 2002
the world's leading emerging architecture award

Inaugurated in 1999, the **ar+d award** for Emerging Architecture, conceived by The Architectural Review and **d line**™ *international as*, manufacturer of architectural design products, has become the biggest and best award for young architects in the world. Intended to bring wider international recognition to a talented new generation of architects and designers under 45, in previous years the award has attracted entries from over 60 countries world wide.

Deadline for receipt of entries is 17 September.

For further information:

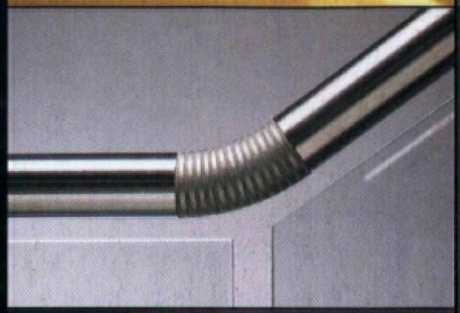
E-mail: info@arplusd.com
Internet: www.arplusd.com

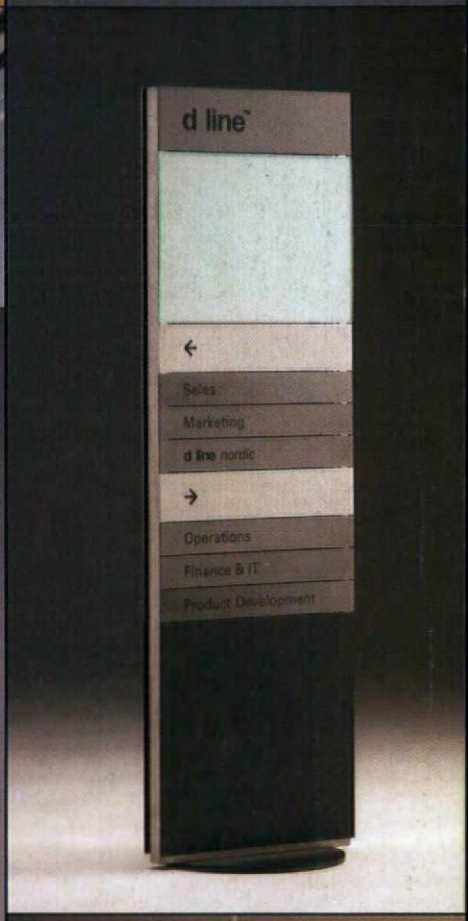
Architects: Henning Larsen

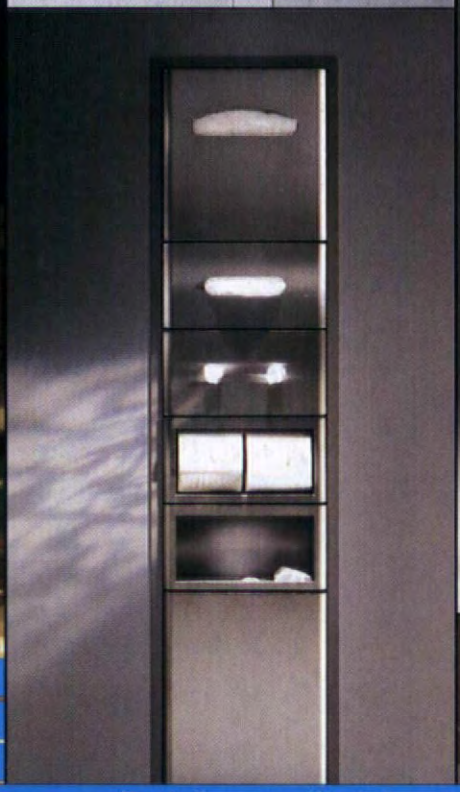
Photographer: Egon Gade

Project: Danish Design Center, Copenhagen

ar+d d line
Emerging Architecture







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Elevator hall boasting sophisticated design.

Mr. Derek Van Den Berg
General Manager of Property Service
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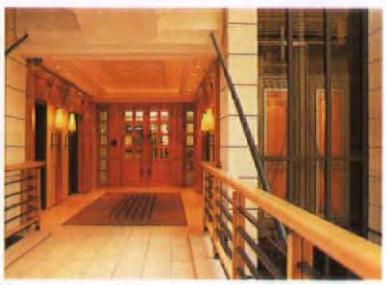

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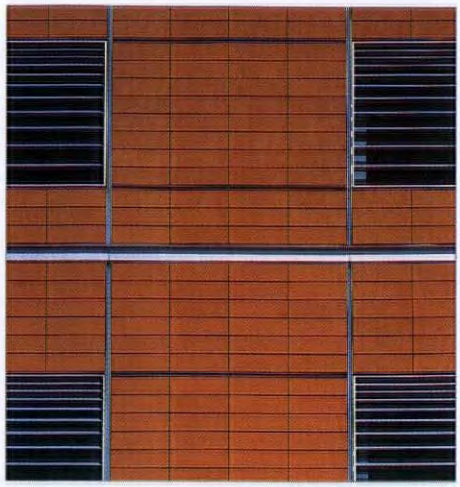

Donald Danforth Plant Science Centre, Gartner Street, St. Louis, USA, Architects: Nicholas Grimshaw - Partner, San Franzisco, H O & K, St. Louis

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(the) european (hotel design conference) 2002

30 October 2002 ■ Royal Institute of British Architects ■ **London W1**

Hip or Hype:

Does Design Really Add to the Hotel Proposition?

Sponsored by EC HARRIS

Hip or Hype is the first European hotel design conference to be held in London, and will challenge pre-conceptions and examine what value, if any, design brings to hotels.

Keynote speakers include Herbert Ypma of Hip Hotels and Gordon Campbell-Gray of One Aldwych. An exciting line-up of speakers will debate issues including:

- The value of design with the hotel brand marketing mix.
- 5*+ - The last word in luxury; service or design?
- Does good design demand a good client?
- So, a great design but on budget and on programme?
- Do hotels need specialists to design them?

Speakers

Noel Pierce, Portfolio
Chris Rouse, Insignia Hotels
Frank Croston, Holiday Inns UK
Giles Sheperd, The Ritz
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view

FRENCH EROTOMANIA – FADING IN THE GARDEN AT CHAUMONT-SUR LOIRE? AR+D GOES TO MANHATTAN WITH BEST YOUNG ARCHITECTS; THE 12TH COLORCOAT BUILDING AWARDS; SPECTRUM; SUTHERLAND LYALL HACKS HIS WAY THROUGH THE ELECTRONIC UNDERGROWTH; VIEW FROM ATLANTIC CITY; RAMALLAH ARGUMENT RAGES ON.

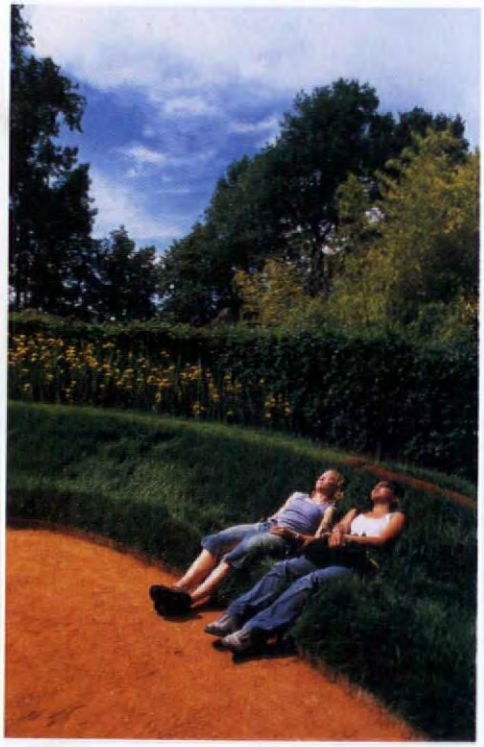
TITILLATION AND CHIPPINGS

The garden festival site at Chaumont-sur-Loire is set on hinterland behind château and basse-cour. It contains two landscaped walks – Vallon des Brumes and Sentier des Fers Sauvages – but for the most part is laid out much like a traffic-free suburban housing estate, with permanent trimmed beech enclosures at the end of a series of culs-de-sac to contain the small temporary gardens made for each festival. This year's crop of 25 such gardens were selected from some 450 projects on the theme 'Eroticism in the garden'.[1]

Three of them suggest that Pop Art and the late great Niki de Saint-Phalle are currently enjoying a revival in French art schools. An arbour 'where gardening is bliss' takes the form of a huge abandoned frilly black and red corset encased in gauze and polythene, its ribbons and reinforcement 'invaded by climbing plants' and (in theory at least) by 'numerous red flowers' [*Entrelacets* by a team from Angers School of Art]; an outsize pair of pudding-pink breasts 'emerging from an ocean of even pinker flowers' (yet to materialize at the time of writing) beyond red-painted ironwork [*Eh, tu me soutiens?* by another team from Angers School of Art]; and a garden composed of Champagne vines adorned with bags of knobbly gourds, life-size effigies of breasts wrapped in barbed wire, phallic toadstools and other artefacts intended to illustrate that, 'like grapes, women's breasts inebriate body and soul' [*Jardin d'Ivresses* by a team from Rheims School of Art and Design].

Udder-like clusters of inflated pink rubber gloves and loud intermittent croaking – perhaps emitted by some of the American bullfrogs currently invading France – evoke the presence of teeming nature in a bucolic pond setting where flattened patches of straw among reeds suggest recent amorous activities [*Le nid des déesses Mappa* by Duthoit & Barbier of Hémisphère, France]. Elsewhere, off-white latex gloves, or what is left of them, texture the sides of a 'graphic uterine passage' leading to an inaccessible roofless rotunda. The 'virginal white garden' inside is visible only through sets of funnel-like peep-holes bearing handwritten instructions to shut one eye. So, when fellow visitors do likewise, real pairs of eyes wink back at you between monochrome photomontage panels depicting latter-day wood-nymphs melding with trees [*Le Souffle d'Eros* by Escavi, De Cockborne, Gailhbaud, Bestieu & Flamerie, France].

The peep-hole device is much employed, to divers ends. Varying degrees of blurred vision are explored in a 'maze going nowhere' composed of irregularly pierced white gauze screens slung between parallel rows of vervaine and other sense-enhancing plants [*Jardin flou* by Bisbe, Dauge, Aguilar, Magnusson, Tous & Vespasiani, Barcelona]. Laid-back Caribbean good humour is portrayed by a makeshift physic garden full of aphrodisiacs and remedies for impotence, all carefully labelled and guarded by scarecrows, round a



Eloge de la Sieste.

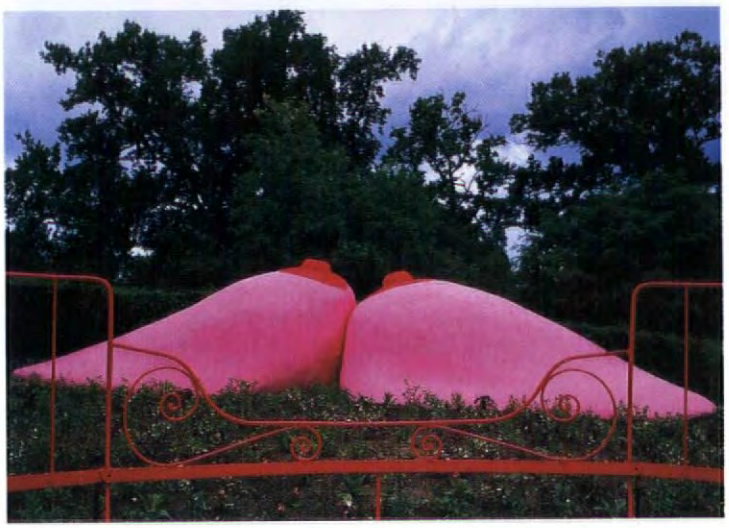
Erotomania/Erotomachia.

Jardin cokain.

Jardin Flou.

Souffle d'Eros.

Green Phantasy Landscape.



Et tu me souviens.

bright blue potting shed riddled with keyholes to show stoned garden gnomes snoozing in wheelbarrows and suchlike goings on inside [*Jardin cokain*, Tom Thumb's garden party by P.-A. Collin, Bordeaux Academy of Art]. And a much darker side of nature is evoked by a simulated building site where spy-holes in hoardings reveal an urban wasteland strewn with horribly mutilated shop-window dummies [*Erotomania / Erotomachia* by Orsingher & Bailly, France].

A passing school party made a bee-line for an ingenious tree-house affording views of the Château and the Loire across a small cabbage patch [*Le nid des ... quoi?* by students at Chaumont Conservatoire of parks, gardens and landscape]. Conversely, I was nearly mown down by a three-generation family group beating a hasty retreat from what at first looks like a large, tacky dolls' house on a heap of tarmac. According to the information board, it represents a late eighteenth-century villa built by the Prince of Anhalt-Dessau to house a collection of erotic paintings from Pompeii (displayed in miniature at every window) in a landscape setting resembling an erupting Vesuvius [*Villa Hamilton* by J.-B. Moirgeat, France].

Other references to the past include sculptural forms inspired by topiary techniques studied at Levens Hall, Cumbria, set amid fractured paths and parterres [*Erotica, les chemins de la séduction* by Julia Barton, Great Britain]; traditional Genoese pebble-paving techniques deployed to provide textures for visitors to experience with their bare feet [*Risséu, le Caillou* by Viarrengo & Gelati, Italy]; and a reinterpretation, in plants, of the 'Fantasy Landscape' by Danish designer Verner Panton shown at the 1970 Cologne furniture fair [*Green Phantasy Landscape* by Reynes-Dutertre, Delacroix, Dutertre & Debruyn, France].

Two gardens from earlier festivals have been retained and replanted: an essay in dry-stone walling first made to mark the Millennium and now planted with thistles and umbelliferae [*Palestine* by Marmiroli, France, & Whalid, Palestine] and a mirror-garden featuring a river of colour-differentiated glass chippings [by Barzi, Casares & Co, Argentina].

Weed-smothering chippings, in numerous materials and colours, seem to be one of the festival's specialities. Copious quantities are employed in the temporary gardens and samples are to be found, too, in the Jardin Expérimental where ideas from previous years are developed. But titillation and chippings are not everyone's cup of tea and, if muttered grumblings are to be believed, several visiting Frenchwomen could find nothing to fire their imagination.

Instituted to generate new ideas, in the days when Jack Lang was both Culture Minister and Mayor of nearby Blois, the festival now appears to be resting on its laurels. Perhaps it needs a new challenge – finding ways to humanize the singularly inhospitable pedestrian underpass at the nearest railway station, for example.[2]

CHARLOTTE ELLIS

1. 11th international garden festival, Chaumont-sur-Loire (France), daily, 9.30am until dusk, until 20 October 2002

2. The nearest railway station is 1.5km away, at Onzain, on the opposite bank of the Loire; there is no bus service.

Photographs by Yann Monnel.

COLORCOAT BUILDING AWARDS

From its origins as a cheap and functional building material, steel cladding has, over the years, gradually become known for its aesthetic potential. Now in their 12th year, the recent Colorcoat Building Awards seek to recognize this by making a national series of awards for innovative use of the metal cladding. The programme is sponsored by Corus, manufacturers of Colorcoat steel cladding and this year's judges were Rab Bennetts, Paul Monaghan (of Allford Hall Monaghan Morris), structural engineer Hanif Kara, Phil Jones from the Welsh School of Architecture and EMAP Construct Group Editorial Director Paul Finch.

Five category winners were selected from more than 100 schemes submitted, all featuring paint-coated steel in the building envelope. Overall winner was David Morley Architects and Bryant Priest Newman for the Warwickshire County Cricket Club Indoor Cricket Centre in Edgbaston. The innovative Colorcoat roof oversailing both the playing area and the pavilion is cleverly engineered to let in diffused natural light, with an inner lining of white-coated steel to maximize internal reflectivity. Large horizontally folding doors clad in coated steel can be opened up on warm days and for special functions. This is a low-energy, low-maintenance building, carefully and elegantly designed, eminently fit for purpose and full of thoughtful touches. The playing area has support accommodation integrated into an indoor pavilion, which gives views down the line of play, and the profiled coated steel wall cladding evokes the image of cricket pads.

The Sustainable Development Award went to Bauman Lyons Architects for Longside Barns at Yorkshire Sculpture Park, Bretton, near Wakefield.

This £1.5 million conversion of three barns into a sculpture gallery, creative industry studios and café, opened to the public in September 2001 with an exhibition of works by Anthony Caro. The scheme demonstrated that modern steel technologies are readily adaptable to sensitive refurbishment and re-use.The gallery is lit by skylights set in a roof of Colorcoat HPS200 steel, a good example of appropriate use of materials. A clerestory on either side, and a flush panoramic window extend across the full width of the facade which faces across a valley. One off-centre bay window extends upwards, bringing views of the sky in addition to the broad sweep of the hills. The building is perfectly comfortable in its context; the new glazing, roofing and rendered walls add refinement to what still looks to be a utilitarian building, whose former agricultural role is not in doubt.

The Colour Award was won by Irish architects Wilson Architecture for Plot 1, Blarney Business Park in County Cork. This signature project for a 28 hectare business park in a scenic area outside Cork city won over the panel with its finely judged use of colour. The intention was to replace a former hedgerow with a curtain of metal panels in various shades of green. The vertical profiles of the cladding echo the vertical form of nearby trees and hedges. The building is stepped on profile; this, together with the random fenestration, breaks down the building's mass and integrates it with its surroundings.

The Detailing Award went to Wellwood Roofing Services for the Versalift crane mounting factory and offices in Burton Latimer. In this case the detailing award goes to the cladding contractor, not to the architect. But the judges made a special point of praising Scott Tallon Walker Architects for a building of great simplicity and dignity. Rather than bury the small amount of office content within the large factory box, the offices have been pulled out slightly from the main building, reducing the scale of the development when seen from the nearby main road. But the scheme's real achievement is its attention to how it is made and its simple but rigorous detailing.

Finally, the Profiled Metal Award was made to O'Riordan Staehli Architects (ORSA) for the Merchants Group Call Centre in Cork. The judges commended the use of varying cladding profiles (all in Colorcoat Celestia) and the subdivision of the profiled sheets into panels, which subtly articulates the various elements of the building.

Winner: County cricket indorr centre Edgebaston by David Morley Architects and Bryant Priest Newman

Colour award went to Wilson Architects for their business park in County Cork, Ireland for abstract use of hedgerow.

browser

Sutherland Lyall continues to explore world architecture, cutting his way through the tangled electronic undergrowth.

Rum Outram

English architect John Outram has long defied classification. Look at www.johnoutram.com and you'll see what I mean. You could, I suppose, call him a kind of Classicist – except it's kind-of Classicism out of Louis Kahn who was, if memory serves me, one of Outram's heroes back in the early years. On the other hand maybe he's the true inheritor of the Classical mantle. Whenever you jeer at latterday retro-Classicalists they point out that the tradition they espouse is vibrant and innovative and creative and continuing. You look at their architecture and say 'Oh, yeah? How about Classical-by-numbers instead?' But not Outram. One of his many (and historically correct) propositions is that the architecture of Classical times was not white, pure, timeless stuff, but was painted in a riot of quite savage colours. His own smallish oeuvre is colourful beyond belief. One of his other propositions is that the orders are up for grabs in the sense that he's quite happy to invent new ones including the Robot Column with structural glass support – which is a kind of anti-capital. And Outram loves to write. His text is full of redundant capital letters and is lavishly verbose. But it is consistently unexpected. Here's one random surprise on the orders: 'Quinlan Terry [a contemporary English Classicalist] ... considers that the Canonic Orders were given by God Himself. But then if we had been meant to fly, God would have given us wings whereas we know it was the Wright Brothers'. Outram is the inventor of Blitzcrete, Doodlecrete, Videosecco and Video Masonry and you're going to have to check it out yourself on this wonderful ramble of a site. I wish, however, Outram could grasp that dark blue on black crossheads are impossible to read on screen.

North of the border

If you operate in London you are conscious of a stream of disapproval/envy/hatred directed inward from the architectural community around the rest of the United Kingdom. Nowhere is this stronger than from north of the border. So that anything I, despite my name and ancestry, say about the new site www.scottisharchitecture.org will be taken as an example of London bias. Whatever, here goes. This is an all moving speaking site. It starts with a wireframe of the Lighthouse, the building occupied by the Scottish architecture centre. It swoops and rotates and settles down with its corner tower transformed into nuts – no, the things you put on bolts. These diminish in size, turn blue and start spinning when you put the cursor over them and the name of the sub-section of the site they represent appears on the right in a box. Moving around involves, sigh, more rotating nuts and text spelling itself out and, aaarg, there's an animated presenter, Jinny, I think she called herself, who in dalek tones finds it 'so groovy being a virtual architect ... if Mackintosh were alive now he would probably be virtual ... Anyway enough about me ... we are the envy of the architectural fraternity in England.' See what I mean. You can imagine the design committee – for this is a camel of a website – sitting around in heavy overcoats against the grim Glasgow chill, offering to script and direct the videos and animation – and because they were the client, actually getting to do these things. Amateurishly. Remember the Browser adage: Just because you can, there's absolutely no reason why you should.

Optimist?

I'm about to run a campaign to make all web designers list on all their home pages the last update of their sites. I know you can look it up under File/Properties/ but what a pain. It should be there on the opening screen.

Resquiat in pace

There's also the issue of what to do with your site when it gets to be too much for you – or the faculty pulls the funding or your spouse tells you that there are plenty of potential partners out there who could be more fun. One way not to do it is to hide the fact from visitors. The now unsupported Florida-based e design (just for the record it's at sustainable.state.fl.us/fdi /edesign) lets you flop around the site and only when you hit News do you discover that this is now an archive site and for sale: 'free or best offer' reads the lugubrious sign. Pity. It was about best-practice in design and planning and, virtuously, it has a date – though the latter is two years old. There is still a searchable archive but you feel just like those blokes who boarded the Marie Celeste. Maybe it's best to simply kill a site completely rather than wait for better times. Trouble for that is that the current buzz is that more and more web sites are going pay-only/mostly.

The unknown architect

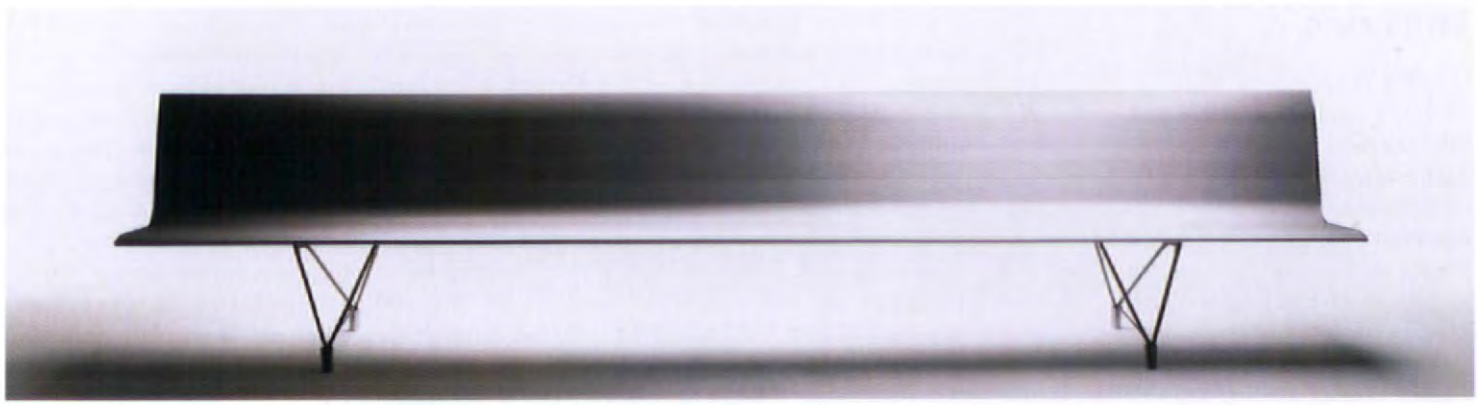
There are some very strange sites about. And that's just in architecture. One I have had on my list for some time is www.cupola.com/bldg-ixc.htm. As it says on its home page it is 'an eclectic collection of historic architecture, fine art, picturesque landscapes, word play ... It is also a great place to learn more about cupolas and where to find them.' And indeed it is. Technically its landscape views tend to the Sublime rather than Picturesque but there are also collections devoted to American capitol buildings, feline sculpture and, among many more, an unknown architect building index. The latter is taxonomically intriguing because if you were looking up a building you might not necessarily know that its author was unknown. I think I've got that right.

One lady driver

'Warning! You are about to enter a web page which describes the most powerful technology of the home design/construction industry' announces the home page of Chief Architect at www.compuconcal.com. 'GOD BLESS AMERICA' plus four waving national flags. The site reports how an average-intelligence housewife designed a two-storey dream home with the program. 'She now has a full time job designing houses.' Who needs seven years hard? You laugh at the sexism, but there's a lot of this about.

Sutherland Lyall is at sutherland.lyall@btinternet.com

The AR had a reception at the New York office of Buro Happold last month to promote the ar+d awards which are supported by the inventive international firm of consulting engineers. AR Editor Peter Davey is here expounding the merits of some of the previous award winners, whose work was shown on the walls.
The ar+d awards celebrate the work of young architects and designers, and are now in their fourth year. They were founded by the AR in partnership with the distinguished Danish architectural design firm, d line. Awards are truly international and are open to all who have built anything or caused something to be made provided that they are under 45 years old. So far some 50 architects and designers from many countries have been honoured. This year's jury will be Stefan Behnisch, Margrét Hardardottir, Rick Joy, Carme Pinós, Hin L. Tan, Peter Davey.
Entries must be received by 17 September to be eligible for this year's awards. Entry forms are to be found inside the front cover of this issue of the AR. Further information from peter.davey@ebc.emap.com. or from www.arplus.com



Aero: extruded aluminium bench on stainless-steel wire frame.

AR SPECTRUM AWARD 2002

At Spectrum 2002, held in the Commonwealth Institute, London (previewed May 2002), three exhibits won an AR Spectrum Award for Design Excellence, and three more were highly commended. On this, the sixth occasion, judges were Sally Mackereth of Wells Mackereth Architects, Lorenzo Apicella of Pentagram Design, and Arnold Chan of the lighting firm, Isometrix, and the chairman was Penny McGuire, AR senior editor. AR editor, Peter Davey presented the awards.

Naos Operative: aluminium and glass table.

P4: glazed screens.

Fold: steel frame and integral foam chair.

First prize

Aero: aluminium bench (without arms) by Lievore/Altherr/Molina for Sellex, from Chorus contract furniture.

Judges found it 'beautifully engineered with an innate beauty', and commended the design's simplicity and clarity. It was, they said, 'the ultimate beam as bench'.

Naos Operative: 8m x 2.4m table with polished aluminium frame and lacquered glass surface, by Unifor from Ergonom.

'Supremely elegant and elemental, not endlessly flexible', said the judges.

Fold: chair with steel frame and moulded seat of integral foam, by Piergiorgio Cazzaniga for Tagliabue, from Bianchi Furniture.

Judges liked the tension between the dense foam and slender frame. 'A cool design for a low price'.

Highly commended

P4: light and flexible glazed screens in translucent polycarbonate and frosted and coloured glass.

Judges found it 'full of light and well-detailed – a very pleasant addition to an office'.

Ginseng: stool in tubular steel with formed seat in ply laminate rebated onto frame, by Pengelly Design in collaboration with B[I]ML and available from B[I]ML.

Judges liked the reverse cantilever and found the design 'intriguing, well thought-out and detailed'.

Ginseng: tubular steel stool.

Path: upholstered chair on castors by Gerard Taylor for Orange Box.

Judges commended the alertness, simple outline, comfort and versatility of this chair from a young company.

Path: armchair on castors.

letters

SUICIDE TERROR

SIR: I write in my capacity as Chairman of the Association of Engineers and Architects in Israel.

The Architectural Review is a journal of high standing, which gives us a picture of what is happening in the architectural field around the world, and it is much appreciated by our members in that role.

The article by Tom Kay in your May edition 'View from Ramallah' is one sided and utterly partisan. We are shocked and saddened that you chose to publish it, and we urge you to restore some balance by conveying to your readers some of the realities faced by us in our daily lives.

These realities are best explained by photographs taken at the scenes of the attacks on ordinary Israelis going about their family and social activities. Each of these attacks was organized and directed by Palestinians from territory under their control, the consequences were 110 Israelis; men, women and children murdered and 813 maimed by Palestinian suicide bombers within Israel, in a period of three months, paralleling the stay of T. Kay in Ramallah. We have selected and attached 11 photographs showing the results of some of these actions. The images show only building damage, other pictures showing the dead and injured have been withheld out of respect for their families.

Two of the photographs sent by the Association of Engineers and Architects of Israel, showing devastation caused by Palestinian suicide bombers.

It would be appropriate, and a courtesy to your readers, to publish this letter, together with the attached material in the next issue of AR, with similar space and prominence to that given to the earlier article.

We urge you most strongly to do so.

Yours etc

ISRAEL M. GOODOVITCH

Tel Aviv, Israel

ARCHITECTURE AS STATE INSTRUMENT

SIR: While not agreeing in every way with what Tom Kay said in his despatch from Ramallah (AR May 2002), I am writing to defend your right to publish such articles. As you say, the AR is concerned with the creation of the human-made environment, so it is natural that it ought occasionally to comment on its destruction.

Particularly so, when Israelis are clearly using the environment in their struggle against the Palestinians. You may be aware that the Israeli government cancelled the Israeli Association of United Architects' entry to the UIA conference in Berlin because it dealt fairly with the country's policy of planting settlements in Palestine. Rafi Segal and Eyal Weizman, who put together the entry *A Civilian Occupation* on 'the politics of Israeli architecture', suggested that architecture and planning have been 'systematically instrumentalized as the executive arms of the Israeli state'.

'Planning decisions', they said in their introduction to the catalogue, 'do not often follow criteria of economical sustainability, ecology or efficiency of services but are rather employed to serve strategic and political agendas'.

The entry was intended to ask 'what role do architecture and planning play in state strategy, and what is the role of the architect and planner', but few will be able to consider these questions now that the exhibition has been suppressed.

In this context, the Kay article seems a useful, keenly observed contribution to what should be one of the most important debates for our professions today. Compared with some of the other contributions you published in the last issue, it seems remarkably restrained.

Yours etc

JAMES BROOKS

Email address supplied

SHALLOW, ONE-SIDED

SIR: I can certainly see the point of political report in a professional magazine, especially as architecture always was and will always be political.

I cannot however accept the shallow one-sidedness of the article 'View from Ramallah' (AR May, p32). Surely such a biased report about a building would not cross the threshold of your magazine. Dealing with politics, wars and human rights does not allow a professional magazine to step out of its attempted objectivity – on the contrary.

The conflict between the Israelis and the Palestinians in the Middle East is a complex tragedy. Trying to present it in black and white will only damage the attempts that should be made to resolve the conflict.

Coupled with the snobbish, contemptuous articles about Egypt and International Tourism, the style of your commentary articles is slowly turning the Architectural Review into an unpleasant read.

Yours etc

ERAN TAMIR-TAWIL

Tel Aviv, Israel

COWARDLY

SIR: Maybe you should read all of those letters (ARs June and July) once more, because your excuse of a reply to the Israeli readers does not answer any of the claims brought against you.

Claiming that View From is a 'personal account' only proves that you are too coward to take responsibility for your own writers. As someone who lost members of his family, both in Nazi Germany and in Israel (by Palestinians murderers), I find your reply humiliating!

Shame on you.

Yours etc

YANIV KEDMI

Israel

FLIES IN FACE OF DECENCY

SIR: I have always had great respect for your magazine, and for the highly opinionated, but usually very responsible, style of your writers. However, the recent 'View from Ramallah' by Tom Kay flies in the face of all decency.

First of all, since when did your architectural magazine decide to serve as a political stage? Second, I assume your editors review what is going into the magazine – how could they let by such an ignorant, irresponsible article? I was especially offended by captions, which I suspect were not created by Mr Kay, as they were even more biased than the general tone of his opus. To revoke the memories of Auschwitz in the context of that article was a shameless lie in the lowest taste. The Israeli-Palestinian conflict is an extremely complicated one, and should be approached by an outside observer at least with

tact, and with something more than raw emotion.

Otherwise, how about the emotions of the parents of a 14-year old girl blown up two days ago in the quiet coastal town of Herzliya? Of the ordinary Israelis who leave their houses every morning, saying goodbyes to their families and always thinking that they may never see them alive or whole again? One last question I have for Mr Kay, since he rushed to mention that he was a Jew: did he care to broadcast that fact to his Ramallah neighbours? Or is he careful not to reveal it 'unless questioned by an anti-Semite', lest he be lynched by his now-comrades like those young Israeli reservists in Ramallah last year?

Yours etc

INGA LEONOVA

Cambridge, MA USA

CITY MEANS PEOPLE

SIR: I was surprised to read your 'View from Ramallah' (AR May). My astonishment was really that a British architectural magazine, and a Jewish architect wrote about the most recent tragedy of Palestinians in 2002.

The essay was the second time I had read that kind of political flavoured writing in the AR, the last time being October 2001 'View': terrorism and the skyscrapers was the subject of that article. In '1256 AR issue' (October 2001, p28) I was one of those who expected to read about the vanishing of towers, and the future.

My point of view, then, was that the article was architectural, and I am convinced now that the 'View of Ramallah' is an architectural essay too. We cannot separate architecture from its surroundings, politics, sciences, economics, humanities and even wars. What Mr Kay wrote was a description of a city devastated, the matter that at least concerns the urban planers.

Kevin Lynch suggested that the components of a city are districts, paths, landmarks, edges and nodes. I believe the forgotten component (the people to whom we erect) is the most important, because city means people.

Sir, I am sure that Mr Yaniv and Mr Ben Cohen (who debated in AR June 2002 the importance of Mr Kay's piece) would advocate such a viewpoint, if the Palestinian tanks were at Tel Aviv, but unfortunately (or maybe fortunately) Palestinians do not own tanks.

Yours truly

MOH'D ABU-SEER

Amman, Jordan

THE 'TOM' OF ARCHITECTURE

SIR: The word 'tom' has three meanings in Hebrew: (1) as a first name (common in Anglo-Saxon countries, but also found in Israel); (2) the end of something; (3) purity/naivety.

The May 2002 edition of the Architectural Review includes a story called 'View from Ramallah' – four pages taken from the diary of a British architect Tom Kay, who defines himself as a Jew 'only if questioned by an anti-semite', a settler in Ramallah. Apparently, such an interesting 'beast' does exist. Politics and architecture, politics and construction have been closely interrelated over the years. Architecture and construction have many references: economic, cultural, political, all on top of their practical applications of housing, storage and utility.

In my opinion, the diary described in the AR has no professional relevance to the acclaimed magazine, whose focus should be exactly as its name suggests – Architecture.

A one-sided, full of hatred view was expressed in the diary, cynically using the magazine in making a statement with a target audience unable to quickly respond, when the 'tom' in it is the first name of the author as well as the 'end' of the architectural section in this edition of AR, while the professional content describing important projects is significantly less comprehensive than Tom's 'tom'-less sting – where no pure intent is to be found.

One photograph, titled 'Echoes of Auschwitz', shows a pile of eyeglasses in which one can identify pairs of sunglasses, that, supposedly, fell out of a display in a shop, 'Medical Aid Ophthalmic Centre' as Kay's name for optical shop. Without any 'tom' (naivety/purity), with strong hatred and distortion, the author compares these sunglasses to those eyeglasses taken from the children and adults, living souls, who were butchered in Auschwitz during the Holocaust.

I was not familiar with Tom Kay as an architect. He chose to make himself famous as the architect of hate, and as such, managed to be accepted into our professional Pantheon and will probably be known as the hated architect.

My view of the author is clearly stated above. I have even stronger reservations concerning the conduct of the magazine. It was Kay who drew his combat pen, but it is the editorial team of the AR that reviewed his diary and decided to publish it. With such people I had better take a careful approach, since a photograph and a published word can be just as deadly as any common bomb.

Yours etc

URI ZRUBAVEL

Architect & Town Planner

Tel Aviv, Israel

(The President of Israel Association of United Architects)

BIASED REPORTING

SIR: Shame on you! I read your article 'View from Ramallah' in AR May 2002. What the material in the article has to do with architecture is beyond me. Furthermore, I do not understand how a respectable publication such as The Architectural Review can publish such a one-sided, biased, unverified article such as this.

Kay, in the very first (bold) paragraph says that he moved to Ramallah in Palestine. I am confident that your readers are intelligent enough to know that there is no country called Palestine! There is an area controlled by a corrupt terrorist organization known as the Palestinian Authority. The article goes downhill from there. Note too, that Kay's own government suggested that he not visit Ramallah, much less move there.

I must say, however, that Kay has a vivid imagination. He states that the area was under constant curfew, yet we get his 'first-hand' information from all over town. He says that he went out looking for cigarettes but from the way he writes, he may have been looking for something a little stronger! (With the fantastic views from his apartment why do we get two pictures of the same building – a building that looks like it should have been knocked down years ago, before it falls down. This one building has many broken windows, but broken from which side, and by whom? The other buildings look in good condition. Most of the plastic signs are intact! And not even one picture of a tank or a soldier.)

How strange it is, after two weeks of curfews, etc. On 10 April: 'Supper this evening was of beautiful salads'. It is but a simple slip such as this that reveals just how unbelievable the story really is.

Yours etc

MOSHE APPELBAUM

Architect

METALLIC TASTE

SIR: The two 'black' pages of your comment on 'Building with Metal' seem to be very appropriate to the two photographs shown (AR June 2002). The twisted columns of Bernini's baldacchino above Saint Peter's tomb, as yet not found, do not announce his resurrection. Perhaps by re-using the bronze plates of the Pantheon's portico their intention was to demonstrate rupture of Roman-Catholic Church from Roman Antiquity.

But for that religious purpose I do prefer, together with the commentator, to go to Saint Peter's church in Klippan or to Saint Mark's church in Björkshagen in Sweden, both designed by Sigurd Lewerentz, where the brick masonry

and brick vaulting, resting on steel beams, is recalling the essential and dear to masons' truth of construction.

One should also notice there the beautiful usage of copper in many details. What better testimony to spiritual feelings of builders and participants.

As to Frank O. Gehry's titanium, you rightly write: 'His Bilbao Guggenheim showed the potential of seemingly incorrosible material'. Unfortunately the cladding of titanium sheets over a complicated steel structure had produced a chemical reaction exposing rusting stains in many joints of arbitrary curved surfaces, subjected to the humid Atlantic climate of Bilbao.

'Yes' to what you say: 'Our main task as a profession is to reduce consumption of energy in buildings, both in construction and in running'.

Architects – take a good notice before is too late.

Yours etc
ADAM MILCZYNSKI KAAS
Pamplona, Navarra, Spain

SUTHERLAND'S RILED, TATE'S REVILED

SIR: Oh dear, Sutherland's riled, Tate's reviled! (AR May, p95). As Tate's former business partner I register an interest. I write this from a hotel in Minneapolis where I have just presented a paper to a symposium on public art at the Minneapolis Institute of Arts. A paper that first established a personal theoretical position (influenced by Tate) followed by slides of my built works (some designed with Tate), and particularly Warrington Town Centre which has been recently completed in collaboration with American artist, Howard Ben Tre. I am moving on to Chattanooga, where I will be advising the City on the implementation of their new George Hargreaves master plan for the downtown and the integration of art into the public realm.

Last week it was Derby Arboretum where my current practice, Landscape Design Associates, has envisioned a plan for the restoration and development of one of the very first parks specifically designed for public use, by that extraordinary theoretician J. C. Loudon, and opened in 1848. Through our historic research, we confirmed that it was visited by two of the great founding fathers and theoreticians of landscape architecture, Frederick Law Olmsted and Andrew Jackson Downing. The plan is driven by a contemporary reading and development of Loudon's theory and vision. A couple of weeks ago it was Barnsley with Will Alsop working with the community to achieve the vision we have been working on together there for Yorkshire Forward.

My teaching at the Bartlett has brought me into contact with Colin Fournier, project architect for La Villette – we have debated the strengths and weaknesses of building 'theoretical' models. For what it's worth, I still believe that La Villette is 'outside architecture' (parkitecture?) not a park. In my writing, practice, and teaching of landscape architecture in the UK, US, Malaysia, Hong Kong and Australia since the 1970s, I have striven for a theoretical base. And I am not unique as a landscape architect in this – check out the lineage of Tunnard, Jellicoe, McHarg, Jacobsen, Hargreaves, Corner, Bell, Thompson, Latz, etc. Lyall's contention that there has been an '... absence in landscape of even a whiff of theory ...' doesn't bear scrutiny – indeed, he has contributed to it himself. The point, contrary to Lyall's view, is that some landscape architects – including Tate, and many others with an interest in landscape, have been consistently developing landscape theory. And that 'looking back', there always has been 'visual design talent' out there – again check out Tunnard, Jellicoe, Jacobsen, etc.

Lyall's view of the 'corporate landscape dross' of the 'Clouston landscape design empire' has translated into a personal attack on Tate. This is unfortunate, unfair, and clouds the real value of Great City Parks. Readers should look at AR April 1991 (pp63-67) for a description of Sha Tin Town Park, Hong Kong, directed by Tate, and judge for themselves whether this is 'corporate landscape dross'.

Readers should also, perhaps, check the other reviews of Tate's book which have been overwhelmingly positive. Or, just buy it and have at hand what cannot be found elsewhere in one book: 'not a history but a comparative study of 20 public parks in the northern hemisphere based on the proposition that well planned, well designed and well managed parks remain invaluable components of liveable and hospitable cities'. Because it's true: it is, they are, and therein lies its value. Incidentally, the book is worth the cover price for the pictures alone, many by the late, great landscape photographer Martin Jones.

Yours etc
JOHN HOPKINS
Peterborough, England

errata

The new range of luminaires by Fagerhult (AR June, p98) is called Ten°, and not Teno as printed.

Photographs of Historical Park, Kalkriese, Germany (AR July, p34) were supplied by the architects, and were not taken by Klemens Ortmeyer.

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BASF

Part of Atlantic City's four-mile long Boardwalk, now dominated by the lurid hulks of casino hotels.

Fibre-glass gladiators adorn *faux* triumphal arches at Caesar's – stage-set architecture at its most surreal.

Halycon days – the Boardwalk in its early heyday. Visitors flocked to beaches and amusement parks.

The city's original barrel-vaulted Convention Hall still stands, but the adjacent pier is now a shopping mall.

View from Atlantic City

In its heyday, Atlantic City used to be the 'Queen of the Coast' – now it is trying to bring some life back to its soulless heart.

The transatlantic in-flight movie contrived to set the scene rather well. *Ocean's Eleven*, Steven Soderberg's knowing remake of the '60s Sinatra bratpack movie about a Las Vegas casino heist features a brief detour in Atlantic City (my final destination). Soderberg's vision of the high rolling life is undoubtedly seductive, conjuring up the edgy blare and glitter of casino halls, with fortunes and reputations turning on a single card. But this bit-part in a remake is not Atlantic City's first appearance in the movies. Louis Malle's eponymous 1980 film evinced a more gritty European *vérité*, capturing a bittersweet sense of melancholic despair and a down-at-heel town living on past glories. (Burt Lancaster plays an ageing mobster and Susan Sarandon an aspiring blackjack dealer who wants out of the oyster bar.) In the background, the tottering remnants of the city's huge old Boardwalk hotels reluctantly yield to the wrecking ball to make way for the spanking new casino complexes that promise jobs, futures and socio-economic uplift.

Seen from the approaching freeway, Atlantic City lives up to its celluloid reputation for both glamour and melancholy. After an hour's drive though the forests of New Jersey it appears as a triumphal shimmer of light on the distant horizon, a coruscating stage-set of winking, scintillating neon. Trump Plaza, Caesar's, Bally's, Trump Taj Mahal, Tropicana and the Hilton are luridly emblazoned across the night sky, like modern religious mantras. (It is said that one of the most memorable travel experiences is flying into Las Vegas at night and drowning in light; you get some sense of how surreal and captivating this might be on the approach to Atlantic City.) It's only when you get up close to this star-spangled siren marooned on the edge of the ocean that the cracks start to show.

Atlantic City started life sedately enough. Lying on Absecon Island, its first summer visitors were the local Absegami Indians. Early South Jersey settlers ignored it and there were few permanent residents. The only access was by boat across six miles of bay and salt marsh. Large dunes protected the beach and the place was heavily wooded. Local physician Jonathan Pitney had the notion of creating a 'bathing village and health resort' on the island and joined forces with a group of businessmen eager to develop South Jersey. Engineer Richard Osborne designed Atlantic City on a conventional nineteenth-century grid system. The patriotic nomenclature of the streets, most of which were originally named after US states (and were immortalized on the first Monopoly board) has been joined by more contemporary commemorations such as Bacharach Boulevard. In 1852 Osborne received a railway charter from Camden to Atlantic City (early train journeys took two hours) and in 1854 the city was incorporated with 18 voters electing the first mayor.

Atlantic City's proximity to population centres and its cheap, convenient train link encouraged the masses to flee the stifling cities of the eastern seaboard for summer pleasures by the ocean. The city grew rapidly to provide lodgings, eating places and entertainments. Attractions such as the Boardwalk, which runs for over four miles along the seafront, amusement piers and beauty pageants (the city still hosts Miss America; current incumbent Miss Oregon) were developed to cater for the growing seasonal influx.

From the late nineteenth century to the 1940s, Atlantic City was the undisputed Queen of the Coast. Its population peaked at around 66 000 in the 1930s, when the city's beaches amd amusements provided much-needed escapism from the Great Depression. But cheap air travel marked the end of its pre-eminence as a vacation resort and from the 1950s, Atlantic City went into decline. Its economy had always been seasonally dependent, so when summer visitors stopped coming, its population began to decrease (and is still decreasing). To stop the rot, gambling was legalized in 1976 as a means of attracting new visitors and providing resources for urban renewal and associated uplift. (This gambling-as-a-catalyst model is now being seriously contemplated by British planners as a means of revitalizing the UK's staid and declining seaside resorts.) It meant the end of the grand ocean-liner style hotels, razed to make way for flashy casino complexes, which are little more than huge sheds with even huger car parks attached. Although there is the odd farcical moment (the solemn fibre-glass gladiators heroically adorning the car park at Caesar's, for instance), most of the architecture is irredeemably gross and banal.

As with most American cities, the car predominates, so any sense of human scale is lost. Walking is seen at best a mild inconvenience; at worst, highly dangerous. Apart from the trippers on the Boardwalk, no one walks anywhere, so the cosy European notion of a public realm with streets, shops, squares, cafés and human animation is a non-starter. Hulking hotels are interspersed with featureless parking lots, carious fragments of terraced houses and the odd convenience store. Respectable follks have long since skipped to the suburbs, leaving what passes for the centre to the mad, the marginalized and the dispossessed, while hordes of bussed-in tourists play the slot machines day and night safely insulated in their glitzy casino hotels.

Atlantic City does have a version of public life, but it takes place in the seafront piers (now converted into kitschy, claustrophobic shopping malls), and underneath the vast hotel *porte-cochères*, which accommodate 24 hour comings and goings choreographed by squads of parking valets, bellhops, taxi drivers doormen, and tour guides.

To the casual visitor, there seems little tangible evidence of uplift, despite the rivers of money sluicing round the casino tables. However, the presence of Donald Trump *et al* has had a conspicuous effect on the city's real estate values. In 1976 when the casino referendum was passed, Atlantic City's real estate was estimated at just over $316million. By the early '90s this had risen to $6 billion. Trump is a mogul's mogul and his current Atlantic City empire encompasses the Trump Marina, Trump Taj Mahal, Trump Plaza and Trump World's Fair (there is even a Trump brand of mineral water). With Las Vegas now embracing high culture through its Guggenheim franchise (AR June 2002), can a Trump Guggenheim be far behind?

Some recent public projects do stand out – a sturdy PoMo bus station brings a bit of dignity to the dreary business of bus travel. The gargantuan Atlantic City Conference Center, completed in the mid '90s, is an attempt to rebrand the city as a serious business centre as opposed to a seaside gambling den. Set five blocks back from the Boardwalk strip, the Convention Center is linked to a new rail terminus and is also served by a recently completed Sheraton Hotel. Plans are being developed to link this emerging civic node with the seafront Boardwalk to create an east-west pedestrian axis. Designed by Carter Burgess Architects, The Walk is a low-rise conglomeration of shops, restaurants, and cafés arranged around a series of public squares. Spread over eight city blocks, it is intended to bring a suggestion of al fresco street life to the currently petrified centre. But the casino hotel model still exerts an powerful grip on the collective imagination. Atlantic City's other main mega development is The Borgata by Marnell Corrao Associates, a mammoth new casino hotel rising up on the north-west side of the city, near the Trump Marina. Opening in 2003, it will have over 2000 guest rooms, 11 restaurants and 135 000 sq ft of gaming. Billed as a 'place to interact, play, indulge and escape', its vaguely *jazz moderne* streamlining and flashy gold mirror cladding fail to mitigate its breathtaking bulk. In Atlantic City, nothing succeeds like excess – and the house always wins. CATHERINE SLESSOR

Atlantic City waterfront is characterized by an abrupt change of scale between the hotels and low-rise city.

The Borgata under construction – the city's newest casino hotel, designed by Marnell Corrao Associates.

The Borgata as envisaged by its architects, a towering gold mirror-clad bulk containing over 2000 rooms.

September

This issue of the AR is devoted to Bigness. The next, September, is about small buildings: the crucibles in which architecture is so often refined. We range from the sensuous delights of the small works for the Swiss Expo by architects as different as Jean Nouvel, Diller + Scofidio and Co-op Himmelb(l)au to a micro skyscraper in New York by Raimund Abraham. Jarmund Vigsnæs show how to add to an existing house with invention and their usual immaculate detailing. Dirk van Postel's Temple d'Amour shows how stone and glass can combine to concentrate experience, while Toyo Ito working with Arup's Cecil Balmond dissolves his pavilion in London's Hyde Park into air and nature.
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design review

LANDSCAPING, MILLBANK, LONDON
ARCHITECT
ALLIES AND MORRISON

2

3

After the Tate Gallery was divided in 1992, and its international modern and contemporary art holdings moved to Bankside, a scheme to upgrade the (renamed) Tate Britain at Millbank took shape. John Miller + Partners were announced the architects (p70) and Allies and Morrison asked to carry out external improvements and landscaping.

If Miller's scheme aerates and discreetly modernizes the interior of the main building (increasing space by a third), Allies and Morrison have pulled the site together externally. On the south side, the Edwardian gates have been moved to create a more generous space at the foot of the main flight of steps to the portico and a more fluid connection with the gardens on either side.

Geometry is simple and orthogonal. A unifying plinth of York stone runs around the gallery, encompassing the new Atterbury Street entrance on the west, and the Clore Gallery entrance on the east.

Formality is softened by expanses of lawn and Brita von Schoenaich's delicately composed planting, which lines the stone paths and which should be an inspiration to all municipal gardeners everywhere. In front of the Clore wing, there is now a new sculpture court, and the terrace and pool that were part of James Stirling & Michael Wilford's original plan have been restored. The Atterbury Street entrance, cut into the Tate's west wall, leads to the new hall, galleries and shop inserted into the building's semi-basement. A 6m wide cut, lined with stone and running parallel to the building face, provides passage from street level to door and you descend from the north by a broad flight of steps or from the south by a gentle ramp, which also gives access to disabled visitors. A glass ribbon running around the edge of the cut at street level forms a transparent balustrade.

The curious business of commissioning two practices where one would have done doesn't always work. But here it has. The simple elegance of Allies and Morrison's scheme, the delight of the gardens, adds to the civilization introduced by new works inside and constitutes a fresh properly designed urban space. Tate Britain is now one of the most pleasurable museums in London. P. M.

Architect
Allies and Morrison, London
Project team
Bob Allies, Graham Morrison, Paul Appleton, Glen Millar, Megan Williams, Andrew Green
Landscape consultants
Schoenaich Rees
Photographs
Peter Cook/VIEW

1
Atterbury Street entrance in semi-basement with stone clad steps and ramps down from pavement level.
2
Brita von Schoenaich's sensitive planting edges stone paths.
3
Ribbon of glass edges cut parallel to building face forms transparent balustrade.

New approach

New landscaping and gardens around Tate Britain pull the disparate buildings of the site together, constitute a new public space and add to the pleasure of a visit.

1 main entrance
2 Atterbury Street entrance
3 Clore Gallery
4 gardens
5 ramp
6 stairs

plan (scale approx 1:500)

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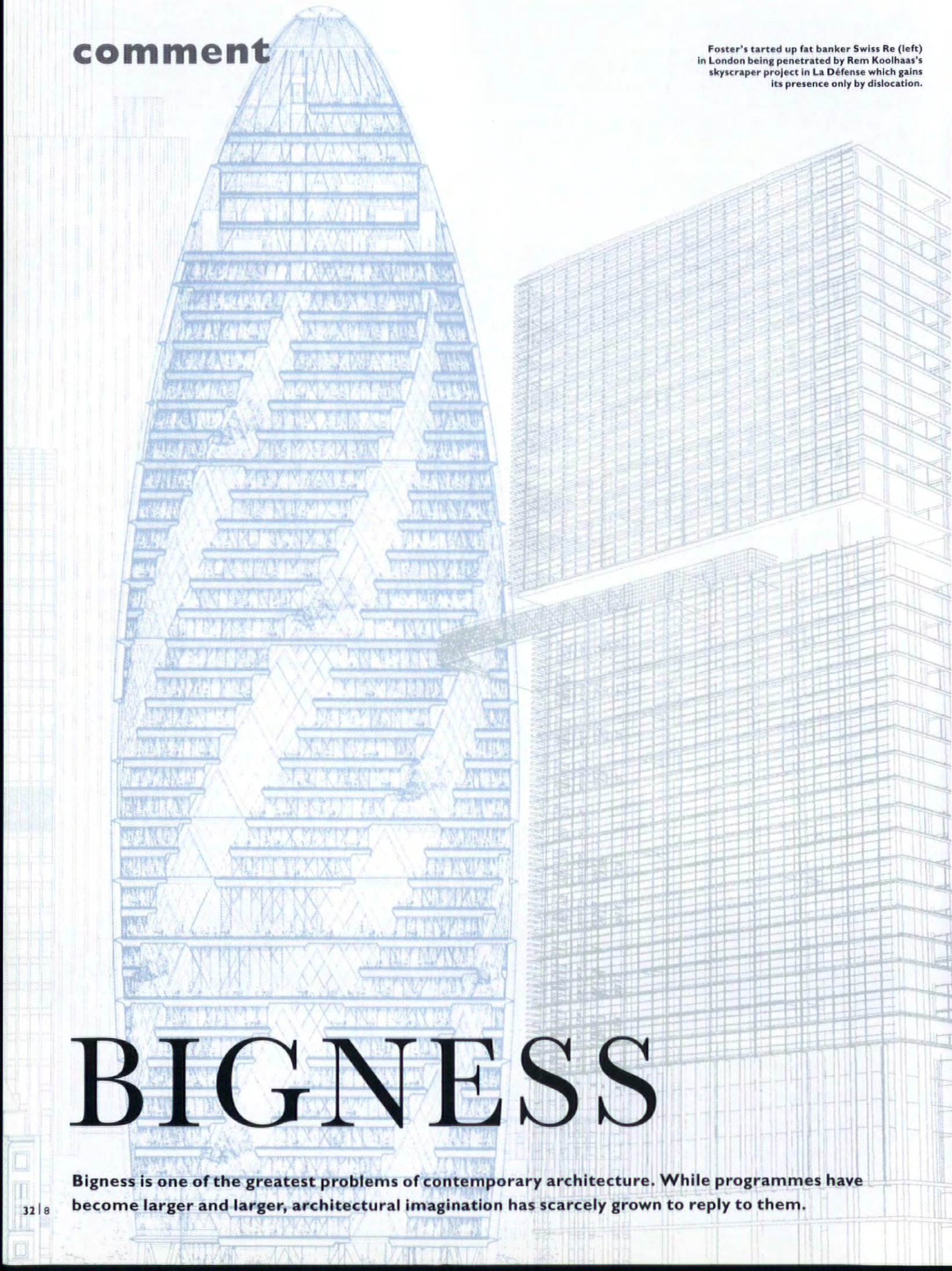


Foster's tarted up fat banker Swiss Re (left) in London being penetrated by Rem Koolhaas's skyscraper project in La Défense which gains its presence only by dislocation.

BIGNESS

Bigness is one of the greatest problems of contemporary architecture. While programmes have become larger and larger, architectural imagination has scarcely grown to reply to them.

Bigness is inescapable. Since the beginning of the Industrial Revolution, civilization has been inexorably set on a course to increasing size. Cities become ever larger and more land-hungry; transport systems become more capacious; corporations have to become bigger and bigger so that they can compete with a hope of success in the global market. We cannot go back. As E. F. Schumacher said, small is beautiful. But a return to the small and disjunct societies of the pre-industrial age would plunge even more of the world's population into poverty and probably vastly increase violence, famine, disease and intolerance.

In architectural terms, if bigness is inevitable, how do we deal with it? We have not done well so far. Models for big buildings have scarcely changed for nearly a century and a half. Tall, we have the tower. Low, there is the potentially endless shed. The theory of design of towers has not altered from the moment when Sullivan decreed that they should have a bottom and a top with an infinitely extensible shaft between. The endless shed is not even lucky enough to have such a primitive proposition. We may not yet have the first mile-high skyscraper so longed for by architects as wildly different as Wright and Foster, but mile long sheds have long been commonplace, though they are little known because they were factories designed by engineers in most utilitarian fashion. The sheds we are brought up to respect are ones like the Behrens buildings in Berlin which have obvious architectural input, or the vast, (though unbuilt) hangars of Konrad Wachsmann. But the Classical pseudo masonry elements of Behrens's AEG turbine hall never seemed convincing in the context of walls of glass and concrete portal frames. And Wachsmann's suggestions were simply terrifying.

Rem Koolhaas was at least partly right when he said that the 'approaching end of the second millennium saw an all-out rush to reorganisation, consolidation, expansion, a clamouring for megascale ... an entire profession was incapable, finally, of exploiting dramatic social and economic events that, if confronted, could restore its credibility'.[1] The trouble with Koolhaas is that, while he clearly perceives the problems, he only too readily throws himself into wallowing in them. For instance, he argues that the 'city no longer exists. The concept of city is distorted and stretched beyond precedent, each insistence on its primordial condition ... irrevocably leads via nostalgia to irrelevance. For urbanists, the belated rediscovery of the virtues of the Classical city at the moment their definitive impossibility may have been the point of no return, fatal moment of disconnection, disqualification. They are now specialists in phantom pain: doctors discussing the medical intricacies of an amputated limb'.[2]

Decency?

Koolhaas has designed (but not as yet built) vast buildings and urban settlements. But the designs do not give much hope that he will be able to inject much decency into life, even though he uses humanistic arguments to justify his approaches: 'If there is to be a "new urbanism" it will not be based on the twin fantasies of order and omnipotence; it will be the staging of uncertainty; it will no longer be concerned with the arrangement of more or less permanent objects, but with the irrigation of territories with potential; it will no longer aim for stable configurations but for the creation of enabling fields ... it will no longer be about meticulous definition, the imposition of limits, but about expanding notions, denying boundaries ... it will no longer be obsessed with the city but with the manipulation of infrastructure for endless intensifications and diversifications, shortcuts and redistributions – the reinvention of psychological space'.[3]

The notion of a new liberated architecture, responding to a new understanding of humanity is backed up in Koolhaas's book with examples like Singapore and Lille. The south-east Asian city state is certainly a great success economically but it is one of the most rigidly organized societies in the world, and has some of the most soulless mass-produced housing. The huge housing programme has certainly provided conditions for decent living in quantifiable terms, but to outside eyes it appears to be only marginally better than the most dismal productions of the former USSR and its satellites. Like the CBD in Singapore, the business centre of Lille, invigorated by the French government's policy of regionalization, and by the Channel Tunnel rail link, has become a disparate collection of architectural gestures, each dumbly shrieking to attract attention to its developers or owners. Scarcely a recipe for endless shortcuts and redistributions.

Suddenly, many of Koolhaas's arguments seem very dated. They smack of the high conservative political climate of the early '90s when the market was deemed to rule all, and environmental issues were very much of secondary importance. Now, even George Bush II has accepted that global warming is really happening (though he strongly disagrees with the rest of the world on how it might be counteracted). With increased cases of chicanery in giant corporations, the market as it was worshipped for such a long time and with such fervour is suddenly seen to be less omniscient than it was.

Sustainable human scale

Sustainability has become the watchword of architecture and construction in the new millennium. Society has become a respectable concept again after the savage attacks on it by people as different as Margaret Thatcher, George Bush I and French post-modern theorists.

But the problems of bigness remain. As Charles Jencks remarks on p66, there seems at the moment to be a law of diminishing human returns that correlates directly with the size of buildings. There is little hope that matters will improve in the short term. We have few paradigms for large-scale developments that offer a sense of urbanity and human scale. I totally disagree with Jencks about Potsdamer Platz in Berlin, where Renzo Piano has generated a new piece of city that looks as if it may really have a successful social life – even though many of its elements, like Arata Isozaki's absurdly mannered long block and Helmut Jahn's vast circus (AR January 1999), are ostentatious and overscaled.

More common is the approach adopted by London's Mayor Livingstone, by which he hopes to Texify Europe's biggest and most complex city by encouraging towers to be put up on an almost random basis to emphasize individual areas.[4] Problems arise not just from the scattering of the towers (which should surely be grouped densely like those of the CBDs of Sydney, Manhattan and Hong Kong), but from the nature of most of the towers themselves. For instance, Foster's much discussed Swiss Re building, likened by many to a gherkin, is actually like nothing so much as a fat banker in a latticed body stocking. It is not an urban shape.[5] No one can build close to it – or would even want to: it clears space round itself because of its presence. And so do many of the other new tower proposals for not just London but most other cities in the world.

Huge sheds are just as destructive of urbanity as brash towers. We seem to have lost the art of integrating huge shed-like buildings into urban fabric as Reed and Stem and their colleagues did at Grand Central in New York, or Thomas Cubitt at King's Cross in London.

We need new geometries to restore human scale to primacy in architecture. As our ancestors who built the cathedrals knew, a huge building does not necessarily have to ignore the experience of the body in space; nor does it have to generate the sense of anomie so common in the biggest developments of the last 100 years. Perhaps the rise of sustainable technologies will help us regain senses of scale and place. The Behnisch bank in Hanover (p40) – though many will find it heavy – is perhaps one example of a way forward. P.D.

1 Koolhaas, Rem and Bruce Mau, *S,M,L,XL*, Monacelli Press, New York, 1995, p508.

2 Ibid p963.

3 Ibid p969. The arguments are somewhat similar to those of dedicated political worshippers of the market who argue that it (and society in general) must be as little regulated as possible to offer everyone maximum choice and potential freedom. This is of course true for the rich but few others.

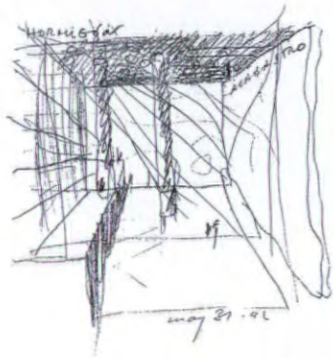
4 His behaviour is not entirely arbitrary. He has to allow large commercial buildings to be built because money for social projects can be raised from few other sources.

5 Round plan forms are not: even the Pantheon has a formal portico in front.

Throughout modern history, the architecture of financial institutions has assumed various forms of monumentality: the Neo-Classicism of Soane's Bank of England; the medieval earnestness of Berlage's Beurs in Amsterdam; a post-war Classical reprise with such towers as Gordon Bunshaft's Chase Manhattan Bank; and then spectacular gadgetry from the Richard Rogers Partnership at Lloyd's of London. In Granada, a city with remarkable historic legacy, Madrid-based Alberto Campo Baeza has recently completed the imposing headquarters of the Caja General de Ahorros, the local state savings bank. Viewed from the orbital motorway, the Caja establishes its immediate presence as a concrete anchor in a sea of suburbanization, an autonomous object but one alluding to both the Alhambra and Granada's sixteenth-century cathedral.

From the exterior, the Caja is perceived as a dense cube perforated to the south like an orthogonal honeycomb. South-east and south-west elevations are, in fact, a consistent brise-soleil, 3m deep. The building presents itself to the north, however, as a pale grid in which flush horizontal strips of glass and travertine create sheer eight-storey-high surfaces. To achieve this purity of form, Campo Baeza has – not unlike Mies van der Rohe at the Berlin Nationalgalerie – placed certain elements of the brief (computer and storage facilities) in an expansive plinth. The entry sequence takes the visitor through a discreet concrete and glass pavilion – an enlargement of a high precinct wall – into a court used for car parking, then up via a ramp or gentle stairway set within the plinth to the Caja's front door. To one side, a circular ramp allows cars to descend to the underground garage.

Campo Baeza refers to the interior of this, his most important building to date, as an 'impluvium of light'. It certainly is an interior to



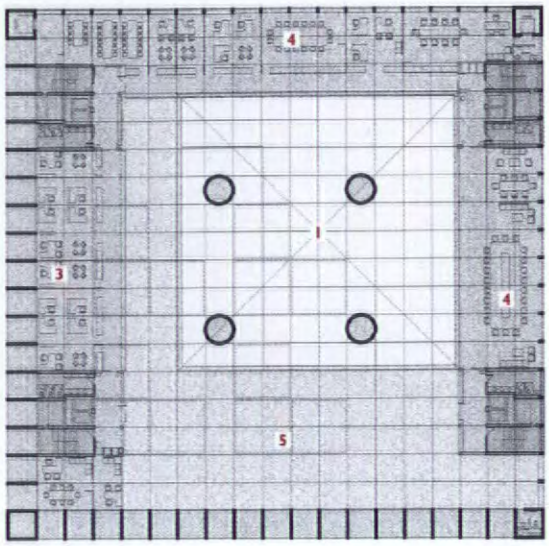
1
Isolated in the suburbs, overlooking orange grove to be.
2
Rigorous geometrical discipline offset by sensuous materiality.

1

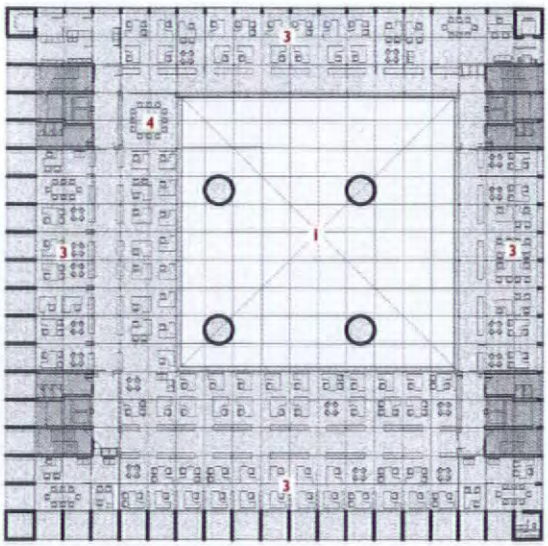
TREASURE CHEST

Continuing the tradition of monumental bank buildings, the huge new savings institution on the edge of Granada relates to the traditions of the city and almost exudes the notion of security.

Bank, Granada, Spain
Architect
Alberto Campo Baeza

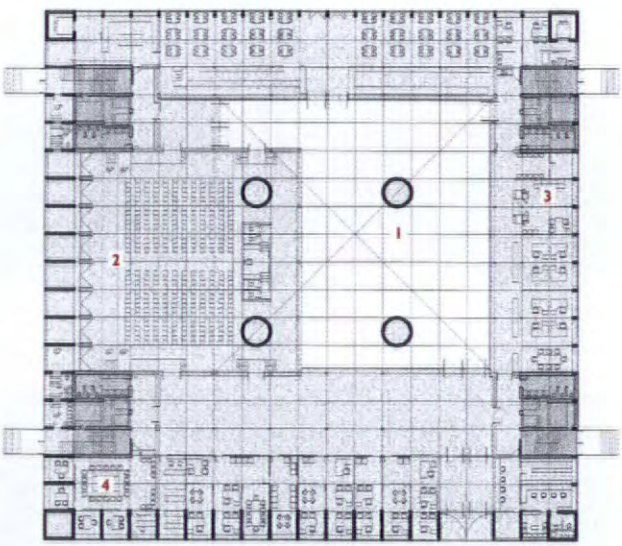


top floor plan



typical floor plan

1 atrium
2 auditorium
3 offices
4 meeting
5 terrace



ground floor plan (scale approx 1:820)

evoke splendid analogies or metaphors. Wrapped by linear bays of office space, the enclosed eight-storey-high atrium is structured about four gigantesque cylindrical columns and illuminated from above through a matrix of deep concrete beams (the Caja's roof is a horizontal cousin of its honeycomb southerly facades). The glazed interior walls are flush without any opaque panels so that there is an almost dizzying transparency or connectivity of views between the Caja's bureaucratic and ceremonial precincts. Boardroom, executive offices and special entertainment facilities occupy the seventh floor (the eighth is for maintenance and services only).

If the Caja invokes the monumentality of Neo-Classical banks, orthodoxy is tweaked by various asymmetrical arrangements. As with Roche Dinkeloo's 1960s Ford Foundation in New York City, but with considerably fewer plants, static geometry is energized by the diagonal. Campo Baeza's four giant columns – columns similarly dimensioned to the white columns inside Granada Cathedral – are symmetrically disposed about an implied central square. However the two L's of office space around the atrium are not identical: one has rooms on both sides of a central corridor, the other has rooms facing towards the north only between its corridor and the building's outer envelope. Furthermore, with an airy upper terrace and ceiling illumination orientating the interior out towards the light, a stone-clad box protrudes inwards like a large opaque drawer across the atrium floor. It houses an auditorium for several hundred.

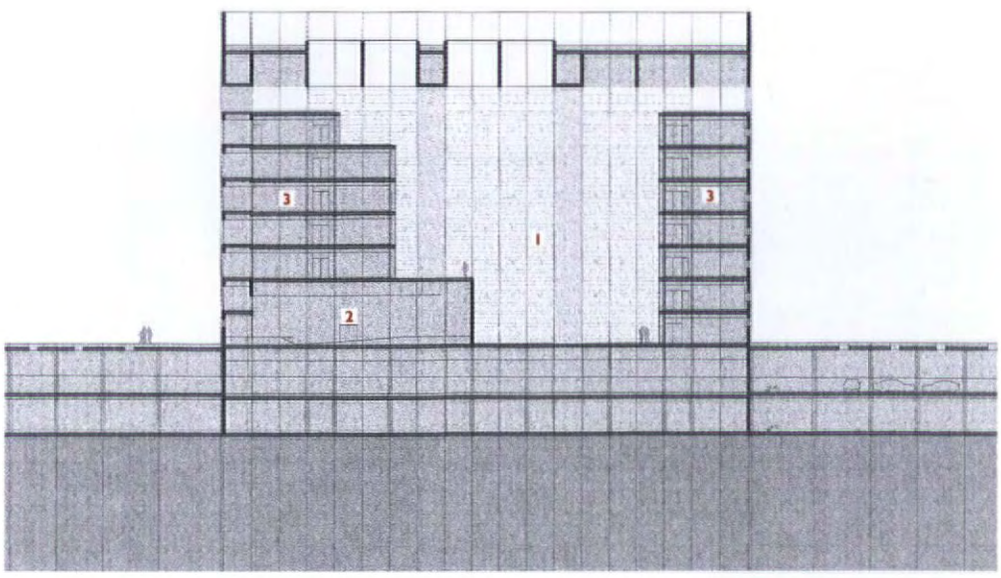
Communal areas are furnished with classic Modernist seats, by Kjærholm at entry level, Aalto on the upper floor terrace, and the Eames for the Caja's boardroom. The travertine floor of the internal court wraps about the external volume of the auditorium (its interior is of exposed concrete, but with a high dado lining made of pale wood). Two of the atrium columns sit bluntly, without decorative articulation, upon the auditorium roof (accessible only for maintenance purposes). All four continue downwards into an open office zone beneath the atrium court. These plinth offices face, in turn, outwards onto a grand but not yet fully mature garden, a gridded field staked out by orange trees and ornamental water troughs.

An indigenous Andalucian typology is reinterpreted through a contemporary aesthetic sensibility. That sensibility is inevitably and necessarily manifest in the components and joinery of the building. Clearly Campo Baeza's most dramatic decision was to clad both northerly elevations of the interior court in alabaster. You might associate alabaster – that lightly-veined, translucent marble – with Byzantine or Romanesque churches where it is sometimes found as small window tablets. In recent projects, the Miró Foundation for instance, Rafael Moneo has used alabaster to rosy effect in limited spatial incidents (AR

3

BANK, GRANADA, SPAIN
ARCHITECT
ALBERTO CAMPO BAEZA

3
Auditorium emerges into the great space like a 'large opaque drawer'.



section

BANK, GRANADA, SPAIN
ARCHITECT
ALBERTO CAMPO BAEZA

February 1996). But here in Granada, Campo Baeza has realized twin seven-storey-high walls faced entirely in the marble. Even on overcast days, the interior glows.

The alabaster is held away from the primary structure and internal corridor by a secondary steel lattice painted white. The panels are not identical, neither in texture nor size (roughly A3 or A4 size each). Pinned one to the next, the alabaster panels (quarried from near Zaragoza) move slightly if touched. So that although it has undoubtedly been informed by twentieth-century minimalism, the Caja is also rather traditional, even animistic.

Doors into a canteen overlooking the orange garden are again of alabaster and close flush to the great atrium wall. In these alabaster walls, one small square opening in the middle of each 3m module allows a view from the office corridors into Campo Baeza's 'impluvium of light'. Each is sealed on its outer face by a simple square of glass (the square and the circle as essential architectural shapes). At the upper level terrace, across from the alabaster flanks, the architect has cleverly allowed the glass plane from below to continue upwards as an unimpeded transparent balustrade, meanwhile positioning a thin metal guardrail some distance in from the atrium void.

Inside the rail, the floor of this upper deck is made from travertine slabs that are both large and slightly loose. They move beneath the feet of the visitor. So experientially as well as typologically, this dramatic interior terrace – a cool (at least in spring), cubist landscape – shares attributes with viewing platforms at the Alhambra and across the historic city.

RAYMUND RYAN

Architect
Alberto Campo Baeza, Madrid, Spain
Project team
Alberto Campo Baeza, Felipe Samarán Saló, Ignacio Aguirre López, Gonzalo Torcal Fernández-Corugedo, Emilio Delgado Martos, Maria Concepcion Pérez Gutiérrez, Tomás Garcia Piriz
Structural engineer
Andrés Rubio Morán
Services engineer
Rafael Úrculo Aramburu
Photographs
Hisao Suzuki

4
Columns are similarly dimensioned to those of Granada Cathedral.
5
The 'impluvium of light'.

NORTH GERMAN REGIONAL CLEARING BANK, FRIEDRICHSWALL, HANOVER, GERMANY
ARCHITECT
BEHNISCH, BEHNISCH & PARTNER


1


2

CONSTRUCTIVE URBANITY

An attempt to generate a large urban building which relates to the form and experience of city life, while offering varied office accommodation, has generated a result surprisingly related to Constructivism.

The larger the building, the greater the danger of oversimplified forms, anaesthetizing repetition, deep plans dominated by structural discipline, and the creation of hermetic artificial worlds. As Rem Koolhaas pointed out in *Delirious New York*, sheer density can even force a complete change of approach. Manhattan's buildings became too tall and too deep to articulate their parts, so content and image were severed, paving the way for imposed and invented forms as nice as the Chrysler building or as nasty as Johnson's AT&T.

Building as landmark became autonomous. In a memorable German competition of the late '80s, Stirling as judge dubbed one entry 'lipsticks' as though a collection of towers imposed on the city was of no more consequence than the layout of the cosmetics counter. Now we see such 'lipsticks' jostling for attention in city skylines across the world. But the density of Manhattan or Hong Kong remains exceptional, and in European cities, the bulk of the fabric is much lower. Towers have remained the protruding gestures of power they always were. Koolhaas's romance about the swimming pool on the 30th floor remains a rarity.

Even if the modest towers of European cities in the last half century do not reflect Manhattan's pressures, most have been dull to look at and worse to inhabit. Under orthodox modernism, structure and flexibility seemed to demand identical floors, lifts were the compulsory means of access, the perimeter was kept as short as possible, and air and light were supplied mechanically and electrically.

Things have changed. In the twenty-first century computers make complex structures and irregular component assemblies easier and cheaper. Sophisticated, well-insulated, layered facades prompt a policy of exchange and control as opposed to the former drive to minimize surface area. The growing energy crisis has provoked criticism of heavy servicing as unsustainable, suggesting that the 35 per cent cost of mechanical plant might be better spent in other ways. Instead of air-conditioning we might have shallow plans, daylight, opening windows, and end up using less energy. In the process, buildings might break down their large scale to articulate their contents and respond to place. Behnisch, Behnisch (*père et fils*) & Partners show in Hanover – regional capital of Lower Saxony – that it is possible to extend their well-established principles of situational design to their largest urban building yet.

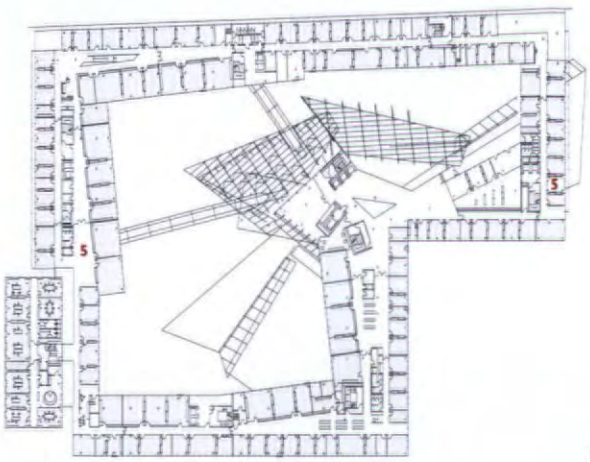
The architects understood that the building's duty was evenly divided between the locality and the city skyline, a much more balanced role than that of Foster's Commerzbank tower in Frankfurt (July 1997).

Energy in urban context

Set at the south-east corner of the old city, the site lies just beyond what was once the line of the medieval city wall. It faces the inner ringroad which, as so often in Continental cities, took the wall's place and today carries heavy traffic. To the east is Aegidientorplatz, a major node and traffic intersection dominated by an axially placed theatre. To the west is Willy-Brandt-Allee, across which is seen the imposing nineteenth-century town hall, with the beginning of Masch Park in between, a green lung stretching south. So the building occupies a transitional zone between old centre and southern suburbs. The plot was L-shaped and included the listed Siemens House at its

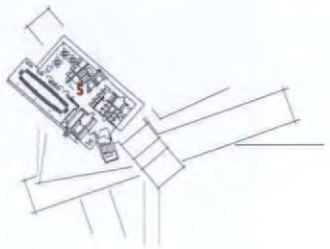
3

1
By surrounding 17-storey tower with ring of 6-storey accommodation, large building becomes part of street.
2
Echoes of Constructivism result from 0making each floor of tower different to give each a sense of place.
3
Forms and spaces between tower and perimeter are carefully organized to provide courts, terraces, and varied views and routes.



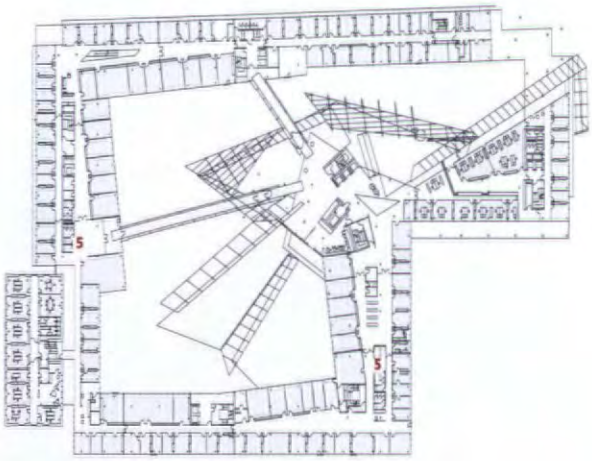
second floor

1 main entrance to complex
2 foyer
3 auditorium
4 cafeteria
5 offices
6 board suite

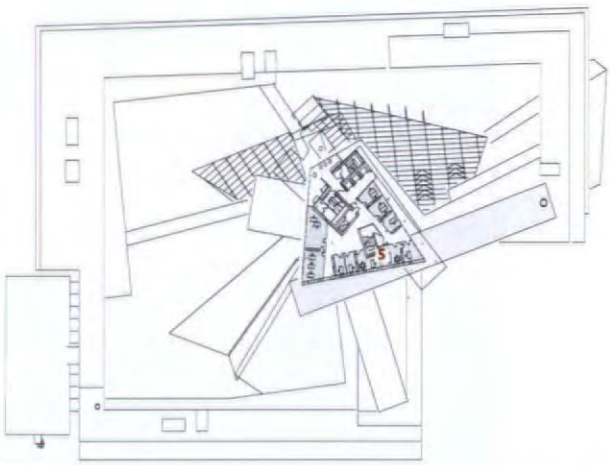


seventeenth floor

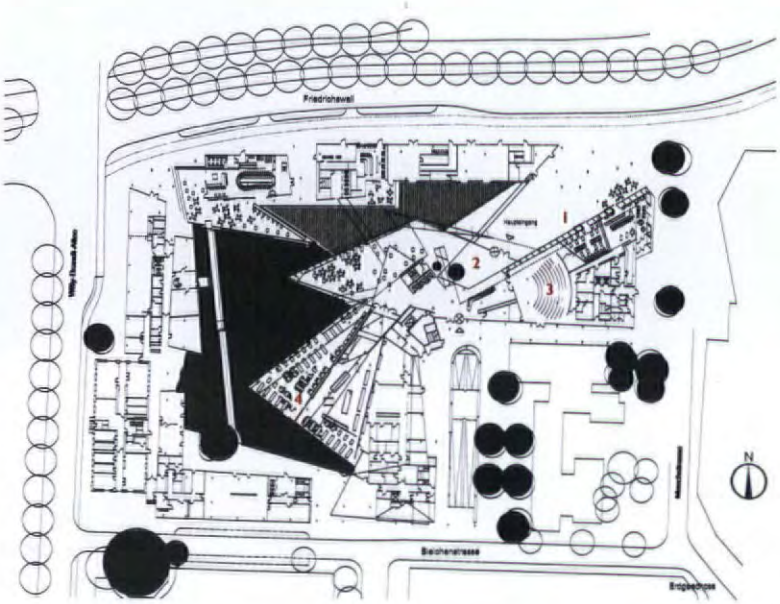
thirteenth floor



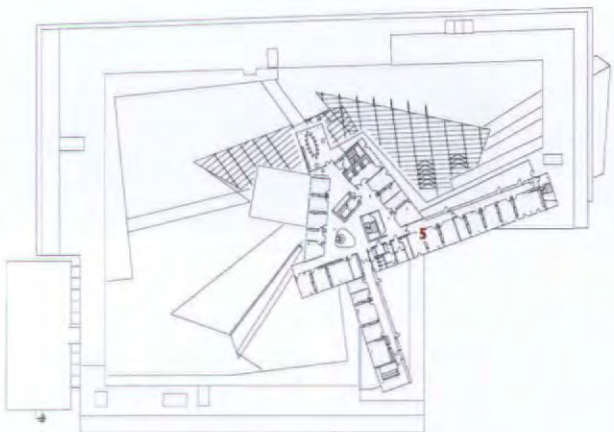
first floor



ninth floor



ground floor (scale approx 1:3500)



seventh floor

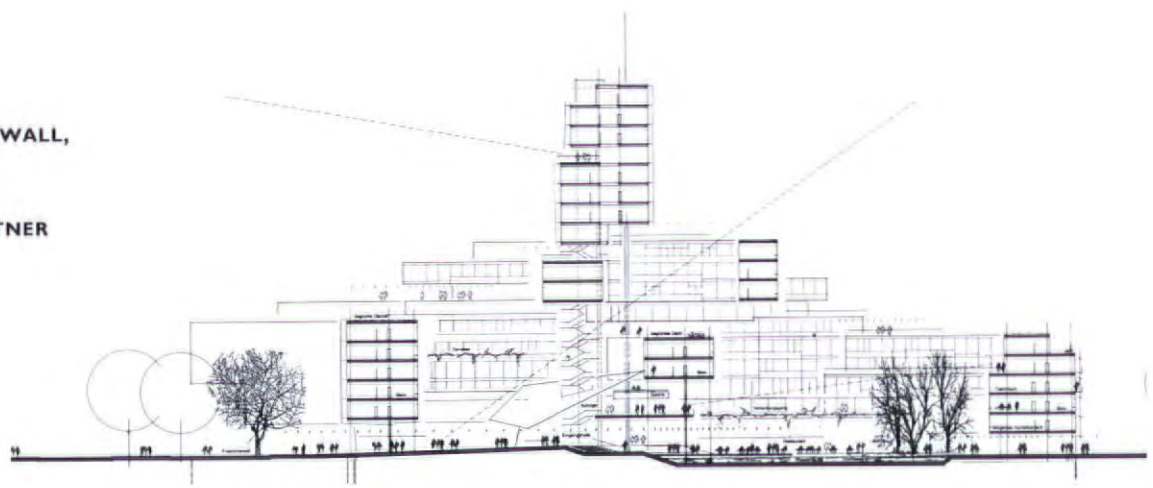
south-west corner. The architects' strategy was to build a six-storey ring of double-loaded offices around the outside, with the 17-storey tower at the centre. They have given the ground floor back to the public realm as a series of shops and cafés, starting at the bank accommodation at first floor level. The central part of the site under the tower could serve as the bank's cafeteria, divided from the public perimeter by a series of ponds. These improve the microclimate by evaporation in hot weather.

Since the street to the north is so loud with traffic, and Aegidientorplatz in the north-east corner such an important urban node, the architects decided to make entrances at the corners rather than classically at mid front. The main approach from north-east was defined by cutting away the two lower levels of the perimeter building in favour of a broad diagonal promenade leading to the main entrance. This diagonal gesture sets up the skewed orientation of the tower and prompts the rotation which differentiates it from the conventionally orientated perimeter. The varying but centripetal disposition of the upper floors creates a strong sense of interaction between centre and periphery, between unexpectedly rising landmark and conventional city block. Entering the foyer, the main stair leading to the bank's territory presents itself unavoidably to the right, with the lifts behind and reception to the left. The whole entrance foyer is covered by a sloping glass plane like that at Stuttgart, again emphasizing the direction of the stair with the upper level presented as balcony over. Beyond the cluster of vertical communication shafts – which also serve as structure – lies the cafeteria with its lake, and south of the central node are kitchens, services and car ramps – definitely the back.

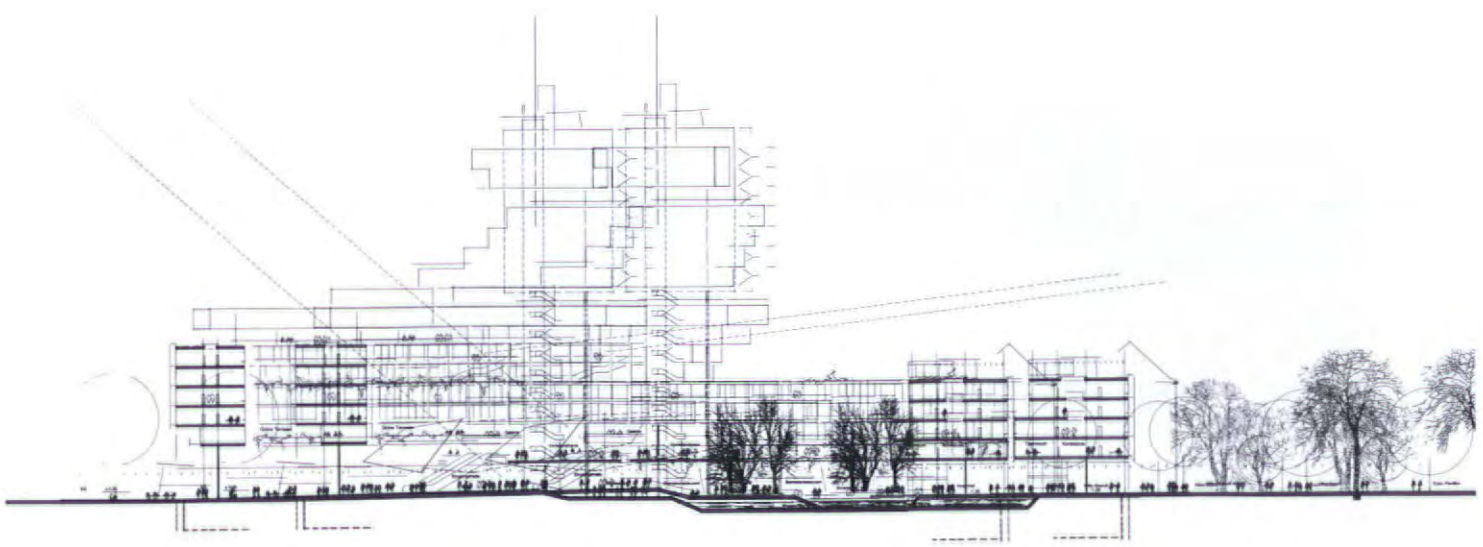
Office variety

At first floor level the central node connects to the corridors of the peripheral office wings, and two glazed tubes span the ponded court as shortcuts. In five places the access corridors in mid plan are skewed, opening towards circulation nodes and breaking the monotony of endless passage. Often, too, glimpses are provided into inner courts or to outside world. For reaching further levels lifts dominate, but stairs are always adjacent, and local open flights here and there grant local connections from one floor to the next. A triple bank of centrally placed lifts services the tower, arriving in foyers which vary in shape from floor to floor and always allow a glimpse of view. As in other Behnisch office buildings, fully glazed partitions or partitions with glazed tops allow daylight into central passages almost everywhere. Varying plan depths in the wings are exploited to provide different sizes and types of office,

North German Regional Clearing Bank, Friedrichswall, Hanover, Germany
Architect
Behnisch, Behnisch & Partner



north-south section



west-east section

4

5

6

from individual cells to big team rooms. A standard glass partitioning system was developed which can be adapted as needs change. The tower culminates, predictably enough, in board room and entertainment suite. It is interesting to observe how naturally the stepped forms and skewed angles blend into the top floor plan while accommodating and expressing pedestrian movement – directional spaces and a lively tower profile at the same time. This simple example reflects a policy which drives the whole.

The pursuit of radical energy and environment policies is a major interest of Stefan Behnisch, and perhaps the most obvious development he has brought to the firm's work. Surprisingly for such a large building, air conditioning is only used for underground rooms and service areas such as kitchens. Elsewhere are opening windows, and a system of largely passive ducts or 'air chimneys' to induce convection. On the outside faces is a typically Behnisch layered facade, with extra glass panels for acoustic isolation to the north, thermal glazing and external solar blinds on the other sides. Deployed blinds are specially designed to reflect a controlled amount of light inward to avoid leaving the room too dark. Heating and cooling of offices is achieved by heat exchange through water pipes in the concrete floor slabs, whose mass provides thermal storage, and overall energy demand is reduced by heat exchange with deeply sunk ground pipes. These absorb heat in summer and provide it, stepped up from six degrees by heat pumps, in winter. Exchange with a district heating system is also involved, while solar water heating, photovoltaics and fuel-cells play minor and sometimes experimental roles. With all these measures, consultants Transsolar claim to have saved 1920 tons of carbon dioxide emission per year.

A state of flux

Some critics find the work of the Behnisch office too chaotic and imperfect, too unmonumental. Yet the advantage of their responsive approach most visible here is that a big building can be treated like lots of small ones, almost like a mini-city. This holds the scale down and allows flexibility, for without a great preconceived plan, there is room to incorporate site influences, existing buildings – Siemens House quietly absorbed – and to allow for growth and change. Most important of all, human scale is retained throughout and numbing repetition avoided. Every floor gains a different character: in the tower the lobby changes shape or an office wing cantilevers further. There are frequent views out for orientation. It was wise to give the ground floor back to the city with shops and cafés to animate the public realm, while the protected water court marks the beginning of the larger institution as well as helping the environmental strategy. Lively and memorable, the tower as landmark is different from each side. Its appearance is enhanced by areas of special colour-coated glass added for their reflective effect, part of a colour design policy which is another late Behnisch trademark. The high-tech brigade may fume about the catholic variety of details in this architecture, but professionalism does not necessarily entail the perfection of the machine. The issue is more profound: Mies's 'God is in the details' reflects a monumental architecture striving for the eternal in its perfection, and flexible only through its sheer indifference to change. Behnisch's situational architecture accepts a state of flux, always open and always developing, allowing for growth, interacting with life.

PETER BLUNDELL JONES

Architect
Behnisch, Behnisch & Partner, Stuttgart
Project architects
Günter Behnisch, Stefan Behnisch, Günther Schaller, Martin Haas, Jörn Genkel, Alexandra Burkard, Martin Gremmel, Dominik Heni, Bettina Maier, Klaus Schwägerl, Jörg Usinger, with Christian Kandzia
Project team
Dirk Anhorn, Chiara Baccarini, Volker Biermann, Andrea Croé, Willy Haberer, Michael Huiss, Eckart Krüger, Birgit Mannsdörfer, Maik Neumann, Severin Rüssmann, Alex Sargeson, Ann Katrin Schilling, Noa Shatzmiller, Wolfgang Sterr, Roland Zimmerman
Landscape
Behnisch, Behnisch & Partner with Nagel & Schonhoff
Photographs
Christian Kandzia and Martin Schodder

NORTH GERMAN REGIONAL CLEARING BANK, FRIEDRICHSWALL, HANOVER, GERMANY
ARCHITECT
BEHNISCH, BEHNISCH & PARTNER

4
Specially designed office partitions bring light to middle of tower plans.
5
Cafeteria overlooks water court.
6
Looking out from office tower landing into green court that separates tower from surrounding ring.
7, 8
The great public foyer in which stairs lead up to bank's territory on first floor.

7

8

THE ART OF INDUSTRY

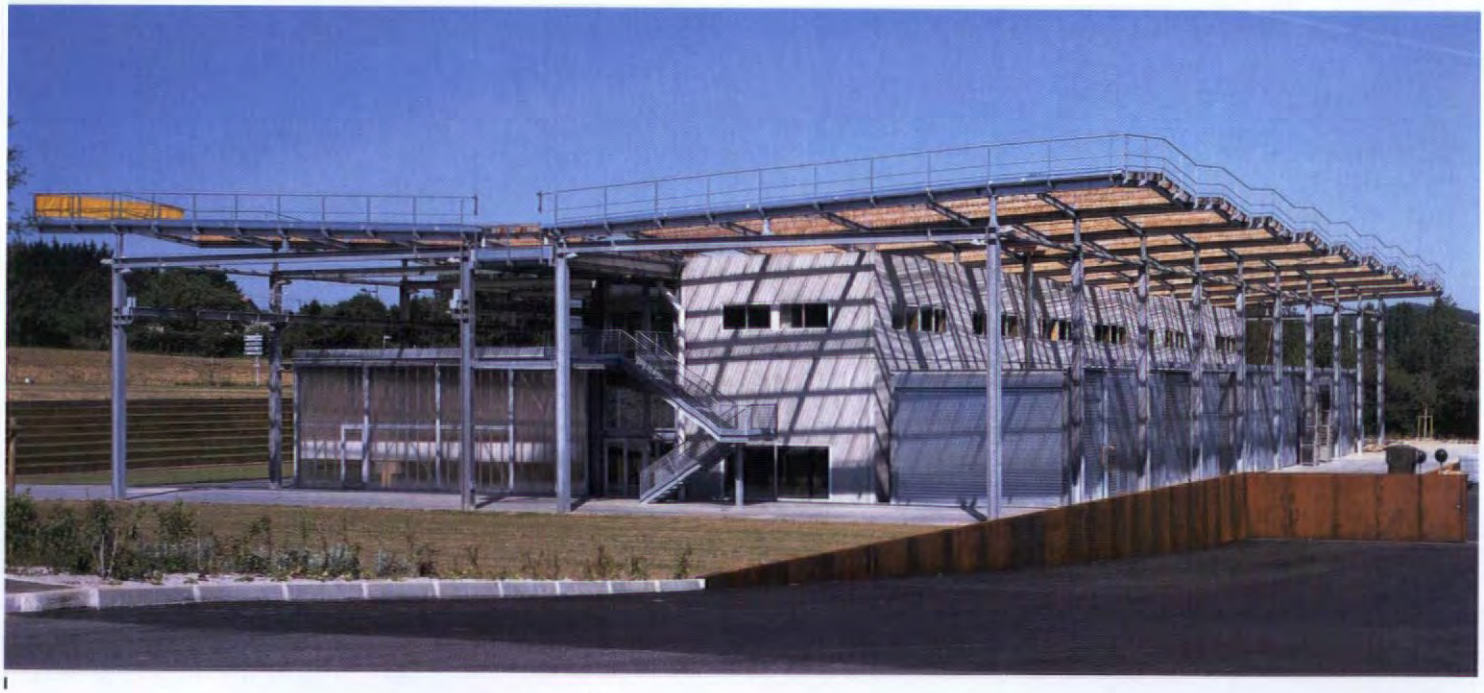
Appropriating industrial processes, this workshop building is a huge perpetual laboratory capable of infinite extension.

The Grands Ateliers takes as its maxim Jean Prouvé's assertion 'I abhor designing without constructing'. For 'grand', therefore, read 1:1 – the monumental realism of the full-scale prototype. Funded largely by central government, it will serve as a common workshop facility for 13 art, architecture and engineering colleges and local schools. Pascal Rollet describes the building in terms of a 'neutral architectural machine', dedicated to the cause of prototype experimentation and the demystification of disciplinary differences.

This is a building stripped bare; the purest possible material equivalent to its diagrammatic form. Its relationship to site, its materials, its organizational dynamics and its structural logic, are rendered acutely transparent. Like an anatomical diagram, all of the studio's functional organs and skeletal members are visible; each distinct, coded even, in a spectrum of raw, industrial surfaces. The industrial specifications of the building demanded a flat site. It is, therefore, embedded in the undulating, edge-of-town topography of Isle d'Abeau (a peripheral new town of Lyons).

Cor-Ten steel walls and embankment spurs, reminiscent of the architectonic sculptures of Richard Serra, suggest that the scene is at least in part inspired by the frontier spirit of American Modernism. But despite that reference and the degree of reduction, the tenor of the building is not one of minimalism. It is, rather, an architecture of expressionism, of absolute, graphic clarity.

The core of the complex is a 70m x 50m concrete platform. Rollet likens this to the deck of an aircraft carrier – a surface on which a constant process of material exchange unfolds. That process is essentially one of a perpetual, laboratorial building site, a daily routine defined by the regular intake of raw materials and the ongoing clearing



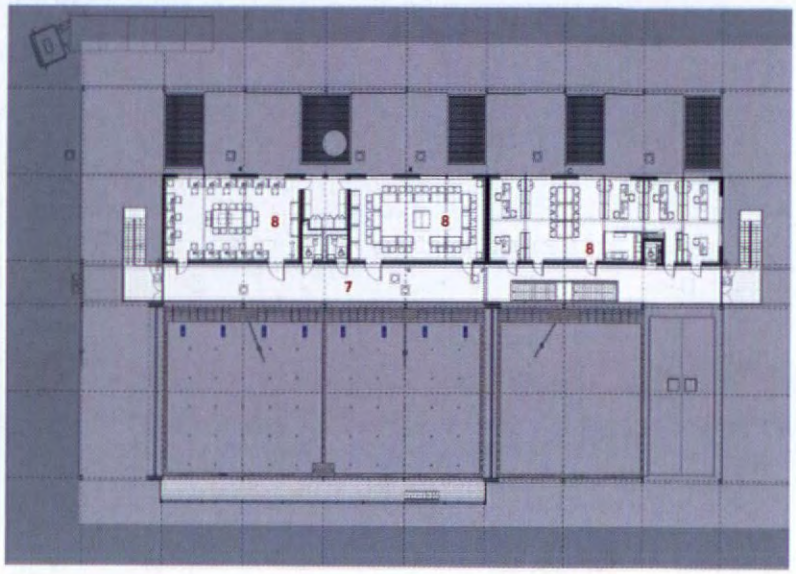
1

1
Set on a flat site, the new Grands Ateliers has a stark industrial presence.
2
The hands-on, laboratorial nature of its function is clearly expressed in the architecture.
3
Young users experimenting with building materials.

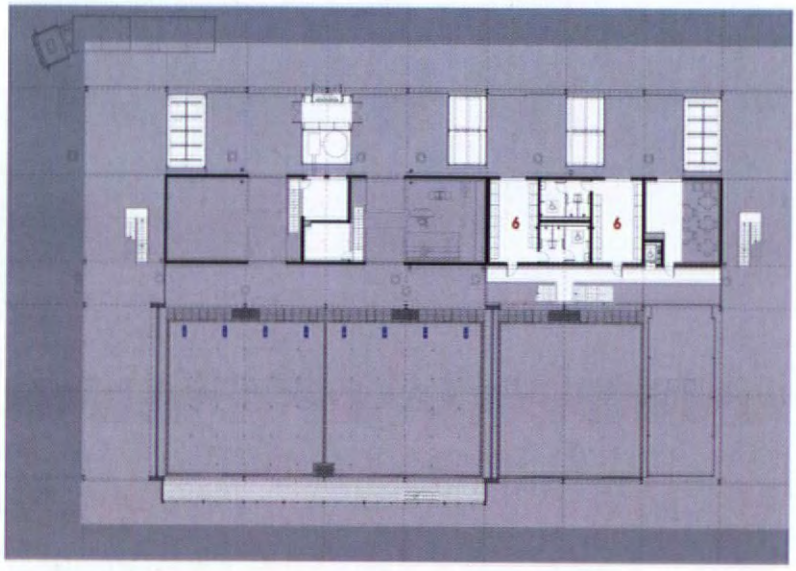
Teaching workshops,
Lyons, France
Architect
Lipsky + Rollet

2

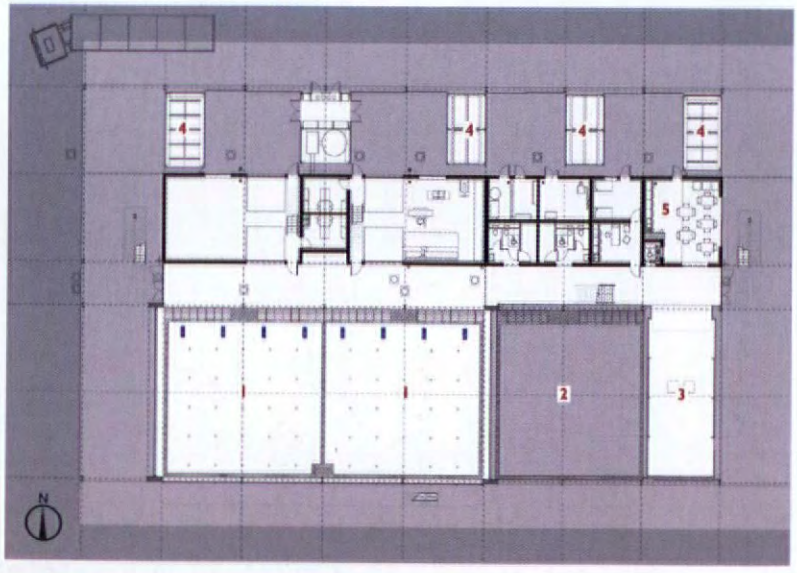
3



second floor plan



first floor plan



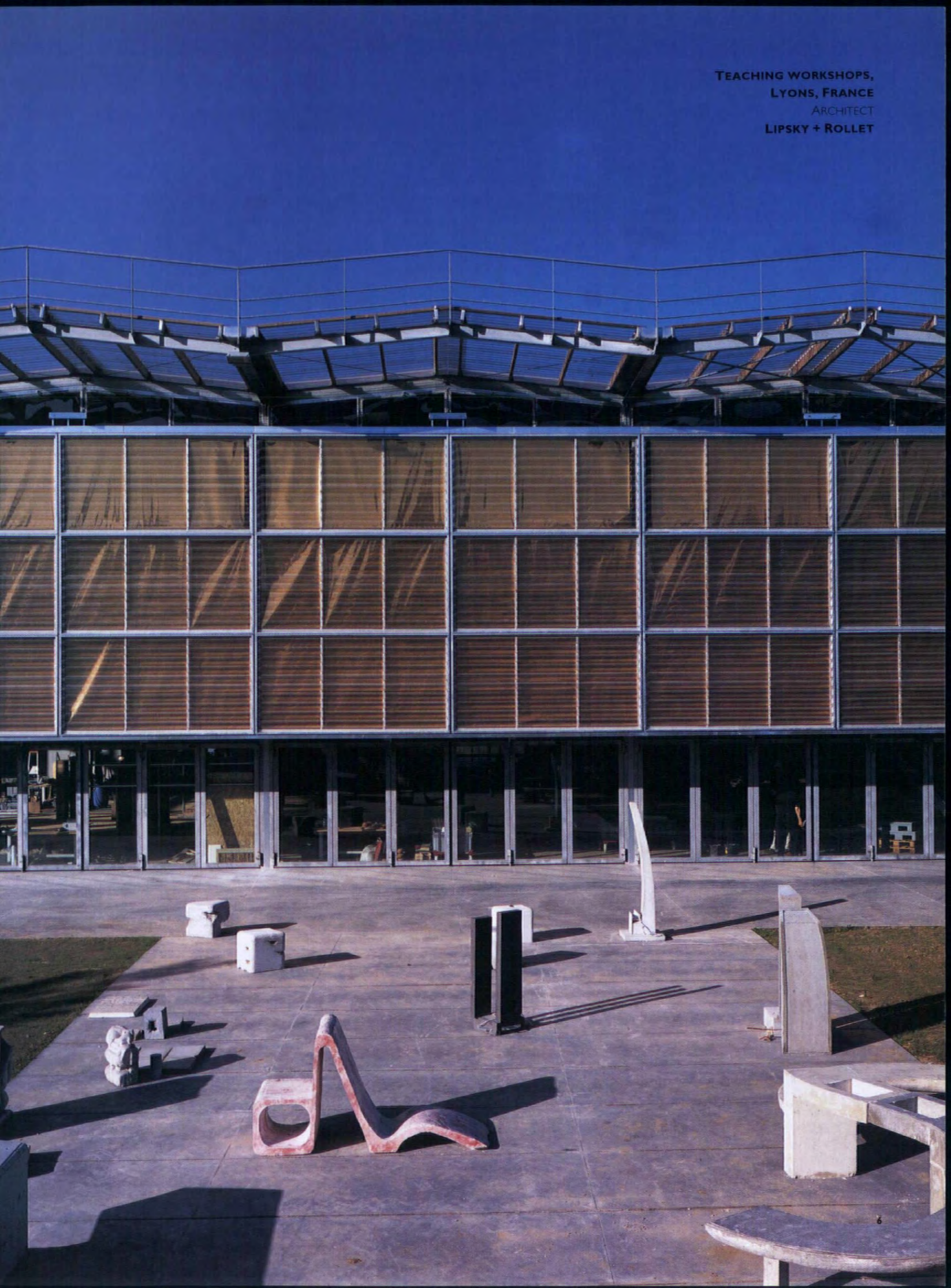
ground floor plan (scale approx 1:1000)

4

5

1 main workshop
2 external activity space
3 exhibition space
4 storage
5 canteen

4
Detail of facade.
5
Internally, the treatment is equally robust, as industrial products and materials are appropriated to create surfaces and textures.
6
Reflective foil from satellites forms the south elevation. This will be used as a test bed for facade surfaces developed in the workshops.



Teaching workshops,
Lyons, France
Architect
Lipsky + Rollet

TEACHING WORKSHOPS,
LYONS, FRANCE
ARCHITECT
LIPSKY + ROLLET

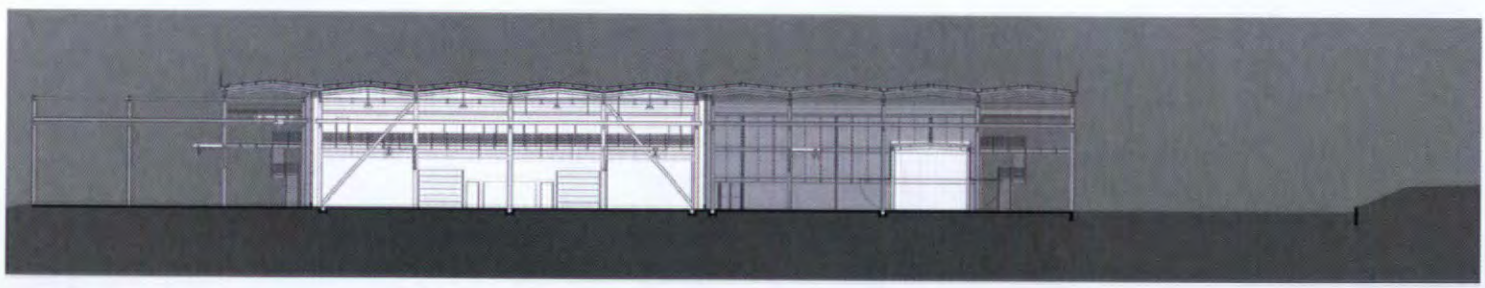
and cleansing of the workshop spaces. Water is thus a ubiquitous medium of the atelier's functional life and, thanks to the inverted pitch of the canopy and recycling equipment in the concrete core, it is purportedly self-sufficient in that aspect of its consumption.

The array of internal volumes is organized around an east-west axis, manifest by corridors on all three levels, echoing the position of the canopy's central drainage channel. The ground floor corridor from the east door opens into the 15m x 30m space of the main hall. Above, gantry walkways of the first and second floor corridors provide vantage points onto the hall and access to the mechanism of its rolling crane. The composition of the southern half of the studios is subservient to the mobility of the crane. The hall opens at each end to take on a 'summer disposition', doubling the volume of space which it serves. Provision has also been made for the future continuation of the hall eastward, into the space presently occupied by a polycarbonate exhibition box, should a proposed two-thirds extension of the complex be confirmed.

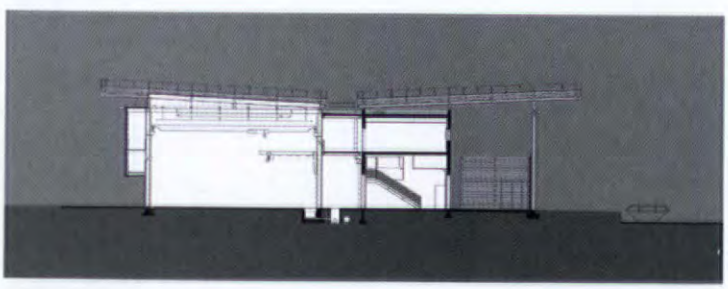
If the main hall is essentially an adaptable tent structure, then the concrete block to the north of the central axis acts as its sedentary counterbalance. All student and personnel support facilities are to be found, principally, on the first and second floors – classrooms, offices, changing rooms – like a series of cave openings in a sheer cliff face. Beyond that slice of concrete, a row of five metal storage sheds forms the studio's north elevation, with openings between the west-end units to allow immediate fork-lift truck access to the main hall.

The studios have provided the opportunity for the second collaboration between Lipsky-Rollet and the graphic designer Ruedi Baur – best known for his signage scheme for the restored Pompidou centre (AR May 1994). The first, for a school for electrical engineers at Valence, resulted in a facade graphic of binary code digits, heat-bonded onto glass sun-screens. At Isle d'Abeau, Baur's graphics occupy the building's interior wall and floor surfaces, taking the, ostensibly, purely functional role of directional, hazard and equipment indicator signs – for fire alarms, first aid kits, and so on. But Baur's scheme is also interpretative, both of the mandatory codes of the standard industrial signage on which it is based and of the nature of the building it inhabits. They are equally spatial interventions, sliding though architectural space as opposed to simply marking surfaces, staging a movement from diagram to gesture.

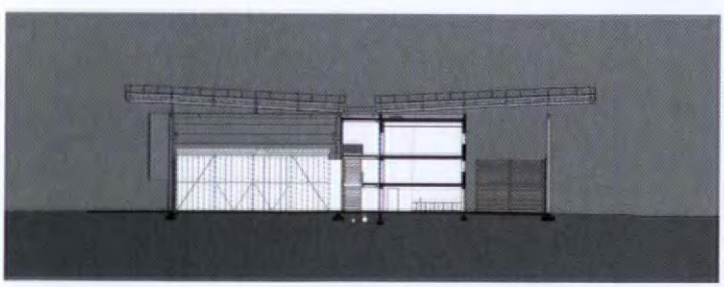
The southerly elevation – the 'window' of the main hall, and frontage onto a road and public space – provides the closest thing to a facade surface and identity for the studios. Its regular grid structure of aluminium frames and polycarbonate have been layered with an additional, semi-transparent, plastic sheeting. This has a particular referential as well as functional value: it is an American product, derivative of the reflective foil used on satellites, sprayed gold on one surface, silver blue on the other. However, this elevation is not conceived to support a static identity, but is itself to play a vital role in the experimentation process. It will provide a south-facing test grid for facade surfaces developed within the workshops. The studios will thus have the newest products of its community's creativity grafted directly onto its skin – an abstract mosaic billboard, symptom of its radical, internal anatomy. ROBIN WILSON



long section



cross section



cross section

7

Architects
Lipsky + Rollet Architectes, Paris
Structural engineer
BET Batiserf
Mechanical and services engineers
BET Pénicaud, GECOB
Graphic design
Ruedi Baur
Landscape architect
Christophe Girot
Photographs
Paul Raftery/VIEW

7
The main workshop hangar, a constantly animated theatre of activity.
8
Building materials are like stage props in the vast space.

8

MOLECULAR BIOLOGY INSTITUTE, DRESDEN, GERMANY
ARCHITECT
HEIKKINEN-KOMONEN

FUNCTIONAL BIOLOGY

Providing an open forum for a closed scientific community, this new research institute in Dresden civilizes its large scale by inventive use of materials and light.

Biotechnology is one of the two specialist fields (the other being microelectronics), on which Dresden is rebuilding its post-1989 economy. The Max Planck Institute (MPI) has assumed a leading role in 'Biopolis Dresden' by founding a new international molecular cell biology and genetic research centre. A made-to-measure building solution was speedily agreed on when a promising group of scientists threatened to move to a city more sensitive to their needs. Dresden's hospital handed over a site they had reserved for their future extension and the usual architectural competition process was dispensed with. The Finnish practice Heikkinen-Komonen were commissioned as architects, working with Munich-based HENN Architekten for their expertise on highly serviced buildings.

The new research institute is a post-genomic era organization operating in a global context. Over 300 scientists from 26 countries work in 25 groups mapping out cell biology. Geographically, Dresden is a convenient central European meeting point and the building site, between university medical faculty and hospital, was chosen to maximize multi-disciplinary contacts. This is Germany, but the language of scientific exchange is English.

For Dresden, with its reputation for resisting contemporary architecture, Heikkinen-Komonen's pragmatic geometry, Yves Klein blue aluminium cladding, climate-ameliorating veil of green metal mesh and minimalist details are a novelty. A minor architectural revolution has taken place without comment, perhaps because the site is not among the Baroque chain of churches and palaces on the Elbe terraces, but in the less prominent suburb of Johannstadt.

A linear tract contains 9600 sqm of usable space split between three buildings. The laboratory block is the largest. Two geometrical statements, a spiral stairway in a tube of perforated steel and a column of seminar rooms, rise through the full-height reception foyer. Bridges of immaculate fair-faced concrete connect two laboratory wings. A library and 300 seat auditorium open off the foyer which also contains a café and restaurant leading out to a garden terrace. In contrast to the functional laboratory 'homebases', each the domain of a professor and his team, every opportunity is taken to provide spaces and places where staff linger longer for productive discussion, informal

1

2

1
The bulk of the long, linear building is sheathed in a veil of metal mesh.
2
Laboratory building is one of three buildings that make up the institute.
3
Entrance to the main laboratory building is festively marked by a tensile canopy portico.

encounters and relaxation. During the recent World Cup, the auditorium screened games and in the roof-top pergola, smokers gathered for match post mortems and to contemplate the river view.

The second block is a windowless building containing various controlled environments for animals, fly breeding and hatcheries. The third block, housing human visitors in hotel style bedsits and extra offices for the institute, has been divided into two terraces facing each other across a Japanese gravel garden. A horizontal timber screen runs across the two terrace gables to create a measure of privacy and sustain the illusion of a single structure.

Architectural clarity is deceptive. Complex inner workings maintain several climatic zones. Heating is supplied from a district circuit but ventilation needs are individually designed and must be segregated. Laboratory effluents are tested for their pH value before being released into the sewage system. Hazardous wastes are stored in tanks before being collected for processing. Perimeter circuits, for water, steam, and gas supplies, allow for flexible laboratory replanning and there are no suspended ceilings, to simplify maintenance. An in-house power station provides steam for sterilizers and humidifiers and an emergency system maintains experiments, saves data, and runs safety functions. Sensitively reconciling the dichotomy of universal scientific knowledge with the secrecy required to protect patents worth millions, Heikkinen-Komonen's building provides an open forum for a closed community.

LAYLA DAWSON

Architect
Heikkinen-Komonen Architects, Helsinki
Associate architect
HENN Architekten
Structural engineer
G. Scholz + Partner
Services engineer
Jaeger, Mornhinweg + Partner
Landscape architect
Petzold
Photographs
Jussi Tiainen

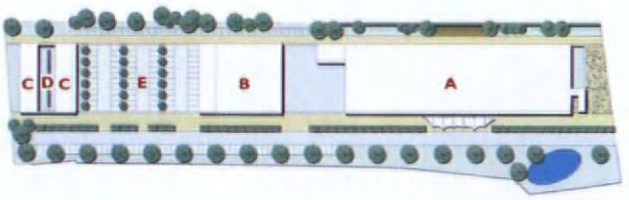
MOLECULAR BIOLOGY INSTITUTE, DRESDEN, GERMANY

ARCHITECT

HEIKKINEN-KOMONEN

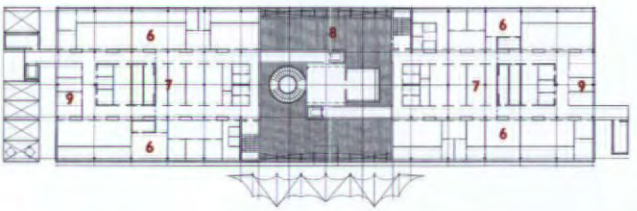
4

A laboratory building
B breeding and hatchery building
C residential accommodation
D Japanese garden
E parking

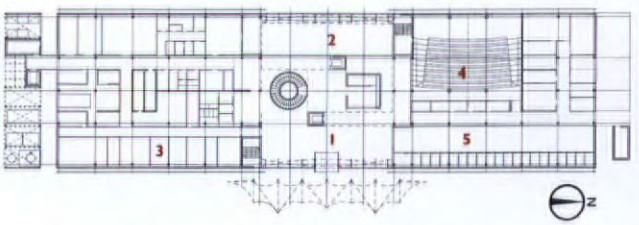


site plan

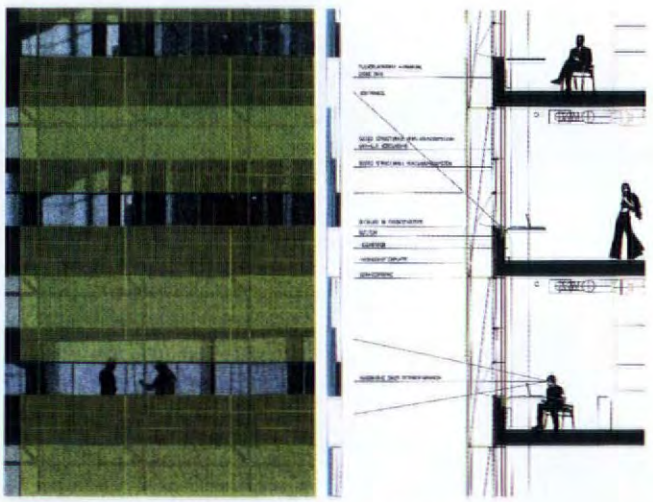
1 entrance hall
2 canteen
3 offices
4 auditorium
5 library
6 homebase laboratories
7 internal rooms
8 informal spaces
9 meeting rooms



first floor plan of laboratory building

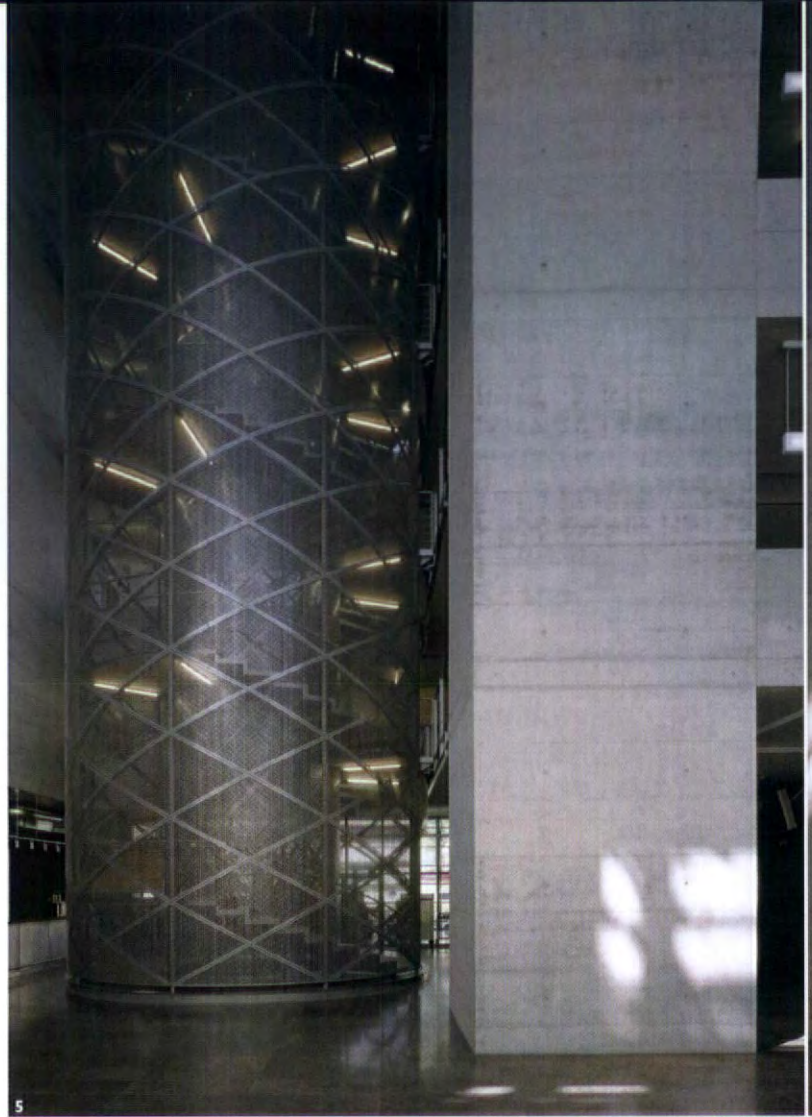


ground floor plan of laboratory building (scale approx 1:2000)



detailed wall section through laboratory building

4
Typical laboratory.
5
The use of metal mesh is reprised on the ceremonial staircase drum.
6
Luminous entrance hall.
7
Bridges connect laboratory wings, overlooking spaces for interaction.
8
Staff canteen.


5


6


7


8

SUPER BLIMP

Defying superlatives, this colossal new airship shed extends the tradition and technology of hangar design.

AIRSHIP HANGAR, BRAND, GERMANY
ARCHITECT
SIAT

Like railway stations, bridges and exhibition halls, airship hangars induce a romantic fascination with architecture as engineering, pure form generated by the rational imperatives of structure and economics. This latest addition to an ancestry that includes mighty Zeppelin sheds and the famous Goodyear Airdock is no exception. On a former Soviet military airfield in Brand, just south of Berlin, the CargoLifter hangar has the distinction of being the world's largest single span structure. Eight football pitches could be accommodated in its Brobdingnagian interior and the Eiffel Tower easily stored on its side. At 363m long, 225m wide and 107m high it dwarfs the Goodyear Airdock hitherto thought to be the world's largest airship hangar. (Built in 1929 in Akron, Ohio, Goodyear was 358m x 99m and a mere 34m high.) Designed by SIAT architects and engineered by Arup, CargoLifter looms over its flat site, its translucent membrane skin stretched taut over an arched steel structure. Huge segmented 'clamshell' doors at each end take 15 minutes to open or close.

Germany has a strong historical connection with the airship. Early last century, numerous hangars were built across the country for fleets of Zeppelins employed for military and commercial purposes. Count Ferdinand von Zeppelin's inspired idea was to make airships rigid, so superseding the early blimps, which were fatally vulnerable to leaks from the inflammable hydrogen used to inflate them. On a July evening in 1900, the first Zeppelin drifted skywards from a floating hangar at Friedrichshafen on Lake Constance, presaging the era of

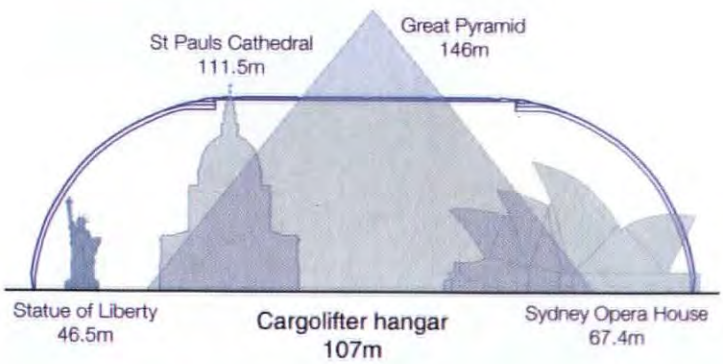
1
Massive segmented clamshell doors at each end of the hangar take 15 minues to open or close.
2
Brobdingnagian in scale, the hangar dwarfs its surroundings.
3
Tubular steel arches support a lightweight membrane skin.

airship supremacy which lasted until the Hindenburg disaster of 1937. Nowadays airships are largely reduced to the status of flying billboards, but there are plans to revive them as environmentally sustainable carriers of cargo and people. CargoLifter intend building an 260m long 'super-airship' (three times the volume of the Hindenburg) capable of carrying up to 160 tons of cargo rapidly and economically. Unlike the Zeppelins, this new generation of helium-filled airships will have no internal skeleton, reducing self-weight and increasing load capacity.

The hangar's aerodynamic outline represents the clearance required for two airships moored side by side. It also minimizes wind loading on the structure. The cylindrical central section is divided into four bays supported by five trussed tubular steel arches at 35m centres springing off concrete plinths that also act as covered entrances. An 8m deep truss connects the arches along the ridge line and takes up the huge compression forces between the two end arches and the massive doors. Strips of glazing inserted between the top chords allow daylight to percolate down into the interior. Ranged along both sides of the production floor, two-storey high concrete buttresses house offices and lab spaces. The huge volume of the hangar (a staggering 5.2 million cubic metres) is heated from underfloor sources and a series of radiant panels hung from the steel structure.

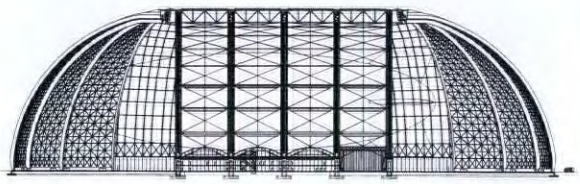
None of the early German airship hangars survives and documentation on their construction is scarce, nevertheless the CargoLifter represents a clear extension of the lineage, drawing on contemporary developments in the design and detailing of large span structures. As the airship is reinvented for the new century, so the form of its hangar also continues to evolve, with awesome results. C. S.

Architect
SIAT Architektur + Technik, Munich
Structural engineer
Arup
Landscape architect
Cordes + Partner
Photographs
Palladium

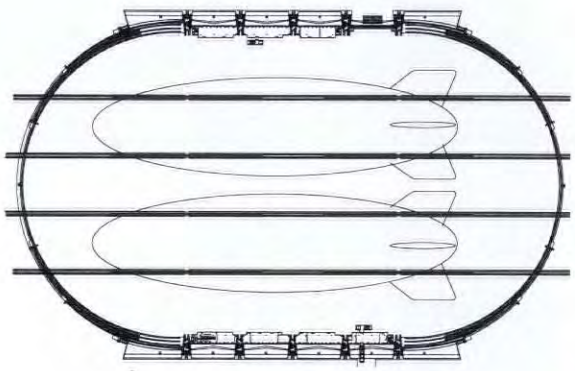


comparative scale diagram

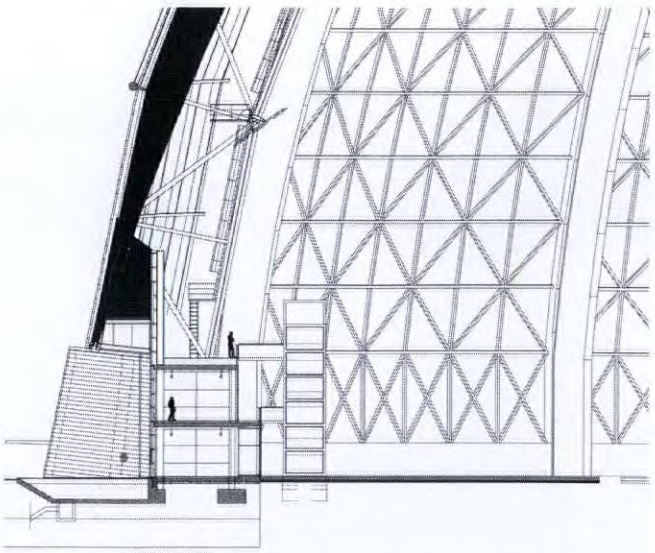
4
Light filters down through glazed slits in the huge roof.
5
Concrete buttresses at the base of the external wall house office and lab spaces.
6
Detail of roof structure.



long section



ground floor plan (scale 1:5000)



detailed section through base of external wall

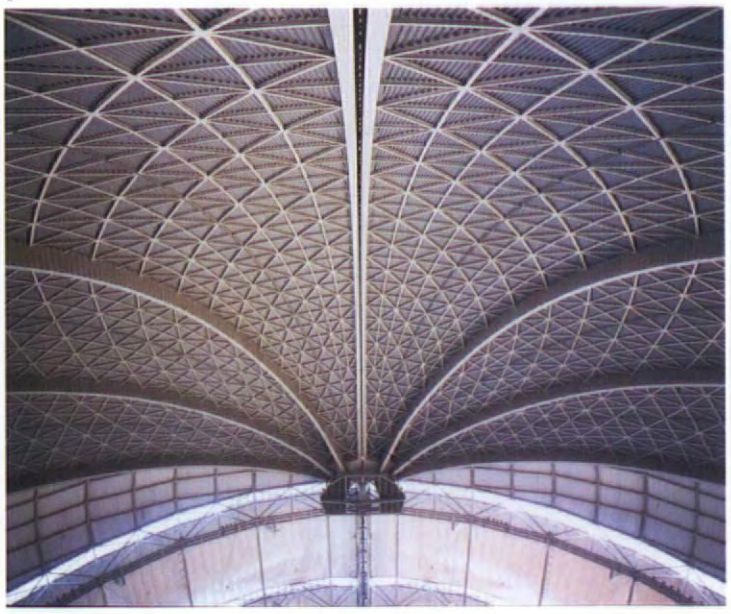
AIRSHIP HANGAR, BRAND, GERMANY

ARCHITECT
SIAT

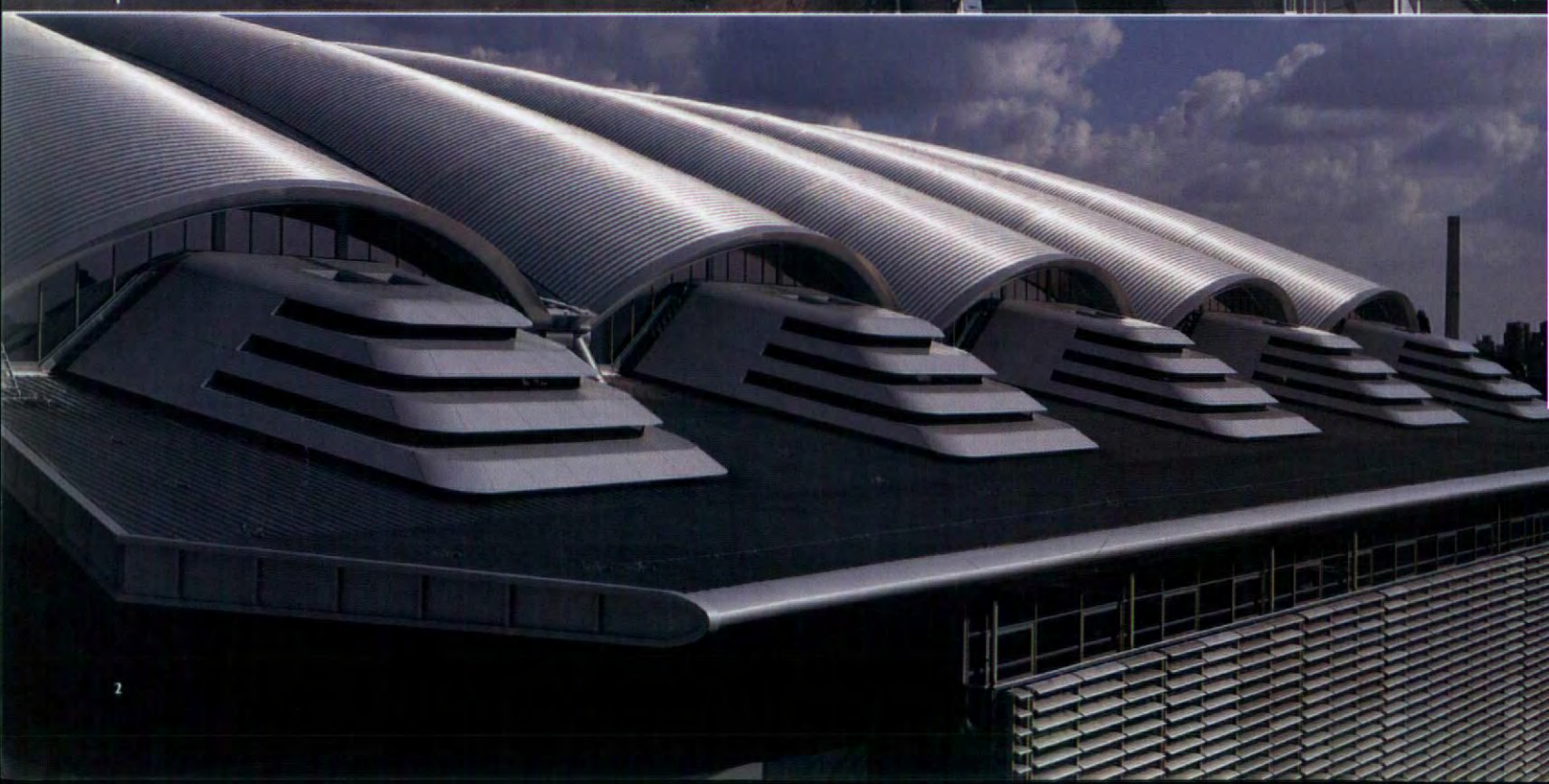
4

5

6



1



2

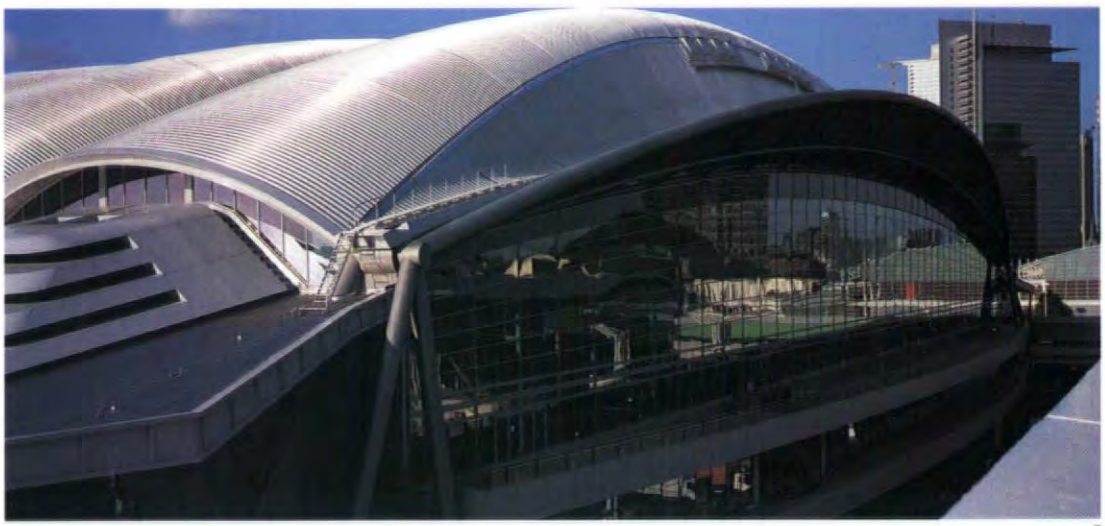
Flying into Frankfurt, you spot it immediately. A muscular, undulating roof like a gargantuan ribcage marks the latest addition to Frankfurt's Messe, the vast agglomeration of trade fair halls to the west of city centre. The fair's proximity to both city and airport is one of the reasons for its commercial success and ongoing physical expansion. Like some kind of superscale city-within-a-city, it continues to evolve as new and ever bigger halls are added to the existing complex. Here, size really does matter. The entire site is dominated by Europe's tallest building, Murphy Jahn's Messeturm, a chunky, Crayola-shaped skyscraper.

Despite its prosaic appellation, Nicholas Grimshaw's Messehalle H3 is a gleaming, streamlined world away from the dull sheds and hangars that make up most of the Messe. In terms of scale, it is the biggest building on the site, with a whopping 40 000 sq ft of exhibition space spread over two cavernous levels. In civic terms, it occupies a prominent locale, completing the southern perimeter of a large urban square. By designing the structure to span 165m lengthways, the front wall is relieved of load-bearing functions, so it could be entirely glazed, forming a huge vitrine that dramatically addresses and connects with the square.

From his earliest years, Grimshaw has been determinedly fascinated by the potential of technology, but as the practice's work has matured, it has embraced the challenge of designing very large buildings such as Waterloo International (AR September 1993) and the Eden Project (AR August 2001). These are more than simply big, dumb sheds; instead they are rather clever roofs. In particular, the wide-span roof has come into its own as an architectural, structural and sculptural element. Enclosing the maximum area with the maximum structural efficiency, H3 represents the latest manifestation of a continuous line of architectural thinking.

A fundamental requirement was that the upper hall should be entirely column-free to maximize internal flexibility. (The architects claim that it is the largest column-free space in Europe.) Devised in collaboration with Ove Arup & Partners, the roof is essentially a conventional folded plate vault curved and twisted to make it both more structurally efficient and tectonically expressive. Steel members form a single continuous folding grid, in which compressive and tensile zones can be clearly distinguished. Each of the five roof arches is flexed across its width, turning it into a stiff double curvature shell. Intermediate valleys between the

TRADE FAIR HALL, FRANKFURT, GERMANY
ARCHITECT
NICHOLAS GRIMSHAW & PARTNERS



3

SPACE INVADER

Essentially an exercise in enclosing vast tracts of space, this new trade fair hall in Frankfurt is distinguished by its great roof which is both sculptural and efficient.

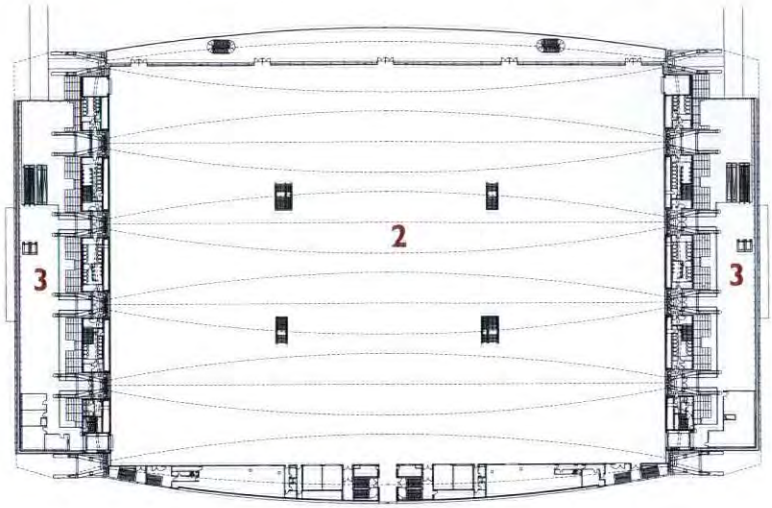
1
Rippling roof forms a landmark on the Messehalle site. The shallow arch is both structurally efficient and formally expressive.
2
Detail of clerestory glazing and air intake and exhaust plant.
3
The long glazed frontage overlooks a new square.

arches are also distorted to achieve the same effect. Such an unorthodox form was made possible by the use of sophisticated customized computer software to analyze and plot the flow of forces in three dimensions.

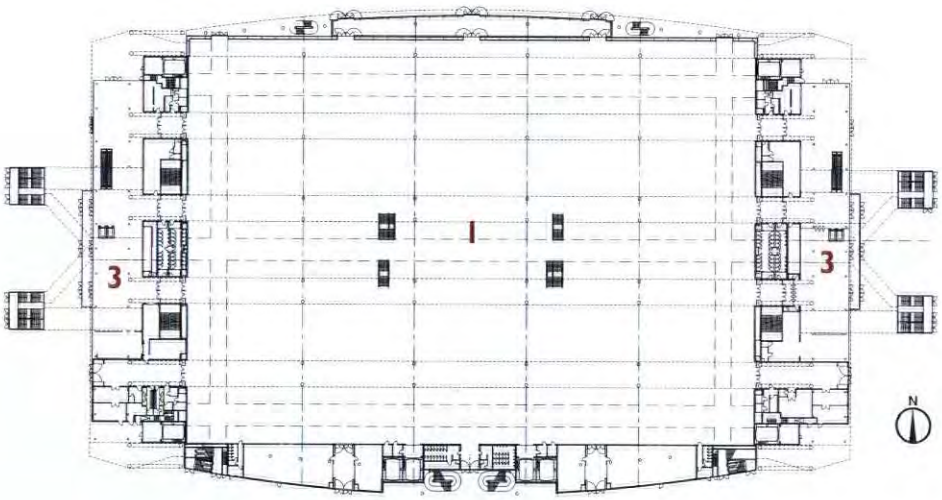
Moulding the roof into double curves has several advantages: it not only stiffens the entire structure, but the resulting shallow arched form is also both more elegant and more efficient, reducing the internal volume requiring air-conditioning. In structural terms, the roof operates like a spider's web, at once light yet immensely strong, pared down to the absolute minimum required to provide the necessary support.

The roof deck is formed from prefabricated stressed skin panels comprising two profiled steel decks riveted together with their troughs aligned in opposite directions. Conforming to the structural geometry, these are manufactured with an in-built twist. Yet because of the repetitive nature of the roof, only 60 different panel types were required, so reducing manufacturing costs. Roof vaults are supported at their ends by big A-frames with large raking struts exposed. A conventional concrete post and beam structure holds up the upper floor.

The sensuous, swelling form of the roof is best appreciated from



first floor plan

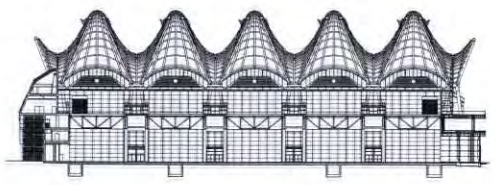


ground floor plan (scale approx 1:2000)

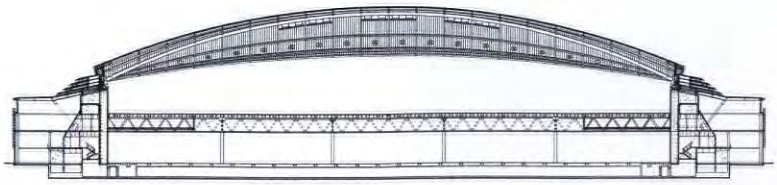
1 lower level exhibition hall
2 upper level exhibition hall
3 concourse

TRADE FAIR HALL,
FRANKFURT, GERMANY
ARCHITECT
NICHOLAS GRIMSHAW
& PARTNERS

4
Inside the belly of the beast.
5
Multi-level concourses adjoin the huge exhibition halls.



cross section



long section

4

5

the side or from underneath, within the soaring volume of the exhibition hall. For visitors, this experience is like being inside the belly of some prehistoric beast. Clerestory glazing draws daylight deep into the interior and accentuates the undulating form of the roofline. Curved booms suspended within the arches contain lighting and air handling plant.

On either side of the exhibition halls are four levels of foyers and break out areas which have their own animation and drama as people scuttle around the luminous concourses and promenade up and down the escalators. Taming and civilizing such an unwieldy spatial behemoth is never easy, but Grimshaw manages to crack the whip with a good deal of rigour and style. CATHERINE SLESSOR

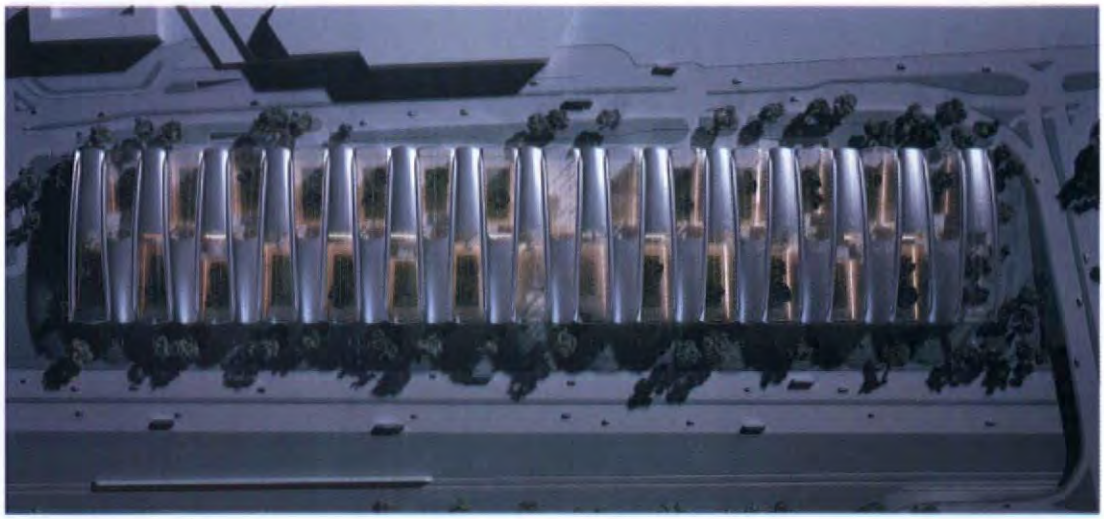
Architect
Nicholas Grimshaw & Partners, London
Project team
Nicholas Grimshaw, Neven Sidor, Ingrid Bille, Moritz May, Stephen Ridell, Robin Kirschke, Simon Beames, Ben Heath, Wolfgang Stockinger, Adam Firth, Carl Shenton, Jens Hardvendel, Ruby Kenzi, Ted Finn, Birgit Greulich, Max Fawcett, Giles Omezi, Jörg Winkler, Timm Schoenberg, Shoaib Rawat
Structural engineers
Arup GmbH/Schlaich Bergermann/BGS/Hahn & Bartenbach
Services engineers
Kuehn Bauer & Partners/HL Technik/ Dörflinger
Photographs
Waltraud Krase

RIBS AND SPINE

An attempt to insert a very large building into an urban context while retaining human scale.

detail of court and office roof junction

cross section through whole plan



Lufthansa's headquarters in Frankfurt am Main is an attempt to break down a very large building into human and environmentally comprehensible parts. Although the site is more urban and dense than the one of Niels Torp's BA headquarters in the grey suburban rim of London near Heathrow (AR August 1998), the two have a good deal in common.

In both cases, the aim has been to make a very big building that caters for large numbers of people creating spaces where individuals have a sense of place and location. Both have plans that are dissected into rib skeletons so that they have a large surface area to volume ratio. At Heathrow, the strategy allows office workers splendid views of surrounding parkland.

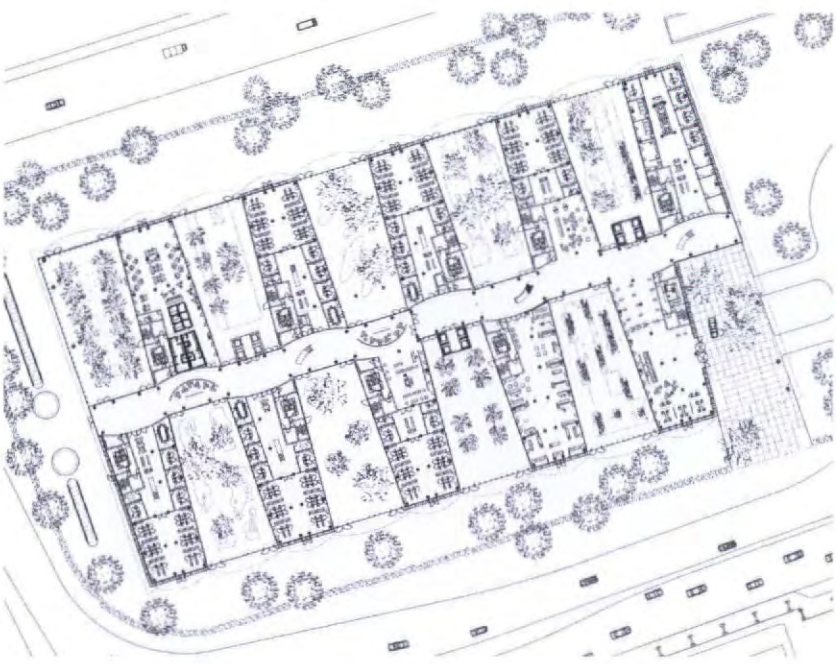
In Frankfurt, the parti is used to create glazed courtyards that act as noise and pollution buffers. They permit the offices to have openable windows at every workplace. Orientation of the courts allows sunlight sometimes at almost every desk. And the plan allows the 4500 inhabitants to be grouped in clusters of 30 to 40 individuals working in teams.

Connecting zones allow larger organizational groups to be set up, and ribs of the plan are organized along a thin street-spine, carefully articulated with curved elements to make it seem less daunting than its tall thin volume suggests.

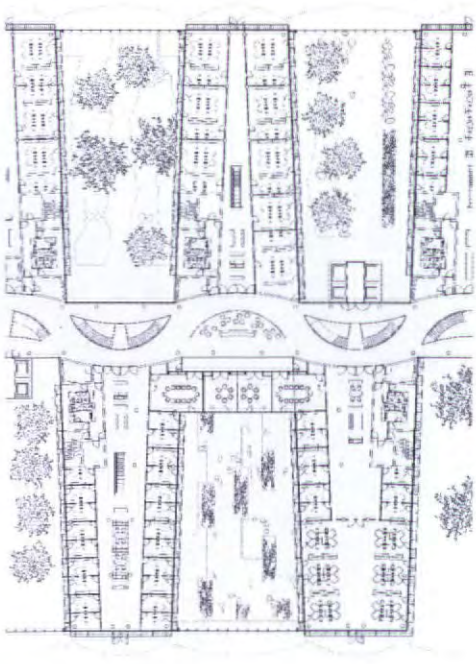
Up on the top (fifth and sixth) floors are conference rooms which overlook the city and its airport through the concrete and glass shell roof. And there is a posh restaurant up there too – this building is much more jolly than a normal company headquarters. It should be finished in 2004.

Architect
Ingenhoven, Overdiek & Partner, Düsseldorf

1
Perspective of office ribs enclosing glazed courts which allow office windows to be opened.
2
Model from above.



site plan (scale 1:1800)



detailed plan of ribs

HOW BIG IS BAD?

Bigness, it seems, is one of the unavoidable characteristics of modern culture: the global market and ever-increasing populations seem to demand bigger and bigger buildings. Charles Jencks argues that bigness almost inevitably leads to boredom and anomie.

Norman Foster enjoys running a big firm of architects, and designing what might have been the biggest building in the world, the Millennium Tower for Japan. New York City has enjoyed five of the world's biggest skyscrapers: the Flatiron building, Woolworths, Chrysler, Empire State and WTC. Le Corbusier did not like the idea of political parties, but he did admire one meaning of the word Bolshevik – 'bigness'. Rem Koolhaas has also made a virtue, and partial theory, from this concept and it is the rare architect who does not search for big commissions. 'Make no small plans', they whisper to themselves, recalling the Modernist injunction of Daniel Burnham as he devised the grand layout for Chicago by the lake.

Small may be beautiful, as E. F. Schumacher opined in the 1970s (or 'quite beautiful' as Ian Hamilton Finlay rephrased it in one of his ironic concrete poems) but it is hard to live up to the ideal. Richard Rogers confessed in a *New Yorker* profile that he did not want, or intend, to grow his office over 39 people, but like all the other architects trying to grapple with big issues, production realities soon pushed him over the limit. For the country as a whole, it is very hard to resist the economic pressure to become bigger, to grow one's way out of social problems, most obviously the immiseration of the poor. Zero population growth is a very sensible policy as far as ecology is concerned, but no government will pursue it for political reasons.

Hong Kong's forest of slender skyscrapers: why should big usually mean boring?

Moreover, there is the Modernist ideological commitment to bigness. Big government, big labour unions, big economies of scale have many justifications, but consider only one, the paradigm of the razor blade. As modern designers liked to point out, the more razor blades manufactured, the better each one gets. Before Gillette proved this paradigm, the quality of a blade was determined, roughly, by precision-cutting and constant sharpening. A rich man could tell his barber to hone and grind away until his razor achieved maximum sharpness. The mass production of blades, however, completely reversed this equation. If enough razors were manufactured to justify the investment in new tooling equipment, then all the poor could shave more quickly, cheaply and closer to the skin than the richest man in the world. QED, the bigger the production-run, the better the quality of each razor blade. The same was true of the Model A Ford, the mass-produced house (so Le Corbusier said), and free teeth on the health service (as Cedric Price used to say).

Yet a moment's thought about the actual state of national health gives one pause. There are limits to growth and economies of size, a point reached when bigger means worse. Think of a jet faster than the Concorde, or a building taller than 120 storeys. The paradigm of the razor blade is not a model for all productive systems, especially artistic and complex social ones. But who can say when this point is reached, when big becomes too big?

Law of diminishing architecture

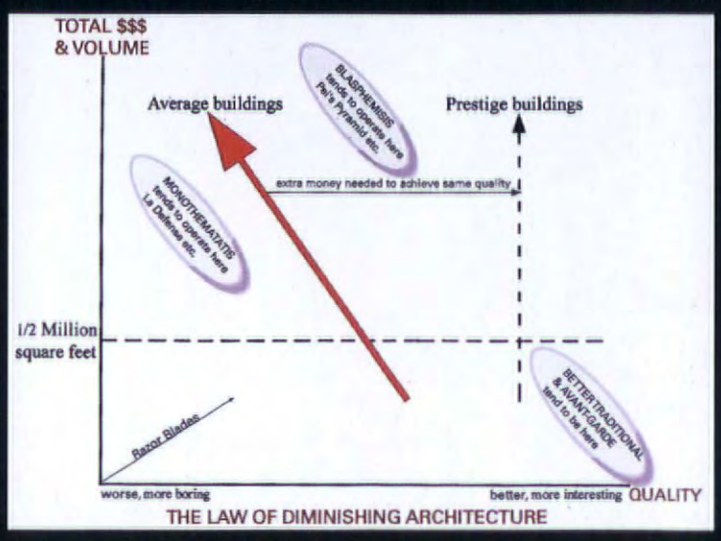
In the mid-'70s, I tried to wrestle with this question and formulated a law of architecture that explains why the bigger corporate modernism gets, the more boring it usually gets. I called this 'the Ivan Illich Law of Diminishing Architecture', after the man who discovered counter-productive growth in other fields, and framed it as follows: 'for any building type there is an upper limit to the number of people who can be served before the quality of the environment falls'. With hotels sprouting up in London it was quite obvious. When 3000 tourists swarmed together for lunch, or sight-seeing, as they did in some large

Moscow hotels, then the quality of the food, or the experience of Red Square, was somewhat diminished; that is, when compared with ten or twenty travelling in a group.[1] In 1975 it appeared that this decline of quality, or law of increasing ennui, was caused by the conformity inherent in large numbers. The Man in the Grey Flannel Suit, that stereotype of '50s sociologists, dramatized a truth. With large impersonal offices filling up the cities, ennui might be caused by corporate drones asking for mirrorplate boxes that matched their taste (also a cliché of journalism at the time). Or, perhaps, boredom was caused by the speed at which mega-buildings were dropped onto a rich, unsuspecting site. Either force might freeze architecture into what was called the dumb box.

But 25 years later other reasons, including economic determinants, seem more compelling than psychological ones. The evidence of this unfortunate rule is obvious to anyone flying over a growing downtown, or walking down Sixth Avenue in New York, or boating past Hong Kong's waterfront – proof too positive to deny. But why should big usually mean boring, why shouldn't the Modernist hope, that mass-production can increase quality, be true?

With most large buildings there appears to be a kind of Richter Scale measuring tedium. Over a threshold of about a half-a-million square feet, every skyscraper ten floors higher than the next is likely to be twice as uninspired, and the same goes, beyond a certain point, for every extra $10 million dollars spent on a building. So the $60 million dollar, 60-storey skyscraper, compared to a $20 million 20-storied one, is likely to be 16 times as dull. There are exceptions, and these figures are ridiculously precise, in order to make a point: money and size are measurable, dullness is not. But, the idea behind the law is that, given enough computer time, you could calculate the numbing repetition of elements in a building, and whether they were yesterday's clichés, and thus produce a rough measure of boredom. If you graph these tendencies they produce a curve similar to many distributions found in nature and culture, called the power law.

Manhattan: Richter scale of tedium needed to assess big buildings.



'A rough measure of boredom.' Jencks's graph of the law of diminishing architecture.

Power laws

For instance, the curve showing the small number of large stock market crashes shading into the large number of small ones. Or the graph depicting the few large asteroid impacts on the moon versus the many tiny ones that hit every day; or the few large mass-extinctions in earth's long history versus the many tiny extinction events, and so on.[2] Those acquainted with such statistics, or earthquakes and the Richter scale, that is the maths of 'power laws', will recognize the normal curve, the trade-off that swings from top left to low right. It is true the rule is not absolute. On the graph of increasing boredom are also found exceptions to the rule – company headquarters and a few prestige buildings where clients are willing to take a chance, and also spend more money. These exemplars, such as the Hongkong Bank, or the tallest building in the world (at any moment) are exceptions. Yet they only prove the general truth all the more: they are very rare.

After a certain size, about a half-a-million square feet I would argue (half the size of the Chrysler Building), the bigger the building the less the architecture. One reason for this, as the skyscraper-architect Cesar Pelli pointed out in discussing these issues, is the way inefficiencies and costs are multiplied by size. An extra floor added to a 40-storey skyscraper is not just one more at the same price, but extra costs for every floor. 'In effect', he said, 'you add the floor not at the top, where you imagine it, but at the bottom; because its weight and services have an impact throughout the building'. One developer pointed out to him the extra floor added 15-25 cents per square foot to the whole, and usually no one wants to pay for the extra premium. In similar manner, when a developer builds very high, or in great volume, there will be several multiplier effects, and thus the client will try to optimize every square inch of usable space. Soon this economic rationalization will dominate other concerns. That is unless the client seeks the 'Bilbao Effect', or tries to erect the largest building in the world, and thereby suspend the law of diminishing architecture. Or there may be a unique building condition: for instance, where it pays to turn a skyscraper into a pencil-thin media station with radio, telephone and tv stations at the top. These might justify extra expense and more considered architecture. There are exceptions. But, if most large buildings are put up to make investors money, quickly and predictably, then when more money is at stake, lawyers, accountants, developers and clients will optimize repetition – demand predictability – and reduce all the multiplying costs that are not strictly necessary.

These extras include the very things that define the art of architecture: a new concept, light and space dynamics, ornament and structural expression, sculptural gesture, and innovation. Since big buildings must get a return on their investment, with zero risk, there will be zero creative architecture. No risk, no creativity and therefore in critical terms, no architecture. To adopt an old distinction, one might call such zero-rated creativity not architecture, but building.

Supermodernism so dull

Thus it becomes clearer why so much Supermodernism (as the Dutch call it) or generic architecture (as Koolhaas terms it) is so dull. Consider the Potsdamer Platz built in Berlin from 1995-2001 (AR January 1998). Although some of the best architects, such as Arata Isozaki, Rafael Moneo, and Richard Rogers, were led by a very good one, Renzo Piano, they produced some of their worst work (an opinion I share with Joseph Rykwert). This has happened, in spite of some good ecological intentions and contextual theory, some pleasant urban spaces and detailing. Even the fine idea of dividing a large commission between several good architects did not reverse the law of diminishing architecture. The results are, at the same time, both stereotyped and overblown. The Daimler-Benz Tower is clad in dirty orange terracotta meant to fit into the Berlin context; but the colour and material, at this scale, merely insults the idea of contextualism and provides no parsing at different scales. The slab block with the rotating Mercedes symbol is equally inept in its massing and endless repetition.

Supermodernism at Potsdamer Platz, Berlin ...

Why does the whole development seem so clichéd and inflated? Mainly because of its size, the 6.5 million square feet of development, that is, six and a half times the amount of the Chrysler Building. I am not arguing that the architecture had to be as bland and inarticulate as it has turned out, only that at this scale of building, with this much corporate money at stake, it was likely to be a collection of uninspired boxes. Big Corporate Modernism, the style and approach that dominates global architecture, works within the severe constraints of the behemoth. It is worth recalling that the World Trade Center, those two corporate boxes of 110 storeys, was 13 million square feet big, the largest commercial facility in the world. It was an independent city within the city, of 55 000 people at peak time, a district with its own zip code. Architecturally its bigness was exaggerated by the close spacing of the aluminium structure shooting upwards from the Gothic arches at the base. These created the vibrating optical effects that made it hard to focus on anything but the monolith itself, thus creating a symbol for bigness.

From an abstract point of view it is impossible to say when big becomes too big, when the law of diminishing architecture sets in. Size and scaling are matters of structural and social invention as well as urban transport and a host of other things. All one can say with surety is that there are always limits to size. Biologists make this point with respect to the dimensions of animals, to brain size and leg length. They formulate laws, or rather measurable hypotheses, of why most animals are about the size of a rabbit, why not too many dinosaurs evolve and so forth. Aviation engineers have come up with equations that optimize the size/speed ratios of passenger jets like Concorde. Maybe the angle and measurement of my graph (p67) is off by a factor of two, but that some power law of diminishing architecture sets in a certain point I have no doubt, nor that my figures can be much improved. CHARLES JENCKS

1 Charles Jencks, *The Language of Post-Modern Architecture*, Academy Editions, London, 1977, p13.
2 Power Laws have been studied by many at the Sante Fe Institute. See For instance Murray Gell-Mann, *The Quark and the Jaguar, Adventures in the Simple and the Complex*, Little, Brown & Co, London 1994, pp93-95.

... 'so clichéd and inflated'. A 'collection of uninspired boxes'.

Tate revival

Tate Britain's elegant extension and modernization increases gallery space by a third and makes it possible to see works previously stored away in vaults.

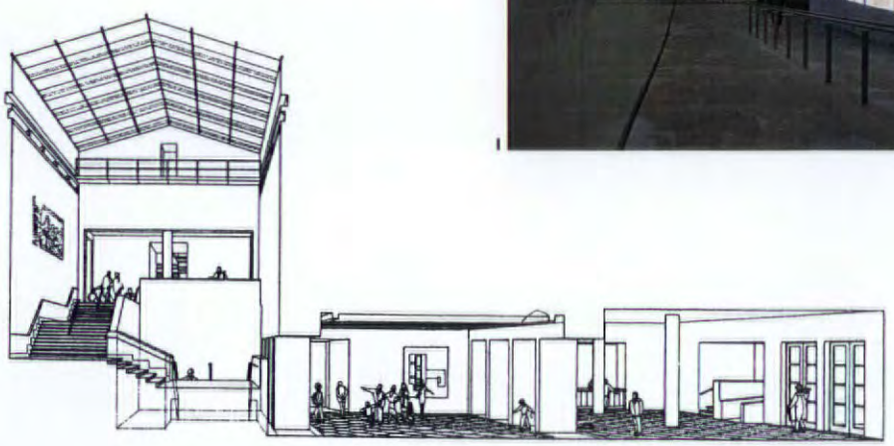
As a building, the Tate Gallery on Millbank has not been much admired, 'an unfortunate choice', observed Nikolaus Pevsner of its nineteenth-century architect, Sidney Smith. 'He used the accepted Late Victorian grand manner but neither with discretion nor with originality.'[1] In 1957 when Pevsner was writing, the style was not one, in any case, that commanded admiration. His views were echoed by fellow Modernists, but also by much more recent critics. Deyan Sudjic, for instance, has remarked that the building 'fails to rise to the challenge of its site and symbolic significance'.[2]

In March 2002, after a long gestation, the gallery was split into two. British art from 1500 to the present day stayed at Millbank in the renamed Tate Britain; international modern and contemporary collections were transferred to Tate Modern on Bankside, a former power station converted by Herzog & de Meuron. Greatly acclaimed, this monument at the south end of the Foster bridge has great public presence (unlike its counterpart facing the Thames with Smith's oddly proportioned and tentative Corinthian portico). But its inert interior with regimented galleries, incomprehensible circulation and some dismal lighting, is dispiriting.

Exactly the reverse is true of Tate Britain's interior. Order, grand airy galleries, changing volumes and quantities of natural light together create an infinitely more agreeable experience. This is particularly so since completion of new galleries and a new entrance by John Miller & Partners. The expansion, opening the Tate up to the west, aerates and discreetly modernizes the place – adding greatly to its pleasure and civilization. Not least, it makes it possible to exhibit works from the reserve collections, hitherto stored away in vaults.

Expansion by ad hoc stages has been typical of the Tate's history. Opened in 1897, it was designed by Smith to house the art collection of Sir Henry Tate, a nineteenth-century sugar magnate, and built on the site of the Millbank Penitentiary. Smith was followed in the early part of the twentieth century by W. H. Romaine Walker who designed galleries for the Dutch art dealer, Joseph Duveen, and, later, his son; and subsequently in 1937 by the American classicist, John Russell Pope, responsible with Walker for the Duveen sculpture galleries which mark the central axis running north from Smith's entrance rotunda through a domed octagon. The Tate's status as a national gallery, as well as its neglect of modern continental art at this point, probably explained the choice of architect. (Pope went on to design his great classical essay, the American National Gallery of Art in Washington.)

GALLERIES AND ENTRANCE, MILLBANK, LONDON
ARCHITECT
JOHN MILLER & PARTNERS



north-south section

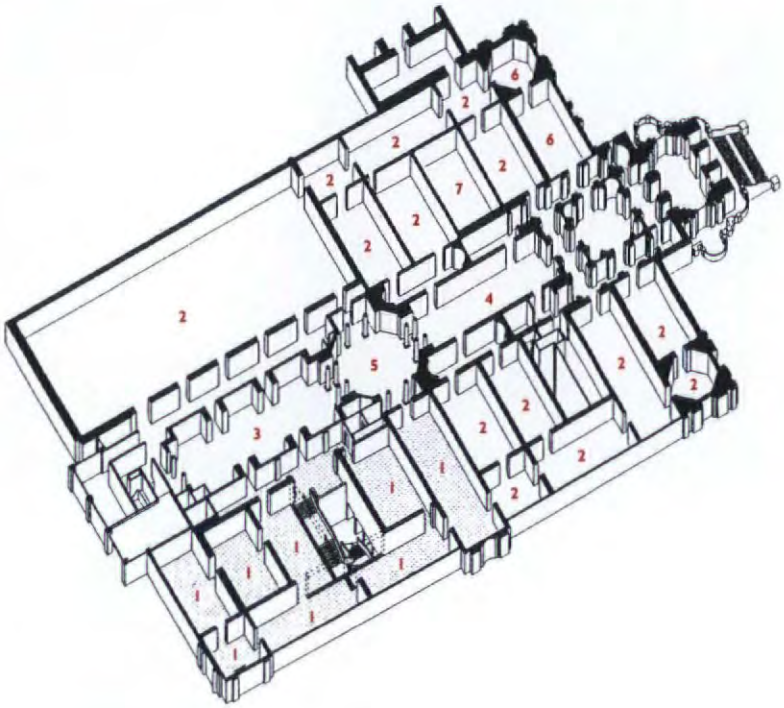
1
West face of Tate with new entrance and landscaping by Allies and Morrison Architects.
2
Entrance hall and reception.
3
Grand staircase to upper floor and gallery window.

GALLERIES AND ENTRANCE, MILLBANK, LONDON

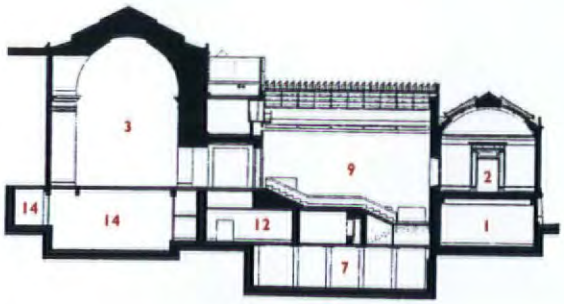
ARCHITECT

JOHN MILLER & PARTNERS

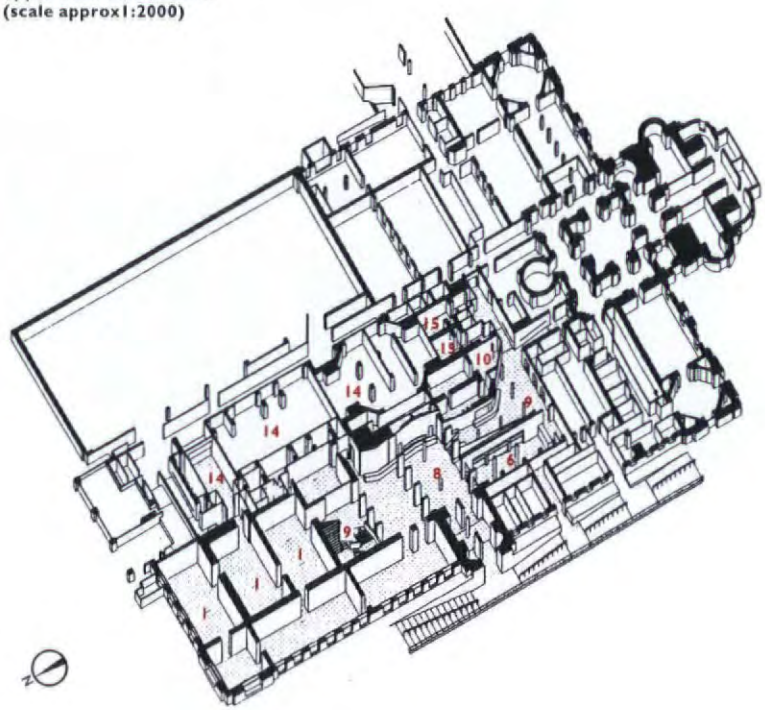
4
Staircase under etched glass roof.



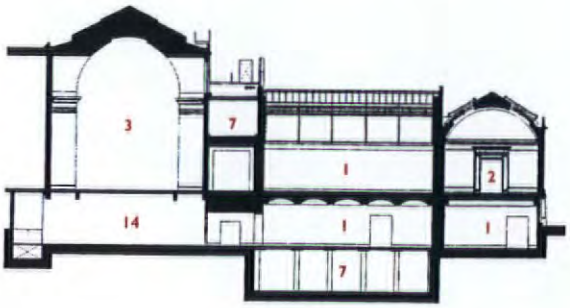
upper floor axonometric (scale approx1:2000)



cross section through north Duveen and new hall

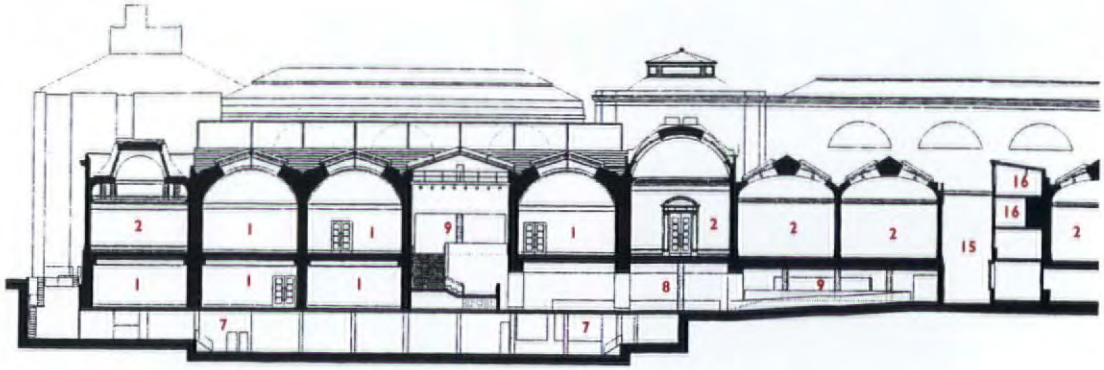


lower floor axonometric



cross section through north Duveen and Linbury Galleries

1 new gallery
2 existing/refurbished gallery
3 north Duveen gallery
4 south Duveen gallery
5 Duveen octagon
6 shop
7 plant
8 entrance hall
9 new link
10 cloakroom
11 new entrance
12 audio-visual room
13 wc
14 handling
15 courtyard



north-west south-west long section (scale approx 1:2400)

GALLERIES AND ENTRANCE, MILLBANK, LONDON
ARCHITECT
JOHN MILLER & PARTNERS

5

6

Up until now, modern architecture has not served the Tate particularly well, represented as it is by Llewellyn Davies, Weeks, Forestier-Walker and Bor's worthy but dull north-east extension, added in 1979, and by James Stirling's self-indulgent wing of 1987, so unsympathetic to the Turner paintings.

John Miller & Partners' architectural rigour and clarity has been seen most recently in the reorganization and modernization of the Serpentine Gallery in Hyde Park. This practice seems to be entirely without tiresome vanity for here, as there, it has extrapolated from the existing scale and order to create volumes that, where necessary, fit in so unobtrusively as to be scarcely recognizable as interlopers. This is not to say they are not modern spaces; they are careful abstractions of the originals.

So seamless are the links between new and old, so discreet and austere the insertions, that it is difficult to appreciate how large the scheme is, increasing the Tate's space by a third. Extending over two levels of the north-west quadrant of the site, it includes refurbishment of five galleries on the upper floor and design of nine new galleries (including the Linbury Galleries for temporary exhibitions on the ground floor), using space previously taken up by a courtyard. Existing galleries have been cleaned up and air conditioned. The coving and skylighting of these volumes, their materials and colours, find echoes in design of the new rooms on the upper floor; only the suppression of skirtings and lack of ornamentation in the latter give the game away. On the lower level, ceilings of the Linbury Galleries are shallow vaults with uplighters shedding reflected light. Expanding horizontally, these are big unadorned volumes with plenty of hanging space and expanses of plain wood floors.

The fulcrum of the Miller scheme is the handsome new entrance hall reached from the new Manton entrance on Atterbury Street. Designed to catch visitors coming on foot from Pimlico tube, the entrance relieves crowding at the main doors, caters for disabled visitors, school parties and other group visits, and makes flexible opening hours possible. It is also a hub from which to reach all parts of the museum.

The hall is spacious, paved with pale limestone and set with black columns; and is connected to the restaurant and café to the south by a ramp and shallow flight of stairs. As elsewhere, detailing is immaculate. To the north are the Linbury Galleries. Standing at the reception desk which stretches across the back (east) wall, you have long views into the light-filled galleries in one direction, through glass doors to the outside (and elegant landscaping by Allies & Morrison) in another, and in another into the glass fronted shop to the left of the entrance.

The horizontal expands vertically with procession into a luminous lofty stairwell faced with stone and roofed with etched glass, where a grand flight of stone stairs takes you to the upper floor. Throughout this scheme the links, uncramped and generously proportioned, between the various parts suggest leisurely procession, just as Pope's central aisle does. Stateliness belongs here, and Miller's staircase reflecting the fact is a great delight.

1 *London 1: The Cities of London and Westminster* by Nikolaus Pevsner. Published by Penguin Books, revised by Bridget Cherry.
2 'Più Spazio per la Tate', Deyan Sudjic, *Domus*, March 2002, p98.

Architect
John Miller & Partners
Project architects
John Miller, Su Rogers, John Carpenter, Stuart Hill, John Cannon, Kristine Ngan, Graham Smith, Seamus Thornton, Patrick Bankhead, James Nelmes
Photographs
Richard Bryant/Arcaid

5,6
Linbury Galleries and exhibition of Victorian art. Shallow vaults have uplighters shedding reflected light.
7
A new slot cut into wall of old gallery connects it with verticality of new luminous stairwell.

1

While the steel house was important in the development of modern architecture it was primarily the liberating frame, advanced through the influential designs for the Farnsworth House and the later Case Study Houses, that prompted radical re-considerations of domestic space and patterns of living. A recently constructed house in Toronto, designed by Brigitte Shim and Howard Sutcliffe, explores the use of steel in other ways.

Designed for a site on a street where recent changes have seen modest houses built in the '50s replaced by parades of new over-scaled and generic suburban houses that show little reference for their setting, this house is a striking contrast. Unlike its neighbours marked by the seemingly inevitable plastic columns, sweeping pitched roofs and porticos placed on unreal manicured lawns, it is stretched across a curve in the street and has a monumental folded facade predominantly clad in oxide red weathering steel.

This facade – placed over a Douglas fir screen at the ground floor – has only a few windows and effectively closes the site from the banality of the street.

Canadian weatherman

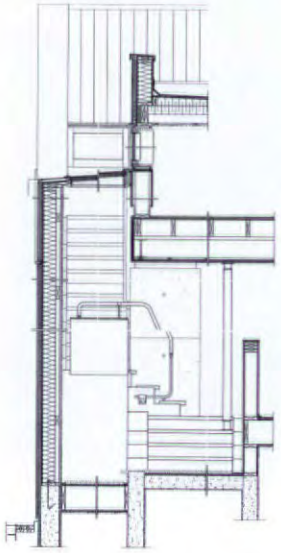
Clad in a rough carapace of weathered steel, this family house in Toronto suburbia intelligently integrates natural ground and built space and conceals a luminous heart.

1, 2
The house's monumental facade of weathered steel forms an arresting spectacle in Toronto suburbia.
3
A sequence of stepped reflecting pools forms the sensuous heart of the interior.

2

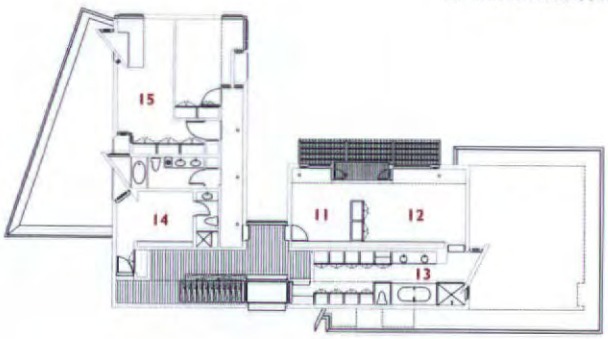
ar house

House, Toronto, Canada
Architect
Shim Sutcliffe

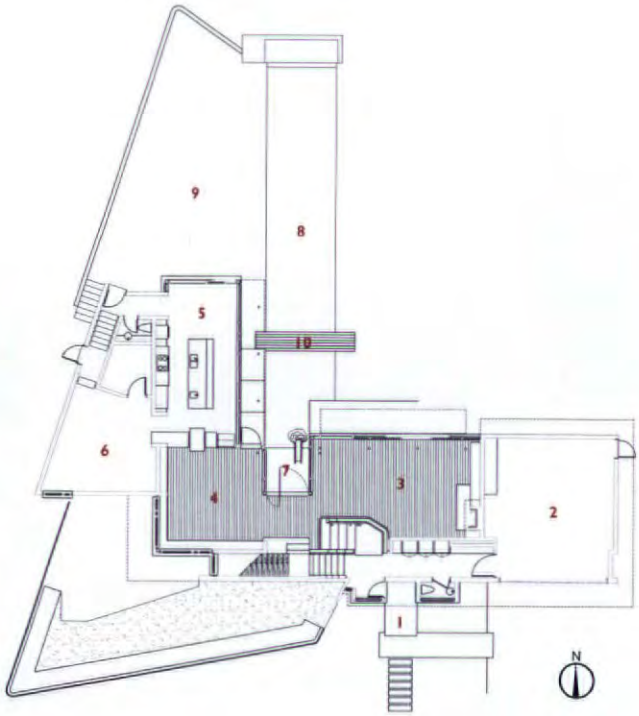


detailed section through staircase

1 main entrance
2 garage
3 living room
4 dining room
5 kitchen
6 family room
7 reflecting pool
8 swimming pool
9 terrace
10 bridge
11 study
12 master bedroom
13 master bathroom
14 guest bedroom
15 children's bedroom



first floor plan



ground floor plan (scale 1:150)

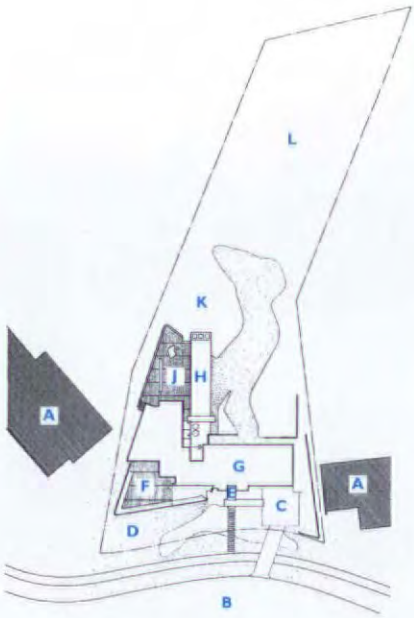
The steel-faced external wall extends into the house to mark the entrance, form a parapet and frame the fireplace. It is only when you move through this facade and into these spaces of this new house that the extraordinary spectacle of the site is revealed. The long narrow strip of land tumbles over into a ravine and takes in the wide panorama of Toronto's city skyline and the CN Tower beyond. Almost at the horizon and on the long axis of the site, that skyline prompts a reading of a vastly expanded territory for both site and house.

The plan of the house has been developed to make a two and three storey L-shaped building with an attenuated wing extending back to the ravine. On this south-facing side of the house the steel cladding is folded back to reveal a meandering glassy wall. A series of columns registers the space within the living room while others outside define a deck and an outdoor terrace. Together these devices combine and effectively blur and soften the distinctions between architecture and landscape.

Shim Sutcliffe's work to date has enthusiastically embraced architecture and landscape through commissions to design parks, gardens and pavilions as well as residential (AR March 2000) and civic buildings. In this project they have clearly relished exploring the ambiguity that exists between the two. Here their choice of low alloy high-tensile strength steel cladding creates a rain-screen that develops a self-protective oxide layer offering natural protection and obviating the need for painting. However the use of this material, pioneered by the architects Eero Saarinen and John Dinkeloo, also creates a house that, like the surrounding landscapes, becomes a conspicuous indicator of change in time, the weather and the seasons as it changes in colour.

In addition to this cladding the roof of the lower pavilion of the house has been planted with grass and a long strip of the newly constructed garden has been made into a series of stepped, linked pools. These pools are filled with rainwater collected from the roofs above and then discharged conspicuously from a trough at the heart of the house. The pools also register the radically different seasons in Toronto by providing a place to sit or swim in summer and an unpredictable spectacle when they freeze in winter. And as the planted roof projects the site into the sky so these pools bring the sky down

A existing houses
B street
C parking
D clover meadow
E entrance
F lower level courtyard
G weathering steel house
H pools
J external terrace
K top of bank
L ravine



site plan

onto the site in a sumptuous sequence of large framed reflections.

Acknowledging the distinct character and location of this particular site at the edge of the wild natural landscape of Toronto's ravines, the scheme seeks to integrate the new development into existing ecological systems. However, while the geology, orientation and vegetation of its setting have influenced the design of the house so it, in turn, has been planned to re-construct the site and establish new ecologies that bind together house and garden. So water run-offs are controlled by the planted roofs; systems of connected waterways collect, purify and control the discharge of water and limit erosion; and the new meadow created next to the ravine has been carefully planned and planted to avoid the radical changes often wrought by suburban gardening.

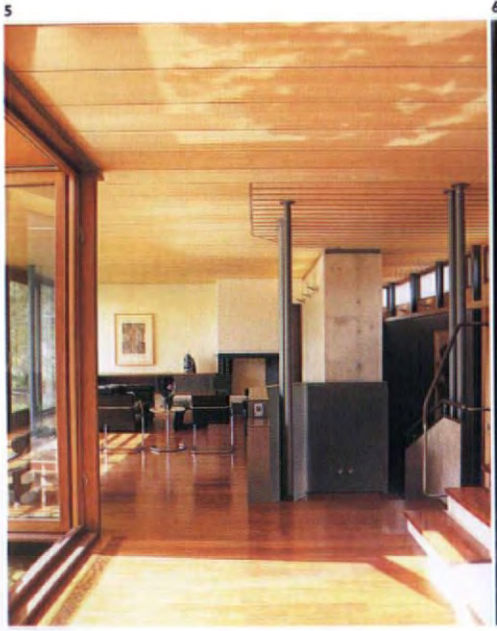
Through their careful consideration of material and the details of the construction, Shim Sutcliffe have successfully integrated natural ground and built space in the design of this significant new steel house.

BRIAN CARTER

Architect
Shim Sutcliffe, Toronto, Canada
Photographs
James Dow

4

5



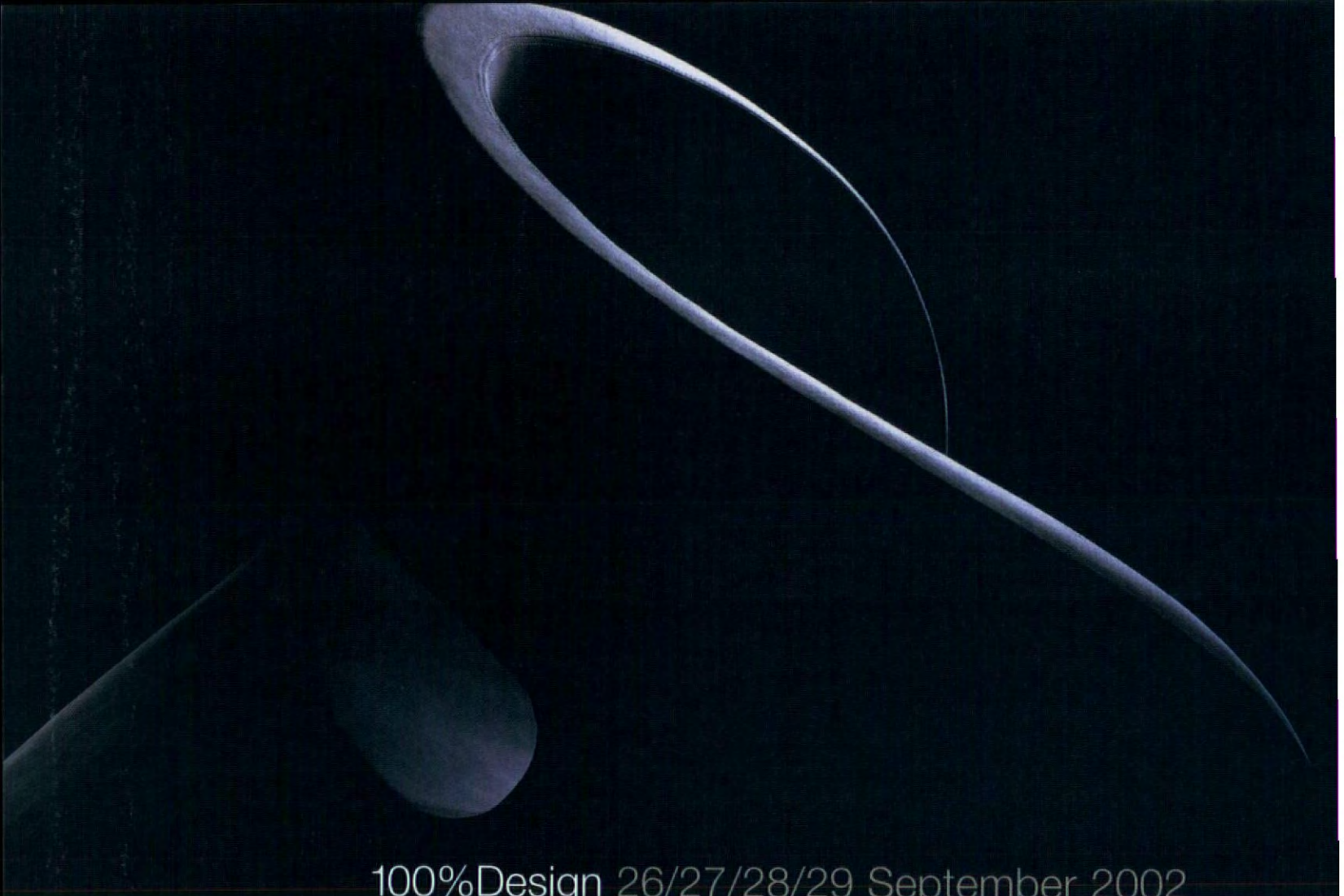
6

HOUSE, TORONTO, CANADA

ARCHITECT

SHIM SUTCLIFFE

4
Light animates the interplay of the various levels.
5
Living room.
6
Views are framed and defined by a sequence of pools and reflections.



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One of Architekturbüro Jaschek's airy, luminous hubs provides valuable passive solar energy gains, offsetting overall power consumption (p85).

Glass futures

Glass is the material of our time. Only a few years ago, it was considered to be dangerously wasteful in energy terms, but with advances in environmental engineering, and in the nature of the material itself, it has wonderful possibilities. The following pages show a few of them.

LONDON CALLING

The headquarters for the Greater London Authority uses glass in its sophisticated and environmentally responsive external skin.

LOCAL GOVERNMENT OFFICES, LONDON
ARCHITECT
FOSTER AND PARTNERS

Foster and Partners' headquarters for the Greater London Authority (GLA) is London's newest and most significant civic building of recent times. Like County Hall (the institution that housed the Authority's political predecessor the Great London Council), it occupies a riverside site, but in raffish Southwark, near Tower Bridge, as opposed to genteel Westminster. Intended as a paradigm of democracy, accessibility and sustainability, it houses an assembly chamber for the 25 elected members of the London Assembly, together with offices for the Mayor and some 500 GLA staff.

The building's orientation and form are designed to reduce energy use. Its bulbous shape is derived from a geometrically modified sphere, a form with the greatest volume to the least surface area. The glazed facade of the assembly chamber faces north over the river to minimize the amount of direct sunlight falling on it and so reducing solar gain. On the south side, the building steps back as it rises, so that the overhanging floor-plates provide natural shading for the offices beneath. The architects estimate that this form in combination with measures such as natural ventilation in perimeter offices (by opening vents positioned below windows), chilled beam cooling and a highly responsive system of environmental control will cut the annual energy consumption of the building's mechanical systems to around a quarter of that of a typical high specification air-conditioned office building.

Both building form and external skin respond to the sun path; self-shading where required; more solid to prevent heat gain and loss; more transparent where sun angles prevent direct solar gain. A shading strategy was developed in response to detailed analysis of the frequency and intensity of sunlight on the facade. The building is enclosed in a sleek glass skin cladding incorporating opaque, translucent and clear panels with integrated shading devices according to orientation. The cladding system extends around the office facades and abuts the assembly chamber to the north where it becomes a double-glazed triangulated skin, reflecting the volume of the chamber within.

Office cladding is designed as a vented, triple-glazed flush facade. The inner skin is made up of insulated spandrel elements and a low emissivity double-glazed unit 1200mm in height set 900mm above the finished floor level. Shading blinds sit in the cavity between the two skins to provide both solar shading and glare control. Air movement in the cavity cools the blinds and increases the efficiency of the system. The vented cavity also provides an air inlet for natural ventilation. An automatic top opening vent allows hot air to escape at high level when the lower vent is opened.

Each of the building's 3844 glass panes is unique. A computer model was used to determine glass sizes and panel locations. The task was made more complex because the facades are all twisted planes as the circles that define them are not concentric. An internal partition grid of 1.5m generates mullion positions. Mullions were shifted from the vertical in order to overcome the inherent twist and create a flat glass trapezoidal panel.

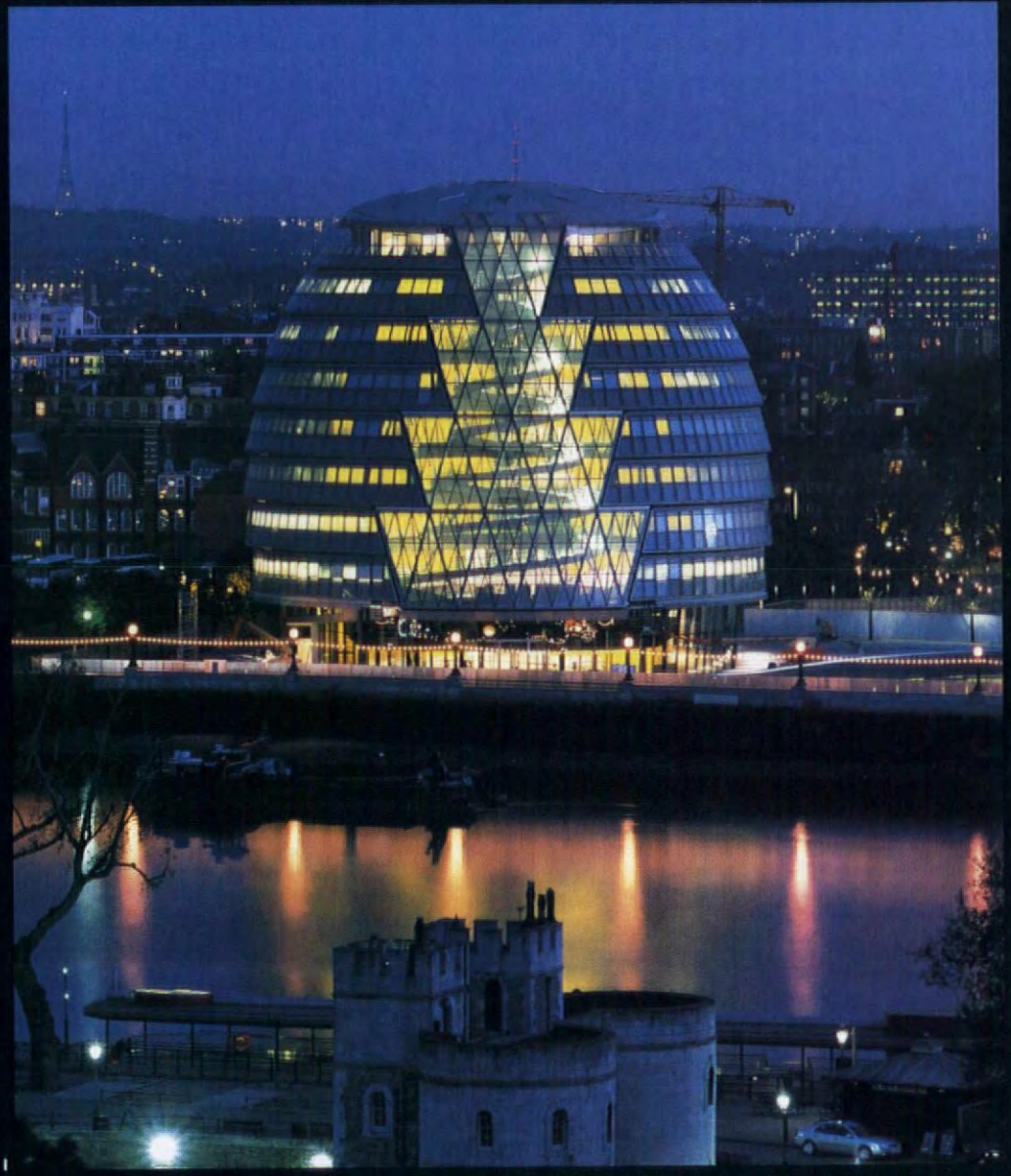
Spreadsheets were used to record each panel location, enabling the glass supplier to quote accurately for the glass, reducing potentially costly assumptions. It also allowed the facade fabricator Schmidlin to devise precise production and laser-cutting schedules. Panels were temporarily erected in the factory before being shipped to site so that Schmidlin could survey the as-built facade and

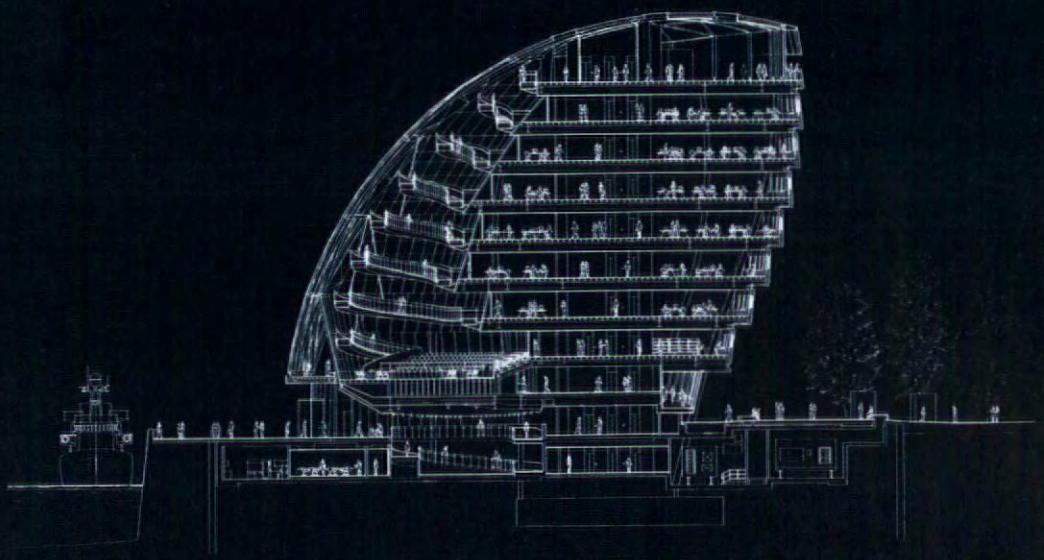
ninth floor plan (scale 1:1000)

1
Perched on the edge of the River Thames, the new GLA building is London's latest civic symbol.

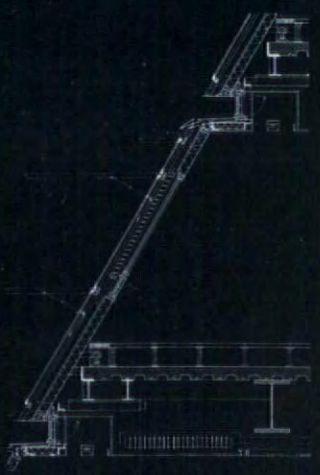
eliminate any fabrication tolerances. Fixing brackets could also be positioned in relation to actual panel size. Each of the panels was individually numbered and fitted together on-site like a giant jigsaw. The level of detailed design was such that each panel had its own lifting position in order to ensure that the bottom edge of the trapezoidal units remained horizontal. Head and base brackets fix the panels to the structural slab. Designed and built within a mere 30 months, the building was completed both on time and on budget.

Architect
Foster and Partners, London
Structural, services and acoustic engineer
Arup
Cost consultant
Davis Langdon & Everest
Facade consultant
Schmidlin
Automatic doors
Blasi
Photographs
Nigel Young





cross section



detailed section through external wall

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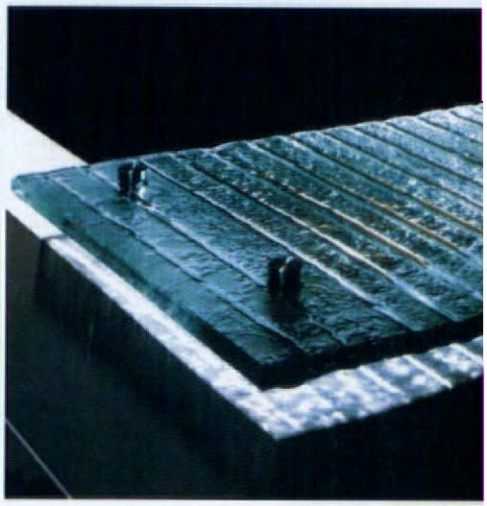

Clockwise: **Gordon Ramsay.** United Designers / **Holmes Place.** ORMS / **Exxon Mobil.** HOK International Ltd. / **Pizza Express.** Auckett Tytherleigh / **DAKS.** Amalgam / **Carat UK.** Workplace Art Consultancy.

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OFFICES, ESSLINGEN, GERMANY
ARCHITECT
ARCHITEKTURBÜRO JASCHEK

1

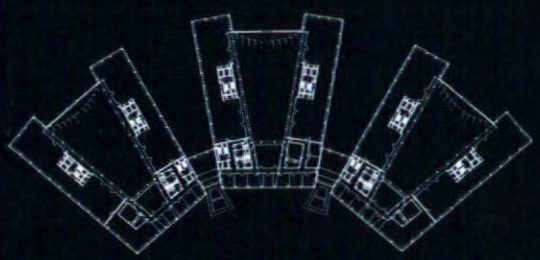
Festo are a well-known German manufacturer of pneumatic equipment based in Esslingen. The company's existing headquarters was recently expanded to add an extra 34 000 sq m of space. The design formula is familiar, but executed with precision and attention to detail. New parts are housed in three blocks organized in a semi-circle around a node that connects with the existing building. Each block is based on an identical arrangement of two slightly canted office wings enclosing a central atrium, forming a rough A-shape in plan. Conceived as airy, luminous hubs, the glazed atria contain communications centres for the firm's employees. They also act as buffer zones, providing valuable passive solar energy gains that help offset the building's overall energy consumption.

Each of the facades is made up of 2.4m x 2m glass panels (supplied by Okalux) held in place using an elaborate system of planar wires and clamps. Lateral wind loads are taken up by secondary internal tensile nets rigidly connected to the planar assembly by a series of tension and compression rods. Inward movement due to wind loading is taken up by horizontal wires; outward flexing due to wind suction is transmitted to points beneath the roof girders by vertical wires. The roof is enclosed by a pneumatic, pillow-like structure.

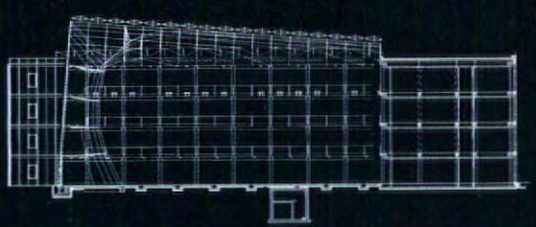
Sunshades attached to the exterior are modelled on the rigging of yachts and consist of six sails (some as large as 120sqm) which can be retracted hydraulically. Sails are unframed and are tensioned by bows that extend the full height of the facade. Extension and retraction is dictated by climatic conditions, but the building can be shaded even in high winds. The entire assembly has a surprising lightness and delicacy; with their sails unfurled, the office blocks resemble billowing galleons on the high seas.

Architect
Architekturbüro Jaschek, Stuttgart

1
Glazed atria form a luminous spectacle at night.
2
Detail of glazing 'rigging'.



typical upper floor plan (scale approx 1:1500)



long section through atrium

2

FULL SAIL

These offices are planned around a series of glazed courts that are celebrations of tectonic invention and also contribute to the building's energy management.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New materials
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Symposium
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glass · integrated micro-structures. Solar technology: visual layout · cell typology · modular variations · colour and form · transparency · multi-pu
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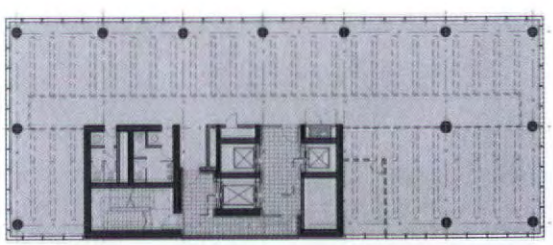
OFFICES, DÜSSELDORF, GERMANY
ARCHITECT
ALSOP ARCHITECTS

1

2



typical floor plan (scale approx 1:500)

COLORIUM

Using glass dramatically, but within a standard office budget, a landmark tower has been created to help massive regeneration of Düsseldorf's Rhine harbour.

The Colorium is one of the buildings that are rejuvenating Düsseldorf's once defunct harbour into a media centre. A 17 storey, 62m high office tower has been built on a traditional harbour-side long narrow site with its thin side to the water. To break down the monotony of standardized office floors piled on top of each other, the smooth e-glass walls have been dramatically patterned in colour.

Only 17 different types of glass panel are used, and the bright colours are screen-printed onto them. Colour is restricted where people can look out (alternate windows are openable), and tends to become more opaque to conceal the concrete frame, but this underlying order is at first obscure, and whole elevations are read as huge intricate patterns capped by a projecting red plantroom. When the lights are on at night, the effect is intensified as the building is reflected in the water of the harbour.

Architect
Alsop Architects, London
Project team
Jonathan Leah, Uwe Frohmader, Christophe Egret, Sonia Hibbs, Andy McFee, Neil Pusey, Sabina Riss, Shaun Russell, Max Titchmarsh
Structural engineer
Arup GmbH

1
Fritted colours allow elevations to be enormous coloured collages.
2
In addition to e-glass throughout, highly reflective blinds combat insolation.
3
Colour reduced at viewing levels.

3

1

2

CURVING CANOPY

A huge glass roof over conventional offices is both rainscreen and energy collector.

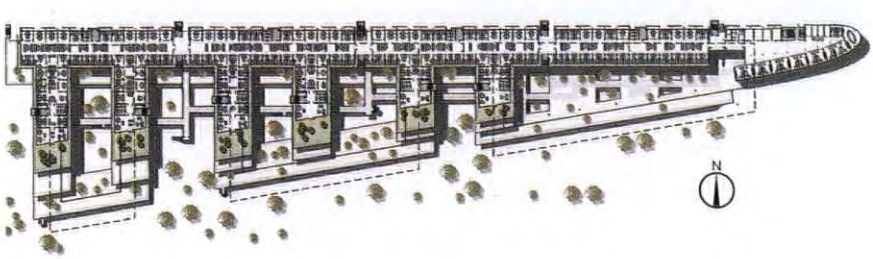
OFFICES BUILDING, HANOVER, GERMANY
ARCHITECT
HASCHER + JEHLE WITH HEINLE, WISCHER & PARTNER

Take a simple office building. Pile floor plates on top of each other, arranged to make possible the contemporary notion of the workplace as club. At the dgv head office in Hanover, the ideal of Bürolandschaft has been developed for the age of hot desking. In plan, ribs run south from a thoroughfare spine towards the countryside. But on top of this essentially humdrum parti are swooping glass roofs that can both capture solar energy and use it to generate convection currents to ventilate the spaces. Scarcely anywhere else than in Germany can you find such a subtle and thoughtfully worked out environmentally alert proposal.

The big curved glass roofs cover atria full of olive and mulberry trees that are overlooked from individual workplaces. Roof curves are derived from the terraced structure of the building (there were planning limits on height) and from the forms of the site. Structure is a cable net which stiffens a space-frame. Automatic openable elements in the ridge allow convection; glass at this level has 50 per cent shading factor, but lower down, glass is normally transparent. Lamella glass fins protect the spaces from long raking early morning and evening light.

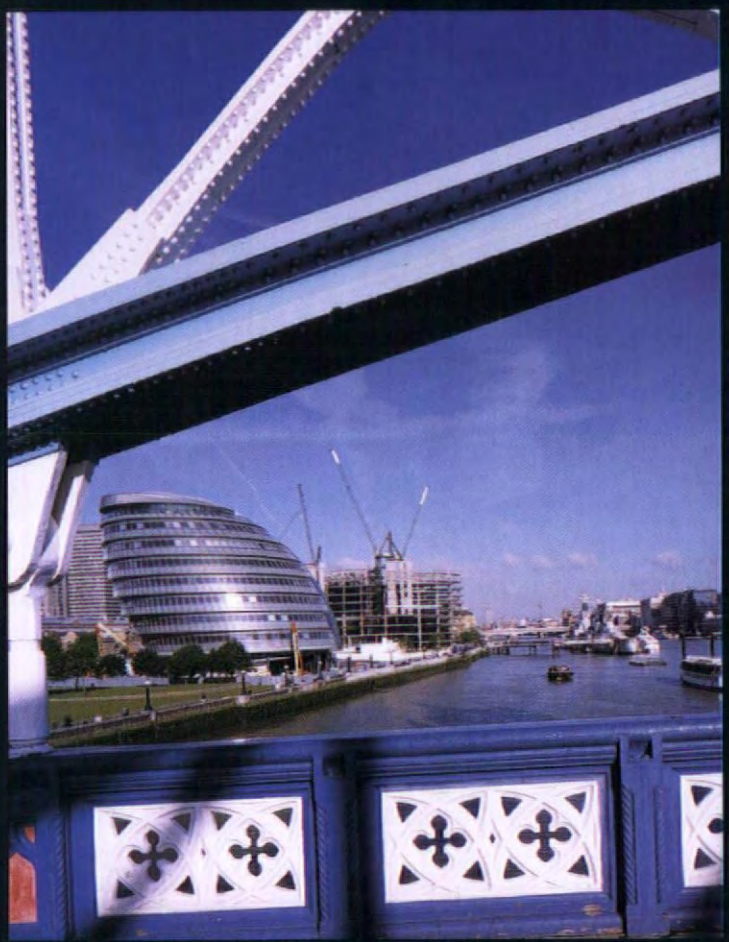
Architect
Hascher + Jehle, Berlin with
Heinle, Wischer & Partner, Berlin
Landscape
Trillitzsch, Jost & Partner

cross section



plan at level 2 (scale approx 1:2200)

1
Green courts help to oxygenate the atmosphere and so improve workers' performance.
2
Stacked floor plates create green terraces under swooping glass roof.



501

Susan Dawson reviews the latest glass products for interior and exterior use.

501 SCHMIDLIN

The facade of the new GLA building in London, designed by Foster and Partners, consists of a series of storey-height triple-glazed and insulated cladding panels which are faceted and inclined to follow the shape of the building. The outer rainscreen of 10mm toughened glass has a 103mm cavity behind, vented to create a stack effect, and an inner layer of double-glazed units and insulated aluminium-faced panels. Horizontal aluminium louvres, operated manually, are set in the cavity between the glazed areas. The panels were pre-assembled in Switzerland by Schmidlin and lifted in place by crane.

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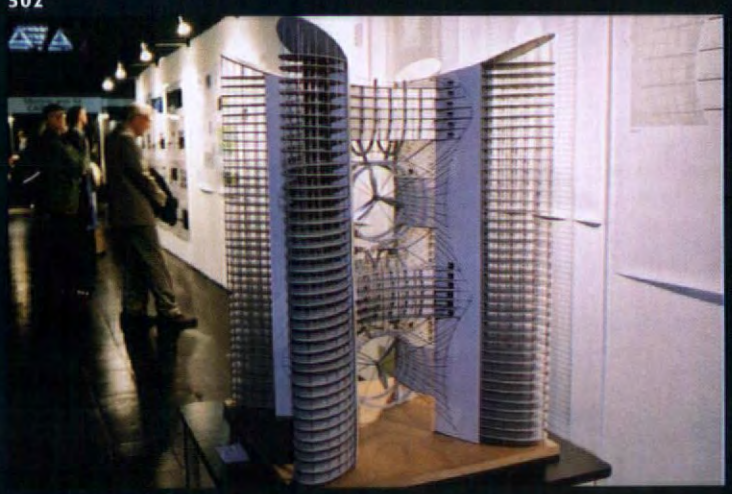
502



502 GLASSTEC

The biennial trade fair for glass and glass products, glasstec 2002, takes place in Düsseldorf from 28 October to 1 November. It is an international event on a vast scale, with exhibitors from 33 countries and over 50 000 square metres of exhibitor space. An architectural exhibition will be held at glasstec 2002. It will demonstrate in photographs, drawings, models and full size facade details, how collaboration between architects, engineers, glass manufacturers and facade fabricators leads to new and innovative facades and buildings. Between 20 and 25 international projects will be on display, grouped into the following categories: management of light, solar technology, glass as an aesthetic design element, facade technologies and structural glass engineering. Special materials – high performance insulation glass, hologram glass, photovoltaic modules and new solar technologies – will also be presented. A symposium 'Transparency as an aesthetic concept in architecture' will be held on each morning of the fair, with discussions presented by architects and designers in the afternoon.

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503

503 FUSION GLASS

A wide range of decorative and structural glass treatments from Fusion Glass. The glass can be sandblasted for various effects: panes of glass can be laminated with interlayers of opaque and translucent colours, fabric, wire mesh and paper. Kiln cast glass offers textures from fluid and organic to more structured designs. In thicknesses 6-25mm, it can be toughened or laminated.

Enquiry 503 www.arplus.com/enq.html

The Institution of Structural Engineers
REPORT

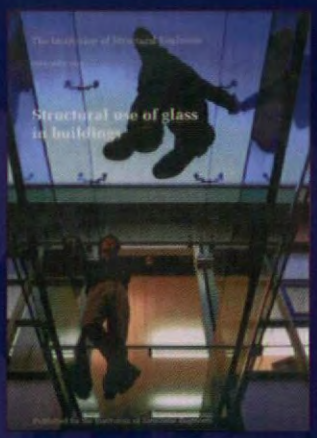
Structural use of glass in buildings

This comprehensive and heavily illustrated guide attempts to assemble the information that is needed to design in glass. It touches on many issues that influence design but which are not necessarily themselves structural.

The guide is aimed at a wide variety of professionals within the construction industry who want straightforward advice on how to do something in glass with guidance on the applicability of the designs or details, and who want to design in glass from first principles.

Price £55 (plus P & P). ISBN 1 874266 51 4.
Ref. Number 322 December 1999 A4 168pp.
72 colour plates. 105 line illustrations.

For more details on this and other Institution reports, please visit the website www.istructe.org.uk



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The Institution of Structural Engineers
REPORT

Aspects of cladding

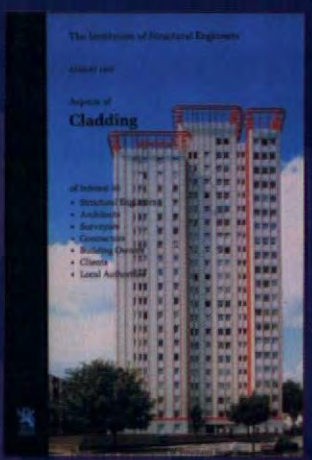
This report was prepared following a request from the Standing Committee on Structural Safety (SCOSS) that the IStructE and ICE prepare guidance for the industry to improve safety to the public from dangerous cladding.

Cladding has long been a problem at the interface between professional disciplines. The Task Group which prepared the report included architects, surveyors and material engineers as well as structural and civil engineers.

The report scans a broad canvas and is written in both performance and prescriptive modes, giving guidance on many forms of cladding including boards, concrete, facing brickwork, faience, glass, GRC, GRP, metal sheeting, renders, slates, stones, tiling and mosaics and timber facings.

Price £28 (plus P & P). ISBN 1 874266 15 8.
Ref. Number 106 1995 A4 72pp. 28 line illustrations.

For more details on this and other Institution reports, please visit the website www.istructe.org.uk



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504

504 SOLUTIA

Laminated glass consists of a resilient polyvinyl butyral (PVB) interlayer sandwiched between two or more layers of glass and permanently bonded under heat and pressure. It is used to improve the structural, fire, acoustic, safety, or solar-protective performance of glass. Solutia, a major producer of PVB, has developed a new range of interlayers which combine the benefits of PVB with colour and pattern. The range, known as Vanceva Design, consists of 10 colours and 9 patterns which can be used singly or in combination to produce over 600 different translucent colours and patterns of laminated glass. The films remain stable over time and are protected from scratching, dirt and deterioration. The system is available for use with ordinary, heat-toughened and chemically toughened glass, as well as with tinted and reflective glass.

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505 GLAVERBEL

The Mirox New Generation Ecological (MNGE) mirror is made using an environmentally friendly production process. The copper layer formerly used to protect the silver coating has been replaced by a surface treatment, and lead-free paint is used to protect the reflecting component of the mirror. Compared to traditional mirrors, the MNGE mirror is more resistant to chemical attack and to agents such as ammonia, and does not suffer from edge corrosion or 'bloom' (brown spots caused by oxydization).

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505

506

506 RESOLUTE

Goliath light fitting is a large piece of hand blown glass, 430mm high with a 320mm diameter. It is produced by the 'incalmo' method, in which two matched pieces of glass are joined to make a single piece. Stainless steel arms support the glass fitting; they are suspended from stainless steel cables.

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Correction: AR July, p90. The Resolute light was a Purity Pendant, not the Paper Light collection as described in the text.

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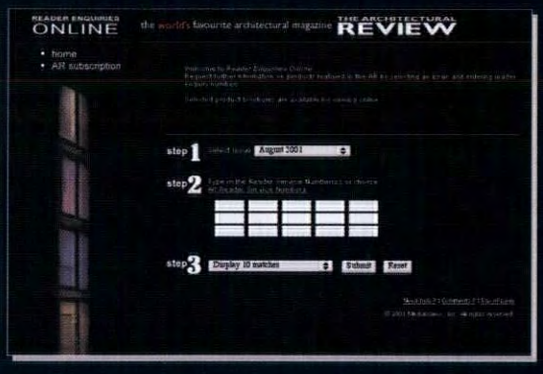

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THE ARCHITECTURAL REVIEW

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Specifier's Information

North 4 Design

Vision panel specialist North 4 Design has added a 30-minute fire integrity to its expanding range of vision panels for doors and walls. Finished in brushed stainless steel with a choice of glass and fixings, they provide an attractive solution to functional vision requirements. All vision panels are designed for simple installation and are supplied as complete kits. A custom etching/signage service is also available.

900 www.arplus.com/enq.html

Vetrotech

A high-security prison in Breda, Holland has been designed with a glass floor which allows prison officers to see through it and keep a close watch on a recreation area below. The 560m² floor comprises 336 triple-glazed panels incorporating Vetroflam, a fire-resisting glass produced by Vetrotech Saint-Gobain. It can provide in excess of 60 minutes' integrity and a significant reduction in the transmission of radiant heat. The panels were tested to EW 30 and BS 476 Part 22.

901 www.arplus.com/enq.html

Trannon

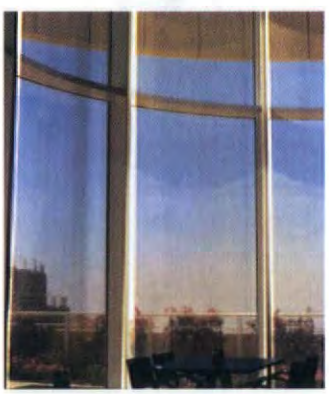
The GTX is a glass-topped table with crossed timber legs, designed by David Colwell. No metal components are used; the solid timber legs are braced with a delicate cross-piece of inter-connecting timber members.

902 www.arplus.com/enq.html

Marley Roofing Products

Eternit's Cabrera slates were used as the roofing material of a housing development in the historic Pulls Ferry area of Norwich. The development is on a brownfield site near to the cathedral in one of the city's 18 conservation areas, and close to the fifteenth-century Watergate at the entrance to a canal which once transported stone to the cathedral. The style of these adjacent buildings played a major part in the choice of roofing specification. Cabrera slates are part of the company's Natural Slate range.

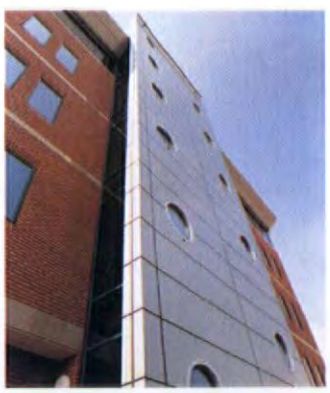
903 www.arplus.com/enq.html



Mecho Shade

MechoShadeA complete range of solar shading products is available from MechoShade. They can be operated by manual, motorized, automated or computerized systems. Solar protection to glazing in the Getty Museum, designed by Richard Meier & Partners, was provided by an energy-saving window management and shade alignment system by MechoShade.

904 www.arplus.com/enq.html



Spanwall

Spanwall has designed a bespoke cladding system for a new office building on the quayside at Salford, Manchester. It encloses the two main staircases which project beyond the main facade on east and west elevations. The cladding has a series of insulated panels defined by 20mm recessed joints sealed with EPDM gaskets. High performance drained and ventilated aluminium mullions meet the exposed conditions of the waterfront site. The panels have wrap-around edges which meet glazed panels at the sides of the staircases. Eleven porthole windows give views out to the waterfront.

905 www.arplus.com/enq.html

Caradon Stelrad

The Classic Column radiator range is suitable for both period and contemporary settings and can be wall or floor mounted. Manufactured in Italy, it is available in white in heights from 300mm to 2500mm and in lengths of from 405mm to 1800mm, providing outputs from 295 watts to 1655 watts.

906 www.arplus.com/enq.html

Clement Windows

The new EB24 range of steel windows, designed for the domestic replacement market, has a U value of 2.1 W/m² K to comply with the new requirements of Part L of the Building Regulations. Compliance is achieved by using a 24mm double-glazed unit, a 4mm float glass leaf, a 16mm argon-filled cavity and a soft-coated 4mm float glass leaf.

907 www.arplus.com/enq.html

PEARL OF THE ORIENT

WORLD CITIES SHANGHAI

By Alan Balfour & Zheng Shiling. Chichester: Wiley-Academy. 2002. £75

As one would expect from his earlier dramatic studies of Berlin and New York, Alan Balfour's bumper book of Shanghai is neither the work of a ragged trousered philanthropist, nor easy reading for the rabid metropolitan booster. Instead it straddles both extremes in a bid to master the tormented history and megalopolitan future of the Chinese 'world city'. Like dam-builders, Balfour and a highly placed Chinese collaborator have set to work to stem and organize the torrential waste of meaning that was twentieth-century Shanghai and channel it into the twenty-first by way of mixed-use office towers, shopping malls, freeways, born-again trams and high profile pedestrianization.

In this sense Balfour breaks free from the stereotypical city picture book by embracing the post-historical non-judgmental, no longer accountable, out of control, nobody to blame, let 'er rip view of the city instead – an approach that turns out to be so apposite that a generation ago it might have been described as 'oriental' itself.

With a third of his book devoted to Shanghai history, beginning with the Imperial Dynasties two thousand years ago, Balfour has a lot of ground to cover, much of it as political as it is architectural. Out of it, and out of the sorry saga of twentieth-century Sino-European relations, he produces surprising insights. The collaboration of Vichy France with the Japanese rulers of occupied China for instance meant that the 1942 competition to masterplan Japanese Shanghai was nearly won by a scheme inspired by Le Corbusier, whom Balfour describes as 'the most heroic architect of Germany's ally'.

Less tantalizing is the heavily illustrated remainder of the book which has project descriptions and illustrations of large buildings erected in the city since Western influence returned, and unexecuted projects. And there are two short chapters by the enthusiastic director of the Urban Space and Environment Committee of the Shanghai Urban Planning Commission, Zheng Shiling; and mosaic 'Photo Essays' with pictures by the author. MARTIN PAWLEY

BRIDGING INSIGHTS

30 BRIDGES

By Matthew Wells. London: Laurence King. 2002. £35

No book, of course, could be definitive on bridges; there are already many examples including the justifiably famous one by Fritz Leonhardt. But engineer Matthew Wells has made a welcome companion.

The temptation is to go straight to the pictures, but it is worth taking the trouble to read the introduction by Hugh Pearman which is a beautifully written account of the philosophy of the engineering and architectural aspects of bridge building. Then follows the 'Brief History' by Matthew Wells (not so brief really) which is a comprehensive survey of bridges from the earliest Chinese examples (206BC) to the present, explaining structural aspects of design through the ages and the development of structural theory including all-important wind effects and dynamics. He makes reference to major bridge failures (Tay etc) and gives reasons.

The case studies are interesting, covering 30 of what Wells considers to be the most noteworthy bridges, very recent and historic. Of course one could disagree with his choice but it is wide ranging. Photographs and text are supplemented by explanatory freehand sketches by the author which give a clear explanation of the engineering concept of each design.

This book is obviously the result of an enormous amount of research for the photographs alone, which are superb, with some showing aspects which I have never seen.

Finally, there is an excellent description of the problems and solution to the London Millennium Bridge which has been at the forefront of the mind of many sympathetic engineers and architects.

30 Bridges is a great addition to my library and I am sure others will agree. TONY HUNT

EUROPEAN FASHIONS

CUSTOMIZE: IN-EX 02 REVIEW OF PERIPHERAL ARCHITECTURE

By IN-EX projects. Basel: Birkhäuser. 2001. €38

IN-EX is the nom-de-plume of a French team called Périphériques, in collaboration with graphic designer Franck Tallon; the name is supposed to prompt various associations such as INterior / EXterior, IN situ / EXample, INverse / EXtreme, or any one of about 25 other suggested possibilities. This one is about 'Customization', and consists of short interviews with several largely European architects followed by illustrations of some of their projects, where the graphic presentation is given some precedence over their relevance to the preceding text, or for that matter their legibility. The interviewees come from varying stages of careers: there are intense young persons posing with cigarettes or assorted Eurotrash style accessories, highly suitable for inclusion in a book printed on astonishingly glossy paper; there are Perrault and Märkli (neither of whom has anything interesting to say); and there are three delightful pages of the damning with faint praise of Koolhaas by Zenghelis and Gigantes, which are a joy to read and should be posted up in huge print in every architecture school. If the assembled architects have anything in common, it is to disabuse Messrs IN-EX of the 'customize' idea; many speak in a pleasantly pragmatic manner. A Japanese pair called Yui and Takakura Tazuka come across as particularly sympathetic, and it is unfortunate that their compatriot Toyo Ito is given so little space.

The book ends with some unexplained photographs by 11 artists; a section devoted to some kind of workshop held by Périphériques together with Atelier Bow-wow in Tokyo; and, finally, two longer pieces on urban projects by Chemetoff and Lion, notwithstanding that the former was the victim of a particularly vicious attack by Claude Parent earlier in the book, and thereby providing further evidence that editorial discipline is not the strongpoint of the IN-EX team. IN-EXperience? It is, however, a jolly, well-spirited, entertaining, colourful and unpretentious little book, and it provides a useful window onto some European practitioners not otherwise much published in English.

TIMOTHY BRITTAIN-CATLIN

LOOKING BACK AT LANDSCAPE

VILLAS AND GARDENS IN EARLY MODERN ITALY AND FRANCE

By Mirka Benes and Dianne Harris. Cambridge: Cambridge University Press. 2001. £55

These days when university publishers have to make a buck like everybody else you don't often come across the *Festschrift*, the collection of essays by disciples in honour of an academic *lieber meister*. So it's a surprise to come across Cambridge University Press's *Villas and Gardens in early Modern Italy and France* dedicated to the distinguished US landscape historian Elizabeth Blair MacDougall, one of whose detailed research studies on the seventeenth century Piedmontese villa, Venaria Reale, is included.

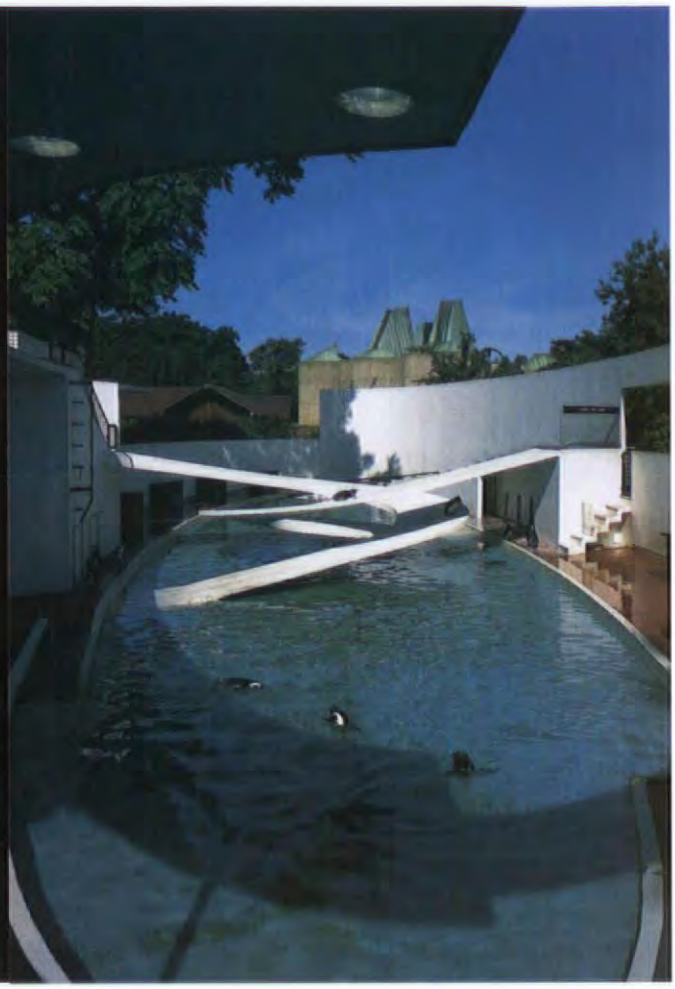
That, I guess, makes it a quasi-*Festschrift*. It has to be said that this collection of 13 papers, all by American-trained scholars, has the predictable characteristics of academic publication: sententiousness, obsessive concern with minutiae of importance, the use of pretentious and/or possibly non-existent words, political correctness, terrible photos and amateur layouts. Quark Xpress is a wonderful computer layout tool which allows designers quite easily to put the footnotes on the same page and do clever things like having the illustrations next to the relevant text. But it doesn't do this by itself as CUP seems to believe.

For all that, there are some goodies here. Perhaps the most important piece is Mirka Benes' detailed historiography of the subject – French and Italian landscape design from around 1550 to the end of the eighteenth century. Benes also has a fascinating, though not quite conclusive piece on the psychogeography of the seventeenth-century Roman *campagne* and possible affects on that by popular depictions of it by Claude Lorrain. Betty MacDougall's study of Venaria Reale near Turin follows the detailed building history of this vast landscape enterprise, its borrowings from the contemporaneous Versailles and the iconography of elements of its design.

A bit of this collection covers French landscape, you are just waiting for the bit from the US scholar who has gone native. There it is: the paper titled 'This is NOT a *Jardin Anglais*'. This is a piece by David L. Hays about the late eighteenth-century Paris landscape park of the duc de Chartres, the Jardin de Monceau, designed by Louis de Carmontelle, master of entertainments to the Orléans household. He is supposed to have posted the aforesaid denial on a wall in this irregular garden which was overcrowded, if his various picture books about it are to be credited, with theatrical visual incidents. Still, with Dianne Harris's warning in mind about believing everything to be seen in published landscape views, maybe we shouldn't be quite so meekly accepting as Hays seems to be about his hero's design. Within a few years the duc had, to Hays' evident regret, hired a bunch of thuggish Brits to manage the place and tone it down a bit. Seriously, Hays' piece raises the issues of how far scholars can legitimately take their personal enthusiasms, and to what extent it is permissible to make contemporary value judgements about the design of the past.

Hays, for example, uses words such as 'the genius of Carmonte'le's design', 'practical and completely appropriate', and so on. On the other hand you might, with equal legitimacy, prefer the use of 'lightweight illusionism' and 'tricksy and inappropriate'. Certainly, as Hays tells us, the contemporary Jean-Marie Morel, probable designer of the marquis de Giradin's stately *jardin anglais*, Ermenonville, is supposed to have regarded Monceau 'with the most supreme contempt'. Part of you wants to join in that judgement but another part reminds you of what that great historian of French landscape, Kenneth Woodbridge, used to say about eighteenth-century English landscape designs. He would point out that what we admire in them is far, far more densely planted and overgrown than their creators would ever have wanted and that aesthetic judgements we might make about the past are strictly of our own age – and therefore illegitimate for the historian.

SUTHERLAND LYALL



Berthold Lubetkin was one of the architects like Ernö Goldfinger who brought the ideas and idealism of Continental Modern architecture to Britain in the 1930s. He arrived slightly before the influx of refugees from the Nazi regime, stayed all his life and had more immediate influence than people like Gropius or Mendelsohn, whose visits were comparatively transient. This is his beautifully restored Penguin Pool at London Zoo, designed in 1934 with the great Danish engineer Ove Arup, a *jeu d'esprit*, from *Berthold Lubetkin* by John Allan, Merrell, London, 2002, £29.95. Allan firmly sets Lubetkin in his time and place with analyses of his work and influence and a perceptive commentary. Fine new photographs by Morley von Sternberg of the major existing works make some of the canonical buildings look as if they were finished yesterday.

MINDSET CHANGE

INTELLIGENT SKINS

By Michael Wigginton and Jude Harris. Oxford: Elsevier Science. 2002. £35

The authors consider that most buildings are designed to meet functional and aesthetic requirements and then experts are called in to correct the situation by the use of mechanical systems. They argue that, if the building had been designed differently, these mechanical systems could be reduced or even rendered unnecessary.

This book is an examination of ways in which buildings can be designed with skins which would reduce the energy requirements by responding to changing environmental conditions. Such buildings are likely to have moving parts as they open and close to the outside. The word skin has been chosen deliberately, as the authors argue for biological comparisons – using words like breathe, intelligence, memory.

The passive architectural approach is seen as limited; it is only with intelligent skins that real energy savings can be made. Even then the zero-energy option is not attainable. Our aim must be to produce comfortable conditions with minimal energy consumption. Unfortunately the examples shown imply that only large buildings can afford the sophisticated controls necessary.

Michael Wigginton is an academic, Jude Harris is a practising architect, so the book is a healthy mix of theory and practice. This becomes clear in the 22 case studies, where we are told the cost and the CO_2 emissions per square metre of each of the buildings. It is interesting to observe that so many of the best examples are almost entirely glazed – the all-glass facade, once regarded as synonymous with the profligate use of energy, is now seen as the best hope. It seems clear that the best architecture of the next decade is likely to have variable, ever-changing facades. That may require a change in architects' mind-set – we were brought up with the idea of buildings as static objects.

JOHN WINTER

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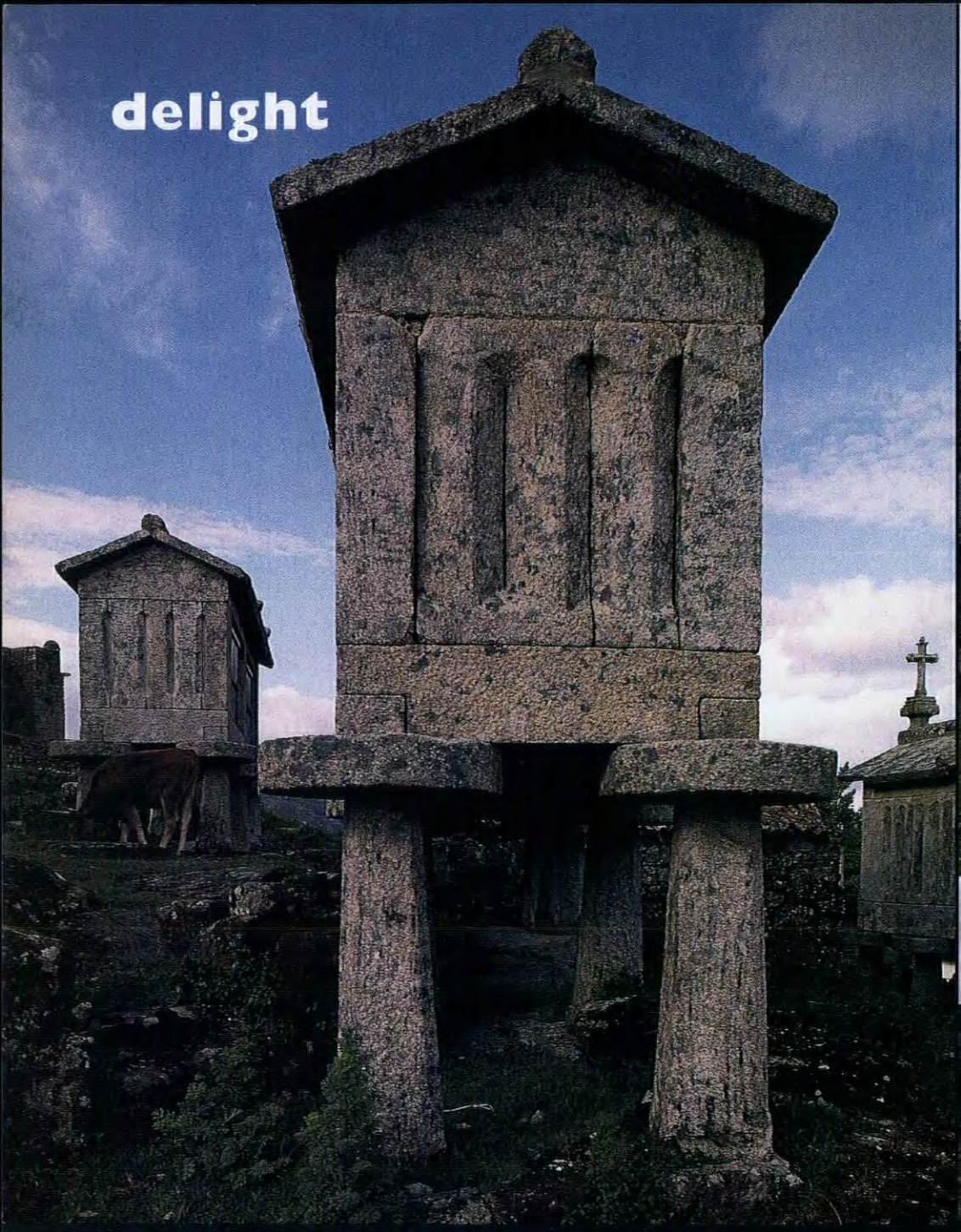

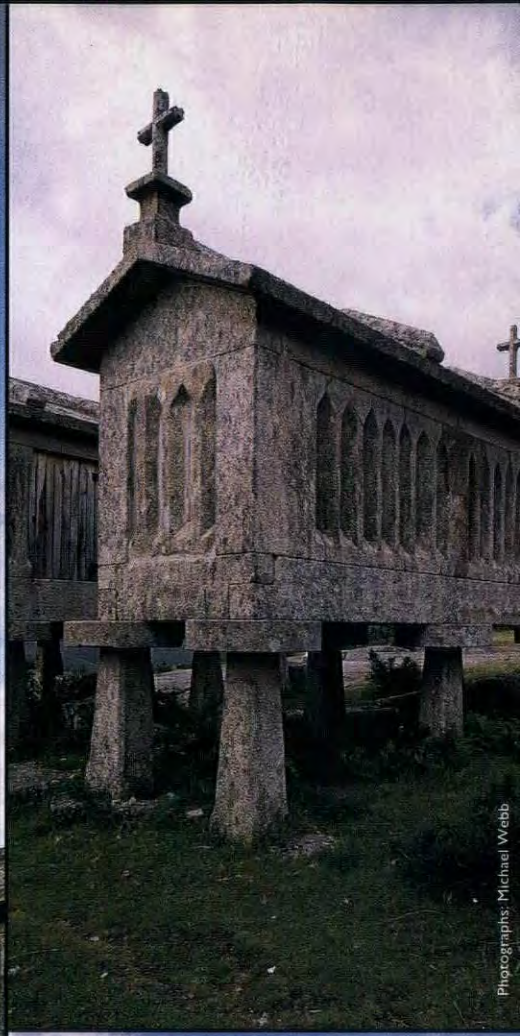

Photographs: Michael Webb

PERCHED ON REMOTE RURAL HILLSIDES IN NORTH-WEST PORTUGAL AND SPAIN, THESE VERNACULAR STONE GRAIN STORES OR *ESPIGUEIROS* HAVE A SOLEMNITY AND GRACE THAT ELUDES MOST CONTEMPORARY BUILDERS.

Portugal was described (by American writer Datus Proper) as 'the last old place' in Western Europe, but EC credits are rapidly transforming the country. Provincial towns are being torn up for new construction and many Portuguese have shiny new cars in which to impersonate Mr Toad as they race around madly honking on brand-new roads. The young are deserting the mountain villages in search of bright lights and paying jobs as they are all over the world, and places like Lindoso – at the end of a winding road leading into Spain – may soon be desolate. For the moment, this farming community survives as a hybrid of ancient stones and bristling television antennae.

The glory of Lindoso is its 50 granite *espigueiros* – grain storage containers raised on pilotis with round caps to keep rats at bay – which huddle at the base of a ruined medieval castle. Bernard Rudofsky celebrated them in his 1964 exhibition and book, *Architecture Without Architects*, and showed how they are grouped around flat granite outcrops that serve as a communal threshing floor. This doubles as a gathering place, for the village beyond is largely given over to farmyards, with no formal streets or square. Cows graze and hens nest among the pilotis, making the complex an organic extension of the land and the perpetually hard-scrabble existence of its inhabitants.

You find *espigueiros* scattered across the rural north-west of Iberia (over the border in Galicia they are called *horreos*) and there are many local variations of size and openings. Some have vertical slats of granite or wood to ventilate the interior, others have slotted slabs, and the pitched roofs are tiled or covered in stone pavers. The pilotis are the one consistent feature, and, according to legend, they go walking at night. Like traditional barns, *espigueiros* combine nobility and practicality – and they have a timeless quality that eludes contemporary builders. In Lindoso, there's a cross at each end, giving the structures the look of funerary chapels, and they may soon become a memorial for a vanished way of life. MICHAEL WEBB

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Lagoa, a collection of stacking chairs and bar stools designed by Enrico Franzolini.

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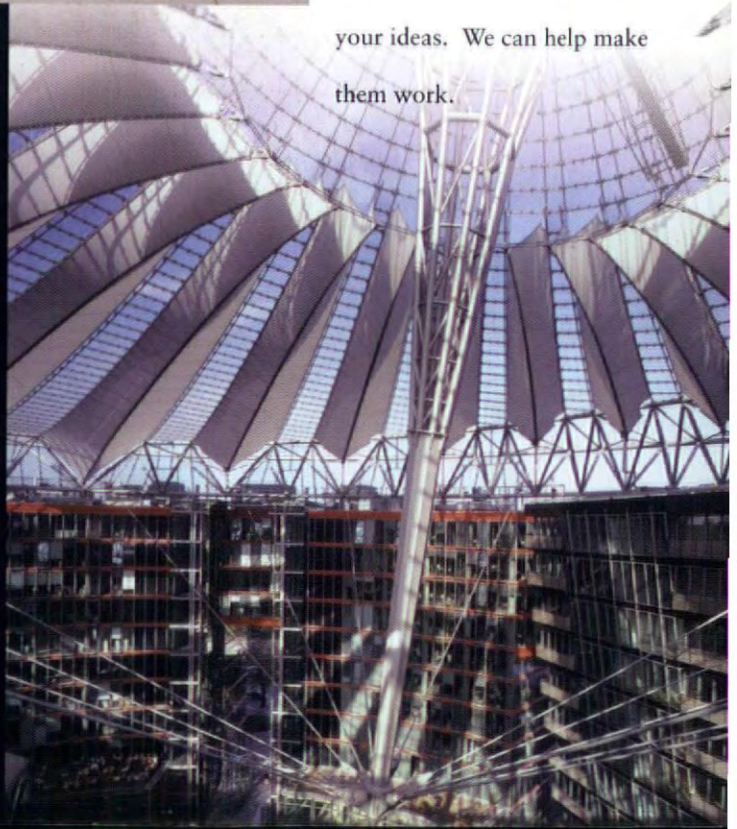

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