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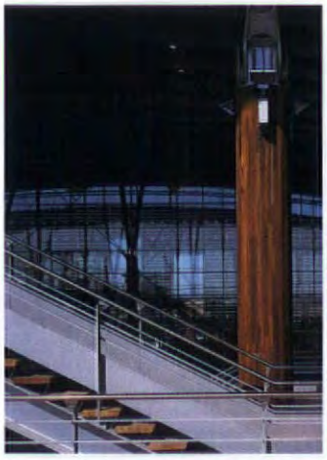

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BOUND VOLUMES
Bound volumes (UK only): contact John Lawrence. Tel: 01234 346692

The Architectural Review (ISSN 0003-861X) is published monthly for $108 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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Email: lynne.jackson@ebc.emap.com
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ABC circulation 23 925 (audit issue May 2002)

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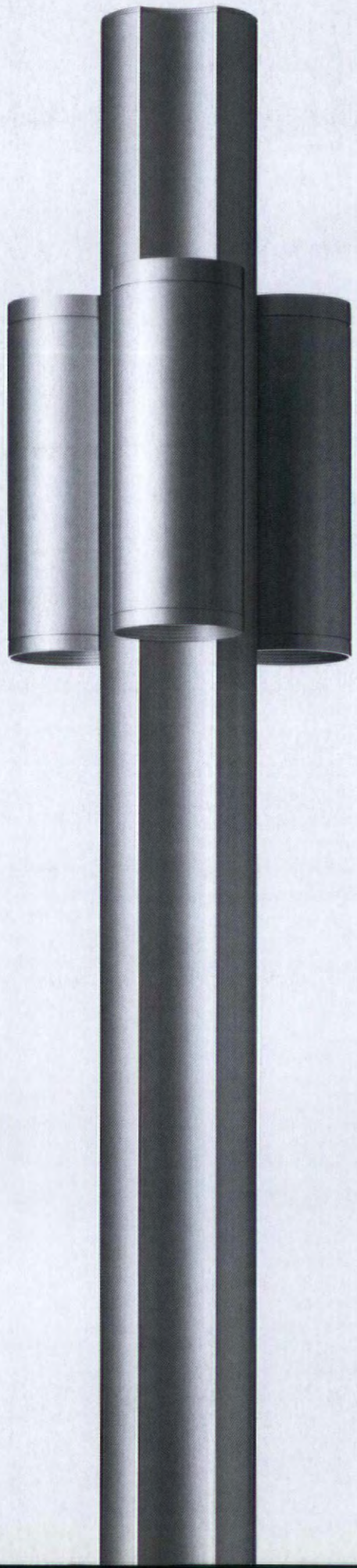


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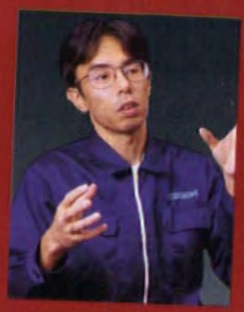

"We've all had times when we wished an escalator would go faster. With this in mind, we are developing an escalator that accelerates to 1.5 times normal speed at the slope compared to the boarding zone. Future escalators will change the current perception that safe means slow. We built a 1/5th-scale miniature model to establish the basic technology that allows the escalator to accelerate on the incline. Here's how it works: At the boarding zone, the escalator runs at normal speed so passengers can board slowly and carefully. As the escalator enters the incline, the step interval extends and the step runs at high speed, causing the escalator to accelerate. Finally, at the landing zone the step interval returns to normal, allowing riders to disembark comfortably. By reducing the ride time, the new escalator will transport people more quickly and safely. The new escalator could even be used to link the first and fifth floors of a shopping mall in one span. We are committed to developing 'a high-speed escalator that is kind to people,' and one that may very well change the way architects think about traffic flow in new buildings."

Takashi Yumura - Group Manager, Mechatronics Department Lift System Group, Advanced Technology R&D Center

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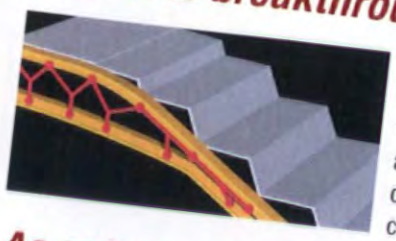

The accelerating escalator employs two unique technologies to create the stretching and contracting effect. The links connecting each step stretch automatically at the incline to 1.5 times their normal setting, and then contract to normal at the boarding and disembarking areas. This essentially is the secret to achieving greater speed. Moreover, each step is designed so that gaps will not appear when contracting or stretching. These technologies combine for a smooth, safe ride.

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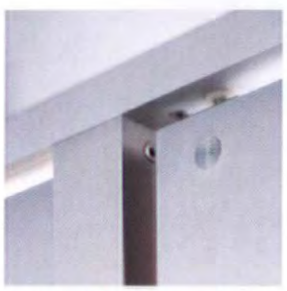

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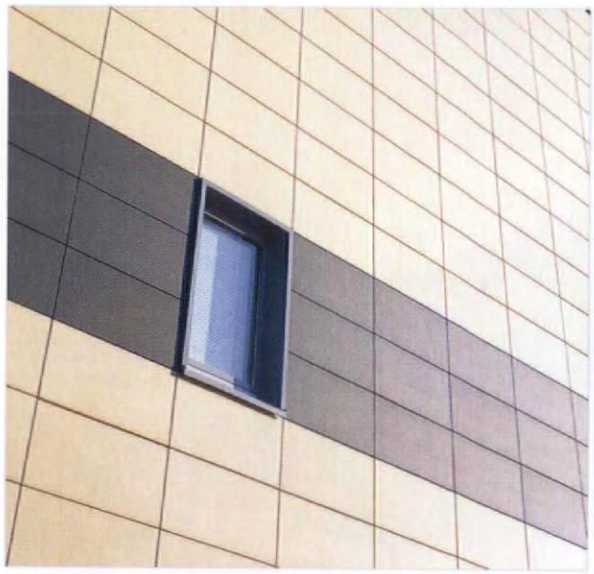

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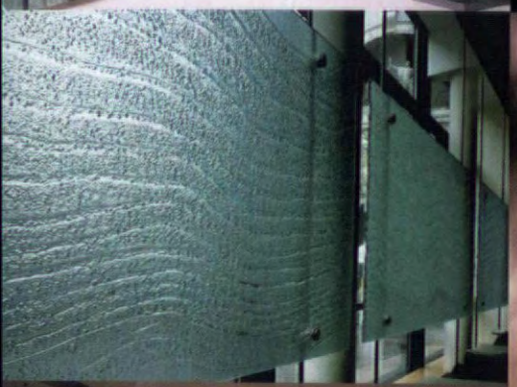

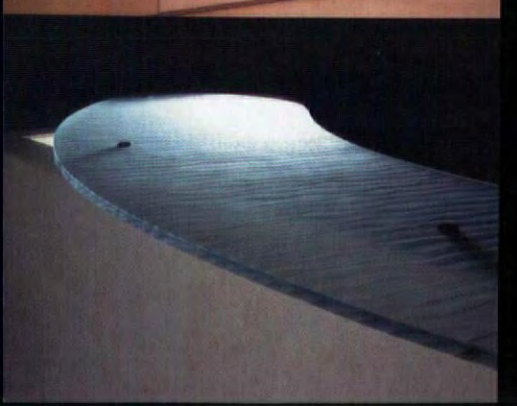

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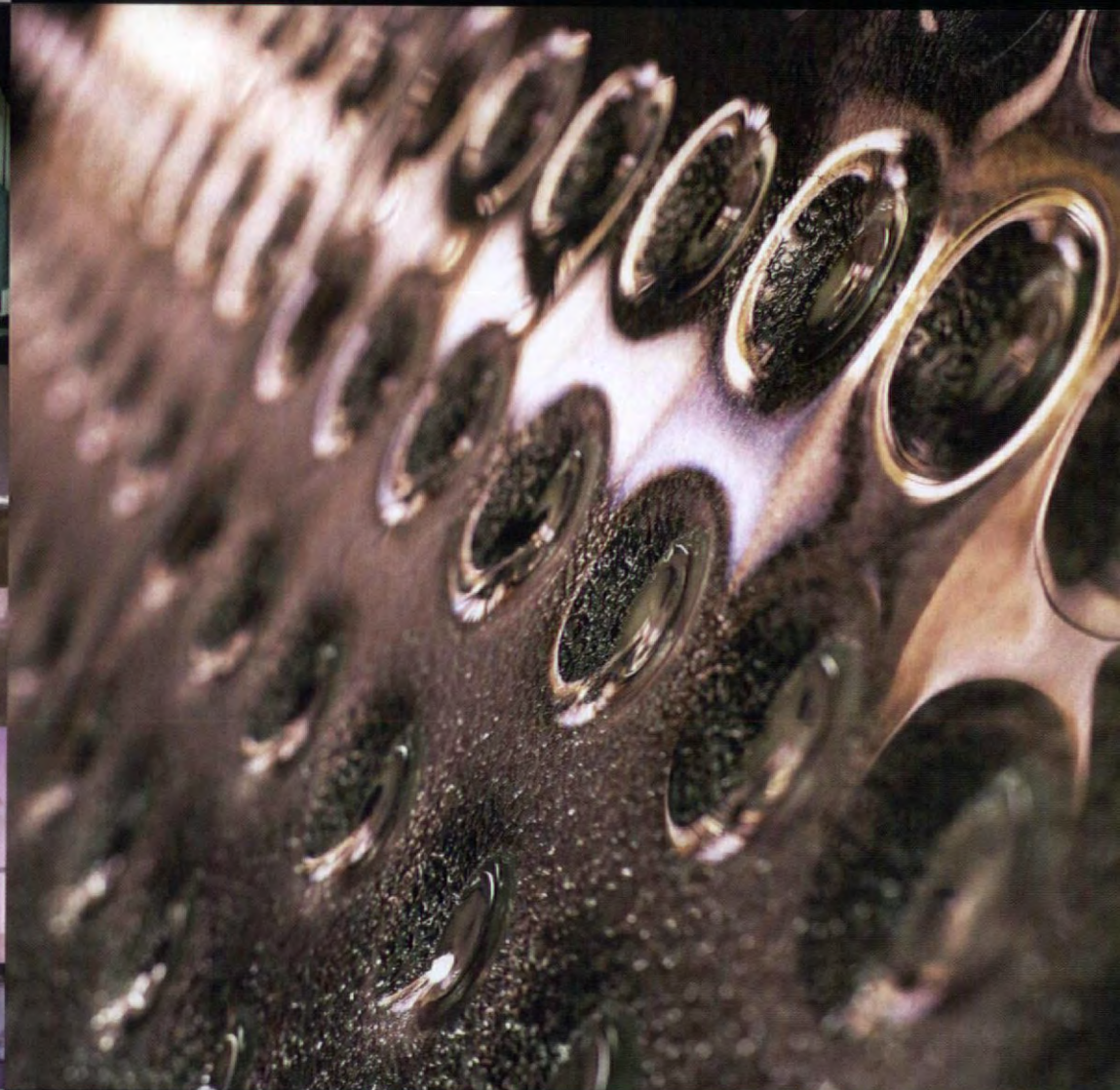

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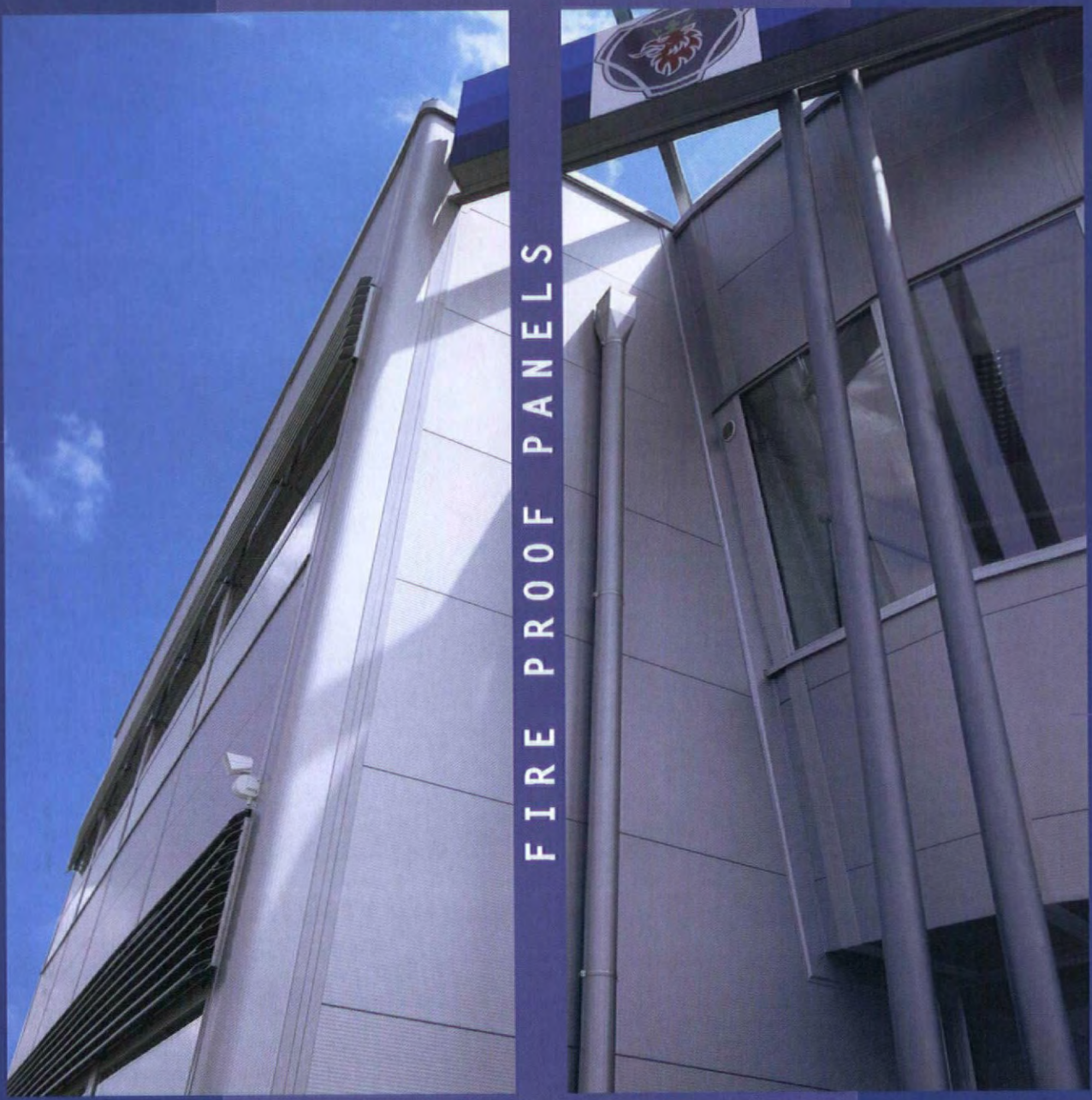

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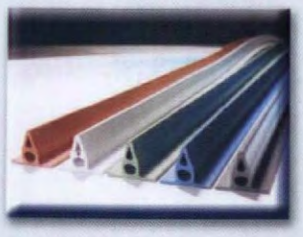

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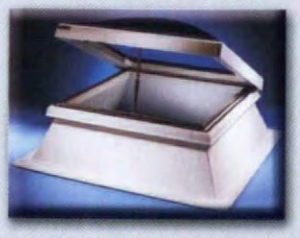

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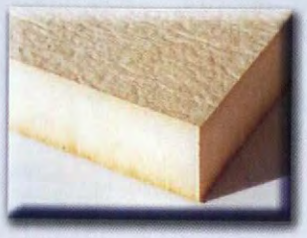

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PALACES OF SNOW AND ICE IN LAPLAND; AR'S MIPIM PRIZES AT CANNES; HELPING TO SAVE ST CATHERINE'S MONASTERY IN SINAI; JOHN PAWSON TO LECTURE FOR AR AT SPECTRUM; WINGÅRDH BUILDS FOR SWEDEN IN WASHINGTON; CATHERINE COOKE'S VIEW FROM MOSCOW; LYALL ON WEB; OLD PARADIGM JENCKS?

THE SNOW SHOW

During lunch at a Manhattan restaurant, independent curator Lance Fung and Tuula Yrjölä from the Finnish Tourist Board came up with the idea of hosting a show celebrating ice and snow structures in Finland's Lapland. From February to April next year, the Snow Show will see structures of a minimum 80 per cent ice or snow, built by 30 teams from some 27 countries.[1] The teams will consist of an architect and artist[2] who, receiving no fee, will design experimental works using video, sound, light and traditional art media, combined with architectural construction materials and the arctic elements of snow and ice. By replacing usual, permanent materials with unusual, ephemeral elements, the curators hope to 'neutralize initial fixity of ideas'.

Oblong Voidspace, above and far right: 9m tall ice cube designed by Steven Holl and Jene Highstein in Rovaniemi.

Fifteen of these projects will be in Rovaniemi, a sleigh-ride away from Santa Claus Village and the Arctic Circle. The city was almost completely destroyed by retreating Germans in the Second World War, and in 1946 rebuilding began with Alvar Aalto laying out the town in the shape of reindeer antlers. He went on to design the town hall, library and theatre.

The other 15 designs will be in the seaport city of Kemi, at the north end of the Gulf of Bothnia. Kemi is already home to the SnowCastle, a large snow structure built annually for the eighth time last winter, housing wedding chapel, ice sculptures, gallery, restaurant and hotel rooms (where you sleep on a bed of ice decked in reindeer skin). In winter, the Gulf of Bothnia is the largest field of ice in Europe. From Kemi, you can travel on the world's only passenger icebreaker which crashes through deep solid ice, and then swim in the icy waters of the Gulf in thermal wet suits.

In February there was a preview of two Snow Show designs, one in ice and the other of snow. Steven Holl and the sculptor Jene Highstein (who, unlike most of the other teams, had already worked together, at the Kiasma Museum, Helsinki) collaborated on a stunning 9m tall ice cube, Oblong Voidspace. By the riverside in Rovaniemi, an ice stairway leads you up and into the cube, which is open to the sky (framing the aurora borealis in the right conditions). It is made of 500 cubic metres of ice. The appearance changes inside and out according to the weather: in sunshine, it seems translucent and you can see figures moving inside, in the dark or in dull conditions it appears opaque. At night the cube is lit from the exterior, there are no fittings inside. Steven Holl hopes the south-facing ice wall will melt to create a hole giving a view across the river to the city. The design will either be fine tuned or changed for next year.

Asymptote and Finnish painter and video artist Osmo Rauhala built the snow structure Absolute Zero in Kemi. The 30 metre inverted S-shaped structure is reminiscent of two igloos joined together, with the entrances on opposite sides at the tails of the S. Inside the igloos are videos of people ice skating on an artificial ice rink in New York's Central Park. There are two video scenes: one of people moving away from you and the other of them coming towards you,

Absolute Zero: A Light House of Temporality – a 30m long snow structure in Kemi by Asymptote (Hani Rashid and Lise Ann Couture) with artist Osmo Rauhala.

together making a circle. The videos are projected on a glass revolving door in the middle of the room, one in both ends of the whole sculpture. The revolving doors are, say the architects, a metaphor for urban life, 'a turbine run by the flow of wandering people. It is a door between formal structures and the unpredictable diversity of life. It is a door that makes our inner space an outer space again and again'. The heat from the video equipment will gradually melt the interior while the sun works on the exterior.

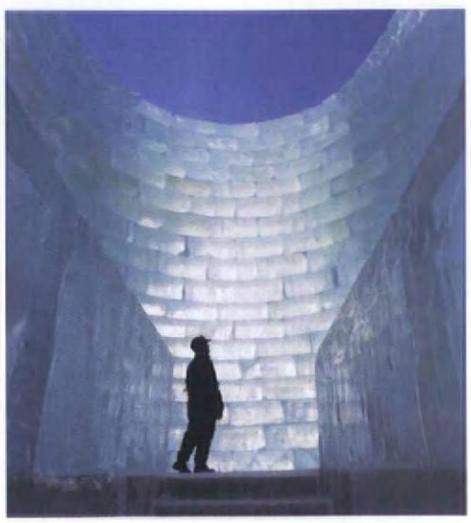
The venture is partly financed by the European Union and partly by participating cities, the project partners include the art museums of Rovaniemi and Kemi, and UNESCO. In conjunction with the Snow Show, the Department of Architecture at Oulu University and the Academy of Fine Arts in Helsinki are organizing a competition, the winners of which, two architect/art student pairs, will create their own structures, one in Kemi and one in Rovaniemi.[3] JULIA DAWSON

Photographs: Manne Stenros, copyright Snow Show

1 Architects building are Anamorphosis, Tadao Ando, Asymptote, Shigeru Ban, Jung-Ho Chang, Diller + Scofidio, Fo Architects, Future Systems, Zaha Hadid, Heikkinen & Komonen, Coop Himmelb(l)au, Steven Holl, Hollmén Reuter Sandman, Arata Isozaki, Lot-Ek, Greg Lynn, Morphosis, MVRDV, Ocean North, Juhani Pallasmaa, Snøhetta, Studio Granda, UN Studio, Ten Arquitectos, Anders Wilhelmson, Williams & Tsien, Lebbeus Woods. Artists are Pawel Althamer, Robert Barry, Grönlund/Nisunen, Lothar Hempel, Jene Highstein, Ilya Kabakov, Anish Kapoor, Kaija Kiuru, Sol Lewitt, Ernesto Neto, Yoko Ono, Nam June Paik, Osmo Rauhula, John Roloff, Eva Rothschild, Kiki Smith, Do-Ho Suh, Ricky Swallow, Rachel Whiteread, Maaria Wirkkala.

2 Most of the architects and artists have never worked with each other, which should prove interesting considering some of the egos involved.

3 Details at www.thesnowshow.net or www.arplus.com. Deadline 28.4.03.



Prizewinner: Swiss Re building, 30 St Mary's Axe, by Foster and Partners rising among the towers of London.

AR'S MIPIM PRIZES AT CANNES

For the first time, The Architectural Review has offered prizes for architectural excellence in unbuilt development projects at MIPIM (Marché International des Professionels de l'Immobilier), the four day development and property show held annually in Cannes. Entries came from all over the world, and were divided by the jury[1] into four categories: mixed use and retail (sponsored by Chapman Taylor and Benoy), hotel and leisure (sponsored by Arup), offices (sponsored by Development Securities PLC) and residential (sponsored by Corus).

In each category, there was a winning scheme and two commended ones. The two overall winning schemes were chosen from the winners in each class. They were the Moving Image Centre, magnificently sited on Sydney Harbour by Francis-Jones Morehen Thorp, and the Swiss Re Tower in the City of London by Foster and Partners. They could scarcely be more different, but both will make key contributions to their complex historic cityscapes, and to the lives of their users. Both will be shown at greater length in the AR soon.

In addition, the jury decided to create the special category of Runner Up for a mixed-use addition to central Prague by Kohn Pedersen Fox, which the jury thought will make a great difference to a run-down area of the capital of the Czech Republic. There was one special award (for the amazing conversion of a London football stadium into housing, by Allies & Morrison). An honorary mention was given to a highly energy conscious office tower by Nabil Fanous Architects in Saudi Arabia, an area notoriously indifferent to climate considerations in development.

During MIPIM, popular seminars were held in which the qualities of category winners and commended schemes were debated. The AR prizes were presented by Peter Davey on MIPIM's last night.

1 Lee Polisano (Kohn Pedersen Fox), Roger Zogolovitch (AZ Urban Studio), Bryan Avery (Avery Associates), Nigel Woolner (Chapman Taylor), Tim Battle (Timothy Battle & Associates), James Utting (Benoy), Julian Barwick (Development Securities), Greg Chikaher (Arup). AR Editor Peter Davey was chairman.

Prizewinner: Moving Image Centre on Sydney Harbour by Francis-Jones Morehen Thorp.

Runner up: Kohn Pedersen Fox, mixed use in Prague.

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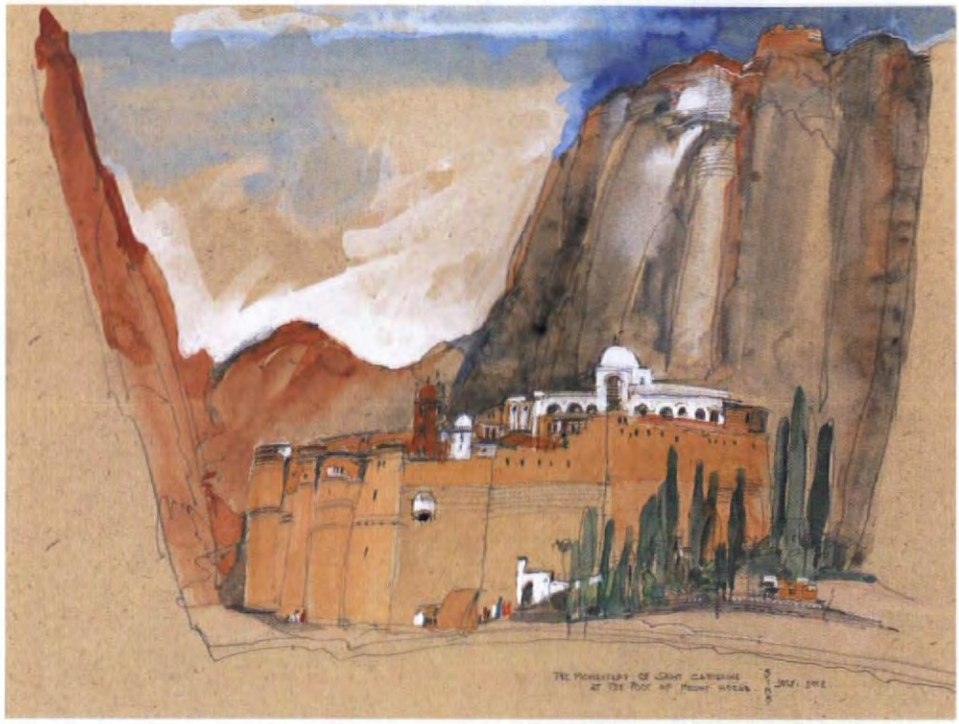
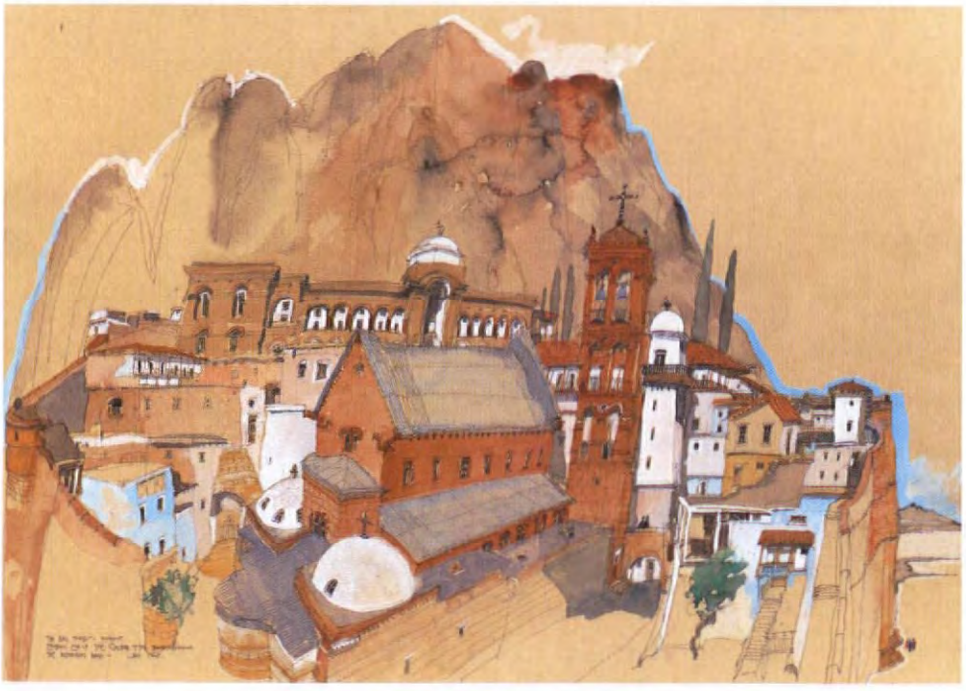


Walls of the citadel enclose the ancient monastery buildings and have protected them from time immemorial.

Saint Catherine's Monastery in Sinai has been a centre of religious pilgrimage for over fifteen centuries, and is one of the oldest monasteries in the world. Set against waterless red rock on the upper slopes of Mount Sinai (where Moses is said to have received the Ten Commandments), the monastery was built by order of the Emperor Justinian between 527 and 565 AD to house the bones of St Catherine of Alexandria (whose relics are stored in the Basilica). At its spiritual heart is the Chapel of the Burning Bush, an unassuming structure of tremendous religious significance; nearby is what is thought to be the bush itself, a rare species of the rose family, endemic to Sinai.

Apart from the powerful spiritual resonances and innate holiness of the place, which is palpable, the citadel itself in its extraordinary desert setting is a cause for wonder. Stone walls, from 40 to 200 feet tall, surrounded by gardens and cypresses and enclosing the ancient monastery buildings (including a tenth-eleventh century mosque), have enabled it to survive numerous attacks during the course of its history. Until the twentieth century, the only entrance to Saint Catherine's was a small door 30 feet above the ground, to which people and provisions were lifted by pulleys and from which food was lowered to nomads.

One important consequence of the monastery's physical survival is the accompanying survival of one of the world's great libraries which contains the second largest collection (after the Vatican) of illuminated manuscripts, and an extraordinary collection of works of art, including Arab mosaics, Greek and Russian icons, paintings and sacerdotal ornaments. The library and manuscripts are in need of conservation. After more than a century, a new artistic record of Saint Catherine's has been completed by artist and architect, Doug Patterson, whose skill in delicately capturing the colours and compositions of landscape and architecture, and the essence of daily life, has developed in the course of travels through India and North Africa, North and South America.



The monastery, one of the oldest in the world, is set against the upper slopes of Mount Sinai.

In 2001 and 2002, Patterson stayed for long periods at the monastery absorbing its rhythm of prayer, and recording through drawings and water colours the small daily events that make up monastic life, and the stark dignity of buildings and landscape. Twelve lithographs of his water colours, including topographical views, architectural illustrations and scenes of monastic life, have been gathered into a portfolio and proceeds from sale of limited editions will go towards the cost of conservation.

The limited edition of 250 boxed portfolios is being issued by the Saint Catherine Foundation at £1100 each. Further details from the foundation at 14 Cleveland Row, London SW1A 1DP. Tel: +44 (0)20 7396 5420. Fax: +44 (0)20 7396 5440.

In addition there will be a launch of the works at Sotheby's, 10 April 2003, in New York.

SPECTRUM LECTURE AND AWARD

Spectrum 2003, the annual international furniture and interior design show devoted to excellence, takes place between 13 and16 May in the Commonwealth Institute on Kensington High Street, London. For the first time, the AR is mounting a celebratory lecture. John Pawson, the distinguished and internationally renowned architect and interior designer, will be talking about his approach and work at 6pm on Wednesday 14 May. Pawson's work is

John Pawson transforms a nineteenth-century Victorian house with an awesome slot of light over stone stairs.

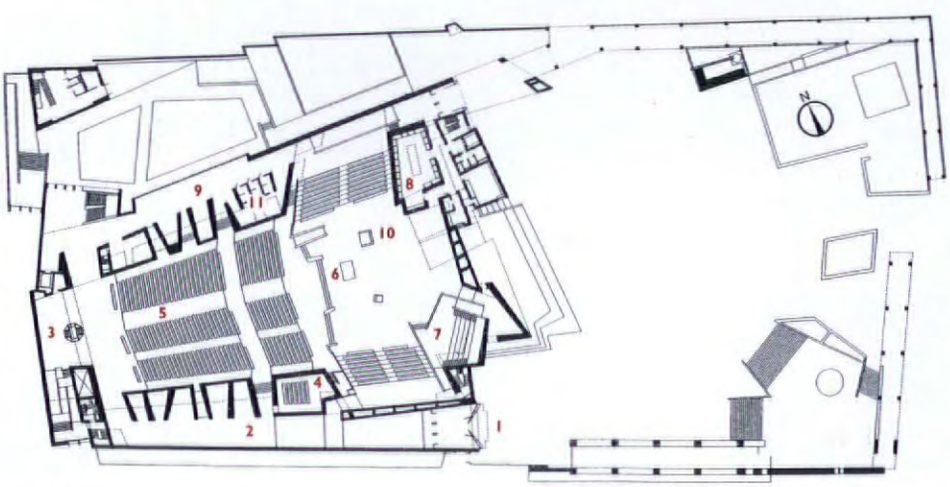
well known for its purity and elegance: he has created many houses and domestic interiors as well as shops and showrooms. The lecture has generously been sponsored by Gensler.

As in previous years, the AR will give an Award for Excellence to the best new product in the show. The panel of judges, chaired by AR Managing Editor Catherine Slessor, will include Niall McLaughlin and Clare Wright.

Exhibitors at Spectrum are there by invitation only, so the show has a consistent and high standard. New exhibitors this year include Shed Studio, Tarkett Sommer, Moroso, BD Barcelona and Natural Elements.

A special exhibition of ColleXion 2003 will feature over 120 latest advances in materials from all over the world. Material ColleXion, sponsored by Dupont Antron, is a definitive and fascinating international source of information on new materials and processes with a library of over 1400 materials.

Wingårdh Architects have won the limited competition to build the chancery of the Swedish Embassy in Washington. The house of Sweden is to be on the Potomac River in the heart of Georgetown. The building, designed by Gert Wingårdh and Tomas Hansen, will be clad in a combination of glass with wood veneer, making the building translucent as an image of what the architects call 'that openness which Sweden would like to present to the world'. As well as the normal diplomatic functions, the building will have a conference area with exhibition galleries and an auditorium. The upper floors are flats for diplomats.



ground floor plan (scale approx 1:1500)

1 entrance
2 south ambulatory
3 baptistry
4 Chapel of the Blessed Sacrament
5 nave
6 altar
7 organ/choir
8 sacristy
9 north ambulatory
10 cathedra
11 Reconciliation Chapel

errata

The plan of the Cathedral of Our Lady of Los Angeles by Rafael Moneo published in March 2003 inadvertently had the wrong numbering. The correct numbering is shown here (left).

The list of credits for the house in Toronto, Canada, by Seth Stein Architect, published in March 2003, should have included project architect, Christine Milne.

browser

Sutherland Lyall digs into the rich ores of architectural cyberspace.

Make my Australia day

Despite the orthographic infelicities of Rice Daubney's marketing manager ('an' for 'and' and 'here' for 'hear' in our early email skirmishes), this Sydney practice has one of the best architectural websites I've seen recently at *www.ricedaubney.com.au*. Members of Rice Daubney's staff are given the opportunity to pronounce their own names against thumbnail mugshots and brief curricula vitae. Not a great idea, you decide. Still, clicking on John and Mellissa Daubney elicits the correct pronunciation of 'Dórbn_'. Say it as flatly and laconically as you can. Of Rice there seems to be no trace.

But what a site. Its core navigation device is a table of contents managed by a pale grey silhouette of a bloke who leans down and points to the topic you are clicking on. There are eight rows and four columns in the table so you spend quite a lot of time here making the shadow move his pointing arm around. There is creative animation elsewhere as well. In Retail, for example, you get a plan view of the environs of a lift lobby in which plan views of people stride purposefully around. You idly click on one to see what happens and up pops a member of staff announcing his or her name. You click on the bloke just leaving through the door. Uh oh, it turns out to be Belinda Campbell and the person in the lift is Hendra Azwar. Oh and there's old Darren Timms again. Some just stand there and, presumably, chat. When somebody hacks this site you know exactly that they're going to make these figures interact. Just how this all contributes to selling the practice escapes you, but who cares? What a lot of fun.

Yes, but what about the projects and the sell? It's been so cheerful and friendly that you take a look and become aware that these guys do big, big stuff. And you don't mind checking it out because of all the above pleasures. Top marks to designers gvA (which doesn't seem to be properly credited), aka Cape Town-trained architect Gary Venter with Austrian psycholinguist Ingrid Ludwig. And, of course, to the client. Designers gvA are at *www.gva.net.au* where you discover it also designed Harry Seidler's site.

Modern master

The Seidler site, where gvA is credited right there on the home page, is at *www.seidler.net.au*. As you might expect from this doyen of Modernism in the antipodes, it is a cool number – except for that home page which is plastered with copyright declarations and which you enter on pain of disembowelling should you not agree to 'the copyright conditions above'. Please. The next page has a changing array of faint squares and quadrants which, as you move the cursor over them, turn into photos from the Seidler oeuvre. Move fast enough and you can create momentary trails of buildings. Try clicking on these individually, and nothing happens – even though the cursor arrow has changed into the pointing hand conventionally associated with the command to 'open up this thumbnail'. Then you discover that if you place the cursor to the right of the practice name (in an almost unreadably small sans serif face, natch), up comes the list of the seven main pages. Fine, except that the navigation thereafter is confusing if not mystifying. You click on 'apartments', then click hopefully on the first example, a tower condo in Acapulco, for a bigger image and there it is with, below it, the top of another image of the building from another angle. No amount of wheel scrolling or blasphemy provides you with a view of the rest of the image. You try one of the enigmatic symbols under the practice name and … give up. But not before clicking on 'houses' and getting another restorative sight of that ground-breaking 1950, steel and cable Rose house at Turramurra. It's as good as anything Craig Ellwood or John Winter has ever done. Incidentally the website is based, as you discover rather late in the day, on horizontal scrolling. Curious about the glitches, you check back with the gvA site and learn that this was intended to be a 'no-nonsense, low maintenance site' which is based on a FileMaker Pro database which generates and uploads pages. Maybe this interface is where the top-of-the-second-image effect has its origin. Maybe Seidler didn't sign a maintenance contract. Maybe my lcd screen has really lost rows and rows of pixels.

Great and good

You can also get to Seidler's site via the Great Buildings Collection at *www.greatbuildings.com/architects.html*. I was thinking of giving up the Ictinus/Callicrates test on the grounds of its relative obscurity and the fact that too many people know about it. But here is triumphant vindication. The two, with their old mate Phidias, are properly credited as the likely authors of the Parthenon of which there are photos and a 3D digital model. The site even gives the alternative spellings Iktinos and Kallikrates. Elsewhere Raymond Hood rubs shoulders with Hans Hollein, Harry Seidler himself, Arata Isozaki, Inigo and Fay Jones and Henry Hoare II, though the latter's entry is less about the patron than about Henry Flitcroft, the architect of his wonderful Stourhead follies.

Grumpy Garry

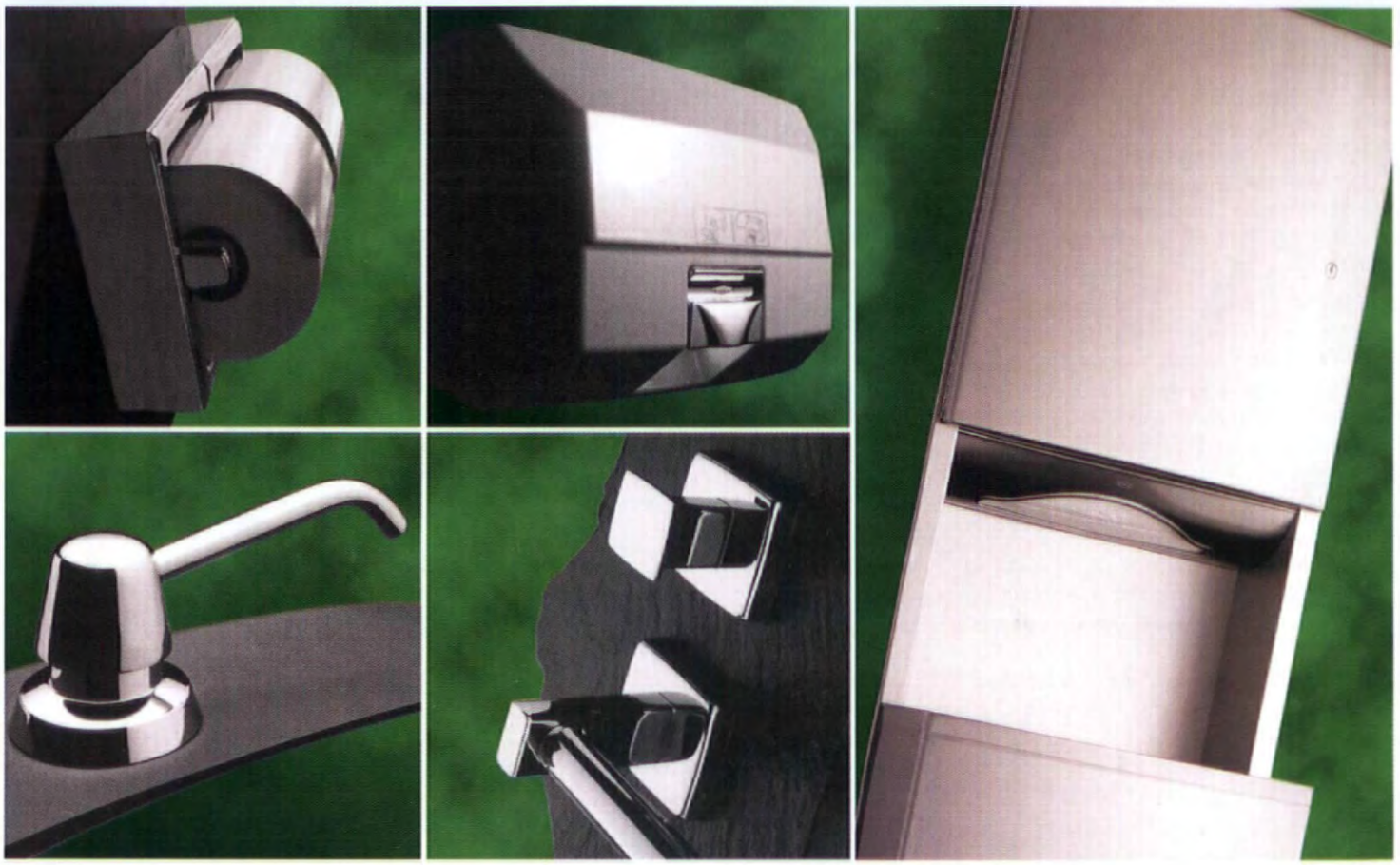
Here's a curiosity. It's the Key Centre for Architectural Sociology at *www.archsoc.com* run by former Sydney university lecturer Garry Stevens. He happens to have both architectural, CAD and sociology qualifications, designs board games, and is a real grump. Story headings such as Grand erections, architects as penis wavers and Why architects don't have a sense of humour and More penis waving: the folly of tall buildings give a flavour of the site. You get the idea, too, that he's not all that keen on Harry Seidler. You may find the truculence, the awful graphic design and his obsession with his qualifications (which include FRSA, a suffix the Royal Society of Arts used to ask you not to use because anybody who pays the modest fee becomes a Fellow) a bit tiresome. But you can't not read on in hope when Dr Garry writes that because academic salaries are the same all over the Lucky Country 'academics cement themselves like limpets to whomever will give them tenure … Australian universities are full of dead wood'. I hope that great architect-teacher and new head at Sydney University, Tom Heneghan, is finding this quite untrue.

One of us

Genoa architecture school graduate Duccio Malagamba, now an architectural photographer based in Barcelona emailed us about his site at *www.ducciomalagamba.com*, which was designed by Malagamba and another architect, Antonella Sgobba. It's fine now but, as is the case with a lot of not-quite-working websites, our early e-correspondence contains injunctions about using the right version of the right browser. It's a bit odd that a site that wants to flog you something should demand that you use particular browsers. In the old days, like last year, it was standard good practice to design a site for a variety of browsers – including Mozilla and Opera – and different generations of the two standards, Internet Explorer and Netscape. But, you say, the site? It starts off with a grey background and a multicoloured navigation strip down the left side and you click on english (or español) and up comes the registration screen. Maybe this is for commercial security's sake but, as all registration systems are, it's a pain. Once inside you discover the archive can be accessed via the sensible criteria of architect, location and building type ('tipology' looks like a spelling mistake for the latter). Very topically the featured new projects are by this year's RIBA gold medallist Rafael Moneo. These are only two from hundreds of buildings in the archive which is claimed to have thousands of images. You do notice that quite a few of the locations listed are inaccessible. I tried but couldn't find an explanation on the site for the lacunae. Still, if you're in the market for contemporary architectural images this is plainly a site you should have on your list.

Sutherland Lyall is at sutherland.lyall@btinternet.com

LITTLE DETAILS MAKE A BIG DIFFERENCE IN THE SMALLEST ROOM.



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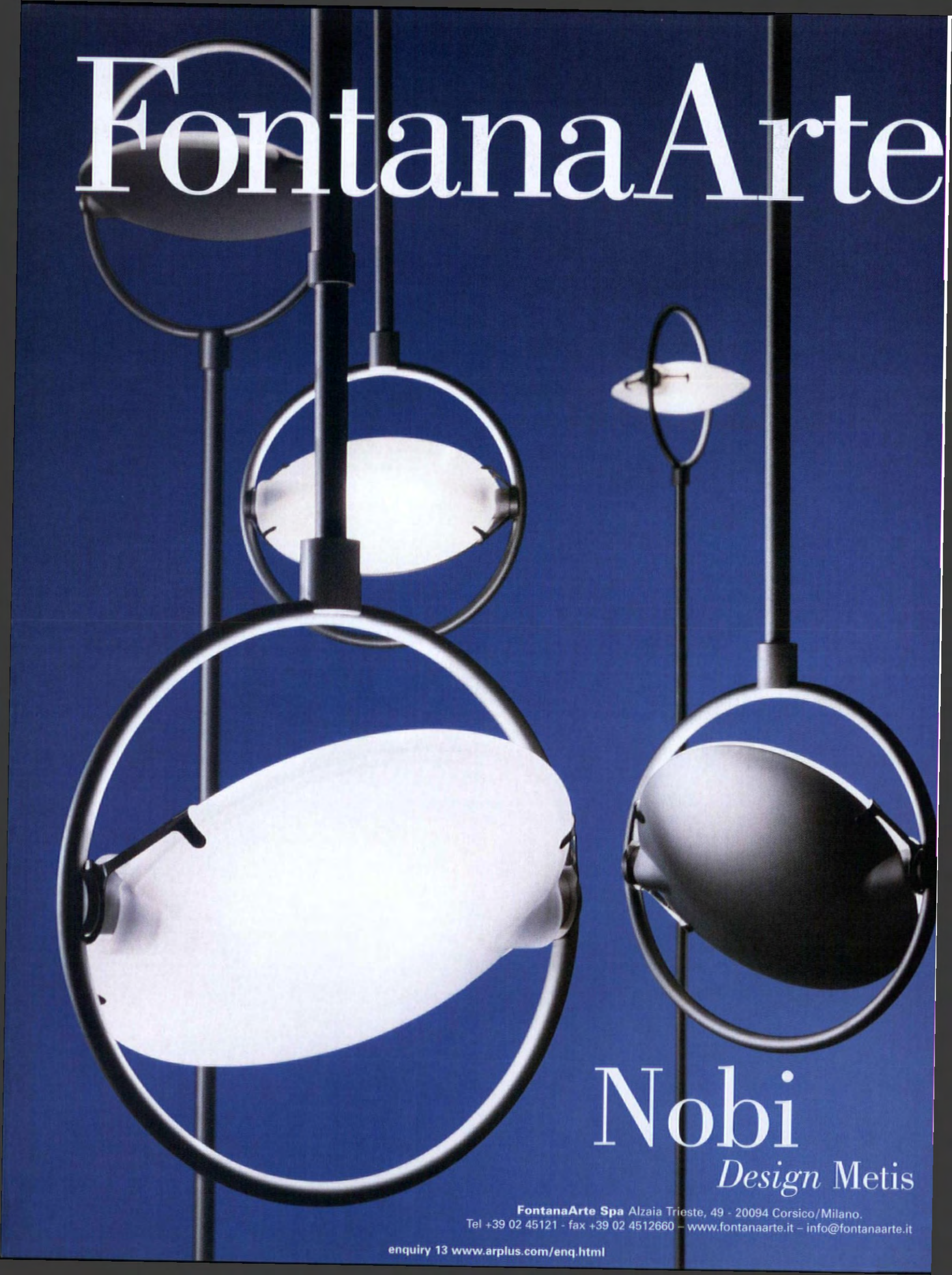


letters

OLD PARADIGM JENCKS

SIR: I may be a few swallows short of a summer but to me Jenck's new paradigm sounds very much like the old one. If Jencks had reduced his essay to its subtext of 'a new generator of novel form to refresh top-end architectural product' it would have made more intellectually honest reading and perhaps even have deserved your title of 'theory'. It's said that the mantle of architectural fame always rests with the shape-makers, the form-givers and Jencks' eagerness to chart this becomes obvious when he tries to embrace both Foster's apologetic ambiguity and Liebskind's soundbite symbolism. 'But hey, what a wacky, multivalent world we live in!' Tosh.

The Bilbao Guggenheim continues to bewitch Jencks. Squat and lumpen, its form betrays its origins as clay shaped by hand. It could conceivably have been constructed in brick given ten years and a mason with a good eye. In the design studio as in the drafting studio, all computers do is make it possible to build with less time and money – two very old forces that continue to shape buildings, the prestige and lowly alike. Gothic cathedral builders had to get by with very little compared with the Romans – who were laughably frugal compared with the Egyptians. Computer resources are building resources just as much as anything else and automatically applauding the results of Pharaonic access to them shows the old paradigm still at work.

As for the cosmos, it can and will organize itself however it likes. But why should buildings have to mimic it? Buildings are not self-replicating. Never will be. Attempting to make them look as if they are will consume vast quantities of architectural resources. As such, fractal geometry is a sufficient (but not, as Jencks believes, a necessary) hook on which to hang a new top-end aesthetic flaunting this. Modernism and High-Tech were no different. Buildings were never, by their nature, weightless or transparent either, but attempts to make them appear so still occupied much of last century's architectural endeavour.

Yours etc
GRAHAM MCKAY
London, England

MYTHICAL EVOLUTION

SIR: I am writing in response to your review of Sean Godsell's beach house in AR December.

Godsell's light touch, fine detailing and intuitive understanding of the tracking and behaviour of Australian light has undoubtedly resulted in an exquisitely balanced architectural piece. Furthermore, he has exercised these skills, and a deftness with the distillation and reinterpretation of a regional modern language, through a number of different projects.

So, having registered the above endorsement of both the works and the worker I would like to raise further points. First, it is suggested that the work either manifests, interprets or otherwise represents a fusion of Eastern and Western cultural forces. It is further asserted that this fusion represents a growing maturity in the evolution of Australian cultural expression.

This cultural 'fusion', or evolution, is mythical. Australia is no closer to 'fusing' Asian cultural forces, in any real sense, than in the times of the White Australia Policy. This comparison is based on the most superficial stylistic and linguistic appraisal of the work which identifies undoubted formal similarities between Godsell's piece and a small proportion of Japanese and Southeast-Asian practitioners.

The assertion also renders the work harmonious and discrete, effectively severing the connection between Godsell's house and the current fetish in contemporary Australian Architecture for the creation of exquisite, minimalist industrial objects. Few would dispute the notion that of all the practitioners pursuing this aesthetic conception of architecture, Godsell is perhaps the most deft and most able to transcend the limitations of the genre. Nevertheless, the work is a genre piece.

Third, by relying on such a simplistic conceit to explain the architecture of this house we dismiss much of its complexity and richness. To pick two obvious examples, the house in question also interprets and continues the tradition of Australian beach-house design and the regional evolution of the open plan. Both factors have much to do with postwar Australian economic and cultural forces and little if anything to do with a fictitious and harmonious 'soaking-up' of the influences exerted by our near and far Asian neighbours.

In short, your review relied on a lowest-common-denominator, comfortable and safe interpretation of contemporary Australian architecture and culture. Such a simplistic appraisal may have been acceptable from our British cousins 50 years ago.

Nevertheless, if AR is to grow into relevance as a global architecture periodical it needs to start giving a credible picture of what's happening in the colonies and beyond. I ask no more than the standard of insight you provide when reviewing works in the UK and Europe.

Yours etc
MARCUS BAUMGART
Melbourne, Australia

Alexander Asadov et al: reconstruction of seven five-storied early 1950s apartment blocks on Vladimirskaya St, 2002-3.

Abdulla Akhmedov et al: offices, Novoslobodskaya St, 2002.

Boris Tkhor et al: drama school theatre, Posledny Lane, 2001.

View from Moscow

As capitalism makes its presence felt in Russia, Moscow has become an architectural boomtown, capital of the new Wild East. Catherine Cooke pulls on her fur coat to survey developments.

From its historic centre out to the wooded periphery, Russia's capital is awash with new buildings and as locals say, more rise constantly 'like mushrooms after rain' in any available space. Any student of the city's twentieth-century planning history inevitably recalls the preamble to Stalin's great modernizing plan of 1935. 'In contrast to cities of the capitalist world', it declared, 'Moscow must not permit the extreme concentration on small sites of great masses of population, enterprises, clubs, shops, eating places and so on.' Stalin opened up its ancient fabric with six-lane highways which traffic engineers still cannot tame and the eighty-year absence of a land market has left central areas of charming low-rise Classicism highly vulnerable. As capitalism returns, very big money, Russian and foreign, is panting to exploit them to a degree commensurate with the 'global city' aspirations of Mayor Luzhkov and his planners.

'Population' and its multifarious 'enterprises' are now fighting over every cubic metre of the fabric. Their entertainments are less decorous than socialism would have approved and their eating places are excellent beyond the dreams of that time. But they all demand building work on a scale that has made construction very profitable. Techniques have undergone a much-needed diversification and finishing skills have been revived to create a healthy basis for the next and perhaps more mature stage. Everywhere the energy is palpable; architects and developers complain about the bureaucratic permissions needed to get on site, but maybe that barrier has merit if it applies some brakes to the pace of change.

Gradually initiatives of the 1999 Structure Plan are kicking in. A conservation area now protects the historic centre around the Kremlin as far as such edicts can: infill, updating and change-of-use produce the same dilemmas everywhere. A new 'Third Ring Road' is already under construction as the generator of redevelopment in the disused industrial areas of what were once the city's north-eastern outskirts. Here textile and metal industries were established in the eighteenth century and remained through Soviet times. Jumped over by the explosion of mass housing under Khrushchev and since, this vast arc will be the site of new sub-centres with retail, office, education and other services to unload the historic core. Le Corbusier told the city in 1931 that no metropolis could operate with all its government functions, retailing, higher education, medical facilities and monuments overlaid in one tiny central area. This is now to be unpacked as Moscow becomes genuinely polycentric at last. As this work takes off and a new spatial framework for investment is established, the building opportunities of the next decade will be even vaster than those since 1991.

So far, investment zones like the much advertised 'Moscow City' just up river of the historic core have not proved the honeypots to foreign capital the planners had hoped. In December, the results of a competition were announced which they hope may turn the tide. Part of the new 'Siti' is to become a $250 million governmental quarter unifying the scattered bureaucracy. A vast city hall complex combining Council (Duma) functions and administrators went to open competition and attracted an international field of 147 entries. Conducted in proper anonymity, it was eventually won by 'The Stool', a 52-storey complex of four cylindrical towers linked by a complex of bridges and atria for occupation, as Mayor Luzhkov demands, by the end of 2004.

In several respects this event shows how the wind is blowing. The Rossiiskaya Gazeta head-

Levon Airapetov and Andrei Panchenko of Airapetov and Romanov (part of MAO): flat on Malenkovskaya St, 1998.

line insisted that 'The achievements of the competition are more important than the future "Stool"'. As Moscow Chief Architect Kuzmin stressed, 'For the first time in 70 years we have at last conducted a genuine competition to the highest professional standards. This means that our capital is now open for masters of architecture from across the entire world'. Alexander Kudriavtsev, President of the Academy of Architecture (and Rector of the Moscow School) added, 'We'd like to believe that this competition will be the model for many more that will bring a genuinely twenty-first century architecture to Moscow'. In light of the detailed decisions that statement is interesting, as a significant minority of the jury preferred a scheme by Israeli architects Michael Walma, Daniel Mintz and Leonardo Kelijman that replicated elements of the Kremlin walls and this rhetorical scheme was retained 'for use elsewhere in the Moscow City site'.

It is cheering that the entirely unrhetorical 'Stool' proved to come from a trio of quite young Russians, Mikhail Khazanov, Anton Nagavitsyn and Nodar Kancheli. Their leader, Mikhail Khazanov, was one of the so-called Paper Architects whose protest schemes of the early 1980s exerted powerful pressure for change on the stagnant Soviet profession. Many of his colleagues have prosperous practices in private residential work for clients whose business success can buy them homes as unconstrained and un-Soviet as the design talent of their contemporaries can produce. Reviving the historic name of the Moscow Architectural Society, MAO, some of these offices like Dmitri Velichkin's have formed an alliance of practices to share experience as a new profession shapes itself. Others like Alexander Asadov are tackling the housing stock elsewhere, in pioneering projects to update the legacy of five-storey Stalinist blocks.

McAdam Architects: department store, Garden Ring, 2003.

Vesnin brothers' restored Mostorg shop, now Benetton.

Russian church, Chinese restaurant: old v new, Garden Ring.

New commercial developments dwarf old buildings.

Dissidents of an earlier phase are also prolific. The elderly Abdulla Akhmedov was famed in the early 1970s for his radical regionalism in Turkmenia. Now in Moscow, his work brings that ebullience to the use of historical references which has characterized Russian building over the centuries. The historical motifs of Boris Tkhor's theatre for the School of Dramatic Art are quieter, but all this new work shows a surer handling of scale and complexity than the first-wave attempts at a Moscow style in the mid-1990s. As Khazanov knows, because his mother is a famous historian of it, Modernism is equally a Moscow style. In that spirit, the buoyant little Anglo-Russian office of James McAdam and Tanya Kalinina, former directors of Will Alsop's Moscow operation, has a major new department store about to go on site between the famous complexes of Le Corbusier's Tsentrosoyuz and Shchusev's Agriculture Ministry. Not far away its miniature predecessor, the Vesnin brothers' elegant Mostorg department store of 1927, has been boldly but sympathetically updated by Benetton. Notions of the mass consumer have changed over the intervening decades but the vigour of Moscow architecture is genuinely the same. CATHERINE COOKE

May

Next month's issue looks at the theme of Entertainment. In an increasingly hedonistic and sensation-seeking world, we now have more time and opportunity for leisure than ever before, but how do we spend it and what role does entertainment and its associated buildings play in urban life? Theatres and concert halls have historically been at the heart of cities and new variants are continuing to emerge. We look at some of the latest examples, such as Renzo Piano's complex of whale-like concert halls in a Rome suburb, and Mansilla and Tuñon's radical new auditorium in the Spanish city of Leòn. In Nottingham, Julian Marsh has designed a new theatre for the city's university and in Queensland, Bligh Voller Nield have also completed a compact and colourful municipal theatre that animates its surroundings. Other more unusual buildings for entertainment include a new manmade island in the River Mur in Graz, by Acconci Studio, which combines a small auditorium, bar and restaurant for events during the city's year as European Cultural capital, and a *pachinko* circus by Itsuko Hasegawa. Beloved of the Japanese, *pachinko* is a kind of pinball and national obsession and Hasegawa proposes making it the focus of a new building devoted to leisure. Plus the usual sybaritic concoction of Interior Design, Delight and View, featuring a report on the AR conference on Greening the European City. Let us entertain you – buy this and 11 other pioneering issues by completing the enclosed subscription form or visiting our ever expanding website.
www.arplus.com

INTERACTIVE VIDEO DISPLAY, TOKYO, JAPAN
ARCHITECT
KLEIN DYTHAM

1

Urban interaction

These ingenious electronic screens provide new forms of interactive thrills for Tokyo's jaded urbanites.

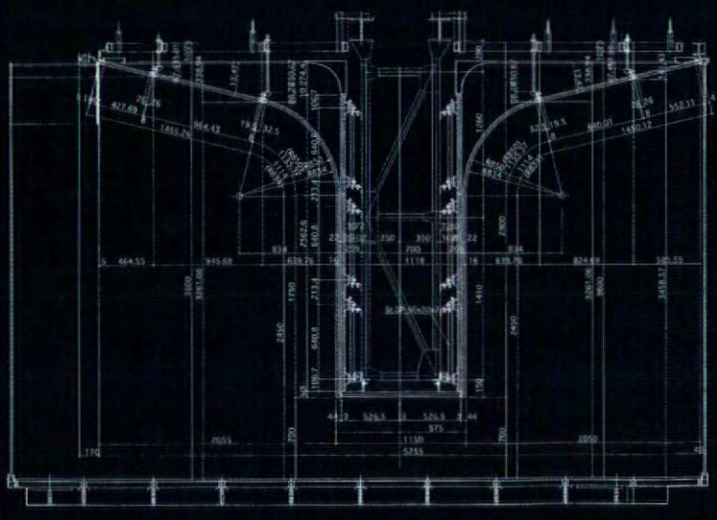
Mitsubishi is developing a few prestigious blocks at the heart of Tokyo, hoping to turn the broad boulevard that leads from the railway station to the Outer Palace Garden into a Japanese version of the Champs-Elysées. Bloomberg, a global, multi-media news and information company, which rents three floors in the Shin Marunouchi Building, commissioned Klein Dytham Architecture to create a ground-floor electronic display that faces out through glass to the street and inwards to the lobby. Called the Interactive Communication Experience (ICE), it dramatizes the company's interest in creativity and communication. There was a big crowd of visitors on opening day, and it continues to provide an entertaining and informative public spectacle.

Astrid Klein and Mark Dytham opened their Tokyo office in 1990, winning attention for temporary and short-lived projects that occupied middle ground between architecture and environmental art, and have since graduated to larger commissions. The architects brought in Toshio Iwai, an artist specializing in interface design, to help them develop ICE, which they describe as 'an icicle – a pure white element that allows clouds of information to condense'. Two arcs of museum-quality glass, five metres wide and three and a half high, are suspended, back-to-back, from the ceiling above the backlit grid of the translucent glass floor. The 80 000-pixel, three-colour LED display is linked to three computers, which generate two tickers of stock quotations that broaden and fan up, or narrow and dive down on the screens to colourfully dramatize shifts in price.

When you've checked your investments, it's time to play. Infrared sensors behind the glass detect your presence and a menu scrolls down the screen. You touch one of four icons to play a digital harp, set shadows racing across the screen, link lines with another player to create a giant cat's cradle, or play volleyball. What makes this display so compelling is its size and sophistication, attracting the suits as well as the jeans crowd. Businessmen line up with little kids to play on the touch-sensitive screens. Even a technophobe like me found it irresistible, and an attendant was happy to demonstrate the pattern-making to a visitor in a wheelchair. At one end of the room are five high-tech armchairs you can set to knead your back or give a shiatsu massage while you watch Bloomberg Television (a cable channel) on swivelling monitors. Truly urban entertainment.

MICHAEL WEBB

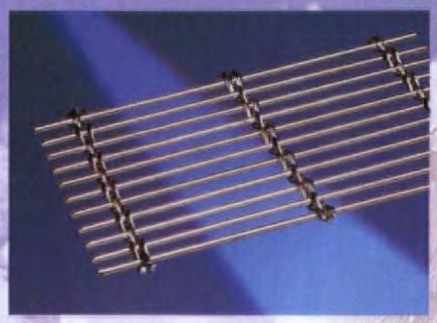
Architect
Klein Dytham Architecture, Tokyo
Photographs
Jun Takagi

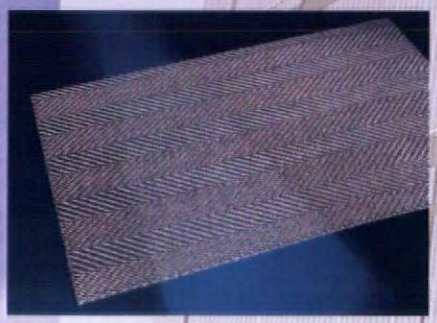


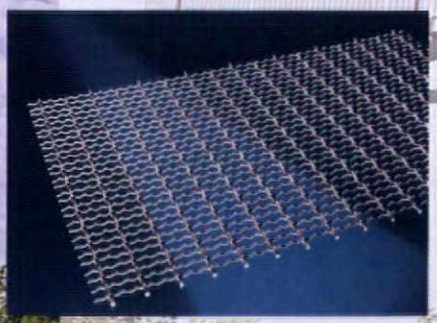
cross section through screens

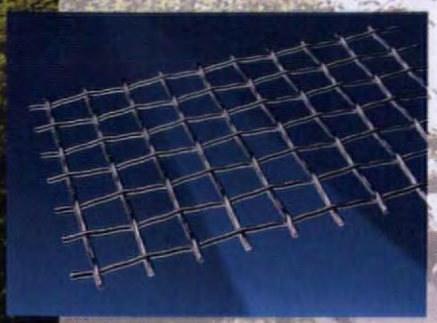
1
The screens respond to touch and movement to create a kaleidoscopic array of patterns.
2
Screens are suspended from the ceiling above a backlit glass floor.

Woven Wire Cloth and Screens for Architecture and Design









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Travelling by train: here, the Lehrter Bahnhof by GMP, the great crossroads of rail travel in Europe.

SURFACE TRAVEL

As transport shrinks the world, we have a choice between increasing pollution and destruction and enriched urbanity.

Modern civilization would be impossible without speedy and efficient transport. People travel more and more, though electronic communications improve exponentially. The optimistic proposition that travel (particularly commuting) might be reduced by the world wide web and massive computing power is about as realizable as the paperless office. Even in developing countries, huge numbers of people rush from rural poverty to the chance of betterment in urban centres, and in those, they often travel daily between city and affordable suburbs, demonstrated by trains literally covered with people that move in and out of the great cities of India every morning and evening, and massively crowded buses that do the same in every other metropolis of the third world. In the most prosperous countries, commuting is even more prevalent, particularly in cars, the most environmentally destructive form of travelling.

From the start, modern transport systems have been a severe threat to the environment. John Ruskin once snobbishly remarked that 'there was a rocky valley between Buxton and Bakewell … you might have seen the gods there … [But] you enterprised a railroad … you blasted its rocks away … and now every fool in Buxton can be in Bakewell in half-an-hour, and every fool in Bakewell at Buxton'.[1] Destructive the railways certainly were, but at the same time, they offered everyone (except the very poorest) the possibility of safe movement at far greater speeds over much greater distances than ever before. They were the instruments by which the modern city has been made.

All modern cities are based on the railway-driven London that exploded with such astonishing force in the middle of the nineteenth century (though of course highways have wholly or partly taken over the role of rail tracks in many). Everywhere the pattern is the same.

City centres are for business and the residences of the very poor (and sometimes the very rich). Round them are irregular suburban rings of varying prosperity, now many with their own centres. As Ruskin was one of the first to point out, the surface of the planet is being consumed by cities and their transport systems and their suburbs at ever-increasing rates. The environmental costs in terms of pollution and global warming of all this travel are colossal, as are the social costs. Somehow, travel has got to be made less destructive.

Increase density

One way of reducing its impact is to reduce the need for it. In Europe at least, planning policies to increase urban density by using decayed and greyfield sites are perhaps having some impact. But such initiatives are at least partly offset by demographic changes, as households fragment and become ever smaller in prosperous societies, necessitating production of more and more dwellings, each of which takes up land. We need new geometries of suburban building that combine the advantages of existing ones: close contact with nature, a sense of privacy, and so on with much higher densities. If these can be adopted on a large scale, land-take will be reduced, the need for travel will be cut down, and all sorts of additional savings such as economies in heating and cooling loads will be possible. In the last two decades, experiments have been made, usually popular with users but, to have any serious impact, such ideas need strong government support and clear planning guidelines to persuade the mass housing developers to become involved.

One of the main ways of reducing the negative effects of travelling is to encourage people to use public transport rather than private cars. Experiments like the new congestion charge in London[2] may have some effect, but in London at least, it is too early to judge, particularly as large parts of the metro system are not working properly at the moment. In Oslo, a somewhat similar system does seem to work, but circumstances there are very different. The area covered is much larger, the population much smaller, and geography ensures that there is a limited number of entrances to the charge zone. Furthermore, a huge programme of infrastructural improvements in public transport and roads was put in place to complement the charge zone. Such schemes will take a long time to evaluate economically and environmentally.

Better tried proposals include the excellent transport and infrastructural schemes instituted in Curitiba, Brazil (AR May 1999), in which new kinds of vehicle and new forms of bus stop have made services more efficient and agreeable, and have demonstrated that public transport systems can increase their utility and popularity. Curitiba's scheme is being developed elsewhere, particularly in Colombia. Another tried proposal is rail freight. At long last, it may be that freight traffic is beginning to return to the railways. Even in Britain, where the rail system has been appallingly run down by decades of government under-investment, rail freight is beginning to grow (at least for heavy items such as minerals, metals and cars). One of the attractions is speed: the new trains can travel at 200kph, far faster and more steadily than lorries.[3] Behind most arguments for transferring from individual vehicles to communal ones are rails. In Europe, few would now think of travelling by air for short or even medium journeys, from for instance London to Paris, or Paris to Berlin, now that train journeys from city centre to city centre are quicker, more agreeable and sometimes cheaper than air travel.

New rails

New systems of urban rail transport are beginning to be implemented. From Sheffield to Strasbourg, new tramway systems are improving city movement; London has most ambitious plans for trams.[4] New light railway systems are being installed all over the world, even in the US, where for instance the BART in San Francisco (p60) goes from strength to strength. Vancouver's sky train

Train stations transformed: Stuttgart's proposed new station by Ingenhoven Overdiek Architekten is to be the first environmentally-aware railway building.

(p56) looks as if it will begin to reduce road commuter traffic, and help to integrate the whole metropolis. Aerial railways have some advantages: they do not have to stop at road junctions for instance, so they can be faster than surface transport, but they can be hugely disruptive to the urban fabric, as shown for instance by the mighty Bangkok sky-rail system which tears apart a once delicate city. They can be as bad as urban motorways which have destroyed wonderful places from Cairo to Beijing.

The points where rail traffic links with other forms of transport, from shoe-leather to road vehicles, are immensely important in the structure of the city. Stations, big and small, have since their inception been places for celebration of arrival and departure, and for congregation, as well as being (at certain times of day) city vomitoria. Some old ones retain all the dimensions – think for instance of the Gare du Nord in Paris or the restored Grand Central in New York (AR May 1999). But in the second half of the last century, far too many stations were reduced to utilitarian machines for processing crowds. The fate of Pennsylvania Station, reduced from being one of the grandest public buildings in New York to a warren for troglodyte commuters, was emblematic.

But now, Pen is to be rebuilt as a grand station (AR September 1999), and a new generation of stations worldwide is again showing how rail can take its part in the human tapestry of the city, as is demonstrated for instance in the French TGV stations (p44), and the mighty Lehrter Bahnhof in Berlin by GMP, where the main east-west and north-south European railway lines cross (AR January 1999). These, and many other stations are counteracting the tendency of all transport systems to resemble the conditions of air travel. A few years ago, it was fashionable for a few moments in certain rather silly circles to suggest that airports were the new centres of civilization. Now, it seems much more sensible to make rail stations once again key parts of real city centres. As the new central station for Stuttgart by Ingenhoven Overdiek Architekten shows (p66), changes in rail technology give extraordinary possibilities for imaginatively transforming and adding to existing stations (and cities in their vicinity), as well as for making new ones. Cities can be immensely enhanced by transport, as well as destroyed by it. The choice is ours. PETER DAVEY

1 Ruskin, John, *Praeterita* (1885-1889), III, iv. Ruskin, who had travelled all over Europe in private horse-drawn coaches, and was supposed to be the champion of the working man, was being more than usually Olympian.

2 A scheme whereby drivers have to pay a £5 charge to enter the centre of the city. A highly complex and innovative system of video cameras linked to a vast central computer reads vehicle licence plates and automatically charges the owners.

3 *The Guardian*, 15 March 2003.

4 All British transport improvements take ages to implement and are often hugely distorted during gestation – we shall see whether they are ever realized.

TGV STATIONS,
PROVENCE, FRANCE
ARCHITECT
AREP

French lessons

Backed by political will and financial muscle, France's high-speed rail system, with its sleek new stations and infrastructure, is reshaping the country's geography.

Compared with Britain's fragmented, dawdling, underfunded rail system, which has become the despair of those who use it, French railways are a paradigm of progress, ambition and efficiency. Shrinking train journey times have contrived to reconfigure the map of France, a fact proudly trumpeted by the SNCF in its advertising campaigns, which shows the country's main north-south axis shortened and cinched in like a Dior wasp waist. Just over twenty years have passed since the first high-speed track was laid between Paris and Lyons cutting journey times between France's two main cities. In 1989 the Atlantic link to Bordeaux and Nantes was inaugurated and by the mid '90s, the connection extended northwards to Brussels and London. Plans for an eastern link to Strasbourg and Munich are under way, due for completion in 2006. French political and cultural enthusiasm for its TGV system has an almost evangelical fervour. When the Channel route was being planned, municipal representatives of Amiens and Lille fought bitterly for the right to have the line pass through their towns (Lille won, AR September 1993). This attitude contrasts starkly with their English counterparts, whose prevarication and animosity has consistently bogged down the progress of high-speed tracks through Kent to London.

The most recent phase of TGV expansion is to the south, from Lyons through Provence to Marseilles, bringing the sybaritic attractions of the Côte d'Azur tantalizingly closer. Passenger numbers have increased by 30 per cent with a consequent uplifting impact on the economy of the south. The journey from Paris to Marseilles now takes a mere 3 hours (compared with 4 hours 20 minutes) and Paris-Avignon 2 hours 40 minutes (down from 3 hours 20 minutes). To cover the equivalent distance of Paris-Marseilles by train in the UK takes between 5 and 6 hours. Built on a predominantly straight alignment, with no road crossings, the new line also merges with conventional track, cutting travel times to towns such as Nice, Monaco and Perpignan.

Plans for the Mediterranean connection were first put forward in 1989 and ten years later work began on constructing 250km of track, 17 000m of viaducts, 12 800m of tunnels and three new showpiece stations at Valence, Avignon and Aix-en-Provence. In June 2001 the line opened. Such an impressive pace of development could not be sustained without concerted political and financial backing – 90 per cent of the cost of 3.8 billion euros came from Reseau Ferré de France (RFF), the state company set up in 1997 specifically to oversee and develop railway infrastructure. The remaining ten per cent was met by the government and a further 5 billion euros has been budgeted until 2006 for the maintenance of existing lines. Compared with the muddle and disillusionment of British rail privatization, the French approach of state control and state subsidy not only safeguards the efficient running and expansion of the network, but

map of France reconfigured by train journey times

map of the new TGV Méditerranée linking Lyons with Marseilles

also ensures consistent standards of design across the board, from bollards to buildings, viaducts to trains. Though those of a free market persuasion might deride this as the wasteful excesses of government, the French regard such investment as a legitimate expression of serious, long-term planning and thinking about transport, the environment and architecture.

This concern is clearly manifest in the three new stations (considered in greater detail on the following pages), but these are just part of a wider programme of infrastructure, landscaping and product design. Driving a high-speed rail line through picturesque but fragile ecologies required great sensitivity to minimize visual and acoustic intrusion. In this case, existing landscape determined the form of the track, not the other way around, and great attention was paid to the design of rails, sleepers and trains to reduce noise. The new stations were designed by Jean-Marie Duthilleul and Etienne Tricaud of AREP, the in-house architectural division of SNCF. Duthilleul's experience of station design is formidable – among his many commissions is Lille Europe (AR March 1996), on which he collaborated with Rem Koolhaas. His latest buildings are modest presences in the Provençal landscape rather than monumental gestures, yet they are all inventive and dignified, true expressions of the civilizing power of twenty-first century rail travel.

CATHERINE SLESSOR

1

2

3

1
New station at Aix-en-Provence, enclosed by a wing-like roof.
2
Elongated steel and glass volumes at Valence, a contemporary variation on traditional train sheds.
3
Avignon's luminous concourse, an expression of the civilizing power of high-speed rail travel.
Photographs: Paul Raftery/VIEW

VALENCE STATION

Strategically situated to the north-east of the town, the new TGV station at Valence is a key element in a regional road and rail transport hub. At its north end, the station intersects with the regional rail line (TER); at its south end, slip roads connect with a motorway link to Valence. The surrounding countryside is part agricultural, part industrial and it is anticipated that the improved transport links will help to boost the local economy. Of the three stations, it is the only one to handle the same volume of incoming and outgoing passengers and this symmetry of flow finds expression in the building form.

Drawing on traditional precedents of the metal and glass train shed, the station is a long glazed volume that seems to hover lightly over the tracks and platforms dug into a cutting 7m below. The upper level houses the station concourse, with the usual ticket and information outlets, refreshment stops, shops and services. The elongated glass box of the concourse is supported on a tubular steel structure (painted a cheerful red) that rests on concrete walls dividing the tracks. From the concourse there are good views out over the surrounding landscape to the hills at Vercours. Connecting with the landscape is another common theme of the new stations, so that they cease to become closed, insular domains (like many central city stations) and instead contrive to convey some notion of place.

Careful attention has been paid to the route down to the platforms, to engender a sense of arrival and anticipation. The concourse is linked to the surrounding car park by a series of bridges that traverse the outer tracks and slash at various angles into the flank of the central glass box. On each side, the bridges are sheltered by flat roofed canopies that extend the length of the station like side aisles. From the concourse, glass lifts and timber stairs wind down to the platform level, in an almost Piranesian tableau of crissing and crossing. At platform level, the lightness and lucidity of the glass concourse is exchanged for the more brooding atmosphere of massive concrete walls and the muscular rhythm of the steel structure. Much of the station's appeal is based on watching and being watched as passengers ebb and flow through the spaces – at busy times the bridges, stairs and concourse are thronged with people in the bustling human choreography of daily travel. C. S.

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Photographs
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1

2

TGV STATIONS, PROVENCE, FRANCE
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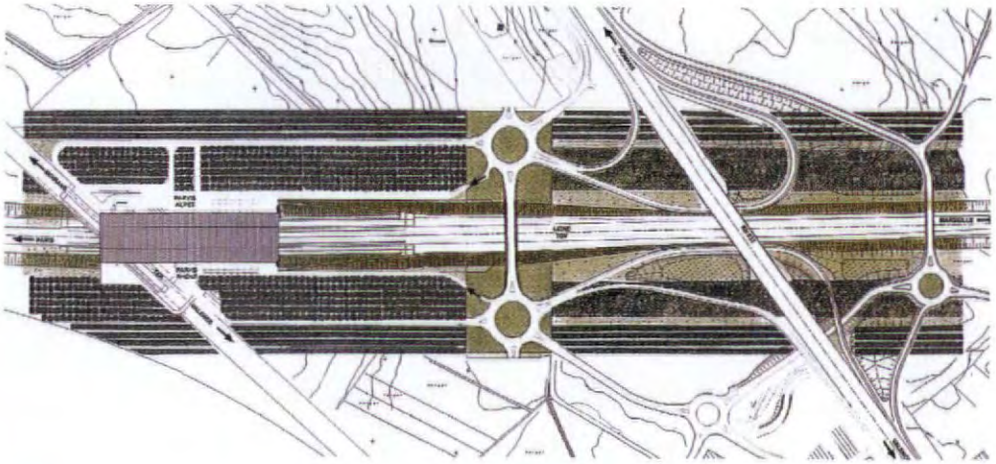


1
The long glass box of the station concourse hovers over the platforms.
2
Car and pedestrian arrivals point.
3, 4
Glass and timber bridges traverse tracks to connect with main concourse.
5
Lightness of the glass skinned concourse contrasts with the more mysterious platform realm below.
6
Platform level.
7
Concourse is supported on a tubular steel structure.

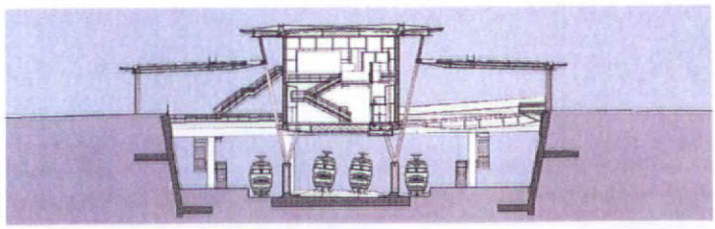
3

5

6

4

7



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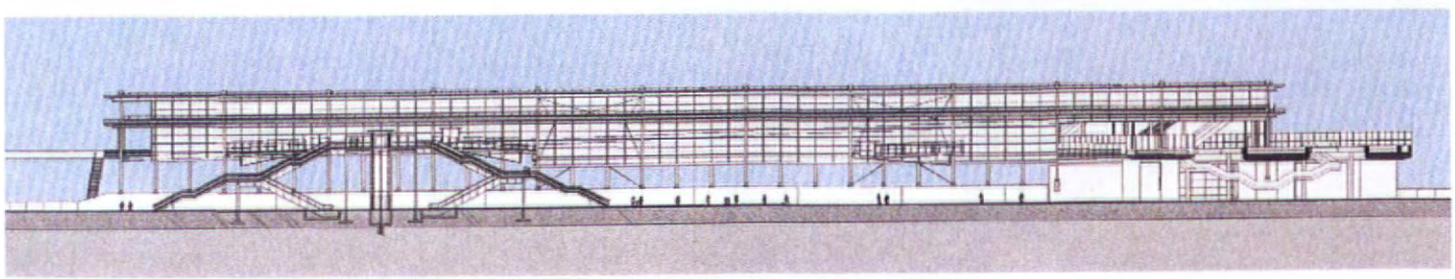

long section

1

AVIGNON STATION

Avignon's new station lies to the south-west of the town on the edge of a tributary of the Rhône. To the west, the TGV line sweeps over the Rhône itself by means of a huge new viaduct designed by engineer-architect Jean-François Blassel and landscape architect Michel Desvigne, just one in a series of strikingly bold infrastructural elements on the new line. In form and execution, Avignon station is equally bold, a 400m long upturned ship's hull gently curving along the track, its shape a dramatic response to the climatic exigencies of the baking Provençal sun and the fierce mistral wind. It also responds to the difference in passenger flows – 80 per cent of its passengers are heading north from the south of France, so the station is a stage for the more subdued rituals of departure rather than arrival.

Elevated 7m above ground level on an embankment, the building has two separate parts housing departures and arrivals connected by a subway underneath the tracks (as opposed to the single concourses of Valence and Aix-en-Provence). The much larger departures pavilion is contained in the sweeping volume of the upturned ship's hull. Handling only 20 per cent of traffic, the arrivals pavilion is, of necessity, much smaller, and is housed in a simple steel and glass structure with direct access to the platforms.

The hull of the departures pavilion has two contrasting facades: on the south side, a thick hermetic wall of white sandstone keeps the heat of the sun at bay, while on the northern platform side, the hull is glazed to provide protection from the mistral. Departing passengers arrive at lower level and make their way up to the platforms either by escalators, lifts or the more leisurely promenade of a long ramp. At platform level, travellers generally wait inside, sheltered from the wind, but are still able to apprehend and connect with their surroundings. Lined with horizontally slatted timber, the southern part of the vault rises in a taut arch to meet its glazed other half. The vault gently curves along its length, giving the illusion of going on for ever. The clear glass skin on the north side brings cool north light down into the graceful, airy vault, casting a mesmerizing pattern of rippling shadows along its length. Like Valence, Avignon is another imaginative reworking of the archetypal train shed, albeit intelligently customized to the testing demands of the Provençal climate. C. S.

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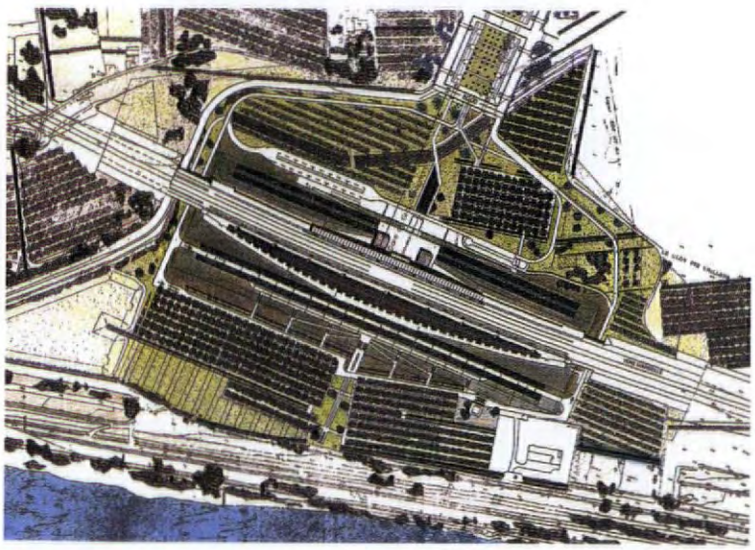
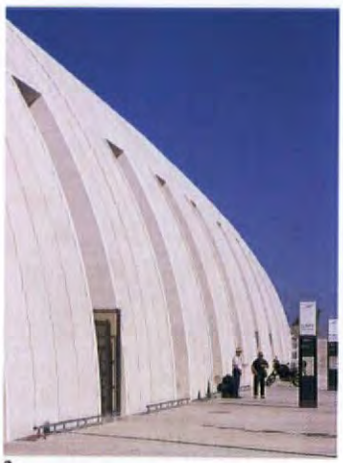


site plan



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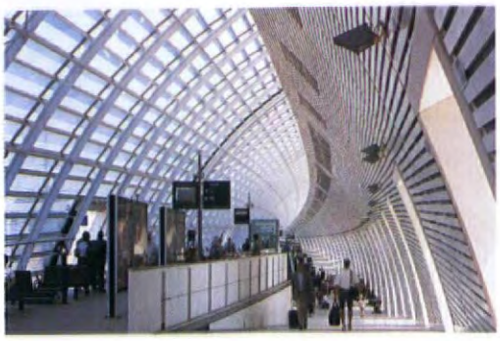
TGV STATIONS, PROVENCE, FRANCE
ARCHITECT
AREP



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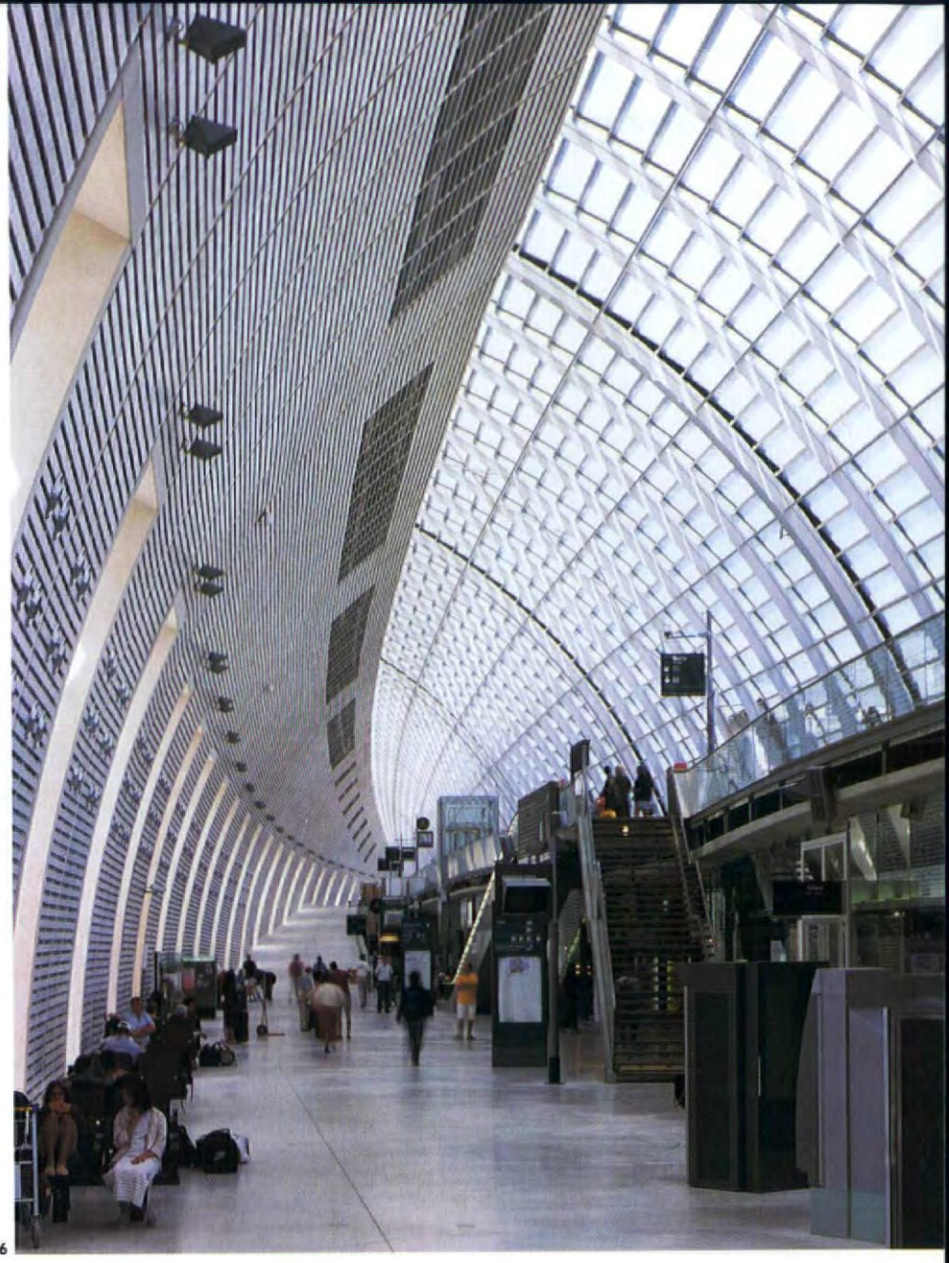
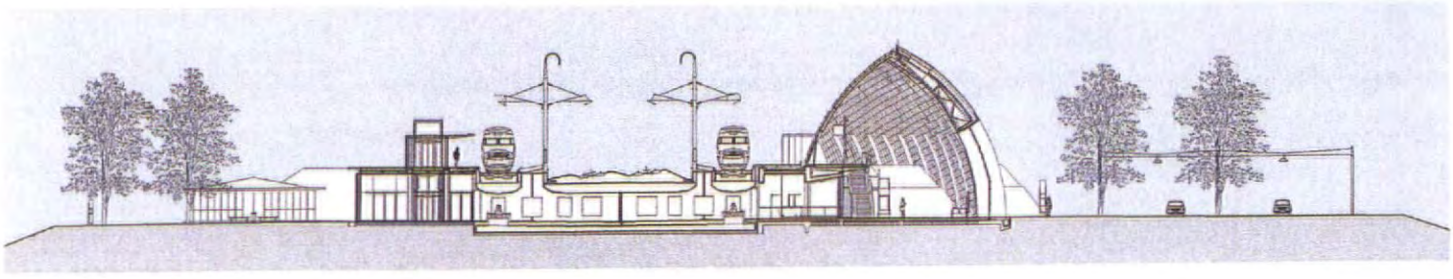


6

1
Avignon station appears as a long upturned hull in the landscape.
2
South side of hull is clad in white sandstone to deflect heat gain.
3
A long ramp winds up to platform.
4
Passengers are sheltered from the mistral by a curved glass wall.
5
Upper platform level.
6
The drama of the airy, luminous vault of the departures pavilion.
7
Arrivals pavilion on the north side.

7



cross section

AIX STATION

The southernmost of the three new stations is at Aix-en-Provence, lying to the south-west of the town halfway between Aix and Marseilles and within striking distance of Marseilles airport. Here on the Arbois plain the rocky terrain is almost primeval, scoured and bleached by the intense Provençal sun. In the distance is the craggy hump of Mont Sainte-Victoire, immortalized in paintings by Cézanne. Conceived as a great wave-shaped roof that slowly swells and recedes over the tracks and concourse below, the new station is a singular, almost topographic, gesture in the landscape. Supported on a double row of timber columns that either grow or shrink in height following the curve of the roof, this monumental pagoda seems to float, disembodied, above the plain.

The main entrance to the station concourse lies on the west side of the building, signified by a slight bulge as the glass side wall curves outward. The glass is protected by an external layer of timber louvres, giving the building a rustic quality, that mitigates heat build-up and glare. The east wall is clad in clear glass, with views out to Mont Sainte-Victoire, precisely framed in the distance in the manner of Japanese borrowed landscape. The station is surrounded by flat, symmetrical swathes of car parking united by an oval ringroad that crosses the tracks to the north and south of the station on two new road bridges. Buses and cars also run in tunnels beneath the building.

Here, the TGV tracks run at ground level, perhaps limiting the opportunity for the expression of routes and changes of level that characterized the other stations, but there is still drama to be had in the glass bridges slung at upper level across the tracks and mezzanine level waiting areas, that offer good opportunities for people watching.

The huge curved roof is clad in lightweight aluminium panels and supported on a series of V-shaped tubular steel members that dock into metal plates on the tops of the chunky timber columns. The surface of the roof is studded with small square rooflights and its ribbed underside is painted white, heightening the pervading sense of lightness. Although very different formally from Valence and Avignon, Aix is an equally thoughtful response to site, climate and programme. C. S.

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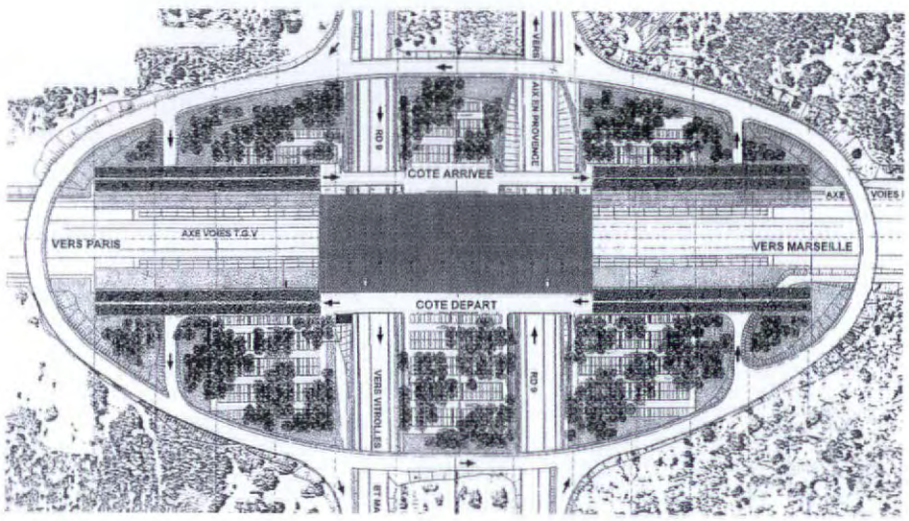
Photographs
Paul Raftery/VIEW

1

TGV STATIONS, PROVENCE, FRANCE
ARCHITECT
AREP



1
The great roof swells above the plain.
2
Mezzanine level waiting area.
3
The sensuously undulating roof is almost topographical.
4
Typical platform. Tracks here are at ground level.
5
Main entrance on west side, the glass wall protected by timber louvres.
6
Roof is supported by V-shaped tubular steel members set in timber columns that rise and fall with curve.

site plan

2

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4

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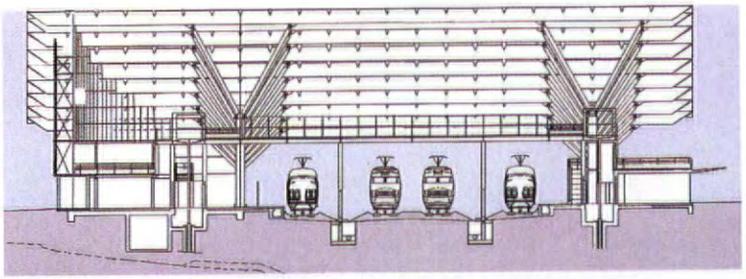

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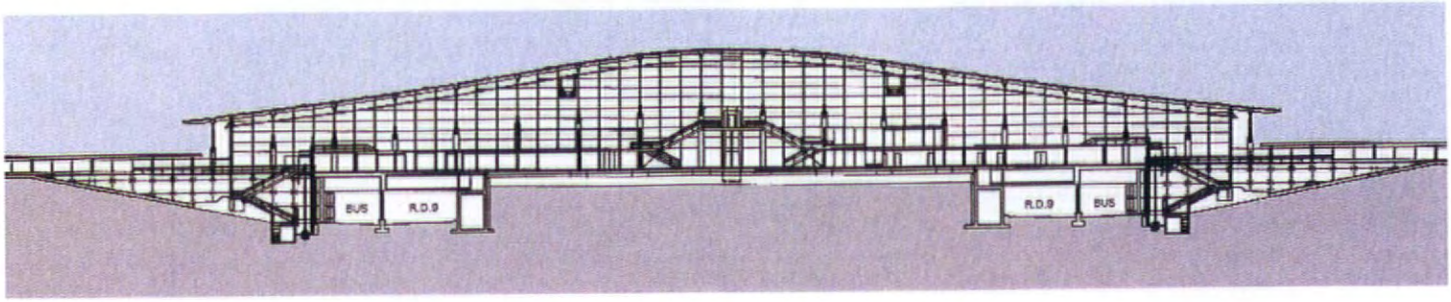


long section

EMERGENCY SERVICES HEADQUARTERS, MELBOURNE, AUSTRALIA
ARCHITECT
H2O ARCHITECTS

1

ON THE ROAD

This economical and environmentally responsive new headquarters in Melbourne for highway emergency services is in the best traditions of bold roadside architecture.

The fascination and freedom of road travel have long been overtaken by the grim realities of inescapable congestion, featureless motorways, frustrating breakdowns and hazardous accidents. Yet the chivalrous image of emergency services and motoring organizations patrolling the concrete byways to provide succour to drivers in distress maintains a curious hold on public imagination and has inspired a vein of heroic industrial functionalism – think, for instance, of Decq and Cornette's highway control centre (AR May 1999), suspended under a motorway flyover, or Nicholas Grimshaw's sleek landmark RAC headquarters near Bristol.

In a country as vast as Australia, travelling by car can perhaps lay claim to some of its lost romance, but the huge road network still needs the usual quotidian maintenance and supervision.

H2o Architects were asked to design a headquarters building to house the emergency services department for Victoria state in southern Australia. The brief combined offices for staff and garages for vehicles on a long narrow site overlooking an unprepossessing tangle of roads, tunnels and flyovers on the outskirts of Melbourne. Formed in 1999, H2o are a young practice who are establishing a modest reputation for architecture that manifests great formal and material innovation in the teeth of ungenerous budgets, and is shaped by a strong concern for energy use and environmental control. For their textile faculty building at the Royal Melbourne Institute of Technology (AR January 2001), a simple box was wrapped in a climate modifying timber skin that sensuously mimicked the appearance of textiles. This latest project consolidates their thoughtful evolution.

The new centre replaces an existing building, which was dismantled and its constitutent materials recycled as part of the environmentally responsive brief (the steel structure was sold to construct farm sheds and demolished brickwork pulverized for use as crushed masonry infill). Based on the mews principal, with vehicles in garages at ground level topped by a *piano nobile* floor of offices, planning is simple and logical. The building abuts a neighbouring structure along its long south side, limiting its potential for expression. Yet what could have been a banal two-storey box stuck onto an existing building instead has dynamic presence, as the folded, wedge-shaped plane of the office floor thrusts out over the garage podium. Like some kind of segmented insect carapace, the elongated structure is divided into six bays, which are clearly articulated on the main public and roadside facade to the north. The sextet of bays forms a curved spinal edge, inset with long strips of horizontal glazing shaded by aerofoil wing *brise-soleil* (in southern latitudes, north-facing elevations get most sun and light). The angularity of the *brise-soleil* irresistibly recalls eyebrows, so from the road below, the building

2

3

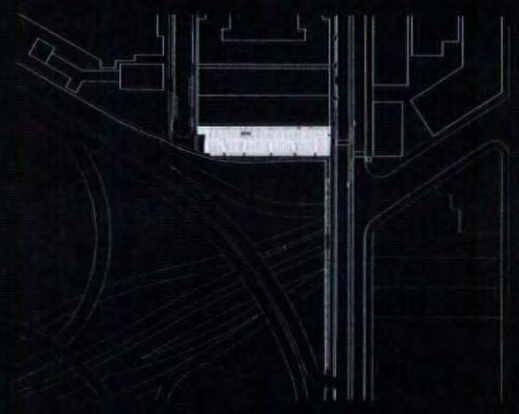
1
The building on its long narrow site overlooks a jumble of motorways.
2
Articulation of the structural bays breaks up its length.
3
From the road, the building seems to peer out over the embankment.

resembles a row of beetle-browed robots peering intently over the hill. Basic materials, such as corrugated steel cladding and rugged metal mesh evoke an appropriately robust spirit of economy and durability, enlivened by flashes of sizzling red (for speed and danger) along the exaggeratedly deep window reveals and in the clefts separating structural bays.

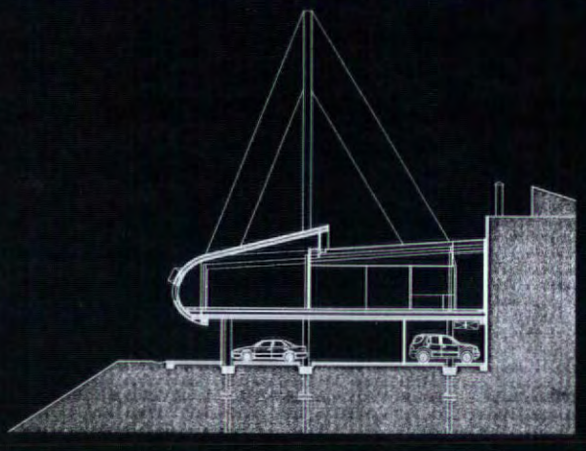
From the curved spine, the roof of the offices rises up at an angle to meet a flat roofed rear part. The narrow gap between them is filled by strips of clerestorey glazing that bring light down into the offices below. Despite a parsimonious municipal budget, H2o have managed to create a surprisingly civilized internal landscape, varying the height of ceilings and kinking walls to dispel monotony. Open plan areas line the north edge, with views out over the adjacent spaghetti of roads, while smaller cellular spaces for individual offices and meeting rooms are arranged along the south side, linked by a toplit spinal corridor. Here again, the inventive application of cheap materials (thin sheets of plywood to line walls, boldly coloured recycled carpet offcuts) animates the internal realm.

To reduce its energy consumption, the building employs a combination of passive and active environmental control systems, with natural ventilation and lighting accounting for around 40 per cent of overall requirements. An inverted concrete floor, insulated on its underside, forms a plenum that stores air warmed or cooled by thermal mass according to the season. In summer, night purging increases the cooling effect of the concrete mass. Ventilation outlets to the plenum are adjusted by occupants for local temperature control. Solar panels are used to heat domestic hot water and daylight sensors regulate artificial light in response to available illumination. Such measures are intended to reduce energy consumption to an annual level of 440 MJ/sqm (compared with 700 MJ/sqm for a standard building). With its mixture of ecological awareness and intelligent use of materials, the building is an inspiring paradigm that celebrates the more engaging aspects of life on the road. C. S.

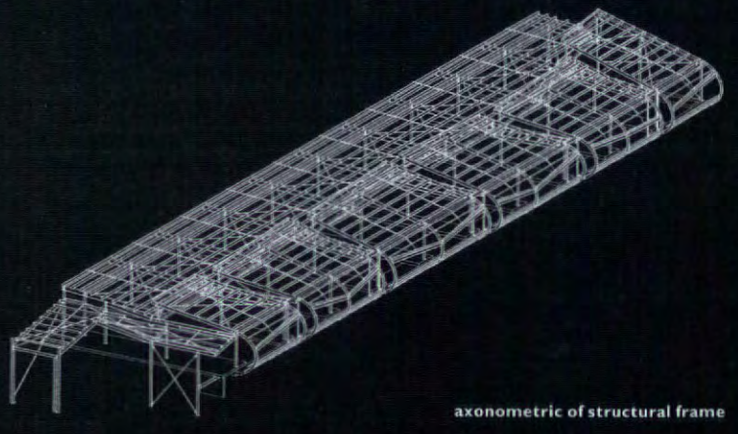
Architect
H2o Architects, Melbourne
Project team
Tim Hurburgh, Mark O'Dwyer, Sofia Anapliotis, Jim Tsoukatos, Peta Heffernan, Jacques Paul Bennett, Joseph Nicholls, Victoria Reeves, Katherine Marx, Matilda Blazey, Ari Indra
Structural and civil engineer
Arup
Services engineer
AHW Consulting Engineers
Environmental engineer
Hyder
Cost consultant
Wilde and Woollard
Photographs
Trevor Mein



site plan



cross section

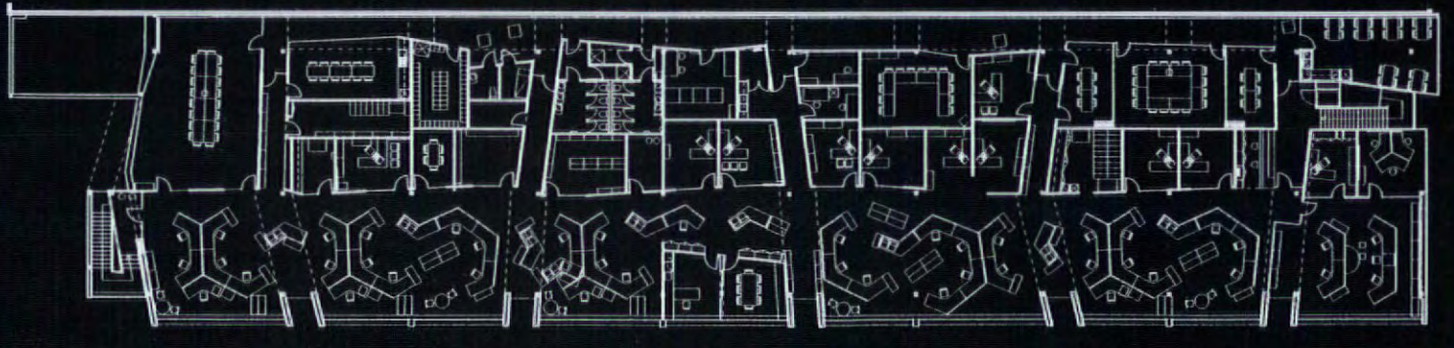


axonometric of structural frame

EMERGENCY SERVICES HEADQUARTERS, MELBOURNE, AUSTRALIA

ARCHITECT

H2O ARCHITECTS



upper level plan (scale approx 1:500)

4
Upper offices poised on a podium of garages for emergency vehicles.
5
Bold colour animates the industrial palette.
6
Plywood wall linings and carpet offcuts contrive to create a cheerful yet economical interior.
7
The office landscape.

Metro station, Vancouver, Canada
ARCHITECT
Busby + Associates

1
Overhead rail tracks largely follow line of highway below, necessitating ...
2
... bridge over road and under tracks that spans between two halves of suburban centre.

2

In an attempt to tame its suburbs, Vancouver has set up an overhead rapid-transit system. Its stations are designed as memorable and welcoming places.

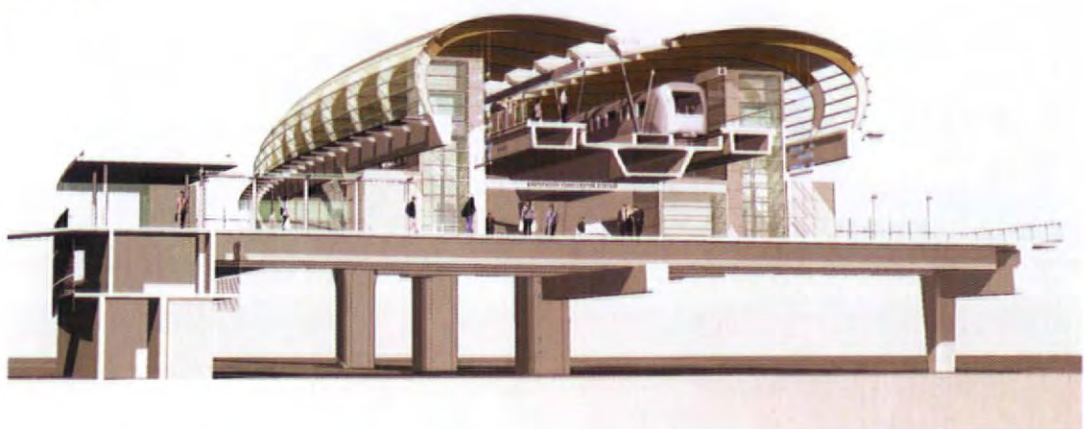
In many ways, Vancouver is the finest city in North America. It has a proper mixed-use urban centre that focuses on a park and stretches along a magnificent site between forested hills and the complex fretted geometry of the coast of the Pacific Ocean. There could be no greater urban contrast than between Vancouver and Seattle, not much more than a hundred miles away over the border to the south. The American city has scarcely any decent urban spaces and has allowed civil engineers to ruin its waterfront by running an urban motorway all along the best stretches of the shore.

But outside their centres, both cities have much in common. Low density suburbs intermingle with forests along the coast, and of course, they need transport, so highways snake into the superb landscapes, spreading pollution and carrying ever more vehicles. In association with these is the usual North American tat: malls, strips and wasteful parking lots. Vancouver is trying to counter this process by focusing development at new centres. Connecting 13 of these is the Millennium Line, a high-level metro system that follows the busy Lougheed Highway.

The Vancouver Rapid Transit Project Office was concerned to ensure that the system should be as attractive as possible, and hired local architects to design the stations, rather than relying on civil engineers. Busby + Associates were asked to make a couple of the halts. Brentwood is the more dramatic of the two and is intended to form the centrepiece and design catalyst of Brentford Town Centre, at present an undistinguished suburban focus.

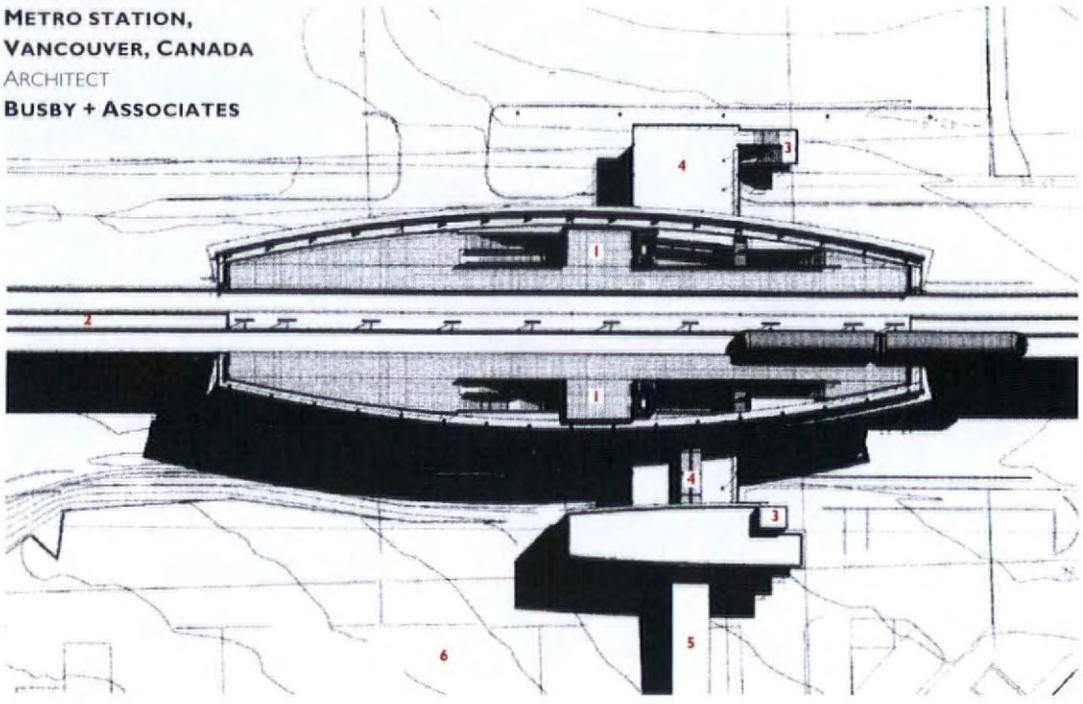
The highway divides the centre in half, and one of the main purposes of the new structure is to link the two sides. At the same time, it has to get passengers to the trains, which travel over the middle of the motorway. So the

SKY STATION



sectional perspective

METRO STATION,
VANCOUVER, CANADA
ARCHITECT
BUSBY + ASSOCIATES



1 platform
2 tracks
3 vertical circulation
4 bridge
5 ramp to car park
6 mall car park

platform level plan

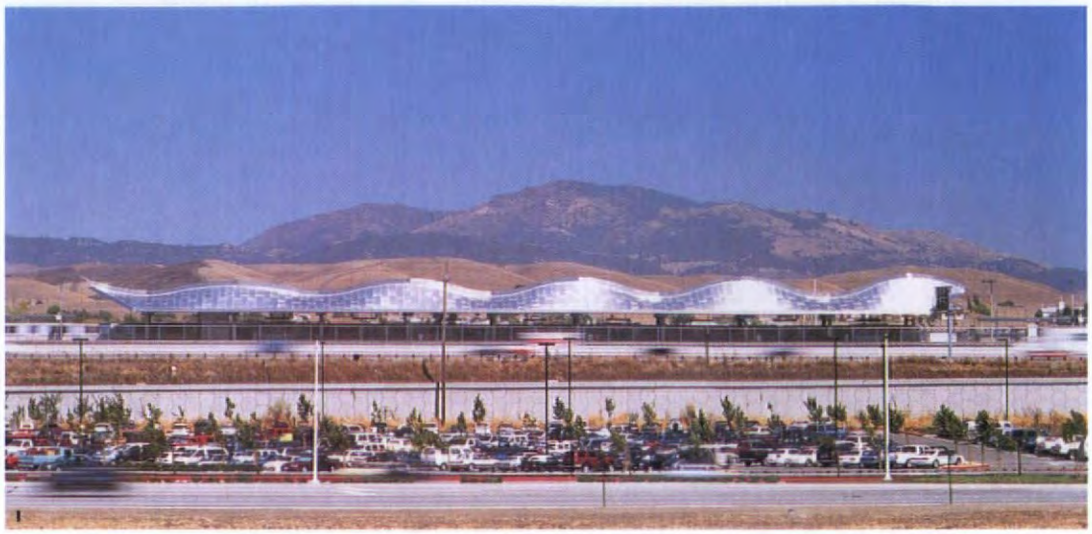
architects decided to make a bridge over the road but under the rail tracks. From the bridge, lifts and stairs rise to platform level. Each platform is sheltered by a curving canopy. Roofs are made of 2in by 4in (50 x100mm) softwood members nailed together to form continuous curved timber decks that stiffen laminated ribs. These are connected to the basic concrete structure through pin-joints by giant white-painted steel shoes. Between the canopies, above the middle of the tracks, a lattice of thin steel elements links the two sides and provides seismic stiffness. The central slot is left open, but platform sides are protected from the elements by glass walls formed of overlapping identical elements clipped together. To provide enough width for lifts and stairs to arrive at platform level in the middle of the plan, the structure expands organically and generously, making the canopies curve in two planes, and requiring computer analysis of the cladding.

The architects' aim has been to make the building as transparent as possible to avoid visitor confusion and to act as a form of advertisement for the new travel system which, so far, has proved popular and efficient; its fast driver-less trains arrive regularly and punctually. For car drivers crawling on the polluted freeway below, the new station is a beacon of civilized living. ED ABRAHAMS

3

Architect
Busby + Associates, Vancouver
Project team
B. Billingsley, M. Bonaventura, P. Busby, S. Edwards, T. Mullock, M. Nielsen, R. Peck, A. Slawinski
Structural engineer
Fast & Epp Partners
Photographs
Nic Lehoux

3
Ramp gradually leads down to bus-stop loop in mall car park.
4
Envelope round platforms swells for width of lifts, escalators and stairs.
5
White prefabricated concrete structure.
6
Steel strutting and V-shaped supports between canopies give seismic resistance.



BAY GATEWAY

The daily grind of commuting on San Francisco's Bay Area rail system is enlivened by this new local station which forms a strong yet dignified suburban landmark.

The origins of San Francisco's Bay Area Rapid Transit system (BART) date back to 1946, when local business and civic leaders began discussing ways of easing congestion caused by the huge post-war migration to the suburbs around the bay and a subsequent explosion of car use. Work eventually began in the mid '60s, with the construction of a tunnel under the bay linking San Francisco with Oakland.

Today the network has 95 miles of track and 39 stations, spread over five lines. A new extension linking the city centre with the airport on the south-west side of the bay is currently under construction. When this is complete, it is estimated that it will eliminate 10 000 car journeys per day. With many American urban roads paralysed by gridlock and a growing awareness of the environmental damage caused by car dependence, there has been a revival of interest in railways, both at local and national levels, as a more sustainable means of mass transport. In this respect, systems such as BART have benefited from increased funding and political backing.

Recent new BART stations have also manifested an encouragingly imaginative approach to architecture that has transformed them into landmarks for their urban and suburban communities. San Francisco-based architects SmithGroup won a competition to design a new station for Pleasanton and East Dublin, typical edge-city commuter conurbations lying in a valley to the east of Oakland. Dictated by the exigencies of transport planning, the site for the station was fairly nondescript, but the architects have managed to overcome this sense of placelessness and civilize the humdrum experience of daily rail commuting.

Trains run on elevated tracks flanked on either side by a busy 14 lane freeway. Passengers arrive at a ground level station concourse from where banks of escalators, stairs and lifts whisk them up to the main platform level. Raised slightly above the freeway, the two platforms offer agreeably distracting views of the surrounding valley. The long thin platform strip is sheltered by a sinuously undulating roof, its gently curved form mirroring

1
From a distance, the sinuous roof of the new BART station appears to slither through the valley like a gleaming snake.
2
Canopies mark through routes and dropping off points around the station.
3
From the station platforms there are good views of the surrounding landscape to distract commuters.
4
The serpentine roof forms a new local landmark.

BART STATION, PLEASANTON, CALIFORNIA, USA
ARCHITECT
SMITHGROUP

3

4

the rolling hills that enclose the valley. Clad in gleaming stainless steel panels, the serpentine form resembles a giant snake slithering through the landscape. Materials were chosen for their durability and ease of maintenance, so the station has a knockabout elegance that can withstand the regular rigours of commuter life. All exposed metal is steel and the station concourse and parking structures incorporate three kinds of concrete (in situ, precast, and blocks). The roof canopy is made up of stainless steel composite panels bonded to a bituminous rolled sheet over plywood. Painted metal decking supported by steel joists forms its underside. Set at different angles, the joists maintain a constant eaves level, but also allow the fin-like canopy ridge to vary in height, generating the rippling form.

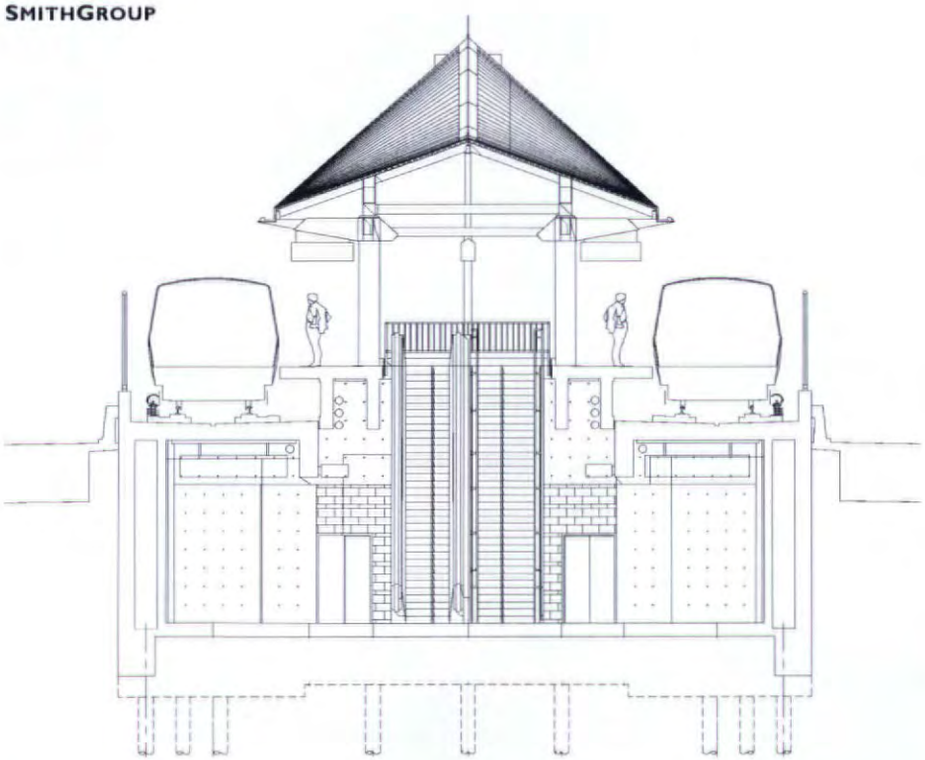
The undulating roof protects passengers from sun and rain, but the mild local climate means that the platform level need not be fully enclosed. The prominence of the canopy also signifies the presence of public transport to people going by car. Driving west from the Central Valley, the station marks the beginning of the San Francisco Bay area, its welcoming, wave-like roof a gateway to the city beyond, as well as a dignified new local landmark. C. S.

5

5
Underside of the roof. Joists maintain a constant eaves level, but are set at different angles to create the roof's wave-like profile.

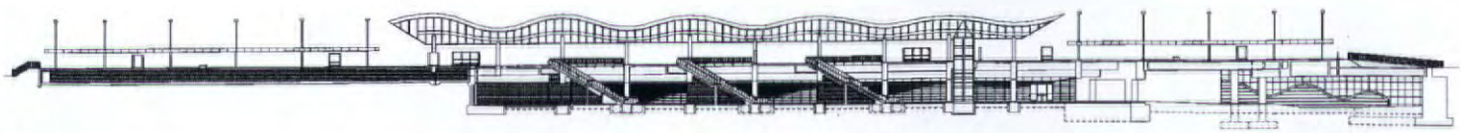
BART Station, Pleasanton, California, USA

ARCHITECT
SmithGroup



cross section

Architect
SmithGroup, San Francisco
Project team
William Diefenbach, Stephen Peppler, Jeffrey Pribyl
Structural engineer
Rutherford & Chekene
Mechanical engineer
Gayner Engineers
Landscape architect
Haygood & Associates
Photographs
Jane Lidz, 1, 5
Mark Luthringer, 2, 3, 4



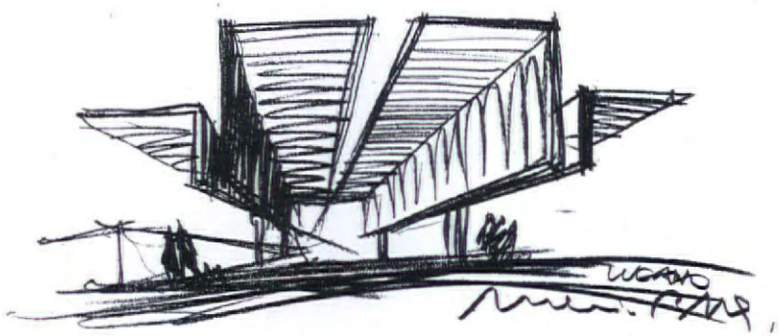
long section

Bus station, Lugano, Switzerland
Architect
Mario Botta

1
Supported on a quartet of columns, the new bus station is a great floating canopy of steel and translucent plastic that draws on archetypal precedents of metal and glass sheds.

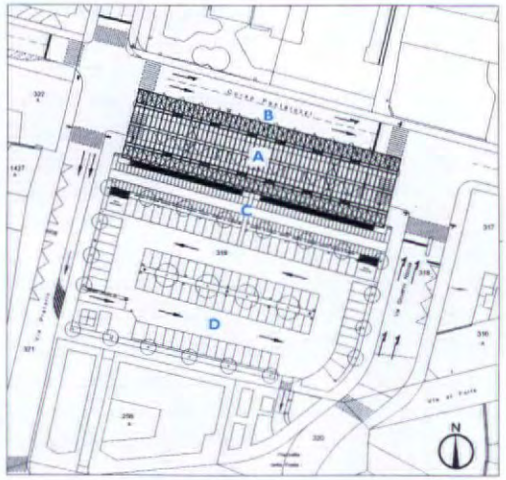
SWISS CIVILITY

Bus travel may be a marginalized form of transport, but Lugano's new bus station is a big bold roof that unifies and civilizes a disparate urban realm.



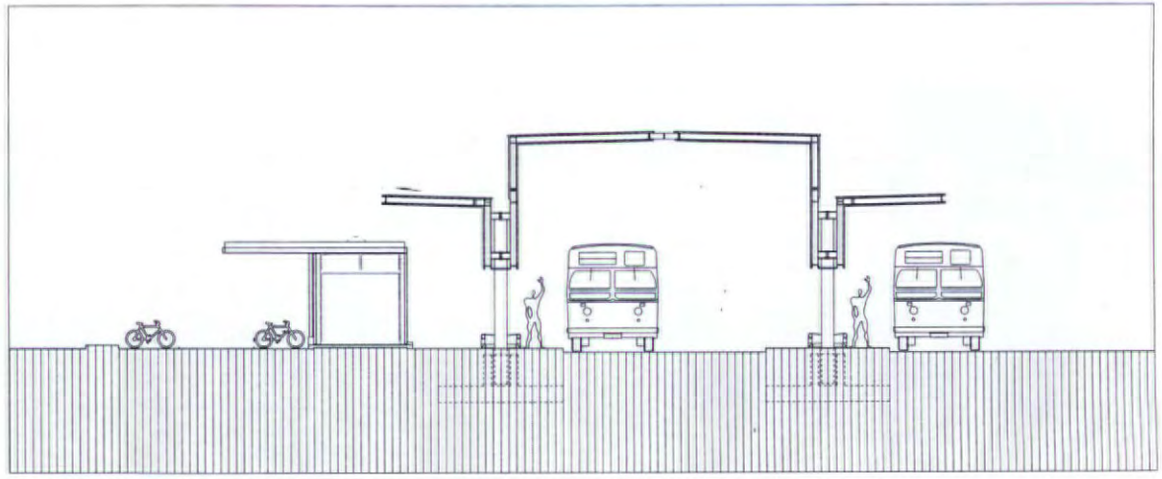
Bus station, Lugano, Switzerland
ARCHITECT
Mario Botta

2



A bus station
B bus stops
C scooter park
D car park

site plan



cross section

For both transport planners and users, bus travel tends to be regarded as a marginalized activity (who could possibly prefer taking the bus to the comfort and convenience of a car), and its associated buildings and infrastructure too often reflect lowest common denominator thinking. In Switzerland, which has a more civilized approach to public transport, things are slightly different. Mario Botta, the noted exponent of Ticino regionalism, was commissioned to design a new bus station in the heart of Lugano, a trim lakeside town in the Italian-speaking southern tip of the country. It is also Botta's home turf and his buildings pop up in the urban fabric at regular intervals; the new bus station is overlooked by the Ransila office building completed in 1985, a characteristically elaborate geometric celebration of a corner site executed in Botta's signature brick.

For the bus station, however, he moves into more unfamiliar territory, employing steel and polycarbonate in a contemporary reinterpretation of the heroic iron and glass canopies of the nineteenth century. The terminal occupies the northern edge of the Piazzale ex Scuole, a long rectangular square the southern part of which is given over to car parking, making it a dynamic, blaring hub of traffic and activity. The building's main task was to provide protection from the elements, but also be easily accessible by both passengers and vehicles. Botta's solution is a strong, simple intervention that anchors the disparate jumble of the square and defines patterns of movement through and around it. The main move is a huge translucent canopy, consisting of a central nave 7m high flanked by two 5m high side aisles, that extends 70m along the site. Buses pick up and deposit passengers in the lofty main tunnel, while the side aisles mark distinct zones of activity along the terminal's edges, sheltering a series of bus stops on the north side and a scooter park to the south.

Resting on four columns positioned midway along the canopy, the monumental structure appears to be hovering 2.5m above the ground, but this minimal means of support results in virtually unimpeded circulation through and around the terminal. The main nave is supported by two pairs of 70m long steel beams each 2m deep, doubled up lengthways to form a muscular composite structure cantilevered off the central quartet of columns. The roof structure of the side aisles cantilevers at right angles off the main beams. The steel frame is wrapped in thin sheets of translucent polycarbonate cladding that gently diffuses light like a fragile membrane of rice paper. White and coloured light sources set within the polycarbonate skin transform the structure into a source of illumination after dark; hovering benignly over the square the giant canopy glows with soft light.

As an attempt to civilize the usual dreary experience of bus travel, Botta's scheme combines the rational and the romantic. Designed to give the bus station a sense of civic identity, the monolithic form is a deliberately dominant presence, but this is tempered by its delicately diaphanous skin. Future additions will hopefully include a row of shops along the south side facing the car park, which will further enliven the urban realm. CATHERINE SLESSOR

Architect
Mario Botta, Lugano
Structural engineer
Passera + Perdetti
Lighting consultant
Elettroconsulenze Solcà
Photographs
Pino Musi

2
The bus station completes one edge of an urban square, anchoring a disparate jumble of elements.
3
After dark, the polycarbonate skin glows with light.

Stuttgart is at the end of the line – or at least it has been up to now. In 1910, Paul Bonatz won the competition for the railway terminus, which he built between 1914 and 1928 as a grand, austere stone structure that in its Spartan way links nineteenth-century eclecticism and both the spareness of Modernity and Albert Speer's scraped monumental Classicism.

But, being the terminus of a branch, Stuttgart was never one of the busiest of German stations. Now Deutsche Bahn is building new underground lines at right angles to the existing ones, so that the city can be properly integrated into the high-speed national and European rail network. The existing tracks will probably be removed, making possible development of a whole new centre city quarter, Stuttgart 21.

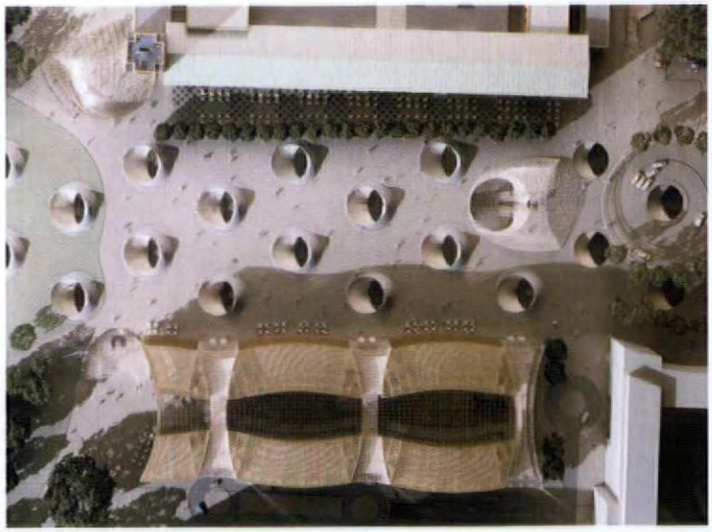
Ingenhoven Overdiek und Partner won the international competition for the new underground station with a design that creates a train shed 12m below ground level. The Schloßgarten (the linear park in the middle of the city running down from the palace) is to flow over its roof. The Bonatz station will become a public meeting place with restaurants and shops, and the floor of its concourse opened to make connection with the new platforms below via bridges. Access to the bridges will also be provided via large curved glass atria, somewhat similar to the ones Foster generated in Bilbao (AR May 1997 and July 1998) and Canary Wharf (AR June 2000).

The roof of the new station was developed with Frei Otto and Buro Happold as a vaulted concrete shell pierced by what the designers call 'light eyes', circular apertures for illumination and ventilation. An extensive series of model tests developed the idea, producing a repeated calyx section in which the apertures are related in an organic form to the columns that support the shell, the depth of which is to be no more than a hundredth of the span. At the moment, the structure is to be of poured concrete cast in steel moulds, but developments continue. The light eyes are to have double-curved cable net structures to support the glazing,

1

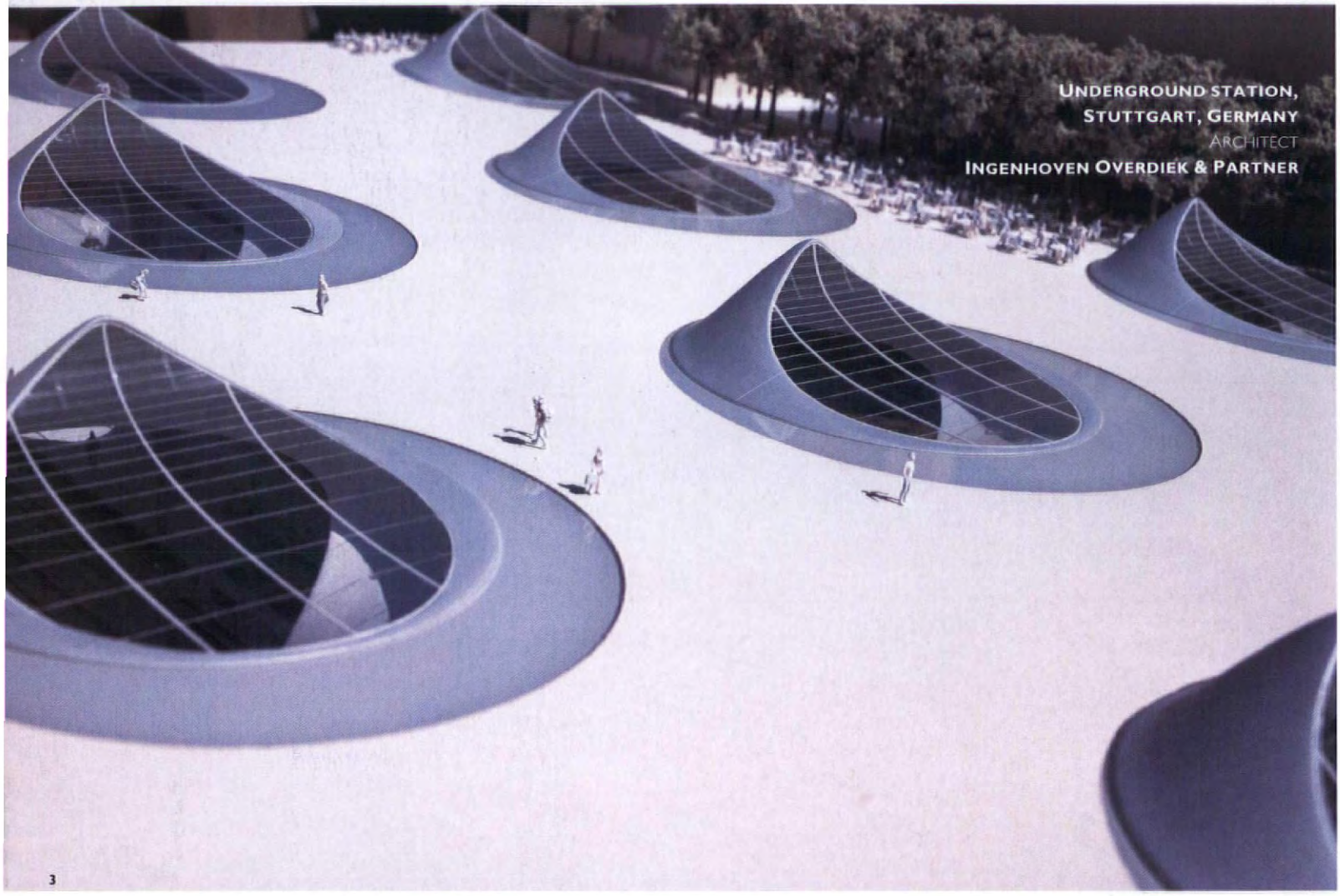
In the public eye

Reorganization of the German railway has allowed Stuttgart to remodel its centre with an underground station that organically links structure and environmental control.



2

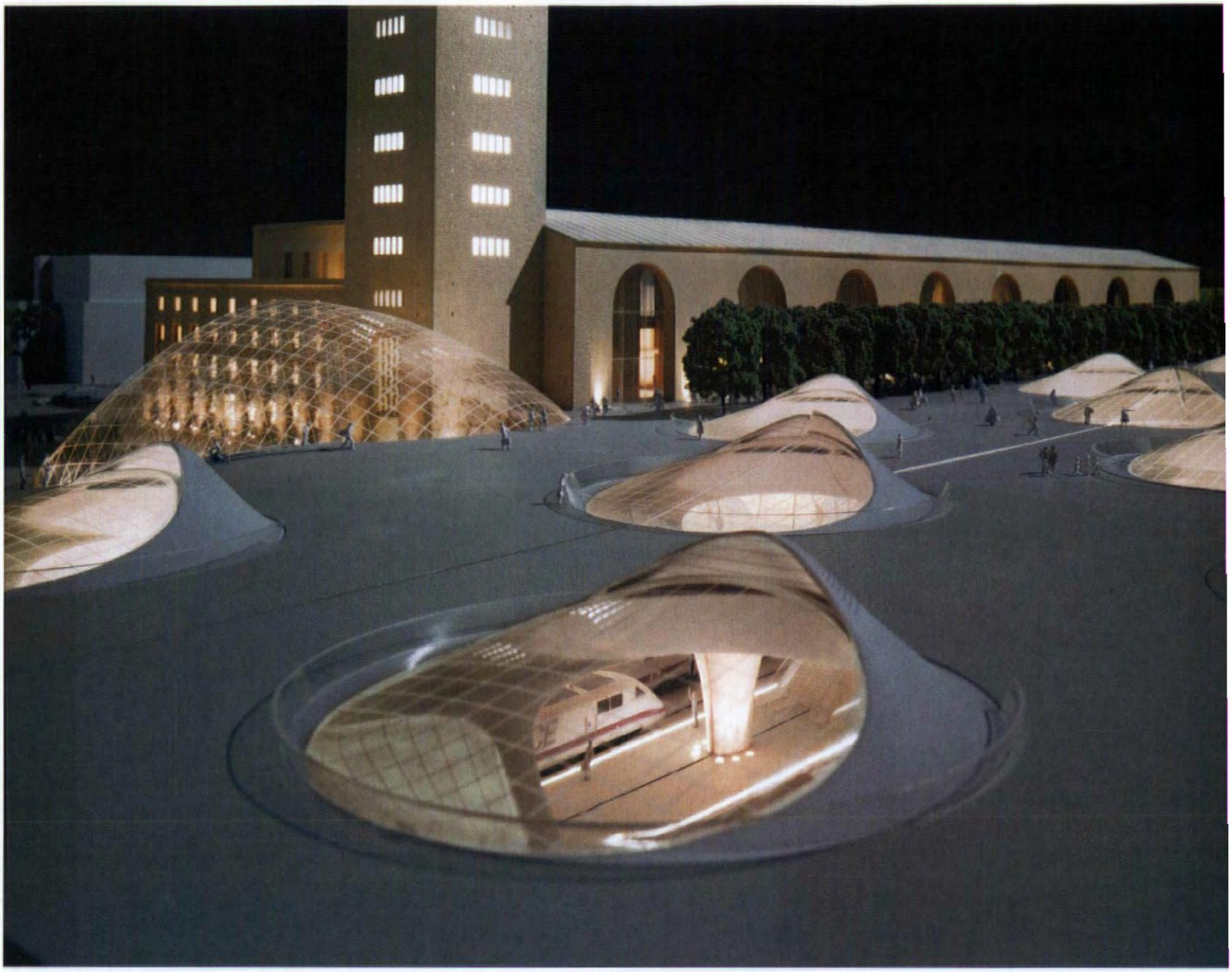
1
Sectional model with Bonatz building to right.
2
The new piazza ...
3
... is pierced by 'light eyes' that ...
4
... form part of the structure and bring daylight to platform level.



Underground station, Stuttgart, Germany
Architect
Ingenhoven Overdiek & Partner

3

4



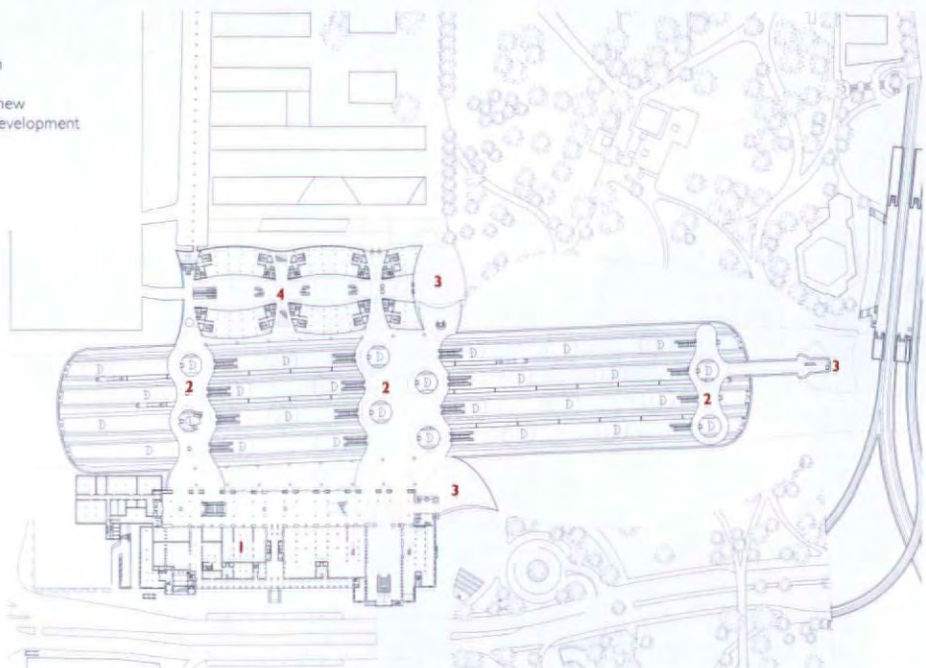
5

UNDERGROUND STATION, STUTTGART, GERMANY

ARCHITECT

INGENHOVEN OVERDIEK & PARTNER

A Bonatz station
B new piazza
C first phase of new commercial development
D Schloßpark
E Stuttgart 21



location plan

plan at bridge level (scale approx 1:5000)

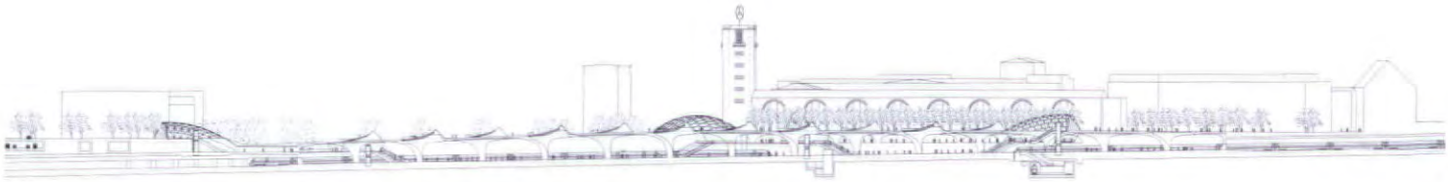
Architect
Ingenhoven Overdiek und Partner, Düsseldorf
Project team
Christoph Ingenhoven, Hinrich Schumacher, Barbara Bruder, Klaus Frankenheim, Andreas Blum, Richard Czardybon, Ralf Dorsch-Rüter, Rolf Friedmann, Dieter Henze, Stefan Höher, Gunnar Möller, Ernst-Joachim Müller, Peter Pistorius, Alexander Prang, Manuel Ruf, Maximo Victoria, Harald Wennemar, Regina Wuff
Structural advisor
Frei Otto
Structural engineer
Leonhardt Andrä, Buro Happold
Services engineer
HL-Technik
Photographs
Holger Knauf

6

the loads of which will be transferred to ring beams round the apertures and thence as compressive loads down to the columns.

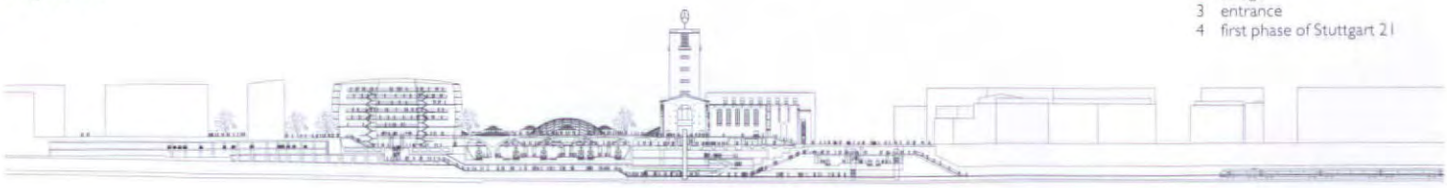
Christoph Ingenhoven intends to make Stuttgart a 'zero energy station', in which there will be no heating, cooling or mechanical ventilation. One of the main reasons for this is that the year-round average temperature of air in the train tunnels is 10 degrees Celsius and because of the surrounding mass, it tends to fluctuate little. In summer, air will flow from the tunnels to the platforms; in winter, flow will reverse. Openings take up no more than 10 per cent of the roof's surface and, while this is calculated to provide enough natural light at platform level on ordinary days, it is not expected to lead to excessive heat gains in summer. Heat build-up will be further counteracted by convection, whereby hot air will escape via grilles at the peak of each aperture; such air flows will be further enhanced by the Venturi effect of winds over the roof. In winter, the surrounding mass will tend to keep temperature stable as it does in the tunnels. So far, studies show that platform level air temperatures will very rarely be above 20 degrees Celsius or lower than freezing.

The competition was held in 1997, and the station is not expected to be finished until 2013, so much development is still possible. In particular, relationships between the Bonatz building, the new piazza over the station, the park and the proposed first building of Stuttgart 21 are being studied in the search for a new heart for the city. P. D.



long section

1 Bonatz station reused
2 bridge
3 entrance
4 first phase of Stuttgart 21



cross section

cross section

5
Light eyes will allow views of platforms and trains below, while allowing subterranean levels to breathe.
6
Section through an entrance, showing bridge that gives pedestrian access to all platforms.

ADVERTISING OFFICES,
SAN FRANCISCO, USA
ARCHITECT
MARMOL RADZINER +
ASSOCIATES

Public image

Expansion of a leading advertising agency is another stage in its imaginative flight from stifling corporate design.

As a leading advertising agency in America, Chiat Day's business is creating images that subliminally stir the imagination and amuse. In registering its presence in the public mind – in Los Angeles, New York and, most recently, San Francisco – it has employed original architectural minds to design offices for its inventive and technologically sophisticated staff.

The firm's Boat, Binoculars and Trees headquarters on Main Street in Venice, California (AR May 1992), was designed by Frank Gehry (with Claes Oldenburg and Coosje von Bruge) as a roadside landmark. But the building's impact, in a city used to such events, derived from Gehry's skill in manipulating filmic imagery, subverting the normality of Main Street (the entrance is Oldenburg and von Bruge's giant binoculars), and drawing on associations with Hollywood and Disneyland. Behind the playful facade were fairly conventional offices, the prevailing informality conveying the non-hierarchical character of the advertising industry.

Gehry was succeeded in New York by Gaetano Pesce, who was asked to do away with lingering notions of Bürolandschaft. His exuberant design of (virtual) offices was confined to the interior of an undistinguished block in Manhattan and had a Venetian cast. Restricted by a tight budget, it was described at the time as 'the furthest flight from the rectangle ever achieved in office design' (AR January 1995). Pesce transformed the amorphous space into a riotous carnival of brilliant colours (used to delineate zones), surreal forms and strange conjunctions of inexpensive materials (polyesters, resin and rubber). There were no individual spaces or work-stations.

Marmol Radziner's brief in San Francisco, when designing new offices for TBWA\Chiat\Day, was that they should be different in character from the firm's other premises. After Pesce, the firm has become more conventional –

1
Curving wall like a remnant of ship's hull leads to reception.
2
Floor plate cut away to create double-height void. Project room above reception contained in wooden hull with translucent wall.

Marmol Radziner has provided corridors, right-angles and enclosures, even if they are at first obscured by impressions of ship-wrecked hulls. As in New York, the budget was limited but, in San Francisco, the building was romantic; the offices occupy three floors of a historic brick warehouse at 55 Union Street on the city's old Barbary Coast. The site, once a shipyard, is reclaimed land incorporating hulks of ships abandoned by the Forty-niners rushing inland for gold. Once famous for brothels, bars and opium dens, the area has been taken over since the 1960s by design and technology companies, and public relations industries.

The handsome warehouse was stripped back to its bones – brick walls, wooden beams, columns and ceilings – and cleaned up. Within this envelope, Marmol Radziner's design, lit by large windows, draws on the site's piratical history (for Chiat\Day, 'pirate' is a symbol for rule-breakers and innovators), and ideas of flood, receding waters and stranded timbers. As an architectural stage set, focused around the entrance, it is less literal in execution than Gehry's scheme in Los Angeles, but still there are resonances.

The entrance to the old warehouse in a back alley was inconspicuous, designed for cargo rather than people. This has been transformed. Stepping in from the street, you find yourself among enormous curving forms, like wooden hulls, beached among and impaled by the building's massive timbers. An undulating wall guides you to the reception desk where the floor has been cut away so that wooden forms, plainly hollow at the upper level, are two storeys high. At the upper level, subliminal impressions of a sub-aqueous world are reinforced by translucent, watery walls (of polycarbonate), that line structural ribs and enclose conference and project rooms. The overwhelming sensation is of light on wood: on the roughened texture of the horizontal timbers, made to pop as they are pulled into an arc round meeting rooms on the ground floor; on the smoother plywood surface of vertical forms; and on the grainy one of cork that covers reception. The light is softened, smoothed out, and made harmonious by colour and texture.

Such theatrics entertain and are pleasurable, but more importantly their arrangement expresses the agency's collaborative ethos. Cutting through the first floor establishes a vertical connection in a sturdy building with an otherwise impermeable section; and the lightness of the inserted structures dispels the weightiness of the old structure.

Beyond reception are open-plan offices on two floors. Connected by lifts and staircase, the various departments are arranged in orthogonal fashion. Low enclosures, specially made in different sizes, allude to the wooden crates that once occupied the building. Beneath long lines of rice-paper lanterns, they allow views and communication across the building, and give privacy. Their sturdy functional character is echoed in the architects' design of furniture – wooden storage units, conference tables and low sofas.

PENNY MCGUIRE

3

4

Architects
Marmol Radziner+Associates
Project team
Leo Marmol, Ron Radziner, Anna Hill, John Kim, Su Kim, Brendan O'Grady
Paul Benigno, Juli Brode, Patrick McHugh, Chris McCullough, Daniel Monti, Bobby Rees, Renee Wilson, Annette Wu
Photographs
Benny Chan/Fotoworks

3,4
Sturdy functional meeting room furniture and workstation enclosures (recalling cargo crates) designed by practice.
5
Communal area at upper level for informal meetings outside project room.

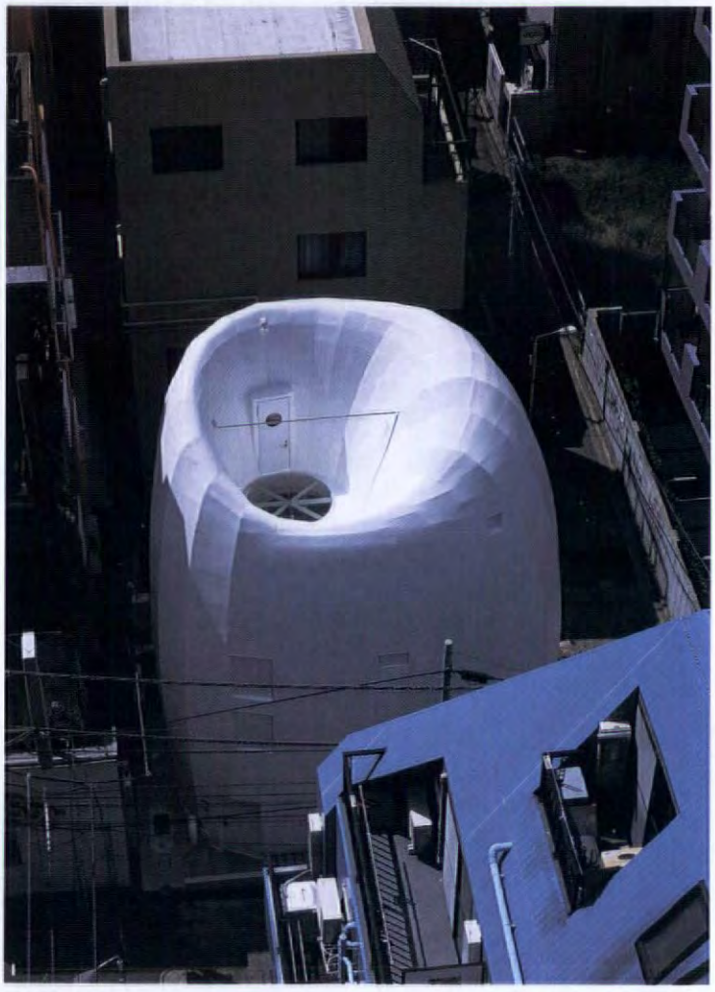
5

ADVERTISING OFFICES, SAN FRANCISCO, USA
ARCHITECT
MARMOL RADZINER + ASSOCIATES

1 entrance
2 reception
3 meeting room
4 lift
5 rear entrance
6 communal area
7 lift
8 office
9 library
10 broadcast

ground floor plan (scale approx 1:450)

first floor plan



The house, known as Natural Ellipse, was designed by Masaki Endoh and Masahiro Ikeda on a site at the edge of Shibuya, Tokyo's shopping and entertainment district. Surrounded by what the Japanese call 'love hotels', its design is imbued with a certain amount of humour and some drama. The building is vaguely phallic in shape; but faceted under a gleaming white skin, it looks as if it has simply alighted in an alien sea (the architect sees it as a single grain of rice which summons up a different kind of imagery). In fact it is firmly rooted, having a proper basement beneath four upper storeys.

The geometry of the house is based on that of an elliptical toroid. This has been pulled out into a tall cage that, pierced by a hollow funnel, flares into a trumpet as it rises. It contains a delicate spiralling stairway. The cage is made of horizontal and vertical steel ribs that are covered by a flexible insulated skin of reinforced fibre plastic with special fire-resistant properties. Internal materials and finishes are straightforward and austere: concrete slabs, simply painted, form the floors, ceilings are painted steel plate, and walls are of painted mineral board. The effect is rather that of a superior lighthouse.

In these surroundings, the house is introverted and from the street seems almost impermeable. Inhabitants are allowed glimpses of the exterior through the few openings cut in (apparently) random fashion into the building skin, though these have been carefully placed to frame particular views of neighbouring buildings. A secret terrace, open to the sky, is contained within (and concealed by) the convex walls of the deeply indented apex. Floored with glass, the terrace is also a skylight shedding luminance into the building and down the stairwell.

Inside, there are two apartments which can be made self-contained and are entered from the street on opposite sides of the building. Because of the geometry, space at each level is irregularly distributed; on one side are bigger volumes for living/sleeping quarters; on the other, are ancillary kitchens and bathrooms. Apartment 1 occupies the ground and first

1
The building's indented apex contains a glazed roof terrace.
2
Structural cage covered with a flexible skin.

Eastern pleasure

In Tokyo, a shimmering white dwelling on the edge of the city's entertainment district appears to be an alien, elegant body dropped into a mire of mess and vice.

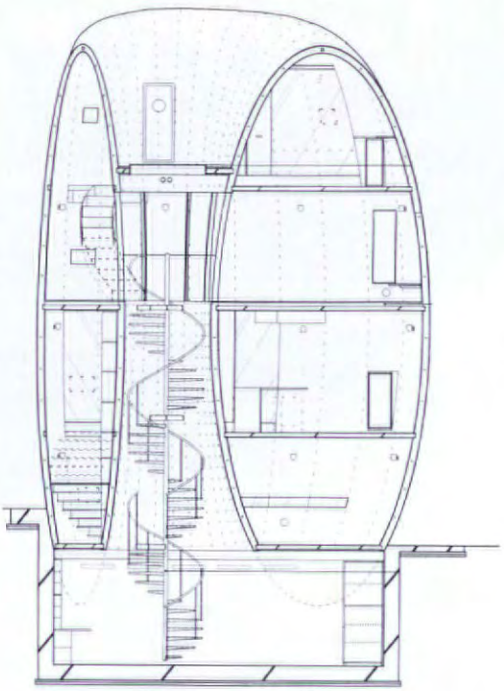
ar house

House, Tokyo, Japan

Architect

Masaki Endoh

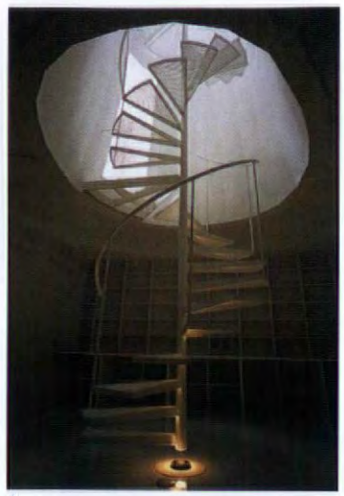
+ Masahiro Ikeda



1 study 2
2 entrance 1
3 entrance 2
4 bedroom 1
5 living/dining 1
6 kitchen 1
7 bathroom 1
8 living/dining 2
9 kitchen 2
10 bedroom 2
11 bathroom 2
12 glass terrace

sectional detail

3



4

HOUSE, TOKYO, JAPAN

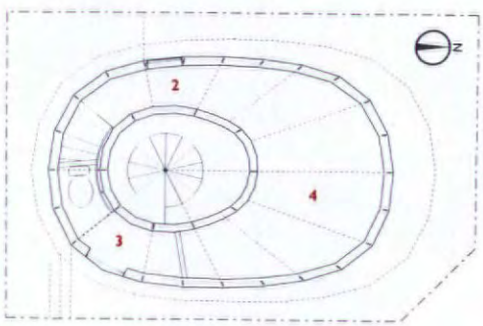
ARCHITECT

MASAKI ENDOH + MASAHIRO IKEDA

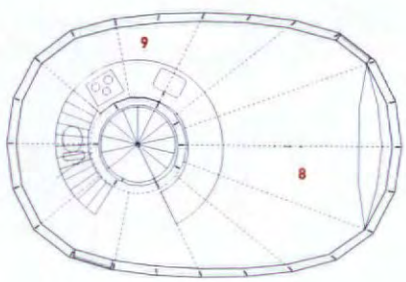
floors and has its own staircase. Apartment 2, the main one, revolves around the spiralling stairway which is the direct conduit – like a private lift – between a basement study, entrance and second floor living quarters. P. M.

Architect
Masaki Endoh+Masahiro Ikeda/Endoh Design House & MIAS
Photographs
Hiro Sakaguchi

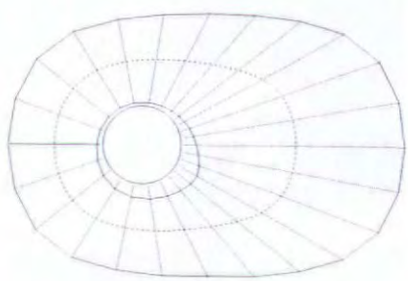
3
Apparently random openings cut into the building skin allow glimpses of the exterior.
4
Void has delicate spiralling stairway that links basement study with entrance and upper floors.
5
Third floor living quarters and mezzanine.
6
Third floor living quarters with kitchen wrapped around stairwell.
7
Fourth floor bathroom onto glass terrace.
8
Glass terrace sheds luminance into the building.



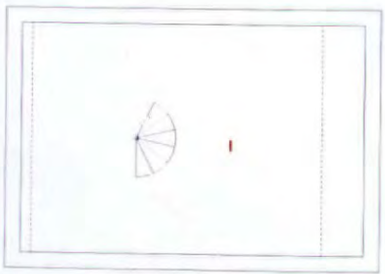
ground floor plan – scale approx: 1:150



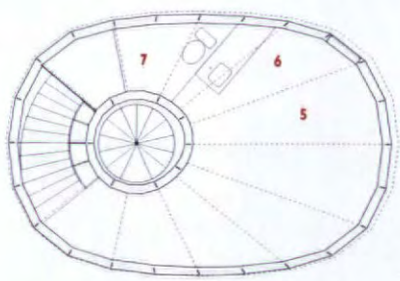
third floor plan



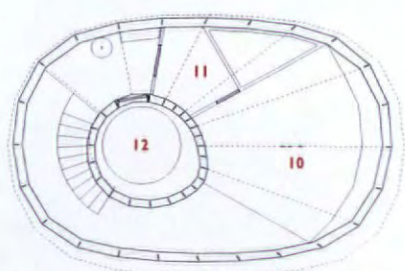
roof plan



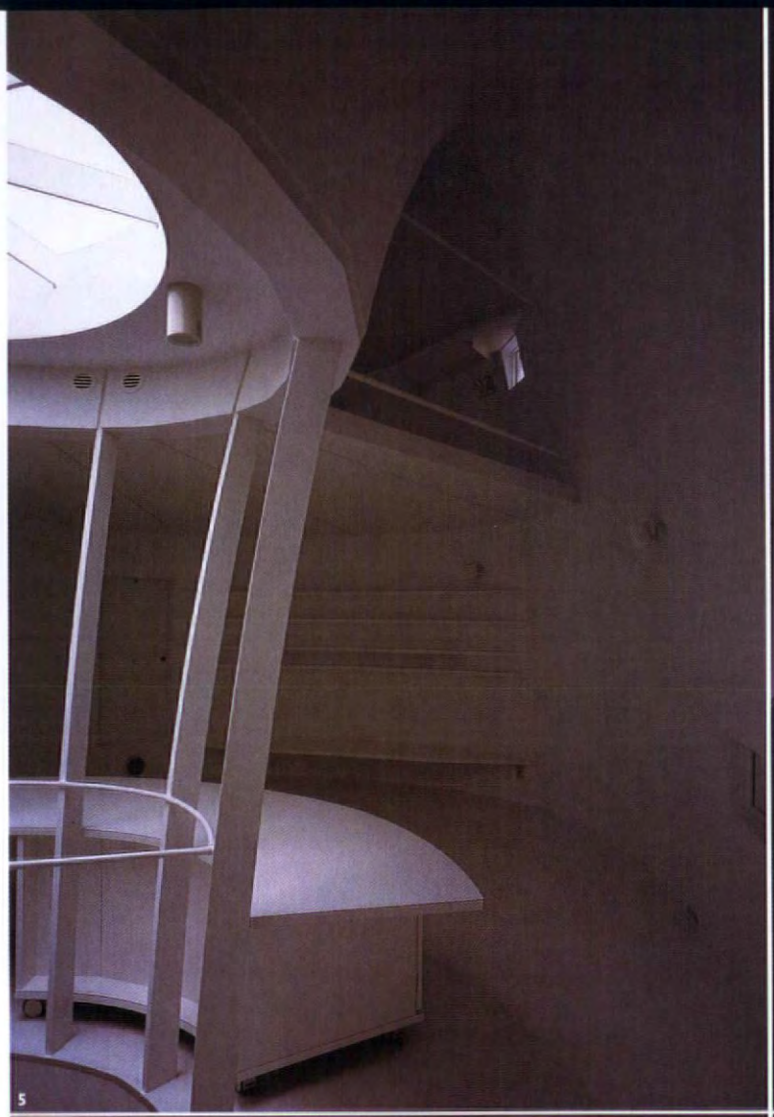
basement plan



second floor plan



fourth floor plan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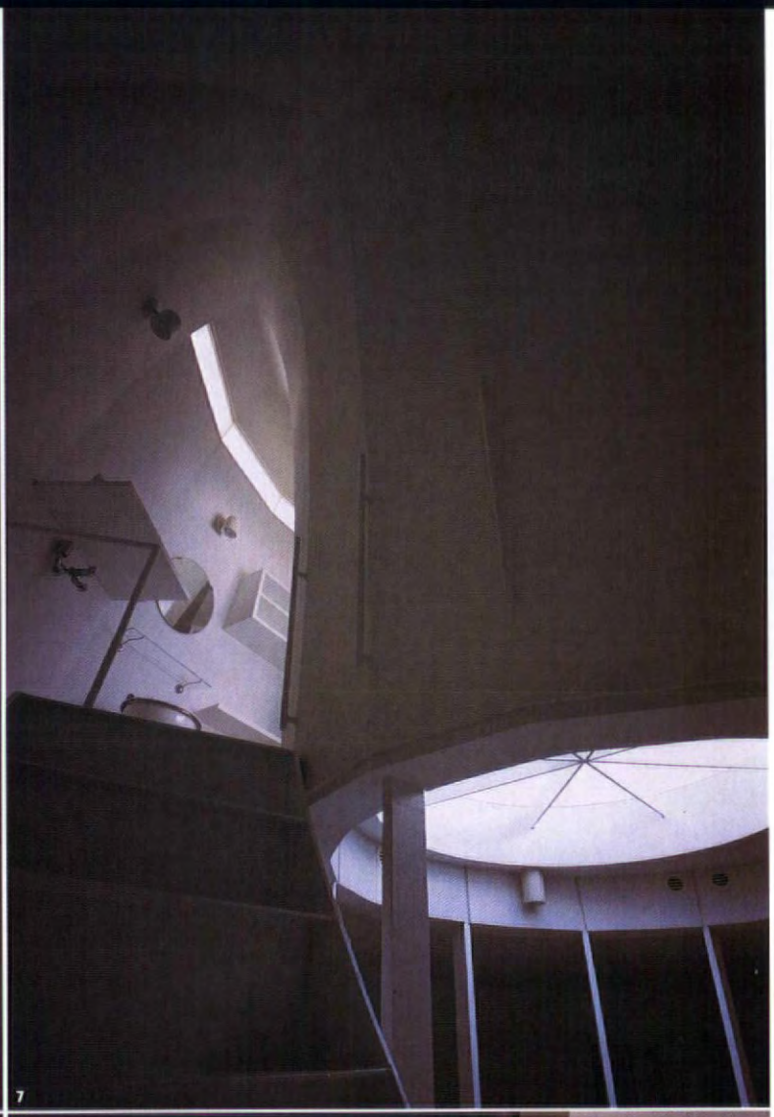
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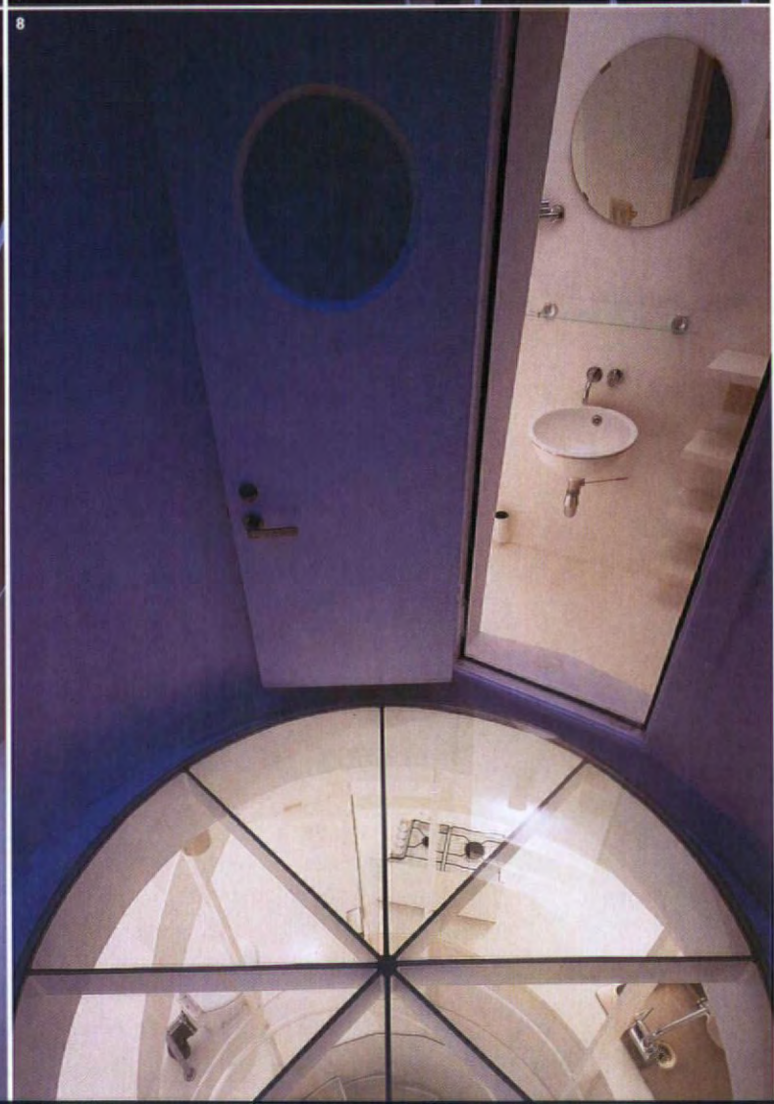
6


8

Airport Car Park Barcelona:

Silver glow with the functional strength of stainless steel

CREAT
WEA
GKD
TECHNOL

Façades made of stainless steel wire mesh in public architecture: As aesthetic highlights they fulfil highest requirements in terms of safety and function. The filigree, semi-transparent wrappings of buildings with the resistance of pure stainless steel turn plain commercial buildings into elaborate architecture. Architect: Junquera Perez-Pita, Madrid

GKD Metallic fabrics

GKD - Gebr. Kufferath AG . Metallweberstraße 46 . D-52348 Düren
Phone: ++49 (0) 2421 / 803-0 . Fax: ++49 (0) 2421 / 803-227
www.gkd.de . e-mail: gb3@gkd.de

Royal Academy Forum

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DERWENTVALLEY

Royal Academy of Arts

PART I

1 Ornament is born of a primary and elemental urge. It tries to make sense of the world and make the world make sense.

2 The energies that give rise to conscious art are first found in ornament. In many cultures art takes no other form.

3 Ornament is high art hidden everywhere.

4 Ornament is the stylistic signature of time and place and peoples.

5 Ornament mirrors the structures of cosmologies (or is even cognate with them in the sense that cosmologies may be born out of the repertoire of ornament). The rings, stratifications, branchings etc in nature inform ornamental and cosmological systems alike.

6 Ornament is a universal language that is transmitted by contact, trade and knowledge: its essence is universally understood even when its sources of symbolism have become arcane.

7 This essence is the visual grammar of the ornament and has priority over any reference it encodes.

8 Such universality is made possible by the relatively small generative syntax of ornament.

9 These syntactical elements are all paraphrases of nature; stripe, hatching, dot and the whole treasury of primal signs are all present in nature.

10 The first marks known to have been made by a human being (on a piece of ochre 77 000 years ago in Southern Africa) echo cracks in mud or figurations in rock.

11 These elements, as soon as they are divorced from nature, become abstractions.

12 The elements (again reflecting a common process in nature) can be both manipulated and emphasized by linear or field repetition.

13 Art and mathematics are also cognate in such abstractions. First, in the act of abstraction itself and second, in the system developed as counting or mnemonic devices. As mathematics can be stored in the form of ornament, so ornament is secreted in the potential of mathematics.

14 Nature is plundered as the pattern book of ornament and one in turn authenticates the other.

15 Just as art is hidden everywhere in ornament, so science also finds many of its formulations already inherent in ornamental practice. The implications of map theory, game theory, topology, the fractals of chaos theory, have all lurked in ornament, awaiting their elevation to science.

16 The language of science acknowledges with the names it takes up, such as grid and trellis, the prior presence of ornament and its intuitions.

17 Both the macroscopic and the microscopic structures imaged by science (as, recently, in the Hubble telescope and via electron microscopy) corroborate many of the intuited devices of ornament.

18 Science reciprocates by giving such ornamental devices new resonances (the helix, buckminsterfullerene) and, by playing the games of ornament, adds to the visual thesaurus (for example with the Penrose pattern).

19 The binary system which governs information technology is one of the most ancient staples of ornamental practice, as is the mode of visual generation by pixels in mosaic and weaving.

20 What ornament guesses at and expresses about an imagined world must be there for the intuitions of ornament are our visual wisdom.

21 Thus ornament is not only the mirror of observable nature but an explorer of its deep structures.

22 By this commandeering of the forms of nature, ornament tries to banish fear. It signals reverence towards nature yet, simultaneously, asserts its conquest and mastery of natural forces.

23 Even when a culture creates demons, dragons and powerful spirits it both uses and deflects their power by incorporation in ornament.

24 The gods and mysteries of a culture protect its goods and artefacts in the form of ornament: as a kind of visual spell.

25 Thus nature and myth serve as well as are served by ornament, which in turn serves form.

26 It serves form by asserting surface. In both graphic and relief modes, it enriches surface with a secondary potential of light and shade.

27 Ornament serves strength with strength. It is not an afterthought as is decoration. It is not merely applied but becomes one with the object it helps to create.

28 It is neither an indulgence nor an extra but an imperative and is achieved through transformation. It does not act cosmetically.

29 To inhabit the world of ornament, representation, narrative, or script must be subject to a transformation. They must exist at least at one or more removes from the merely referential.

30 These transformations of nature into pattern, of narrative into schema, of figuration into device are what gives ornament its authentic character.

31 Wherever such transformations subjugate the literal or naturalistic modes of representation, the resulting ornament takes on and absorbs the power and energy of its sources.

32 In that sense, ornament contains a residue of the earliest magical or animistic beliefs.

ORNAMENT ON TRIAL

Ornament, reviled in avant-garde circles since Adolf Loos associated it with crime, remains an important force in artistic production in many cultures. The Academy Forum invited artist Tom Phillips to present his canonical *Summary Treatise on the Nature of Ornament*, which is printed in full here with responses from British Museum anthropologist John Mack and five practising architects. Texts edited by Jeremy Melvin.

Royal Academy Forum

33 Illusion in all its modes and manifestations is the enemy of ornament. Abstraction is the heart of the matter. It is the pole to which ornament urges itself, even while assimilating the figurative. In the history of ornament it is descriptive or illusionistic figuration that is aberrant.

PART II

34 There is hardly a record of any group or community discovered, or known by its excavated traces, which had not developed a practice of art.

35 Such a practice would always include ornament, whether other means of expression had been devised or not.

36 In one society in Africa where no aesthetic enterprise had been identified, later fieldwork indeed revealed an art form, but one that produced no artefacts. The group in question adopted the markings of their cattle as their expression of art, discussing the aesthetic merits of living ornament. Animals were admired (and valued for transactions) according to an aesthetic consensus.

37 This conceptual version of ornament can be regarded either as an extreme case of primitivism or, just as convincingly, as the ultimate in sophistication.

38 Ornament is thus adaptive. It adjusts to the mode of life of its makers. Whereas a settled community might express itself in expansive architectural elaboration, a nomadic group must reduce its repertoire of ornament to portable forms such as tent hangings and animal accoutrement etc.

39 Ornament knows no absolute of scale. The same devices and systems may be found simultaneously on a palace and on the earring of a woman passing that palace.

40 This flexibility, as ornament moves easily through all possible registers of scale with all variations of texture, kinds of material and colour, is one of the secrets of its disdain of class and gender and thereby of its survival.

41 From this we see that ornament has strategies to act both via central stations and portable transmitters. Its signals and reminders are omnipresent in society and not restricted to specialist locations like museums and churches. The manhole cover outside a cathedral may rival anything within.

42 In a settled society, each dwelling will contain many aspects of the discourse of ornament, including traces of neighbouring or exotic cultures.

43 By virtue of its ubiquitous character, ornament penetrates all thresholds of attention. Ornament assimilates with labour, but is assimilated without effort.

PART III

44 Ornament endures: it is robust in the sense that from a surviving fragment found in sand or soil its larger programmes can be construed.

45 By this means, as well as by virtue of its transformational treatment of reference and representation, it escapes the iconoclast.

46 With cunning, it avoids the attention of ideologues and fanatics. The most radical art can, in the guise of ornament, bypass the critique of political fundamentalists as in the case of the suprematist interior of Lenin's tomb, visited by millions at a time when its equivalent in painting was totally suppressed.

47 Ornament is memorious. It acts as a house of memory uniting us with nature. It carries this information in the particular mode by identifiable visual quotation of transformed reality, and, in the general mode, by embodying essences such as plantness and animalness.

48 It stores our knowledge of the principles of growth and form (forking, branching, spiral) and diagramatizes our experience.

49 It demonstrates this knowledge by variation, selecting a motif in nature as a recurrent theme to be played upon. One thinks of the acanthus, or bamboo, or (in Tibet), the tiger skin.

50 It embodies our philosophical enquiries as to the nature of nature; exemplifying in this instance Plato's *Theory of Forms*.

PART IV

51 Since ornament harnesses formal energies in nature, it has political, social, spiritual and even military potential.

52 This is shown by its serving the hierarchies of many disparate cultures in their heraldry, emblazonments, and their signals of rank and allegiance.

53 The devices of ornament can amplify, by doubling and redoubling or other types of repetition and variation, these degrees of status as in heraldic quarterings and the chevrons of rank.

54 Ornament is thus not only the embodiment of visual order, but conveys the paradigms of social order.

55 Being morally disinterested, its elements can serve any society and any faction which appropriates them. It can on occasions serve opposite purposes (as with the swastika, or cross).

56 Ornament is not nostalgic, nor does it trade in the picturesque.

57 Where it has grown out of functional reference it can be historic, as in the use of crenellation in heraldry. Where function recedes the associated ornament, in formal use, veers towards abstraction and, in more casual use, towards decoration.

58 Ornament can also be recapitulatory and can thus signal stylistic revival as in the case of Neo-Classicism.

59 Ornament is rich in its modes of infiltration into the visual repertoire. An introduction of an exotic variant can cause a tidal wave of imitation in every aspect of design (Art Deco, Japonaiserie). Such an introduction can be made via graphic design (Mucha for example), or industrially produced artefacts (as with Guimard).

60 In both the cases of Mucha's posters and Guimard's Metro designs, mechanical reproduction served to echo the reiterative mode of ornament itself.

61 Ornament can therefore have a dispersed existence, experienced cumulatively.

PART V

62 Like nature which supplies its sources, ornament can decay and, like society which gives it energy and purpose, it can become decadent.

63 Sometimes by competition with itself, ornament when acting in a critical vacuum, becomes overripe, creating decorative nightmares of intricacy or overblown pustular monsters.

64 It can by this be an indicator of social ills or spiritual malaise.

65 This can occasion a flight from ornament (Shaker carpentry, the severity of Loos), although what appears a denial merely reasserts that structures, of themselves, constitute, in their refined state, true ornament.

Royal Academy of Arts

66 Ornament, unlike decoration, operates subtractively as well as additively, reducing objects to their necessities. Its ambition in such cases is timelessness as when it attempts to make the primal cup, or (in the case of Christopher Dresser) the ultimate toast rack.

67 It cannot of course truly escape time since each epoch has its own characteristic version of timelessness.

68 The mode (so to speak) of subtractive addition is attained by the concealment of construction. The fully ornamented pyramids of Giza must be imagined with their original cladding of smooth marble: magical objects with not a brick in sight.

69 The obverse of such a principle (as in bridge building) is the ornament of exposed technology.

70 Music is the ultimate art form where technology is exposed. It is built before your very eyes and ears. It also serves as an exemplar of ornamental processes, both in its largest structures (thematic variations, canon, fugue) and in its details, such as turns and trills.

PART VI

71 Standard and necessary human activities involving making, such as engineering, building or pottery suggest, at only a small remove from their most workaday formats, the possibility of ornament. The stone wall, with a simple variation, becomes for example the signature structure (echoed in beadwork) of old Zimbabwe culture.

72 Even where it exhibits great apparent complexity, ornament is parsimonious of means. Its basic processes are simple; ordering, echoing, accumulation, accretion, listing, arranging, repeating.

73 The great degree of intricacy that can (equally with simplicity) characterize ornament may only be sustained relative to bold and balanced forms like the paddles from the Solomon Islands brought back by Captain Cook, whose elegant severity is covered by a mesh of tessellated carving.

74 Intricacy can never hide poverty of form: it will only (as happens with much decoration) compound that poverty by insistent echo.

75 Intricacy often takes the form of a reiterative version of simple elements: in this it also behaves like music whose arpeggios and repeated figures are structural. Elaboration of this kind provides the sole content of much current minimalist music, where time is the surface to be covered.

76 Intricacy in ornament induces wonder by its celebration of time. It is akin to a mantra or repeated prayer, visible devotions registered in meticulous toil.

DAVID ADJAYE

The Upper Room
Chris Ofili at Victoria Miro Gallery

1, 2, 3
Surfaces acquire the delicate figuration and insistent repetition of tropical walnut panels, a subtle paradox which combines with the more overt opposition between orthogonal and curving geometry to turn the act of entry into an invitation to participate. Warmth, comfort and familiarity seem possible around a promised hearth.
Inside, the threshold expands into a liminal space between art and reality. The hearth-like lamp multiplies into stages of a journey and casts the naturalistic striations of the walnut into darkness. Only its odour remains to mingle with the glow, and an aura of non-specific devotion supersedes the promised familiarity. When the main space materializes, paintings assume the role of lamps in the antechamber, weaving colours with varied and sensual forms whose emotional and psychological power transcends anything natural form and geometric order can anticipate. Devotion acquires specificity without ritual.
Yet the paintings owe their aura to their placement within an architectural order of regularity and symmetry. Pure form and pure emotion co-exist.
Photographs: Lyndon Douglas.

Shada Pavilion
Henna Nadeem (artist),
Nick Hanika (engineer)

4
Like Bramante's Tempietto (a connection spotted by John Outram), the pavilion offers a single contemplative moment, within a garden surrounded by housing. Shade, stone and seats merge into a unified experience of art, architecture and function.
Laser cutting gouged the pattern of leaves out of the Cor-ten steel sheet, a savage process with surprisingly delicate effect.
From below, the laser cut steel becomes a protective canopy of unfathomable form.
Photograph: Sal Idriss.


1


2


3

Royal Academy Forum

77 It is not the province of the old (especially in epochs and places lacking spectacles), and therefore embodies youthful energies.

78 Technical procedures in themselves give rise to extensions of ornament. In the making of mosaic, the patterning of the tesserae precedes any subject motif. Fine lace grows on, and develops out of, its own necessary web.

79 In this ornament echoes the technologies of nature, whose strategies give rise to particular visual possibilities (in the manner of the imbrication of fish scales, or the interference patterns of butterfly wings).

80 Such structural processes can be enlisted either to emphasize the formal motifs or to provide a counterpoint. This occurs, for example, in all processes that have systems of layering or links, such as weaving or bricklaying.

81 Even accidents of process can be subsumed into the aesthetic of ornament, for example craquelure in ceramics, and the patch repairs on Kuba cloths.

82 Error and accident are gracenotes of ornament and can lead to creative variation. Perfection is not always sought. In the Middle Ages it was thought that where there was a risk of not making a mistake, some error had to be introduced: since perfection was the province of God alone.

83 Ornament is, in essence, communal even when performed by an individual. It is the work of time's orchestra. It is in a profound sense performance art.

84 It is no accident that so many of ornament's highest manifestations are anonymous. While examples can of course be assigned to a named maker, ornament in general tends to resist any cult of personality.

85 Ornament disregards gender. Women in many societies may have the monopoly of artistic expression (like the Ndbele of Southern Africa) or have complete creative areas, such as pottery, which only they can practise.

86 On a practical level some feats of artistic enterprise can only be performed by women. Lacemaking calls for delicate fingers. There are even carpets too fine for any adult to work that have to be made by young children.

87 The hiding of art in ornament has caused historians to search for women's artistic achievements in the wrong areas, in the pictorial arts.

88 Such erroneous researches result from too restricted a definition of art itself. Basketry, textiles, pottery and glass still lie outside the scholarly discourse of art history, whose false construct of artistic hierarchies is, luckily, now being eroded.

PART VII

89 The delimited nature of ornament makes it unsuitable for the carrying of human emotions. Love and passion go into its making rather than its meaning. Ornament itself is not soft hearted: this is the province of decoration, its sentimental cousin.

90 The great schism between art and craft is one of the symptoms of a hierarchical view of art, and a particular casualty of modernism.

91 In the West, ornament has been debased as a result of the flight of art from craft. Art bears off its richest forms and denies credit to its erstwhile practitioners.

92 The use and usage of the word craft, with its second division feel, has a lot to answer for.

93 Many fine artists who so define themselves would in earlier centuries have been rugmakers and designers of wallpapers rather than disappointed painters and sculptors.

94 The disciplines, traditions and refinement of process of such a craft would have given them a safer scaffold for the scaling of artistic

CHRIS WILKINSON

1
Norman Foster described the totally inappropriate application of decoration as 'lipstick on the gorilla'. More fruitful is to look for the inherent beauty of each subject, which expresses clarity of purpose without need for decoration. Photograph: Wilkinson Eyre.

2
However there is a case for enrichment of detail where it does not detract from clarity of purpose. At Stratford Station the base connection of the arching structure is highly ornamental, but at the same time entirely functional. Its cast steel base is a sculpted form of structure. Photograph: Wilkinson Eyre.

3
In bridges, the principle is to create a light, minimal structure. At the Gateshead Millennium Bridge, exposed technology becomes ornament in itself, and the cue for further ornamental play with lighting which transforms the structural form into patterns on the water and sky. Photograph: Graeme Peacock.

4
The Magna Project has several kinds of ornament: pavilions whose form comments on their themes, the highly ornamental redundant industrial structures recalling the building's steel mill origins, and new red skin, which suffuses inside with an ember-like glow. As Sant'Elia claimed, only with raw, naked and violently coloured materials can a truly modern architecture have decorative value. Photograph: Edmund Sumner.

heights. The fabricators of ornament stand securely on each other's shoulders.

95 The last of the riches to be pillaged by fine art from ornament was its greatest treasure, abstraction.

96 The complete vocabulary of abstraction had always been present in ornament, where love of the wayward figurations of stone and wood complements exploration of the strict geometries of honeycomb and crystal.

97 Entire schemes of ornament have been derived from the search for abstract diversity in nature as in certain marble church interiors like that of Sta Maria dei Miracoli in Venice, where stone is framed by chosen stone, some veined or striped, others cloudy or turbulent.

98 In such a scheme, God is the featured artist in his own place of praise.

99 Such examples of the aesthetic of abstract expressionism were endorsed and improvised upon by painters of the Renaissance like Fra Angelico, and Andrea del Castagno.

100 It is often forgotten that a large part of the production of major artists (Michelangelo, Verrocchio, Holbein, Velasquez even) was of ornament, much of it now lost (and even considered in its time as ephemeral), as in the provision of festive installations, and banners.

101 Ornament is the laboratory of aesthetics: what has often been deemed experiment in fine art has been practised and developed first in ornament.

102 Abstraction had its home in ornament (as it still has in many cultures). Once the abstract became also a province of fine art, ornament found much of its occupation appropriated.

103 Abstraction which had thrived and been appreciated for millennia while in the safekeeping of ornament, now became a contentious factor in modern Western art.

104 Ornament has thus in the West found itself relegated to the world of craft, a term itself now debased in relation to the announced aspirations of fine art.

105 Some advanced cultures like Japan have resisted this division in varying degrees. Many Islamic states for reasons of religious proscription have no such debate.

106 Ornament thrives because of its communal nature. It largely escapes both the elitist and financially speculative worlds.

107 It is the sole area of art where the disgraced terminology and ideals of Marxism continue to be relevant.

108 Ornament cannot die. It invents new projects and can spring up in unexpected areas. The most recent of these is the work, often ephemeral, of graffiti artists. Without reward (and often at the risk of the opposite), these prove the imperative of ornament for ornament's sake.

109 The use of calligraphy in ornament is as old as writing itself and the graffiti artists of the late twentieth century especially in New York brought calligraphic expression to a new height comparable with the best of Islamic letter-based art or mediaeval illumination.

110 Ornament however, including the calligraphic type, has its own mode of communication. In that it has meaning it bypasses the customary modes of the literal or metaphorical and inhabits Dante's final category of signification, the anagogical, where form embodies truth directly, making as it were a spiritual equation.

JOHN OUTRAM

1
Iconography is one means available to architecture to convey narrative. Banished under Modernism, it has something to do with decoration and ornament. The ceiling of Duncan Hall at Rice University in Houston, Texas, depicts iconographically the Big Bang, which happened when 'something' and 'nothing' discovered each other, an example of how ideas spring from collisions of opposites.
2
In his hypostyle, Serlio appreciated the figure of the forest as one of the most enduring architectural themes. The forest is an analogue of infinity; everywhere is the same until you find a stream, immediately evoking water flowing into a valley, an analogue of civilization, a moment caught in the swimming pool of this house, Sphinx Hill.
3
This promenade fluvial always has the same constituents, a source, the valley, the delta and the sea. It is found in Chinese cities, Indian temples, Le Corbusier's house for Dr Curruchet – even, diagrammatically, in the London terraced house, and celebrated in the design for the Judge Institute, Cambridge.
Photographs: John Outram Associates.

PART VIII

111 False ornament is easily spotted. Its principal misunderstanding is a lazy contradiction of form. Other clues are an evident design tautology, a use of literal illustration or unassimilated narrative.

112 In respect of nature the ultimate ornament is camouflage, whereby we return human artefacts to an abstraction which merges with natural randomness.

Royal Academy Forum

113 For all other purposes, ornament tends to advertise the materials it uses: their characteristic hardness, malleability, transparency, each of which commands a relevant technique.

114 No material is excluded: the recorded range is already complete from dung to gold.

115 Any new element produced, from a bullet case or bottle top to plasticated telephone wire, can be appropriated and will generate its own stylistic possibilities.

116 Materials held precious by any culture are featured in ornament, often disposed emphatically as a punctuation of the design.

117 Yet ornament is by and large democratic. It may use, but does not need, precious material.

118 Ornament is parsimonious even when it seems to be opulent. It thrives on constraints and relishes limitations.

119 Rules and systems lead it to its best inventions; just as the discipline of verse liberates the poet.

120 It recycles materials as well as motifs and discovers itself by their appropriation. The most recent acquisition of the African Galleries of the British Museum is a chair made from guns surrendered in amnesty.

121 Ornament has no vanity. It is comfortable at all points on the social scale and at any degree of utility or anonymity.

122 As art is hidden in ornament, so ornament itself can thrive unadvertised in unconsidered locations. It can hide in the practice of gardening or flower arrangement.

123 Thus the most intricate manifestations of ornament may occur in humble or serviceable objects such as a loin cloth or a comb.

124 Objects of virtue in such utilitarian forms have long escaped the notice of the self-styled world of connoisseurship.

125 These tend to be works of the hand (still our best implement). In earliest times, the pinching of a pot rim in pie crust fashion or its serration by the fingernail, brought a pot to conclusion via ornament.

126 The moment such markings made by one potter were compared with and preferred to those of another, the great engine of art started up. Aesthetics (which must be considered one of the most primitive disciplines), criticism, patronage, commerce soon get under way on a road that leads to schools of style, salons, academies and our great museums.

127 The whole recipe of art was present at its birth in ornament; form, line, tonality, material, disposition, colour.

128 Colour is of itself ornament. Cultures have sought nature's brightest hues of mineral, dye, feather or beetle carapace for use in ornament: others have restricted the range of colour to serve sobriety or to retreat from excess.

129 Ornament responds to any extension given to the colour range by technology (as in enamels, stained glass). It is, by tradition, experimental.

130 Thus there are hierarchies of colour. A colour by virtue of its rarity or difficulty of production (Tyrian purple, Iznik red, lapis lazuli) can have the status of a precious material and be used accordingly.

131 The quest, however, for precious materials can be a snare leading to deformation of ornament by gratuitous enrichment eg, encrustation of gems and so on. This is a typical trap of decoration.

PART IX

132 By decoration we mean what is added to things but is not germane to them by structure or significance, and the use of motifs and treatments that are not formally digested and lack transformation.

133 Decoration is parasitic in that while it piles up on or spreads over its host object it does not add to its aesthetic value. It is simply cumulative in that it has no more reason to stop than to start.

134 Decoration quotes ornament. For this reason no distinction is usually made between the two.

135 There is a grey area between ornament and decoration where one or other strives to compensate for poverty of form. This is usually an indicator of an uncertainty or fracture in social life. In such times decoration, where panic often takes the form of elaboration, tends to prevail.

ERIC PARRY

1
Each material evolves its own patterns of use and iconography. Through the extraordinary skill and craftsmanship of the extrusion process, metal has turned into the scale of joinery, but it can lead to the implacable repetition of a typical curtain wall.
2
St Martin's in the Fields develops a relationship between the activities of the surface and those which take place below. A pavilion rises above ground which leads from the public realm into the structured rituals of the subterranean realm, including a cloister and chapel. In them materials become plastic assuming a cleansing purity of form and light.
3
The roundabout at the south end of Lambeth Bridge now recalls the ancient notion of a sacred grove. Tall, angular metasequoia trees contrast in their verticality with undulating topography of the ground, symbolizing life by choreographing space and to some extent, time, as the trees grow and change with the seasons. Photograph: Peter Cook/VIEW.

136 Whole museums and collections in the Western world dedicated to the decorative arts often contain little or no true ornament (as in the Gilbert Collection, Somerset House) and hence no art.

137 Such collections amass objects made for the rich and powerful in which virtuoso craftsmen have sacrificed taste on the altar of decorative complexity, to make as it were a metaphor of the detailed fuss their idle patrons demand around them in life.

138 Such museums of the meretricious mislead the public by promoting decoration above ornament. It is as if they elevate the diseased above the healthy body.

PART X

139 The arguments of this paper attempt to drive a wedge between ornament and decoration.

140 Decoration is palliative. Its banishment, as anyone moving into a dwelling too ripe with décor knows, can be an act of aesthetic piety.

141 A paradox of this process is that, when such decoration is removed, ornament, in the form of just proportions and integral architectonic features etc, is revealed. These elements may well be more elaborate than what covers them.

142 Another kind of paradox arises where the quality of ornament relates directly to the value of its components. This occurs because in any aesthetically healthy community, it is the best artist who will be entrusted with the finest materials. Thus the true hierarchy is aesthetic and artistic even when it appears to be material.

143 Opulence has its climactic assertion by total coverage; the golden dome, the jade princess. Thus at the point of highest opulence we find the greatest simplicity.

144 The ornamental mode of such coverage is achieved by the type of articulation and amplified by faceting appropriate to the material, which in turn patterns the light that falls on the object.

145 Articulation also finds its models in nature. The perfect Platonic form of the necklace (and in Africa used as such) is the spine of a snake.

146 Human physiology is also reflected in ornament by its intervals and proportions. The breath, the measure of step, the scale of hand and the canons of anatomy all provide human resonance.

147 Thus ornament even when it seems to be cold artifice is, at its most successful, ultimately humanistic.

148 It reinforces at all points our kinship to the world.

149 Lacking the emotional and intellectual agendas built up by fine art, ornament represents the untrammelled celebration of our creativity.

150 Ornament avoids such agendas by its communal practice and evolutionary character. The refinement of a Japanese basket is less the result of individual temperament than a collective aesthetic produced over generations.

151 Its solipsism is innocent. We cannot via ornament praise ourselves without at the same time reverencing nature and celebrating whatever intimation of a divine order our varied cultures possess.

152 A life without ornament is unimaginable. It is one of the preconditions of humanity.

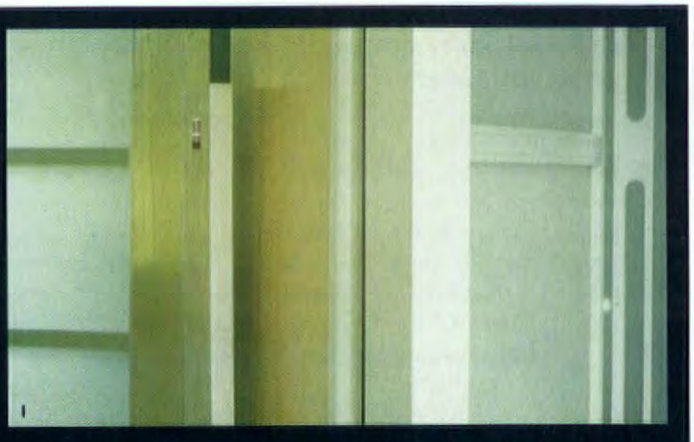
153 Though we lack the earliest clues of human artistic activity, the first setting of stone by stone, bone against bone must have signalled the dawn of articulate consciousness.

154 Ornament is the visual world at play. However serious the matter and however ambitious the mode, all great ornament has wit.

155 Ornament transforms with joy what lies in its path, what it serves and what it uses.

156 Ornament is the praise song of humankind to the world it has made in terms of the world that it found. It vivifies the manufactured world to make it one with nature.

157 Whatever may be said about ornament here or elsewhere, of a philosophical nature, the child who makes a daisy chain has grasped its principles completely. TOM PHILLIPS



GORDON BENSON

1
C. R. Mackintosh in architecture, like James Joyce in literature, realizes a universe in art, inserting detail and fragment into a hierarchically integrated whole, which one can use to enrich architecture so that we know precisely where and what it is. Reflecting the outside into the interior, Mackintosh transforms experience into the decorative, transcending the immediate bounds of function. Photograph: Richard Bryant/Arcaid.

2
Within the veracity of geography and the resonance of history, the Museum of Scotland offers a lexicon of spatial types to suit the collection's variety of objects, artificially locating them within a recognizable domain. Circulation occupies a liminal zone, offering a contrapuntal journey beyond the taxonomy of collections or chronology. Photograph: Richard Bryant/Arcaid.

3
The extension to the National Gallery of Ireland lies on a rare fissure where a topographical geometry prises apart the orthogonal geometries of the Parliament and Trinity College. Splintering light between the resultant zones sets off a narrative which elaborates the relationship between the institution, visitors and Dublin. Photograph: Hélène Binet.

Royal Academy Forum

Royal Academy of Arts

John Mack, keeper of Ethnography at the British Museum, comments on Tom Phillips' *Treatise* from an anthropologist's perspective.

By taking the impulse to ornamentation as the progenitor of other art forms, Tom Phillips makes a bold case for redressing the characterization of ornament as superfluous. Many of his statements have a universalizing character: thoughts on glyphic markings on earliest African rock art, on the wall patterning of Great Zimbabwe and on cattle-keepers' interests in ornamentation in eastern Africa. My discipline of social anthropology investigates whether cross-cultural perspectives add to the argument or whether the references are just decorative devices.

Phillips' *Treatise* makes a wide case rather than analyses of specific circumstances. He has less about semantics, because semantics are context-specific trying to recover it goes into individual cultures. By being more specific I hope to amplify his thoughts, and will stray beyond Phillips' characterization of ornament to look more generally at pattern-making and decoration. After all, most languages group words we tend to separate, like decoration, adornment, jewellery, pattern, style, embellishment. In Malagasy, the language of Madagascar, the word *tavaka* covers all this, only making a distinction when the decorative idiom is figurative and a word derived from Malayo-Polynesian origins – *sari* – is used. In this context, *sari* is the generic word for a picture.

Ornament and theories of ornamentation

Western theories and philosophies of art are almost always about representational art. If we look at world arts, however, non-figurative ornamentation probably predominates. Ethnographic collections are largely decorative; the decorative arts comprise different kinds of artefact type from the painting or the sculpture which is the focus of Western art historical interest, such as mats, pots, baskets and textiles. My single aphorism, derived from the anthropologist Alfred Gell, is that pattern, decoration, ornament, attaches people to things. Gell called this the 'Technology of Enchantment'. He talks of how reluctant children are induced to bed by covers and pillows festooned with spaceships and soft toys. Bedding in neutral spaces – notably hospitals – tends to be unpatterned (and it can't just be a matter of the laundry arrangements), where that used at home is virtually always patterned in some way. Pattern links us in more intimate ways to our surroundings, in a way that undecorated surfaces do not. If ornamentation is a fundamental element in world artistic traditions, and a fundamental aspect of human visual cultures, it is because at root it is linked to questions of identity – individual identity and collective or social identity.

The ringing phrase 'mere decoration' implies that it is optional and subservient to form. But all the cultures around the world which engage in decoration are not doing so because it is an afterthought. Unless decoration has a function, it can only be described in terms of primal urges, and arguments about primal urges are fruitless. Even so primal urges do not survive unless they are useful in some way. However you cut the cake, you come back to decoration. Even those deliberately undecorated spaces, whether in contemporary architecture or Mennonite communities in Pennsylvania who blacken car bumpers to take away the effects of the chrome, acknowledge the personalizing, socializing nature of ornamentation by – in effect – refusing it. To ascetics, the relationship of people to things which decoration negotiates, can impair the importance of another relationship – that between people and God.

If ornamenting an object is a choice which bears out the fundamental importance of ornament in socializing the visual world, it endorses Phillips' observation that ornament is a primary and universal visual language. And it also implies that the relationship between its presence or absence is dialogical. The relation between the choice to ornament or not to ornament gives the greatest insights into the nature and purposes of ornament. To understand why some cultures produce ornament, it is necessary to look at others which do not use ornament, and at those cultures which produce ornament in some contexts but not in others. If there is a gap in Phillips' argument, it is here.

The evolution and naming of patterns says much about the social nature of ornament. Very often, the critical point is not the adaptation of forms from nature into an ornamental system, but the ascribing of a name to geometric experimentation, which frequently arises from a perceived visual likeness to something like a knot, grass or smoke. In these cases the relationship to nature comes at a linguistic rather than a visual level. In this sense, nature is not plundered by the pattern book of ornament, as Phillips suggests, nor does 'one in turn authenticate the other'; rather, the naming of patterns is akin to giving people nicknames in our own culture.

This perhaps helps to explain why different cultures can use ornament for different purposes. Two possible poles can be shown in the Kuba people of Central Africa, and Madagascan culture. In Kuba culture, spiritually empowered surfaces are rubbed flat and those in domestic buildings are adorned. In Madagascar, tombs are the sacred spaces and they are adorned; homes are not, except for the centre pole. It is made from the hardest wood and remains even if the rest deteriorates: the same word, *teza* is both the name of the wood and the word for a style or funerary or commemorative monument. What links both is an explicit division in the use and absence of ornament to suggest specific social purposes.

1
Tomb from Southern Madagascar. Durable materials distinguish sacred ancestral objects from houses.
2
King Shyaam, founder of the Kuba dynasty. Unlike Kuba domestic objects, portrayals of the king are largely unpatterned.
3
Kuba raffia textile showing typical patterning.

2

3

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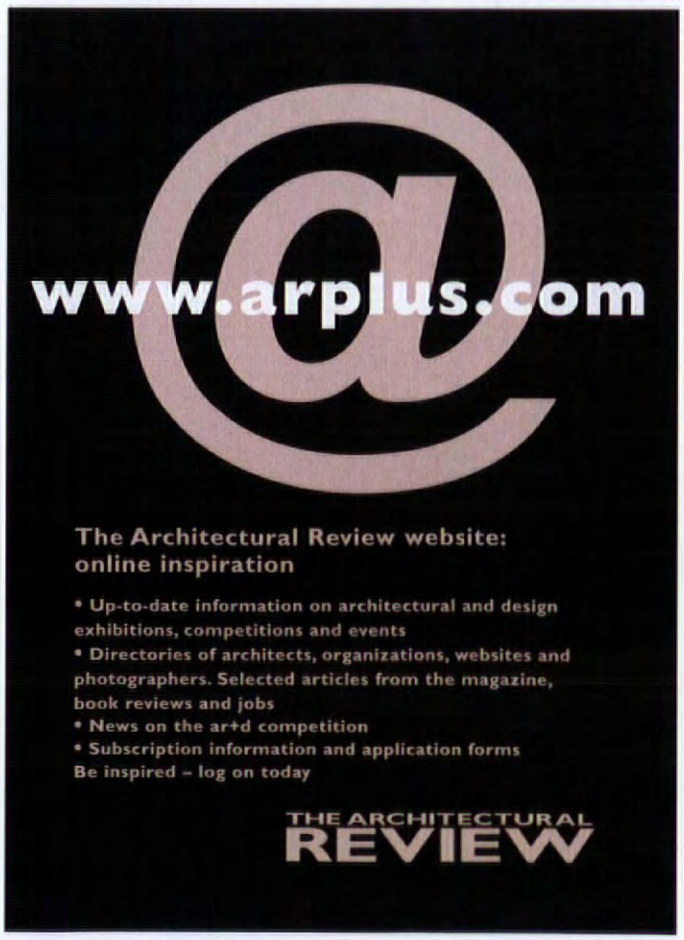

501

Susan Dawson reviews the latest cladding products on the market.

501 TECHNAL

A new operations centre for Phoenix Natural Gas in Belfast, by Cartwright Pickard Architects, has been designed to minimize energy consumption and carbon dioxide emissions. To reduce the cost of heating and cooling, and the use of artificial lighting, the facades are extensively glazed with MC Trame Horizontale curtain walling by Technal. Sunscreens are incorporated for summer shading, and the offices are naturally ventilated. The main entrance facade is also of MC Trame Horizontale; it is flanked with a silver aluminium curtain walling system with 7.5m long rainscreen cladding panels which are flush with the external face of the glass.

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502 AME EURO

Proteus hr, is a new composite rainscreen cladding system produced by ame facades. It is extremely adaptable, offering a range of front skin finishes including steel, aluminium and zinc, which are structurally bonded to an aluminium honeycomb core. A new building at Green Park, Reading, designed by HOK International, demonstrates its adaptability; the Proteus hr cladding has a front skin of pre-finished metallic panels to combine consistency with economy.

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502

503 GKD

The facade of a new car park at Princeton University, US, had to be extremely robust yet aesthetically convincing. The architects, TEN Arquitectos of Mexico City, have clad it with stainless-steel wire mesh, allowing the underlying structure of the building to remain visible. To meet the requirements of an open parking structure without sprinklers, the outer shell of the building would have required open areas on at least 20 per cent of the overall surface. The stainless-steel wire mesh offered the ideal solution.

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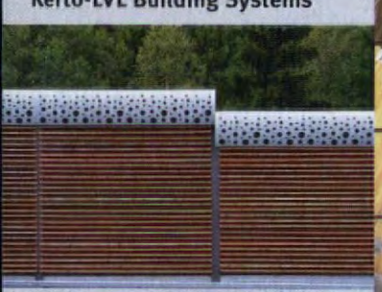

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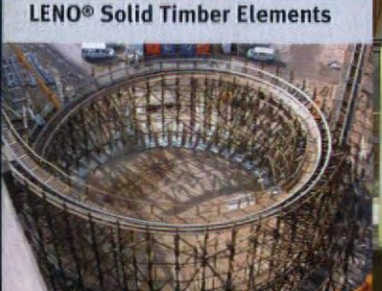

Leisure and Sport Facilities

Sheffield Winter Garden, Pringle Richards Sharratt Architects/Buro Happold Leeds, Picture by www.builtvision.c

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504 MERO

The Lehrter Bahnhof railway station in Berlin by von Gerkan & Marg is the central transfer point in a network of regional and urban railway lines, the subway, trams and buses. The station is halfway between the eastern and western centres of Berlin. MERO built the steel structure of the new roof in just four months.

It has 23 steel roof girders on a series of steel arches from 15.5 to 17m in height and from 59 to 68m in width. The structure supports 9117 glass panes with integrated photo-voltaic cells.

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506

506 GASELL

A hangar and a 35m high control tower by Reid Architecture have been erected for Farnborough airport. The hangar, 290m long and 45m deep, is big enough for 6 Boeing business jets or Airbus corporate jets. The hangar and its doors are clad with Gasell GA47-46 deep sinusoidal profile sheet. The control tower is clad with the Gasell louvre system in mill finished aluminium.

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507

507 REYNAERS

An office development at Chineham Court, Basingstoke, is set in mature woodland in the grounds of an Edwardian manor. The four-storey building, designed by SBT Architects, has fully-glazed facades of Reynaers CW50 curtain walling, a thermally improved curtain wall facade and roof system, which offers excellent levels of weather performance and can be designed to achieve British Building Regulations Part 'L' compliance.

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508

508 ETERNIT
Architects Stephenson Bell have designed a new housing scheme at Chorlton Park, Manchester. The facade is a combination of oak-framed balconies (from sustainable sources), and dark grey Eternit high pressure laminate Lamina External. The same Eternit laminate, in grey/green, was used at the main entrance.

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509 VANCEVA DESIGN
Designed to complement the surrounding Art Deco buildings, the Lincoln Cinema in Miami, USA, has a facade of laminated glass with coloured Vanceva Design interlayers. The colours, which include yellows, purples and greens, wash the floors and walls of the interior with light. Laminated glass was also specified for its protective qualities and its ability to reduce noise transmission.

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509

510 CRICURSA
CRI-REGULITE is a laminated glass which allows users to control its light transmission. Based on suspended particle device (SPD) technology, the glass contains a conductive film coated with microscopic light-absorbing particles, which block light depending on the voltage applied to it. Users can adjust the amount of light coming in through a window, either automatically or manually. At the turn of a dial, the glass changes its appearance, becoming darker or clearer. The process is relatively simple: microscopic light-absorbing particles are dispersed within a thin film. When no electrical voltage is applied to the film, the particles absorb light, making the window dark. When voltage is applied, the particles align to let the light pass through.
The new glass uses AC voltage and requires very little power (less than 0.6 watts per square foot). It changes colour almost instantly and uniformly over the entire surface area, regardless of size. A wide range of light transmission levels is available.

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510

AR MARCH ADDENDUM
The upholstery of the Outrageous Fabric Company's Ostrich Collection by Boynett is by Donald Butler Upholstery of Oxfordshire.

RACE IN QUESTION

WHITE PAPERS, BLACK MASKS: ARCHITECTURE, RACE AND CULTURE

Edited by Lesley Naa Norle Lokko. London: Continuum. 2002. £55 (hb), £16.99 (pb)

White Papers, Black Masks: Architecture, Race and Culture purports to be the first sustained examination of the ways racial ideology is expressed in the built environment. The articles are divided into three sections. The first addresses the urban with chapters about colonial architecture and African schools, urban development under apartheid, issues of good urban governance and the tango in Buenos Aires. The second section includes discussions relating musical practices to architecture and the post-colonial use and abuse of aboriginal symbols in Australia among others. The final section ranges from a narrative about an artist's educational trip through Africa to projects that presume to address issues of race.

It is a mélange of dissonant parts joined by two common attributes. First, for the most part, race is confounded with blackness. Second, all the articles have a kind of whinging quality continually carping about or lamenting (the tone varies) the extent to which Western, ie, 'White', ideas and design practices in politics, planning, design and education either dominate, contaminate, distort, or ignore the black experience.

This is not, as the editor's claim, the first book to address the issues of racial ideology. There has been a number of such works, some reviewed in these pages. Nor is it the first to suggest the extent to which the issue of race has been ignored. A decade ago such a book would have been welcome. But with this plaint having been made many times, and with architectural theorists, historians and practitioners beginning to address race and the post-colonial condition, the authors would have served their admirable cause better, by suggesting or examining alternative practices that address their concerns.

What is more the book could have used significant editing. There are citations but no bibliographic references and different modes of referencing in the same article. Most critically the quality of the writing varies considerably; from clear, even elegant essays, to poorly written and opaque narratives.

EDWARD ROBBINS

DESIGNING DUTCH

THE ARCHITECTURAL DETAIL – DUTCH ARCHITECTS VISUALISE THEIR CONCEPTS

By Ed Melet. Rotterdam: NAi Publishers. 2002. €49

The sub-title says it all. This is a book to show you how leading Dutch architects view the detailing of their buildings. The author looks at the work of 12 architects to see how the design concept extends, or does not extend, into the details of construction and the jointing of materials.

The author accepts that the details of a building usually carry a considerable architectural load. The responses vary. MVRDV use detailing to explain the design, Hans Ruijssenaars often exaggerated junctions to 'ornament' the building. Mecanoo contrasts different adjacent materials in a way that sets out to please. Van Velsen follows a minimalist path that tries to make details disappear. Koolhaas tries to go even further and not have details – 'They are old architecture', he says.

The bulk of the book consists of pictures of buildings with their details printed alongside. This is carefully and attractively done and I found it both instructive and enjoyable. But also annoying. The beautifully drawn sections tell us something of what is going on, but not how the materials join along their length or how they turn the corner. As in most architectural publications, the love of minimalist graphics gets in the way of communication. One has to look at motoring or aircraft magazines to see clear drawings of 3D objects – or even fifty year old building construction books with their cut-away isometrics.

JOHN WINTER

GREEN CITIES

SUSTAINABLE URBAN DESIGN – AN ENVIRONMENTAL APPROACH

Edited by Randall Thomas. London: Spon Press. 2003. £26

By the end of the twenty-first century, it is highly possible that three-quarters of the world's population will be city-dwellers. The premise of this book is that, if this is so, then it is incumbent upon architects, planners and all those involved with building in cities to make them not only environmentally sustainable but habitable in terms of citizen well-being and happiness.

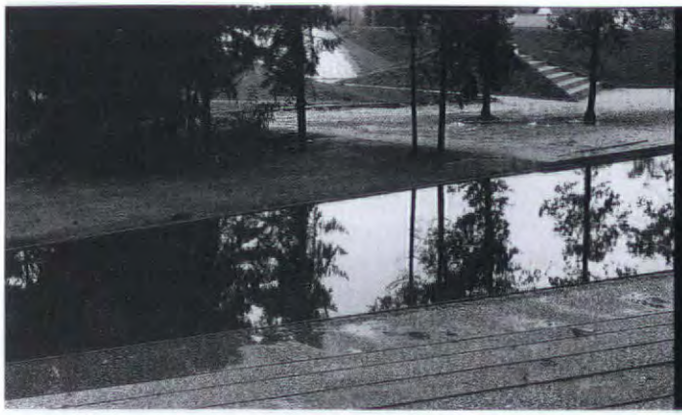
Part One of the book summarizes the principles by which urban sustainability is made possible. Transportation, landscape, building form and design, energy, materials, water and waste management are dealt with in separate chapters by Randall Thomas and his colleagues. All are presented succinctly and comprehensively, with further details elaborated in appendices.

Part Two is the weaker and more disappointing half. Six or so examples are used as demonstrations of how this new thinking is already at work, among them the Caspar project in Leeds, BedZED and the Parkmount scheme in Belfast. There is a mini-collection of three case-studies by Alan Short, frustratingly too short, and the final chapter on an ecological district in Malmö, heralded by Thomas as something exemplary, somehow fails to get going at all.

In his introduction, Thomas states that one of the book's aims is 'to inspire rather than to be prescriptive'. I applaud the optimism which he and his co-authors express in their contributions, but it's an optimism which I find difficult to share, and had hoped the book might bolster.

ADAM VOELCKER

Geoffrey Bawa's da Silva House, Colombo, Sri Lanka, 1960-62, one of the many magic conjunctions of tropical nature and artefact to be found in the very thorough *Geoffrey Bawa: The Complete Works* by David Robson, Thames & Hudson, London 2002. The book will be reviewed in full in a forthcoming issue.



A portion of the International Garden Exhibition at Graz in Austria from *Kienast Vogt: Parks and Cemeteries*, Birkhäuser, Basel, 2002, which covers the most recent work of one of the most distinguished landscape designers of the German speaking world, and shows his profound understanding of landscape, history and metaphor.

ARUP APOTHEOSIS

ARCHITECTURE, ENGINEERING, AND ENVIRONMENT

By Dean Hawkes and Wayne Forster. London: Laurence King. 2002. £50

This book is introduced with a really comprehensive review of the history of building services engineering from the late eighteenth century up to the present. There is not a large body of scholarship to draw on for the history of building services engineering and the authors have developed a very wide coverage.

The book then launches into a series of critical studies of buildings, classified in accordance with Dean Hawkes' scheme into 'selective' and 'exclusive' mode. The case studies are intended to illustrate a link between engineering and architecture with a particular emphasis on environmental factors. Who better to illustrate the engineering side of this link than Arup? There are 20 case studies with dates between 1994 and 2002. This represents a very impressive demonstration of the Arup contribution. The case studies certainly demonstrate the result of various architects and Arup working together. I would like to have known a little more about the process of cooperation and also a development of the meaning of the classification into selective and exclusive mode.

The book is descriptive. It does not give a message. The history shows that the mechanical and electrical systems developed from the end of eighteenth century enabled buildings in the twentieth century to be designed without need to take climate and natural light into account. To that extent twentieth century architecture is dominated by mechanical and electrical engineering. We now use half of our fossil fuel to light, heat and cool buildings and we should do something about it. The case studies do address the environmental issues but they do not substantiate the results with figures.

For me, natural light is the engineering starting point for any building. Domestic buildings do not need a lot of light but buildings where people work need to be well lit. The current solution is that windows provide a little light and outlook but electricity is used universally to supplement natural light. This means that skyscrapers can have electrically lit, deep office spaces surrounding comparatively small and economical cores. The World Trade Center was about 20m from the window to the back of the office and I believe Canary Wharf is about 14m. It is not possible to provide natural light in buildings which are this deep. There is, of course, a relationship between the depth of light penetration and the height to the head of the window but I don't think Canary Wharf would be viable if the storey height was 14m.

The LT Method emphasizes that the proportion of a building which is naturally lit is an important environmental parameter and I would like to see this parameter calculated for the case studies.

Overall this book provides a useful review of the diversity of modern ideas, but it does not help to evaluate the options. MAX FORDHAM

COMPOST MAKER

FROM GARDEN CITY TO GREEN CITY: THE LEGACY OF EBENEZER HOWARD

Edited by Kermit C. Parsons and David Schuyler. Baltimore: John Hopkins University Press. 2003. £33.50

Biographers like to remind us that Howard was essentially an inventor (whose big aim was to develop a shorthand-typing machine) and that, like all inventions, the Garden City was a new amalgam of existing notions, but became the most influential of town and country planning ideologies all around the world. Howard himself observed in 1901 that 'To solve the great problem of the city in England is to solve it for all of Europe, America, Asia and Africa', and the 10 contributions to this book seek to demonstrate that this is so.

It is a well-balanced collection, showing how contemporary theorists of the Green City find that of all urban ideologists, Howard is closest to their aspirations. His legacy turns out to be less that of an inventor and more that of an organic gardener, mixing his compost heap in carefully measured proportions so as to provide the best conditions for growth.

However, the very last word in this book, from my namesake Stephen Ward, reminds us, correctly, that, 'As we might expect, the extent of influence of ideas derived from the garden city tradition in the newly urbanized world is very small. The most telling feature of the Howard legacy is that a majority of the world's city dwellers remain completely disinherited from it.' COLIN WARD

LESSONS IN COMMON SENSE

DWELLINGS: THE VERNACULAR HOUSE WORLD WIDE

By Paul Oliver. London: Phaidon. 2003. £35

This is an up to date and fully revised version of Oliver's previous *Dwellings: the house across the world*, and it may also, perhaps, be seen as a personal postscript to his vast *Encyclopedia of the Vernacular Architecture of the World* (AR March 1998). Summoning up a lifetime's research, this new edition of the earlier book is imaginatively organized by theme, starting with buildings that are built up out of the ground and ending with sections devoted to applied decoration and to abstract, anthropological factors that unite widely differing peoples. To have steered a clear path through so many types of architecture, without flagging and without repetition, is a remarkable achievement, and the many photographs in this book are mostly of the very highest quality, and superbly reproduced.

The combination of architects and anthropology is problematic, but Oliver mostly avoids preaching. What every architect can certainly learn here is that many hundreds of vernacular building types offer endless examples of commonsense building technology; and no lesson of this kind should ever be wasted. In spite of natural and man-made horrors, and the inevitable effects of urbanization, there is some evidence here that living standards can be raised without traditional methods being abandoned: we have for example a scheme in Nairobi where residents build their own houses onto standardized sanitary cores. Ignore two irritating errors – the mislabelling of Flemish and English brick bonds, and a curious double slip involving the Gilbert Scott family – you will find an attractive, valuable and provocative book.

TIMOTHY BRITTAIN-CATLIN

Book reviews from this and recent issues of The Architectural Review can now be seen on our website at www.arplus.com and the books can be ordered online, many at special discount.

Case Study House #20, Altadena, California, 1958, designed by Buff, Straub and Hensman.

EDITORIAL INPUT

CASE STUDY HOUSES: THE COMPLETE CSH PROGRAM 1945-1966

By Elizabeth A. T. Smith. Cologne: Taschen. 2002. £100

John Entenza, founder of the Los Angeles-based Case Study House Program under his internationally influential *Arts & Architecture* magazine, was not English, but could have played a peculiar stereotype in the canon. Untanned and unfit, his default dark suit and tailored white shirt draped a tall, soft frame. His dry wit was more nuanced than US custom allowed; he was disinclined to suffer fools, in his case the inertia of American stick building culture. In any case, the magazine's influence was renowned in Europe and South America. It has been argued that in Britain, the 'High-Tech' style is in part the result of strong links to the Eames and to Entenza through figures such as structural engineer Frank Newby, architects John Winter and Peter and Alison Smithson and Ian McCallum (once executive editor of AR), all keenly receptive to the pared-down clarity, steel-and-glass aesthetic and hands-on curiosity of CSH architects. Perhaps the timing was perfect.

The seed was already here: coke smelting was invented in 1709, fuelling the Industrial Revolution; the iron-and-glass 1851 Crystal Palace enjoys matriarchal status in the Modernist pantheon; houses are smaller anyway. But on the other side of the ocean, what difference did the famous programme for experimental building, dwelling and thinking make? Despite continued efforts and stories on storage container/'pre-fab Modernist' housing featured in the *New York Times* or the live/work/ mixed-use preached from the pages of *Dwell* and *Metropolis*, among other popular magazines, the single-family US house has grown from 1000 ft² in 1950 to 2324 ft² in 2002. Most residential framing uses details indistinguishable from those in 100-year-old carpenters' pattern books.

Case Study Houses: The Complete CSH Program 1945-1966 by Elizabeth A. T. Smith, chief curator at the Museum of Contemporary Art, Chicago, is the third in Taschen's special jumbo series, 300 x 400 x 50mm. It is a good companion to the dense, compact *Blueprints for Modern Living* (MIT, 1999, 230 x 300 x 15mm), also edited by Smith, which contains gems of essays by authors such as the late Esther McCoy and Reyner Banham, both intimates of the people and of the programme. In contrast to the smaller book, however, the large book (with its helpful plastic cover) lushly renders each project in colour and in gorgeous black, sepia and white. Each project is illuminated through photographs (mainly by Julius Shulman, foremost documentarian of the period), sketches and the occasional working drawing. Each entry also includes contemporary excerpts from the pertinent *Arts & Architecture* issue, with a small inset of the cover. (These covers alone are strokes of graphic genius; their inclusion sharpens the magazine's lively dialogue between two and three dimensions and between text and image.)

But this book's aim is not to provide cultural context or criticism but to provide generous access to images and let them do the talking. It is a kind of reading that invites poring over the visual to ponder spatial and material decisions. While the taut translucent modules of Craig Ellwood and Pierre Koenig may be instantly familiar, their cool interiors enhanced by flawless Audrey-Hepburn types, the unbuilt work of Ralph Rapson delights. His sketches ask restless, exuberant questions; his unbuilt 1945 CSH#4, with its painted canvas walls, looks like a Glenn Murcutt house whose walls are pulled apart to slip in a greenbelt garden. Rapson's human figures have the kind of carefree dementia found in the underground comic work of R. Crumb, with slump-breasted suburban matrons wearing shades indoors or skinny punkers with hair rollers, improbably pulling carrots in the garden as a commuter helicopter whirls above. Then there is the subversive gravitas of Whitney R. Smith, seen in his use of glass amid strong, earthy materials *à la* nineteenth-century H. H. Richardson, in CSH#5, also unbuilt and also from 1945. At first glance the work looks sober enough, but watch. Like Mies van der Rohe's sombre 'Brick Country House' of 1923, Smith pulls walls apart to elongate space. Here, four free-standing volumes – of adobe on a steel frame – are only connected by a roofed garden, brick floors flowing freely in and out. Conventional doors and halls are eliminated. Every relationship, every function, down to the position of the bathtub vis-à-vis the lavatory and garden privacy, is reconsidered.

Given the programme's goals, it would have been helpful (if not an impossible task) to include the proposed or actual cost of the house, its square footage, and a wall section for each project. Addresses of built projects and a handy map are included, though the cursory index inexplicably uses first names to begin an entry.

Entenza chose his own men and, as Julius Shulman writes tartly in the epilogue, the editor did not include Rudolf Schindler (presumably because any CSH house must 'be capable of duplication and in no sense be an individual performance', (as Entenza wrote in his 1945 programme introduction). Also not included were Gregory Ain, who really did accomplish low-cost radical housing in Los Angeles, or Harwell Hamilton Harris, apparently doomed because he pitched his roofs even though he designed a superb house for Entenza. Harris and Ain, as did many of the CSH architects, went on to become influential architectural educators.

Following most things Modern, far from being affordable prototypes, the Case Study houses today are collectible 'individual performances' available only to the wealthy. Yet the 36 designs continue to inspire, whether in exploring new materials, compressing footprints, integrating indoors and out, or just in witnessing Entenza's relentless hubris at manifesting new ideas and ideals. Most of the CSH houses are free-standing on juicy lots, a convention that is at last showing cracks as architects become involved in the zoning and building code legal process, where the meat of land use and design lies.

BARBARA LAMPRECHT

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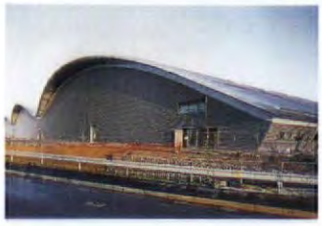

Corus

A new hangar building and a 35m high control tower have been built at Farnborough airport, as part of a redevelopment plan to establish it as the leading airport for business aviation. The hangar building, designed by Reid Architecture, is 290m long and 45m deep, large enough to house 6 Boeing business jets or Airbus corporate jets. Instead of the traditional box-shaped hangar, the new bulding has three bays, each 22m high at the apex, roofed with an undulating curve of Kalzip roof. The elegant shape reduces the apparent volume of the building and the area of wall cladding required.

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Pilkington Processing

Pilkington Insulight™ Therm insulating glazing units, incorporating Suncool™ High performance Brilliant, were specified for a £25 million leisure complex in Cardiff, adjacent to the Millennium Stadium. The units were installed on the facades as part of a structural glazing system by Exterior Profiles. Pilkington Suncool™ is an off-line coated glass with a capacity to control light and heat; the 2:1 ratio of transmitted light to heat reduces energy consumption and keeps occupants cool in summer and warm in winter. The glass units were supplied by Pilkington Plyglass, a branch of Pilkington Processing and Merchanting UK.

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Pilkington

Structural glazing systems by Pilkington Architectural have been used in the redevelopment of Piccadilly station in Manchester. The £55 million project, designed by architect BDP, involved the creation of a low-level concourse, a new main concourse and the pedestrianization of the original approach ramp. The Pilkington Planarclad™ curtainwall glazing system was used on all entrances and elevations, including the 120m long main elevation to London Road. It was also used to create the train shed screen which forms a transparent division between the passenger concourse and the train shed.

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Comar Systems comprise purpose-designed ranges of extruded aluminium profiles, components and accessories, designed to create glazed facades and roofs, doors and windows, glazed frames and partitions. They are suitable for new and refurbishment projects. The range includes Comar 6, a thermally isolated curtain wall system which can be prefabricated in a 'ladder frame' construction or site-assembled as a 'stick-build' system. The latter can be used to create sloping facades and glazed roofs as well as barrel vaults, pyramids and lantern lights.

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TRADA

TRADA, the Timber Research and Development Association, has launched the askTRADA website, a comprehensive reference source of practical and technical information about timber and timber products at www.asktrada.co.uk. Information includes a comprehensive guide to timber species to enable architects to select timber most appropriate for the use intended, and a CPD tracking facility. A vast range of timber research is available, plus a suppliers directory with links. Engineering design software and best practice detail drawings are also available on the site.

904 www.arplus.com/enq.html

Kawneer

Three new office buildings at Brindleyplace, Birmingham, have been linked to form a new core building for the Royal Bank of Scotland. A combination of Kawneer products has been used, including the 1202 zone drained curtain wall system for ground and first floor levels on 7 Brindleyplace, with 501 side-hung vents and fixed lights above. The 1202 curtain wall system, with 505 doors, will link the three buildings. For cost and environmental reasons, a significant number of Kawneer windows which were used on the original elevations have been reused in the new facades.

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Clauss Markisen

A new external sunshade, known as s_enn, is formed of moulded stainless steel sections. They are connected to form a stable wind-resistant shade which rolls up, like a roller blind, when not in use. The 4mm wide hollow stainless steel sections are profiled to allow light through while eliminating direct radiation as soon as the sun rises more than 20 degrees above the horizon. The sunshade is ideal for use on facades with direct sunlight and is stable in wind conditions of up to 15m/s. It is available in maximum widths of 2.6m and heights of 2.6m; special units up to 4m high can be manufactured to order.

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GEZE UK

A glass entrance lobby for Holmes Place health club in Farnborough by GEZE, manufacturer of window and door control technology. The lobby is a 'glass box' with double doors, creating a weather-proof vestibule in a structurally glazed facade. GEZE Slimdrive units operate the doors; they are only 70mm high but can operate door leaves of up to 120kg. The electro-mechanical sliding door operator is microprocessor controlled with a silent brushless DC motor. A unique LED programme switch provides on/off, one-way traffic, reduced opening and fully automatic modes.

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Photograph: Archivio fotografico Soprintendenza B.A.A.A.S., L'Aquila

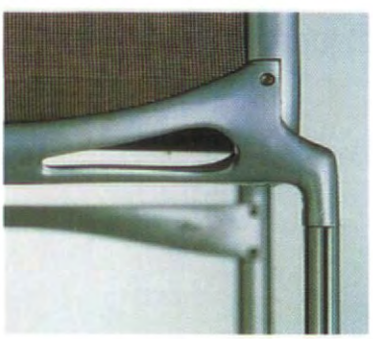
IN A TINY PERFECT CITY IN AN UNFASHIONABLE PART OF ITALY, THERE IS A TREASURE THAT TRANSPORTS US BACK TO THE EARLY RENAISSANCE, AN UNATTAINABLE WORLD, YET INHABITED BY PEOPLE WE KNOW.

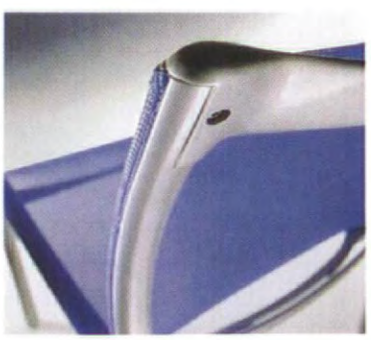
Atri is a perfect Italian hill town. You climb up to it along a snaking road from the valley to a picturesque platform hovering over the Adriatic, ten kilometres away. But it is completely isolated from the ruthless, repetitive, touristic exploitation of the coast. The Abruzzo is almost due east of Rome, and generally thought to be dully exploited, or wild and uncivilized. Yet even in Classical times, the little city was there. The main street, the Corso, follows the Roman Cardo. Over the centuries, it has been added to and changed, but the scale remained – until our own age, which has sadly seen a fungal cascade of suburbs towards the sea. The town square remains a distillation of ideal Italian life, with cafés, restaurants and a tiny opera house, and on the other side, the little Gothic cathedral with its tough brick walls regularly patterned by putlog holes that are now noisy and white-bearded nesting boxes for pigeons. The marble that was supposed to form the front was always too expensive (and sometimes too unfashionable) to be added.

But the rough walls (and curious opening hours) contain a most unexpected and precious marvel. In the early Renaissance, the diocese asked Andrea Delitio to paint the Life of the Virgin over the choir. Even now, it is awe-inspiring and extremely moving, but to the late fifteenth century largely illiterate congregation, it must have seemed miraculous – the Gospels brought to life, with they themselves as actors in the stories. Little-known Delitio has been written down by art historians as a late Gothic provincial master. Yet his people are real individuals who look at us over six hundred years with every nuance of character, from grace and dignity to stupidity and concentrated evil. The proto-Renaissance spaces in which they are portrayed extend the Gothic volumes of the cathedral into a magic world that is completely unattainable – though it has a modern counterpart in the square outside. P.D.

Alias

Highframe, a design by Alberto Meda.





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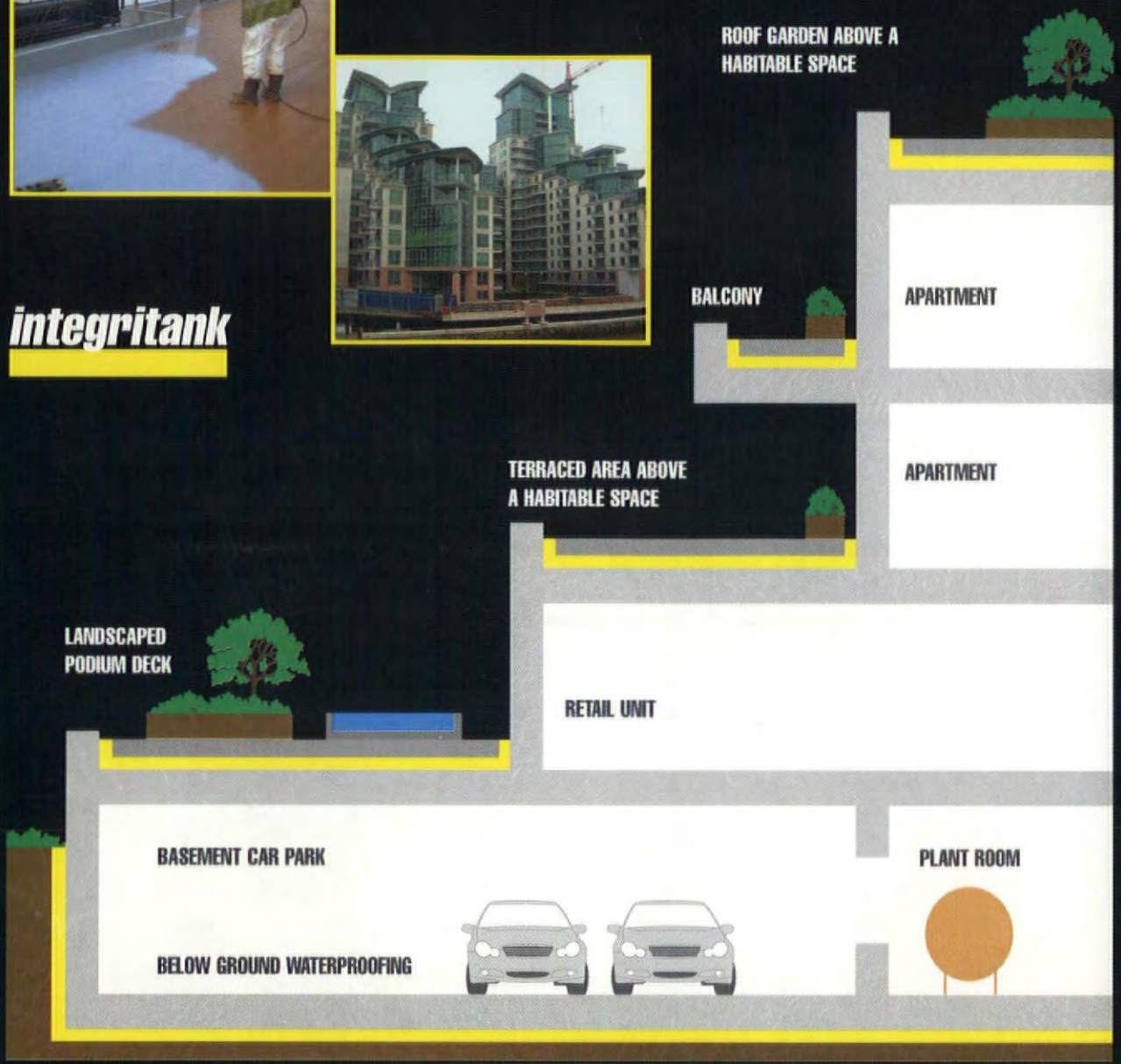

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