WORLD ARCHITECTURE

The business magazine for the global architect

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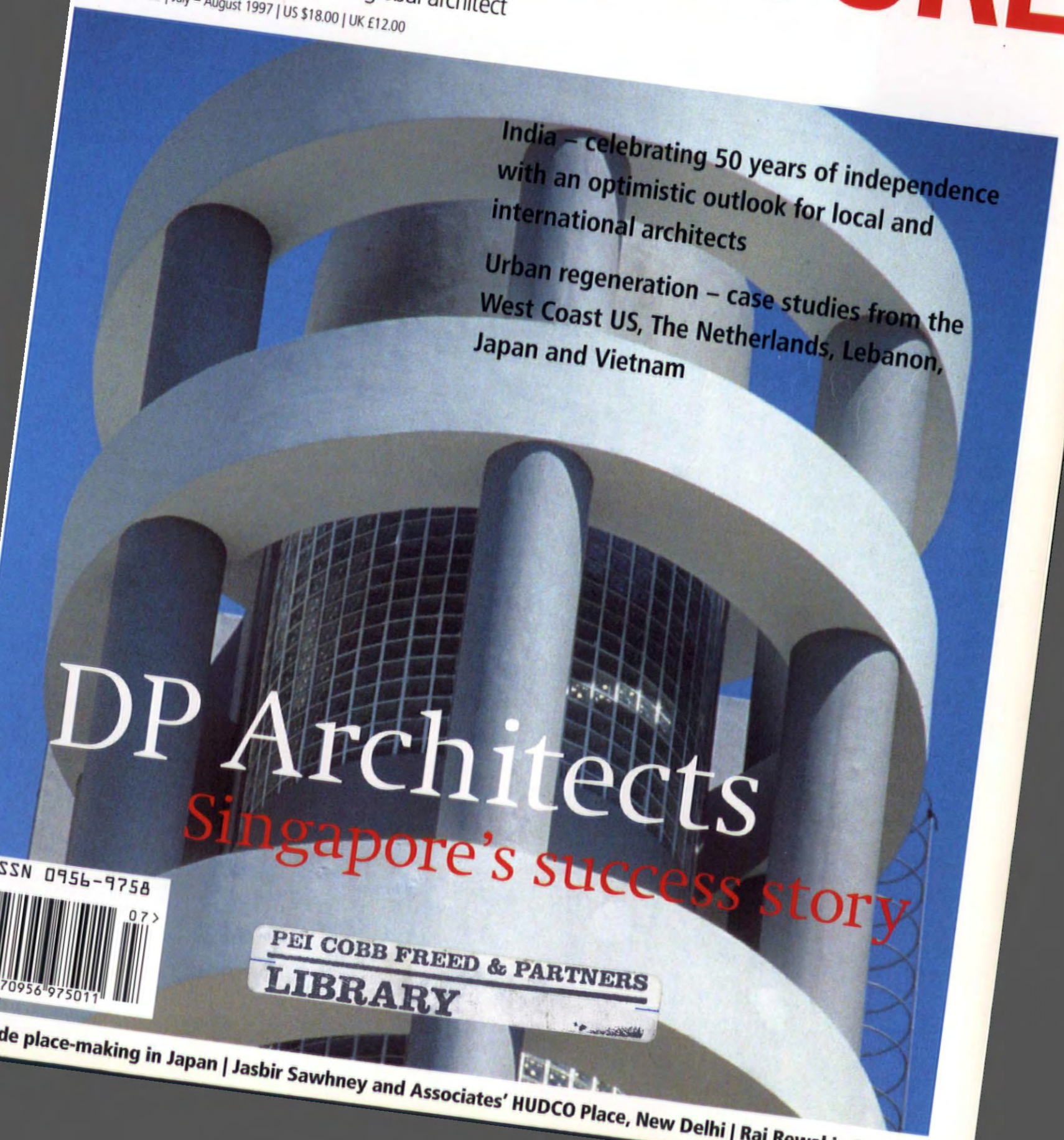


India – celebrating 50 years of independence with an optimistic outlook for local and international architects

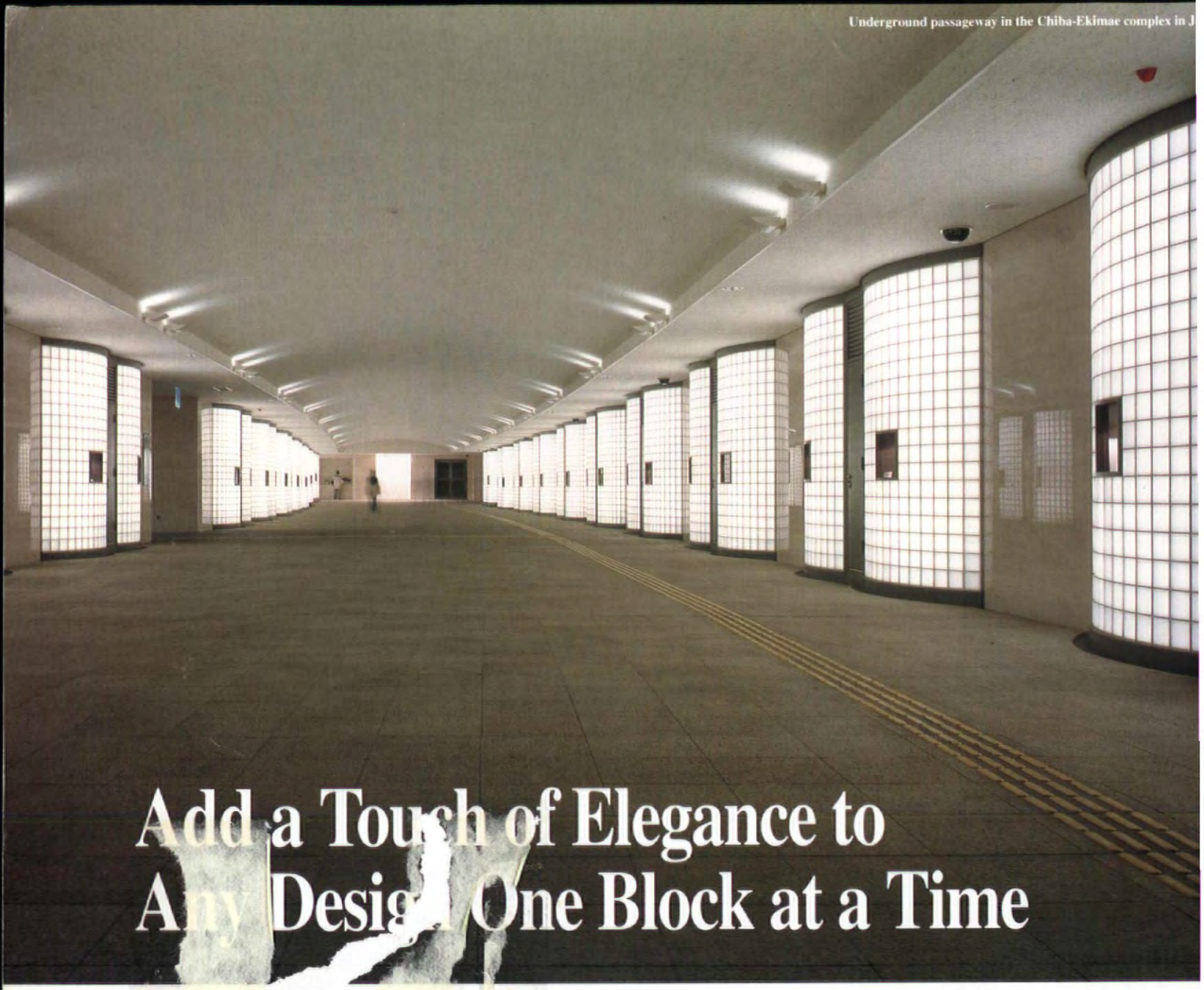
Urban regeneration – case studies from the West Coast US, The Netherlands, Lebanon, Japan and Vietnam

DP Architects

Singapore's success story

ISSN 0956-9758

Jon Jerde place-making in Japan | Jasbir Sawhney and Associates' HUDCO Place, New Delhi | Raj Rewal in Mumbai



Add a Touch of Elegance to Any Design, One Block at a Time

Maximize Design Potential with the Versatile Look of Opaline Glass Blocks

Opaline translucent opalescent glass blocks bathe the interiors with a soft, milky-white light reminiscent of the radiance of opals. As exterior walls, they subtly modulate the intensity of natural light, helping to create a truly tranquil environment. In interior spaces, opaline blocks emit a uniform and soft light that gently fills rooms with the warm feeling of comfort.

Two types of opaline glass blocks are available to accommodate a wide range of architectural styles. When used with certain designs and furnishings, lattice-patterned opaline walls can help create the ambiance of traditional Japanese "shoji," translucent sliding panels framed in wood. Or, when used with more contemporary settings, they showcase the beauty of modern interiors.

PLAIN

With a smooth finish both inside and out, this style emits a softly diffused light over an entire area.
Size: 145 x 145 x 95 mm or
190 x 190 x 95 mm

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The fine grid-pattern on the inner surface provides an elegant setting as it gently spreads light.
Size: 145 x 145 x 95 mm or
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Opaline

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Cover
Detail of stairwell at The Bayshore apartment complex, Singapore by DP Architects

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the natural choice

forbo

Harmony of colours with hues: The exterior design of the mail order center Bader in Pforzheim (Germany) plays with variations in silver, blue and grey.

Architects: Novotny Mähner & Assoziierte, Offenbach/Main (Germany).

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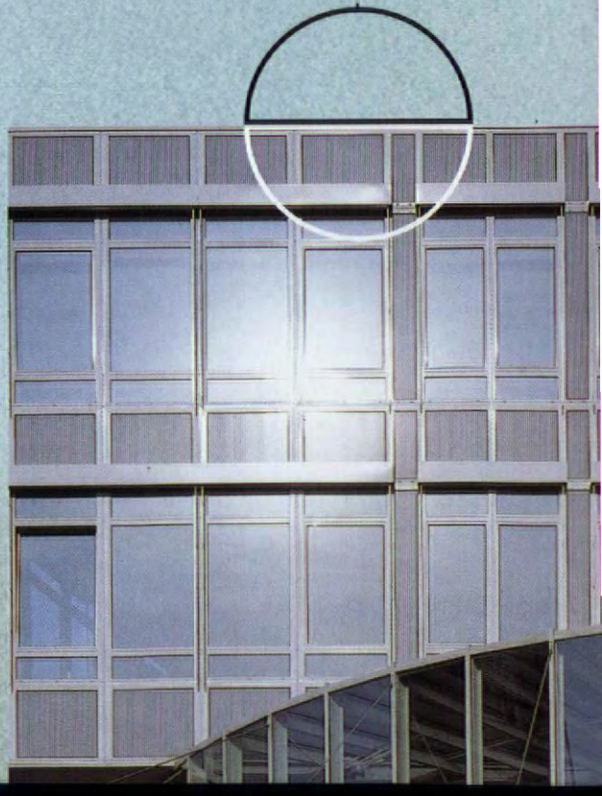

From a distance the parapets screen printed with DELOGCOLOR DESIGN are noticeable as homogenous areas of colour which softly swirl around the windows.

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Unusual ideas

An innovative kind of paint...

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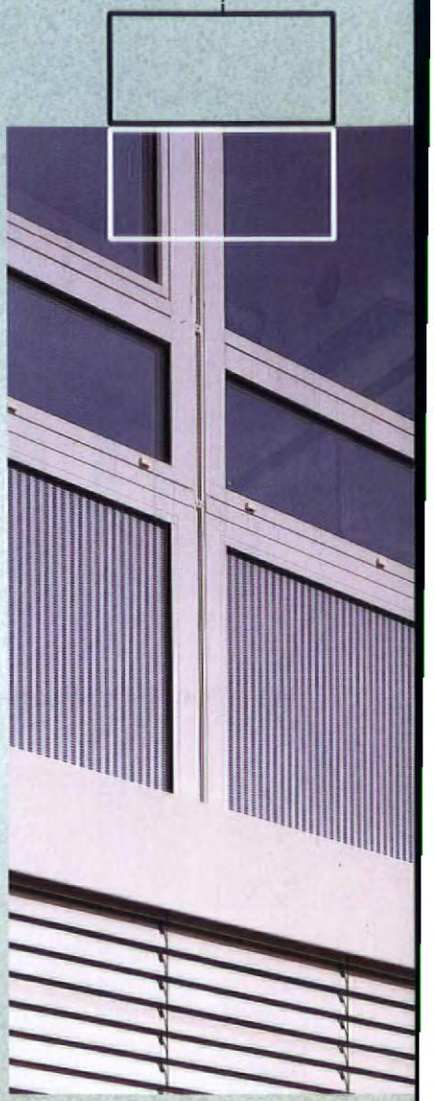
At the mail order center Bader in Pforzheim (Germany), a greyish white stripy design was chosen, softly contrasting with the energy saving glazing K-PLUS® and the metal sections of the exterior system. In order to achieve the greatest possible colour authenticity, the design was printed onto OPTIWHITE® brilliant white glass, a low iron glass. As well as corresponding and contrasting colours on exterior panels, there is, also the possibility of printing window glazing with colour – for decoration or to finely adjust the incidence of light.

Speak to us about your unusual ideas – we will find exceptional solutions in glass.



Lines and surfaces: The close-up shows a subtly differentiated play on colours, shapes and structures. The stripy design on the parapets from DELOGCOLOR DESIGN forges a link between metal and glass.

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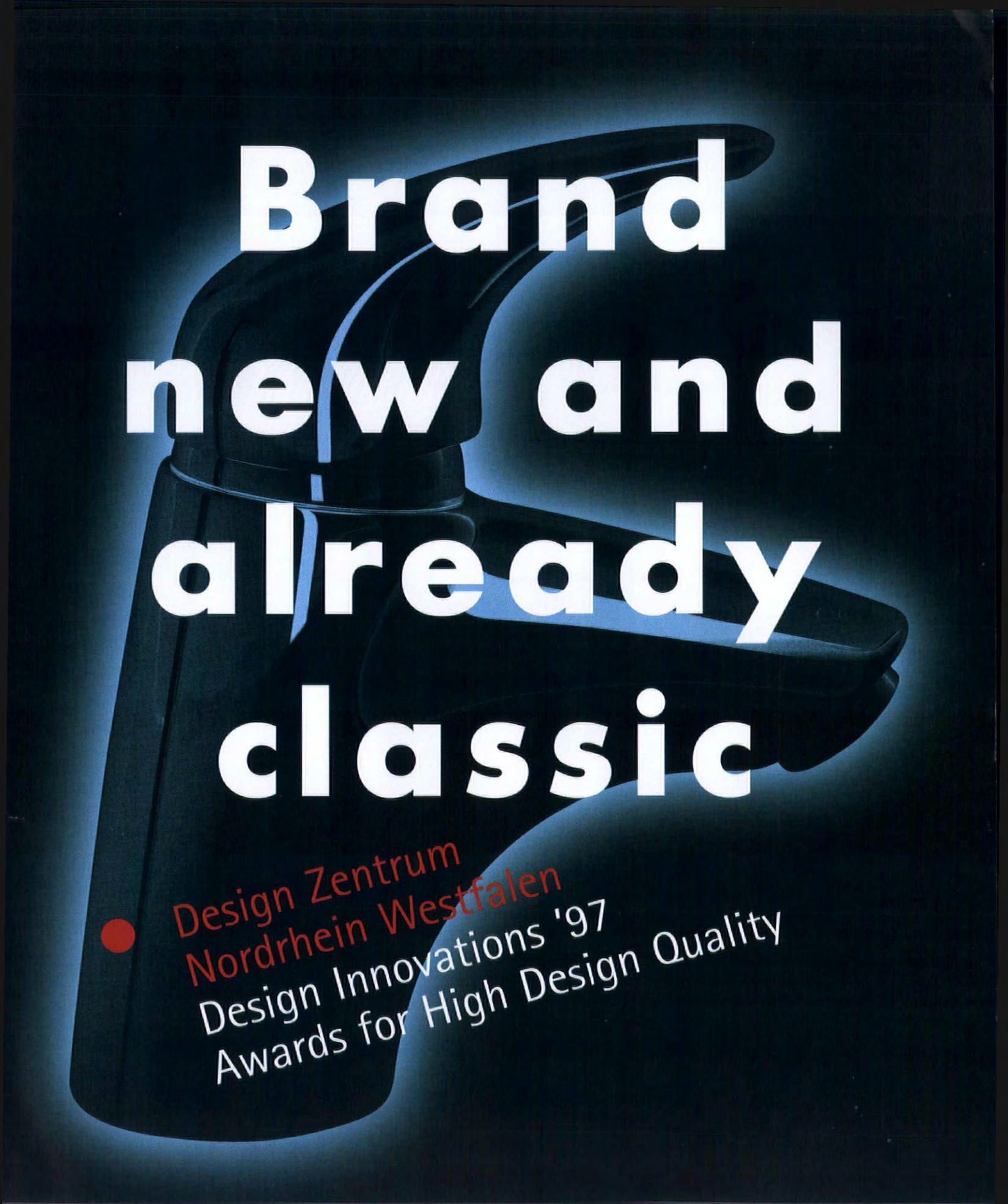

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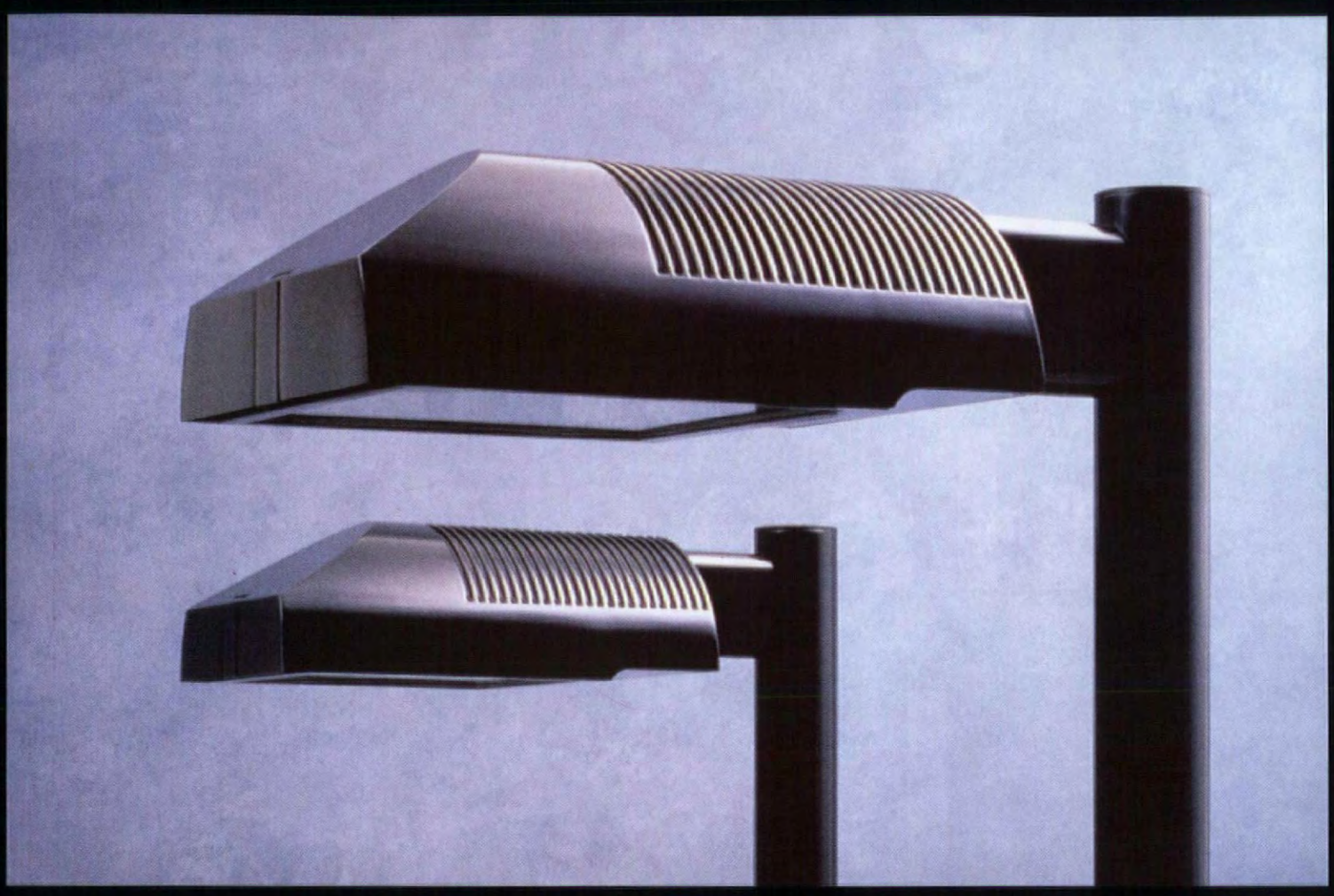

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Hawa AG in Mettmenstetten, Switzerland

This growth is an expression of Hawa's innovative power and of its ability to constantly come up with new solutions and products. This calls for both international patents as well as considerable investments.

But it has not just been the above factors that have helped the company on its road to success, for Hawa AG focuses on high-quality sliding technology, develops and manufactures products and sells demanding solution in line with the requirements of the market. And for Hawa, its customers have always enjoyed the highest priority – true partnership at every level.

Cafeteria in the Louvre in Paris, France

From Hawa, you receive more than just Hawa products.

Hawa does not simply manufacture and sell hardware systems, it also offers solutions. This is why you can count on our full support right from the start. For Hawa, partnership is not a catchword, it is a corporate philosophy.

Support

You can also expect to receive our support at all levels. We are often able to save our customers from making unnecessary detours already in the planning stage. We also provide our sales partners with a wealth of sales and product material.

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Wordwide referencies...

Recently, a further large-scale HAWA-Variotec 100 /G system was installed in Melbourne Airport, encompassing 12 complete installations with a total width of 100 metres, 96 sliding doors and 4 revolving doors.

... and a lot of other applications

Whether in the cafeteria in the Louvre, the Citibank in Taipei, the Neckar-Shopping-centre in Esslingen, the private residence of the Sultan of Brunei or in the Nissan-showroom in la Coruña, Hawa's all-glass sliding wall system creates a sensation wherever it shows up. It is becoming ever more popular amongst renowned architects throughout the world thanks to its timeless elegance, durability and the versatility of its modular track system.

Neckar Shopping Center, Esslingen, Germany

For more detailed information, please contact:

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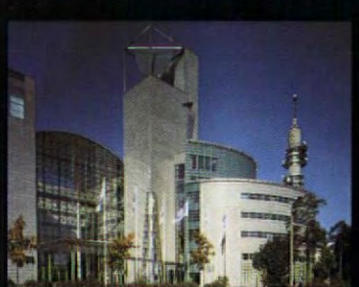

The Finnish Broadcasting Company
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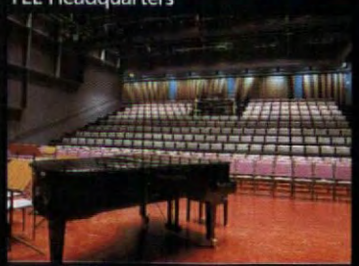

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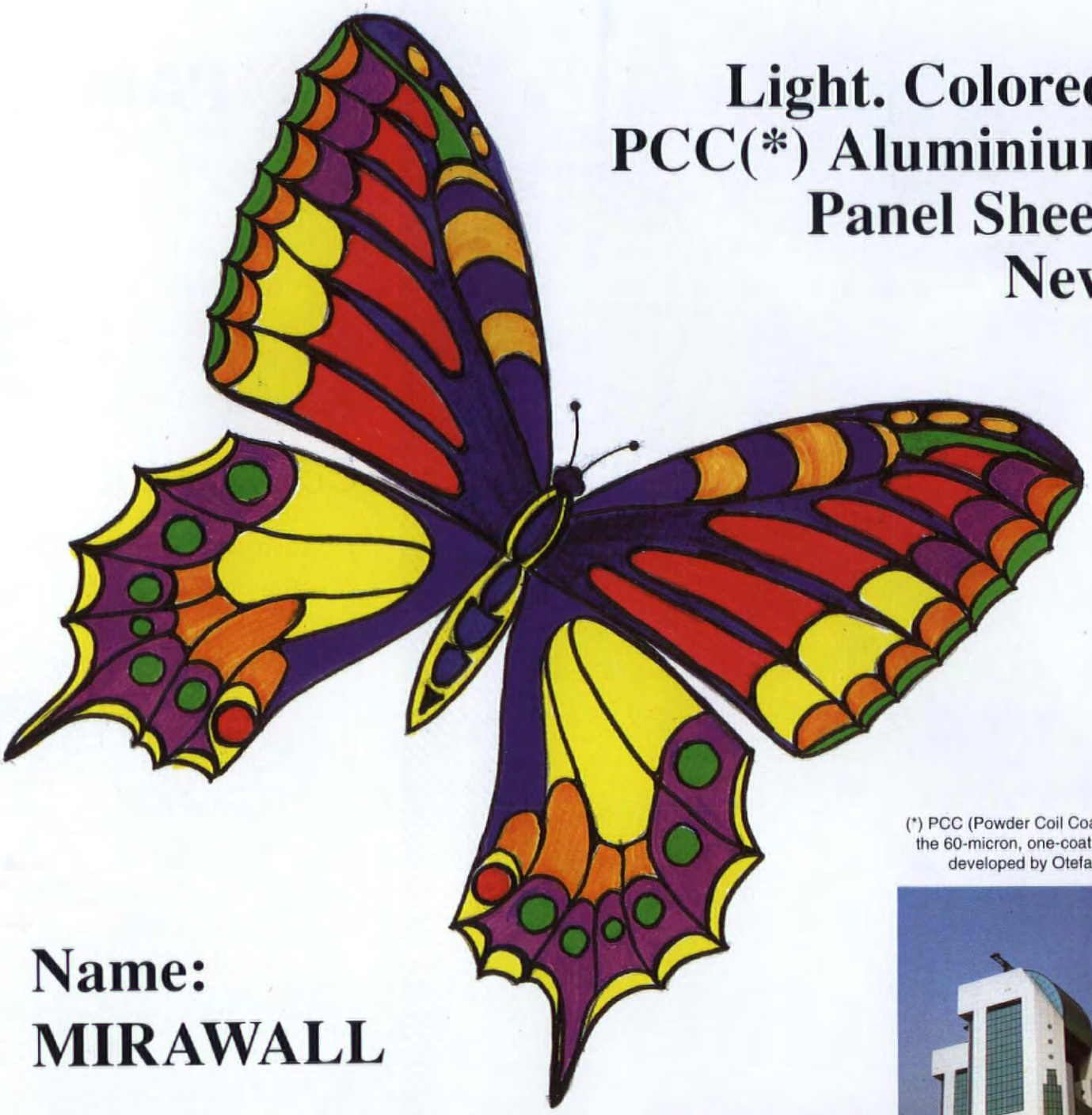

(*) PCC (Powder Coil Coating): the 60-micron, one-coat finish developed by Otefal Sud.

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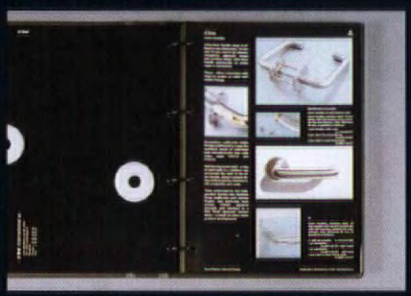

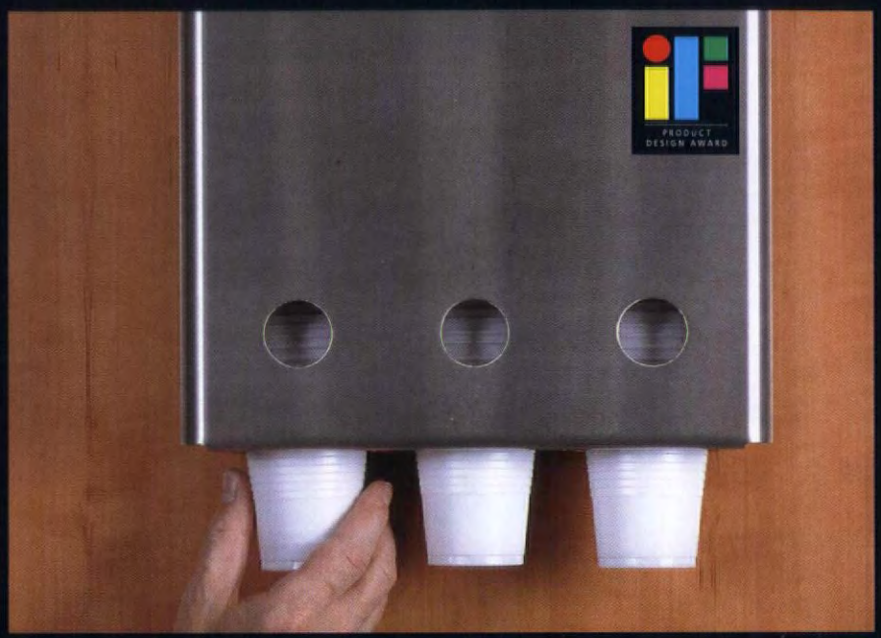

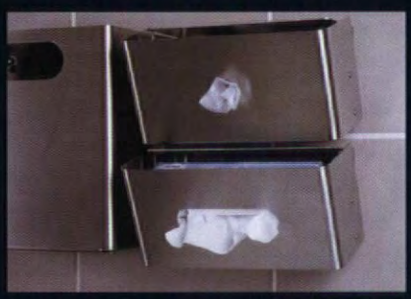

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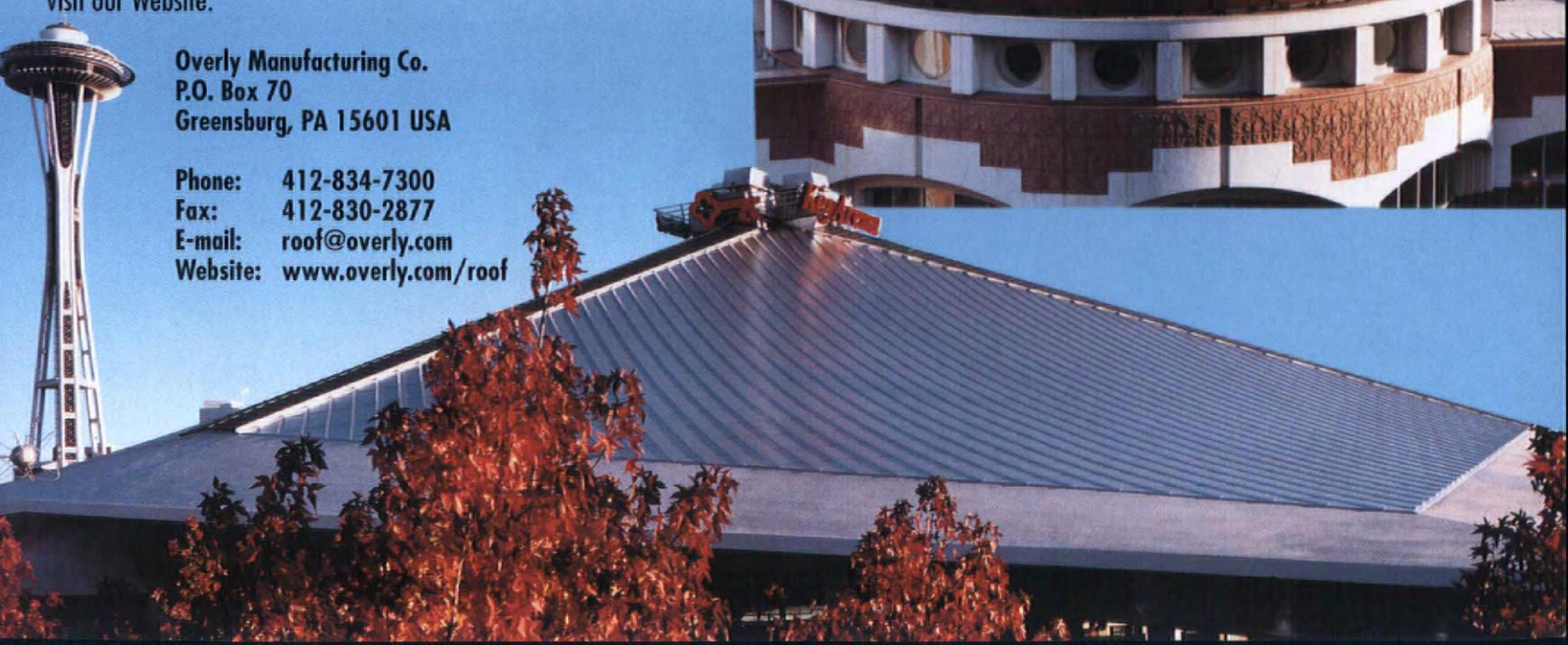

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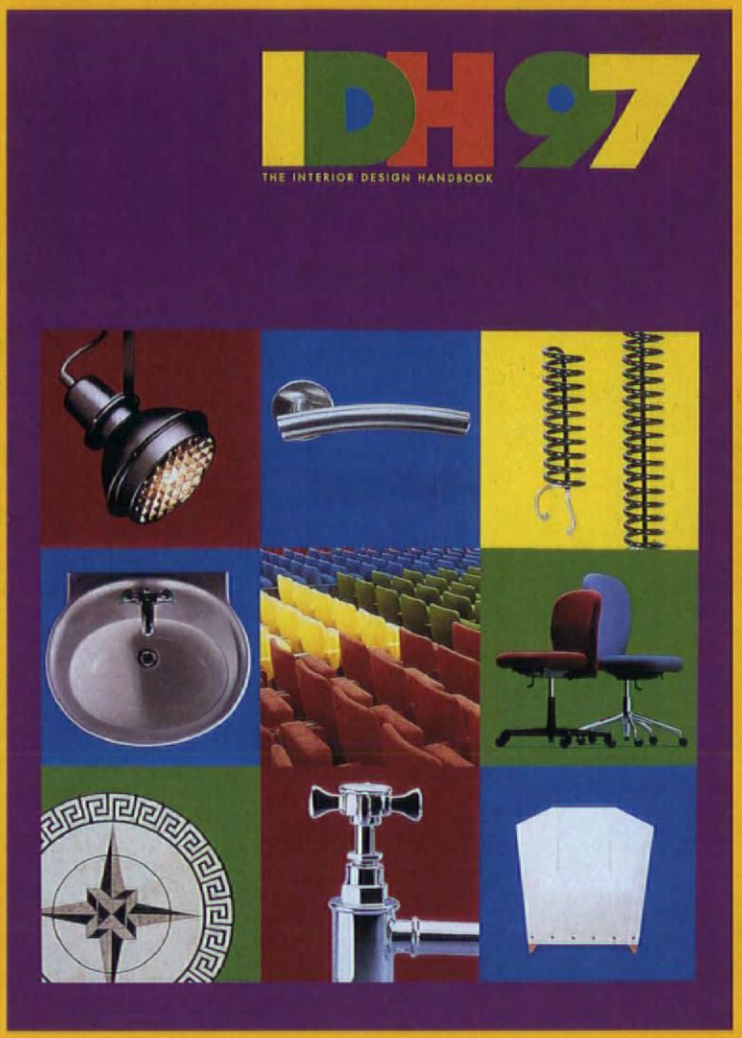

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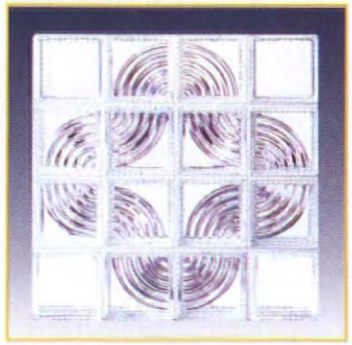

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CERAMIC TILES FROM SPAIN

Ceramic Tiles from Spain

AZULEJOS SANCHIS S.L.

Spain
Tel: (34 64) 36 01 00
Fax: (34 64) 38 64 81

This company was founded in 1919. Their production capacity is 14,000 square metres per day, 47% of which is exported. The picture shows a composition of the whole range of single colour "GRES" earthenware tiles in 20x20cm. Azulejos Sanchis offers the widest range of colours available on the market – the 20x20cm floor and wall tiles are available in 28 different single colours.

EL BARCO S.L.

Spain
Tel: (34 64) 60 01 47
Fax: (34 64) 60 51 94

U.K.
Matex U.K.
Tel: 01628 22066
Fax: 01628 773515

This company was established in 1901 but became known as El Barco in 1955. Since 1985 El Barco have been exporting almost all of their production. They currently export almost 75% of their production to member countries of the European Union and the remainder to America.

The picture shows the new "BELEN" model in 20x25cm available in peach together with a listello in silkscreen print 7.5x20cm and decorated tile in silkscreen print in 20x25cm. Also available is the peach BELEN earthenware floor tile in 31.6x31.6cm.

TODAGRES, S.A.

Spain
Tel: (34 64) 52 13 00
Fax: (34 64) 52 56 50

U.K.
Region Scope Ltd
Mr Paul Burke
Tel: 01535 274538

Todagres S.A. recently introduced new white body floor and wall tiles at CEVISAMA (Valencia, Spain) and amongst their new ranges they present the GUELFA floor tile in 33x33cm available in white, blue, beige and grey. Matching listellos 16.5x33cm, inserts 16.5xl6.5cm and skirtings 8x33cm complete this series. The GOTICA series is available in pearl, sienna and jade in the 20x25 and 20x20cm formats together with a wide range of special pieces. The VIRGINIA series is available in 20x25 and 20x20cm in wall tiles and 33x33cm in floor tiles. This series is recommended for use in residential areas and is completed with matching listellos and trims.

"METROPOL" AZULEJOS SAFONT, S.L.

Spain:
Tel: (34 64) 36 02 06
Fax: (34 64) 38 60 61

U.K.
Mr Brian Painter
Tel/Fax: 01932 243987

Azulejos Safont S.L, under the name of their commercial trade mark "Metropol", present new ranges in ceramic floor and wall tiles, adding different formats to their rustic series. The new SEVILLA series presents the smooth CARTUJA tile and the decorated ABRIL tile together with the angle ALBAHACA and octagon CARTUJA, all available with tacos. This series is presented in 20x20cm in wall tiles together with ALCORA, another rustic series which is also available in the same format.

The picture shows the mosaic SAHARA model in 10x10cm in white with hand painted decoration and listellos together with frames from the same series in 20x20cm. The VICTORIAN series is also available in 10x10cm, in gloss colours green, blue, burgundy, white and cream with hand painted decoration and listellos and matching frames in 20x20cm.

AZU-VI, S.A.

Spain
Tel: (34 64) 50 91 00
Fax: (34 64) 50 91 10

U.K
John Brown
Tel: 01535 632708

Azu-vi S.A. is one of the leading manufacturers of ceramic tiles in Spain. The company was established in 1957 and has a daily production capacity of up to 25,000 square metres of white body wall tiles with matching accessories and red body floor tiles.

Azu-vi S.A. has recently added a line of glazed porcelain floor tiles to their range and over the last few years has developed a number of product ranges to suit the specific requirements of the U.K. tile market.

ALCALAGRES S.A.

Spain
Tel: (34 1) 886 6018
Fax: (34 1) 886 6248

Alcalagres, S.A. specialise in the manufacture of exclusive porcelain tiles and present their new VOLCANES series as well as the incorporation of new formats and models to their well known LAGOS and SIERRAS series. The VOLCANES series is available in the 40x40, 30x30, 30x15 and 15x15cm formats together with a wide range of decorative pieces.

CERAMICAS DEL FOIX S.A. "ROCA"

Spain
Tel: (34 3) 8186102
Fax: (34 3) 8981156

Roca was founded in 1917 and opened its own ceramics factory in 1980. One of the five leading bathroom specialists in the world, Roca also offer materials of excellent quality for the whole house, for interior and exterior use and for use in residential as well as public areas.

The picture shows the PG1 N series, a hard wearing floor tile which is easy to clean with a PEI 5 in 40x40cm with a 40x20cm border.

"GAYAFORES", HIJOS DE F. GAYAFORÉS, S.L.

Spain
Tel: (34 64) 62 62 62
Fax: (34 64) 62 60 00

U.K.
Mr Paul Burke
Tel: 01274 493501
Fax: 01274 548655

Gayafores, as it is today, was founded in 1940, however the family tradition of manufacturing ceramic tiles started a century ago. Gayafores export 55% of their production and their total production capacity is 3,000,000 square metres with 13,000,000 complementary pieces. The picture illustrates the URBITEC series available in six colours: blue, beige, white, grey, green and graphite. This series has a PEI V, 9 MOHS and is frost resistant, making it suitable for indoor as well as outdoor use.

AZTECA CERÁMICA S.A.

Spain
Tel: (34 64) 386059
Fax: (34 64) 361462

Azteca Cerámica is a company with 205 employees that produces 5.5 million square metres per year and exports 60% of its production. The colours and formats of the PIZARRA series can be easily combined. Formats available are 31.6x31x6, 15x31.6 and 15x15cm in cinnabar, sand, and graphite. The borders and angles shown belong to the CARTAGO and CARTAGENA series. Steps and skirtings are also available. This series is resistant to flexion, crazing, frost, stains, chemicals and is slip resistant.

COLORKER, S.A.

Spain
Tel: (34 64) 36 16 16
Fax: (34 64) 38 64 32

Colorker presents their CASTILLA, GALICIA and MORELLA series in 20x20cm in wall tiles together with co-ordinating floor tiles in 33.3x33.3 and 20x20cm formats.

In red body floor tiles, Colorker presents the SEGOVIA model, a natural, rustic tile available in the 33.3x33.3cm format. Also the RIOJA series in 33.3x33.3cm which has a softer appearance, is suitable for domestic use and is accompanied by a range of special pieces.

The PRAGA series white body wall tile in 20x25cm is available with a co-ordinating floor tile and has been specifically developed to suit the requirements of the U.K. market. The OSLO and BERLIN series in the 31.6x44.6cm format, together with matching floor tiles, complete the range of products on offer.

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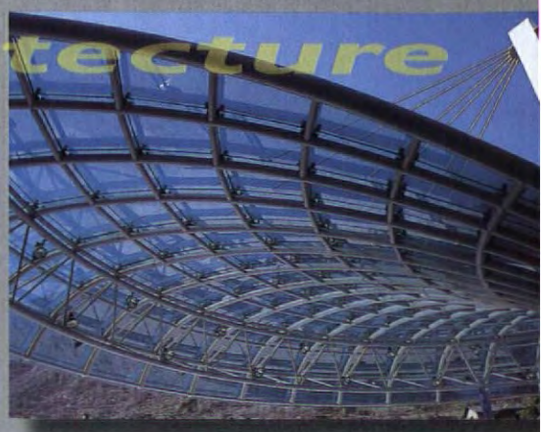
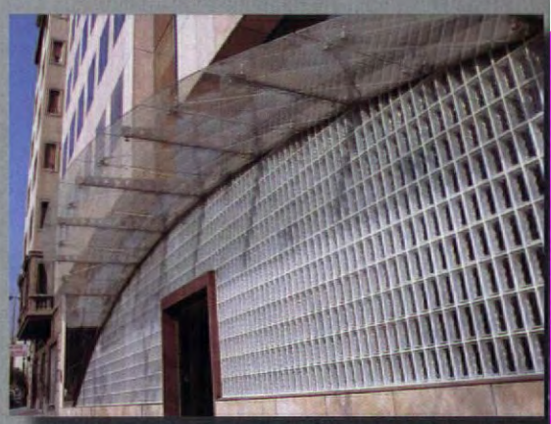
National Theatre of Catalonia, Barcelona.
Architects: Ricardo Bofill.

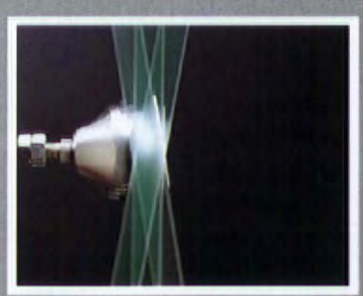


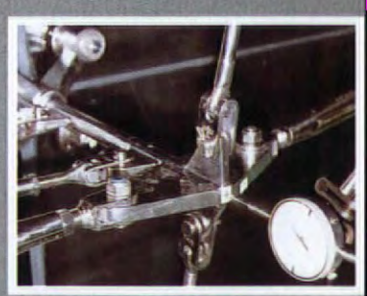
Town Hall Encamp, Andorra
Architects: Bellapart Engineering.

Lisbon Aquarium
Architects: Cambridge Seven Associates.



Ciba Geigy, Barcelona
Architects: Master Ingenieria.





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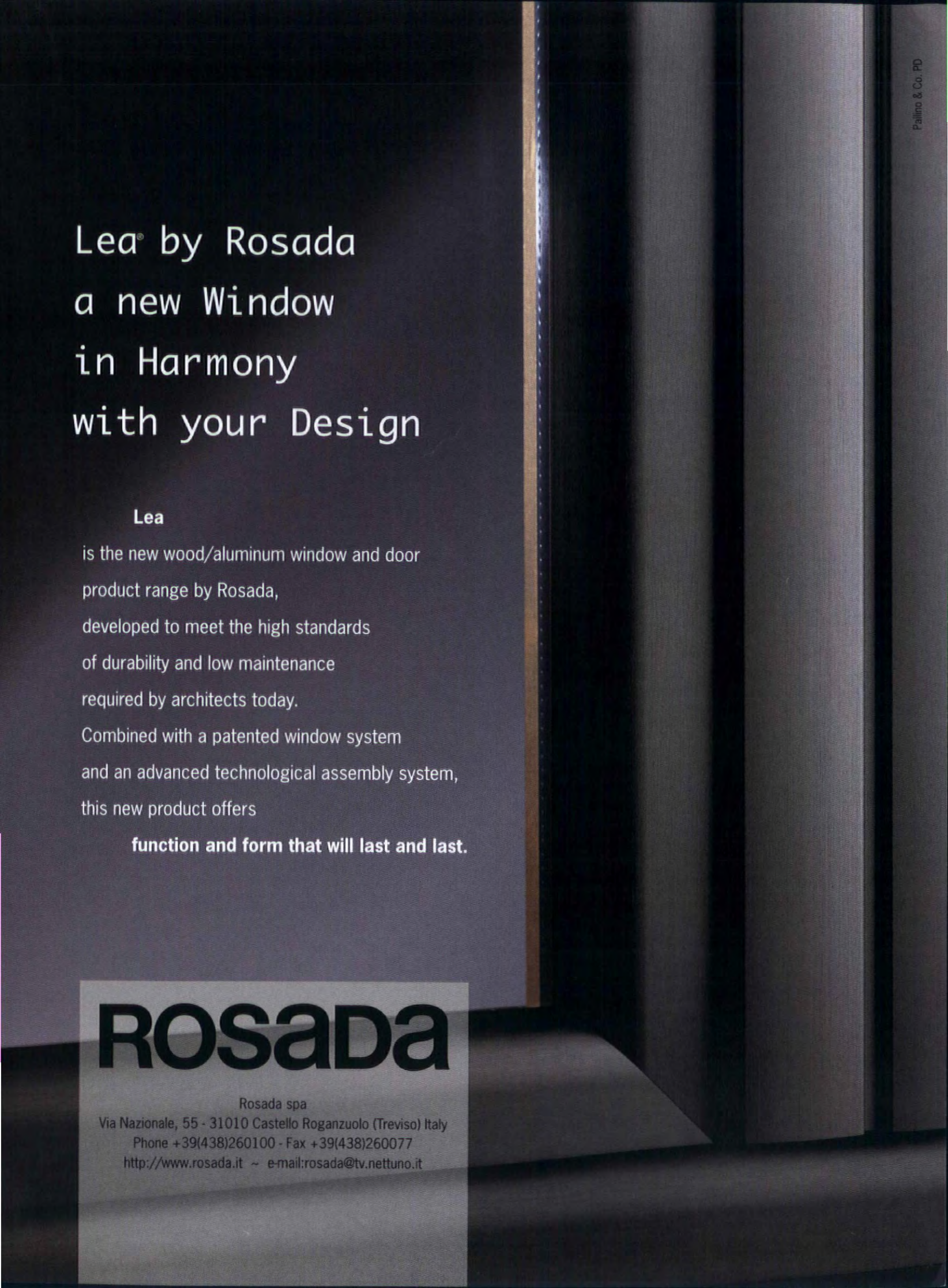

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In favour of a youth culture

They may be self-conscious, and you could argue that their exhibitions perpetrated the romantic, and by now outdated, ideals of the "young" architect – but the International Forum of Young Architects (IFYA) was the only dominant and significant presence in a festival of international architecture at the International Academy of Architecture's Interarch '97, in Sofia, Bulgaria, in June. While this shows optimism and energy in the community of architects under 40 years old, it is more significant as a pointer towards the desperate need for rejuvenation of the "old guard". As at last year's UIA congress in Barcelona, the Interarch proceedings were painfully lacking in organisation and coordination, and the "stars" who were wheeled out were a predictable cast list of the same old names. They were given the opportunity to broadcast well rehearsed lectures and peruse a one-dimensional, poorly presented array of display boards thrust up in the atrium of the Architecture School. Very few project descriptions accompanied the poor images, and in many cases the date of the work – and sometimes even the name of the architect – was indecipherable or entirely absent.

Organising such an event in a developing country is bound to be fraught with difficulty, and critics and conference members alike were sympathetic to the limited resources available to the Interarch committee. But two exhibitions in particular highlighted the polarity between the inspired "youth culture" and that of the "old guard", and demonstrated that finances and hi-tech gymnastics are not required to produce a decent show. "Twenty Young Architects", organised by the French section of IFYA and the Iakov Chernikhov Foundation, employed simple display boards of carefully-chosen images, and articulate text, plus a slide show. International representation was good, although not total, and the "categories" of architecture straddled built works and purely conceptual ponderings. What was most significant in this, and the show organised entirely by the French section of IFYA, entitled "The Big Shelf" (consisting of young architects' visual responses to a series of six questions) was the evident cross-fertilisation of ideas. International congresses must amount to more than a massing of global names. In the next century, more than ever, architects will rely on fruitful collaboration and an exchange of ideas. This must be reflected at international conferences. There is no longer any room for blind hero-worship.

Nicola Turner

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Letters

"...there is absolutely no critical angle to our local architectural press; only inconsequential praising ... bland talk." Rafael Birmann, Brazil

LETTER OF THE MONTH

Telling it like it is

From Rafael B Birmann, Brazil

"Many local Brazilian architects are dissatisfied with our use of foreign firms. Even where foreign architects are commissioned it is generally for reasons of self interest. By making Birmann 21 the 'feature project' for the forthcoming Brazil country report, you will actually be delivering a much needed shake up to local architects. It is time for them to wake up and shape up! Face the challenge of global services and foreign architects.

That about which I am most sceptical is architectural design: Brazilian architecture has been sleeping since the 1950s – for example we live with:

- an ingrained attachment to some obsolete and meaningless concepts. Whilst large concrete spans are beautiful I personally think that they are for bridges.
- an arrogant disdain for clients: some actually see the client as 'the enemy'. As a business architecture is comical. As an artistic or professional discipline it is pretentious.
- design schools do not train to design: most Brazilian architects have difficulty drawing sketches which makes it difficult to discuss the concept of a job – they would prefer to go straight to the construction documents.
- a focus on the individual's work rather than team work: local firms are owned by a single 'artist' with no room for teamwork, new talent or fresh ideas. We need American-style partnership systems to allow new talent to surface.
- local architects complain of low fees, of being poorly paid so making the successful running of a firm a near impossibility. But comparatively speaking, they are wealthier than their foreign colleagues.

If you approach these and other points you will be addressing the most controversial issues in local architectural circles, and stir lots of heated discussion. Maybe you don't know, but there is absolutely no critical angle to our local architectural press; only inconsequential praising; uncompromisingly bland talk. Take the case of Oscar Niemeyer, our eternal "sacred cow". Only one architect – Joaquim Guedes – in the whole country dares to criticise Niemeyer. We need more controversy, different opinions. Please help!

The Country Focus on Brazil will be published in the September issue (WA59)

Have no fear

From Jonathan Wheatley, Brazil

"Some of those interviewed for my article [introduction to the Brazil country report in the next issue *WA*59] expressed the worry that globalisation may dilute the character of Brazilian architecture. This seems unlikely. There is vast demand in Brazil for modern commercial buildings that use the best of international skills. As the economy strengthens, there is also almost limitless scope for new public buildings, from metro stations to art galleries to hospitals, that will make use of the best of local aesthetics and international know-how."

What am I?

From Penny King, US

"The *WA*55 editorial, which posed the questions: 'Who or what is the architect' mentioned Professor Kawaguchi as the 'doyenne of Asian structural engineering' and implied that he might be considered 'an architect' by virtue of the fact that 'he presented work which was at least as striking as the architects'. The Arup profile in *WA*57 surely proves that the line separating the professions of architecture and engineering is almost imperceptible. But Martin Pawley hits the nail on the head when he says that Duncan Michael, chairman of Ove Arup Partnership is 'not so much famous among architects, as famous within Arups'. The very fact that *WA* chose to devote 24 pages to an engineering practice shows that this is changing – but when will engineers be properly recognised?"

What are you doing here?

From Colin Makepeace, Republic of Ireland

"'Making a Stand for the Big Bands' (Concept *WA*57), though a well written, and admittedly international feature on the theory behind the practice of stadium set design, seemed an unlikely choice for inclusion in the otherwise coherent report on Theatres and Concert Halls. U2's *Popmart* set is neither a theatre nor a concert hall, it is a grand corporate gesture. Its reference to the McDonald's restaurant logo – arguably the most well-known company logo in the world – is simplistic and representative only of a once-innovative but now fast-fading force in the field of popular music."

The redesign – continued

From N H Schroeder, UK

"Super, I'm delighted with the new format, but be sure to keep up the high quality standards. Also, how about including a section on the end-user perspective, after all they usually pay for the building!"

From Nicholas Olivier, South Africa

"I've always thought that the information and articles in the magazine are excellent. And now as a student the insight that this magazine gives me on world trends, developments and situations is not only extremely interesting but beneficial to my growth as an architect. Thank you!"

From Jake Strong, Dallas

"Overall your re-vamp has certainly elevated the magazine into the 1990s, but I do have a problem with the *News Review* section. What is the point of printing something so small that a magnifying-glass is required to read it – witness *In brief* text and pictures?"

Eleanor Wzekci, Toronto

"The redesign is strong – colour coding and larger pictures are great ideas, but in my opinion, the magazine's biggest dilemma has not been solved. Why do you cover a country and a building type every month? I can understand the inclusion of a company profile, and the products section is always well produced, but please give consideration to a more detailed analysis of either one or the other of your monthly reports."

A rumble in the Orient

WA56 has by all accounts been greeted with a mixture of elation and fury in Singapore. Phone calls, the contents of which we are obviously unable to publish, have confirmed that at architectural events within the city state tongues have been wagging. But architects for and against the WA *portrait of Singapore do not appear confident enough to voice their opinions in print. We welcome the continuation of what has proved to be a contentious debate and look forward to hearing readers' views.*

WA reserves the right to edit any letter. Please send letters to warch@atlas.co.uk, or fax: +44 171 470 7007. The best letter in *WA* 59 will receive a free Lamy fountain pen.

News Review

French honour Portzamparc with Berlin

by Layla Dawson, Germany correspondent

In May Christian de Portzamparc was announced as the winner of the competition for the new French embassy in Berlin. Seven architects competed in the final round. The jury, under Senator Volker Hassemer, are reported to have had a difficult task – some members preferring the Jean Nouvel or Henri and Bruno Gaudin designs.

The 8,000-square-metre building will house not only the ambassador and consular functions but also a cultural centre, accessible to the public directly behind the Brandenburg Gate on Pariser Platz.

Christian de Portzamparc, 1994 Pritzker prize winner and architect of Cité de la Musique and the Paris Conservatory, is one of the most sought after architects in France but his design for the Berlin embassy is very much a toned down version of his characteristic exuberance and fluidity. This may be due to the strict Berlin planning laws which govern height, facades and roof lines.

The Parisier Platz frontage, which matches in height the neighbouring four storey building, has a simple central entrance with canopy and double height windows with angled reveals so that embassy employees will focus on the Brandenburg gate. The built up area of the 1,000-metre deep site is pushed to the perimeter leaving two internal courtyards; a first floor level ambassador's terrace and a sculpture garden, adjoining the cultural centre cafe. The back wall of the site is envisaged as a "vertical garden", its surface covered in a variety of climbing plants. Estimated to cost US$50,000 million (FF250,000 million) the building is planned for completion in 2000.

Nicolas Borel

London's Docklands ExCeL-ing

London's Docklands, the speculative development of Lady Thatcher's prime ministerial reign, which many began to believe would remain a white elephant, is showing signs of good health.

With 19,000 people now working in Canary Wharf, and 80 percent of the existing 4.5 million-square-foot first phase development full, the momentum for further growth is evident – plans are already in place for the second phase, which could add as much as 10 million square feet, with one building already pre-let to Citibank.

But the most significant fillip to the area is the proposed Exhibition Centre London (ExCeL). The London Docklands Development Corporation (LDDC) have granted planning consent for all three construction phases of ExCeL, which will join London's Olympia and Earl's Court, and Birmingham's NEC as Britain's only international standard exhibition centres. Located on the north side of Royal Victoria Dock, ExCeL's 100-acre site will be accessible from the soon-to-be-completed extension to the Jubilee London Underground line – now due for delayed completion in autumn 1999 – the London Docklands Light Railway and British Rail.

ExCeL, a consortium consisting of Kværner, Sir Robert McAlpine, Try Construction and Expovenue is backed by US venture capital group Warburg Pincus, in a US$160 million (£100 million) Private Initiative Scheme (PFI). Warburg Pincus came in on the scheme in mid-May, at a time when the consortium was looking likely to fail. However, at this time it had become clear that the National Boat Shows, a major revenue provider to Earl's Court over the years, were interested in using the new venue on the condition that the 92,800 square metre first phase of the scheme (of which 47,000 square metres will be lettable exhibition scheme) is complete by March next year. However, regardless of the National Boats Shows' commission Iain Shearer, Chief Executive of ExCeL feels that, "demand is so strong that we are planning to accelerate the start of the second phase".

It is estimated that the ExCel development will attract 2.8 million visitors per year who will spend US$435.2 million (£272 million) in the area and generate more than 14,000 jobs.

Sign of the times in Gdansk

The Gdansk shipyard, birthplace of Poland's Solidarity movement and a powerful symbol of Polish nationalism has been sold to developers Dungeon Limited for conversion into a discotheque. The shipyard has fallen on hard times – only 1,400 workers remain from the days when12,000 workers were employed at the Lenin shipyard, as it was known in 1980, and crippling debts of US$160 million (£100 million) have been run up since the Polish government wrote off the majority of the shipyard's debts in 1990.

Dungeon, who have declined to comment on the development, have built up a string of similar establishments around the country though none in such a sensitive location. Commenting on the development, which will open in time for the summer trade, Lech Walsea, former president of Poland and once an electrician at Gdansk, said: "In the West you can make money out of anything. Now it seems it's the same in Poland".

In brief

GERMANY

Weimar's cultural rebirth

Weimar, the European capital of culture for 1999, has announced its first construction initiative. A 10-hectare site will be developed for educational, residential and social use. Diener & Diener Architects of Basel have been chosen to lead a team including Viennese architect Adolf Krischanitz, and Locarno-based Luigi Snozzi. The majority of the site will be taken up by a community of 240 apartments designed by Krischanitz.

ISRAEL

Tel Aviv peninsular development down to three

One of the three radically different proposals – put forward by Herman Hertzberger, the Richard Rogers Partnership and Israeli architect Moshe Tzur – for the Tel Aviv peninsular development will be chosen in an attempt to stem Israel's drastic problem with overcrowding. Rogers' plan is high density with low environmental impact; Hertzberger suggests a series of islands linked by a causeway and Tzur proposes an extension of the city's Geddes Plan. With annual immigration running at one percent of the 5.6 million population whichever proposal is chosen it is likely to represent only a short-term solution.

ITALY

La Fenice gets the go ahead

The jury is still out on whether the disastrous fire on 29 January 1996 was the responsibility of Italy's Mafia, an attempt to delay building deadlines, or simply a tragedy of operatic proportions. Whatever the verdict, Venice's 205-year old La Fenice opera house, which has now suffered three fires, is to be rebuilt once again. A consortium led by Impregilo, Italy's largest construction company, won the US$52.8 million (Lira 90.2 billion) contract in May, and completion is forecast for summer 1999.

SOUTH KOREA

Ellerbe Becket in In'chon

Ellerbe Becket has been awarded contracts for architectural design, project management and construction management of Hae Song Plaza, in Inch'on, a town 25 kilometres west of Seoul. The 40-storey, 300,000-square-metre building will house: a 550-room five star hotel; department store; shopping centre and a 2,700-space parking area. All amenities will be directly accessible from the nearby Inch'on Airport – currently under construction. The focal point of the building will be the 1,000-square-metre atrium stretching over five to seven storeys. Speaking after the award of the contracts Kyun Kim, AIA senior vice president of Ellerbe Becket and project director said that "within 90 days of our first conversation with Ok Joong Kim, chairman of Hae Song Limited, we started work on concept studies for this project. In the 35 years of my career I have not experienced a project that proceeded this smoothly". Construction is scheduled to start later this year, with completion expected in 2001.

UAE

40-storey tower in Dubai

London-based Hyder Consulting has won the role of lead consultant and project manager for Kendah House, a 40-storey office tower in Dubai, United Arab Emirates. Sited on a 1,200-square-metre plot on Sheik Zayed Road, the US$44.8 million development will contain 36 floors of office accommodation – totalling 47,200 square metres – plus a two storey penthouse. A ten-level purpose-built parking facility will be located behind the main structure. Holford Associates has been appointed as architect, Donald Smith Seymour & Rooley as mechanical and electrical engineer and Hanscomb Associates as quantity surveyor. Construction will start in September, with completion two years later.

UK

Grimshaw plants his Garden of Eden

Nicholas Grimshaw and Partners has been assured US$59.2 million (£37 million) of lottery funding, by the Millennium Commission (MC), towards the construction of the firm's spectacular Eden project – a 26,000-square-metre enclosed botanical garden in a disused clay pit near St Austell, Cornwall. The MC have emphasised that the award is an "initial" contribution towards the US$169.6 million (£106 million) required to complete the project.

The Eden project is comprised of a series of biomes – controlled environments – of up to 60 metres in height. The US$59.2 million will help fund the first phase which will house the rain forest, Mediterranean and temperate environment biomes. The development could go on site as soon as January 1998.

BDP shopping centre

British practice, Building Design Partnership (BDP), was selected as a Certificate of Merit winner in the American International Council of Shopping Centres' (ICSC) 1997 Design Awards held in Las Vegas on 20 May, for its refurbishment of the Brent Cross enclosed shopping centre, UK. The addition of 60,000 square feet to the existing 790,000-square-foot structure was achieved whilst the centre remained fully operational.

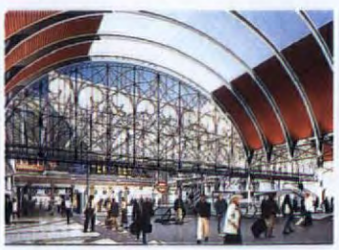
BDP has also won a British Council of Shopping Centre's Refurbishment Award and an ICSC Europe Commendation for their work at Brent Cross (shown below).

London's stations get back on track

London's long-neglected railway stations are about to receive a well-deserved face-lift. In June, Railtrack launched a US$1.6 billion (£1 billion) regeneration programme for London's commuter stations. Work on the programme, which will effect nearly all the 2,500 station's under Railtrack's control, has already begun and will be complete by 2001.

The focal point of the scheme is Nicholas Grimshaw & Partner's US$80 million (£50 million) face-lift for Isambard Kingdom Brunel's nineteenth-century Paddington station. The re-design involves stripping the roof down to its original Victorian elements and incorporating a new mezzanine level with facilities for the new high-speed link to Heathrow airport.

The plan is expected to create 6,000-7,000 construction jobs over the next four years.



Concert Hall on the Tyne

A longlist of a 12 architects has been chosen for a competition to design a concert hall and music centre on the banks of the River Tyne, Gateshead. Amongst the contenders for the US$68.8 million (£43 million) building are Ahrends Burton and Koralek Architects, Erick Van Egeraat Associates Architects, Foster & Partners, Rafael Viñoly Architects, RHWL Partnership and the Napper Partnership. The concert hall will occupy an elevated site overlooking the Tyne Bridge, next to the imposing Baltic Flour Mills which is due to be converted into a US$72 million (£45 million) complex for the contemporary arts. The 12 contenders have been asked to put forward outlined propsals for the building. A shortlist will be announced within the next two months.

US

Moneo's calling in LA

As reported in September 1996 (*WA*49) Rafael Moneo won the commission to build the new Cathedral of Our Lady of Angels in Los Angeles. Now, after protracted disputes with local preservationists, the Roman Catholic Archdiocese of Los Angeles is moving quickly towards the commencement of construction on the US$45 million structure.

After it became clear that the Northridge earthquake of 17 January 1994 had caused irreparable damage to the bell tower and entrance of the existing St Vibiana Cathedral (1871-75) the Archdiocese announced plans to raze its remains, and associated historical structures and to make the downtown site the home of the new Cathedral of Our Lady of Angels. However, the Archdiocese were made aware that they would have to look elsewhere in the city for a site or risk alienating a large proportion of San Francisco's population – with 292 parishes, the Roman Catholic Archdiocese is the largest in the US.

In September last year the decision was made to buy a US$5 million 5.53-acre site, bounded by 101 Freeway to the north, Temple Street to the south, Hill Street to the east and Grand Avenue to the west. The ground breaking ceremony will be held on 21 September.

TBA² in flagship bank development

Charlotte-based firm TBA² Architects has been selected to provide interior design services for the new 30,000 square foot Central Carolina Bank (CCB) flagship banking facility at Friendly Center in Greensboro, North Carolina. The CCB is the primary tenant of the 108,000 square foot Green Valley II office complex, currently under construction and also designed by TBA² Architects.

Completion of the CCB is expected in the first quarter of 1999.

HOK in Lambert-St Louis Airport extension

The St Louis office of HOK is architect for the 235,000 square foot East Terminal extension at Lambert-St Louis International Airport. The US$45 million, 12-gate expansion incorporates ticketing, baggage claim, a stacked roadway system and parking space. The redevelopment is scheduled for completion in the autumn next year.

The future according to Istanbul

A rocky 464-hectare site, currently home to grazing sheep, located about a 40-minute drive from Istanbul, has been ear-marked as the location to house the Turkish capital's residential overspill. Istanbul's rapid rate of urbanisation, coupled with the market pressures created by an expanding centre have necessitated the construction of a number of complimentary urban areas around the city.

CHK Architects and Planners, of Silver Spring, Maryland have proposed a scheme, known as Ispartakule, comprising 14,000 residences, 4,000,000 square feet of office space, 90,000 square feet of retail space, parks and public spaces. Access to the site will be provided via the link to the TransEuropean Motorway (TEM). When complete, in approximately 20 years, Ispartakule will be the largest neo-traditional community in Turkey.

The scheme is composed of two primary parcels of land, with a third intervening parcel – currently under separate ownership – being planned integrally. The new town has been designed to stand alone should the third parcel remain unavailable for development.

The site rises between 35 metres above sea level to 155 metres, affording dramatic views over the Marmara Sea and the potential for the integration of "natural" elements into the overall scheme.

CHK are working with local developers Korkmaz Yigit and Gültas AS. The first phase is due to go on site in September.

Australian government fund bridge across the Mekong

Baulderstone Hornibrook, an Australian unit of German construction company Bilfinger & Berger, has been chosen from a shortlist of four to build the 650-metre My Thuan Bridge across one of the Mekong River's two main arms, south of Ho Chi Minh City, Vietnam. Baulderstone Hornibrook won the commission ahead of three other Australian construction companies. The US$66 million project is expected to take 42 months to complete. Construction is due to commence in late 2000. The bridge will be 66 percent funded by the Australian Government, the remainder will be provided by their Vietnamese counterparts. It is the Australian Government's largest single overseas aid project to date.

US nuclear stockpile in safe hands

On 29 May at the Lawrence Livermore National Laboratory, Livermore, California, ground was broken on the National Ignition Facility (NIF), part of the US Department of Energy's (DOE) nuclear weapons Stockpile Stewardship and Management Program. After the signing of the Comprehensive Test Ban Treaty, in September 1996, President Clinton and the US congress asked the DOE to establish a programme to ensure that the reduction of the US nuclear stockpile was handled safely, and to ensure the performance of the remaining stockpile in the absence of nuclear testing.

The centre will also facilitate the study of physical processes at extremely high temperatures and pressures – one thousand million degrees centigrade and 100 billion times atmospheric pressure, the type of conditions that exist only in the interior of stars and in nuclear weapons explosions.

The US$1.2 million NFI is comprised of two buildings: the Laser and Test Target Area Building (for which Ralph M Parsons Infrastructure and Technology Group has been selected as architect/engineer), and the 25,000 square foot Optics Assembly Building (for which AC Martin Partners has been chosen as architect-engineer) where optical components used in NIF fusion experiments wil be cleaned, coated, alligned and assembled – (see illustration below).

Once complete, in 2003, the NIF is expected to have a lifespan of 15 years, with annual operating and maintenance costs of US$60 million.

Steel back in the housing frame

by Katherine MacInnes

As British Steel launched its pan-European light steel framing "Mega 5" project in Oxfordshire, UK this month, a full size house, or at least its light steel frame, was hanging at a 22.5 degree angle from the roof of the Science Museum in London.

Steel frame techniques became popular after the devastation of the Second World War to restore the levels of housing stock at a time when Europe was divided.

Although it is popular internationally – steel framing is now used increasingly in Australia (in up to 15 percent of new homes), Japan (20 percent) and the US (five percent) – European markets reverted to traditional building techniques after the post 1945 gap was filled. However the speed of construction which made it popular then is still an advantage; it is, says British Steel's spokesman "quick and easy to erect, it offers a superior level of insulation and provides opportunities for using hitherto inaccessible areas such as the roof space". The Mega 5 launch focused on a building which uses this light steel frame, specifically a three storey steel frame student accommodation block at Oxford Brookes University, built for monitoring purposes.

Monitors checking the frame response to varying weather conditions and to "normal use" will be collated. The Oxford Brookes project is just one of five steel frame buildings being monitored in Finland, France, Germany, Italy and Holland.

These projects are limited by the requirements of the "traditional house" market, however, and some engineers are frustrated at the fact that the design has not taken full advantage of the long steel span where internal walls could be moved and claim that if more holes were punched into the precut and prepared girders wiring could also be moved, thereby increasing the steel frame technique's potential and flexibility.

British Steel's Surebuild computer programme, which has been developed in tandem with the light steel frame, allows architects to specify the exact frame requirements from their CAD drawings so that the steel can be cut and punched in the factory and the tailor made frame delivered to the site. (See OnScreen *WA59* for further details).

People and practice

THE PHILIPPINES

Construction management deal sealed at Fort Bonifacio

Bovis Asia Pacific has signed a joint venture agreement with the Fort Bonifacio Development Corporation and BCDA Holdings for the construction management of Bonifacio Global City on the site of Fort Bonifacio, a 440-hectare former military camp occupied by the Philippines armed forces near the capital city of Manila.

UK

Director of business at John Laing

Mark Joynson, a civil engineer, has been appointed by John Laing as the firm's new director of business systems. Joynson's principal task will be handling of the company's multi-million pound information technology network.

Senior associate at WAT&G relocates to London

Bill Reed, a senior associate with Honolulu-based practice Wimberly Allison Tong & Goo (WAT&G), has relocated from the firm's California office to London.

Maunsell's new chief executive

Consulting engineer, Maunsell has appointed Peter Head as the chief executive for the firm's UK and Europe operations. Head was previously managing director of G Maunsell, the firm's UK and Europe operating company.

Shepherd Building Service acquires US engineering consultants

Shepherd Building Service Limited (SBS) has bought US firm Dean Oliver & Associates Incorporated. The 100 percent acquisition makes SBS, a member company of Shepherd Building Group (SBG), one of the largest privately owned building firms in Europe. Paul Shepherd, chairman and managing director of SBG says: "It [the acquisition] fulfils two of the key objectives for Shepherd's construction division; to broaden our global reach in strategic areas, and to underpin our already significant investment in added value engineering and design services, specialist engineering and design skills".

RIAS goes on-line

The Royal Incorporation of Architects in Scotland (RIAS) have set up their own web site. Go to: www.rias.org.uk. From early next year the RIAS Directory of Chartered Architects and their services will be available to anybody wishing to commission the services of chartered architects in Scotland.

US

Two new associates at Flad & Associates

John A Cuccia and Charles R Gantt have been named as associates within Flad & Associates, Madison, Wisconsin-based architecture, engineering, planning and interiors firm. Cuccia is a project architect in Flad's industrial division, he has been with the firm for ten years. Gantt joined Flad & Associates last year. He is a project manager with the firm.

Developments at HLW International

HLW International has appointed seven new partners, four new senior associates and 15 new associates. The firm, which is headquartered in New York, has also named Paul Seletsky as Director of Information Technology – Seletsky was previously with the Port Authority of New York and New Jersey. In a separate development, Peter J Churchill will take over the role of Director of Technology Sales.

Gregory DiPaolo joins Ellerbe Becket

Gregory DiPaolo, AIA has joined Ellerbe Becket as a senior vice president and design principal in the firm's San Francisco office. He was previously employed as a vice president with HOK. DiPaolo, a registered architect in San Francisco, is noted for his work on the Xin Min Newspaper Headquarters, Shanghai; the China Resources Headquarters, Beijing and 388 Market Square, a mixed-use development in San Francisco.

Hamburg's Architecture Summer

by Layla Dawson, Germany correspondent

Hamburg's architecture summer is well on its way to becoming an established triennial event. The first, held between April and September in 1994, included 30 events. This year double that number, over 60 exhibitions, talks, walks and river tours are on offer between April and January 1998 – almost an architectural year. All this without a pfennig from the city.

The original instigators were members of the Hamburg Architektenkammer. Now the steering committee, the "Initiative Hamburger Architektur Sommer e V" is a 50-strong non-profit-making organisation of architects, culture professionals and lay public. Anyone can join for 100 deutschmarks.

The city bureaucracy, strapped for cash, and in the process of making all its culture palaces into self-supporting GmbH companies, rather ham-fistedly announced that it wouldn't be giving a helping hand to the Architecture Summer but would insist on holding the opening speeches – a case of having their cake and eating it. The fact that the city's culture ministry will have no say in the events gives the steering committee a free hand, but the formal speeches are a lead weight the events could have done without. Perhaps politicians should have been asked to pay for the privilege of speaking?

Today's culture buff has to be grateful for every donation. Up to 120 organisations from banks – the "soft opening" for the whole summer was held in May in the headquarters of the DGHyp Bank in Hamburg, a major sponsor – computer and car firms, publishers and estate agents, plumbers and glaziers, hotels, media and electrical firms, philanthropic foundations and individuals are sponsoring cross-cultural, predominately European themes appearing in over 21 venues around the city – total cost US$ 2,461,538 - US$3076,923 (4-5 million deuschmarks). Architects on show include: Archigram, Zvi Hecker, OM Ungers, Luigi Snozzi, Erik van Egeraat, Coop Himmelb(l)au and this year's Pritzker Prize winner, Sverre Fehn. There are photographic and housing exhibitions, and expositions on future airports and railway stations.

The nature of the sponsored exhibition circus nowadays means that some of the shows have already appeared elsewhere. Curating, mounting, travel and insurance costs have to be shared out over several stations to make them economical but the advantage is more people get to see the work of Archigram or a survey of airport architecture. But it's not all passive entertainment. Big questions about the "Changing Profession of Architecture", "Monumentalism" and "Reconstructing the East, or is the country a mere tax saving project?" will hopefully raise the temperature.

HOK all at sea in Portugal

Hellmuth Obata Kassabaum (HOK) have completed detailed design for Sonae's "Maiashopping", a US$65 million themed shopping and leisure complex located in Maia, Portugal. The 73,000-square-metre centre comprises food courts, shops, cinemas and a hypermarket, as well as an integrated parking complex. The design was produced in association with Jose Quintela da Fonseca, of Sonae.

The building has been designed to attract attention. This has been achieved by producing a series of markers, such as the simulated waves, the glazed entrance areas and two 30-metre-high graphics towers at either end of the structure. At night, blue lighting will emanate from the glazed roof of the hypermarket.

The design is based on the theme of water. When complete, in November, Jonathan Spear Associates' lighting scheme will create the effect of simulated waves on the 200-metre north elevation.

Water cascades and fountains dominate the glazed, elliptical foyer of the main entrance area.

Tayburn McIlroy Coates are the water feature specialists on the project.

WZMH renovation in Toronto

The Webb Zerafa Menkes Housden Partnership (WZMH) have completed the renovation of 100 University Avenue, a 250,000-square-foot office building in downtown Toronto. The commission was the result of a limited competition run by the building's owners in 1994.

The original building, known as 88-100 University Avenue, comprised two separate buildings with separate entrances and elevator cores and was one of the first curtain-wall structures to be built in Toronto (1956). WZMH's principal requirements were to unite the building into a coherent unit and to bring the building's mechanical and electrical elements up to present international standards. The addition of the curtain wall "wave" is intended to function as a demarcation devise, defining the building's location on the borderline between Toronto's theatre and financial districts.

Aluminium "stitches" hold together external layers of granite, and cold cathode lighting contributes to the new hi-tech appearance.

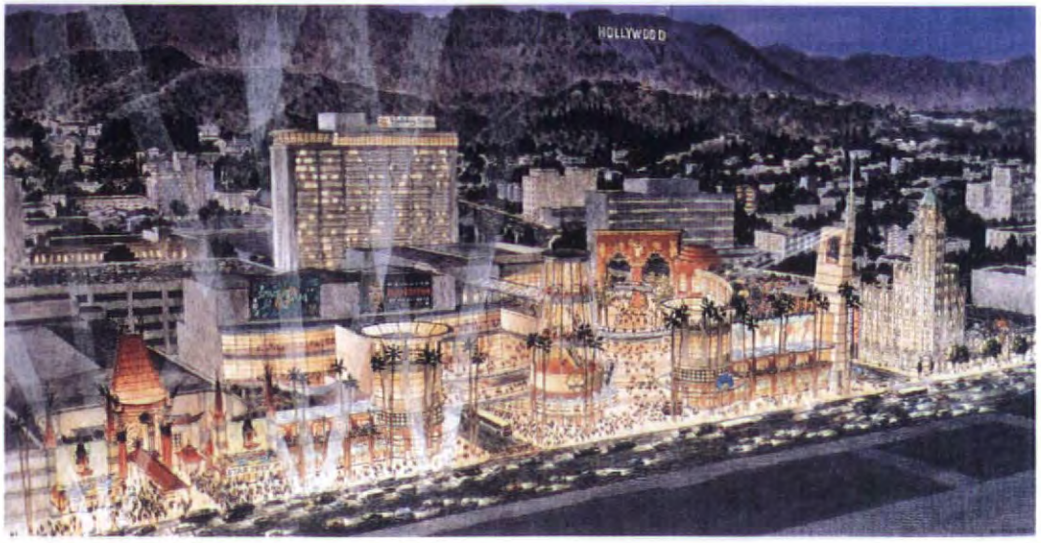
The ultimate Hollywood facelift

"You will know that you are in Hollywood when you arrive here", says David Malmuth senior vice president for TrizecHahn Centers, the company who have undertaken the job of re-injecting the glamour into a Hollywood whose domination of international cinema has been severely threatened in recent years by overtly effects-free films from Europe – witness "The English Patient" cleaning up at this year's Oscar ceremony.

The TrizecHahn proposal was one of three submitted in response to a request for suggestions for the site from the Los Angeles Community Redevelopment Agency. The project is a key element of the Community Redevelopment Agency's US$922 million revitalisation scheme currently underway in Hollywood.

TrizecHahn's plans, in association with architects Ehrenkrantz & Eckstut, involve the construction of the new 1,000-seat Babylon Premiere Theatre; the renovation of the Chinese Theatre, the site of nearly 200 famous footprints and currently the biggest attraction on Hollywood Boulevard and the construction of a new 12-screen multiplex cinema adjacent to the Chinese theatre. The US$145 million "entertainment destination", sited on top of the Metropolitan Transit Authority station at Hollywood and Highland, will also include 135,000 square feet of studio and retail space; 100,000 square feet for entertainment uses; 70,000 square feet for restaurants and food halls and 210,000 square feet of common areas featuring a dramatic staircase which will lead up to a view of the "Hollywood" lettering nestling in the hills behind.

Emphasising the project's potentially city-wide benefits the City of Los Angeles will receive US$3.6 million annually in new revenues from sales and other taxes generated by the development. The City will also receive new indirect tax revenues from visitor spending elsewhere estimated at US$12 million to US$24 million annually. An estimated 700 construction jobs will also be created. Mayor Richard J Riordan believes that "business and community leaders are coming together to restore the lustre to Hollywood's star". It remains to be seen whether US$145 million-worth of investment in a tourist attraction is enough to reinvigorate an apparently ailing force.



Largest property survey ever

The Hong Kong Government's Buildings Department has instigated what may well be the largest property survey in the world ever. Covering 13,000 buildings in two years, the condition survey will ascertain how current design, construction and maintenance practices are effecting the structural integrity of Hong Kong's ageing building population. The work, which is already underway, has been undertaken by a joint venture combining the skills of two engineering consultants – Taywood Engineering Ltd and Ove Arup & Partners Hong Kong Ltd – with Hong Kong-based chartered surveyors, and property consultants, Vigers Hong Kong Ltd. The consortium are known as TAV.

This is the second phase of the survey and will cover buildings completed between 1959 and 1980. Taywood Engineering Ltd conducted the first phase, covering buildings constructed between 1946 and 1958.

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1: SOM/Regino Cruz-designed Utopia Pavilion under contruction

2: View of EXPO 98 site in May this year

EXPO '98 Lisbon – behind the scenes

by Katherine MacInnes

With only nine months to go it seems that all news of the Expo '98 Lisbon, due to open on 22 May 1998, has become "old news". However, Fernanda Magalhães architect and professor of urban planning at the city's technical college IST, and her Dutch students who are researching a real-estate paper on the Expo, have come up against a problem. They have found it impossible to build up a report because information about the Expo's funding system is shrouded in secrecy.

The man originally in charge of the Expo, Antoino Cardoso e Cunha, was replaced by José Torres Campos in January after the plans to create a sense of organisational continuity after the change in government, over a year ago, had failed. Antonio Cardoso e Cunha had been appointed by the previous right wing political party Partido Social Democrata (PSD) but was asked to leave because of overspending. However, Magalhães, who has been keeping a close eye on developments, told *World Architecture* that they were just, "playing with numbers to prevent people knowing what they are spending. Having terminated Antonio Cardoso e Cunha's contract, the current Partido Socialista have changed their tune saying that they will spend any amount, no matter how much, in order to have it ready".

But money is not the only glitch with this ambitious 340-hectare development in the city's eastern suburbs. "The problem at the moment is that the national government have a different set of priorities to that of the Expo authority [Parque Exposa – an independent body] and the roads providing access to the Expo site are very behind." The Expo authority has made sure that the access routes within the designated area will be ready for 1998 but the main transport arteries do not look likely to be completed by next March.

Many of the projects are finished, however, and the landscaping and main buildings of the Expo site will be ready to receive all the visitors (if they can get there). The most advanced is the Lisbon Exhibition Centre by the American architect Peter Chermayeff, closely followed by the Spanish engineer/architect, Santiago Calatrava's Oriente Station. However, despite Lisbon's ambition to be a critique of Seville's more superficial handling of the previous Expo by emphasising regeneration of the surrounding area, Magalhães says that "despite a lot of promotion in the newspapers, the Expo will be a 340 hectare island of development in the middle of an urban suburb". So far there are no signs from the local authority that the conditions which would encourage adjacent development will be implemented. However, the official line remains optimistic and that is: "the Expo will be ready on time".

Brits design Japanese cultural centre in Paris

London-based practice Armstrong Associates' 7,500-square-metre Maison de la Culture du Japon, Paris was opened on 13 May 1997. The Maison was underwritten by the Japanese government and is the first Japanese funded building to have been built in France. It has its origins in a 1982 visit to Tokyo by the late President Mitterrand, during which a deal was struck between the then Prime Minister of Japan and the French premier involving the exchange of sites in the nation's respective capitals, dedicated to each other's cultural centres.

The result of an open competition held in 1990, the young Armstrong Associates were, at the time, considered unlikely to win. Seven years later their 10-storey, steel-frame and glass dominated structure makes good contextual sense in its river-front location, next to the Australian embassy (Harry Seidler, 1977), on the corner of Quai Branly and Rue de la Féderation.

Rogers' flats with a view

Construction of a new-Richard Rogers Partnership-designed housing scheme on the site of a disused floor mill in Battersea, south London began this month. Taylor Woodrow Capital Developments commissioned the RRP to develop the design of the structure which will provide 101 flats with 171 parking spaces.

Conversion of the existing historical structures was considered as a development option but with limited river views and restricted access to the site a system of five new connected blocks, stepping up from the river, was evolved. The structure's linear plan, aligned on a north-south axis, gives west-facing views over the River Thames. The top two storeys of the scheme will be made up of 10 fully glazed, double height penthouses.

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1: The new main entrance

2: Stripped-down internal exhibition space

Less is so much more at New York's P.S.1

California architect, Frederick Fisher has completed the renovation of the P.S.1 Contemporary Art Center in Long Island City, New York. The Center is located in a nineteenth-century Gothic Revival school building four minutes from Manhattan.

P.S.1 is one of two arts facilities operated in New York by the Institute for Contemporary Art – the other is the Clocktower Gallery in Tribeca. In 1994 the Institute established that US$8 million would be required to complete the effective renovation of the P.S.1 Center. US$6.8 million was donated by New York City Department for Cultural Affairs. To raise the remaining US$2.2 million the Institute sought donations from private sources. The principal aim of the renovation was the doubling of the exhibition space from 42,000 square feet, distributed over four storeys.

By stripping down the interior of the structure to its constituent parts Fisher was able to maximise the amount of exhibition space – with 84,000 square feet available for exhibitions and public use the P.S.1 is recognised as one of the largest forums of its kind in the world.

Other new spaces include: a monumental, double-height ceiling; a square exhibition gallery flanked by two long corridor galleries with natural illumination; an upper-level viewing gallery; a performance and video theatre and a public cafe. Fisher's design also incorporates a new main entrance which is approached through a series of outdoor installation spaces.

Manchester after the bomb

Almost exactly a year after the explosion of the IRA bomb which devastated Manchester's city centre, UK, two of the city's principal retail firms – P & O Shopping Centres Limited and Marks & Spencer (M & S) – unveiled the detailed designs for their new stores.

BDP were selected as designers of the new M & S store which, at 250,000 square feet, will be the largest in the world. Building contractors, Bovis, went on-site this month following the demolition of the existing structure. BDP's design, incorporates large-span rectangular floorplates over six levels.

The facade was the centre of attention on the Raddiff Partnership's designs for the Arndale Centre. The much-hated yellow tiles are to be replaced by a hi-tech combination of steel and glass canopies. Both BDP and the Raddiff Partnership evolved their plans in accordance with the design principles laid-out by master-planners EDAW. (*See introduction to this month's Urban Regeneration report*).

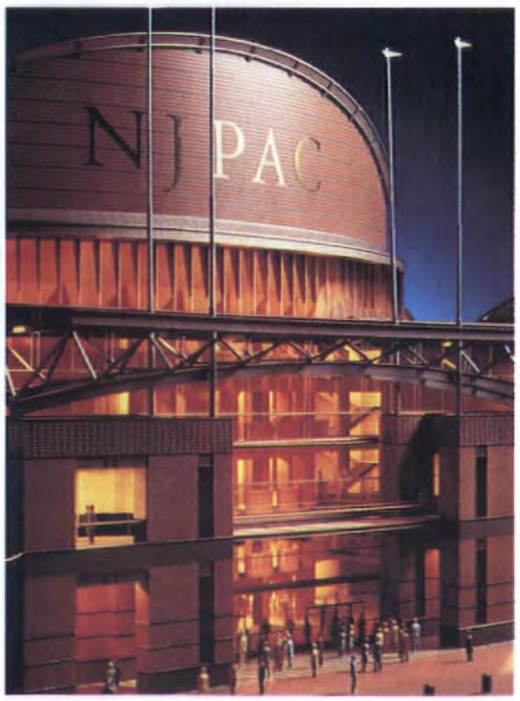
New face for Newark

Barton Myers' New Jersey Performing Arts Center (NJPAC), Newark opens on 18 October. The structure, 11 years in planning and construction, is the first performing arts complex to have been built in Newark and the first to have been built in America's north-east for 30 years.

Located on a 12-acre site, between a block of office buildings and the Passaic River water-front, the 250,000-square-foot complex comprises one element of a major downtown regenerative scheme master-planned by SOM in association with James Stewart Polshek & Partners.

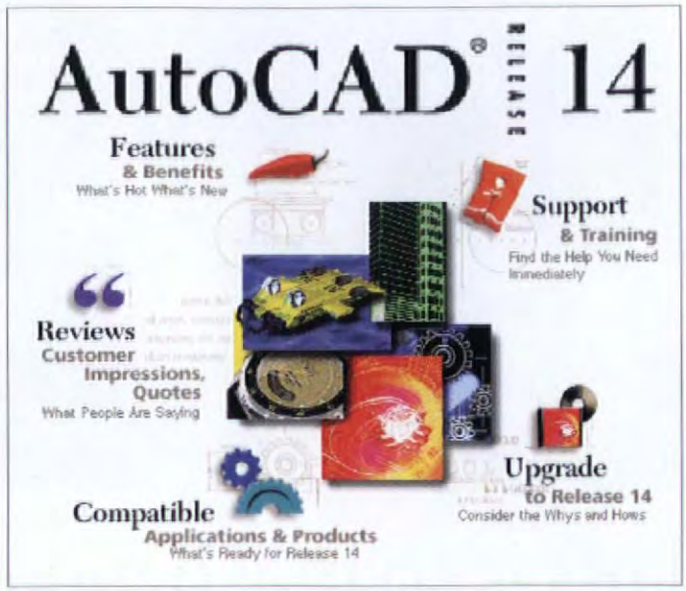
The US$180 million structure is expected to have a major bearing on Newark's future propserity – the town is currently suffering from massive unemployment; a quarter of all families live below the poverty line. NJPAC has been designed in close collaboration with Newark's town council. In scale, massing and materilas the complex is compatible with the surrounding urban setting.

Each of the three main structures comprising the first phaše – the 2,750-seat multi-use Prudential Hall; the 514-seat Victoria Theater and a 3,000-square-foot rehearsal space – is expressed as an individual building.



OnScreen

This month Mark Dytham puts AutoCAD Release 14 to the test and reports on AutoCAD LT's fortunes. Plus news of Diehl Graphsoft's MiniCad 7.0, and (in line with this month's Country Focus) a visit to TempleNet, India's information digest on a cultural building type.



AutoCAD Release 14

After what has been described as the most extensive field testing of any computer-aided design software in history, Autodesk is now shipping AutoCAD Release 14. "AutoCAD Release 14 is the result of feedback from more than 16,000 AutoCAD customers, developers and dealers worldwide who have been using and testing the product – some since as early as mid-1996" said Carol Bartz, CEO and Chairman at Autodesk.

AutoCAD Release 14, which runs on Windows NT and Windows 95, contains long-awaited enhancements including: faster performance; built-in tools for publishing original drawings on the World Wide Web; quicker access to frequently used commands; sharper presentation drawings, and better tools for customisation. The product also marks the second generation of Autodesk's widely used object-oriented technology, ObjectARX

ObjectARX technology represents a significant leap in the application's performance, inter-operability, and design intelligence. It forms the foundation for building intelligent applications using real-world objects. Using ObjectARX technology, for example, a door is an object (not just a set of lines and arcs); as is a bolt-in mechanical CAD, or a contour line in geographic information systems.

The newly integrated Internet features of AutoCAD Release 14 make it easier to share, view, and publish drawings over the Internet and corporate intranets. Photorealistic rendering tools let users create "real-life" presentations of design ideas and capabilities. External reference enhancements give AutoCAD Release 14 customers greater control, improved performance, and a more flexible set of tools when attaching, viewing and manipulating external references (Xrefs).

Autodesk has also announced that AutoCAD LT has passed the 500,000- users-worldwide mark since its introduction in December 1993. This represents the largest installed base for any Windows based low-cost 2D computer-aided design software over US$100. AutoCAD LT is currently Autodesk's second-highest revenue contributor, after AutoCAD software.

Lockheed Martin Western Development Laboratories purchased the 500,000th copy of AutoCAD LT from MicroCAD Solutions, one of the leading authorised Autodesk value-added resellers in the US. "We're seeing a rise in the number of people requesting low-cost 2D CAD solutions," says John Souza, regional sales manager, MicroCAD Solutions of San Jose, California. "As a first step, we recommend AutoCAD LT to our clients because it is inexpensive, easy to use, feature-rich, and is compatible with AutoCAD – a program that they are bound to run into with colleagues, business partners, and clients."

For further information contact http://www.autodesk.com

MiniCad 7.0 pulls ahead

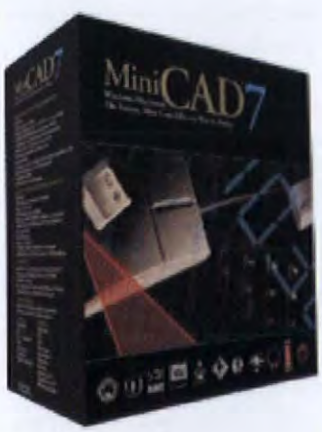
Diehl Graphsoft has released MiniCad 7.0. Many new features have been added in the 2-D palette which pulls this version ahead of the mid-priced competition which had been giving it a run for its money in recent months.

The Smart Cursor has been greatly improved working well with extensions as well as offsets from lines and points. With MiniCAD 7's associative hatching function, you can now apply realistic, properly oriented hatches to objects with a single action – the automatic hatching feature refills as you reshape an object and can now be applied to walls too.

On the 3D front QuickDraw3D makes a welcome appearance for rendering and managing multiple light sources. Also there are now true 3D Boolean operations: addition, subtraction, and intersection along with a new dashed hidden line rendering option.

But the biggest step forward are the additional export options, making MiniCad 7.0 compatible with other widely used industry software. The new Export DWG option lets you share your MiniCAD files with colleagues using AutoCAD.

The new version represents a major upgrade and should prove a great productivity booster for most users. Diehl Graphsoft Inc can be reached at: (tel) +410 290-5114; (fax) +410 290-8050 http://www.diehlgraphsoft.com.



WebWatch

Indian TempleNet

"Tradition Meets Technology" at TempleNet (www.indiantemples.com) or so their Web site proclaims. Certainly the Web allows you to view this massive body of work from the comfort of your desktop. TempleNet is an online journal as well as a comprehensive encyclopedia on Indian Temples. It is intended to serve as a one stop source of information on these monumental achievements.

At the first level, Temples are classified by region. For example, the classification Temples of Kerala refers to all temples in the state of Kerala while the classification Temples of the Himalayas refers to temples in the states of Himachal Pradesh, Jammu and Kashmir and Upper Uttar Pradesh. At the second level, there are listings with brief descriptions of each of the temples. These hyperlinked listings take you to the final level of detail covering all information related to location, architectural, historical, mythological and special significance.

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Polemic

Notes on the psychology of great towers

A hundred years ago the great Chicago architect Louis Sullivan made an interesting remark about skyscrapers. "The social significance of the tall building," he said, "is its most important attribute. It should be a proud and soaring thing that makes a powerful appeal to the architectural imagination. But where imagination is absent the case is hopeless".

The ultra-tall buildings that architects and engineers discuss today have not lost the quality of excitement and daring that Sullivan talked about. In Taiwan and China, Malaysia and Indonesia, Thailand and Singapore, Japan and Australia, such is the entrepreneurial spirit of these countries, sooner or later one will soar over a city to a height of more than half a kilometre. One day perhaps Sir Norman Foster's long planned 788-metre Millennium tower for Japan will exceed even that. Even if it does, in the far distance, looms another goal, the realisation of Frank Lloyd Wright's Mile High Illinois, the greatest high rise project of all and already 50 years old.

There is no longer any technological barrier to building high. Skyscrapers already under construction are using ultra-high-strength concrete that can withstand enormous loads on very small sections. They will be equipped with multi-speed lift systems with out-of-shaft car parking that no longer consume valuable floor space nor delay access to high levels. Their information technology will give them unprecedented global communicating power. They can be erected in 48 months. Balanced with tuned mass dampers and active structural frames a third millennium 90-storey building with 2,000-square-metre floor plates – an edifice inconceivable ten years ago – will be able to operate at half the energy cost and twice the thermal efficiency of a twentieth century eight-storey office block.

It is not true to say that today's super-skyscrapers are merely monocultural symbols. They are vertical streets with 200,000 square metres of serviced floor space at the service of 10,000 people 24 hours a day – not simply the daytime home of a few hundred office workers. Typically their first ten storeys are given over to shopping and entertainment; their towers incorporate not only huge office floors but hotels, restaurants and apartments. And, because they rise so high, all of this diverse accommodation stands, in urban planning terms, upon the head of a pin. A cluster of these towers would be a city above a city: a restoration of the distinctness of the city that has been progressively lost in this century. Buildings like this can be plugged into the existing transport infrastructure of an old city as easily as microprocessors can be added to the circuit boards of a computer. The new skyscraper is a miracle of power, technology and art. Why on earth does anyone oppose it?

The answer lies in the art historical value system, whose notion that cities are places of enormous wealth confuses appearance with performance, and whose idea of eternal worth flies in the face of nature. Out of this rear view mirror distortion of history has grown a deadly form of ancestor worship. Because of it, every ancient city is overloaded with buildings that are said to be priceless but in reality are useless. They are either too small, too irregular in shape, too hard to service or too distant from existing transport infrastructure to serve present day commerce. In the City of London alone there are thousands of these buildings. So many that, were it not for the bombing undergone during World War Two (followed more recently by the terrorist attacks of the IRA), there would be no available sites for new buildings at all. The city would be strangled by the inflexibility of its own past, like Petra or Jerash.

Today, demand for large floor plate accommodation is rising again after years of recession. This time the planning philosophy is different. In Europe and the US most policy makers reason that the more transport infrastructure spreads, the more vehicular movements there will be, the more intersections and interchanges, the more inefficiency and the more cost and pollution. One might expect these conclusions to lead them directly toward higher densities and taller buildings. They know the only way to achieve urban "compaction" is to build high. They know that, for expanding world financial centres that pride themselves on doing business face to face, there is no compacting alternative. And yet, as we see in Berlin as well as London, these city planners have lost the plot.

Thirty years ago the Canadian media philosopher Marshall MacLuhan explained the price we pay for the power of our technology to create an artificial environment for ourselves. The cost of this power is, he said, the shock effect produced by each new level of innovation. He saw that this shock acted like an anaesthetic, paralysing our ability to defend ourselves against change despite our determination to prevent it. This, he said, is why change occurs, despite the defences erected to oppose it. There can be no better example of this process than resistance to tall buildings in cities.

We should not be fooled when urban planners say that they want our cities to prosper as world financial centres in the twenty-first century. All too often what they really want is to continue applying their irrelevant art historical value system to the task. They want prosperity, yes, but they also want conservation areas, historic facades, protected view corridors and listed buildings in such profusion that nothing new of economic size can ever be built where it is needed.

If resistance to tall buildings continues, all our cities will become more and more diluted by peripheral and satellite development. Over time the advantages of distant locations will seem more attractive to developers. Over time the boundaries that separate cities from rural areas will dissolve away. Over time what was once contained within the ancient walls of a city will leak away to the provinces and beyond.

Anaesthetised by the challenge of the present, our city planners are clinging to the past. As a result the future, the dilution and decentralisation they dread, advances upon them unopposed.

Martin Pawley

"The new skyscraper is a miracle of power, technology and art. Why on earth does anyone oppose it?"

Book Reviews

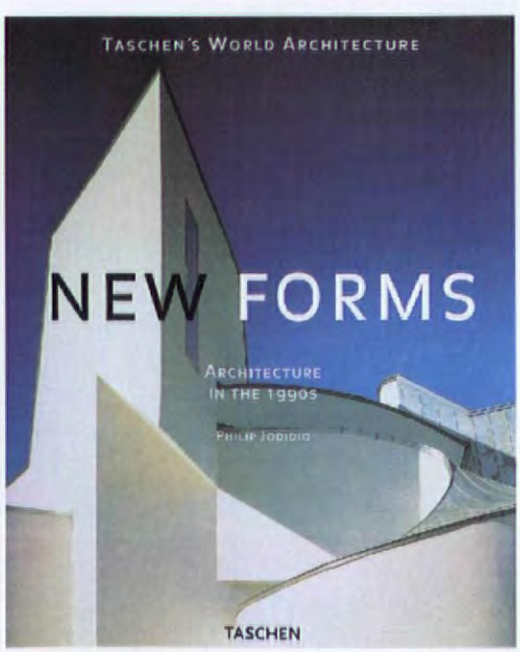
Style over content

New Forms – architecture in the 1990s. Philip Jodidio. Taschen, Köln. 240pp, 259 illustrations. US$29.99/£16.99 (hardback)

Reviewed by Jeremy Melvin

New Forms – architecture in the 1990s, the latest in Taschen's *World Architecture* series, is a percipient harbinger of global modernism. It achieves this status not through an authoritative text – author Philip Jodidio never really exceeds the "competent" tag by which the publisher, in one off those unfortunate lacunae of translation, labels all writers in the series – nor through encyclopaedic coverage, but as a, I suspect unintended, by-product of the format. Flicking through the pages the reader is regaled with superb photography, well reproduced, and labelled with informative extended captions. The body text hardly has a chance in a book where the subject matter is as pictorial as architecture. It is these images, or at least the buildings they illustrate, which will be the legacy of architecture in the 1990s, not Mr Jodidio's slightly laboured attempts to achieve the nigh-impossible task of forging a succinct narrative where none exists.

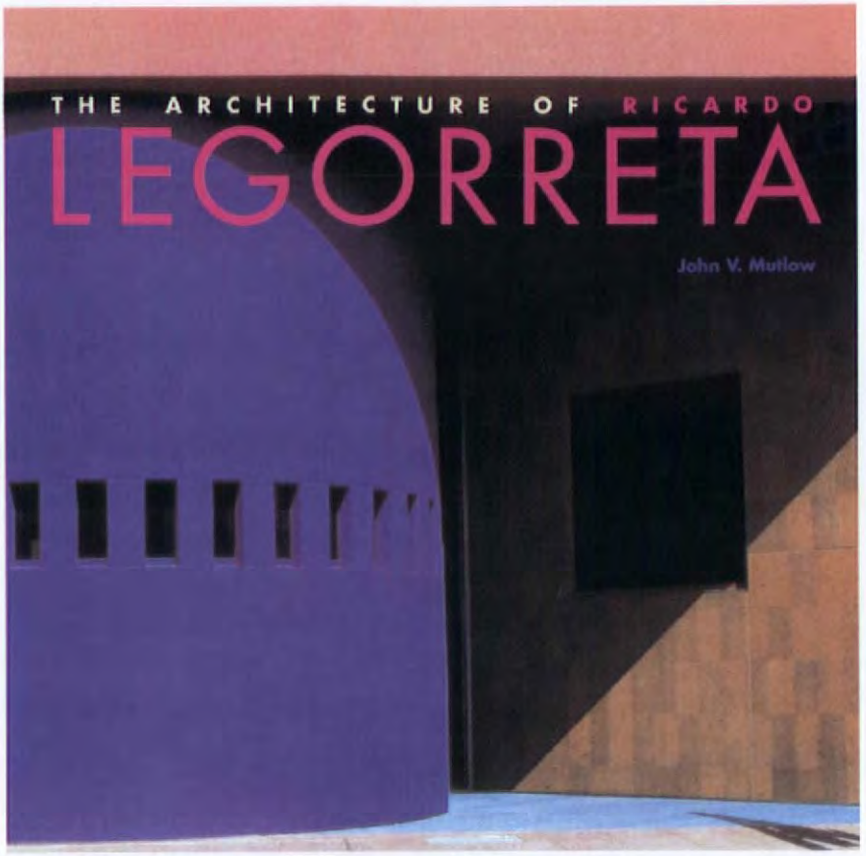
So it is possible to "read" the book as a series of distended images, whose order is neither chronological nor rigorously thematic, informed by what can be included in a 100 word caption. There are very few architectural drawings to ground these images in the essence of the discipline of architecture, and only traces embedded in the text of the social, political and economic frameworks which effect all architecture. Instead the book's format relegates these influences to a kind of background white noise. From its uniform presence burst forth these different buildings, unexplained and ephemeral. Hence its global post-modern flavour.



Four main chapters make up the bulk of the book. Their themes too, are hard to fathom. Surely a chapter on "Space for Art" – a bit of Foster, a couple of doses of I M Pei and Mario Botta – has rather a lot in common with the subject of "Art and Architecture", where Christo rubs shoulders with Philippe Starck and Frank Gehry. Yet they are kept separate. And a chapter on "Urban Strategies" includes transport, communication and the urban nomad. The combination might be interesting were there an explanation for it. As it is, the fact that transport buildings tend to be low and long in contrast to tall thin structures, is jarring in a book which proclaims its formalist credentials in its title. The fourth chapter is on "Places of Gathering".

Brief coverage of large themes often throws up comments which attempt to summarise and succeed in irritating without adding to the body of critical intelligence. This book is no exception. "For those who keep scores in such instances, it would seem obvious that Maki's light and flexible Yerba Buena Center is architecturally more successful than Botta's rather mausoleum-like brick veneer museum." Maybe, but unless such books merely explain the obvious, it is rather hard to see why they are there at all.

Jeremy Melvin is a writer and critic living in London.



Blessed with a golden shadow

The Architecture of Ricardo Legorreta. Edited with introduction by John V Mutlow. Preface by Ricardo Legorreta. Thames and Hudson, London. 240pp, 200 colour illustrations. £40 (hardback)

Reviewed by Martin Pawley

"Several years ago, the Monterrey Institute of Technology initiated a biannual raffle. The major prize is a house and a fund for maintaining the house. For its fiftieth anniversary the institute asked Legorreta Arquitectos to design one of the houses." So begins the section in this lavishly illustrated but uninformative volume devoted to a house called the "Tech House", a building whose principal accoutrements appear to be poolside recliners of limited technological interest. But it is not the lack of technology that is the most striking thing about the house as presented in this book. The most remarkable phenomenon is the effortless sweep into the VIP lounge that the first two sentences of John V Mutlow's introduction contrives to bring about. Ricardo Legorreta does not compete, he graciously accedes. "For its fiftieth anniversary the institute asked Legorreta Arquitectos to design one of the houses."

That Ricardo Legorreta was born in Mexico we have no doubt. But the place and the year are unstated. The biography that the contents page announces is on page 232 turns out to be a sketchy piece of work that begins in 1948, by which time the architect is already "a draughtsman and project manager" for Jose Villagran Garcia. A proto-modernist born in Mexico City in 1901, Villagran taught Legorreta the importance of knowing building construction. In this connection Legorreta recounts, in an extraordinarily dull interview with the book's editor John V Mutlow, an incident in which Villagran shames a slapdash bricklayer by rebuilding a section of

his wall himself. So much for Villagran.

The other great, or perhaps greater, influence on Legorreta's architecture is the globally copied Luis Barragan, who we know from other sources was born in Guadalajara in 1902. From Barragan, Legorreta learns another lesson. At their first meeting he asks him to comment on his design of a Chrysler car factory in Toluca. Barragan replies; "Your architecture is first-class. Your landscape and your gardens are lousy." From the tone of the above we must assume that Legorreta is younger than both his mentors.

Aside from the annoying lack of information in this very heavy book, there is little else to criticise about it. The photography is superb and certain of Legorreta's better known works are displayed to advantage. The vertical works of the Camino Real Ixtapa Hotel, rising from dense foliage like pre-Columbian remains, display the architects' constructive response to the strictures of Villagran. His approach to the landscaping of the approaches to the Renault factory in Durango have the bravura of a coal-fired power station. The celebrated Legorreta walls are shown everywhere under bright sunlight, part military, part art gallery, never exclusively one or other.

The trademark rows of narrow slots with their light and shade pouring almost stroboscopically into plain interior spaces coloured rich gold and crimson, seem part prison, part zebra. Perhaps the only real surprise is the unsuspected derivation of the interior of the awesome Metropolitan Cathedral of Managua from the older, cheaper and more poignant work of Le Corbusier.

Where do we go from here?

The Ethical Function of Architecture. Karsten Harries. MIT Press, Cambridge, Massachusetts. 403pp, 123 b/w illustrations. US$45/£29.95 (hardback)

Reviewed by Kelly Shannon

The past decades have witnessed an onslaught of polemical statements by architects, historians and theorists concerning the predicament of modern architecture. From Heidegger to Derrida, philosophical ideas are combined to create a rhetoric which is often difficult to decode. Architects are not philosophers.

This provocative book has been written by a man whose rigorous intellectual standards, complemented by his obvious passion for architecture, poses more questions than it provides answers. (Harries is a professor of philosophy at Yale University.)

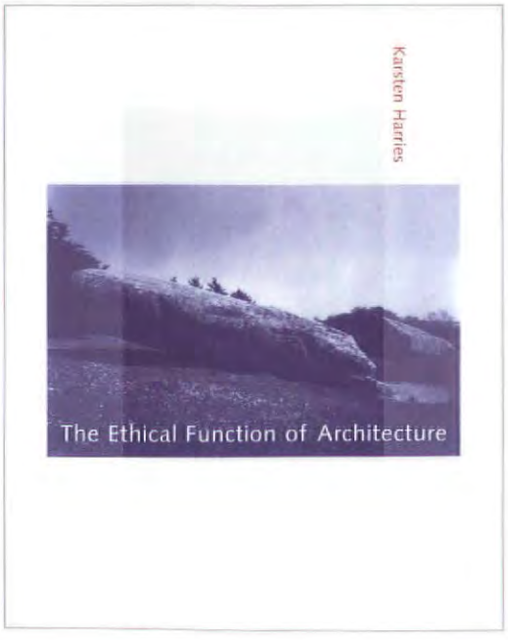
The Ethical Function of Architecture, although difficult to digest in some parts for those not well versed in the writings of at least Kant, Nietzsche and Heidegger, presents a series of convincing and balanced arguments. Harries opens with a critique of the current aesthetic approach to architecture. In it he examines the consequences for architecture. He then addresses the problem of language of architecture, working from Sigfried Giedion's idea that the main aim of architecture is to interpret.

In the subsequent and "heaviest" section of the book, Harries develops suggestions by Martin Heidegger concerning the "dwelling" function of building. Harries' final argument discusses this function from both an ethical and political point of view – suggesting that it is these aspects rather than the physical aspect of architecture that create problems with "dwelling".

Harries claims that "... modern art (and architecture) has lost its ethical function, except in the derivative sense". As a result any attempt to reclaim that function will, argues Harries, have to be criticised as retrogressive or dismissed as simply anachronistic, as it fails to take seriously enough the shape of modernity.

Harries concludes with a plea for festivity in the built environment – to an architecture of public places and ephemeral structures. For him, architecture no longer needs to manifest itself in buildings, but instead in the voids of the modern city, our streets, squares and parks.

However, this surrender to the conflicting forces of contemporary society seems to contradict the resistance Harries so vehemently admired in his history of the philosophy of architecture. The only explanation here is that perhaps the apparent contradiction is itself due to the fact that, if architects are not philosophers, then, well, philosophers are not architects.



BOOKS RECEIVED

Architecture of Fear

Edited by Nan Ellin. Princeton Architectural Press, New York. 320pp, 60 b/w illustrations. US$19.95/£13 (paperback)

The Education of the Architect – historiography, urbanism and the growth of architectural knowledge

Edited by Martha Pollak. MIT Press, Cambridge, Massachusetts. 478pp, b/w illustrations throughout. US$60.50/£38.50 (hardback)

Europe Coast Wise – an anthology of reflections on architecture and tourism

Editors J Han de Graaf and D'Laine Camp. Uitgeverij 010, Rotterdam. 332pp, fully colour illustrated throughout. NGI115/£53.50 (hardback)

Lighting Historic Buildings

Derek Philips. Butterworth Heinemann, Oxford, UK. 216pp, 100 colour and 66 line illustrations. £39.50 (hardback)

The Fires of Excellence – Spanish and Portuguese oriental architecture

Miles Danby. Photography by Matthew Weinreb. Garnet Publishing, Reading, UK. 240pp, 237 colour illustrations. £50 (hardback)

Transforming the common place – selections from Laurie Olin's sketchbooks

Laurie Olin. Princeton Architectural Press, New York. 72pp, 75 b/w illustrations. US$24.95/£18 (hardback)

The Story of Architecture (second edition)

Patrick Nuttgens. Phaidon Press Limited, London. 352pp, 200 colour and 200 b/w illustrations. £25 (hardback)/£15.99 (paperback)

Events

Lectures, Congresses and Conferences

Brazil

São Paulo Conference on High Technology Buildings

A Council for Tall Buildings and Urban Habitat (CTBUH)-endorsed conference to be held at Maksoud Plaza Hotel, São Paulo from 30-31 October 1997. The conference will focus on the common ground between educational theory and actual practice in the fields of building technology and urban development. Contact Edison Musa, vice chairman of CTBUH at Av Princesa Isabel, 323 5° andar, 22011-010 Rio de Janeiro, RJ, Brazil.
Tel: +55 21 275 32 46
Fax: +55 21 542 33 44

Canada

Underground Space: indoor cities of tomorrow

The seventh international conference on underground space and facilities, to be held in Montréal, Canada. 29 September-3 October 1997. For further information contact the Organising Committee, City of Montréal, 303 Notre-Dame Street East, 5th floor, Montréal, Québec, Canada H2Y 3Y8.
Tel: +514 872 8334
Fax: +514 872 0024
e-mail: 7econfso@odyssee.net

Finland

Habitat Inspirations 97

Seminar organised by the Finnish Association of Architects (SAFA) focussing on issues of contemporary urban design in relation to the evolution of sustainable solutions to housing in both developed and underdeveloped countries. Running from 13-15 September, the final day is dedicated to glass in modern architecture. Contact the SAFA at Yrjönkatu 11A, 00120 Helsinki, Finland.
Tel: +358 9 584 448
Fax: +358 9 601 123
e-mail: liitto@safa.fi

UK

Workplace Comfort Forum: designing for productivity and well-being

The conference examines the significance of data linking design and productivity – up until now a relatively neglected subject. The event will run from 29-30 October 1997 at Westminster Central Hall, London, UK. Contact Peter Russell at Abacus Communications, 6 South Grove, Tunbridge Wells, TN1 1UR, UK.
Tel: +44 1892 531830
Fax: +44 1892 546385

US

A Time to Reflect – A Time to Challenge

The Waterfront Center's fifteenth annual international conference on urban waterfront planning, development and culture takes place at the Hilton Hotel and Towers, Baltimore, Maryland, US from 16-18 October 1997. For information contact Jackie Conn.
Tel: +202 337 0356
Fax: +202 625 1654
e-mail: waterfront@mindspring.com

Architecture and Design Competitions

Czech Republic

The Prague Castle Pheasantry Redevelopment Project

The Prague Castle Administration has announced the first stage of a major open international competition for the redevelopment of the former Pheasantry garden and the adjacent buildings of the Court of the Riding Hall situated at the northern approach to Prague Castle. Submissions for the first stage are due by 15 August 1997. For further information contact Jan Zemánek, AYH HOMOLA Projektmanagement sro, nám Barikád 1134/3, 130 00 Prague 3, Czech Republic.
Tel: +42 2 697 00 24
Fax: +42 2 697 20 15

Finland

International competition for a Music and Arts Centre in Jyväskylä, Finland

The City of Jyväskylä has organised an architectural design competition for a new Music and Arts Centre, to coincide with the 100th anniversary of Alvar Aalto's birth. The competition is open to architects from all European Union (EU) countries, as well as certain others. Registration until June 1997. Deadline for entries 15 September 1997. Total prize money US$150,000 (FIM 750,000). For further information contact the competition secretary at The Finnish Association of Architects, Yrjönkatu 11A, FIN - 00 120 Helsinki, Finland.
Tel: +358 9 584 448
Fax: +358 9 601 123

Spain

Office for the Fundació Mies van der Rohe, Barcelona

Single phase international ideas competition open to young architects and architecture students. Competitors are invited to submit ideas for a building, linked to Mies van der Rohe's German Pavilion in Barcelona (1929), to house the offices of the Fundació Mies van der Rohe. The total built area must not exceed 3,000 square metres. Toyo Ito heads the international jury who will meet in April 1998 to decide the outcome. Registration deadline 31 October 1997. Deadline for receipt of proposals 31 March 1998. Contact competition organisers Editorial Gustavo Gili (GG), Rosselló 87-89, 08029 Barcelona, Spain.
Tel: +34 3 430 54 35
Fax: +34 3 430 46 53
e-mail: 2Gcompetition@seker.es

Turkey

Gallipoli Peace Park

Anonymous international UIA-endorsed ideas competition open to all qualified architects, town planners and landscape architects, to give a "new and transcending identity" to the Gallipoli Peninsula National Historic Park. The 33,000 hectare park was created in 1973 to commemorate the year-long First World War battles in which 500,000 soldiers were maimed, killed or wounded. The aim of the competition is to create a place dedicated to peace and harmony. Registration by 10 August 1997. Jury meeting 18-23 April 1998. Contact Gallipoli Peninsula Peace Park International Competition Office, Middle East Technical University, 06531 Ankara, Turkey.
Tel: +90 312 210 36 26
Fax: +90 312 210 14 42
e-mail: gallipol@vitruvius.arch.metu.edu.tr
Web: http://vitruvius.arch.metu.edu.tr/gallipoli/gallipoli.html

UK

Concept House 98

A new international single-stage design competition – open to architects, designers and product designers – to apply contemporary design solutions to the design of the traditional British "estate house". The final date for submissions is 7 September 1997. The winning design will be built as a major feature at the 1998 Ideal Homes Exhibition, Earl's Court, London (19 March 1998). Full competition details are available from the Royal Institute of British Architecture (RIBA) Competitions Office, 8 Woodhouse Square, Leeds LS3 1AD, UK. Contact Lynne Glazzard.
Tel: +44 113 2341335

Exhibitions

France

Made in France: 1947-1997

The last exhibition at the Pompidou, before its closure for internal reorganisation, looks back on 50 years of French design. Until 29 September. For further information contact the Centre Georges Pompidou, Paris, France.
Tel: +33 1 44 78 12 33
Fax: +33 1 42 78 50 59

Marianne Burkhälter & Christian Sumi

An exhibition of the past 15 years' output from Swiss architects Marianne Burkhälter and Christian Sumi runs until 21 September 1997 at arc en rêve centre d'architecture, Entrepôt, 7 rue Ferrère, F-33000 Bordeaux, France.
Tel: +33 5 56 52 78 36
Fax: +33 5 56 81 51 49


Salma Samar Damluji

Celebration of the Arts and Culture of Yemen

The Yemen Festival, running from 18 September 1997 throughout October at the Royal Institute of British Architecture (RIBA), London celebrates the architectural heritage and culture of the second largest country in the Arabian Peninsula. Covering everything from the brick town houses of the capital, Sana'a to the mud skyscrapers of the Wadi Hadhramaut, the exhibition – designed by Fashion Architecture Taste (FAT) – is arranged around four themes: conservation; environment; the Yemenis and aesthetics. RIBA, 66 Portland Place, London W1N 4AD, UK. Tel: +44 171 580 5533. Fax: +44 171 637 5775

Charlotte Perriand: Modernist Pioneer
Retrospective of the influential French designer's 65-year career. Runs until 21 September at arc en rêve centre d'architecture, Entrepôt, 7 rue Ferrère, F-33000 Bordeaux, France.
Tel: +33 5 56 52 78 36
Fax: +33 5 56 81 51 49

Germany

Castiglioni and Italian design
The "Castiglioni" exhibition showcases objects and sketches illustrating the creative cycle of the designer whose name has become synonymous with modern furniture and furnishing design. The exhibition runs until August 1997 at the Vitra Design Museum, Weil am Rhein, Germany.
Tel: +49 7621 7020

UK

The Power of Erotic Design
An exhibition, designed by Nigel Coates, of the erotic in twentieth-century culture, from Freud to Madonna. Runs until 12 October 1997. Design Museum, Shad Thames, London SE1 2YD, UK.
Tel: +44 171 403 6933
Fax: +44 171 378 6540

Magnificent deadlines: the frenetic world of the architectural illustrator
A touring exhibition organised by the Society of Architectural Illustrators (SAI) demonstrating the art of contemporary architectural illustration as revealed through the work of some of today's leading practitioners. From 3-31 July 1997 the exhibition will be on show at the Royal Institute of British Architects (RIBA), Eastern Region Architecture Centre, 6 Kings Parade, Cambridge CB2 1SJ, UK. From 4-30 August at the RIBA, West Midlands Region, the Birmingham and Midland Institute, Margaret Street, Birmingham B3 3BS, UK. Contact the SAI, PO Box 22, Stroud, Gloucestershire, GL5 3DH, UK.
Tel/fax: +44 1453 882563

US

Proposals for the new Modern Art Museum of Fort Worth
Models and drawings of design proposals for Fort Worth's new modern art building will be on public view at 1309 Montgomery Street at Camp Bowie Boulevard, Fort Worth, Texas 76107, US throughout the summer. Submissions were invited from Tadao Ando, Richard Gluckman, Arata Isozaki, Carlos Jiminez, Ricardo Legorreta and David Schwarz.
Tel: +817 738 9215
Fax: +817 735 1161

Trade Shows

France

Batimat 97 and Interclima 97
The twenty-first annual building and construction exhibition runs from 3-8 November 1997 at the Porte de Versailles and Paris-Nord Vilepinte, France. Contact Gerrard Whitty at Promosalons (UK) Ltd.
Tel: +44 171 221 3660
Fax: +44 171 792 3532
In France contact Valerie Moullec.
Tel: +33 1 47 56 50 00
Fax: +33 1 47 56 08 18

Kazakstan

KAZBUILD/KIPS 97
KAZBUILD 97, Kazakstan's fourth international building, construction and interiors exhibition will be run in conjunction with KIPS 96 – protection, security and fire safety exhibition – at the Atakent International Exhibition Centre, Almaty, Kazakstan from 3-6 September 1997. For further information contact Irene Batsieva.
Tel: +7 3272 509 390
Fax: +7 3272 509 391

Malaysia

Malbex 97/Asian Stone 97/ CITM 97
Malaysia's premier building and construction trade show runs from 9-12 September 1997 at the Putra World Trade Centre, Kuala Lumpur, Malaysia. Contact Steven Thong of Reed Exhibitions in Malaysia.
Tel: +60 3 201 8100
Fax: +60 3 201 6100

The Netherlands

Meubelbeurs/INTEROFFICE
International furniture fair and office furnishings exhibitions. Run from 31 August-3 September 1997 at the Royal Dutch Jaarbeurs, Utrecht, the Netherlands. Contact Victoria Littlewood at the Overseas Tradeshows Agencies (UK).
Tel: +44 171 486 1951
Fax: +44 171 587 3480
In the Netherlands contact Mrs A Van Beuuren
Tel: +31 30 2955 2686
Fax: +31 30 2955 870

The Philippines

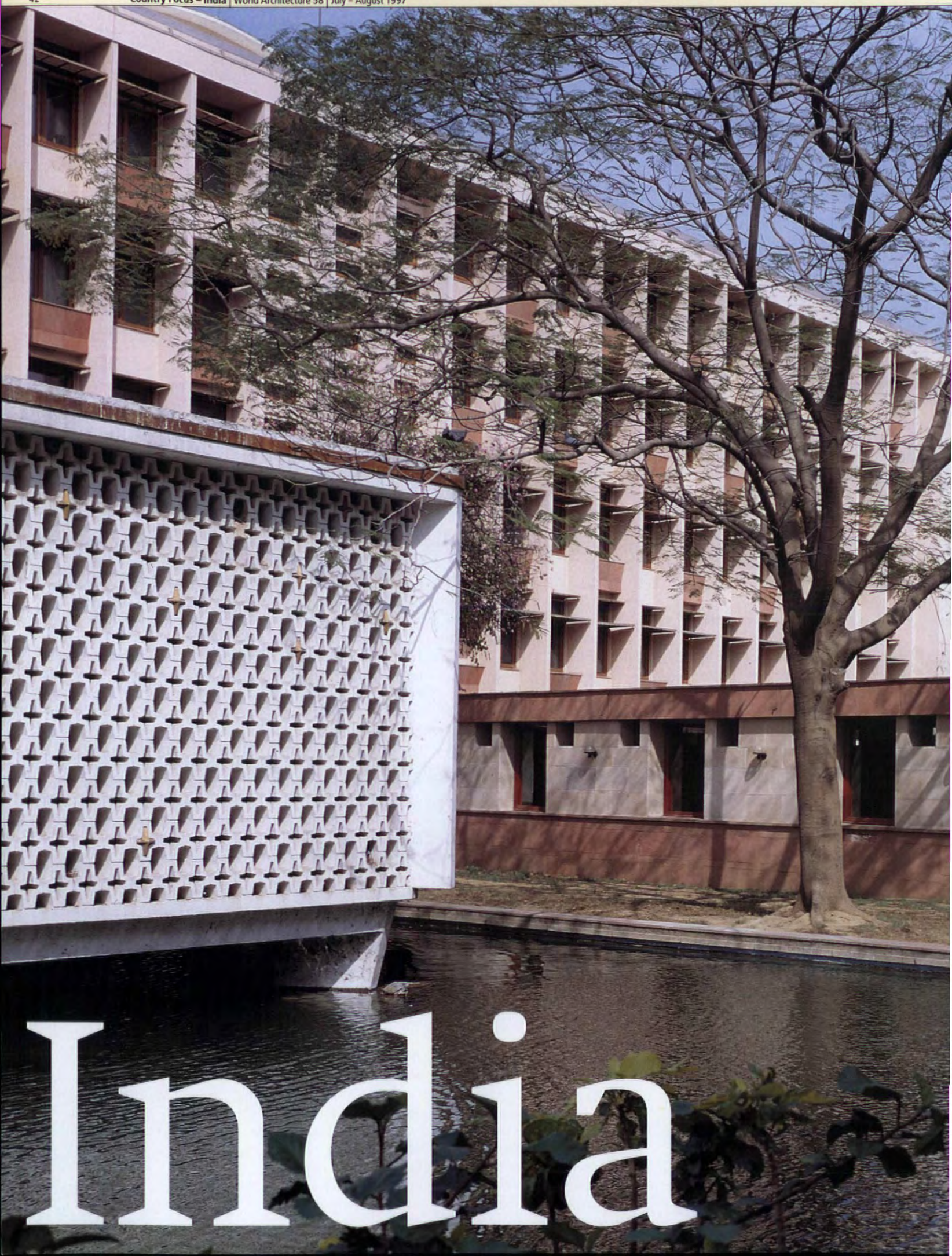
Build Expo/ISST 97
A showcase of the latest products and services available in the expanding Filipino building and construction market. The event will run from 3-6 September 1997 in the Philippine International Convention Centre, Manila, the Philippines. Contact David Aitken of Reed Exhibition Companies (UK).
Tel: +44 181 910 7744
Fax: +44 181 910 7749
In the Philippines contact Evelina Estrada.
Tel: +63 2 891 6247

Singapore

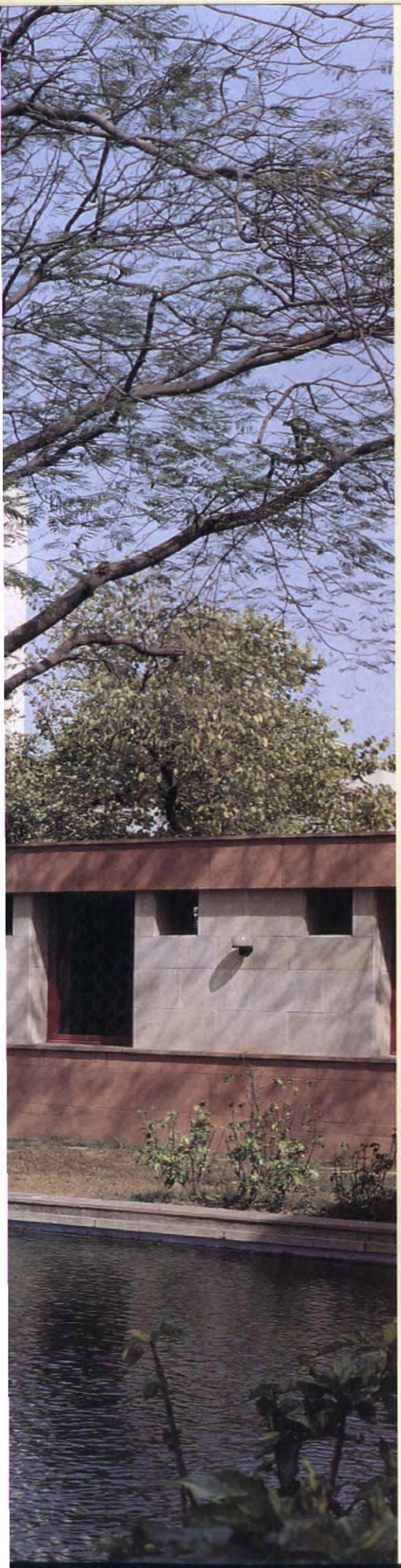
MIPIM Asia
The first MIPIM Asia will take place at Suntec City Convention Centre, Singapore from 16-18 September 1997. The event is expected to attract all the key developers, local authorities, property advisers, architects, service suppliers, institutional and private investors in the Asia Pacific region. Contact Reed Exhibitions Pte Ltd, N° Temasek Avenue # 17-01 Millennia Tower, Singapore 039 192.
Tel: +65 338 2002
Fax: +65 338 2112

South Africa

AFRIBUILD 97
South Africa's largest business-to-business exhibition for construction, building and related industries. Runs from 5-8 August 1997 at the Gallagher Estate in Midrand, near Johannesburg, South Africa. Contact David Aitken or Sam Carter of Reed Exhibition Companies (UK).
Tel: +44 181 910 7744
Fax: +44 181 910 7749
In South Africa contact Nigel Walker.
Tel: +27 11 886 3734



India



Peter Cook/View

British High Commission, New Delhi by Wintergill and Faulkner

Country Focus

Arbind Gupta reports on the optimistic outlook for India's architects in the fiftieth-anniversary-year of independence. The early-1990s building boom has slowed, but architects look set to benefit from the continuing implementation of political reforms directly effecting the construction industry, at a time when the profession is gaining respect both at home and abroad. Foreign consultants are already making their mark, but Indian architects – although lacking the technological expertise and management skills of overseas practitioners – have an advantage over them when battling against political instability and bureaucracy. Hanscomb cost consultants provide a construction factfile.

Since the opening up of the Indian economy in 1991 developments within the property market have taken place that have had a direct effect upon the country's architectural community. Suddenly, the demand for properties has escalated following the arrival of multinationals in almost every area, especially in the financial sector. The metropolitan centres were the first to experience this boom. In the commercial city of Mumbai (previously known as Bombay by the British, but which reverted to its Indian name 18 months ago), the property prices for office space soared from a meagre US$418 (Rs 15,000) per square foot to as high as US$976 (Rs 35,000) per square foot in 1995. Other metros like Bangalore, Delhi, Chennai (previously known as Madras) and Calcutta followed suit. However, Calcutta remained the least effected because of the less open policy of the local government and also its traditional set-up. This boom in the building industry invoked an extraordinary demand in the architectural sector which had previously been focused upon the constant demand from the housing sector.

The situation has more or less settled down now, after more than three years of hectic activity in the property market. The demand is now shifting from the bigger to the smaller cities. Economic commentators attribute the current slowdown in the property market to the overheating of the market following speculative investments in the early 1990s. Most are of the view that this is a temporary phenomenon and that there is no change in the overall demand in the building construction industry. The difference is that what was previously confined to a limited area is now spreading to include a larger region. Marcus Wraight of Chesterton Meghraj – a joint venture organisation of the London-based property consultant and Meghraj Bank – believes that "more than anything else, the present sluggishness is an indication that the Indian market is heading for maturity and entering the cyclical trend".

With a population of 900 million, India is currently the second most populous country after China and there is a shortage of around 34 million housing units, which is estimated to increase by 3.5 percent per annum.

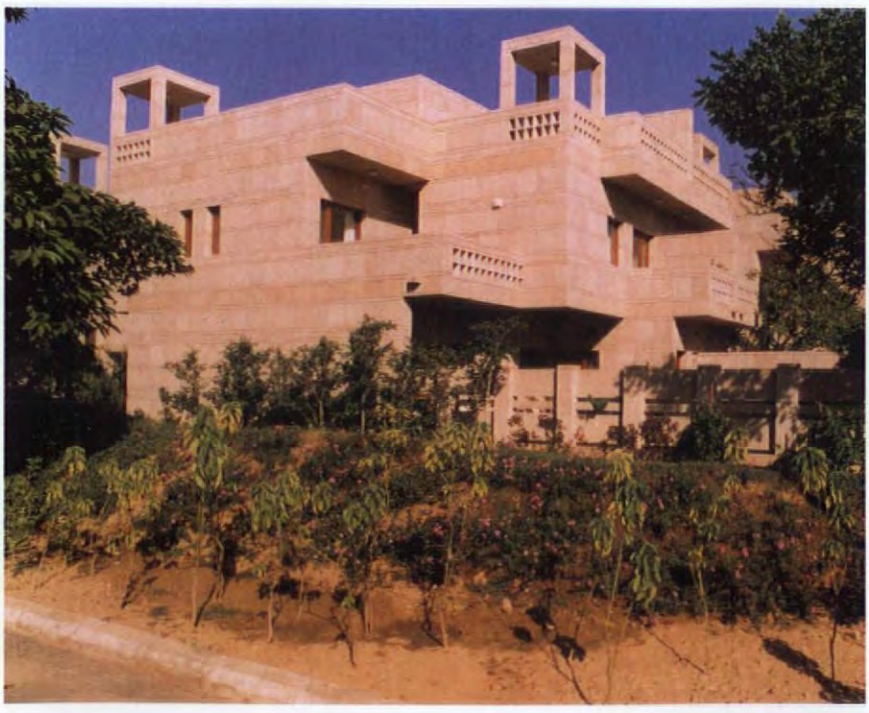
India Planning Commission estimates of housing shortages in India in million units

Year	Rural	Urban	Total
1951	6.5	2.5	9.0
1961	11.6	3.6	15.2
1971	11.6	2.9	14.5
1981	16.1	5.0	21.1
1985	18.8	5.9	24.7
1990	22.3	6.9	29.2
2001	29.8	9.3	39.1

By the turn of the century, there will be a "second India" with the population almost reaching the one billion mark. Avers architect, Rusi Khambatta, president of the Commonwealth Association of Architects (CAA) and the past chairman of the Architects Regional Council, Asia (ARCASI) says: "Given the kind of shortage, India is the only market in the world today which offers lots of opportunities. At present, there are only 15,000 architects as against a huge demand". All in all, there is a unanimous view that India offers one of the best markets for architects in the changing socio-economic situation. Delhi-based architect Romi Khosla, who is currently working on several major hotel and institutional projects confirms that the "real estate business has become a very major client in the architectural scene in India". Clients are more concerned than ever about the glamorous image of their buildings.

Opening up of the economy and future opportunities

The Indian economy is on a steep growth curve. Since 1991, the economy has been thrown open to economic liberalisation and has attracted huge foreign investment in the last six years. Besides this, Indian companies were also allowed to raise funds through Global Depository Receipts instigating a vibrancy that has stimulated the global economy. For the last two years, the growth rate in GDP has been around six to seven percent, while the inflation which was as high as 13 percent in 1991, has been hovering in single digits for the last four years. Currently, it is



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1: Raj Rewal's interlocking cubic forms create the most un-British of spaces for the houses of the British High Commission in New Delhi

2: Western Regional Office in Pune for the Export-Import Bank of India, by John Kudianavala of Kudianavala Associates

COUNTRY FACTFILE

India has a land area of 3,287,590 square kilometres. The boundaries include Pakistan, China, Nepal and Bhutan to the North, Pakistan and the Arabian Sea to the west, Myanmar and the Bay of Bengal and Bangladesh to the east, and the Indian Ocean to the south. India and many of its neighbours are separated from the rest of Asia by the Himalayan Mountains, forming a subcontinent. Northeast India is nearly separated from the rest of the country by Bangladesh.

Capital: New Delhi

Population: With an estimated population of 879.5 million India is the second most populous country after China. The population is largely rural (73%).

Number of registered architects: 19,840 (Council of Architecture); 9,618 (Indian Institute of Architects).

Language: Hindi is the national language and is the primary language of about 30% of the population. English is an officially recognised language and is important for commerce, particularly in southern India. There are fourteen other regional languages.

Ethnic composition: Indo-Aryan (72%), Dravidian (25%), Mongoloid and other (3%)

Religions: Hindu (83%), Muslim (11%), Christian (2%), Sikh (2%), Other (2%)

Economy: After over three decades of protectionism, India is opening its economy to foreign investors. It is hoped the reform programme, begun in June 1991, will improve the economic situation of the population. India is currently one of the world's major investment targets. There are many attractions for foreign investors: a large population; an educated middle class; an abundance of cheap labour; a reasonably well established legal system and the continued rapid rise in consumer spending. There are difficulties facing investors: the infrastructure is inadequate to support the rapid growth and industrial technology is old, a result of prior protectionist policies.

Time difference: India has two time zones, 5.5 or 6.5 hours ahead of Greenwich Mean Time (GMT) or 10.5 and 11.5 hours ahead of Eastern Standard Time (EST).

Currency: Rupee which divides into 100 paise.

Holidays: The following holidays are observed in most states. State governments announce their own holidays.

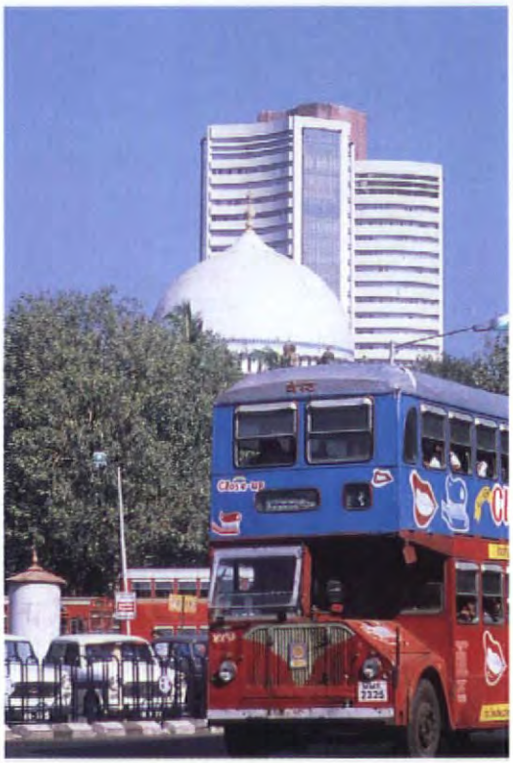
New Years Day	January 1
Republic Day	January 26
Independence Day	August 15
Mahatma Gandhi Birthday	October 2
Christmas Day	December 25

The following holidays are observed on different dates each year in accordance with the Hindu and Muslim calendars. Id Ul Fitr; Dasera; Diwali

Airport information: Major international airports are located in Bombay, Delhi, Calcutta, Bangalore, Hyderabad and Madras.

Dialling code: The dialling in code for India is 91. The dialling out code is 00.

3



4

3: Sketch of the hi-tech Sentosa City, near Delhi, designed with foreign consultants under the leadership of Indian Prem Nath

4: The influence of the West can be seen throughout the major cities, but India is asserting itself stylistically as it celebrates 50 years of independence

around 6.5 percent. All this has led to a boom in the building construction industry.

The recent Union Budget for 1997-98 has once again restored confidence in the economy as a whole, since there was a general feeling that the present National Front Government would not be able to continue with the liberal policy due to its coalition nature. The budget has provided extra concessions to the infrastructure projects, and also to industrial parks and hotel developments. The Finance Minister has gone ahead with reducing corporate, as well as individual, tax which will go a long way to creating additional disposable income – of which a huge chunk will find its way into the building construction industry. Aashish Velkar, general manager of Colliers Jardine (India) claims that "industrial investment is expected to grow and the continuing reforms in the financial and commercial sectors would invariably translate into more demand for industrial and commercial properties".

The future appears all the more encouraging with a gradual phase out of convertibility on capital account in the coming years, wherein any individual (foreign or non-resident) could buy, hold or dispose of a financial or physical asset outright, anywhere in India. Architect Prem Nath, who is currently involved in designing the US$500 million hi-tech city – Sentosa City – near Delhi along with architects from Singapore, US and Australia, explains: "Economic liberalisation has thrown open the gates, as is evident from the inflow of multi-national companies (MNCs) into the Indian corporate world. Today, India offers great opportunities for architects. Currently demand exists not only in housing, but in the commercial and industrial sectors as well."

Property market

The boom in the property market started in 1991 and was focused on the commercial capital of Mumbai where prices soared to exceptionally high levels. Entry of MNCs and Foreign Institutional Investors (FIIs) created an extraordinary pressure on supply of office and commercial properties. From US$2-3 (RS 80-100) per square foot, the monthly rental in Mumbai's financial hub, Nariman Point, peaked to as high as US$10 (Rs 350) in 1995. However, the rent has now stabilised and it is possible to acquire reasonable office space for as low as US$5 (RS 175) per square foot. According to the property consultant Richard Ellis' rental bulletin, Mumbai continues to head the list of the most expensive office locations in the world by a wide margin, with an ❯


Peter Smith

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"Previously architects have operated in an independent capacity but demand is increasing for a more complex compliment of services in one package"

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1: Kanchangjunga apartments in Peddar Road, Mumbai – a recently refurbished scheme by India's most famous architect, Charles Correa

2: Centre for Environment Education in Ahmedabad by another prominent architect, Professor Neelkant Chhaya

› annual rent of US$60 per square foot – followed by Hong Kong US$45 per square foot and Tokyo at US$42.50 per square foot.

The boom which started in Mumbai continued until mid-1996 in markets such as Delhi and Chennai. Both markets are still going strong, attracting commercial and industrial developments. According to Pranay Vakil, managing director of Knight Frank (India) "the present depression is the aftermath of over-investment by speculative forces. However, the market is forecast to settle down in the coming months". From the Mumbai boom speculative interest effected adjacent markets such as Bangalore and Pune the most, following the entry of non-resident Indians (NRIs) from the Middle East, UK and US, as a result of the Government's approval of NRI investment. Such investment is estimated to total US$2.5 billion per annum. In these markets too, only those architects who had builders/developers as their principal clients were effected. In the past these builders/developers have been involved in the construction of a large stock of speculative housing and now they are finding it hard to get buyers at certain price levels. Actual users who had left the market completely, in the wake of sky-rocketing prices, are still adhering to a "wait and see policy" in anticipation of a further drop in the prices. But experts are of the opinion that the prices have almost bottomed out and the actual users who have been waiting for quite some time will enter the market in a big way and revive it.

The architects involved with big corporate builders and developers are, however, not effected since these builders are more resilient, largely by virtue of their size. Smaller builders/developers rely upon buyers to fund their individual projects since they do not have access to funds from the banking sector. In most cases, they sell the project, either to users or investors, before it is built, or sometimes they raise money from the market at a high interest rate of 35 percent. Privately-funded housing schemes are not the only developments sustaining architects. Government mass housing projects, commercial and industrial projects are also on the increase. Atul Desai, president of the Indian Institute of Architects explains: "Not only this, now the Government authorities are involving private architects in their town planning schemes and this has generated many jobs."

Inflow of Foreign Direct Investment (FDI) in the last six years

Year	Amount approved by Government (Rs billion)	Actual inflow (balance not yet invested)
1991	5.34	3.51
1992	38.88	6.75
1993	88.59	17.86
1994	89.57*	29.68
1995	309.93*	63.70
1996	308.84	84.41

Current US$ exchange rate: US$1:35.85 Rupee

Recently there has been a shift in the demand from the metros to smaller cities and there is an emergence of growth centres in many of the smaller cities such as Ahmedabad, Hyderabad and Coimbatore. Even within the larger cities there has also been a significant shift from the city centres to outlying suburbs.

The effect of new technology and discipline on the profession

Within the economic shift of the 1990s the Indian architectural profession has also undergone significant changes, the most noticeable being the widening in project types. The nature of clients' demands has also changed; people have become more quality-conscious and architects are now being challenged to show their full potential. "Clients are asking for quality so that they can attract more and more business. Now the competition is so intense that not only the interiors, but the exteriors of a building matter a lot. Furthermore the clients now have the money, and can afford a certain level of quality" says Prem Nath. Such a comment seems incredible in the context of the West, where clients are inevitably concerned about the exterior and interiors of their buildings. It serves to

illustrate the fact that most architects have primarily been involved in relatively low-key interiors work, due to a previous dearth in new-build commissions.

The demand for a better product is driven by clients who are now exposed to what the West has to offer in terms of quality, aesthetics and style. Changes in Government policy on travel, and the use of satellite has exposed more of the population to different architectural concepts.

Architect T Khareghat foresees a revolution, not just in residential design, but in office design, anticipating the advent of a combined building type incorporating office and residential space hitherto relatively unknown in India. Avers architect Raja Aederi was the first to introduce glass curtain walling in India, with the Essar Industries office building in Mumbai. "There will be more demand for better quality products, at least in places where the land prices are commensurate with the selling. Since the land prices have gone up, people are spending money on better quality products. However, the basic change has come with a growing awareness. Earlier, there was hardly any difference in the specification of residential and office structures."

Computers have certainly had a big impact on the profession as far as the production of designs is concerned. Architects have become more technologically aware and more professional in their attitude towards management and execution. Previously architects have operated very much in an independent capacity but the demand is increasing for firms who can provide a more complex compliment of services in one package.

Another major advance has been the availability of a wider range of building materials. New materials, including glass and synthetic compounds, are readily available. A range of new interior flooring and ceiling finishes and various new plumbing product ranges contribute towards a higher quality of interior finish. Many manufacturers have set up bases in India, and other products can be imported easily as a result of the Government's liberal import policy. Recently, large contractors have been using the latest technology but this is still relatively rare. Furthermore, only a few architects have access to the new building materials and often the imported products are prohibitively expensive.

The disparity still exists between the large commercial offices and the smaller ones. According to Delhi-based architect Romi Khosla, "there is a polarisation of architectural office sizes in the Indian market. Larger offices are getting more and more work while the smaller ones are finding it difficult to tap the market for interesting projects and are compelled to undertake turn key and contracting work to survive. This is a part of the changing work scenario. Larger offices are charging higher fees and are becoming more efficient, while the smaller ones are charging lower and lower fees and are getting less efficient, since they cannot afford technological upgrading".

Dealing with bureaucracy

Despite the many improvements, the profession is still constantly faced with one enormous hurdle; that of Indian bureaucracy. To pass any design it is necessary to acquire more than 20 "no objection certificates" (NOC) from municipal and other Government agencies. It takes from six months to six years to achieve this, depending upon the complexity of the project. The latest addition to the rules is the Heritage Building Act which prohibits any architectural work in a building listed with the Heritage Society of India, and the Coastal Regulation Zone Act 1991 which disapproves any construction within 500 metres of any coast or creek. Two legislations that have been impeding proper growth in the Indian property market are the Rent Control Act 1940 (RCA) and Urban Land Ceiling Act 1977 ›

3: Raja Aederi was the first architect to introduce glass curtain walling with the Essar Industries office building in Mumbai

4: Restoration work is widespread. One of the high profile schemes recently completed in Mumbai is the restructuring of the National Gallery of Art by Romi Khosla

3 Peter Smith

4 Courtesy of the indian design magazine *Inside Outside*. Photographer Noshir Gobhai

1: One of the largest schemes currently under construction is Balkrishna Doshi's Bharat Diamond Bourse in Mumbai

2: Detail of Thadani Hetzel's masterplan for the Hiranandani Estate, Thane, which brought the US-based partnership to India

"A major concern is the low level of fees. In comparison to the 8-10 percent in other countries, Indian architects get only two-four percent of the project cost"

(ULCA). Both these acts have failed in their basic purpose and have blocked a large stock of urban housing from coming into the supply. The Government, which acquired a lot of vacant land under the ULCA in the past, has not been able to develop them, while a lot of housing stock (flats) in metros are lying vacant since the owners are unable to evict the tenants under RCA. Charles Correa believes that "it is high time that the government amends the Rent Control Act. Not only has it blocked housing stocks in a city like Mumbai, but it has also pushed the old housing stocks into a dilapidated condition".

Rahul Mehrotra (see interview in Urban Regeneration Special Report), who is involved in many office complexes and residential bungalows in the south says, "getting these approvals certainly effects our productivity. Devotion of extra time for this takes its toll on the design". All this has given birth to a new breed of professionals who are mainly in the business of obtaining approvals for various architects. Besides, there is a shortage of good quality contractors. Most of the contractors lack workmanship and use traditional methods which are labour-intensive. There is a general feeling that if the latest technology is used, the cost of production will increase since the country offers a very cheap labour force. This has certainly effected the product quality as a whole.

Another concern of the profession, articulated by Rusi Khambatta, is the low level of fees. In comparison to the 8-10 percent in other countries, Indian architects get only two-four percent of the project cost. The profession is not adequately recognised and respected. Says Atul Desai: "Since the Indian building industry is primarily ruled by builders and developers, the architects often submits to the demands of builders who have only a temporary interest in the quality of construction". The title of "architects" is protected by the Council of Architecture, 1972 (COA). Beyond that, anybody can do the job of an architect. Most of the small urban set-ups and rural areas that command some 30-40 percent of the market are largely ruled by such people. There are also a large number of small independent architects who go into the business for themselves. Most agree that despite the growth in business and increased corporatisation, there will be a role for these small guys in the forseeable future.

Foreign architects and competition

The Indian market has become increasingly attractive to foreign architects. Most are associating with their Indian counterparts, since they are not familiar with the Indian cultural, political or economic climate. In Prem Nath's Sentosa city project near Delhi, for example, architects from Singapore, US and Australia are working together with him. Other overseas firms with an interest in India, or who are planning to move in the near future, include Hellmuth Obata Kassabaum, Skidmore Owings and Merrill, Bensermen, John Portman, Wimberly Allison Tong and Goo, RTKL and Fox Hawaii, from the US, as well as Arch Pacific from Hong Kong and Singapore firms like DP Architects, SAA Partnership and TSP Architects. Most Indian architects acknowledge that working with overseas architects contributes a certain quality, at least to their style of management and working. On top of this, Indian architects are travelling increasingly to the West and to the Middle East, both for educational purposes and for involvement in projects. Hafeez Contractor believes that "foreign architects have an edge over Indian architects only because the buiding boom hit them before it came to India. We should take them for what we don't have, such as skills in lighting and waterscape design etcetera". Indians are not averse to the encroachment of overseas architects. It is not a recent phenomenon, and their presence helps to upgrade Indian working standards. Avers Desai explains that "the entry of foreign architects will at least boost our fee level as the client will have to pay them a much higher fee".

Property consultant India Property Research revealed earlier this year the desperate need for "new office buildings of a design and a standard to match the world's best" in Mumbai. According to the report, the area north of the Victoria Terminus railway station is "one of Bombay's [Mumbai's] largest development sites ... the potential exists to build an office complex of a scale, quality and efficiency to match Broadgate in London". If the Government deregulates the property industry, the report argues, "international developers would form a queue to get involved with local joint-venture partners". The general consensus in India, and by objective analysts such as India Property Research, is that a boom is on the horizon, this time involving a greater degree of foreign investment. WA

CONSTRUCTION FACTFILE provided by Hanscomb Associates

Construction outlook: The Indian construction industry has grown substantially in the past decade, particularly since the 1991 reform programme began. Despite the sustained growth of the construction market, the bidding climate remains highly competitive. Recently, the construction growth has slowed, but it is expected that stronger growth will return next year. The major areas that are busy include Mumbai (Bombay), Delhi, Calcutta, Chennai (Madras) and Bangalore. Automotive and ancillary works are particularly busy now while housing and property development are slow. Major Government programmes to improve infrastructure continue.

Rates of inflation: Inflation for the construction industry in 1996 was about 17%. Inflation for 1997 is expected to be about 20%.

Economic data

Consumer Price Index: 1990=100		*Average Exchange Rates: Rupees per US$*	
1992	127.4	1992	26.2
1993	135.5	1993	31.4
1994	149.5	1994	31.4
1995	164.5	1995	35.8
1996 (est.)	180.0	1996	35.9
		1997 (May)	35.8

Procurement of construction: Construction is usually tendered on approximately 60% design (completion of design development). Besides the drawings, bidding documents typically include specifications, the Bill of Quantities (BoQs), Form of Tender, Tender Notice, General and Special Conditions and the Form of Agreement between the owner and the contractor. Nearly all construction contracts are awarded on a competitive bid basis. There is typically a pre-qualification process with only about five contractors bidding on any one project. The architect's quantity surveyor typically assists in evaluating and pre-qualifying potential bidders.

A Unit Price contract using BoQs is the most common method of tendering. An hybrid for quantity surveying (QS) is used. There is more flexibility regarding BoQ format and standard method of measurement than in other countries using the QS method. Quantity surveyors are not registered. They are typically civil engineers working for the architect. The contractor is responsible for verifying the BoQ, it is not guaranteed by the owner. It does become a contract document. Contracts typically have an adjustment clause for inflation. Lump sum contracts may be used when a 100% complete design is tendered. The prices are usually derived from a BoQ. A lump sum contract may not have a fluctuation clause. Design/build contracts are rarely used.

Design professions: There are professional organisations for architects and engineers. The Indian Institute of Architects is the professional organisation, but the Council of Architects controls registration and provides suggested schedule of services and fee scales. The India Institute of Engineers is the professional organisation for various branches of the engineering profession.

The architect leads the design team for most projects. Traditionally, the architect holds contracts for mechanical and electrical engineering design services. Only locally registered architects and engineers may sign drawings.

Contractors: There are large contractors in India capable of performing major construction projects, both nationally and internationally. Major contractors are members of the Builders Associations of India. Typically, a Trade Contracting approach is used. If a project is fast track, the Main Contractor method may be used.

Governing codes, standards and approvals: The Bureau of Indian Standards (BIS) prescribes codes. They correspond to equivalent US, British or German codes. There are many documents on material standards and design practice.

Construction methods and materials

Material availability: Prior protectionism and industrial development policies provided India with the capacity to manufacture nearly all construction materials locally. Highly specialised items must be imported.

Labour availability: Both skilled and unskilled labour is readily available. Construction labour, unlike industrial labour, is not well unionised. Most construction workers are not members of a contractor's payroll.

Equipment availability: Construction in India is more labour intensive than equipment intensive. Heavy equipment is used regularly. Major contractors generally own their own equipment. Foundation and trench excavation may be performed by hand.

Favoured construction techniques: Concrete structural frames are typical for both office and factory construction. Despite the labour intensive construction techniques, they are constructed reasonably efficiently. However, quality control is dependent on the contractoris skilled personnel and supervision. Steel trusses may be used for roof framing in factory construction. Masonry or metal panels are commonly used for exterior wall construction in factories. Brick exterior walls are typical for office construction.

Construction cost guides (effective 1997)

Approximate construction costs: The following square metre unit rates, typical for Chennai, are provided for rough comparison purposes. The costs represent buildings constructed to local standards and exclude site work, infrastructure and professional fees, but include taxes (12% on materials and 2% on labour and materials). There are significant regional cost variations.

Building type	Rs / m2
Office building, low rise, (including tenant fit-out)	10,000
Hotel, five star (excluding FF&E)	30,000
Apartment building	12,000
Industrial building	8,000
Warehouse building	6,000

World Architecture *and* Hanscomb *wish to thank* C.R. Narayana Rao *of Chennai, India for assisting in the presentation of the information in this Country Report.*

India – Major architectural practices | design firms

This table was compiled with information supplied by the practices listed.

Architectural practice | design firm	Total architects	Total staff	Total offices	Area of specialisation: Health care	Industrial	Commercial	Office buildings	Housing | Residential	Planning	Interiors	Sport | Leisure | Recreation	Hotel | Restaurant	Education	Laboratories | Research	Transport	Other
Charles Correa, Architects / Planners	10	15	1					■	■			■	■				■
D n A Design and Architecture	8	22	2		■		■	■			■	■				■	■
Gherzi Eastern Limited	290	380	6		■		■	■	■	■		■					
Groupious Architects, Valuers, Interior Consultants	11	19	3		■		■	■	■	■	■	■	■	■			■
The Grup / Grup India Pvt. Ltd	67	85	4	■	■	■	■	■	■	■	■	■	■	■	■		■
Architect Hafeez Contractor	30	300	3	■	■	■	■	■	■	■	■	■	■	■		■	■
Harshad KD	2	6	2	■	■	■	■	■									■
IAG Consultants (P) Ltd	30	35	4	■	■	■	■	■	■	■		■	■				■
Interics – Rajiv Shroff & Associates	10	18	4			■	■			■					■		■
Kadri Consultants Pvt Ltd	15	40	2	■		■	■	■	■		■	■	■				
Rusi Khambatta & Associates	15	30	1	■	■		■	■	■			■		■	■	■	
Kothari & Associates	50	200	4	■	■	■	■	■	■	■	■	■	■	■	■		■
Pheroze Kudianavala & Associates	40	47	1		■			■		■							■
Mandala Design Services	8	22	1	■	■		■	■		■	■						■
Prakash Mankar Associates	5	15	1				■			■		■					
Saif Merchant & Associates	14	20	3			■	■	■		■							
Murty & Manyam	3	18	1	■	■		■	■	■	■				■		■	■
Prem Nath & Associates	20	60	2				■	■			■	■					■
Messrs Hasmukh C Patel, Architects & Planners	20	75	1		■	■	■	■	■	■		■	■				■
B Ramagopal	2	5	2	■	■	■		■	■	■	■	■	■	■			■
Rashidain	1	15	1	■	■	■	■	■	■	■	■	■	■				■
Raj Rewal Associates	18	24	1	■			■	■	■	■			■	■			■
SDB Consultants (PVT) Ltd	20	75	1		■		■			■			■				
Saakaar Foundation	7	7	1					■	■	■		■	■				■
Abraham Sekhar Engrs. & Constns. Pvt Ltd	4	17	3		■			■	■			■	■				■
Shreyas	1	13	1		■		■	■	■	■			■	■			■
STUP Consultants Ltd	50	500	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Talati & Panthaky Associated Pvt Ltd	15	100	1	■	■	■	■	■		■	■	■	■				
Thadani Hetzel Partnership Architects	10	11	2		■	■	■	■	■	■	■	■	■				
Anand Upalekar & Associates	4	13	1		■		■						■	■			■
Vastu-Shilpa Consultants	9	45	1		■			■	■				■				■

India – Major structural engineering companies

This table was compiled with information supplied by the practices listed.

Structural engineering company	Total architects	Total staff	Total offices	Area of specialisation: Health care	Industrial	Commercial	Office buildings	Housing | Residential	Planning	Interiors	Sport | Leisure | Recreation	Hotel | Restaurant	Education	Laboratories | Research	Transport	Non-building related
Bhagwati Designs Private Limited	40	140	3		■		■	■									■
Construma Consultancy Pvt Ltd	19	125	5				■							■	■		■
Consulting Engineering Services (India)	60	1200	20	■	■	■	■	■			■	■	■			■	■
C P Kukreja Associates Pvt Ltd	45	280	1		■		■	■			■	■	■	■			■
Mahendra Raj Consultants Pvt Ltd	20	85	3		■		■	■				■	■			■	■
Mehro Consultants	5	15	1	■	■		■	■				■	■	■	■	■	■
Patel and Associates	5	12	1		■		■	■				■	■				■
Shirish Patel & Associate Consultants Pvt Ltd	36	100	1		■		■	■				■				■	■
Sterling Engineering Consultancy Services Pvt Ltd	20	50	3		■	■	■	■			■	■	■			■	
STUP Consultants Ltd	200	500	14	■	■	■	■	■			■	■	■	■	■	■	■

STUP Consultants Ltd

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1b

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Head office address:
1004 - 5, Raheja Chambers,
FPJ Road,
Nariman Point,
Mumbai,
India, 400021

Key personnel:
C R Alimchandani
S G Joglekar
C G Malkani
A K Bose
S B Mahajan
A C Alimchandani

Other national offices:
N. Delhi, Calcutta, Bangalore, Chennai, Ahmedabad

International offices:
Muscat, Kuala Lumpur, Jakarta, Manila, Ho Chi Minh City, Paris.

Size of firm: 550

Areas of specialisation:
Architecture
Urban Design
Rural Development
Low Cost Housing
Industrial Design
Interior Design
Environment and Public Health Services
Project Management
Feasibility Study
Structural Design
Electro-Mechanical Services
Conservation, Renovation and Rehabilitation of Structures

1: Teacher's Training Centre –
a: exterior view
b: site plan

2: Khandeshwar Station. Exterior view of commercial complex and interior view of platform

3: Wheel and Axle Plant. Exterior and interior view

Company profile:
Stup Consultants Ltd. was established in 1963 at Mumbai, under the chairmanship of Yves Guyon. It served as an intellectual nucleus to attract architects and engineers dedicated to the use of advanced technology adapted to developing nations.

Today, Stup Consultants Ltd. has extended its activities by providing consultancy services to 23 countries around the world, in all aspects of architecture and infrastructure development.

Stup has a unique working philosophy which sets it apart from other architectural and design consultancy organisations in this part of the world. This manifests itself in the 'Design Forum', in which a radical and multi-disciplinary approach is adopted for the design process. In-house artists, architects, planners, environmental specialists, services and structural engineers work together to produce a holistic design - a symbiotic relationship between technique and art. This method of working helps explore the full potential of each individual of the design team, while opening up the design process to fresh ideas, catalysed by growth and exchange. This integrated approach to design has enabled Stup to utilise its architects and in-house construction experts to develop and maintain the integrity of a design idea from the conception to the final realisation.

Stup has also evolved a Research and Development wing, in order that each structure is appropriate to its site, in context with the climate, gives due respect to socio-economic considerations and utilises appropriate technologies.

Stup's architecture group lays its emphasis on a blend of youth and experience. The Design Forum encourages individuality, innovation and ultimately the evolution of ideas through discussion. The Design Forum can be likened to an orchestra, where the idea itself is the conductor and the catalyst of its own delineation.

Projects

Airports:	New Air Terminal, Nagpur
	International Airport, Amritsar
Hotels:	Mosul Hotel and Dokan Hotel, Iraq
	Holiday Inn, Bangalore
Hospitals:	Sanitarium Complex, Rybinsk, Russia
	Institute of Health Sciences, Oman
Housing:	Diamond Industrial Park, Gujarat
	Luxury Housing Project, Faridabad
Townships:	Karnataka Urban and Industrial Project for World Bank,
	Latur Earthquake Proof Village Development for World Bank
Commercial:	HQ of Oman International Bank
	Central Depository at Mumbai
Railways:	Khandeshwar Railway Station and Commercial Complex, Mumbai
Industrial:	TVS Suzuki Factory, Bangalore
	Kirloskar Toyoda Factory, Hospet
Institutional:	Institute of Management Studies, Bangalore
Educational:	Teacher's Training Center, Bangalore
	American Community School, Abu Dhabi
Sports Facilities:	GNFC Football Stadium, Bharuch
	Sardar Patel Cricket Stadium, Ahmedabad
Interiors:	Oman International Bank, Headquarters and Branches
	Indian Oil Corporation, Gujarat

PREM NATH & ASSOCIATES

(ARCHITECT INTERIOR DESIGNER VALUER CHARTERED ENGINEER)

प्रेम

1

2

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1: Industrial Development Bank of India, corporate headquarters at Bombay, India

2: Commercial complex in New Bombay business district, India

3: Residential apartment building at Queens Necklace at Bombay, India

4: Residential development complex, Sentosa City, near New Delhi, India

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India
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Fax: +91-11-642 4252

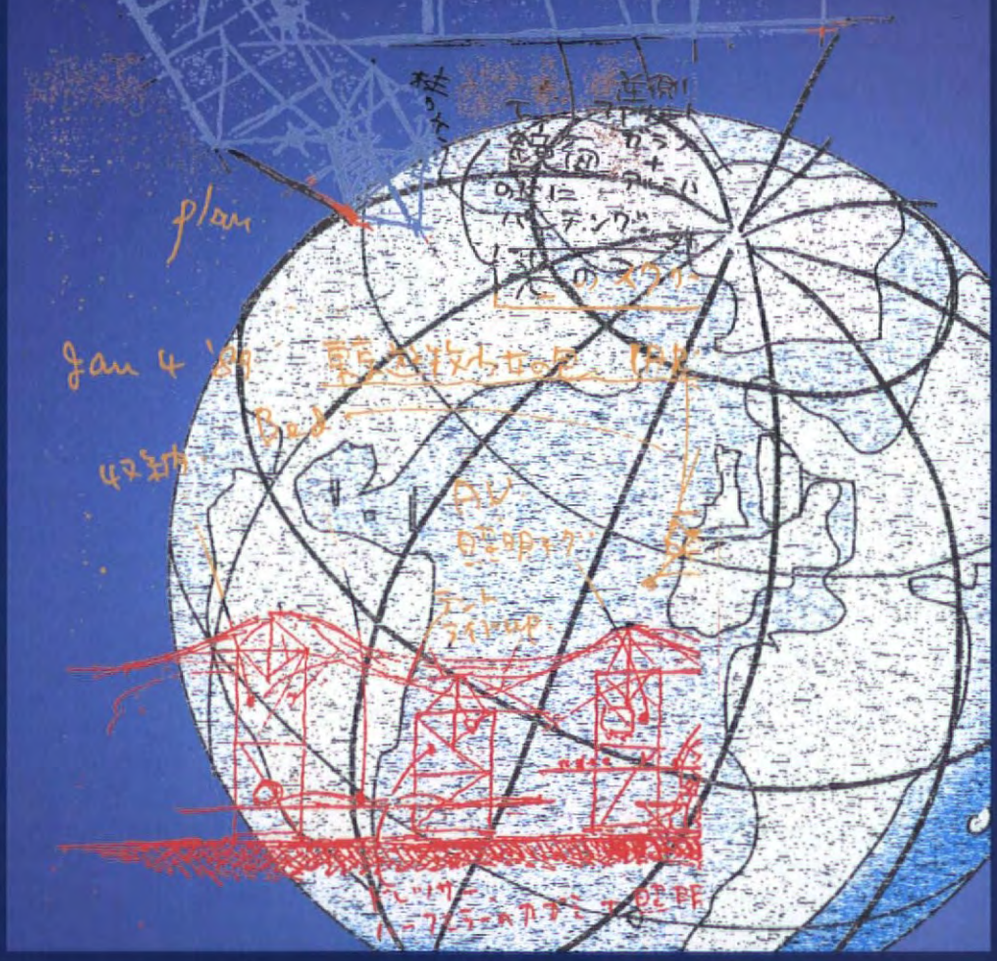
Key personnel
President & Chief Executive Officer: Prem Nath GDArch, FIIA, AID, FIID

Company profile
Prem Nath & Associates is a Bombay based complete Design Organisation involved in the profession of Architecture & Interior Design and Project Management Consultancy Services all over India for the last 30 years (established in 1967).

The firm handles total design services: Civil Engineering, Electrical, HVAC, Plumbing, Water Supply, Interior Design Services, Landscaping and Environment Development and is familiar with local and international codes, regulations, financial pattern of institutional projects, liaison work and seeking of approval from various authorities. The firm is known for successfully undertaking and completing major projects. The firm also handles turnkey assignments as per the client's requirements. The firm operates under the guidance of its Chief Executive, Mr Prem Nath, who personally sees that a high standard of design is maintained from both the aesthetic and utility points of view.

The firm is well equipped to handle jobs of varied nature and vast magnitude. The range of jobs comprises architectural and interior design projects of residential and commercial complexes, corporate offices, institutional projects, 3-5 starred hotels and hospital projects including holiday resorts.

THE GIANTS OF WORLD ARCHITECTURE



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The most favoured consultants are listed and trends throughout the construction industry in general as well as within specialist firms are analysed.

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Face to face

Mixed blessings

You do not have to have been born an Indian to practise there, but it certainly helps. The Washington DC and Mumbai-based firm, the Thadani Hetzel Partnership, are reaping the benefits of a "mixed marriage" incorporating American education and business acumen, and a sensitivity to the idiosyncrasies of the Indian construction world. Nicola Turner speaks to Dhiru Thadani about setting up in his homeland, after a career based largely in the US. Portrait by Ben Zweig.

Theoretically there is nothing to stop an overseas practitioner from setting up in India, but in practise very few ever stay for longer than the duration of one project, and most, explains Dhiru Thadani "come in only for the schematic stage of a design or development, after which local architects take over in the construction phase. It's too expensive for foreign firms to hang around answering questions and it is also hard to set up in the first place. The cost of overheads, especially in Mumbai, is just too high".

"Some firms see that speculative work is the only way to break into the market. We don't do it. That is the American side of Thadani Hetzel. If we were in India full time I would have to rethink that. Young, recently-established firms undercut their fees to enter the market, and clients who look only at the short-term bottom line, provide these offices with work on a trial basis. A majority of architects provide schematic designs without receiving a retainer fee and on a no-obligation basis, in the hope that they might get the job. Architects commonly send design drawings of buildings to developers and land owners to solicit work from them. As a consequence major clients such as hotel groups, government agencies, developers, and industrial houses, commonly involve architects [in speculative work]. This practise ... diminishes the architect's professional standing, and reduces the selection process to a beauty contest, where the best rendering wins, or the slickest or most unique package is noticed for consideration". And here, of course, more sophisticated foreign firms have a head start.

"The Indian work is split between our two offices ... we have an advantage as a joint US/Indian firm, over purely foreign set-ups, but we can't compete on fees with an Indian firm ... in order to encourage our staff to stay with us once they are trained, we commonly pay above market salaries." The advantages for potential clients, on the other hand, are clear. "The local office assures our clients that we understand the Indian codes and methods of construction which have an impact on our buildings and masterplans ... The major difference between working in India to the US is the construction system. We try to make the labour cost lower in the US, but in India it's labour that is cheap and material that is expensive. The whole process is geared to the labour intensive, and the cost ratio of labour to material is turned on its head".

If overseas or mixed firms command such inflated rates, how do Indian clients justify employing them? "In business terms it is more exotic for an Indian developer to hire an international firm ... it certainly is the perception in India that foreign spells quality. There are plenty of development opportunities within certain areas that generate foreign income, such as hotels and resorts and conference centres, which therefore justify foreign fees."

It is not just the clients who benefit from external advice. With his American persona at the fore, Thadani relates the positive impact of incorporating overseas know-how within the Indian building process. "The companies constructing our buildings can benefit from our work ... if they take the time to study the drawings. This is a difficult lesson to teach, as Indian construction companies often have little corporate history in reviewing drawings prior to the start of construction. Builders and contractors are conditioned to starting construction with few drawings in hand, asking many questions, and then attempting to correct the mistakes that have been built. In our case, the questions are often posed despite the drawings. This past year, we have been told many times by site engineers and construction teams, that as far as their experience goes, it is the first time they have received all the drawings for a building prior to the start of construction."

With two-thirds of India's population still lacking permanent housing, and with the constant urbanisation of the country, there is a perpetual demand for architects to work on housing schemes. It is in this category that a mixed-race partnership, especially one with a permanent set-up in India, has the advantage over entirely overseas firms when competing with local practices. There is a greater requirement for hands-on involvement throughout the building process, and an essential need to appreciate and understand the economics and social politics of the country, that is less essential for the resort or commercial end of the market.

It was housing that brought Thadani Hetzel to India initially. The Hiranandani Construction Company came to the US in search of masterplanners and architects, since masterplanning is not as widely practised by Indian firms. They eventually chose Thadani Hetzel for a string of developments including the Hiranandani Estate in Thane, and Hiranandani Gardens in Powai, Mumbai. Now approximately 50 percent of the firm's Indian work is with them. Working with one client for a significant percentage of the time is not unusual –

particularly for the foreign-based firms.

"Pursuing such a relationship seems to be the developers' choice rather than the other way round. Hiranandani would rather have one architect for the whole package, because of the perceived value it lends the scheme" – although Thadani Hetzel encourages them to recognise that in order to give the schemes a greater richness and diversity, other architects should be employed once the masterplan has been drawn up. "We offer design guidelines for other firms to follow ... The idea is to ensure that it doesn't look like a single hand."

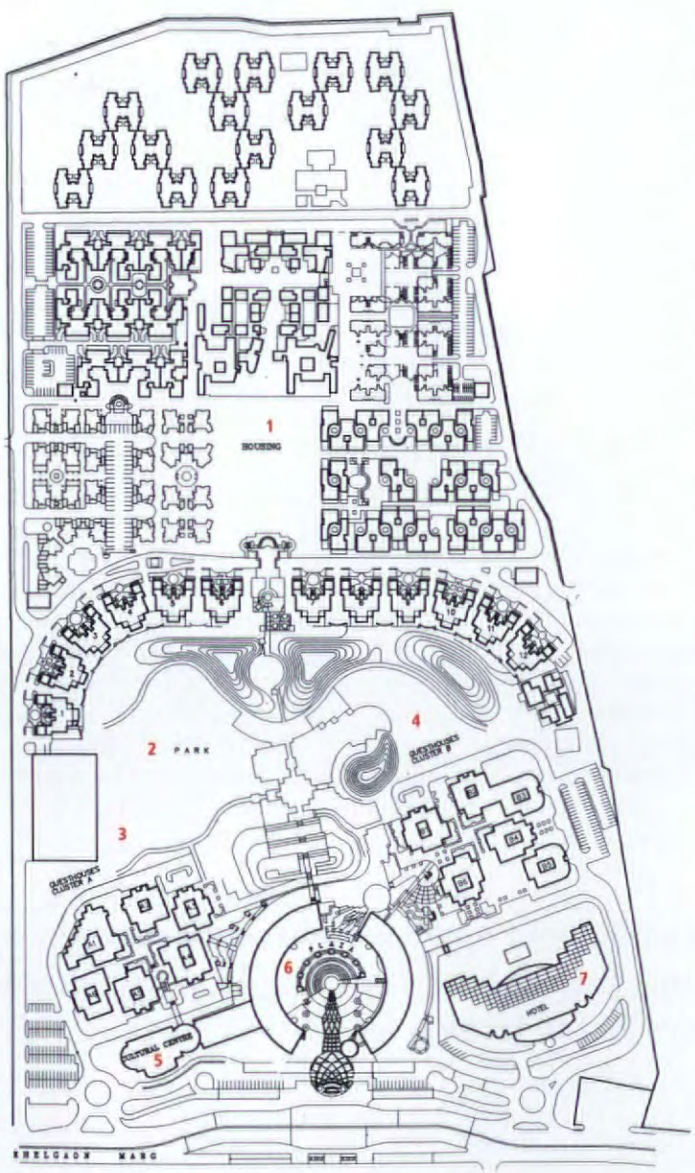
Despite concerns over India's unstable economic and political climate Thadani Hetzel have already proved the worth of setting up their Mumbai office, although Thadani concedes that perhaps one day he might have to move to India full time in order to capitalise on the many opportunities arising for both local and international architects. "All conversations and negotiations are done face to face in India. This would be a huge advantage if I were to be in Mumbai 100 percent of the time, and would be more in line with Indian business culture where so much work is done on a handshake." WA

"There are plenty of development opportunities within certain areas that generate foreign income, such as hotels and resorts and conference centres, which therefore justify foreign fees."

New buildings in India

New Delhi's bid for the future

The HUDCO Place project began, like many projects in India, as an uninspiring addition to a new masterplan of Delhi – a community centre adjoining a proposed housing colony for Government employees. It has since developed into one of India's largest, logistically most complex, and widely acclaimed, urban projects incorporating many innovative design and management solutions. Abhimanyu Dalal spoke to the architects, Jasbir Sawhney and Associates, the client and the consultants of HUDCO Place.



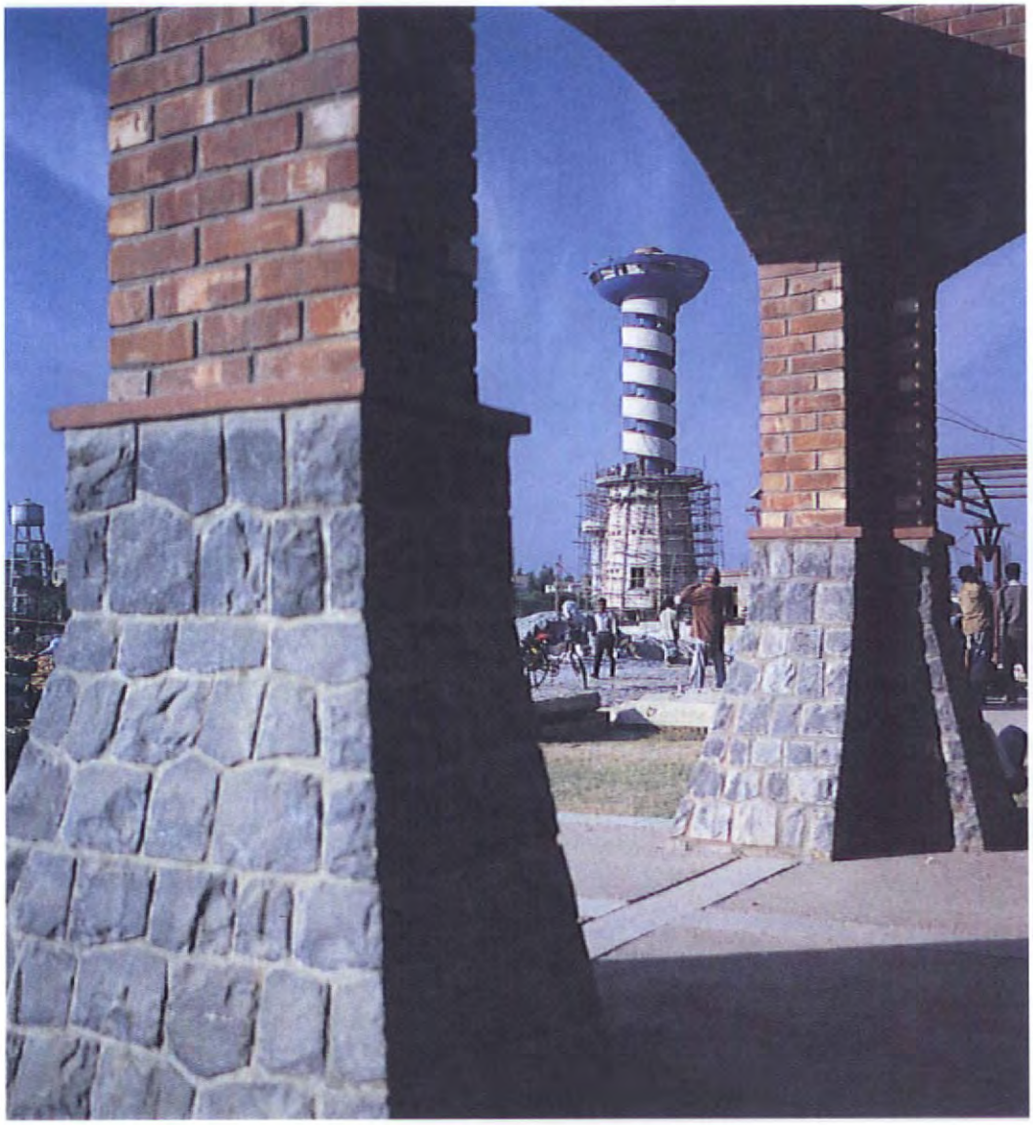
Key to site plan
1. Housing
2. Park
3. Guest houses (A)
4. Guest houses (B)
5. Cultural centre
6. Plaza
7. Hotel

The client

The HUDCO Place project has evolved into a mixed-use development with housing for Government employees in one half of the land and in the other a community centre consisting of a public park, transit guest houses, a luxury hotel, a cultural centre, an 800-car multi-level underground garage and an exclusive office and retail complex.

When the project began, in 1989, Delhi had already experienced, through its many commercial and district centres, the inefficiency of zonal planning resulting in the segregation of commercial, residential and retail activities. While the use of the zonal system met the square footage requirements of the masterplan it did little to create civic spaces for the fast expanding city. A product of centralised planning, seen most often in developing countries, this dry approach to urban design produced facilities that were misused and created architecture that was uninspiring, in effect reducing most developments to an amalgamation of zoned requirements devoid of any vitality. Most land in Delhi is owned by the Government of India and managed through either the Land and Development Office or the Delhi Development Authority. The normal

Site area		
Site	61.20 acres	
Zonal green (park)	18.00 acres	
Community centre (commercial)	17.60 acres	
Built up areas		
Residential	20,000 square metres	
Guest houses	28,000 square metres	
Ansal Plaza	14,700 square metres	
Car parking basement	24,500 square metres	
Cost	**US$**	**Indian Rs**
Guest houses	7.85 million	275 million
Car parking basement	5.25 million	184 million
Residential	2.81 million	98.5 million
Ansal plaza	11.4 million	400 million
Site development	1.8 million	63 million
TOTAL	**29.11 million**	**1020.5 million**



practise was to subdivide the land into plots and sell to the highest bidders. Urban design guidelines were a mere formality. In practice the job of the Government was over and the city got one more anonymous development.

The HUDCO Place development almost ended up this way. The Government was persuaded to lease the land at a nominal cost of one rupee to the Housing and Urban Development Corporation (HUDCO), with the assurance that profits from the development of the community centre would help cross subsidise 2,000 housing units of which about 1,174 units would be built on the adjoining parcel of land. HUDCO, until then a financing institution for low cost urban housing, became the client and project managers of the development. Out of a total land area of 71.2 acres, 35.6 acres was reserved for housing for Government employees, 18 acres for a public park and the remaining 17.6 acres for a community centre. Located on prime south Delhi real estate adjoining up-market neighbourhoods and shopping centres, the community centre of HUDCO Place was programmed as an integrated development, to be completed in phases.

The development judiciously incorporated a programme to take advantage of its location and the perceived needs of the city. The initial investment by HUDCO of nearly US$28.6 million (Rs 100 crores) to develop the guest houses (of which 75 percent were sold before construction ended), site infrastructure and parking basements has generated a market value today of over US$228.8 million (Rs 800 crores). The hotel and the cultural centre are due to be completed in a later phase.

The need for exclusive office space, the shortfall in Delhi of mid-priced hotel rooms for executives, and the proximity of other quality retail precincts formed the basis of the development programme for the community centre. In deference to the up-market location, the complex was to be provided with the highest level of facilities for its users, unsurpassed quality of finish and designed in a way to attract a premium on its market value. It has been designed to appeal to multinational corporations that may buy space in the office complex or the transit guest houses, and the well-heeled south Delhi residents who may shop and eat at many of the restaurants. The project also achieves a civic quality that will hopefully attract a good cross section of Delhi's population.

The architects

There has been great concern among Indian architects in recent years to create designs, both for housing and commercial centres, that would add vigour and civic quality to the public space. Delhi is already quite fragmented and the use of motorised transport is more the norm than walking. Scattered islands of development offer little to the pedestrian. The architects of HUDCO Place, Jasbir Sawhney and Associates, seized this opportunity to design an environment that would add vitality for the pedestrian as well as a degree of civic grandeur so that it acted as a focus for this part of the city.

The overall urban design concept of the sprawling development is the creation of distinct enclaves to house the many diverse activities, and yet function in total as a balanced

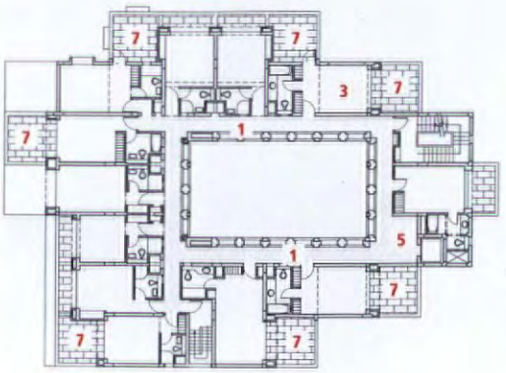
1: Looking across the plaza to the landmark location of the blue tower from within the guest house complex

2: Arched frames separating private from public space within the guest house development

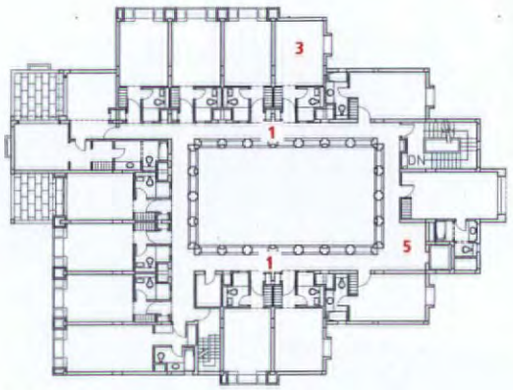
›

Key to guest house floorplans

1. Corridor
2. Court
3. Guest room
4. Kitchen
5. Lobby
6. Restaurant
7. Terrace
8. Verandah
9. Plant room
10. Service entry
11. Shop
12. Store
13. Air handling unit
14. Office

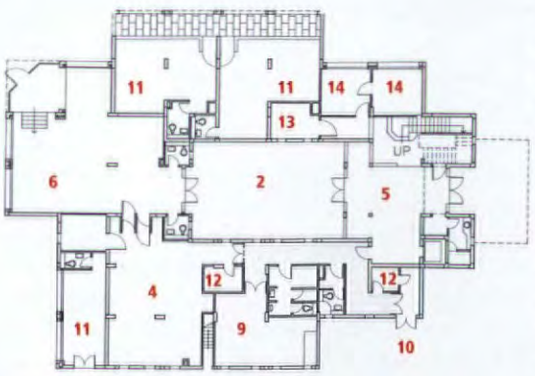


Third floor



Second floor

First floor



Ground floor

Guest house elevation facing park

composition. Jasbir Sawhney and his wife Saroj, both partners in the firm, maintain the importance of visualising the development as a city within a city concept. "The character of each enclave is detailed to its particular function but linked to the whole so as to be perceived by the user as a continuous urban environment."

An important design consideration by the architects has been the need to consolidate the open land into a continuous public space instead of losing it to "private yards that never get used". HUDCO, as the client, was also keen to see this approach taken. SK Sharma (Former chairman of HUDCO) explains, "this not only conserves valuable urban land but essentially checks urban sprawl and therefore reverses the damage already done to Indian cities". This approach also provides architects with an opportunity to create interesting public spaces by modulating the edge of these buildings.

The architects have skillfully controlled the vertical scale of the development by going in for a low-rise, high-density development that balances in a positive way the built-form, open-space relationship and leaves no unclaimed area for potential misuse. The cluster planning of the guest houses with its six blocks perfectly demonstrates this innovation in contemporary urban design. They are arranged to provide shaded pedestrian access from the central commercial plaza along a street-like continuous space leading to shops and restaurants on the ground level of these transit guest house blocks. Referring to traditional urban townscapes of Western India, Jasbir Sawhney has placed these blocks in an interconnected manner to create a mixed use environment of around 8,000 square metres of shops and restaurants and 500 transit guest rooms on the upper levels of 12 blocks. This whole cluster is served by a vehicular access route along its outer periphery.

The focus of the scheme is the 14,700-square-metre office and retail complex now named the Ansal Plaza after its developers, Ansal Properties. Circular in plan, with a tower at one end, the four-storey complex surrounds a multi level pedestrian plaza. Designed to be the roof over the underground parking, it is seen as a focus from which the red and buff sandstone geometric flooring pattern radiates pedestrian paths to all the different zones of the complex. Inspired from Delhi's rich Moghul traditions and Michelangelo's Campidoglio, the flooring contributes a dynamic urban quality. Considered initially as an expensive luxury adding to the cost of the development, the 80-metre-diameter circular plaza is now seen as the symbolic gateway to the project, and designed to be an inviting space with an amphitheatre, water fountains and landscaping. There are now proposals to cover it with retractable canvas so as to provide shade in the summer. Reflecting itself in the surrounding curtain wall of blue glass, the plaza also functions as a spill over to the retail and restaurant activity within the building. Jasbir Sawhney and

Facing vehicular street

Facing internal street

Facing internal quadrangle

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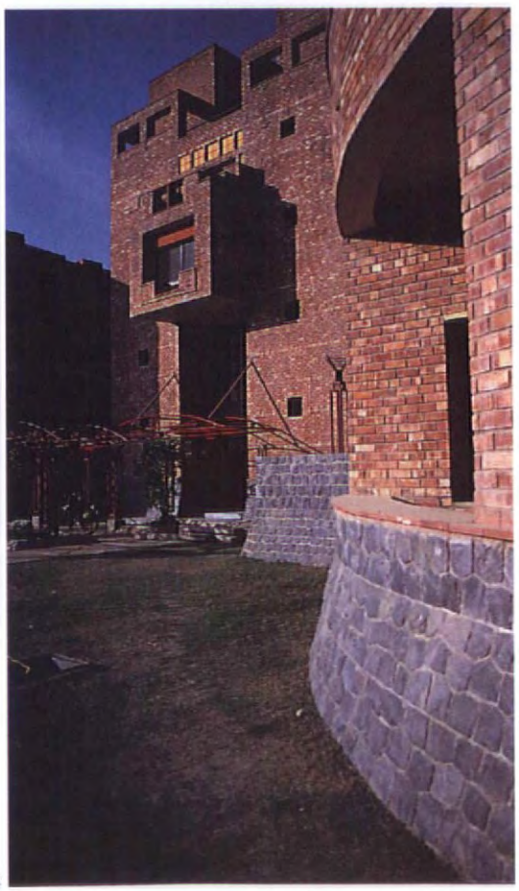

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1: Two four-storey guest house clusters in blocks of six, each accommodate 500 guest rooms

2: View of the internal pedestrian "street" leading to shops and restaurants in the guest house block

3: The blue tower, housing the exhaust and fumes scrubber, is already becoming a recognisable feature of contemporary New Delhi

4: Detail of the guest house facade showing the creative mix of materials and textures

Associates specified heat-absorbing rather than heat-reflecting glass in order to minimise heat gain in the plaza. At the ground and mezzanine level of the building 9,000 square metres of shops and food bazaars are placed to attract passers by. To dispel the criticism of an air-conditioned shopping experience for the relatively rich, the project now envisages open-air stalls along the edge of the plaza, much like the informal markets that make up the Indian urban experience. The developers are thereby hoping to attract a mixed and vibrant set of people. Ansal Properties and the architects have regularly had to review and tailor the spaces to suit specific requirements of potential buyers even as concrete slabs were being cast. While maximising every available space, the architects have constantly tried to meet diverse requirements within the existing structure. The success of the project, as both Jasbir Sawhney and Dinesh Sarin of Jasbir Sawhney & Associates explain, has been "through personalised management of the project – an involvement of the most senior members of all project teams in a face-to-face interaction".

The consultants

At the edge of this plaza along the main road, is located a 42-metre-high tower finished in blue glass mosaic tiles with a spiral stair along its shaft that is fast becoming one of Delhi's most significant landmarks. It is also symbolic of the sophisticated level of services developed for the project. The tower functions as the exhaust for the boilers that generate steam required for the centralised low-energy consuming absorption system that air-conditions the buildings and also produces hot water. 3,000 kilo volt ampere of diesel generators are installed and designed to provide for a nearly 100 percent back-up power in a city where power cuts are quite frequent and at the same time are designed for heat recovery which will pre-heat boilers for steam. Located at the base of the tower are scrubbers that neutralise the exhaust fumes before they are released into the atmosphere. All electrical, mechanical and air-conditioning services are centralised under the terraced gardens leading from the plaza to the park. Even the fountains in the park are designed as spray ponds for the 2,400 tonnes of air-conditioning equipment. The centralised system for all services in the 17.5-acre community centre is seen as a means of energy conservation through prudent management and distribution. A HUDCO-promoted Habitat Services Centre, a first for projects of this nature, is entrusted with the maintenance of the complex. It is intended that once future residents take possession of their offices, guest houses and shops, control of this management agency shall pass to them. The clients and the architects viewed this in principle as leading to a new approach in professional property and service management not available in Indian cities so far. This self management of centralised facilities is seen by SK Sharma as a step towards local self management of urban neighbourhoods and as a means of managing scarce urban resources in the future.

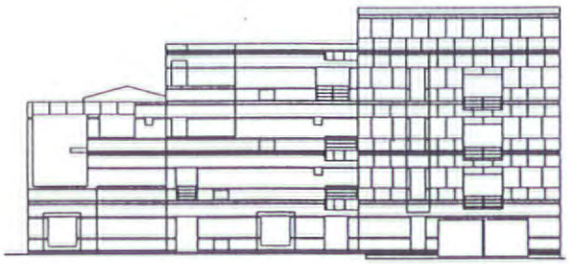
Appraisal

HUDCO Place represents issues that are very much the concerns of the present generation of architects in India. In the last 25 years Delhi has witnessed uncoordinated growth that

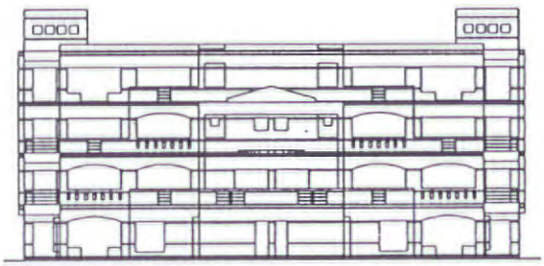
1: Facade detail of guest house

2: View of the guest houses across the internal quadrangles

Front elevation of housing block



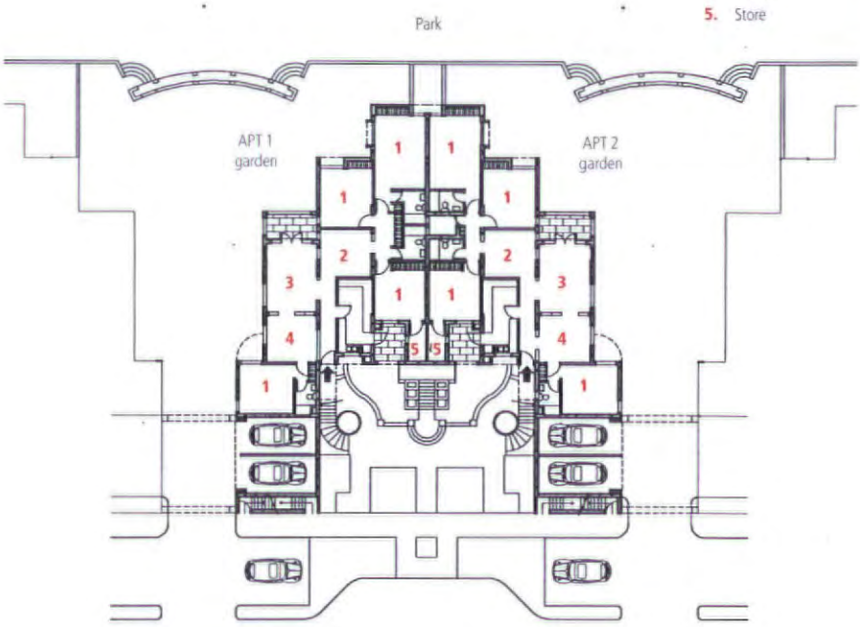
Side elevation



Park side elevation

Key to ground floor plan of housing block

1. Bedroom
2. Family lounge
3. Living room
4. Lobby
5. Store



1: The 12 housing blocks are laid in an arc overlooking the park. The overall effect is more like a villa than a mass housing block

has left the city fragmented with insufficient amenities, a disproportionate use of energy and a lack of general civic vitality. HUDCO Place has been an exercise in defining sustainability within a contemporary urban development. It has demonstrated that traditional wisdom can make contemporary sense. The low-rise, high-density cluster design not only allows innovative urban design in terms of organisation, economy of services and demarcation of the public and private domains, it also provides a strong urban imagery conducive to civic life. In one of the largest projects to date, using 34,000 cubic metres of brickwork, 55,000 cubic metres of concrete, 8,000 tonnes of structural steel and 250,000 cubic metres of excavation work, exigencies of speed prompted the architects to select construction technology that was quick to build in a practical, non-complicated way. Owing to problems of transportation, 0.8 x 0.8 x 0.45-metre concrete waffle slabs were precast on site to make the roof of the office and retail complex. When mechanical equipment was considered too heavy for crossing the plaza, donkeys were employed to carry building material.

At a time when professional mantras are seen as a recourse to all management, the intense personal rapport between HUDCO Chairman SK Sharma and Architects Jasbir Sawhney and Associates functioned as a mutual sounding board that allowed a greater degree of creativity, and made possible a project through the existing political system that would have otherwise been reduced to mediocrity. The project has made commercial sense to the clients, cross-subsidised Government housing to a tune of US$28.6 million (Rs 100 crores), showed the city what prudent use of land resources can give and at the same time promoted ideas of professional local management. WA

Client
Housing and Urban Development Corporation (HUDCO)
Design team
Jasbir Sawhney, Saroj Sawhney, Dinesh Sareen, Debasis Roy, Mohit Aggarwal
Structural engineers
Vijay Rewal Associates
Plumbing
Deolalikar Consultants Pvt Ltd
Electrical
Electrical Consulting Engineers
HVAC
Maneck N Dastur
Landscape
Shaheer Associates
Contractors
Ahluwalia Contracts (India) Ltd – Guest houses – cluster B, carparking basement, Ansal Plaza
Hindustan Prefab Ltd – site development and type V1 housing
Shapoorji Pallonji & Co Ltd – Guest houses – cluster A

Architects
Hasmukh C Patel, Architects and Planners
Reviewed by
Peter Wislocki

Ahmedabad authority

The Gujarat High Court Complex, Sola, near Ahmedabad

It has all the makings of a monster: a complex containing 33 courtrooms, distributed around a formal courtyard, standing well outside the established city. The Patels' court complex has the scale of a European or North American out-of-town shopping mall, and poses many of the same design dilemmas. Huge and intrinsically monolithic, it was inconceivable that the courts should be anything other than a symbol of the state's authority. And yet, for all its formality and rationalist planning, this is a humane building, surprisingly permeable and inviting. Bimal Patel, a partner in his father's established Ahmedabad practice, has used the scheme as a vehicle for exploring themes derived from Indian and Western traditions.

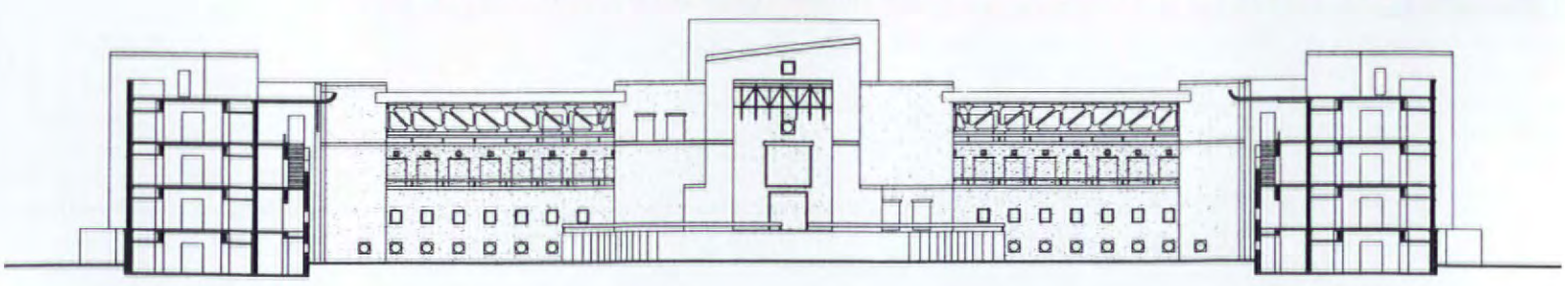
From the National Highway to the east, the complex is imposing. The recently completed central block is flanked by a pair of pavilions and two linear blocks, defining the northern and southern edges of what initially resembles a fortified city. The main court building accommodates 32 identical courtrooms, each with its own judge's chambers, together with the much larger First Court, on the axis facing the entrance portal. All of the courtrooms are entered directly from arcades running on all four sides of the four-storey courtyard – unenclosed but deeply shaded spaces through which the public are free to circulate. Pairs of courtrooms are clustered around each corner of the building, sharing a private spiral stairway, through which the judges reach their quarters. The public entrances to the courtroom are located nearer the grand axes traversing the complex, linking the main building with the administrative offices and advocates' quarters on either side. The permeability of the complex – enabling the building to function as a truly public place – was made possible by the fact that these are not criminal courts, and therefore require no secure docks and cells for defendants, or stands for witnesses.

The incremental development of the complex reflects the changes in the Patels' architectural thinking. The main court building was first to be designed, and could be described as post-modern, with its contrasting coloured renders and monumental, formalist gestures. Bimal Patel's contention that the scheme should, above all, have a strong sense of identity, breaking down the potentially alienating monotony of the client institution into memorable forms, distinct and articulate is perfectly valid. In terms of the architect's laudable objectives, it is ironic that the courtyard facades, whilst highly layered and formally sophisticated, give little indication of the building's purpose and status. Only the First Court has any individual presence on the building's exterior – and its somewhat mannered, highly idiosyncratic facade has little about it that describes the crucial role the

1: The abstract forms in the courtyard recall the astronomical instruments of India's Moghul observatories

2: Central courtyard; east elevation

1



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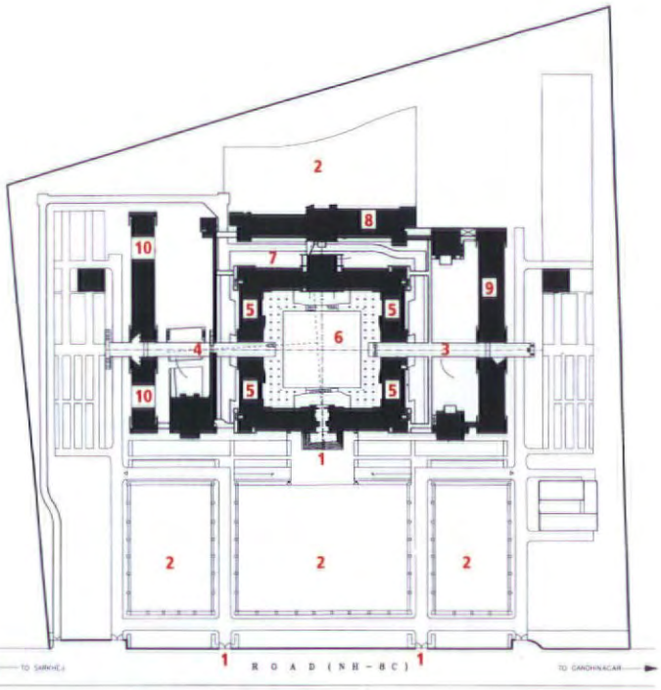


Key to site plan

1. Ceremonial entrance (east)
2. Gardens
3. North concourse
4. South concourse
5. Main court building
6. Main courtyard
7. Gujarat High Court Library
8. Judges' Facilities Building
9. Administrative offices
10. Advocates' chambers and facilities

4

3: Detail of the main court building with its postmodern coloured renders and monumental, formalist gestures

4: The complex is designed with an emphasis on shaded public space

5: Entrance to central block (east elevation)

building performs in Gujarati society. By contrast, the later administrative blocks (still under construction) revert to a less rhetorical and more repetitive modernism, which more directly communicates their function and organisation.

The abstract geometrical forms within the courtyard recall the monumental astronomical instruments of India's Moghul observatories. To create meaningful architecture (and in this case landscape design) responsibly is to assume the presence of a shared linguistic code. As the experience of recent decades confirms, contemporary architecture becomes consistently meaningful only when there is a reciprocity between form and habitation. The more laconic parts of Gujarat High Court Complex, in their formal discipline, appear to be the more enduring and unambiguously communicative of their purpose. WA

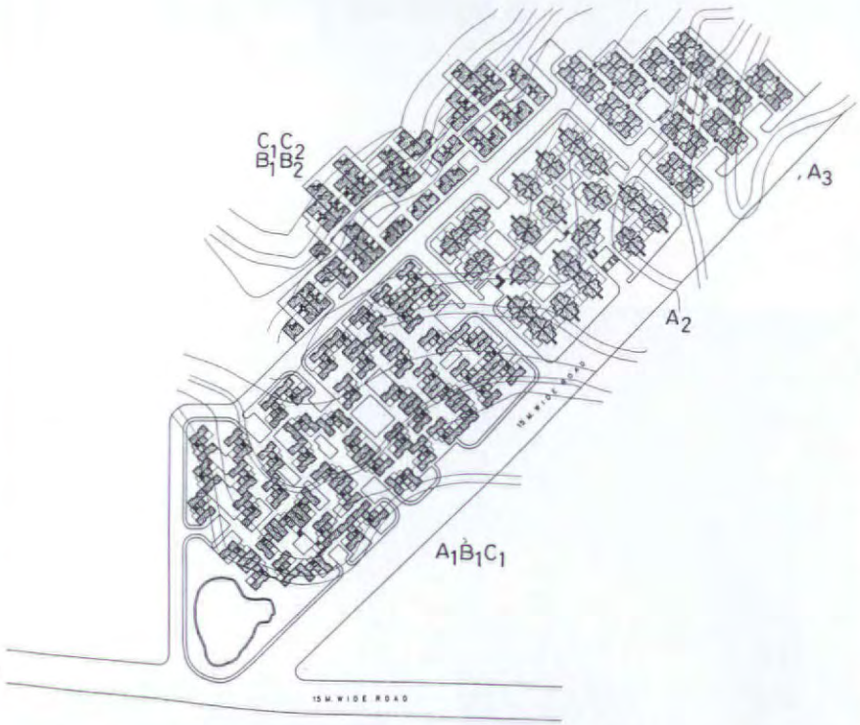
Client
The Roads & Building Department, Government of Gujarat, Gandhinagar
Structural engineer
Vakil Mehta Sheth
Air-conditioning
Mihir N Patel
Plumbing
NK & Associates
Fire protection
Dalal Consultants
Contractor
Ajay Structure Engineering Works

5

Architects
Raj Rewal Associates
Reviewed by
Peter Wislocki

Mumbai masterplan

CIDCO Housing, New Mumbai



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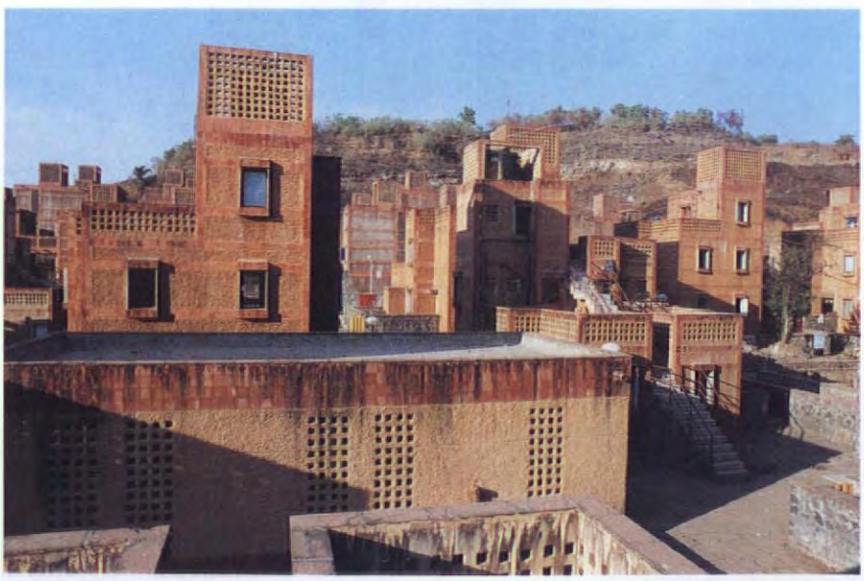

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Whilst Western theorists have frequently debated the distinctions between *architecture* and mere *building*, the realities of India's economy, and the condition of its built fabric, appear to make good design a luxury of total irrelevance to the majority of the population. Raj Rewal's status as one of India's leading architects is beyond serious question; yet some have argued that he, along with Balkrishna Doshi, Charles Correa and other internationally-known figures, serve only their country's wealthiest elite. Rewal sees the Central Industrial Development Corporation (CIDCO) project, part of a larger masterplan for New Mumbai coordinated by Charles Correa, as an opportunity to apply principles seen in his work for rich private and institutional clients to the provision of housing for the very poor.

Built by the CIDCO to the tightest of budgets, Rewal's scheme has 1,024 dwellings of 27 generic types, ranging in floor area from 18 square metres to 55 square metres, distributed in 294 buildings over an undulating site. Even the smallest units – essentially single, multi-purpose rooms, with cooking facilities in the entrance lobbies, and minimal (but separate) toilets and bathrooms – have their own external patios. The dwellings have been sold, either individually, or in larger multiples for occupation by employees of institutions such as the customs and tax authorities. A thousand labourers took four years to construct the scheme, which commenced with the blasting away of 44,000 cubic metres of hillside, much of the displaced material being reused in Rewal's buildings.

Rewal's objective has been to create variety and individuality without hierarchy; to make distinct places, in the tradition of densely populated Indian cities, without recourse to pastiche or grand formal gestures. To the outsider, the CIDCO housing complex can be a disorientating place to wander through, with

3

4

its homogeneity of materials, colours and uniformly scaled grain of buildings and spaces. Yet, on closer acquaintance, each alleyway, intimate square and elevated courtyard is revealed as unique. Rewal takes great delight in the way occupants have appropriated the development within weeks of moving in, setting up modest shrines in public courts – as they might in any Indian village community – and making full use of the theatrically stepping terraces, the taller of which command spectacular views. Very modest levels of car ownership (something inevitably subject to change over coming decades) have allowed the architect to dedicate the majority of external spaces to pedestrians, with children free to play where they will.

Whereas Rewal's buildings for wealthier clients have generally been faced in stone, ceramics and well-crafted concrete, the CIDCO development was restricted to more basic technologies. Using materials which were affordable, yet capable of withstanding the sustained weathering of Mumbai's monsoons, Rewal's scheme uses self-coloured roughcast loadbearing blockwork walls and concrete slabs, with bands of handmade terracotta tiles adding a geometrical discipline and human scale to the facades. The warm tones of the new buildings harmonise with the surrounding natural landscape. The stains left by the heavy rains are seen as signs of a natural process; the monsoon, in Rewal's romantic words, acting as "a giant painter with thundering clouds and water brush ... [creating] a vast work of art".

The involvement of architects of the calibre of Raj Rewal and Charles Correa in such projects is surely a positive development in what is still a land of tremendous (and, in some respects, growing) inequalities. Despite boasting some of the highest property prices in the world, Mumbai has many square miles of shanty-town dwellings. In this context, the CIDCO project serves as a sound exemplar of a quality of architecture and urban design which is achievable, on a massive scale, in the immediate future. WA

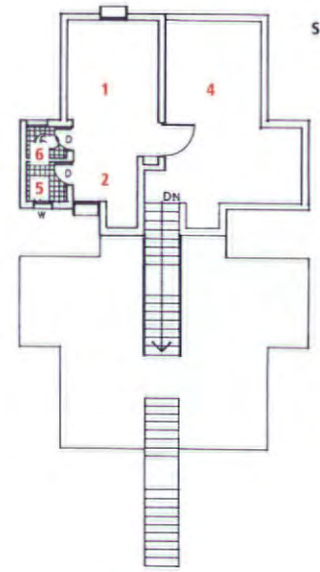
Client
City & Industrial Development Corporation (CIDCO)
Project architects
Raj Rewal, Arvind Mathur, Rana Ram, Arun Rewal, Pratap Talwar
Project management, structure & sanitation engineers
Shirish Patel & Associates Consultants Pvt Ltd
Electrical engineers
Bahulekar & Associates

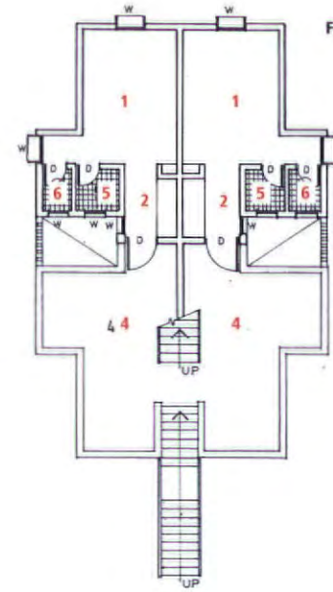
1: Site plan showing seven of the 27 generic house types

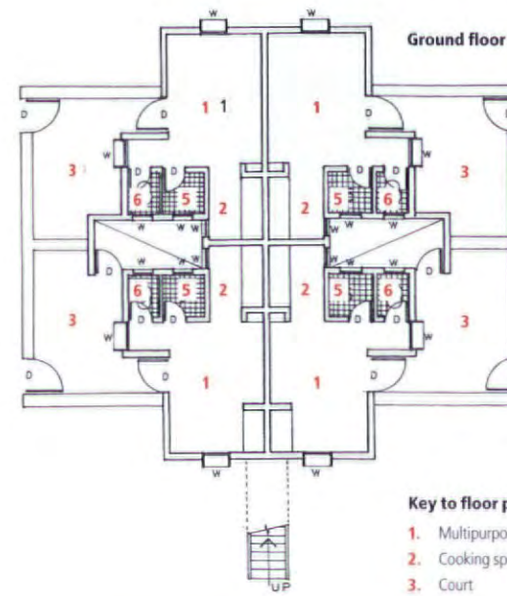
2: 44,000 cubic metres of hillside were blasted away to create the terraced land for the CIDCO scheme

3: Some of the displaced material was reused in the buildings

4: Although Rewal has employed uniform materials, colour and scale, each alleyway and courtyard is unique







Key to floor plans for type A2

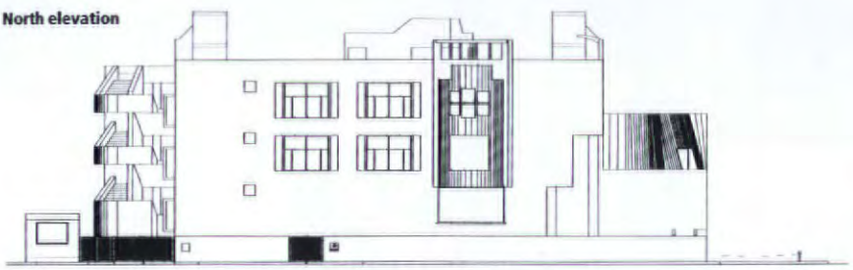
1. Multipurpose room
2. Cooking space
3. Court
4. Terrace
5. Bath
6. WC

Architects
Vastu-Shilpa Consultants
Reviewed by
Peter Wislocki

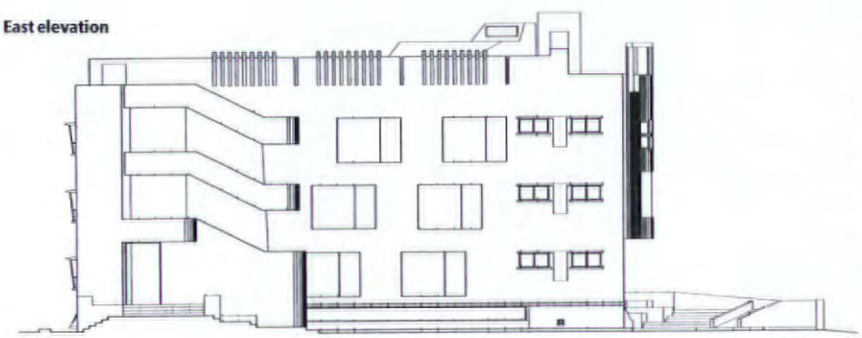
Cultural contortions

Indian National Trust for Art and Cultural Heritage (INTACH), New Delhi

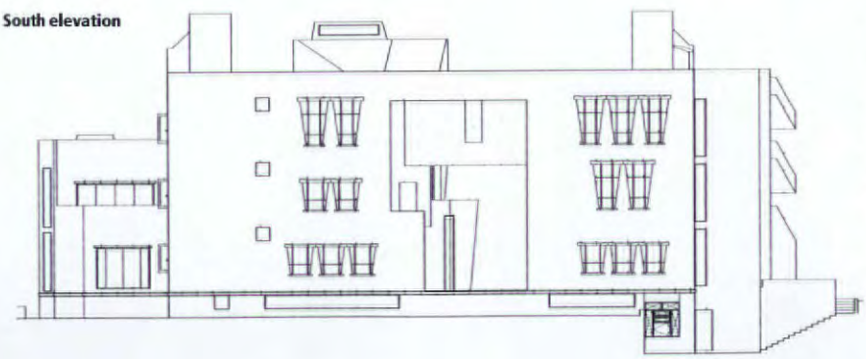
North elevation



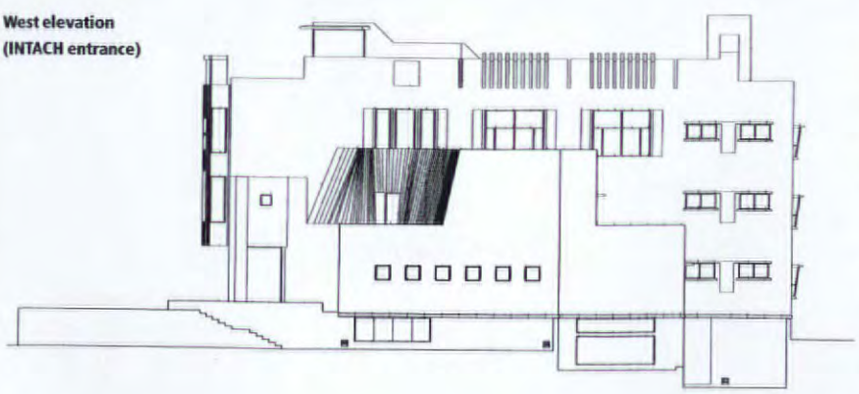
East elevation



South elevation



West elevation (INTACH entrance)



The Indian National Trust for Art and Cultural Heritage (INTACH) forms part of a complex of cultural institutions located between the Max Mueller Marg and the Lodhi Gardens, in a beautifully planted and monumentally ordered district of New Delhi. Vastu-Shilpa Consultants' building, designed by a team headed by Rajeev Kathpalia, stands out from its more formally restrained neighbours (such as Raj Rewal's World Bank mission to the immediate north) with its play of skewed planes and curves, carved out of an essentially orthogonal mass.

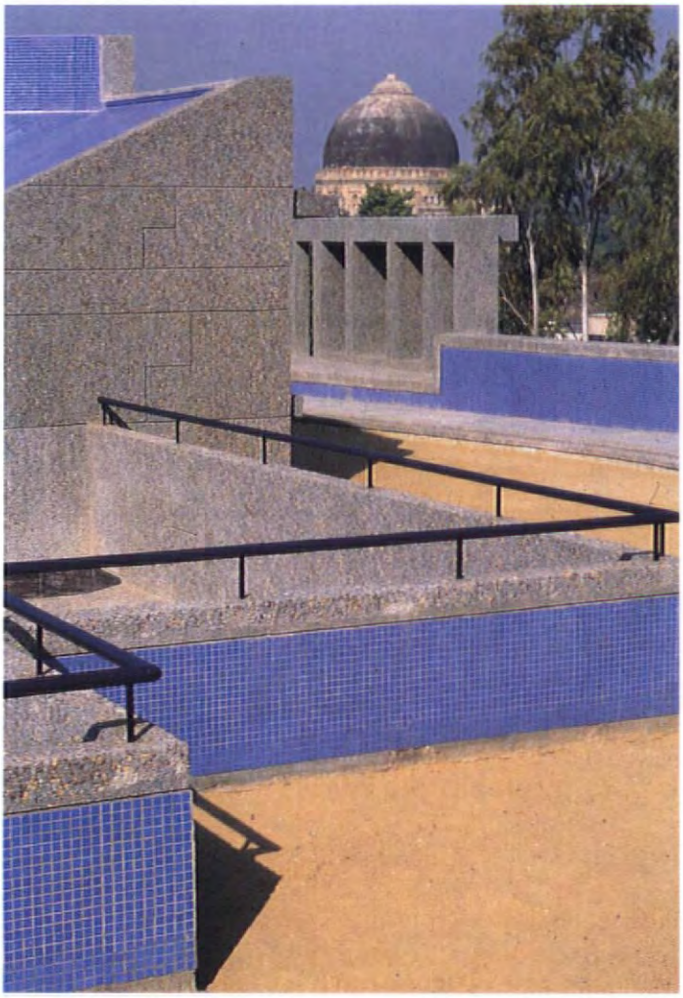
According to Kathpalia, INTACH was required to combine administrative and didactic functions, performing as "a resource centre and an open house for the dissemination of information". The building had to recognise the heritage which was central to its function, yet appear contemporary and progressive. Furthermore, as an establishment standing beside other public buildings, INTACH was required to have an institutional scale; yet as a centre of research, its interiors were to be informal and intimate. The contrast between the building's quite regular exterior, and its fragmented internal spaces, is a logical consequence of the contradictions inherent to Vastu-Shilpa's brief.

The approach to the building is carefully manipulated, with a number of shifting, oblique pathways compressed within the tight, rectangular site. Kathpalia is playful in his manipulation of scale, with a surprisingly modest entrance, revealed within a larger recess in the building's facade, giving access to a formally cacophonous interior. Arrival is at an intermediate level, overlooking a void running the full height of the building, with stairs dynamically bridging the complex volume, following a multitude of trajectories. This is the kind of space which architectural students dream of creating: full of movement and spectacle, daylit from a variety of direct and indirect sources, somewhere to see and be seen in. It could only be designed in models, and looks great, in its abstract complexity, in any competent photograph.

The courtyard carved into the building's heart is equally theatrical, with its irregular terraces and intimate amphitheatre looking over an ornamental pond. "The court became the internalised central core for movement, light, ventilation, view and spill over space for activities," the architects explain. A diagonal orientation is overlaid on the building's already complex geometry, "acknowledging the presence of the Lodhi monuments beyond, and helping to reorientate and connect the core to the historic references with framed vignettes of the distant monuments as visual reminders".

Here, as everywhere, Kathpalia's design is nothing if not exuberant. Alongside spaces dedicated to specific functions, ranging from meeting rooms on the second floor, a library on the ground floor and conservation workshops and laboratories in the basement, much of the interior has been designed to act multivalently, serving as a flexible meeting and exhibition

All photographs: John Paniker



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1: The nearby Lodhi monuments framed by the building's roof elements

2: Pergolas and seats on the roof terrace

3: Looking down from the roof terrace into the cavernous central courtyard

venue. The client organisation intends to lease parts of the building to other groups, so it is likely that the large areas of open plan space will eventually be partitioned. The layout of furniture, including the desks and study carols shown in Vastu-Shilpa's plans is still very much under review, but does highlight some potential difficulties with fitting regularly ordered functions into a highly irregularly ordered building. Despite the plan's formal complexity, there is relatively little hierarchy in the scale and quality of the building's interiors, with many areas small by institutional standards, yet larger than typical domestic rooms. "Introverted spaces, sunken courtyards, flexible layouts, with layered planes unfolding along movement routes, diffused light, animated terraces and the use of construction details promoting craftsmanship and hand skills are the key attributes of the building," Kathpalia believes, "recreating the ethos of the traditional architecture without compromising on its contemporaneity or modern ambit."

Time will tell whether the building's occupants fully appreciate Kathpalia's compositional virtuosity, or whether they are inclined to make unsympathetic interventions to serve their everyday needs. WA

Client
The Indian National Trust for Art and Cultural Heritage
Associate Architects
BV Doshi, Stein Doshi and Bhalla (A) Mansar
Project management consultant
HK Yadav
Structural consultant
S Roy Choudhury, Stein Doshi and Bhalla (Delhi)
M&E consultants
Ms Sanelac
Contractors
Ms Kiri and Associates

Concept

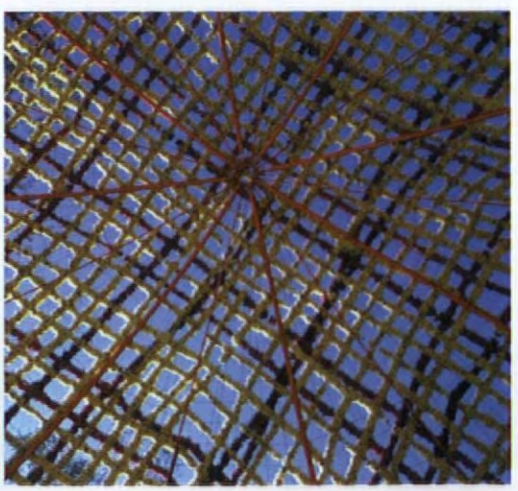
Temporary matters

The ideology of Mansar– a studio formed by Radhika Doshi and Rajeev Kathpalia in Ahmedabad, architects of the INTACH building featured in this report – is based on pursuing the links between architecture and the temporary and intangible. Their design work ranges in scale from single architectural spaces to large city complexes. Here Georgi Stanishev focuses on two projects as built examples of their philosophy: temporary celebration spaces and projects based on water systems.

A symbiotic fusion of the words "Mana" (proportion), and "Sara" (essence), in a free translation from Sanskrit, creates the name "Mansar" which is intended by the group's architects to portray the ideals of essential proportion, both in the ethics of symbiotic life with nature and in the aesthetics of subtle balance and harmony.

One of the most significant teachings in the Indian dualist philosophy is that which dictates that the ephemeral and intangible aspects of life dominate and govern the corporeal and massive elements of the material world. In the aesthetics of Indian art and literature, the whisper of the wind, the fabric of the spider's web, and the flow of water stand as metaphors for the invisible energies ruling the universe. Similarly, with regard to significant correlations within the world, the balance of energies between the man-made and the natural is favoured over straightforward subordination. This understanding and sensitivity in the work of the Mansar studio leads to designs which emphasise tolerance and flexibility, and an acceptance of the variations of form, space and spiritual beliefs as goals in themselves.

1



2

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1-3: Details from "Temporary sacred celebration structures" 1989-1996 using fabric structures, constructed with the use of contemporary technology, to define space

4

5

6

4: Ahapura Institute of Shipping Management at Bhuj designed by Vastu-Shilpa Consultants which includes Balkrishna Doshi, as well as the Mansar partners

5: The temporary sacred celebration structures for weddings, 1995

6: Villa Basu, Ahmedabad, 1992-1996

Temporary spaces

The age-old rite of the wedding is an occasion which, in India, involves the temporary congregation of thousands of people in one place over a limited number of days. Simple fabric constructions mark and fence the space, converting it temporarily into a sacred ceremonial city similar to the Shintoist "temporary temple" tradition in Japan. In both cases the mythological and religious beliefs surrounding the significance of space are analogous to the avant-garde visions of the instant cities of the 1960s and the electronic temporary spaces of the 1990s, which convey that – in ideal circumstances – architectural space should be transient, being created only when absolutely necessary, and disappearing when it is not needed. "I was inspired", Radhika Doshi says, "by the idea of using contemporary technology to create a space that would be full of life and magic for these few sacred ephemeral days".

Water matters

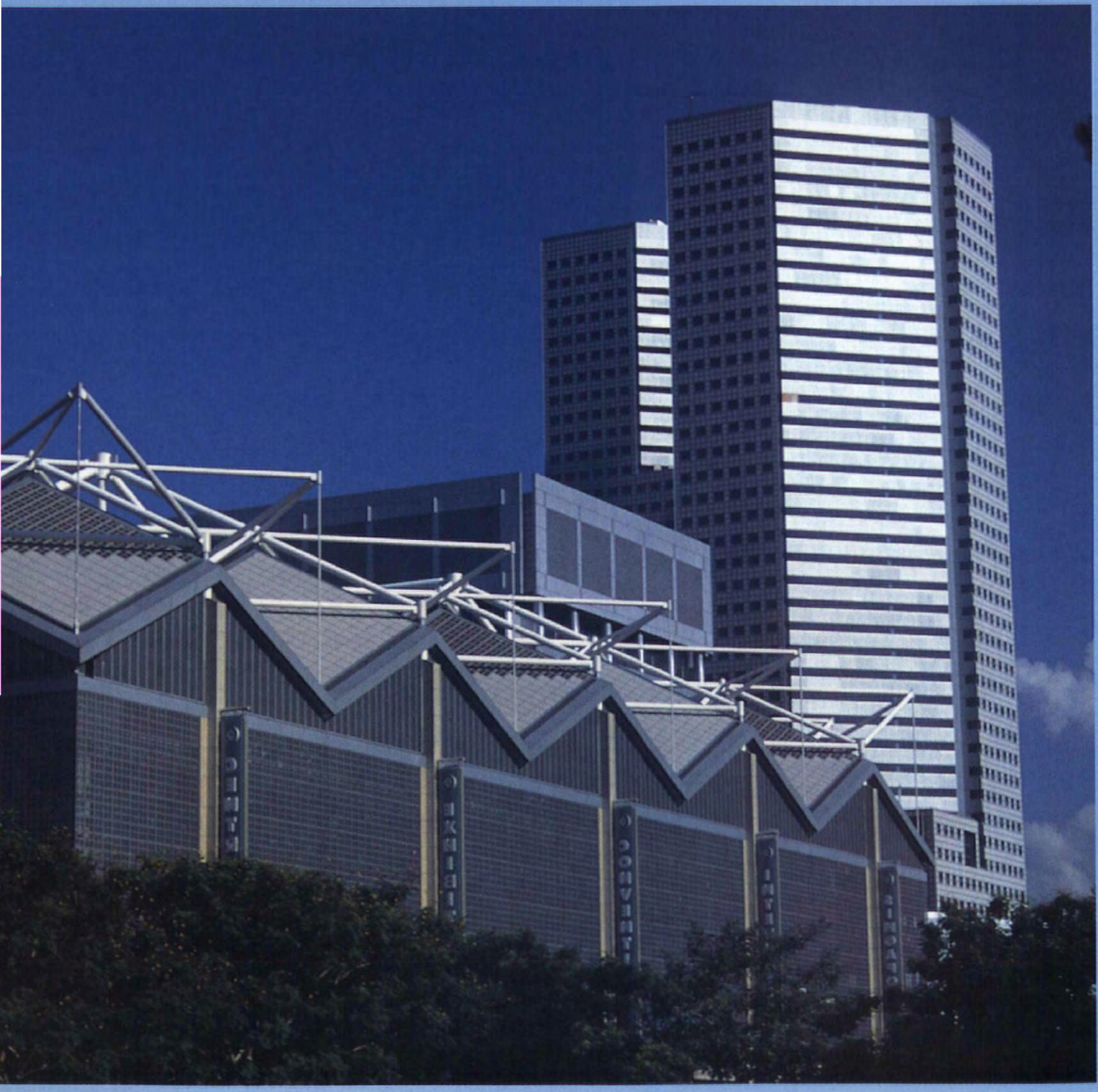
"We come from the water; our bodies are largely water; and water plays a fundamental role in our psychology." This sentence from Christopher Alexander's *A Pattern Language* quoted by Rajeev Kathpalia, is sharply relevant to the extreme climate of the Indian subcontinent and the increasing shortage of water. The issue is considered in two projects, the Villa Basu house and the Ashapura Institute of Shipping Management (AISM) at Bhuj. Although different in scale, both works share a common concern for the arrangement of life in relation to water and take clues from traditional subterranean water structures – the stepwells, a unique form of underground well-architecture which has survived from the seventh century. In Indian culture these stepwells combine a whole set of functions: a utilitarian source of water, a social meeting and leisure space for the community, and a mythological and sacred space inhabited by various spirits with life-giving powers. Thus the spaces of the Basu Villa are arranged around a cascade of three pools of water – an essential organisational device to sustain both the family life and the existing mango tree. The water and the tree are the two points of focus which organise the house space and take clues from the stepwell, beginning below ground level and gradually rising above to meet the sky and accommodating a garden on the terraced roof. Similarly, the AISM project, which covers 25,000 square metres of built area with teaching, maintenance, and living facilities, unites the building and landscape by incorporating buildings which are conceived as ridges cut into the hillside. Their role is to complete and repair the landscape by channelling the monsoon water into harvesting ponds, ordering the movement of people across the site, and maintaining the natural watershed, its plant and wildlife diversity. The aim is to design an ecosystem of landscape and buildings where each one asserts its own presence whilst supporting the other.

Both aspects of the Mansar studio's work, the ephemeral temporary structures and the sustainable ecosystems based upon water, inhabit the peculiar border-line where the traditional mythological cultures of the east meet the most recent developments in scientific progress, both of which respond to the world as a subtle organism with an infinite capacity for sustainability and permanence. The temporary fabric of the celebration structures, and the unseen theory and philosophy behind the water project, shares the common ideology that there is nothing more permanent than transition itself. WA

Looking to the future DP Architects

Singapore's DP Architects have made a commercial success of an underlying social mission. Having evolved organically into one of the island state's largest and busiest practices, DP continue to strive to make places which respect and promote the communal lifestyle and heterogeneous culture of Singapore's population. Peter Wislocki considers how the experience of participating in the rapid development of their native country over previous decades can now equip the firm to tackle the daunting challenges associated with new emerging markets.

A development of office, retail, convention and exhibition space designed to promote Singapore as the focal point for international exhibitions and conferences in the Asia-Pacific area



Few design practices of the size and commercial standing of Singapore's DP Architects could be described as organic. Yet, applying several of the word's meanings – in the contexts of both organisational design and architectural theories – organic appears an appropriate term. Like all organisms, DP have grown and developed over time, and continue to do so. "The present and future matter more than the past," says Koh Seow Chuan, one of the firm's co-founders and most articulate spokesmen. "We don't want our young architects to feel inhibited by the past." Yet, to understand DP's success, one cannot avoid mention of its thirty-year history.

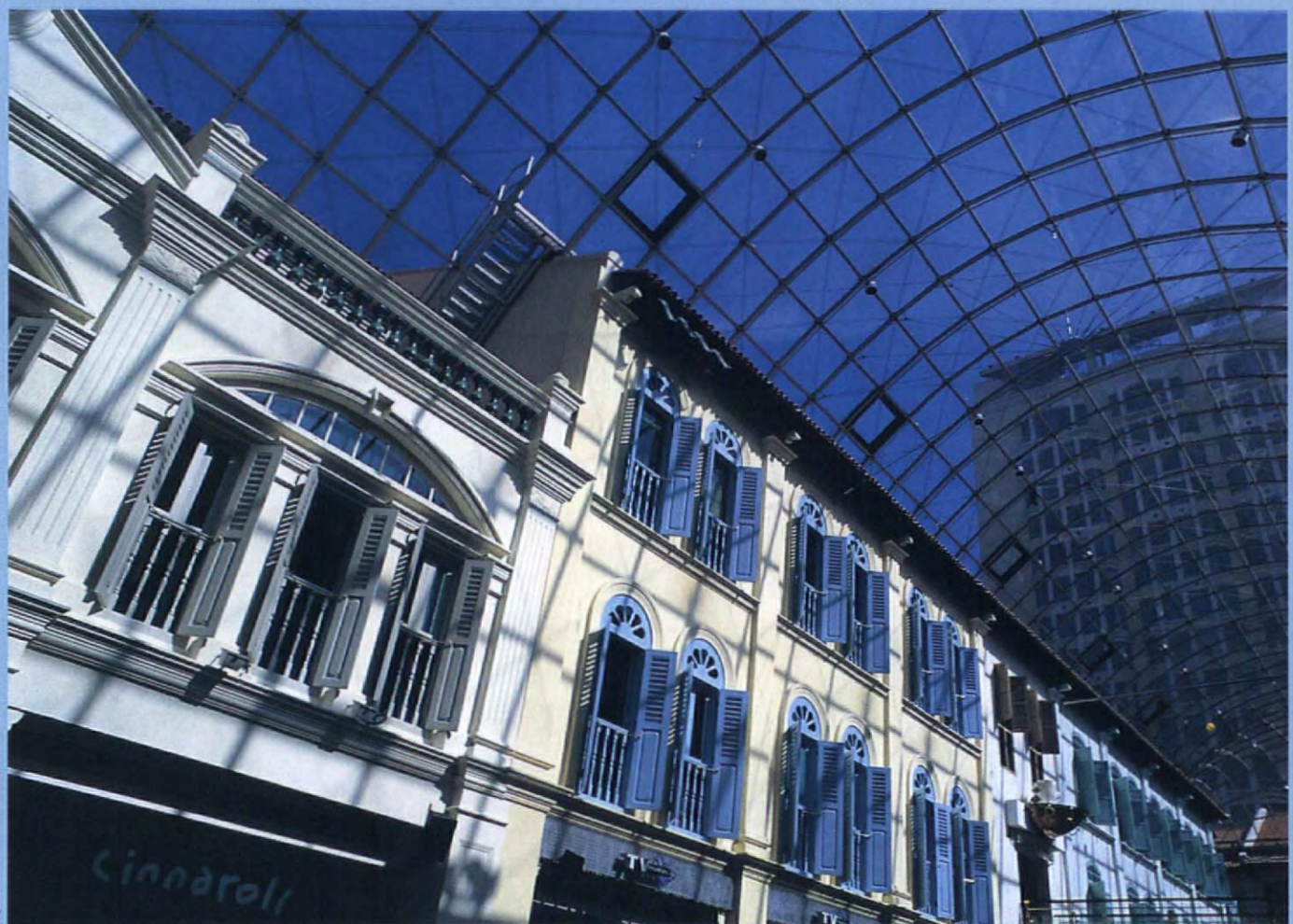
DP Architects are currently headed by Chan Sui Him, Gan Eng Oon and Koh Seow Chuan, the latter two having worked together since the early 1960s. Singapore's independence in 1965 was followed by a period of rapid economic and urban development, providing these young architects with a buoyant workload on which to launch their successful practice (then known as Design Partnership) in 1967. "Even before independence, we were searching for some identity – discussing issues of nation-building," Koh recalls. DP's contribution to Singapore's development has been guided throughout its history by an interest in creating spaces for social interaction – a truly public realm – within projects whose principal function has often been commercial.

Back in the 1960s, of course, Singapore was hardly the financial centre it has since become. Resources were scarce, and were being spread over a great variety of projects, ranging from land reclamation and transport infrastructure, to housing and buildings for trade and industry. "Everything came about all at once," Gan recounts. "But we found time to interact – to develop an architectural approach." The practice's early buildings were simple, "sometimes brutal", built for functional and constructional efficiency. International Modernism, derived from the ubiquitous Corbusian models, but tempered by elements of (intrinsically un-Western and thus post-colonial) Metabolist thinking provided a suitably robust, yet adaptable vocabulary. "Our work has always been eclectic," Gan concedes. "There has never been a DP house style. Everything evolves from the programme and from environmental constraints."

One of the best early examples of this formally eclectic but essentially consistent approach is the People's Park, a major mixed-use complex in Singapore's Chinatown, executed by Design Partnership, DP's predecessor practice. The integration of a sequence of highly theatrical internal squares, surrounded by several levels of shops and filled with activity, provides the city with a new public realm. Unlike so many brutalist shopping centres in Europe or North America, the People's Park, though in need of some much overdue maintenance, continues to function to the evident satisfaction of its proprietors and their clientele. And whereas retail facilities in other parts of the world

"The present and future matter more than the past...we don't want our young architects to feel inhibited by the past."

1: The entrance to DP Architects offices in Singapore



2

Two illustrations of DP's eclectic approach to design

2: Bugis Junction, 1996, a mixed-use urban regeneration project consisting of new and refurbished buildings

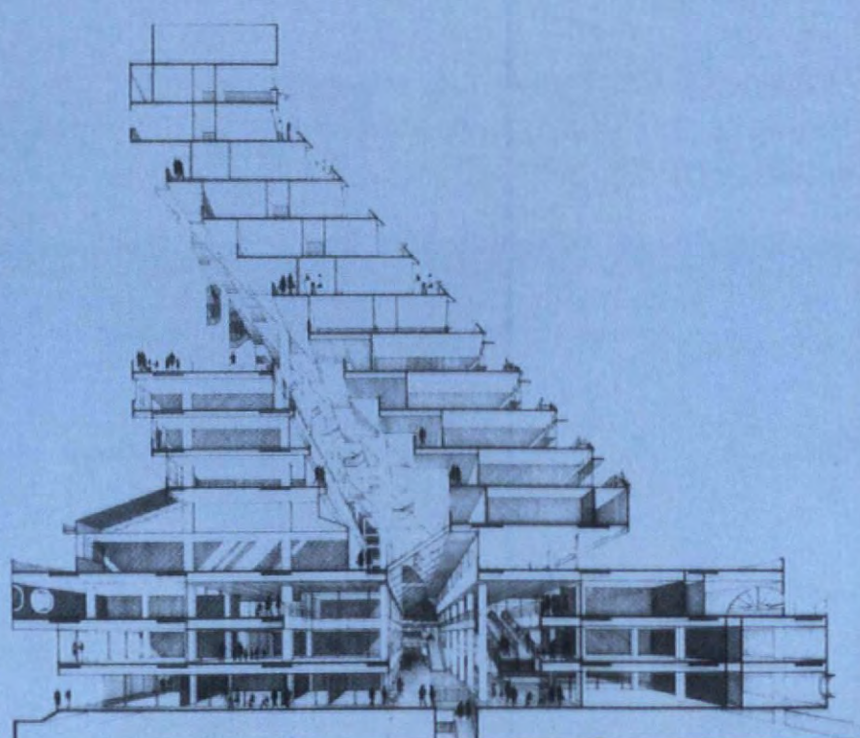
3: Golden Mile Shopping Complex, 1974, an innovative building drawing on radical concepts of the international avant-gardes

have become subject to a degree of private policing and controlled access which has insulated them from the truly public realm of the street, in Singapore's well-ordered society the distinction between the commercial shopping mall and the more anarchic but less democratic world outside is less marked.

The public realm – appropriately seen in relation to Singapore's celebrated consumerism – is the prime concern in one of DP's most recent projects, Bugis Junction, for which the practice received the Singapore Institute of Architects' Design Award. Like the People's Park, this mixed-use complex is very much concerned with making a place for people, animated by a computer-controlled fountain and made environmentally comfortable by the air conditioning of its glazed-over historic street. Architecturally, Bugis Junction is impure and unselfconscious: a place to be visited for reasons other than the abstract aestheticism or compositional sophistication of its building design. Yet visited it surely is, by great numbers of people – and not only those with nothing but shopping on their minds.

Mixing ideas and mixing personalities

DP Architects became a company in 1974, partly in recognition of the fact that the practice must be more than the sum of its founders' personal strengths. Since then several new directors have been appointed, supported by a larger number of associates and senior associates. Of the current board, three trained in Australia, two in Britain, one in the United States, another in New Zealand,



3

1: Temasek Polytechnic is one of several projects that DP have undertaken in conjunction with foreign signature designers, in this case James Stirling/ Michael Wilford & Associates

2: DP invited Michael Wilford to collaborate with them in the design of the Esplanade performing arts centre

"Within our firm individuals are able to exercise freedom... in the way they normally would in a much smaller office."

› and the remaining three in Singapore. A similarly diverse range of academic and professional backgrounds is to be found at every level of the firm's personnel. All the senior members of the office have worked their way up within the practice, for, as Koh argues, "only like this can our philosophy develop and be adhered to." DP's staff are expected to work hard and demonstrate loyalty to their employers. Whilst they are materially well rewarded, the firm's architects are expected to work around the clock when deadlines demand, and private commissions are explicitly prohibited. Extra-mural activities such as teaching, journalism and work in fields related to architecture, but not in direct conflict with the practice's business, are, by contrast, encouraged. The firm is represented in the Council of the Singapore Institute of Architects, and could fairly consider itself to be an integral part of the country's architectural establishment.

The three senior directors share no single team management style or collaborative working method. "Within our firm," says Chan, "individuals are able to exercise freedom... in the way they normally would in a much smaller office." The eclecticism which results from allowing even recently qualified architects to take a significant responsibility for design is seen as a desirable antidote to the loss of creativity which afflicts many an established practice, once the dominant designers become jaded. "When we sit around a table to discuss design," says Gan, "we put status aside." In a characteristically organic way, over a period of time, people determine for themselves how and where they might best contribute.

Within what might be described as a loose organisational matrix, each director leads his team in his own, individual manner. "I tend to verbalise concepts," says Koh, "which means nobody feels that my role is inhibiting to their creative autonomy." Chan prefers initiating design through sketches, ›

3

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3: An illustration of how DP have changed the face of Singapore. In the centre, Marina Square dating from 1985; to the right, Millenia, 1996 and on the left Suntec City, 1997

4: When it was built, a development on the scale of Marina Square had never been seen in South-East Asia before

› which are passed between the director and his assistants, each iteration of the process producing small improvements. "Open competitions never produce the quality which we achieve over months of design development," he notes, expressing a preference for other selection procedures. Gan, it appears, is the most proactive of the three designers. But, whilst each director considers himself to be professionally self-sufficient, mutual support – and criticism – is very much welcomed. "Even where a client has developed a close relationship with one of our directors and his project architect, we like to cross boundaries, to inject fresh ideas," Koh explains. "People can pop into a colleague's office at any time to offer their comments." In addition to such encounters, the practice regularly schedules more formal crits of one team's work by another.

This relaxed attitude to design and decision making has become a major asset in the string of projects which DP has executed with foreign signature designers. Whilst Temasek Polytechnic is recognisably a Stirling Wilford design, and Marina Square clearly falls within the distinctive portfolio of John Portman's hotel and retail projects, DP's contribution to the development and execution of these schemes should not be understated. "We have found working with others enriching," says Koh. "Younger architects particularly enjoy this interaction." DP were involved in the Temasek project from its inception, having been appointed alongside (as opposed to beneath) the late James Stirling; and, through a "seamless" working relationship with Michael Wilford, continued to contribute ideas throughout the design's development. When a competition was announced for the Esplanade performing arts centre in Singapore, DP invited Wilford to collaborate – and went on to win the commission. Five other overseas practices approached DP, seeking a project partnership. DP went on to be co-authors of two of the finally shortlisted projects.

The practice is frequently invited to enter limited design competition, and has won the majority of its current projects through such contests. The majority of DP's work continues to be in Singapore, where, over an extended period, projects have grown in average size. As Gan suggests, "the sheer number of DP's projects in Singapore bears testimony to the professional community's confidence in the practice."

Koh argues that DP's "social" philosophy – their interest in the public realm, and its relationship to private spaces – gives the practice a sound basis for undertaking the largest and most complex of commissions. One such project is the recently completed Bayshore condominium, reviewed in detail on following pages. Chan, the director responsible for the Bayshore scheme, was given highly prescriptive guidelines by his developer client, "who knew exactly what he wanted." Singapore's strict planning and technical regulations also restricted the designer's scope for innovation. "Over the years we have worked with clients – and hopefully influenced them," interjects Koh, "applying strong human relationships in the pursuit of our social philosophy." Notwithstanding the prescriptive brief, and clearly stated expectations, the architects presented their client

1: The Bayshore condominium development is a typical product of DP's close working relationship with their clients

2: North View Primary School, Singapore. DP apply the highest standards of design and construction to all their projects

with several alternatives to choose from. "The reality of building for developers who see buildings as products," Gan concedes, "is that style becomes a tradable commodity. The client dictates what kind of architecture he wants." DP's sustained stream of repeat commissions suggest that they have consistently succeeded in fulfilling their client's expectations in this, as in other, respects.

Organic growth

In the last decade DP have consolidated their Singaporean operations with new offices in Kuala Lumpur, Manila and Jakarta. This diversification process is proceeding organically, and not in accordance with some preordained masterplan for global expansion. Koh, Gan and Chan are all-too-aware that DP's distinctive competence in their home market is the quality of their finished buildings – technical quality of an order often unachievable in less developed countries' building industries. Nevertheless, new markets are being developed, mostly through the personal initiatives of senior staff originating from neighbouring countries having chosen to return to their homelands, but continue to practice under DP's umbrella.

"Our objectives are relatively humble," the Directors agree. DP Architects are not pursuing a strategy of aggressive globalisation, but of incremental, sustainable growth, with the guarantee of the same high technical skills offered to clients in every location. The practice has earned its reputation over three decades, and is determined not to lose it in any imprudent ventures.

DP Architects company data

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6 Raffles Boulevard
#04-100 Marina Square
Singapore 039594
Tel: +65 338 3988
Fax: +65 337 9989

Key personnel/directors
Chan Sui Him
Gan Eng Oon
Koh Seow Chuan
Lee S.W. Francis
Lon S. Arthur
Ti Lian Seng
Gore Vikas Madhav
Teoh Hai Pin
Wu Tzu Chiang

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Current projects
Camden Medical Centre
Casafina Condo
Century Square Shopping Centre
Commerce Point Office Centre
Far East Square Commercial
Glendale Park Condo
Hazel Park Condo
Heritage View Condo
High Oak Condo
Kaki Bukit Industrial Park
Light Industrial Development
Millenia: Centennial Tower
Nassim Road Condo
Nanyang Polytechnic
Paragon Office Extension
Parc Vista Condo
Pinevale Condo
PSA Vista (3rd Terminal Office)
River Place Condo
Suntec City Office/Retail
Temasek Polytechnic, Phase 3
The Esplanade (SAC)
The Sterling Condo
Villa Marina Condo

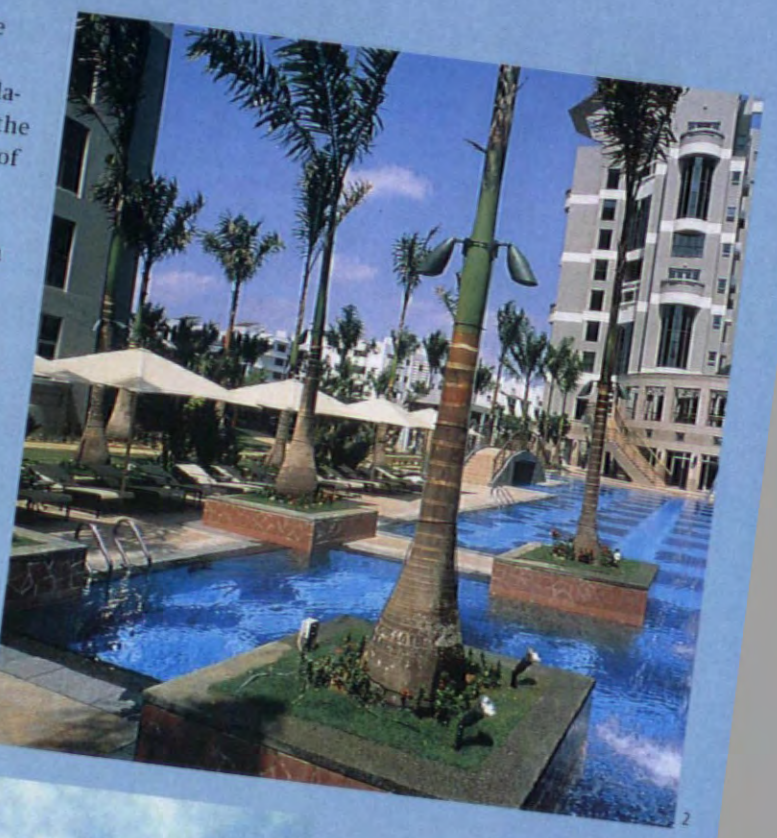
Completed projects
AIA Alexandra Office Building
Bugis Junction: Mixed-Use/Inter-Continental hotel
Century Square Shopping Centre
Construction Industry Training Institute
Laguna National Golf & Country Club
Lucky Chinatown Commercial
Marina Square Mixed-Use/Marina Mandarin/Pan Pacific/Oriental Hotel
Millenia: Ritz Carlton Hotel/The Conrad Hotel
NTU Hall of Residence 7
SAFRA Resort & Country Club
SAFTI Military Institute
Science Park Ph 2: IME/ITI
Singapore Aviation Academy
Singapore Discovery Centre
Suntec City: SICEC
Temasek Polytechnic
The Bayshore
Wisma Atria Off/Shopping Centre

The Bayshore

By DP Architects

Singapore's shortage of land has made the high-rise apartment block into the country's characteristic housing type. Whilst the vast majority of the population continue to live in subsidised public housing, the country's economic growth, and rising proportion of affluent and demanding citizens and expatriot workers, has fuelled demand for ever-more-luxurious condominium dwellings. As in all maturing markets, the expectations of both consumers and suppliers are tending towards accepted benchmarks. As architects with the experience of an impressive number of completed housing commissions, DP are well versed in the precise requirements of their developer clients – themselves a faithful reflection of popular demands which have evolved, under a variety of cultural and environmental influences, over an extended period.

To Europeans or North Americans, some of the cultural conventions and planning regulations which have shaped the majority of Singapore's condominium designs – including DP's recently completed Bayshore – might require explanation. Until very recently, the law required that all toilets and bathrooms be provided with windows opening directly to the building's exterior, despite the prevalence of mechanical ventilation and air conditioning. As a result, architects have evolved planning



2

1

1: Articulations of the facade were created by the interplay of various elements of the building

2: The development is situated in a lush tropical setting

3: The architecture allows the brilliant tropical sunshine to create an interesting play of light and shadows on the facades

4: Different elements of the building take on a sculptural identity of their own, as in this stairwell

5: The cantilevered trellis conceals the rooftop services as well as providing a strong architectural statement

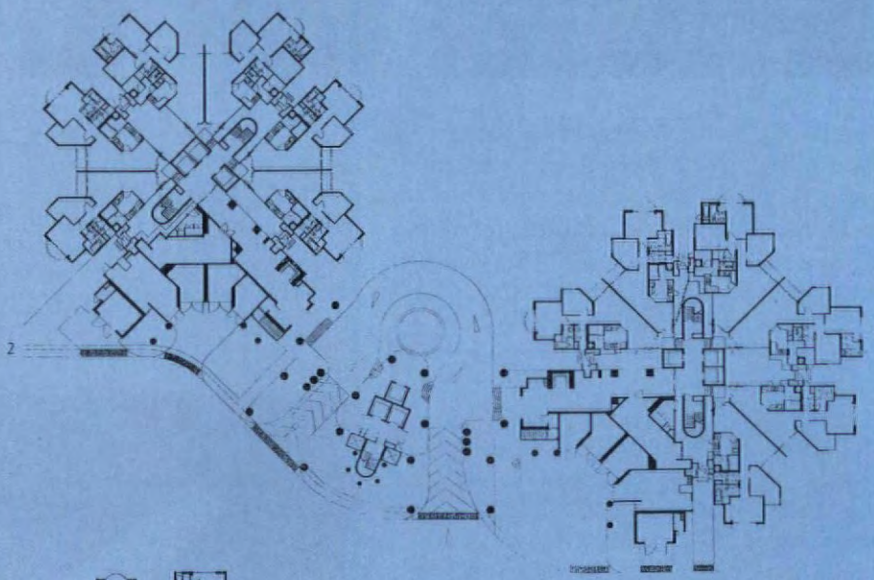
strategies in which the massing of apartment blocks is fragmented, with fissures of vertiginous proportions allowing fresh air to reach deep into the building. All new buildings are subject to strict limits on plot ratios; so when the basis of floor area calculations was changed, to include balconies within the total built area, developers responded by omitting all private external spaces, maximising the useable (and marketable) space allowed within the statutory development limits. Both of these factors are evident in the design of The Bayshore's residential towers, which have fragmented, cluster-like plans, but no terraces or balconies.

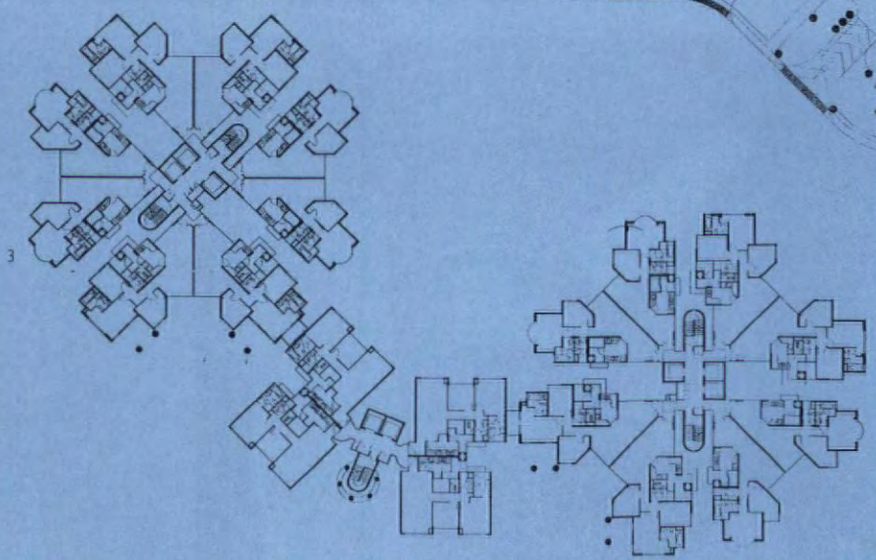
Like any Western architect, a Singaporean designer would generally locate the main living space of any dwelling where views are most attractive and daylight is most abundant. There are, however, priorities more specific to Singapore which DP were required to address. One cultural convention which is rigidly observed is that of forming a sequence of thresholds within individual apartments, with entry always into the most public room. Contrary to common European practice, it is therefore unacceptable to pass a private bedroom before entering a living room – a planning strategy which is entirely normal in other countries. Because many of the state's upper-income residents employ full-time servants (often citizens of poorer neighbouring countries), even relatively small two- or three-bed apartments are provided with (quite robustly appointed) maid's quarters. At the level of detailed design, Singapore's citizens like to wash energetically – making extensive tiling, with small steps down into bathrooms, obligatory. Whilst many building ›

1: The development is made up of two pairs of 30-storey towers linked by 12-storey blocks

2: Ground floor plan

3: Typical floor plan





4: The fragmented massing of the blocks is in part due to the requirement of natural lighting and ventilation throughout the apartments, however, this lends a rich, sculptural quality to the architecture

4

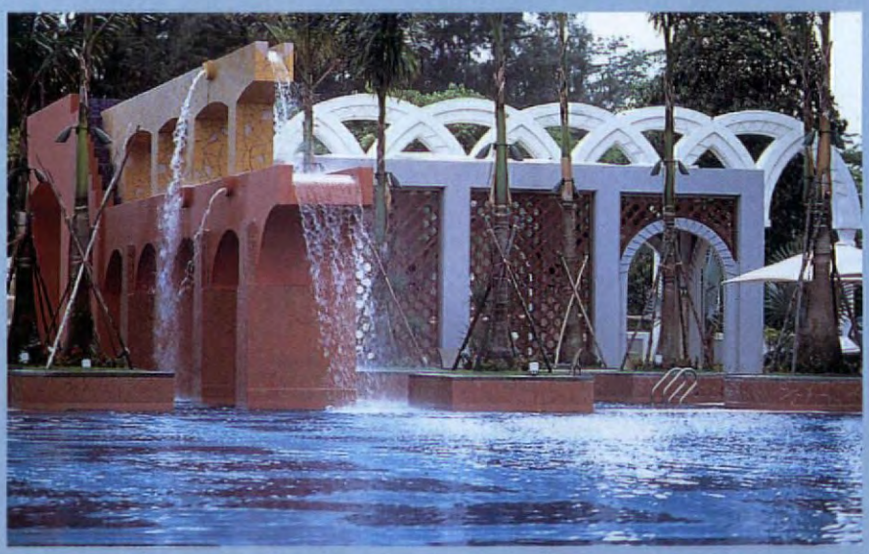
› materials are imported, supplies of polished marble and granite from China, and teak from neighbouring South East Asian countries, are readily available and – in relation to land values and property prices – inexpensive, making their use *de rigeur*. The same economic logic dictates that developers will settle for little less than 90 per cent of a residential building's gross area being marketable as dwellings.

The foregoing provides a necessary context for an appraisal of the Bayshore project. DP's objectives were defined by the market in which they operate – and to which they have responded with their usual professionalism and skill. Each of the four 30-storey towers (designed in pairs, linked by 12-storey blocks) is tightly planned around lift shafts and stairs, with sheltered but climatically unenclosed lobbies (in accordance with fire safety regulations) giving access to eight apartments on each floor. Singapore's equatorial location reduces the importance of orientation with respect to the sun's path. It follows that a centralised – almost biaxially symmetrical – plan is not merely expedient but conceptually appropriate.

The characteristics which ultimately sell a development of this nature include detailed design and construction quality, in respect of which DP's buildings have few equals in Singapore. Working closely with the Japanese main contractor, DP were able to utilise a precast concrete shear wall structure, giving considerable advantages of speed over the in situ structures more commonly employed in Singapore.

A high specification of amenities was offered to the purchasers of the 1,038 dwellings, guided by the developer's detailed knowledge of the market sector. The Bayshore's three swimming pools, tennis courts, barbecue area and clubhouse (incorporating spaces for fitness training and less physically demanding activities, such as billiards) stand in what the architects justly describe as a "lush tropical setting." To Koh Seow Chuan, however, these communal facilities are not merely marketing devices, but an integral part of Singaporean traditions of shared spaces, central to DP's social philosophy.

As in other projects (and as in the management of their own practice) DP Architects' approach to the design of The Bayshore could be described as organic. The irregular exterior of the towers was, as the architects explain, 'created by the interplay of various elements of the building' – in other words, a product of an organic development of the building plan, from the inside to the exterior. The only significant external form which does not directly follow a functional or organisational discipline is that of the cantilevered rooftop trellises – giant, concrete structures, rising from the enclosures surrounding rooftop plant, and giving the otherwise informal and unselfconscious facade compositions a strongly defined top.



1

2

1&2 Part of the success of the development lies in the generous garden setting and high level of leisure facilities provided for the residents

3: The view down from one of the towers to the gardens and leisure pools below

3

Bugis Junction, Victoria Street / Middle Road, Singapore

Brief
Bugis Junction contains a 406-room hotel, shops, offices and leisure facilities, accommodated in a mixture of new and reconstructed buildings.

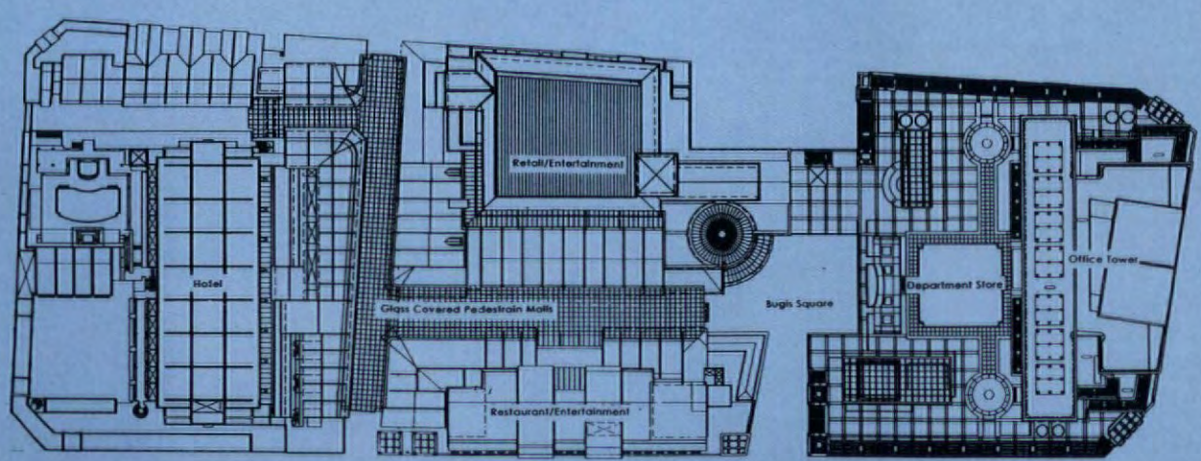
Challenge
The facades of the existing shophouses were to be retained, giving the new shopping mall a sense of the streetlife characteristic of older parts of Singapore. This quality was to be combined with the more contemporary convenience of an air-conditioned environment and safe, vehicle-free circulation.

Solution
The street was covered with a lightweight and visually undistracting glass roof, allowing ample daylight to model the shophouse facades, and permitting efficient air conditioning within the mall. A computer-controlled fountain, periodically splashing passers-by, provides an added attraction to what has become a popular and commercially successful urban environment.

Date
1995

1


2



3


4

1: Refurbished shophouse facades and a lightweight glass roof are the main elements of the new mall

2: View down the mall to Bugis Square and the office tower

3: Site plan

4: Street elevation of the restaurant and entertainment area

People's Park Complex, Eu Tong Sen Street, Singapore

Brief
15,000 square metres of shops, 5,000 square metres of offices and 360 apartments were accommodated on the one-hectare site, replacing the original People's Park which had served as a shopping and eating centre for the local Chinese community until its destruction by fire.

Challenge
The scheme was required to provide a very large volume of accommodation without compromising the site's significance to local residents.

Solution
Design Partnership's scheme locates commercial activities around a pedestrian axis derived from the circulation patterns of the pre-existing site. "The design strategy was to create a new environment which not only perpetuated the activities and ambience of the previous People's Park but also enhanced them. The solution arrived at was a well-ordered space for people: a large 'city room' surrounded by open shops like the traditional shophouses of neighbouring streets." This central space, with its monumental stairways and stepped internal terraces, is remarkable for its theatricality – a place to see and be seen in. Despite limited maintenance and some unsympathetic later additions, the complex continues to be popular and commercially successful.

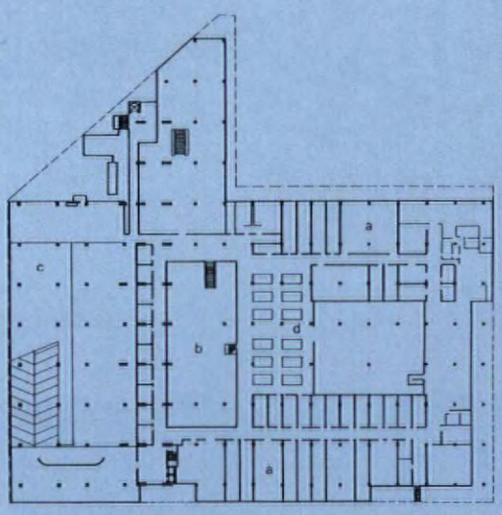
Date
1973

1

1: The Complex provides a large amount of residential and commercial accommodation on a relatively small site

2: Typical podium floor plan

3: Ground floor plan



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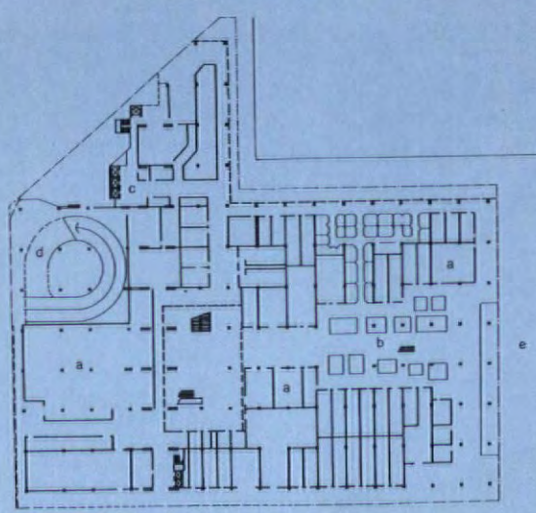


3

Golden Mile, Beach Road, Singapore

Brief
One of the first of a chain of new buildings forming a "Golden Mile" of hotels, commercial buildings and offices. Design Partnership's scheme contains 360 shops, over 200 office units and 72 apartments, each with a view of the waterfront.

Challenge
The building was intended to respond to its context by maximising sea views, reducing solar gains and minimising the impact of the development on the adjoining highway. It was also hoped to create an internal environment, linking with future neighbouring buildings, and drawing people into the complex and its commercial activities.

Solution
The highly distinctive section, with its stepping exterior and sloping, externally exposed structure, resolves all of the principal design intentions. This project epitomises a period of accelerating economic and urban development, during which Singapore's architects – always mindful of their indigenous, multicultural traditions – readily absorbed radical concepts from the international avant-gardes, ranging from Japan's Metabolism to Britain's brutalism and Archigram.

Date
1974

1

2

1: Stepped exterior and sloping structure shield western facade from the afternoon sun and maximise natural light and ventilation to public areas

2: Exterior elements are redolant of Britain's brutalism of the 1960s and 70s

Yeo Hiap Seng Factory, Dunearn Road, Singapore

Brief

The Yeo Hiap Seng (YHS) Group required purpose-designed industrial premises for its canned food manufacturing and drinks packaging operations. The new complex, designed and implemented by DP Architects in a sequence of phases, included space for production, warehousing, administration, employee welfare and vehicular circulation.

Challenge

The project was required to maximise the use of a restricted site, to minimise the need for future maintenance, and to respond appropriately to the building's immediate environment.

Solution

The building is designed on a structural grid with 9.5-metre clear spans across double-height spaces, allowing for mezzanines to be inserted where subsequently required. This project is part of a larger series of commissions which DP have received from the YHS, ironically culminating with current proposals for a condominium on the site of the Dunearn Road plant.

Date

Completed in phases 1978-83 (first phase by Design Partnership)

1

2

1: The building makes full use of a restricted site, needs minimum maintenance and will readily adapt to future uses

2: Entrance foyer

Ridgewood Condominium, Ulu Pandan, Singapore

Brief
A total of 457 apartments share communal landscaping, shopping facilities and other services, including a swimming pool, squash and tennis courts.

Challenge
The project was intended to maximise open space, without compromising the privacy of any individual dwellings.

Solution
A carefully aligned, elongated tower block is set in a landscape of (artificial) hills and verdant vegetation, which screens the generous communal areas from adjoining apartments. The building's large concrete cantilevers and overhanging slabs – now easily dismissed as clichés of international Modernism – are appropriate responses to Singapore's equatorial climate.

Date
1981

1

2

1: The elongated tower's large, cantilevered balconies are an appropriate response to Singapore's climate

2: Communal areas, such as the swimming pool, are well screened by plentiful vegetation

Pasir Panjang Hill Townhouses, Pasir Panjang Road, Singapore

Brief
A terrace of townhouses with shared gardens and swimming pool, on a site with excellent sea views. The development company was formed by a number of the eventual occupants, with the intention of making a scheme in which all could benefit from communal facilities, without compromising individual differences in lifestyle or design preference.

Challenge
To meet diverse individual occupants' requirements within an architecturally coherent whole, particularly recognising the complexities of housing extended families – permitting each generation some degree of autonomy within the household – as remains common in Singapore.

Solution
Within a terrace unified by its materials, scale and architectural vocabulary, the plan of each was developed in consultation with its eventual owner, with differences in internal organisation expressed in the facades. Two of DP Architects' founder directors are amongst the buildings' occupants.

Date
1986

1

1: Each of the townhouses was designed in consultation with the eventual occupants

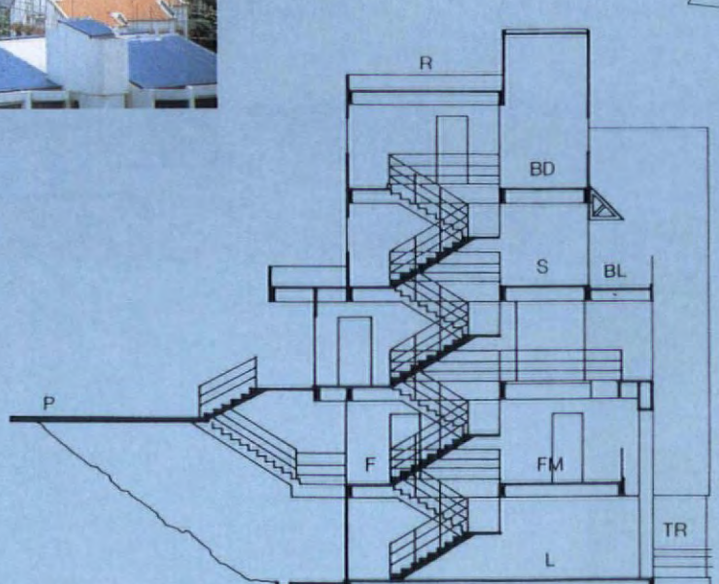
2: The terrace is unified by materials, scale and architectural vocabulary

3: Site plan

4: Typical section showing how the design exploits the slope of the hill

2

3



4

BD Bedroom
BL Balcony
F Foyer
FM Family room
L Living
P Parking
R Roof
S Study
TR Terrace

Wisma Atria, Orchard Road, Singapore

Brief
An office tower rising from a podium containing shopping facilities, with a direct underground link to Orchard MRT station.

Challenge
Built on the site of the former Indonesian Embassy, the building needed to re-animate a section of Orchard Road, east of the intersection of Scotts Road and Paterson Road, which became commercially blighted following widespread clearance of pre-existing buildings.

Solution
The carefully chosen balance of uses, and the direct connection with Singapore's transport infrastructure, has resulted in a significant increase in pedestrian traffic around the site. The building is clad in slick, blue-tinted reflective curtain walling, with a distinctive "keyhole-shaped" feature, making it an easily identifiable landmark in Orchard Road.

Date
1986

1

Hans Schlupp

2

1: Tower and podium are clad in reflective, blue-tinted curtain walling

2: The tower has become an easily recognisable landmark

Mass Rapid Transit Corporation, Singapore

Brief

Stations serving the MRT commuter railway network. Orchard and Somerset Stations are underground, in densely developed parts of downtown Singapore, whilst the majority of stations serving the MRT's westbound extension are elevated above ground level.

Challenge

All stations are located on highly constrained sites, with each required to respond to its specific context. The designs, particularly of the earlier underground stations, had to convey a sense of the unique nature of their site, whilst all stations had to permit the easy flow of large numbers of passengers, and provide easy means of orientation for those unfamiliar with the MRT system.

Solution

Orchard Station is designed around a central void, spatially linking four subterranean levels, detailed with the rich materials found in nearby upmarket shops and hotels. Other stations are more architecturally restrained, with efficiency in use of space a major concern. In common with all parts of Singapore's MRT system, DP's interiors exude a sense of quality, calm order and permanence.

Date

1987-88

Hans Schlupp

1

Hans Schlupp

2

1: Each station on the MRT had to respond to its own specific location

2: All stations have to allow the easy flow of large numbers of passengers

Laguna National Golf and Country Club, East Coast Parkway, Singapore

Brief
The clubhouse and 20 chalets serve members and guests, who enjoy the use of two 18-hole golf courses, a swimming pool, a grotto bar, self-simulated computer booths and audio-visual libraries.

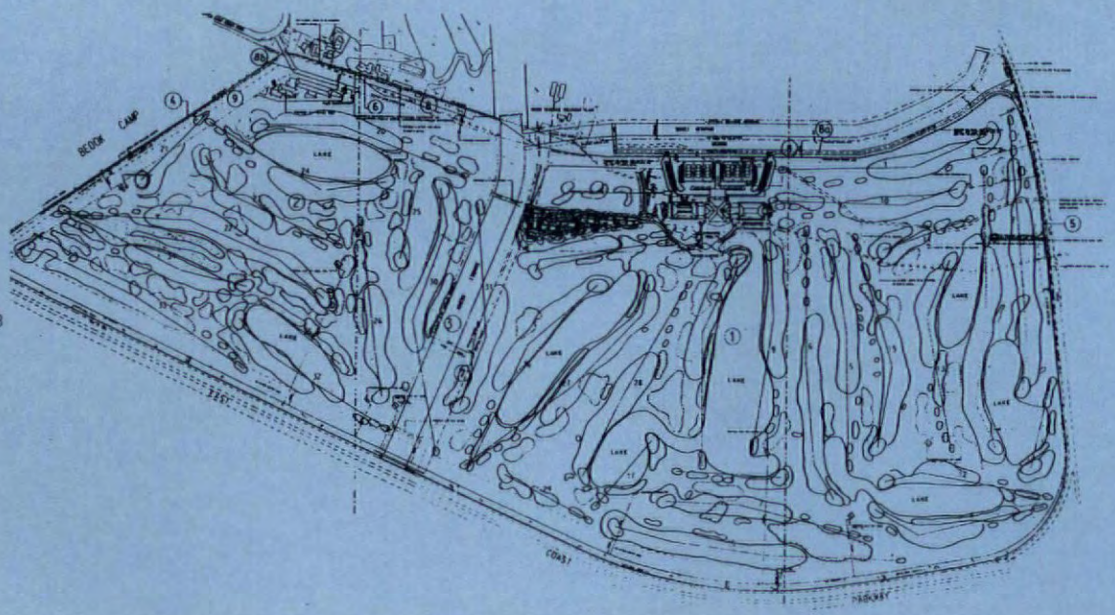
Challenge
The project was required to accommodate extensive, high quality facilities in a building responsive to its landscape setting, within a strict height limit imposed due to the site's location under the flightpaths near Changi Airport.

Solution
An elegant clubhouse, with a strong sense of horizontality under generously overhanging tiled roofs, nestles on an artificial hillside. The building has every convenience for the Club's wealthy members, including a custom-designed automated hoist taking heavy golf-clubs from the covered car park directly to the main entrance hall. There is also a Japanese-style bathtub in the suite of dressing rooms.

Date
1994

1

2



3

1: The clubhouse nestles comfortably in its landscaped setting, offering every convenience to its members

2: The clubhouse was built within strict height limits due to being situated beneath the flightpath s for Changi Airport

3: Site plan of the entire facility

SAFRA Resort and Country Club, East Coast Parkway, Singapore

Brief
A clubhouse and 40 chalets on a 120-hectare site, equipped with a 27-hole golf course, serving members of Singapore's armed forces and their guests.

Challenge
To make a range of buildings which provide comfortable accommodation and a distinctive, regional identity for the Club.

Solution
Although clearly contemporary, DP's architecture uses generously overhanging hipped roofs and timber latticework, alongside the sandstone and clay tile of traditional South East Asian buildings. Open verandahs and lobbies, punctuated by water features, create a relaxed atmosphere for members and guests. The naturally ventilated inside-outside spaces include a complex sequence of courts, descending from the Club's main entrance to an introspective and intimate ornamental pond. The building is characterised throughout by the subtle layering of its enclosure, providing environmental filters and carefully framing views of the landscape.

Date
1993

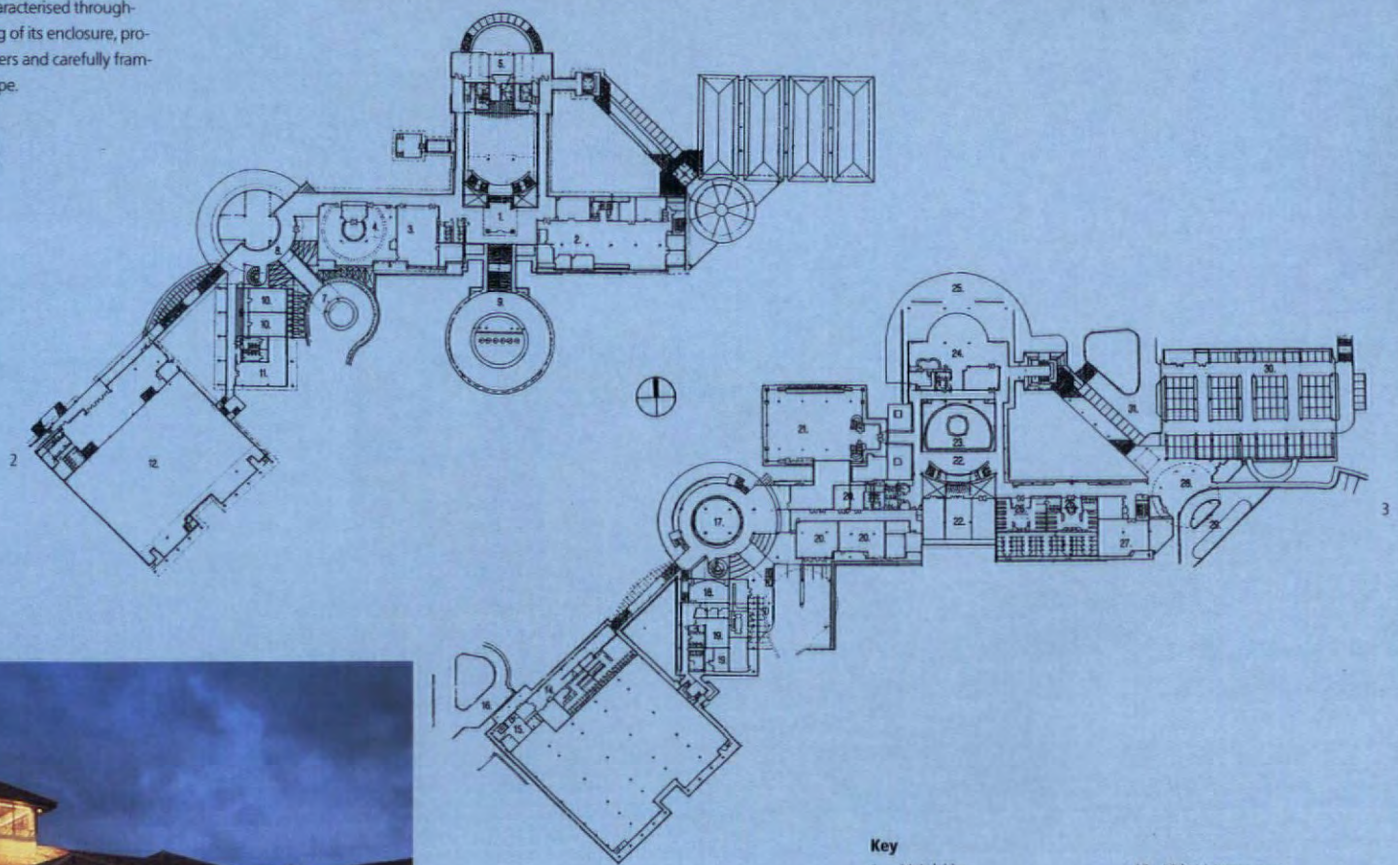
1

1: Generously overhanging roofs are one of several traditional features of this clearly contemporary building

2: First floor plan

3: Ground floor plan

4: The Lotus pond outside the function rooms and overlooked by the main entrance lobby



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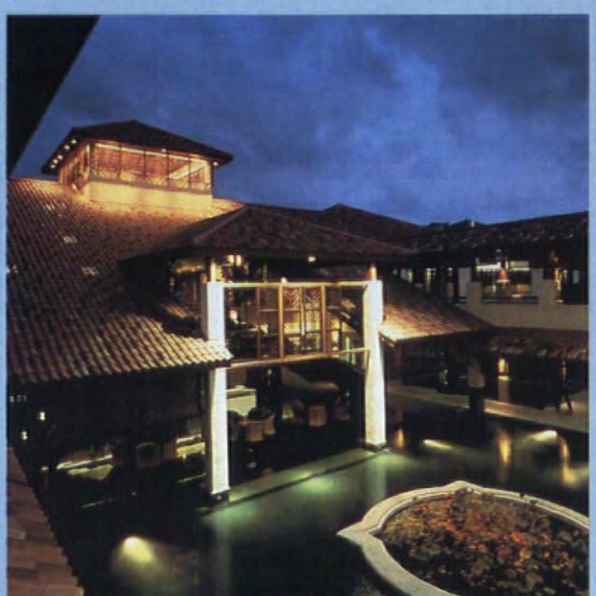


4

Key

1 Main lobby
2 SRCC administration
3 Snooker room
4 Jackpot room
5 Members lounge
7 Social wing drop-off
8 Social wing lobby
9 Main entrance drop-off
10 Squash court
11 Health club / sauna
12 Bowling alley
14 Swimming pool changing
15 Chalet registration
16 Chalet drop-off
17 Canteen / shops
18 Video / games room
19 Storage M&E room
20 F&B support & kitchen zone
21 Restaurant & banquet room
22 Pre-function & function rooms
23 Lotus pond / feature area
24 Golfers' canteen
25 Golfers' outdoor terrace
26 Golfers' changing facilities
27 Golfers' wing administration
28 Golfers' lobby
29 Golfers' wing drop-off
30 Buggy park and storage
31 Buggy park

Singapore Aviation Academy, Changi Airport, Singapore

Brief

The building contains teaching facilities, including a 200-seat auditorium, simulator rooms, a library, the Changi Airport Fire and Rescue School, a cafeteria and recreational centre, and administrative offices.

Challenge

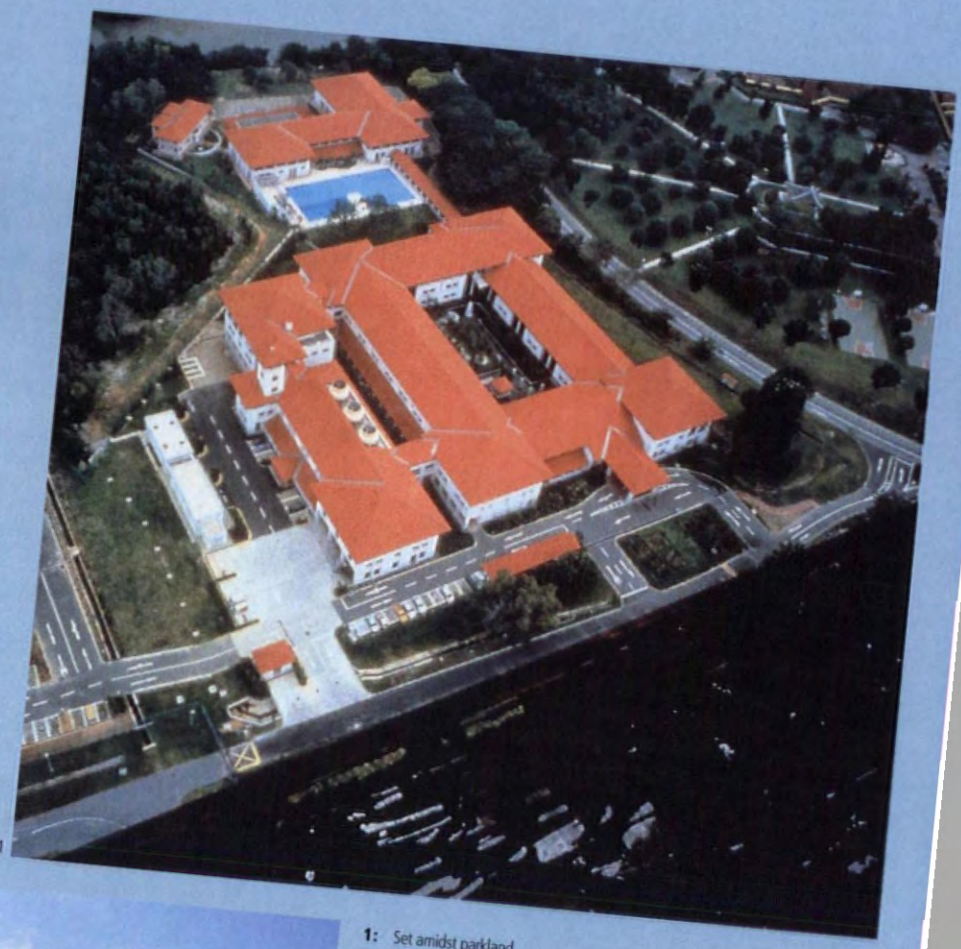
The design was intended to be both functional and stimulating, taking advantage of the building's parkland setting.

Solution

Water features are incorporated in the surrounding landscape, viewed through generous fenestration, with an internal courtyard providing the building's primary and more ordered focus.

Date

1986



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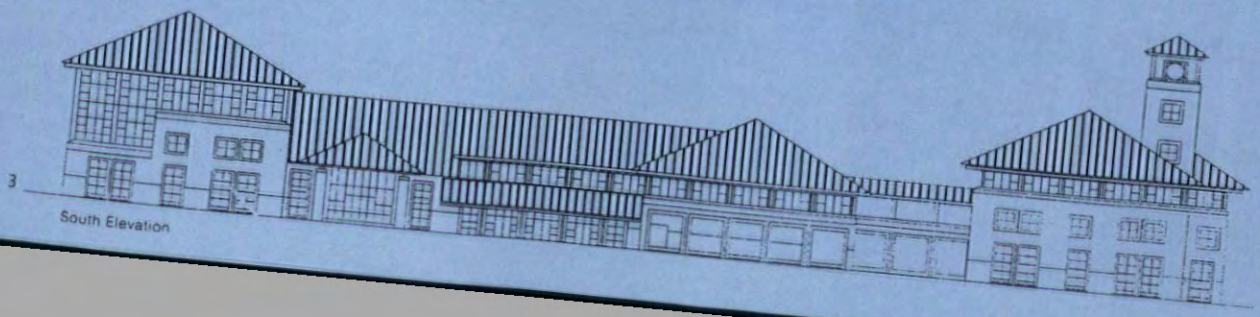


3

1: Set amidst parkland, the building houses training, recreational and administrative facilities

2: View from the training pool to the sports and recreation complex

3: South elevation

School extension, Tao Nan School, Singapore

Brief
Three square classroom blocks each accommodate four classrooms, organised around a central well providing daylight and cross ventilation. The new buildings are set within a larger landscaping scheme, incorporating courtyards and pools, with curving colonnades enclosing the school's campus.

Challenge
Beyond their functional programme, the new buildings were required to give the school a more up-to-date image.

Solution
DP Architects' design is architecturally restrained, with simple volumes combining an appropriately domestic scale with a sense of presence and formal identity. A bridge, spanning a driveway and surmounted by a bell tower, articulates the connection between DP's extension and the earlier buildings.

Date
1993

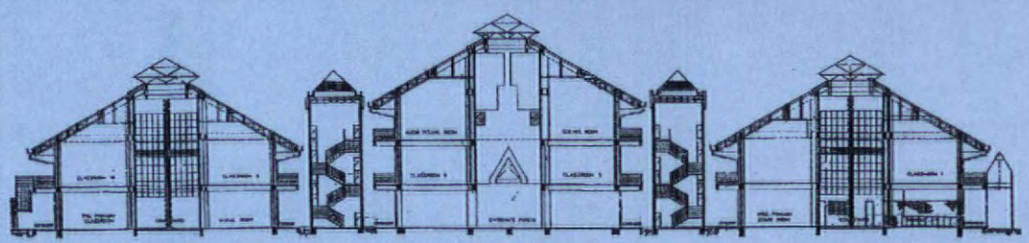
1

1: One of the three classroom blocks and the main entrance seen from the north-west corner of the site

2: Longitudinal section

3: Site plan

4: The entrance of the new extension, enclosed by a curved colonnade



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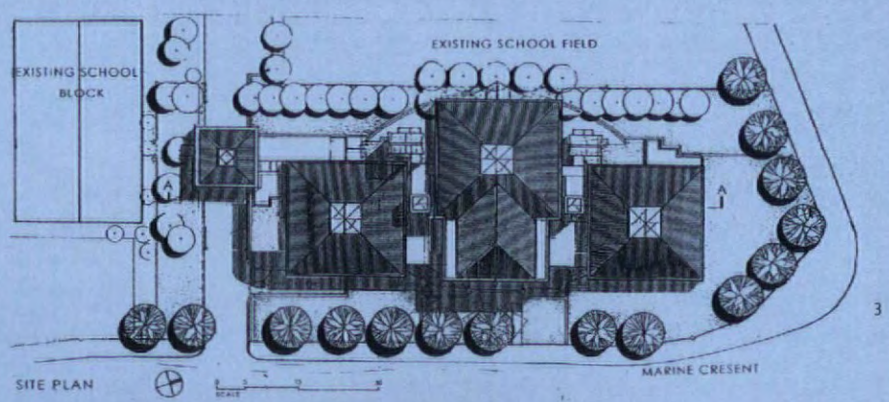
SECTION AA



3

SITE PLAN

4

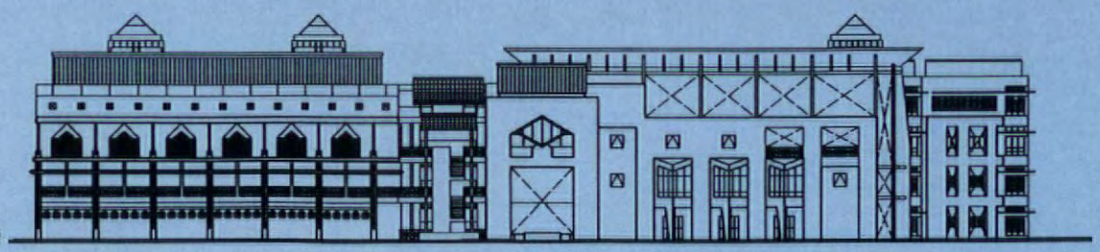
North View Primary School, Yishun Avenue, Singapore

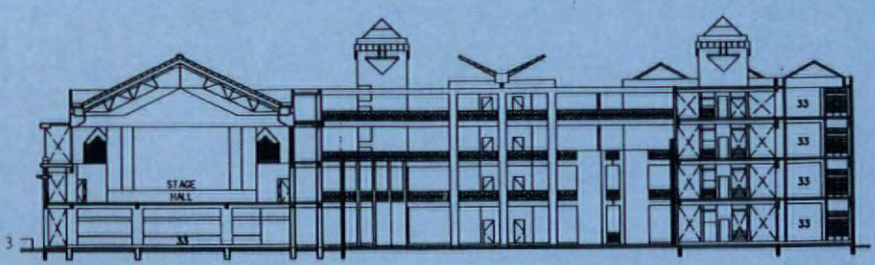
Brief
A complex of buildings accommodating all of the new school's teaching, communal and administrative facilities, within a total floor area of 10,000 square metres, located on a restricted site.

Challenge
It was intended to maximise the sense of space within the tightly planned complex, and to make individual places out of each functional element.

Solution
A city in miniature: "the design aims to create an introspective labyrinth of buildings and garden courts which together create a sense of a large complex of buildings in what is essentially a small plot of land. The experience of being in the school is never static but ever changing." The architectural vocabulary of the North View campus combines the formality of classical European and historic oriental design in individual buildings, with symmetrically composed gabled elevations, with the informality and dynamism of contemporary design. The fragmentation of the ensemble filters daylight into almost every inhabited space.

Date:
1994





1: The labyrinth of buildings and courts gives the impression of a city in miniature

2: South elevation

3: North-south section

4: The informal grouping of the buildings enables daylight to filter into almost every part of the School

Construction Industry Training Institute, Bishan, Singapore

Brief
A range of double-height workshops allows trainees to develop practical skills in construction under supervision and in a controlled environment.

Challenge
The building was intended to be constructed quickly and efficiently, and to provide a tangible example for the trainees of rationally conceived and professionally executed construction.

Solution
Two rows of workshops, separated by courtyards, are column-free with lightweight steel roof structures. Much of the building was prefabricated, reducing cost and construction time, and making the assembly process of the building's components more legible. The project was awarded the Construction Industry Development Board Best Buildable Design Award in 1994.

Date
1994

1

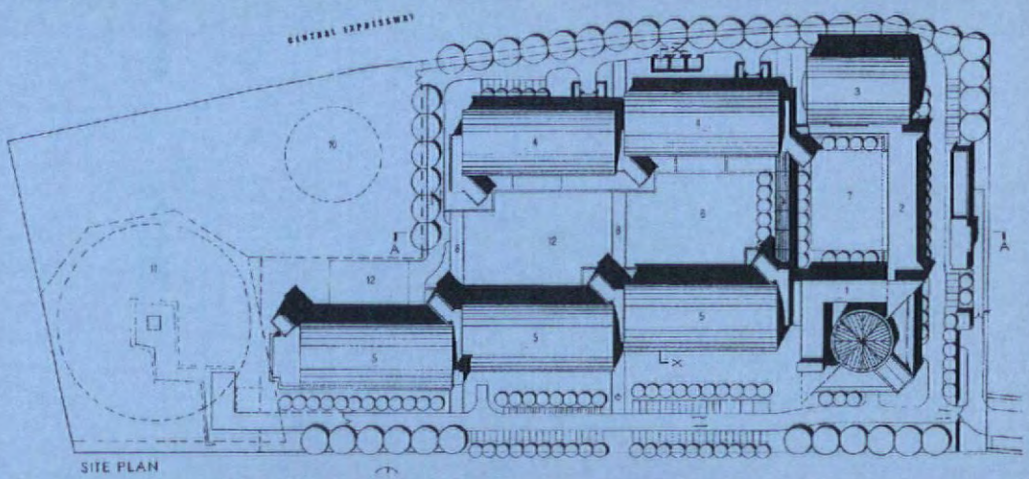
1: The building is designed as an example to trainees of a rationally conceived and professionally executed construction

2: Site plan

3: Looking down into the entrance foyer

4: The view along one of the workshop blocks towards the hall and canteen block

5: West elevation



2

Key

1 Two-storey administration block
2 Two-storey classroom block
3 Two-storey hall & canteen block
4 Two-storey workshop block
5 Three-storey workshop block
6 Outdoor projects court
7 Multi-purpose court
8 Open footpath
9 Two-storey covered walkway
10 Crawler crane training area
11 Existing tower crane training area
12 Open storage yard

3

4 Hans Schlupp

5

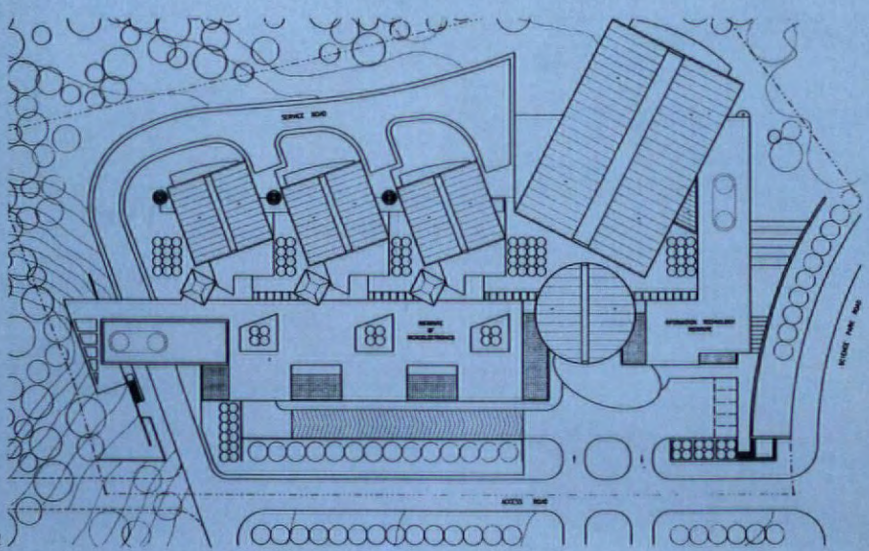
Institute of Microelectronics and Information Technology Institute Singapore Science Park, Singapore

Brief
The building contains laboratories, meeting rooms and offices, available for use by various Singaporean organisations engaged in research and development of new electronic technologies.

Challenge
Whilst the Institute's intrinsic function demanded intensive servicing and environmental isolation, it was felt important, for the benefit of the building's occupants, to establish a close relationship between the workplace and its natural setting.

Solution
Building on the themes of the firm's previous institutional commissions (including the Clementi Institute of Commerce, completed ten years earlier), DP's building, which forms part of the second phase of developments at the Singapore Science Park, consists of a three-storey office building (above a basement car park and four separately articulated two-storey laboratory blocks, enclosing a series of open courtyards. The strategy juxtaposes the most rigorously controlled environments (allowing vibration-free, high precision work) with the regimented planting of the internal courtyards, and the more natural landscape beyond the complex giving technical staff a range of sensory stimuli.

Date
1995



1: The building's position in a park-like setting helps to create a conducive environment for research scientists

2: Roof level plan

3: The entrance lobby acts as "hinge" linking the two institutes

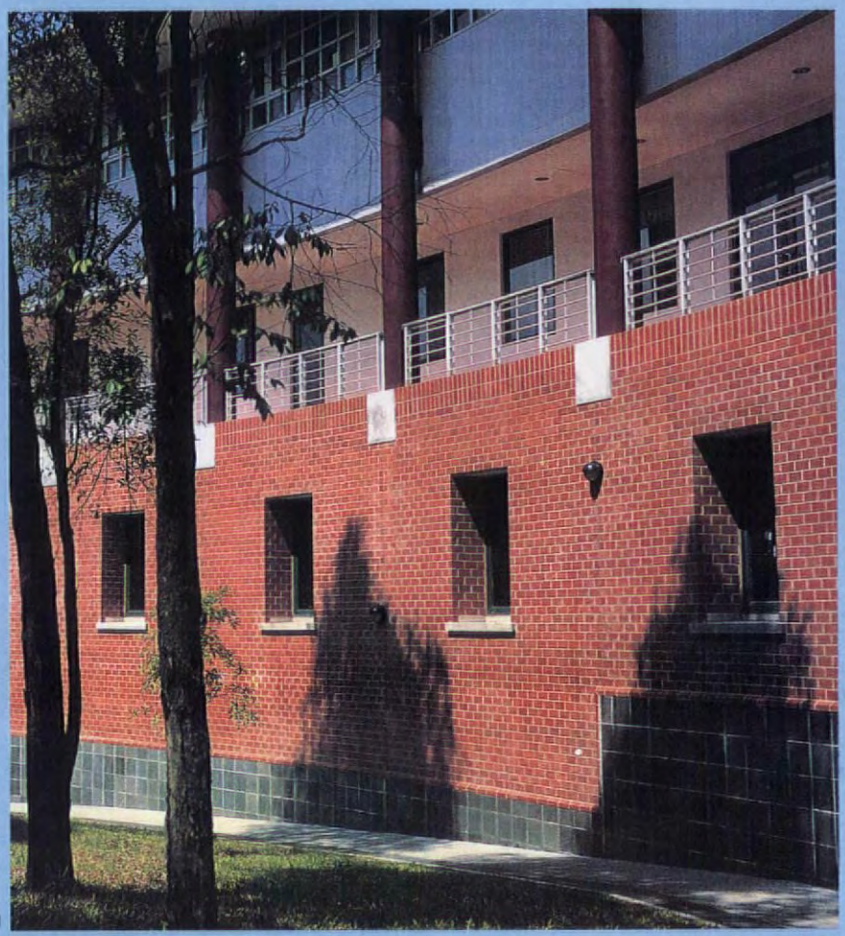
SAFTI Military Institute, Singapore

Brief
Academic, residential and recreational facilities are provided for recruits to all three of Singapore's armed forces, occupying buildings in a site measuring 82 hectares.

Challenge
The expansive campus is intended to strike a balance between formality and informality, reconciling the military's need for solemnity and ceremony with the day-to-day practicalities of a training establishment for energetic, young people.

Solution
A monumental tower appropriately conveys the Institute's primary function, with very much more intimate spaces allowing the building's occupants some contact with their natural surroundings. The masterplan adopts principles of axial planning common to Chinese and European traditions. The campus is explicitly a public place, with no oppressive security measures and unrestricted access. Individual buildings vary in character, ranging from an abstractly cubic ceremonial hall to a range of horizontally-proportioned, pitched-roofed buildings integrated into the undulating landscape. The quality of the detailing – supervised by DP Architects – is as impressive as the planning strategy developed in conjunction with Australian practice Mitchell Giurgola & Thorpe Associates.

Date
1995



1

1: The campus strikes a balance between formality and informality

2: The quality of the detailing is of the highest standard throughout the campus

3: Rendered plan of the 82-hectare site

2

3

Temasek Polytechnic, Tampines, Singapore

Brief

A campus serving a student population of 11,400 and about 1,000 staff. Temasek Polytechnic's four teaching schools are equipped with lecture theatres, seminar rooms, laboratories and workshops, together with a student union, sports facilities and refectories. The central library serves the entire academic community, and can accommodate 2,000 readers at any one time. The 30-hectare site overlooks an artificial lake, and adjoins Tampines New Town.

Challenge

The design, undertaken in association with Stirling Wilford & Associates, was required to reconcile the collective order of the institution with the individual identities of its members. It was also demanded that the buildings should be efficient in their use of space and energy, with all facilities conveniently interconnected, and maximal use of natural ventilation.

Solution

The organisation of the institution is directly reflected in the planning of its buildings. The central horseshoe acts as a welcoming and orientating space, from which the individual schools radiate. The library is contained in an 11-storey-high tower. Circulation spaces linking the schools and communal facilities are covered but well shaded, and open where possible to permit cross-ventilation. The buildings' finishes are robust but cheerful in their bright, contrasting colours.

Date

1995

1

1: The central "horseshoe" acts as a welcoming and orientating space

2: Bright, contrasting colours are used throughout the campus

3: The organisation of the institute is reflected in the planning of the buildings, which radiate from the plaza

2

3

Nanyang Polytechnic, Ang Mo Kio, Singapore

Brief

Singapore's fourth and newest polytechnic is to have 12,000 students. DP Architects, in association with Gwathmey Siegel Associates of New York, have been responsible for the provision of the full range of teaching, social, recreational and administrative facilities, located within an entirely new campus.

Challenge

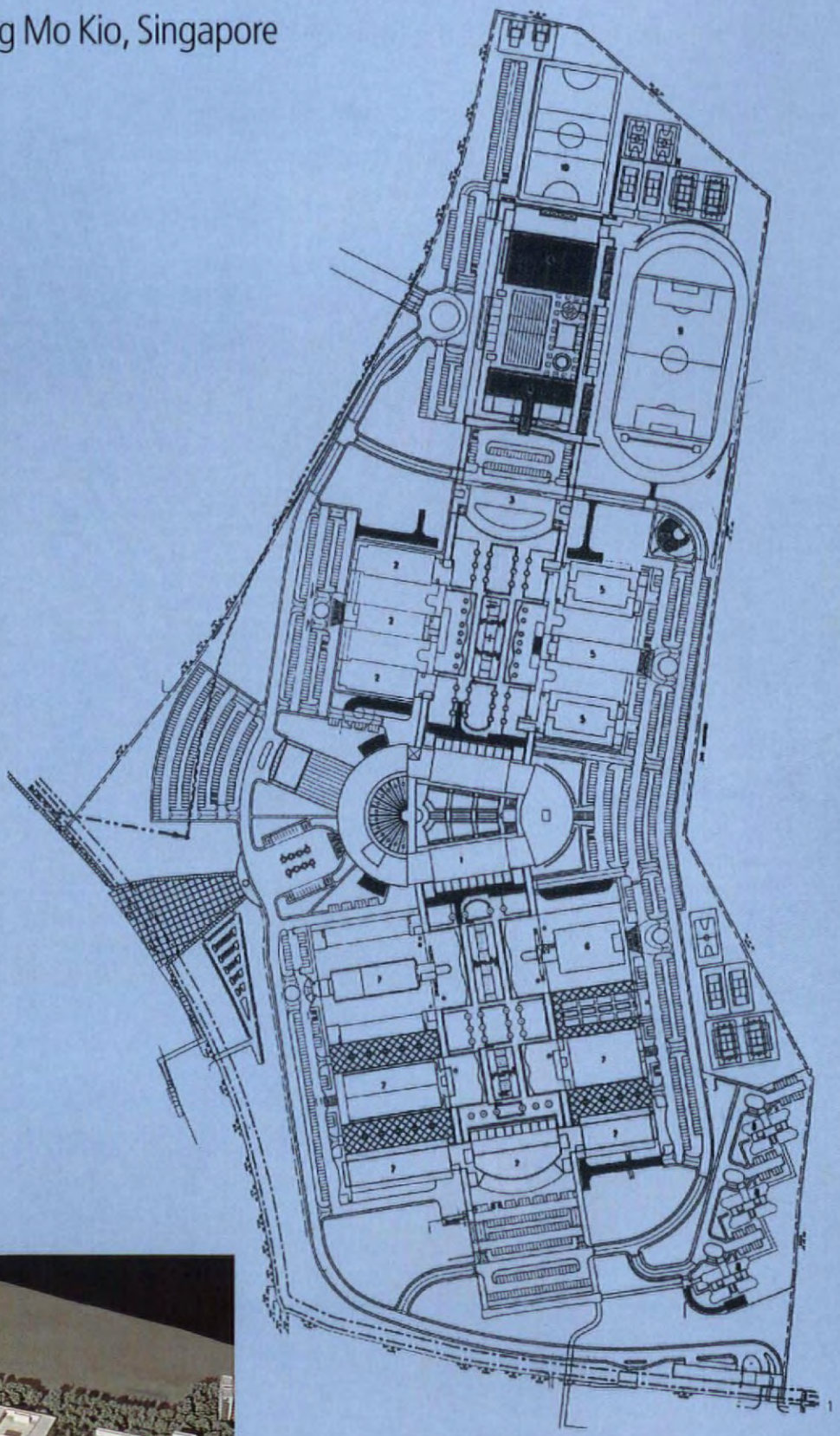
The masterplan was intended to combine a strong sense of institutional order, within which individual buildings are allowed to respond to the topography and orientation of their specific sites.

Solution

The three levels of the campus follow the site's contours, with the middle level forming a north-south circulation spine, related to a sequence of communal spaces and gardens. All facades are provided with horizontal overhangs and orientated to the north and the south, avoiding the more penetrative sunlight of the equatorial mornings and evenings.

Date

Completion due 1997-98



1: Site plan

2: Model view showing campus buildings ranged along a north-south circulation spine

Marina Square, Marina Centre, Singapore

Brief
The complex stands on reclaimed land close to Singapore's Central Business District, and contains three luxury hotels, two department stores with a two-level mall accommodating numerous smaller shops, leisure and recreational facilities.

Challenge
Originally divided into four sites, DP, in association with John Portman & Associates, believed that a single, integrated development could create a large, climatically controlled urban complex with advantages in terms of the comfort of occupants, convenience of shoppers and other users, and clear commercial benefits to all tenants and owners. The project's large atria and internal mall, connecting separate city blocks, were unprecedented in Singapore.

Solution
DP's technical skills and good understanding of the Singapore authorities' requirements allowed the development to break new ground in its scale and planning sophistication. The three hotels' atria have become lively and dramatic gathering spaces, whilst the Pan Pacific's panoramic restaurant is one of the city's premier culinary experiences. The robust concrete exterior of the Marina Square complex contrasts with more delicately detailed interiors and luxuriously appointed hotel bedrooms, following the principle that greatest attention should be devoted to those elements which are "near at hand."

Date
1985

1

2

3

1: When built, the scale of the project's atria was unprecedented in Singapore

2: Luxurious interiors contrast with the robust concrete exteriors

3: The development, including three hotels, swimming pools, two department stores and a shopping mall was South-East Asia's largest when built

untec City, Marina Centre, Singapore

ef

privately-financed project was conceived by Singapore Government as part of a wider tegy of attracting international business and rism, in direct competition with other "world s" in the Asia-Pacific region. The develop- nt, designed in association with Tsao & Kown (S) Pte Ltd, contains an exhibition and vention facility, distributed over six levels, each which is 20,000 square metres in area. The ociated office development consists of four storey towers and one 18-storey building.

llenge

facility had to offer maximal flexibility in , and convey an image in keeping with gapore's aspiration of being the region's ding business centre.

ution

convention hall seats up to 12,000 dele- es in an entirely column-free space whose f is suspended from an external steel struc- , with a distinctive "high-tech" aesthetic. office towers share similar cladding details, are formally distributed around a new an intersection. True to the spirit of a major lic building, the experience of ascending to main conference and exhibition is exhila- ng, as visitors and delegates traverse criss- sing escalators in a cascading sequence of numentally-proportioned foyers.

e

5-97

1

2

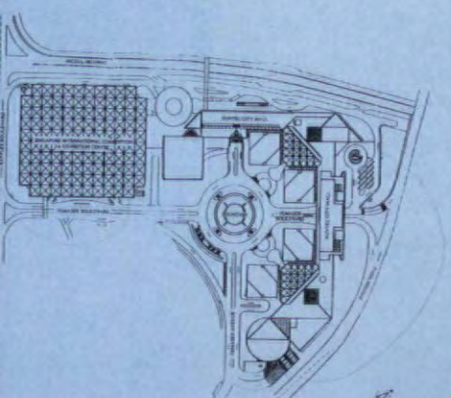
1: Office towers show high-tech aesthetic common to the whole development

2: Escalators cascade through monumental foyers

3: Site plan

4: Office towers form a backdrop to the 12,000-seat, column-free convention centre

5: Nicoll Highway elevation



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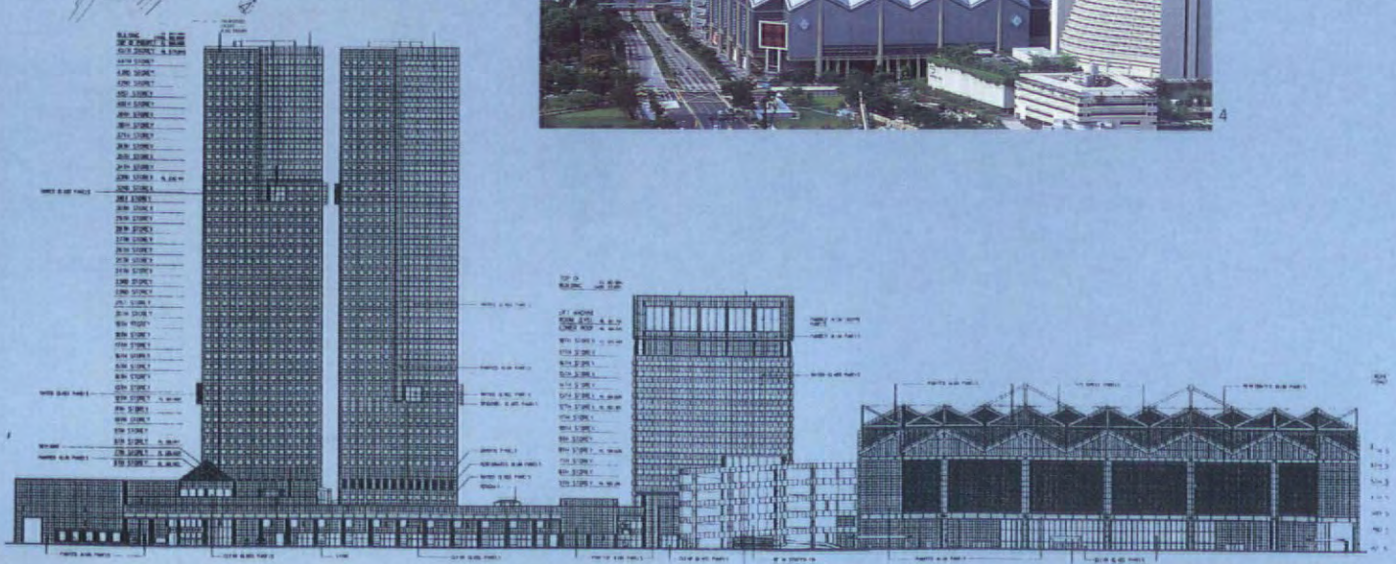


5

Millenia, Marina Centre, Singapore

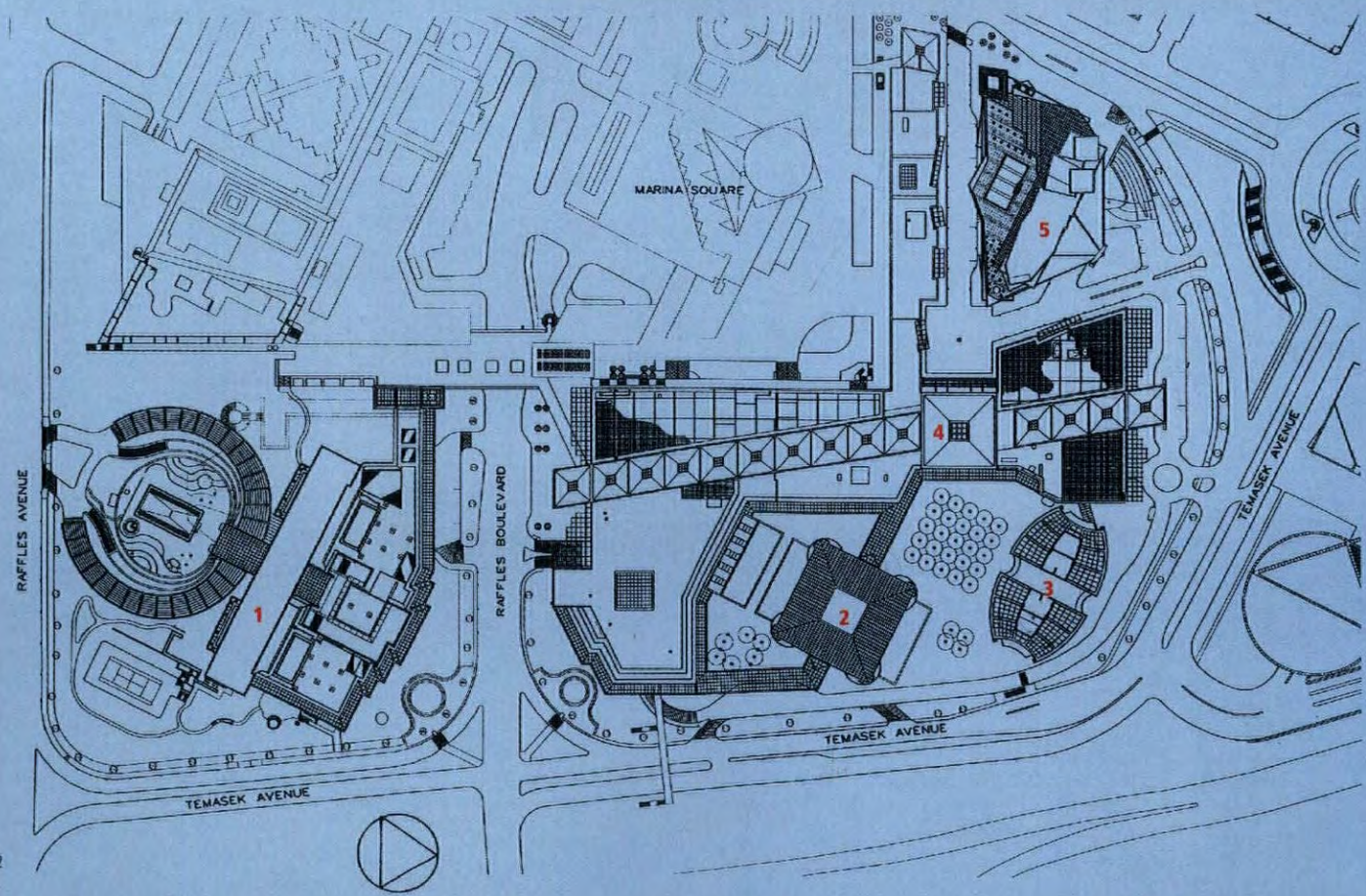
Brief
The latest addition to the Marina Centre, incorporating a 41-storey office tower, two luxury hotels, and a two-storey retail mall contained within a podium linking the tower elements, all of which share a basement car park with 1,400 spaces.

Challenge
The earlier phases of the area's development, including the Marina Square and Suntec City, had set a high standard of integrated urban planning. DP and associate designers Kevin Roche, John Dinkeloo Associates and Philip Johnson, John Burgee Architects intended the constituent elements of Millenia to have more autonomous identities, countering the potentially alienating qualities of such large projects with buildings of distinction.

Solution
"The Millenia office tower has a timeless, bold character. The square footprint rests on four illuminated cylinders which in turn frame a striking glass lobby. The tower is crowned with a massive pyramidal roof which is the tallest focal point of the entire development." By contrast, Millenia Mall is fragmented, ground-hugging and richly coloured.

Date 1996

1



2

1: Two elements of Millenia project. In the foreground, the Ritz-Carlton with Millenia Tower, the focal point of the development, in background

2: Site plan

1 Ritz-Carlton-Millenia
2 Millenia Tower Singapore
3 Centennial Tower
4 Millenia Walk
5 Conrad International – Centennial Singapore

Wisma 46, Jakarta

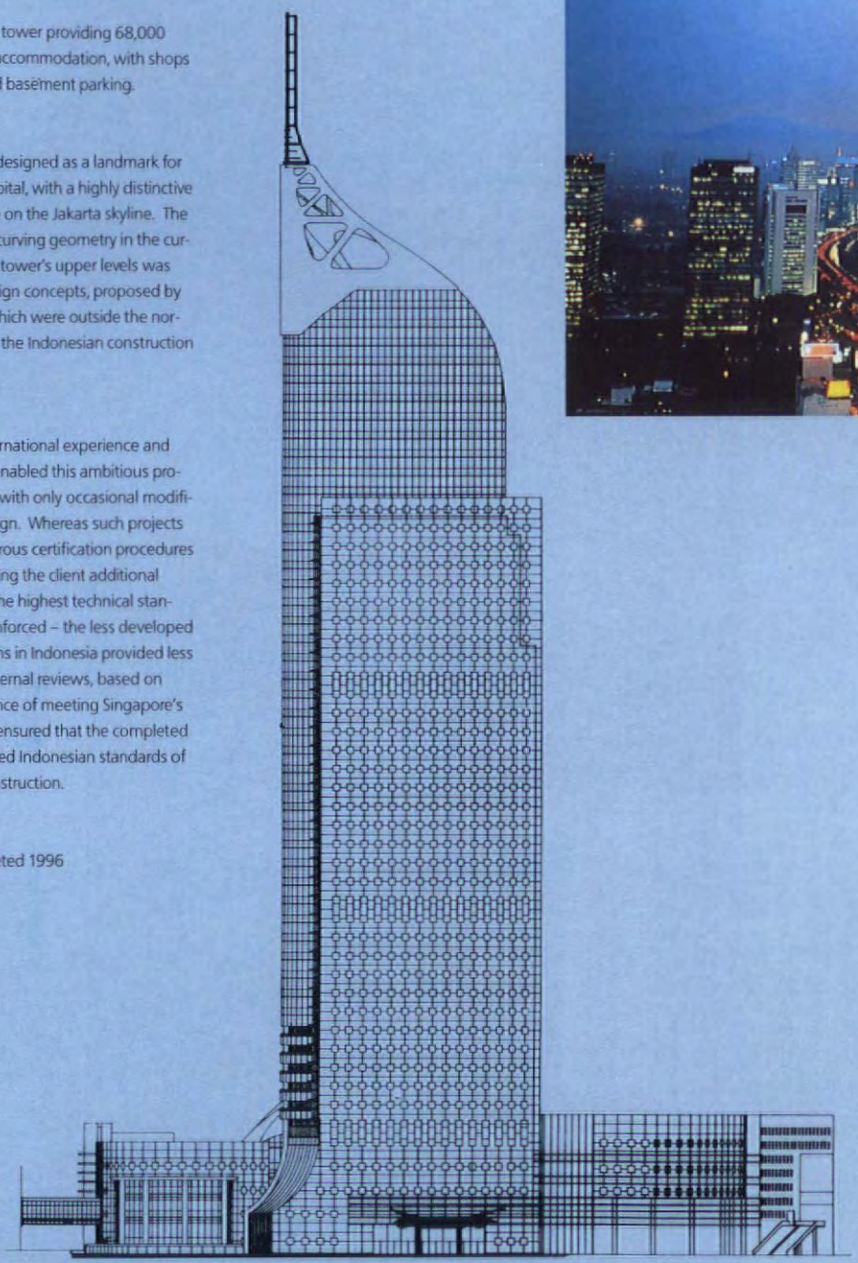
Brief
A 46-storey office tower providing 68,000 square metres of accommodation, with shops at lower levels and basement parking.

Challenge
The building was designed as a landmark for the Indonesian capital, with a highly distinctive form clearly visible on the Jakarta skyline. The use of a complex curving geometry in the curtain walling at the tower's upper levels was one of several design concepts, proposed by Ziedler Roberts, which were outside the normal experience of the Indonesian construction industry.

Solution
DP Architects' international experience and local knowledge enabled this ambitious project to be realised with only occasional modifications to the design. Whereas such projects are subject to rigorous certification procedures in Singapore – giving the client additional reassurance that the highest technical standards are being enforced – the less developed building regulations in Indonesia provided less guidance. DP's internal reviews, based on extensive experience of meeting Singapore's strict regulations, ensured that the completed project far exceeded Indonesian standards of fire safety and construction.

Date
Phase one completed 1996

1



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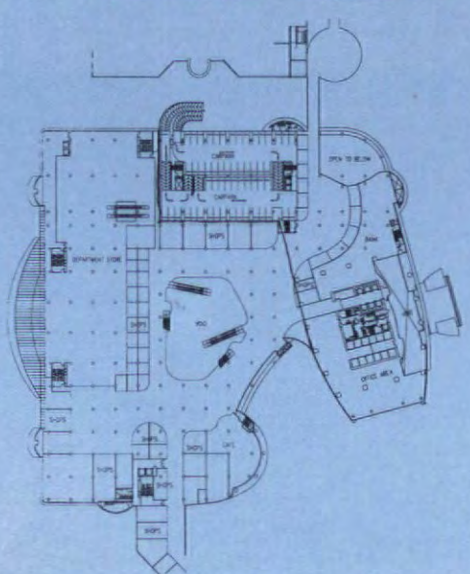

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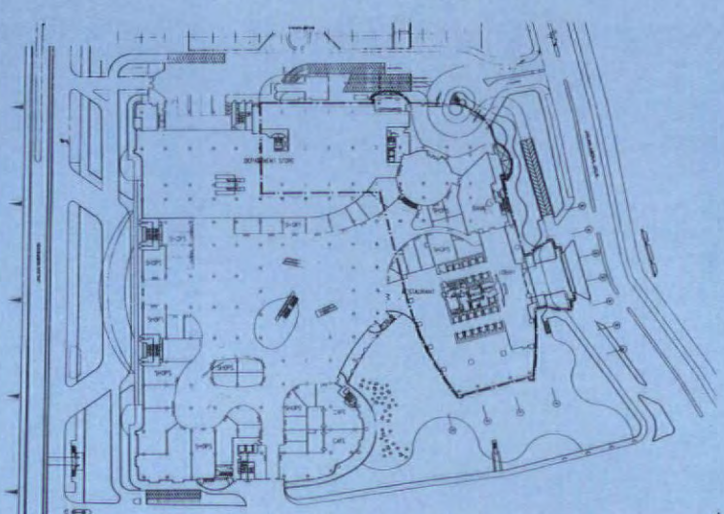


4

1: The tower is a distinctive feature of the Jakarta skyline

2: South elevation

3: First floor plan

4: Ground floor plan

Berjaya Star City, Jalan Imbi, Kuala Lumpur

Brief
A complex brief, to be realised on a highly constrained site, containing shops, entertainment facilities (the largest inner city multi-attraction centre in Kuala Lumpur), serviced apartments and a hotel. The clients required the building to convey a memorable, distinctive image, with references to Moorish and other Islamic motifs.

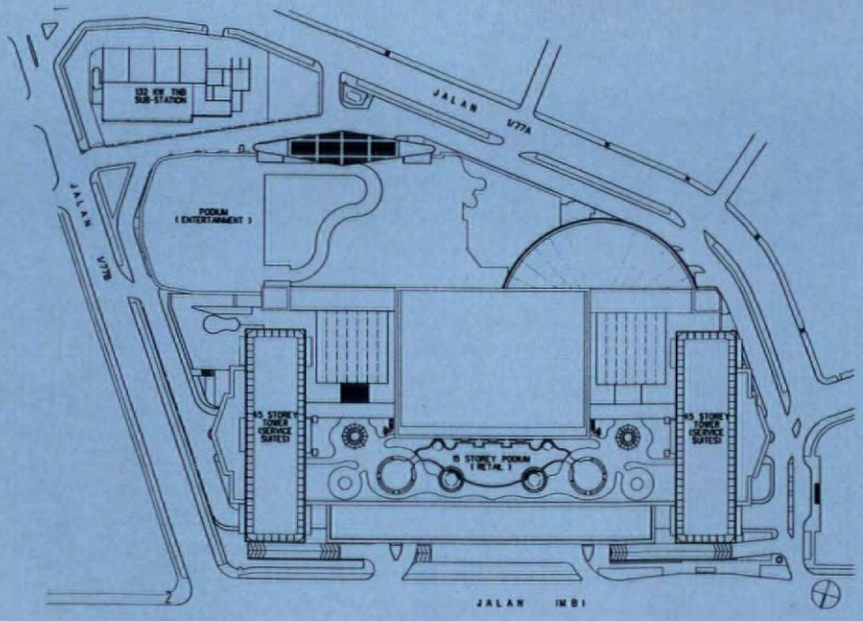
Challenge
The five-hectare site was developed to a plot ratio of 10. Whilst this would be unremarkable in a monofunctional development such as an office tower, the mixture of uses, and consequently complex circulation patterns, were difficult to accommodate within the limited space available.

Solution
DP Architects' design divides the building into zones, with the retail mall towards the front of the site and the entertainment park towards the rear, both having direct access to five levels of underground car parking. Hotel guests and visitors and those staying in the serviced apartments are able to reach these facilities at all times, being aware of the lively activities at street level but in no way impeded by their presence.

Date
Scheduled completion 1999

1: Memorable twin tower design contains references to Moorish and other Islamic motifs

2: Site plan



Office tower and shops
Arbuthnot Road / Wyndham Street, Hong Kong

Brief
The building stands on a site wedged in between Arbuthnot Road and Wyndham Street in Central Hong Kong, the latter road being 13 metres above the level of the former. A total of 35 levels include 23,775 square metres of office space, about 1,000 square metres of shops, and eight levels of car parking.

Challenge
The architects sought to maximise views from the constrained site, and to meet the demands for seven goods loading bays within an irregularly shaped footprint, providing satisfactory vehicular and pedestrian circulation.

Solution
The building's lowest level, entered from Wyndham Street, is devoted to retail uses. Above, entered directly from Arbuthnot Road, rise eight levels of vehicular circulation and parking, clad externally with a reflective curtain wall, unifying the building's facades. The office floors above are planned around two axes, both related to distant sea views, with a central rotunda (containing services at its highest level) giving the building a compositional focal point. Vertical circulation is pushed to the side of the triangular site with least potential for views and daylighting.

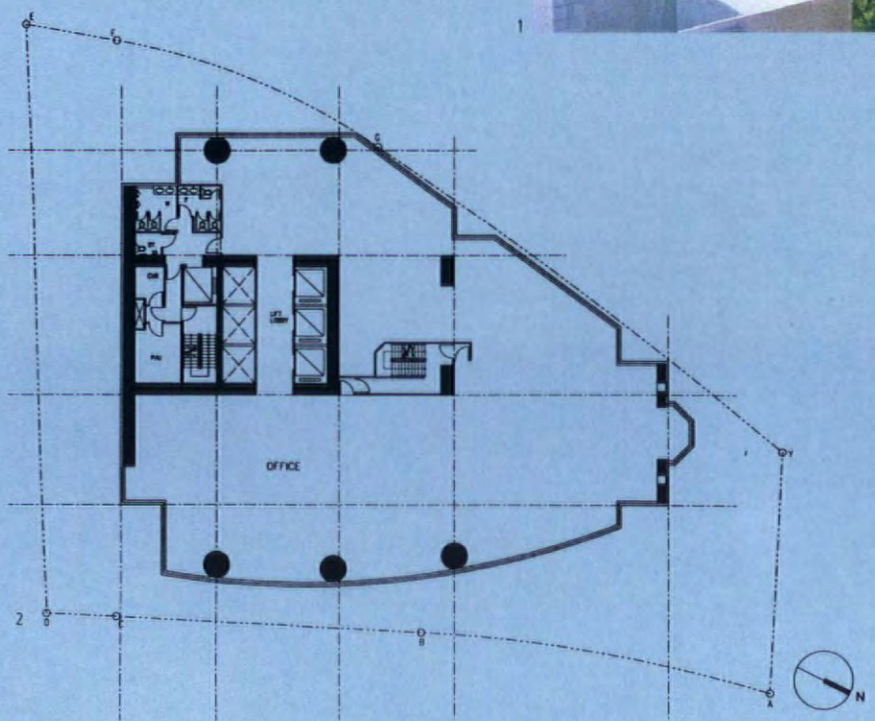
Date
Scheduled completion 1999

1

1: The building stands on a triangular site with a 13-metre drop from one side to the other

2: Typical office floor plan, low zone

3: Site plan



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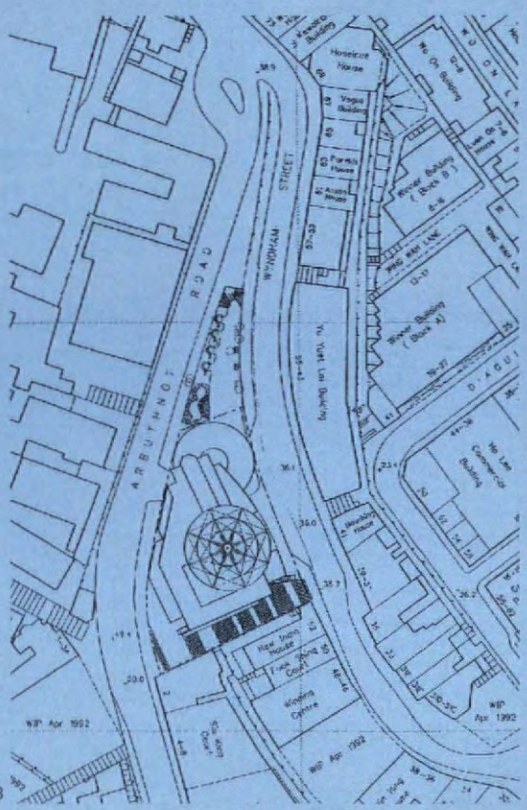


3

Office development, Finance Street, Beijing

Brief

A speculative office building in the Chinese capital, providing 90,000 square metres of floorspace on 17 levels above ground, with two levels of basement parking.

Challenge

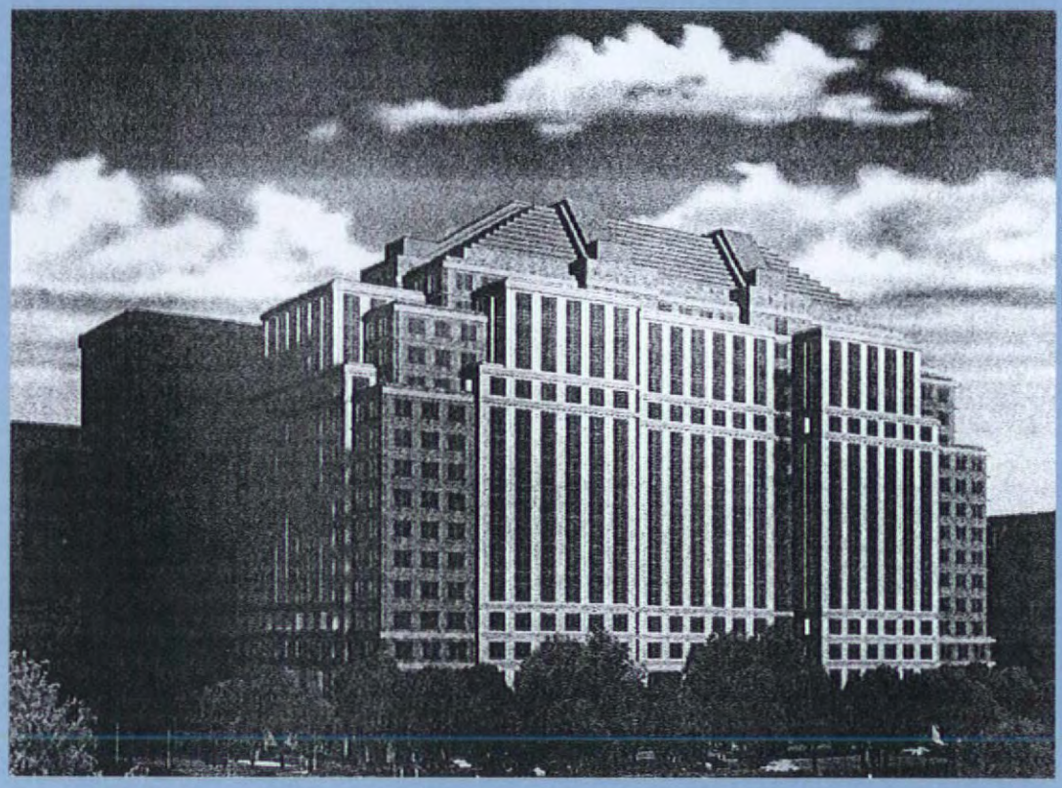
The building was required to provide flexible letting options, and had to conform to strict statutory planning restrictions. Being in the proximity of the Forbidden City, a general height limit of 70 metres was applied to the site. There was also a requirement to preserve mature trees.

Solution

The building has three independent service cores, each equipped with lifts, stairs, toilets and service risers, allowing for entirely separate occupancy of each part. The massing responds to the generic height limit, with some accommodation above the 70-metre datum, well set back behind a parapet. Study models were used to present the scheme to the Beijing authorities, and helped secure permission for a scheme slightly larger than would normally be expected.

Date

The project carried out in association with Smallwood, Reynolds, Stewart, Stewart & Associates, Inc. is scheduled for completion in 1998.



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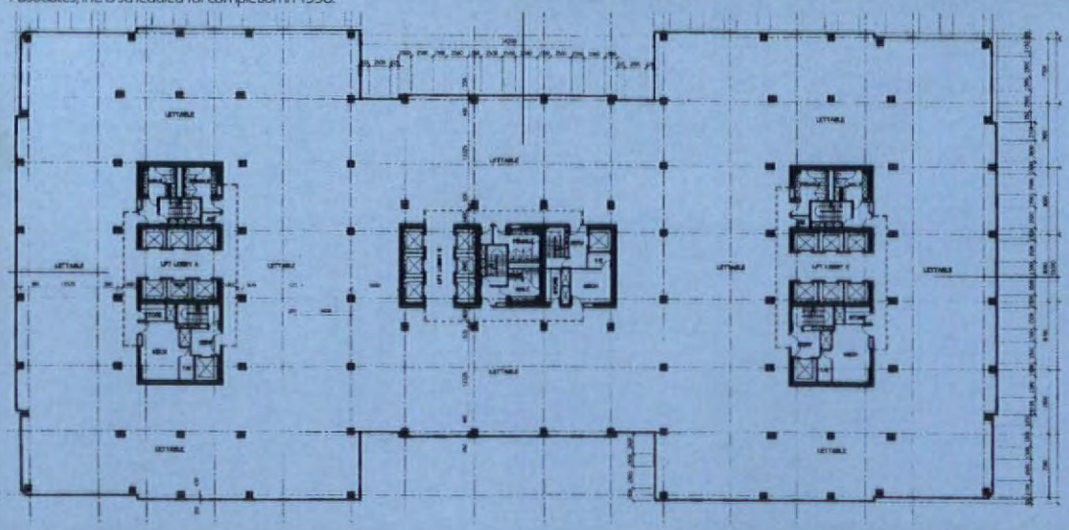

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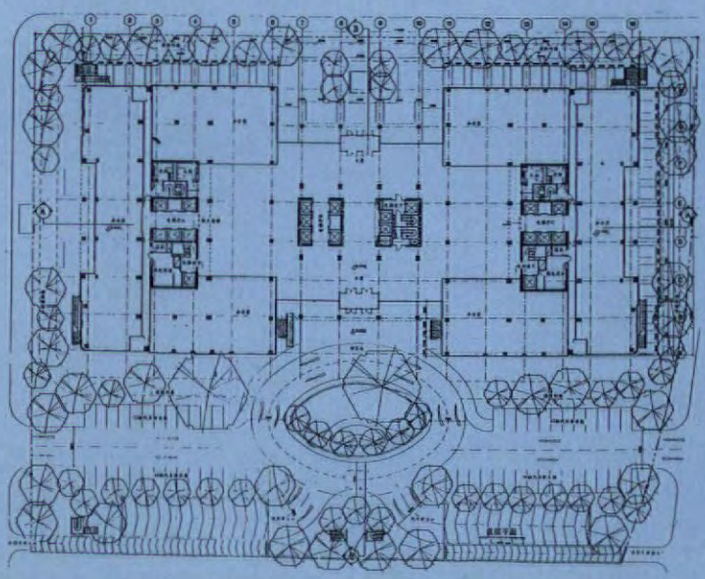


3

1: As the building is close to the Forbidden City, it has to conform to strict planning regulations

2: Typical office floor plan

3: Site plan

The Crossroads,Tardeo Road, Mumbai (Bombay)

Brief
A conversion and extension of existing industrial buildings, providing a retail complex with offices.

Challenge
The existing buildings on the site very significantly exceeded the currently permitted plot, making their retention unavoidable if the developer was to avoid an unacceptable loss of floor area.

Solution
A new basement is excavated beneath all three of the existing buildings, accommodating car parking and services. Additional parking is provided at rooftop level – accessed by means of the first vehicle lift in any commercial development in India. In these two respects, and in the clean, modern styling and detailing of the building, DP have been able to offer their Indian clients a building meeting international standards still seldom achieved in the Subcontinent. With their experience of international collaboration, and the local knowlege of Vikas Gore, DP's Indian-born Director, the practice took great care in selecting local offices with which design and management responsibilities could be coordinated.

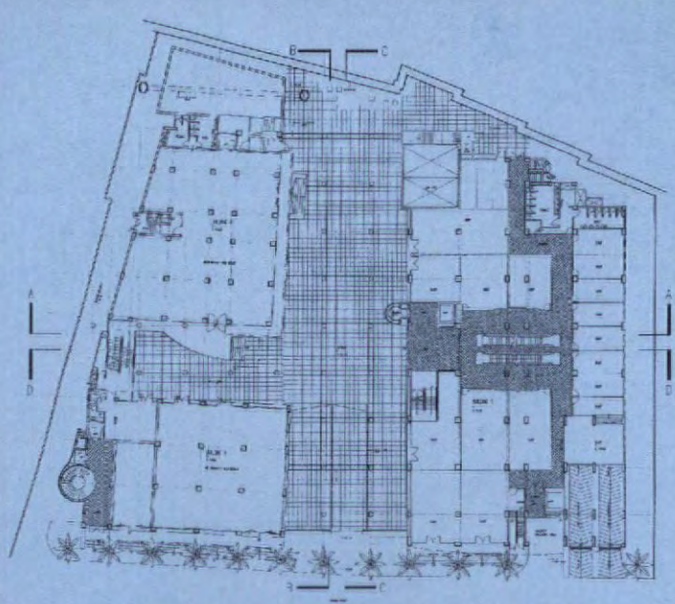
Date
Scheduled completion 1998

1

1: The building is a conversion of three existing industrial buildings

2: Ground floor plan

3: The clean, modern styling is of a standard rarely seen in India



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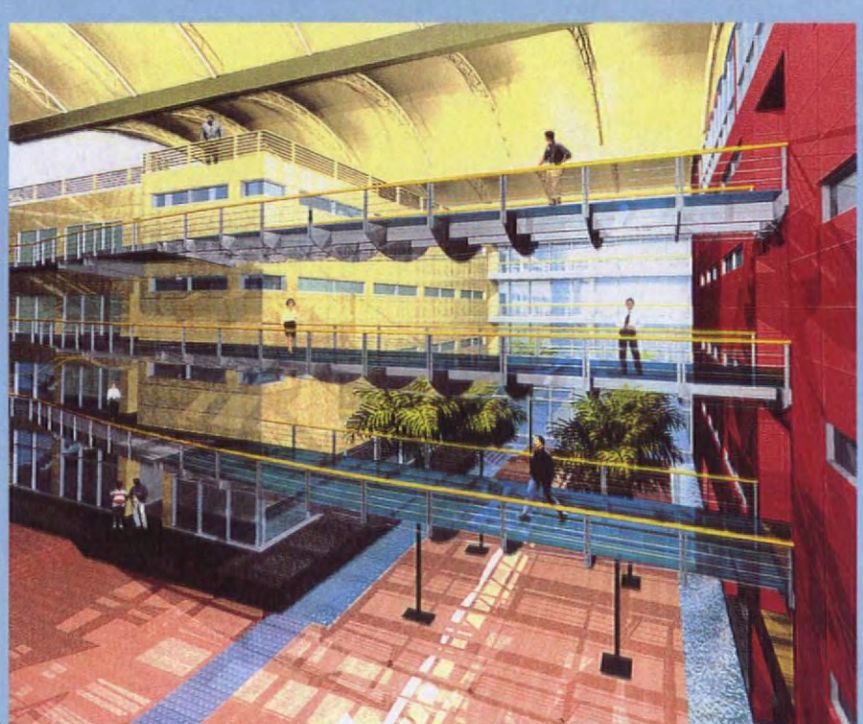


3

Special Report – Urban regeneration

Rethinking regeneration

In Europe regeneration is focused around an emphasis on public space and pedestrianisation. In Asia more drastic methods are employed targeting whole city centres, and in Latin America new towns are created from disused docklands and mosquito-infested waterways. Joshua Levine in Vietnam, Ken Worpole in the UK and Charles Lockwood in the US uncover existing international solutions and systems of urban regeneration.

Previous page: Schouwburgplein, Rotterdam, Holland by Aadrian Geuze – "A stage for the urbanite". Photographer: Jeroen Musch.

1: ANZ Headquarters by Liang Peddle Thorp Architects (LPT) contributes towards the restoration of Melbourne's centre

2: Rasmna "Festival" Retail Park, Jakarta, Indonesia also by LPT is a 22-hectare development incorporating retail and leisure facilities

3: Fukouka, Japan showing Jon Jerde's Canal City and the river port area

1

2

3

Urban regeneration is not just a hot topic of fashionable debate, it is of crucial practical concern to all major international centres – both "developed" and "third world". As huge numbers of the world's population migrate from the country into the urban jungle, each city has to identify and implement an urban solution to suit its specific requirements.

ASIA PACIFIC

Unlike the West, most Asia Pacific countries have experienced rapid and consistent economic growth which has resulted in an inevitable population surge to the urban centres where job opportunities are on the increase. The cities' outdated planning and development strategies have been put under immense strain. In relation to the built form and urban planning, the issue of regeneration in most of the Asia Pacific is one that focuses on decisions of further development within the central business district (CBD) or the development of adjacent districts. The essential problem is that the rate at which old cities have been regenerated and become "new" has far outpaced the towns' ability to deal with the infrastructural improvements. So, while in many Western cities it is possible to identify strategic intervention by focusing on an individual building or notable urban design project, in the Asia Pacific it is the urban condition itself which is forcing architects, planners and engineers to think holistically.

Two models are often mentioned by the architects and planners: Japan, where due to land costs and population density the cities have developed as a series of connected nodes and Bangkok, which is the most commonly sited example of poor planning, where ten years of unrestrained development without infrastructural improvements has brought the city to a virtual economic and physical standstill.

Nodal or national approach

The most common solution to the predicament is the Japanese nodal model. In East and South-East Asia strong governmental control and large areas of recently privatised land allows for the development of areas adjacent to the CBDs – either as extensions to the cities or as entirely new towns.

Another issue is the concept of "national style". The regeneration of most Asian cities happened at a pace unprecedented in urban history. The pressure to modernise in order to stay competitive forced the cities and architects to absorb development while continually struggling to imagine the final impact of the built form. Now that the first wave of "international

4

4: The Landmark, Ho Chi Minh City, Vietnam, by LPT – part of the move towards regenerating the city's waterfront

5: Global Gateway by NBBJ and Samoo Architects, Chanwon, Korea. This 165,000-square-metre building for Samsung is a mixed development of retail, office and leisure space within the city

style" development is slowing down, many of the cities and local architects have more time to consider appropriate solutions for their social, political and environmental climate. These movements are particularly strong in Indonesia, Malaysia and Vietnam.

Manila, The Philippines
Manila has been one of the strongest markets for commercial space in Asia over the past couple of years. The CBD may be over-developed now, and many architects are concerned that over-supply of space may have adverse urban and economic implications. However, there are projects such as Fort Bonifacio, planned by Hellmuth Obata and Kassabaum, in which new towns are being built on privatised land.

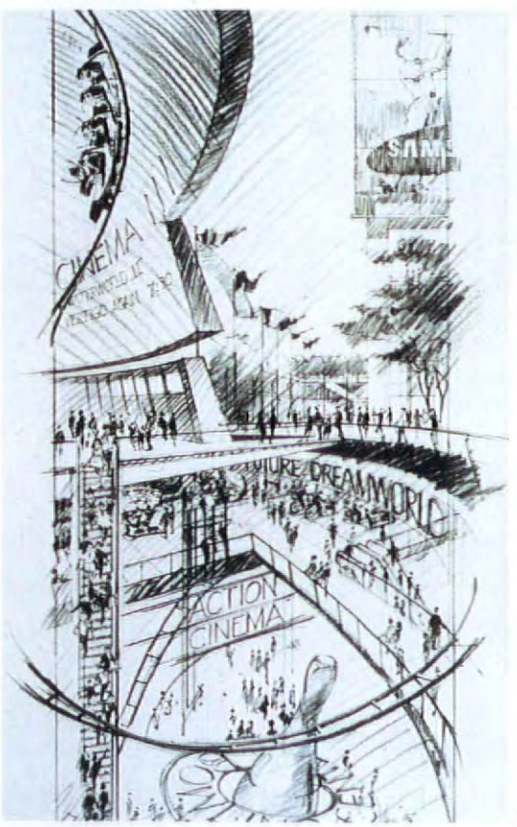
Shanghai, China
China has declared that the Pudong area of Shanghai will be the economic centre for Southern China into the next century, despite the recent handover of the economic giant, Hong Kong, from Britain. Shanghai has a residential population of around 16,000 and generates 20 percent of China's GNP. Due to the overloading on the Puxi area the central Government has been promoting further urban development, into the adjacent Pudong area, with aggressive enthusiasm. An estimated 3.2 million square metres of office space is due to come onto the market in the next three years. In Pudong alone, the largest regenerated area in Asia, one million square metres of office space is coming up. Most of the major international firms are working there and a map of downtown prompts memories of the great architectural exhibitions of the early modern era.

Jakarta, Indonesia
Many of the important projects are still designed by overseas consultants, and the local planners and architects seem to be looking for more of an Indonesian influence in the work. Jakarta is envied for the amount of green space still surviving in the city centre. Some notable local firms involved with regeneration are Team 4 architects, Wiratman & Associates and PT Airmas Asri.

Kuala Lumpur, Malaysia
The corridor created between two major developments: downtown KL Sentral-Putrajaya (the new capital city) and the KL International Airport, is the main focus of regeneration in Malaysia. Those major projects are linked by a new train line and should allow KL to relieve some of the downtown development pressures along this axis. The area of the KL International Airport and Putrajaya are both equal in area to that of the downtown district of KL. (*See WA51 page 31-35*)

Melbourne, Australia
The Melbourne Docklands project, which is being planned by Ashton Raggat McDougall, comprises the redevelopment of 22 hectares of the former port of Melbourne. This site is adjacent to the CBD and includes seven kilometres of waterfront. The Victorian State Government has stipulated that the area inspire innovation and quality. The proposal is picturesque, and the development plans are seen more as a framework and less prescriptive than conventional planning.

EUROPE
In the past decade architects and planners throughout Europe and beyond, have ›



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1: A PLUS Architects' regeneration of South Moravian Gas Radlas St site in Brno, the Czech Republic

2: Museumpark, Rotterdam, Holland by Rem Koolhaas OMA

2

3

3: Parc Villette Paris, France by Bernard Tschumi

4: Redevelopment of Marseille's port (lower left) for leisure

4

› confirmed the belief that high quality public spaces are essential for successful urban renewal. Barcelona, Spain helped pioneer this trend with its ambitious programme involving the creation of over 100 new parks and open spaces in the years leading up to the 1992 Olympic Games, through a public enterprise company, Barcelona Promocion SA. Many of these new spaces – such as Andreu Arriola's Plaça Fossar de les Mores – are purely architectural: parks without trees or grass.

Both Bernard Tschumi's Parc Villette and Bernard Huet's Place Stalingrad in Paris, are examples of successful attempts to create vital new spaces where there was once dereliction and wasteland.

Public spaces

"World Squares for All" is a proposal headed by Sir Norman Foster, to revitalise the centre of London by making its historic squares and public spaces more attractive and amenable to residents and visitors, principally through large scale programmes of pedestrianisation, landscaping and high quality architectural innovation. Elsewhere, Jan Gehl, Professor of Architecture at the Royal Danish Academy of Fine Arts in Copenhagen, has been the foremost advocate of revitalising cities through design and "programmes of animation", not only undertaking successful projects in his own city, now regarded as one of the liveliest in Europe, but more recently working in Melbourne, Australia, as a consultant on urban renewal. Northern Europe continues to promote public space in its espousal of a vibrant street life and the sidewalk cafe culture.

UK

Some critics now say that "form follows funding", arguing that it is the financial sources combined with civic "boosterism" that determine what is going to be built and what it will look like. In the UK, the National Lottery has also promoted the unleashing of a string of architectural projects, including the Richard Rogers Partnership's Millennium Dome, Michael Wilford and Partners' new Lowry Centre in Salford and the proposed Millennium Bridge, connecting St Paul's Stairs to the yet-to-be-completed new Bankside Tate Gallery in London. Yet projects developed by such difficult alliances – involving local politicians, national government or European Community funding, together with civic groups, architects and private sector investment – can often fail to materialise, as in the case of Zaha Hadid's design for the Cardiff Bay Opera House and David Chipperfield's New Museum of Arts and Sculpture in Powys Castle Park, both of which are unlikely to be built.

Lottery funding has been made available for a multi-million pound National Discovery Park in Liverpool, which will be home to new IT, broadcasting and multi-media industries, and in Sheffield a grant of US$15.2 million (£9.5 million) has been made towards the cost of Branson Coates' National Centre for Popular Music, a new landmark building.

Birmingham's Centenary Square – along with new buildings such as the National Convention Centre – is now regarded as one of the most successful urban renewal projects in the UK. Broadgate in the City of London has achieved what many of the spaces in the city's Docklands have failed to do, which is to attract large numbers of people on a daily basis to meet in the open air, have lunch, mingle and be one of the modern urban crowd.

Within five months of the IRA bomb on 15 June 1996 money raised for the regeneration of Manchester's city centre was estimated to have reached US$138 million (£83m) in public funding and US$560 million (£350m) in private sector funding. Howard Bernstein, Chief Executive of Manchester Millennium Limited, anticipates "800,000 square feet of high quality retail space, 380,000 square feet of leisure facilities, more than 250 new homes, a major new arts/cultural complex and a series

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of green and pleasant new public areas".

In Edinburgh, the Old Town Renewal Trust was established in 1991 to protect, enhance and promote quality regeneration of the Old Town. John Hope produced the masterplan including a new museum, library, new headquarters for *The Scotsman* newspaper and a pavilion in the park to be designed by Sir Michael Hopkins. Mixed use development is planned for the Holyrood site of a former brewery comprising housing, hotels, offices and restaurants.

Waterfronts and docklands

In the 1980s considerable amounts of both public and private investment were made in reclaiming derelict waterfronts and dockland areas, particularly in the UK. London's Docklands was the most flamboyant example of the three waterside developments, but Liverpool's Albert Docks, Cardiff Bay and Swansea's Maritime Quarter were other examples.

The pioneering model for the marina lifestyle was Port Grimeaud in the south of France. In the 1990s the focus has moved from waterfront locations back to inner city redevelopment, concentrating on finding a home – and a sympathetic cultural milieu – for the new "cultural industries" which are among the leading economic sectors in the global economy. Dublin's new glitzy, chic, international image is closely tied to the Temple Bar regeneration project, in which a run down part of the inner city has been transformed into a hive of small businesses, record companies, design offices, coffee bars, hotels and restaurants.

City states

In his recently-published book, *New Public Architecture*, Jeremy Myerson claims that a revived European urban confidence is leading to a generation of self-styled "city-states", where an international competitive edge is achieved through high levels of investment in the visible public realm. New art galleries, libraries and museums are often an essential ingredient in this civic mix. With the new Bibliothéque Nationale in Paris, the new British Library in London and large libraries built in the past decade in Uppsala, Rotterdam, urban renewal is increasingly linked to higher education, not necessarily in leafy greenfield sites, as cities compete for inward investment in the "knowledge economy".

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Rotterdam: two new public spaces

Rotterdam has been a showcase city for modern architecture since JJP Oud, co-founder of De Stijl with Piet Mondrian in 1917, worked as City Architect from 1918-1933. The bombing of the city centre during the war ensured the continuation of this tradition. Today, another Rotterdam-based architect, Rem Koolhaas, enjoys a similarly international reputation. The most recent project undertaken by Koolhaas and his colleagues at OMA (Office for Metropolitan Architecture) has been the creation of Museumpark, a 12-hectare passageway linking the city centre to Rotterdam's Central Park, completed in 1994. The park also connects in more dramatic ways JMJ Coenen's recent Netherlands Architecture Institute (completed 1993) with the Boymans-van Beuningen Museum and the Kunsthal (also by OMA).

Museumpark is divided into three principal sections: a romantic garden, with the original trees retained from an earlier, abandoned park, but now containing a river of large white and blue pebbles over which a pedestrian bridge arches gracefully; a raised tarmac podium for ball games, visiting fairs (the site is equipped with electric points and other services), and a highly formal orchard of apple trees planted on a diagonal grid in a field of white gravel and crushed shells. This linear park admirably – and literally – leads visitors from architecture to art.

Equally dramatic has been the re-design of Schouwburgplein, one of the city's principal squares, by Aadrian Geuze and his colleagues at West 8, also based in Rotterdam and completed in 1995. What was a run down, cheerless piazza, has been transformed into a raised platform 35 centimetres high – a "city stage"

5: New Museum proposed as part of the regeneration of Edinburgh's Old Town, Scotland

6: Model for the redevelopment of Manchester, UK. The white buildings represent the planned development

7: Foster & Partners' proposal for "How Trafalgar Square, London, UK might be" if it was pedestrianised

8: Trafalgar square with traffic, as it is now

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Illustrations by Simon Jones

› – using wood, metal and rubber surfaces for different zones and functions. The stage is lit from below, as well as from four hydraulic lighting gantries (echoing the seaport theme) which change configuration every hour, and from lighting stalks attached to the facade of the municipal theatre which abuts the square.

The stage is equipped with electricity and water connections as well as facilities for receiving fencing and tent posts and other temporary fixtures. In the summer there is a water feature for children. What also contributes to the theatrical atmosphere of the new square is the facility for members of the public to set the mobile lighting systems into play by inserting a coin into a control box.

Czech Republic

Edinburgh architects Douglas Abrahams & Partners have opened the first Western European architecture practice in Lithuania - representative of a programme of the restoration of Eastern Europe's threatened historical buildings and city centres.

Brno, the second largest city of the Republic is known as "Moravian Manchester". South Moravian Gas commissioned A PLUS to regenerate the run down 11-hectare industrial site near the city centre – to design and build a series of buildings including a warehouse/multi-function building administration centre and an apprentice training school. This is in a very run down state. The first phase consisting of three buildings is expected to be completed by November 1997. The overall plan is to completely re-develop this site and create a "green oasis" in this industrial "desert" incorporating a park and residential accommodation for the employees of South Moravian Gas.

France

The largest current development project in France is planned for Marseilles. Around US$1.2 billion (FF7 bn) will be spent in the

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1: Comunidad Andalucia, Santiago, Chile by Fernando Castillo

2: Estación Mapocho "recycled" by Palmer, Lopez, Pérez de Arce and Fernandez as a cultural centre, Santiago, Chile

Regional differences in the approach to landfill

Remediation of contaminated or despoiled land is driven by a range of factors depending upon the economic and regulatory framework of a country. The factors include:

* legislation
* cost of soil treatment
* availability of treatment technologies
* cost of landfill
* availability of landfill
* availability of an area on site for encapsulation

Europe

In Europe legislation varies from country to country. In the Netherlands, where landfilling is not an option due to the unsuitability of the low-lying land and shallow ground water, soil treatments are used for the majority of projects, and economics of scale have been achieved by building soil treatment centres.

In the UK it is legal to deal with contaminated soils by either treating them, landfilling them or encapsulating them on site. Decisions on which solution to choose are therefore driven by relative costs of the solutions and the impact of the chosen solution on the final land quality and hence its value.

In Germany both the landfill and treatment methods are available, but inputs to landfill are very restricted and thus treatment systems are more frequently used. The cost of landfill in Germany is of the order of US$320/tonne and thus many treatment solutions are far cheaper than landfilling and decisions on the most appropriate solution generally favour treatment on economic grounds.

Asia Pacific

In the Asia Pacific circumstances also differ from country to country. Malaysia and Hong Kong throw up two interesting contrasts to Europe. In Malaysia landfill has only relatively recently become more formally recognised as a means of dealing with waste materials. Uncontrolled dumping of material, or leaving contaminated soil in-situ was historically the main method of addressing the issue, but new legislation introducing scheduled waste landfills has arrived. When the new engineered landfill(s) are completed, disposal of contaminated soils is likely to attract a charge of the order of several hundred Malaysian dollars/tonne (US$80/100/tonne). This will undoubtedly keep the emphasis on in situ encapsulation solutions, although some multinational companies have pursued treatment solutions in keeping with their corporate policy.

In Hong Kong, landfills have been available free of charge for many years, and any soil not acceptable on a development site is automatically landfilled. A new generation of highly engineered landfills has been created in the last 5-10 years, which provide superb levels of environmental control contaminated soils and it is possible that charging for landfill may occur in Hong Kong soon. Initial proposals for charging have included relatively modest fees but these were strongly resisted by the construction industry and the charges have yet to be implements. With free landfill available there is no market for treatment solutions to deal with contaminated soil, and with the shortage of land and correspondingly high value, any form of on-site encapsulation is rarely considered. With the return of Hong Kong to China, it will be interesting to see whether state subsidy of landfill continues.

Source:
Aspinwall & Company, Shrewsbury, UK
Consultants in environmental management.

next five years on Marseilles' ambitious management and development project involving the Euroméditerranée – a new international business centre – plus a programme to upgrade and reinvigorate all the districts and former village centres in the north-east and a major effort of rehabilitating housing and public infrastructure.

NORTH AMERICA

Many long-troubled older US cities are trying to gain the prosperity and vitality of the Canadian metropolis. Toronto and Vancouver, for example, are frequently heralded as two of the world's most liveable and most "successful" cities. Urban regeneration programmes are unusual in Canada, although in Toronto the central waterfront is booming with development activity.

However, urban regeneration projects are a hopeful trend in many US cities, and they are usually being carried out in highly visible downtown districts or long-under-utilised but potentially vibrant waterfronts. Privately financed development has resumed in many US markets, following the real estate crash of the late 1980s and the recession of the early 1990s. Government and public agencies are constructing buildings, parks and infrastructure projects. Many exciting projects are also being built through public/private partnerships.

In 1990, the national recession brought construction to a screeching halt in Battery Park City, a landfill development which had successfully spurred development in Lower Manhattan throughout the 1980s. *(See WA57 page 76)*. Today, however, over US$1 billion worth of new projects – office, residential, hotel, retail, entertainment, education and cultural – are nearing completion or are going to break ground shortly.

In midtown Manhattan's long-tawdry Times Square, decaying theatres are being restored and/or converted to new entertainment uses – such as Disney's recently-reopened New Amsterdam Theatre *(See WA 57 page 121)*. Dozens of new stores, hotels and restaurants have opened on nearby blocks. An office tower is now rising on the east side of Times Square – the first speculative office building to be constructed in Manhattan since the real estate crash.

In San Francisco, damage to the double-decker Embarcadero Freeway during the 1989 Loma Prieta earthquake led to its demolition, which in turn opened up several miles of long-derelict waterfront to new commercial, residential and open spaces development. *(See review in this report)*.

Is this a new era in America's urban regeneration? Unfortunately, no. Most of these new development projects under construction are focused on only a handful of downtowns, along waterfronts, or on the edges of upscale intown neighbourhoods. Unlike their more successful Canadian counterparts, the majority of older US cities (particularly formerly working class and middle class neighbourhoods outside the often-thriving downtowns and waterfronts) are troubled by decay, crime, drugs and hopelessness. And there are few regeneration projects for these often overlooked, depressed neighbourhoods. The Federal Government has largely told states and cities to solve their own problems. But hard-pressed US municipal governments do not have adequate funds to address urban regeneration on their own.

Although the future looks bright for most Canadian cities, the outlook for most American cities is decidedly mixed – a few highly successful regeneration projects in well-known downtowns and waterfronts, surrounded by mile after mile of continued decay and despair.

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3: SOM's Tribeca Bridge New York, US provides safe pedestrian access between buildings

4: Polshek and Partners/GE Handel & Associate's proposal for regenerating New York's Coliseum Site

5: Office/warehouses in Argentina's Puerto Madero

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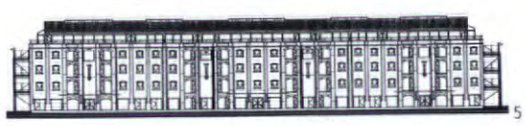

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LATIN AMERICA

In Chile, two significant regeneration projects are the recycling of the old Mapocho station, Estación Mapocho, Santiago, *(see WA 48 page 56-59)*, by architects Monserrat Palmer, Ramóon Lopez, Rodrigo Pérez de Arce and Teodoro Fernandez to give it a new identity as a popular space for the arts – and the on-going project of the Comunidad Andalucía, Santiago, a social housing project by Fernando Castillo for Serviu Metropolitano Housing Cooperative *(see WA 50 page 126-127)*, which attempts to solve the problem of shanty towns by providing the shell of a vertical housing unit and encouraging self-build.

In Argentina, the 420-acre waterfront development at Puerto Madero to the east of Buenos Aires' city centre is now beginning its second phase of development on the other side of the docks, after a successful first phase that plunged more than US$150 million of investment into the city. Sixteen brick warehouses designed and built a century ago and the new Kohn Pedersen Fox British Telecom Tower, all contribute to a waterfront promenade designed by local firm Hampton and Rivoira. With the support of the leading developers of the first phase, the development company Corporacion Antiguo Puerto Madero, they are starting the development of the second phase, 240 acres of land east of the docks where around 10 million square feet of mixed development would be built, according to the master plan.

In Ecuador, a masterplan has been completed for a new town by Correa Valle Valle on a site 10 miles from downtown Guayaquil, to relieve overcrowding and to regenerate the shabby waterfront. The site is a 30 percent water-retention area so the planners have encompassed each neighbourhood with canals, lakes and waterways. The scheme is scheduled to start in December this year and is estimated to take 10 years to completion.

In Bolivia, the Centro Distrital Uruguay to the north of the city has the same formal features as other Miguel Angelo Roca projects. This Argentinean architect has created a post-modern configuration of three separate structures linked together by lateral arches accommodating public shopping areas at ground level. The sequence of alternating patios, and regular-shaped rooms on various levels linked by stairways and arcades, is reminiscent of the spatial fragmentation of Mediterranean countries or medieval cities. The space is designed to resolve a derelict but strategically important corner site and to "provide aid and information to a complex two-speed society that tends to create inequalities".

In Cuba, Demetri Porphyrios and Leon Krier have been commissioned to provide a new urban plan for the capital, Havana. The consortium, comprised of British, Spanish and Canadian developers, plan to incorporate existing buildings in their strategy for regenerating a number of redundant areas. WA

Urban evolution

Rahul Mehrotra, son-in-law of Mumbai's most famous architect, Charles Correa, was awarded the accolade of India's "designer of the year" in 1996, which coincided with the publication of his acclaimed book "Bombay: the cities within", which he co-wrote with Sharada Dwivedi. In conversation with Preeti Goel Sanghi, he asserts that "to create a new city is far easier, for it is an act of optimism – of perhaps not knowing the problems. The mind boggling task is really to keep the existing city going, to constantly renew and energise it. This requires imagination". Portrait by Rajesh Vora.

"Today, any discussion regarding urban issues leads to the same question – that of the 'purpose' of the city. In fact, as cities evolve, they change purposes. Most of our contemporary cities are the outcome of successive adaptations to different functions and needs." Rahul Mehrotra's research has focused on the very "purpose" of Mumbai (Bombay) as the city transforms from a trading and manufacturing centre to a service-oriented and projected finance centre while experiencing massive shifts in demography causing its population – especially that of the urban poor – to swell.

According to Mehrotra, the issue of heritage is paramount: cities are often "committed to carrying relics of a bygone era which may be functionally totally redundant but which hold vital clues to the city's origin and which, under transformed conditions, will save the city from extinction. The city has to identify components that can be transformed to other uses without destroying the essential physical form or architectural illusion the city presents". The Mill areas of Parel which cover approximately 1,560 hectares will, in Mehrotra's opinion, be key components in the city's renewal process. "If appropriately used, this large acreage in the geographical centre of Mumbai could compensate for the perceived deficiencies that exist in the city's urban system, providing schools, hospitals, affordable housing etcetera."

There are few examples of regeneration during India's colonial history, but Mehrotra sites as an example the work of Patrick Geddes who practised what he called "conservative surgery" where he selectively recycled or restored parts of a neighbourhood in order to improve the whole.

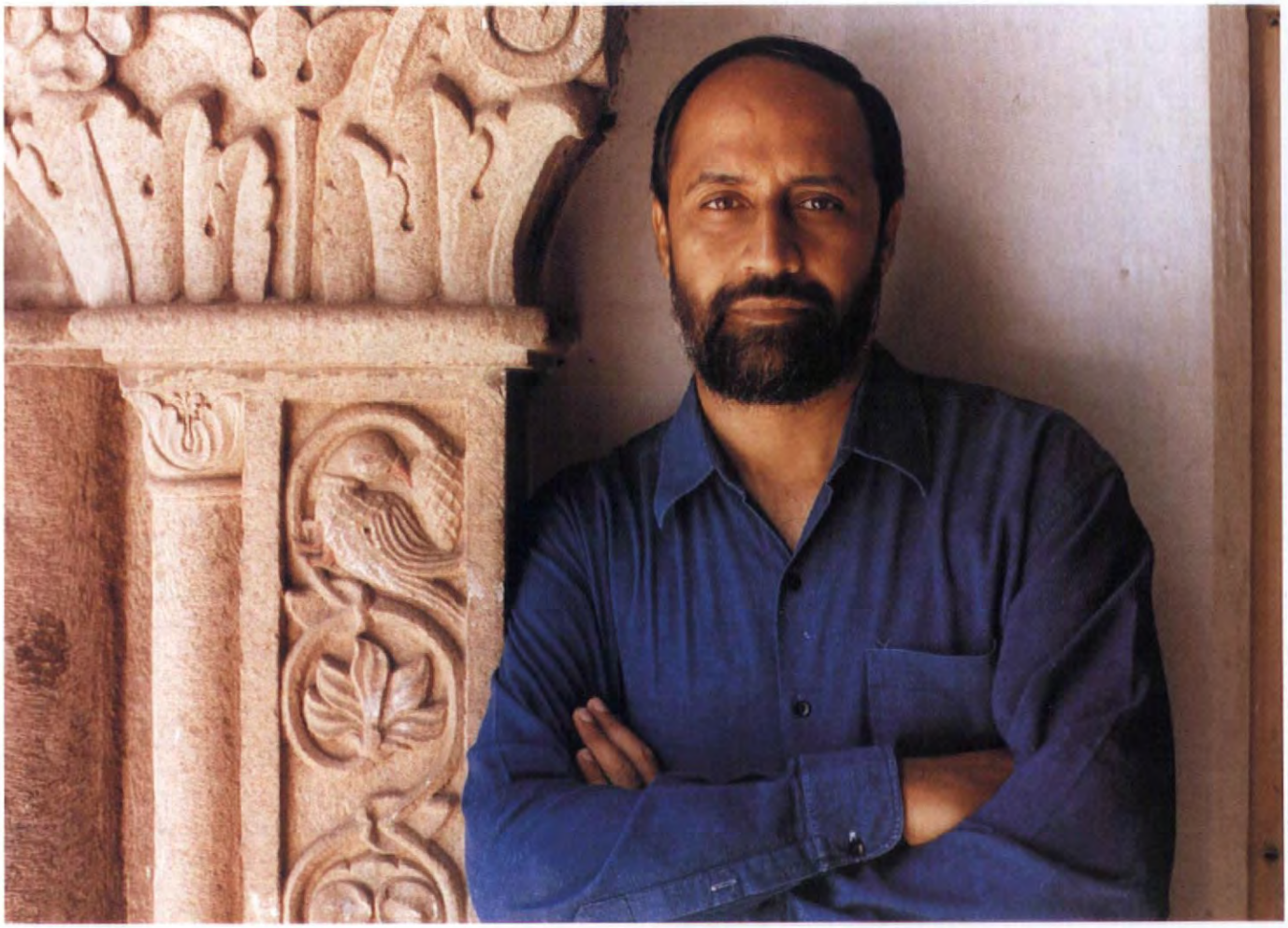
"But is was all at a very small scale. Similarly, the City Improvement Trusts in some of the larger towns in 'British India' attempted urban renewal and regeneration schemes. Unfortunately in contemporary India not much attention has been paid to the regeneration of existing city areas and great emphasis is paid to the creation of new towns which in a sense have come to epitomise flights into Utopia."

However, in the last few years there has been signs of efforts in cities like Mumbai, Ahmedabad, Hyderabad, Calcutta and Delhi to articulate issues related to urban regeneration. This process has really begun with Government policy to relocate industries away from the city, for example, the Fort Area (the historic core of Mumbai) where there is now a complete change of user patterns from residential to commercial so that a process of regeneration could be effected by the re-use of these otherwise dilapidated buildings.

Mehrotra explains that "while examining the evolution of Mumbai the fact emerges that the city took on the function of absorbing more and more people and activities within the same space rather than diversifying ... Thus the city continued to become internally more complicated and susceptible to malfunction. Regeneration should be intrinsically linked to schemes for the city's outward expansion and given the combination of two crucial inputs – an emerging employment base and a completed rail link. New Mumbai (the planned self- contained twin city of Mumbai) once again holds the potential to alter the entire relationship of the city to its hinterland".

In the original proposal for New Bombay (as it was then) in 1964, Charles Correa, Pravina Mehta and Shirish Patel prepared an alternative plan directing growth eastwards to the mainland across the harbour. Mehrotra claims that their suggestion to move the Government to "New Mumbai" is still relevant. "If the historic areas are to be encouraged to take on the role of Central Business District or financial

"As cities evolve, they change purposes. Most of our contemporary cities are the outcome of successive adaptations to different functions and needs"



"New Mumbai once again holds the potential to alter the entire relationship of the city to its hinterland"

centre, then non-compatible uses in south Mumbai like Government should be moved to New Mumbai. This would not only open up space in south Mumbai to accommodate ancillary functions for the financial centre but would also give great impetus to the growth of New Mumbai."

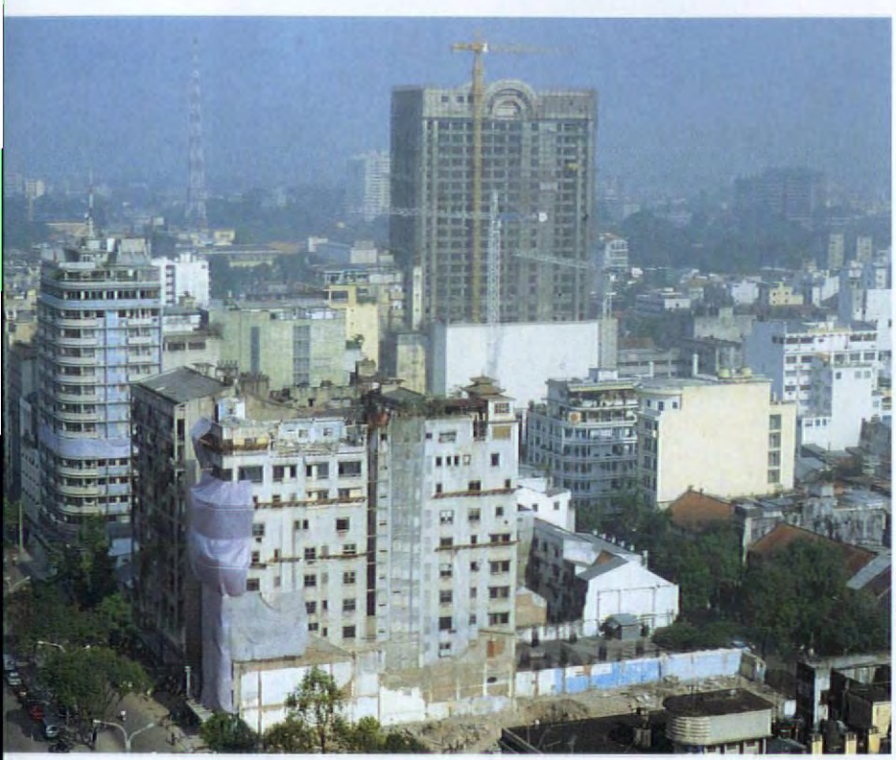
In the same vein, Mehrotra points out that the entire eastern coast line of Mumbai, which is at present mostly occupied by the Navy and other redundant and semi redundant sites, could be put to better use."The warehousing, port facilities etcetera could be gradually phased out to Nhava Sheva (the Port of New Mumbai) to open up the city's congested eastern shore line adding land for development. By opening up this critical stretch the harbour bay would become the nucleus between parts of Old Mumbai and New Mumbai ... in a sense by the simultaneity of these gestures – one of the opening up of a new area and the other of recycling an existing zone, the oldest parts of the city will work in tandem with new areas allowing the city easy transition into the future."

"How can Old Mumbai be revitalised and 'recycled' to respond to its new role – however that might be described? What are the gestures the Government must initiate – amending the existing Rent Control and Land Ceiling Laws, introducing conservation policies, encouraging affordable housing, infrastructure, improved transport, water transport, the railways and new freeways, reorienting by-laws and other legislation to allow the co-existence of both the cities of the poor and rich? These are just the most pressing questions which must be answered and acted upon with urgency in order to prevent the city succumbing to the idea of decline."

Text by
Joshua Levine

Urban visions in changing times

Hanoi and Ho Chi Minh City, Vietnam



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Both Hanoi, which is 1,000 years old, and Ho Chi Minh Ciy (formerly Saigon), which is celebrating its three-hundredth anniversary this year – present different challenges to the architect in terms of style, scale and urban continuity. Whilst common visions of Vietnam's urban fabric might be the beautifully planned French district of Hanoi and the tree-lined streets of HCMC, these elements comprise only a small part of the architect's consideration when discussing urban regeneration projects. When analysing the two cities one can see the direct influence of Chinese, Japanese, French, Soviet and American building types. In the period between the reunification of Vietnam (in 1975) and the 1990s most of the influence has come from the Soviet Union and many of the architects practising here today were trained in a system somewhere between the Beaux Arts and Soviet schools.

From the Japanese invasion in 1945 until the cessation of border conflicts with China in

1: View from the top of the Saigon Trade Centre towards District 1, the administrative and commercial centre for HCMC.

2: The Opera House, renovation by the Urban Heritage Conservation Program HCMC and the Caravelle Hotel, renovation by Andrew Lee King SunArchitects.

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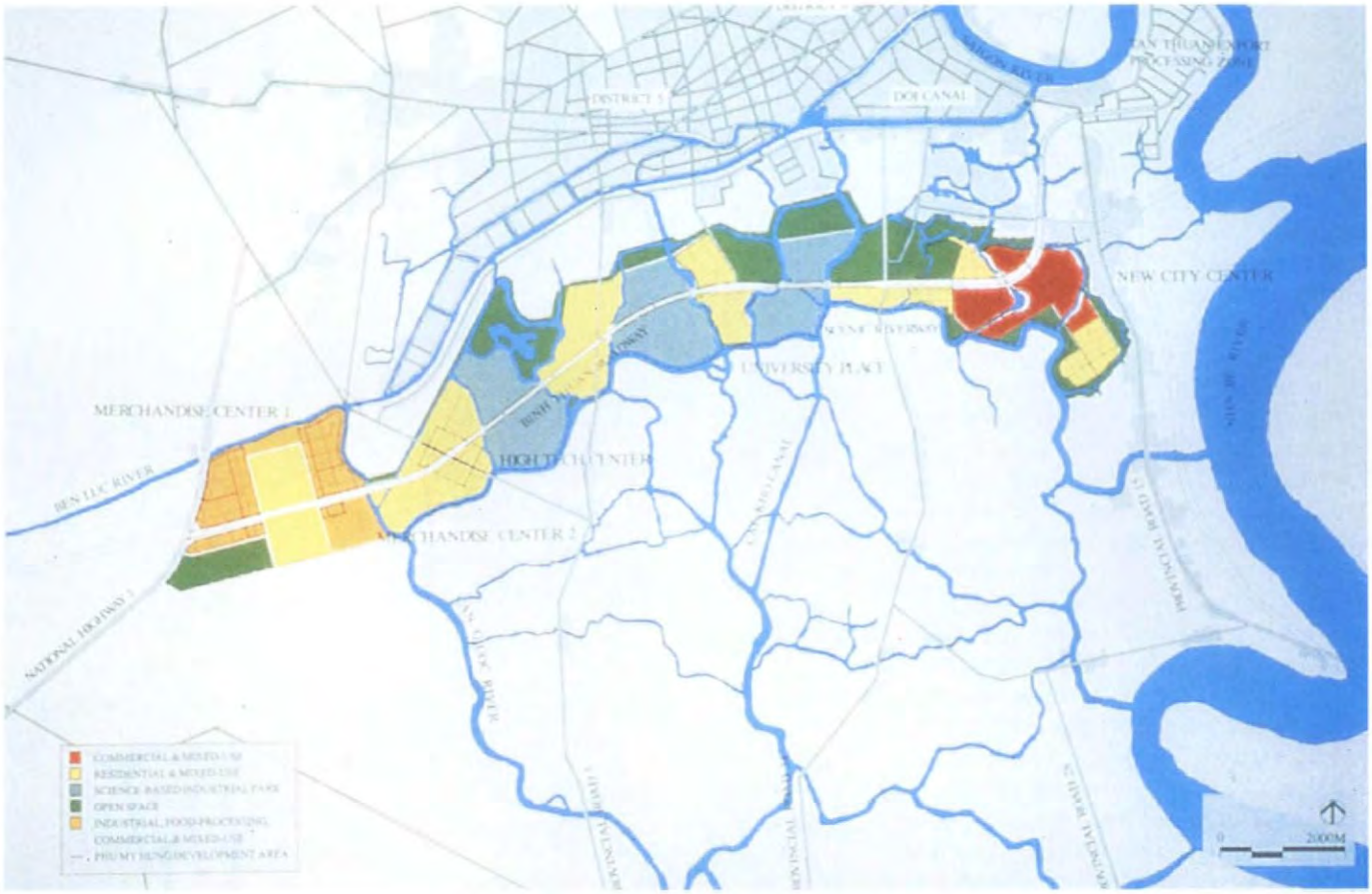

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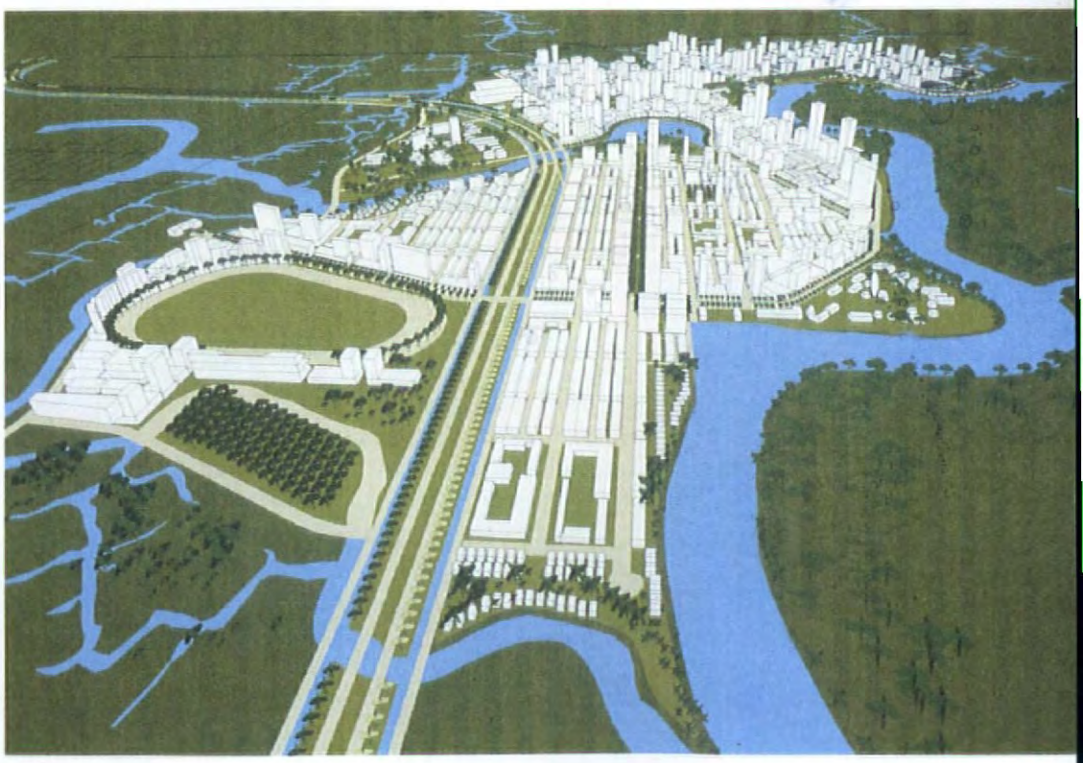
3: Saigon South Masterplan by Skidmore, Owings & Merrill (SOM) showing transportation spine. Yellow areas are residential

4: SOM's proposal for "Saigon South" a new 2,600-hectare community directly south of Ho Chi Minh City



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1980 Vietnam was a country constantly on military alert. As a result, the vast majority of the country's resources were committed to military spending and not domestic improvement projects like infrastructural works and town planning. Until only a few years ago Hanoi maintained essentially the same urban fabric as it had in the early twentieth century. However, since the implementation of the *doi moi* (economic renovation) policy in 1986, the rate of growth – thanks largely to investment by foreign parties – has created new pressures on urban areas. Initially much of the investment was from Asian sources and more likely to be directed at industrial and manufacturing development. In the past five years there has been a great increase in the number of urban commercial projects.

Unlike other cities in the region, like Kuala Lumpur, Singapore and Manila, where the "modern" city has become a cultural icon for economic success, the Vietnamese urban fabric presents a more delicate texture due to a lengthy history and culturally multi-layered past.

Some of the main factors affecting the design and planning of regeneration projects are the large and rapid increase in urban population, a strong preservation/conservation movement and the emerging nature of building and planning regulations.

The population increase in the past decade in Hanoi has been estimated to be as high as 400 percent and the current population is around 2.5 million. In HCMC the estimated population ›

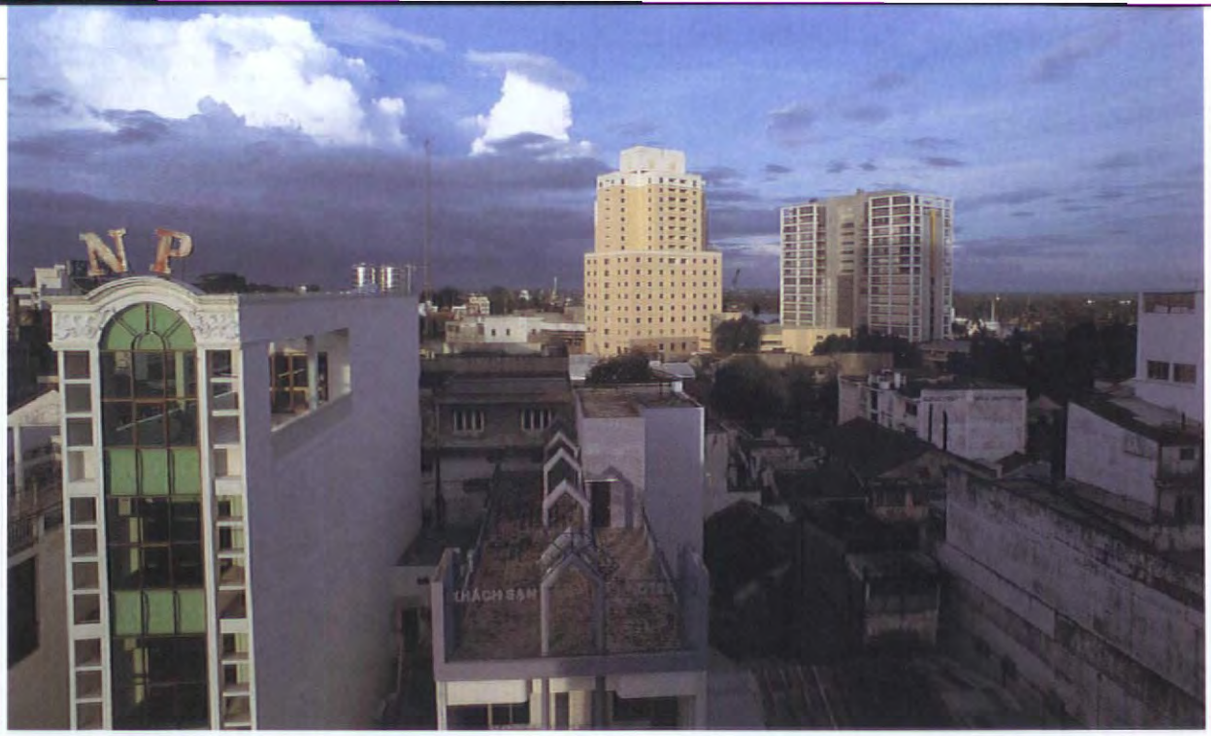
› is around 4.8 million and may reach 7.5 million by 2010. The existing infrastructure networks in the cities are functioning at present but it is evident that another strategy for housing the urban population must be implemented soon. The effected outlying districts are now being supplied with the necessary infrastructure to facilitate large scale urban development.

The foreign solution is epitomised by two projects: Saigon South in HCMC and Hanoi New Town in Hanoi. Both these developments, one Taiwanese and one Korean, are for new towns directly adjacent to the existing Central Business Districts (CBD). They are approximately 7,000 hectares and 20,000 hectares respectively. The Saigon South Project, which is masterplanned by Skidmore, Owings & Merrill, won the 1997 AIA honor award and was noted as a comprehensive plan which will help HCMC manage its physical expansion while safeguarding its cultural and natural assets.

In Hanoi there are several groups who are trying to exert pressure on the local community to preserve the character of the city. These include the Friends of Hanoi, the Hanoi Planning and Development and Control project (HPDCP) and the Architecture Research Centre. The HPDCP, sponsored by AusAid and the Australian project fund, is a collaboration between the Architect-in-Chief's office and Australian Advisers. Some of the goals of this project include institutionalising the building regulations in the Ancient and French Quarters, implementing management control systems and creating sustainable local structure plans. Finding the correct balance is critical. There is a need to both supply a higher standard of living and maintain the romantic character of the existing fabric. Hai Ba Trung and Ly Thuong streets are being developed as main boulevards and commercial strips in a

1: Saigon Centre in HCMC by Denton Corker Marshall

2: The Shared People's and International School, HCMC



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3: Behind a typical hotel development, the Kotobuki Tower and Landmark Tower by Peddle Thorp Architects in HCMC

4: Ho Tay Tower by Energoprojeckt in Hanoi

5: Press Club Centre by Agence Guillaume Cochin Architectecte, Hanoi

fairly orderly fashion. The concern is more for other adjacent areas where development is proceeding in a less orderly manner. Some notable restoration and preservation projects are the Metropole Hotel, the restoration of the Australian embassy and the Opera Houses in both Hanoi and HCMC.

Due to the external economic forces and the level of technology available to these Vietnamese firms, the first wave of development could be considered to be 100 percent foreign-designed. Therefore, while design approval must come from individual municipalities, the work of the local architects has merely provided the "stamp".

There are three main groups of architects and planners working in Vietnam: 100 percent foreign practices; co-operation practices and 100 percent local practices. Particularly notable projects by foreign architects are: the Ho Tay Tower, Hanoi by Energoprojekt; the Landmark Tower and Saigon Tower, HCMC by Hong Kong's Peddle Thorp Architects, and the Saigon Centre, HCMC, by Australians Denton Corker Marshall. Co-operations offices include Vinatec (Taisei Corporation) and Overseas Office (O^2), who are working with a number of local architects.

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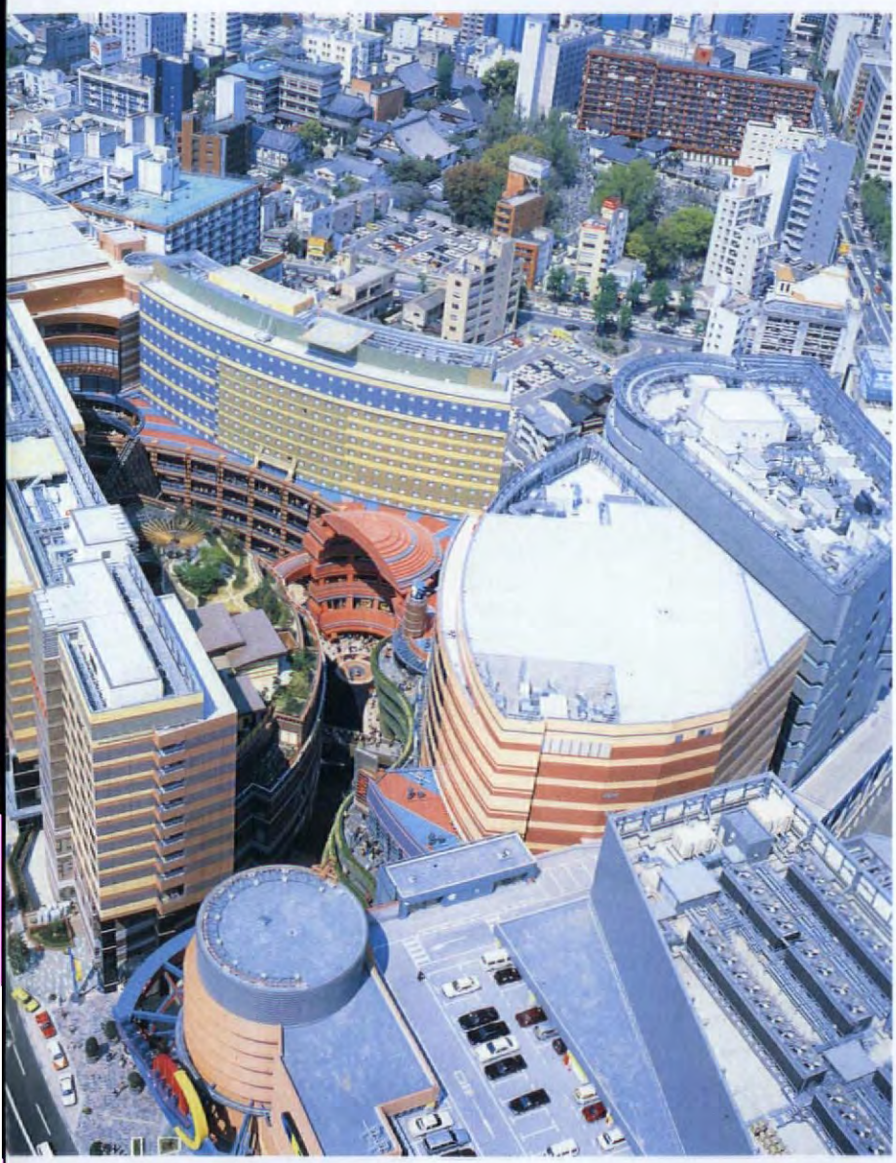
Architects
Jerde Partnership International
Photographer
Hiroyuki Kawano

Making places

Canal City Hakata, Fukuoka, Japan



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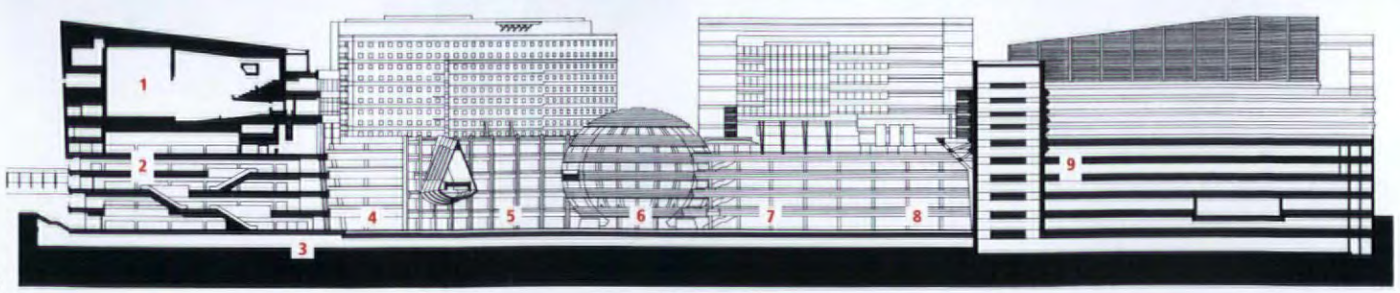
1: Aerial view of Canal City showing the use of "natural curve" of the building forms

2: Section showing the ratio of areas dedicated to entertainment, retail and hotel use - revealing a generous amount of space dedicated to public "place"



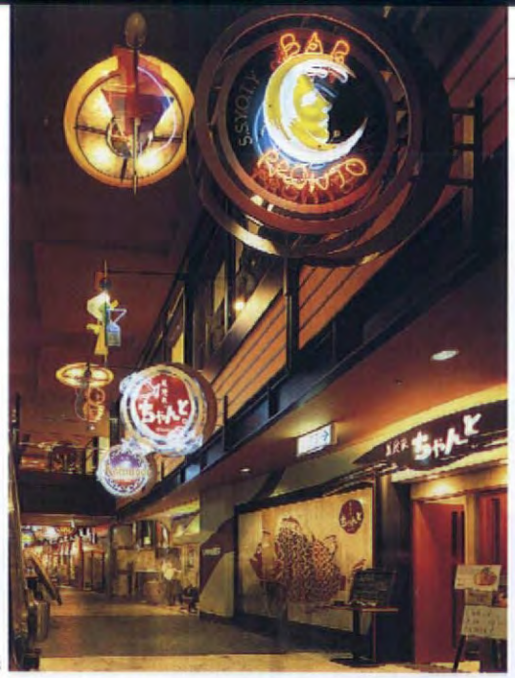
2

Key
1. Theatre
2. Retail
3. Parking
4. Star Court
5. Moon Walk
6. Sun Plaza
7. Earth Walk
8. Sea Life Play Ground
9. Department Store

The 140-strong firm, the Jerde Partnership International, specialises in "entertainment-based retail placemaking", a formula which many city planners believe has since become a standard way of revitalizing urban centres. Principal Jon Jerde started in America where he claims that "the regional shopping centre is the last vestige of the communal scene". His firm's latest project applies the same "placemaking" formula to Japan, where the 2.5 million square foot US$1.4 billion mega-complex fills a nine acre river-front site in Fukuoka, the largest privately-funded development in the country's history.

Fukuoka Jisho, the owner/developer, has a history of architectural patronage having worked with Arata Isozaki, Christian de Portzamparc, Rem Koolhaas and Michael Graves amongst others. JPI was prompted to concentrate on Asia, because of the effect of the fast-rising population on the continent, which potentially threatens the sense of community and leads to short term emergency solutions in urban planning. Fukuoka Jisho and JPI combined to work on this site, located between the commercial business district to the east and the retail core to the west and adjacent to Nakasu Island. The entertainment core of Fukuoka, Canal City is an attempt to boost this city – a crossroads at the heart of East Asia since ancient times.

During the Canal City project, Jerde's retail expertise was found to be greater than the clients, so they were asked to expand their services. Honda explained "we could provide things beyond design, like marketing, leasing strategies and promotion." The JPI team ›



3

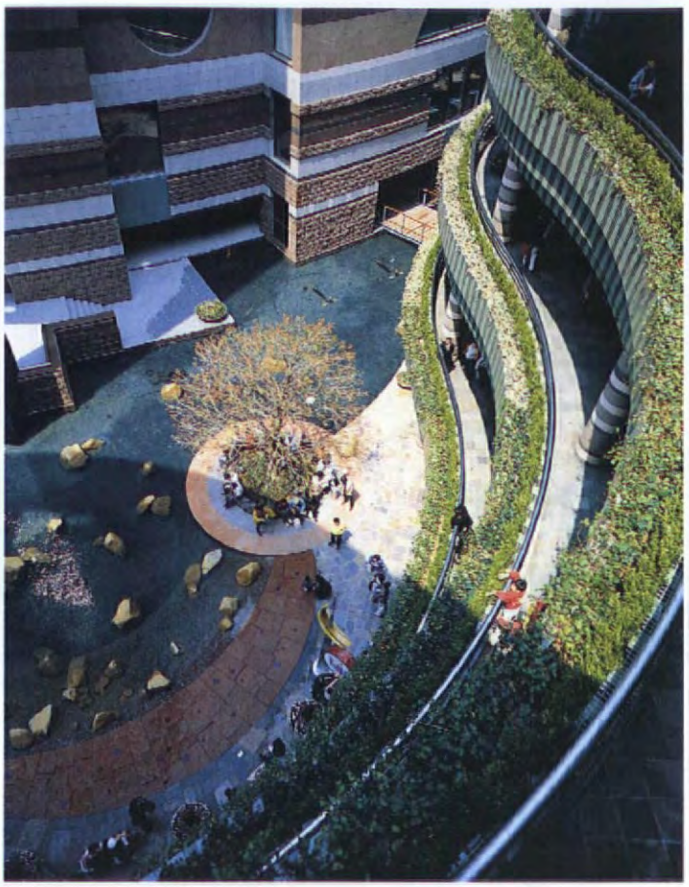
3: Interior spaces are brightly coloured to "maintain excitement levels"

4: Architectural lighting is coordinated with water design to enhance the public space

5: The vine-covered "wiggle wall" frames the central water feature

6: Street level site plan showing the central hotel surrounded by plazas and the commercial zone

4



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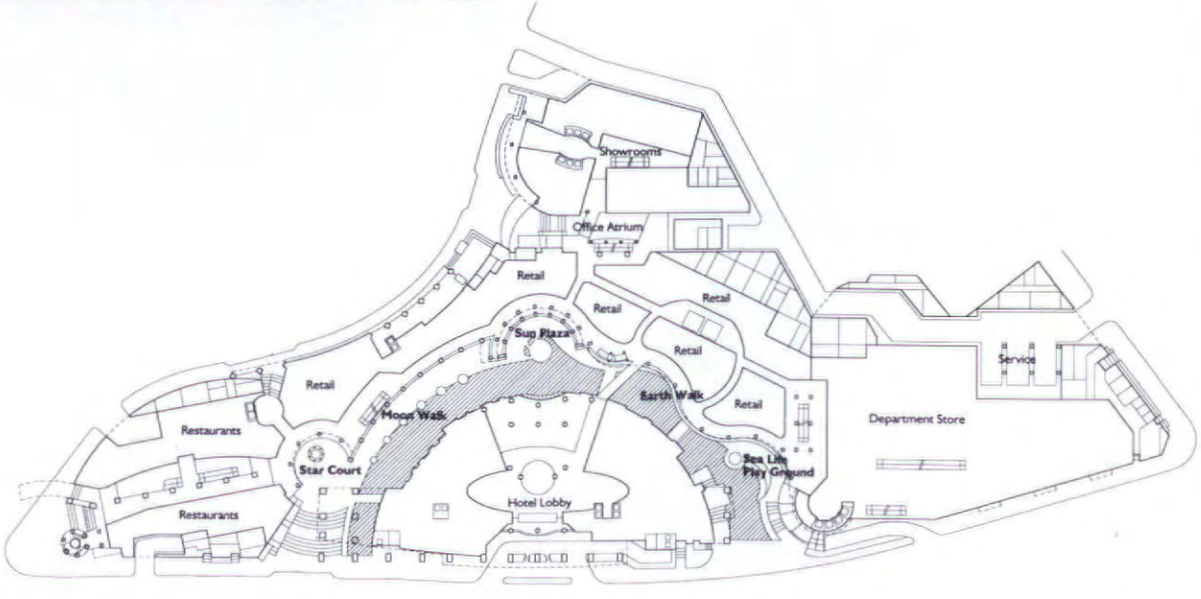


6

1

members worked closely with external designers and consultants such as landscape architects EDAW of Irvine, California, environmental merchandise designer Clifford Selbert Design Collaborative of Santa Monica and water features designer WET Design of Universal City.

As with their US projects, JPI secured four designations to anchor the Canal City concept: the Fukuoka City Theatre, Daiei's Mea Vandle department store, a Grand Hyatt Hotel and the Canal City Business Centre. However, this commercial angle was balanced by the design concept which is described by project designer Brian Honda as an attempt "to create an environment of experience based on natural patterns, effects, mysteries and life forms affecting our world ... we were designing 'place holders' it was about spirit rather than character". However, due to dramatic fluctuations in the Japanese economy and the demands and conditions of prospective tenants the design was in a constant state of flux. The "natural" design concept survived three major and 12 minor redesigns due to economic instability and indecisive tenants. Mindful of ancient Japanese respect for nature, project designer David Moreno explains the narrative theme of a "river canyon" where "stratified" stone buildings rise from the water. The stars, moon, sun, earth and sea are integrated into each of Canal City's five districts: Star Court, Moon Walk, Sun Plaza, Earth Walk and Sea Court, a "biosphere of man's natural world".

The firm's designs trigger investment as the projects catalyse the revitalization of the surrounding areas. President Eddie Wong anticipates the US's predominantly single-use retail centres will follow suit and adopt a multi-use approach that has been so successful in Hakata, introducing civility and continuity to the chaotic built environment of the late twentieth century.

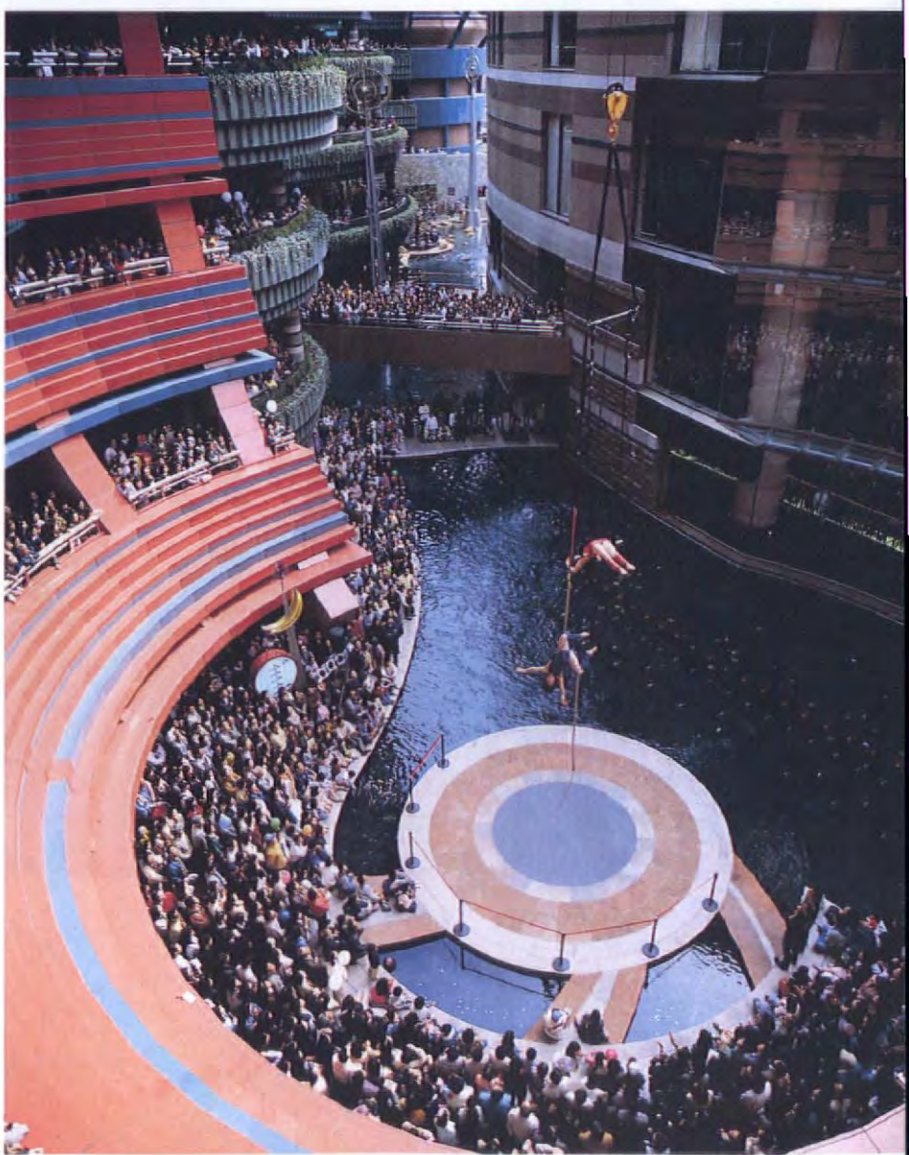
More "city within a city" developments by JPI are slated for sites in Tokyo, Jakarta, Taipei, Manila, Shanghai, Beijing and Seoul. It is Jerde's opinion that Canal City Hakata, which opened in April, is just "the first of many millennium cities" and he anticipates that "75 years from now, this is what Fifth Avenue, New York City, will be like". WA

2

1: Amphitheatre-like space of the Star Court. Some 20 million people are expected to visit in the first year

2: Signage was designed in collaboration with Clifford Slebert Design in a "virtual studio" to reinforce the central image

3: A performance in the Sun Plaza reveals the "eroded" building facades of the "canyon"



3

Clients
Fukuoka Jisho Co Ltd; Sumitomo Life Insurance Company; Fukuoka Japan, Urban Design & Development Co Ltd
Developers
Fukuoka Jisho Co Ltd; Fukuoka Japan, Urban Design & Development Co Ltd; Organization for Promoting Urban Development
Design architect
The Jerde Partnership International, Inc
Architect of record
Fukuoka Japan Urban Design & Development Co
Interior architect
Fujita Corporation
Landscape architect
EDAW Inc
General contractors
The Zenitaka Corporation, Shimizu Corporation; Obayashi Corporation; Fujita Corporation
Environmental merchandise designer
Clifford Selbert Design Collaborative
Water design
WET Design
Lighting design
Joe Kaplan Architectural Lighting

Reviewed by
Charles Lockwood

On the waterfront

San Francisco Embarcadero Waterfront

1

Aerial Images

2

1: Map of San Francisco Waterfront

2: Aerial view looking down at the Ferry Building as it is today, and the site of the proposed Ferry Building Plaza

The Loma Prieta Earthquake on 17 October 1989 gave San Francisco a once-in-a-lifetime opportunity to revitalise its isolated and neglected Embarcadero waterfront. The double-deck Embarcadero Freeway, which had visually and functionally separated downtown San Francisco from the central portion of its Embarcadero waterfront since the late 1950s, sustained significant damage in the quake, and was demolished in 1991.

With the removal of the freeway, San Francisco gained dozens of acres for redevelopment along the central Embarcadero, which lies directly in front of the landmark Ferry Building (1896) and adjacent to the downtown business district. Many of these publicly and privately funded projects, which were initiated in the early 1990s, have been completed in the past year or two. Others are now under construction. A few more will break ground soon.

The most dramatic project is the construction of a waterfront pedestrian promenade, surface-level roadway for automobiles, and palm-lined trolley median along the entire length of the Embarcadero from China Basin (south of Market Street), past the Ferry Building, and ending at Fisherman's Wharf, a distance of seven miles.

Approximately three-quarters of these improvements have been completed. The waterfront promenade is already a favourite with walkers, joggers, rollerbladers, and cyclists. A popular destination is Pier 7, which extends into San Francisco Bay just north of the Ferry Building. Designed by ROMA Design Group, the 845-foot pier is lined with traditionally-inspired street lights, park benches, and overlooks for sightseers.

The renovation of the waterfront has encouraged considerable development on nearby blocks. The historic buildings along Steuart Street, one of the few parts of downtown San Francisco that escaped destruction in the fire after the 1906 earthquake, have been renovated into offices, hotels, and restaurants.

In recent years, a few well-designed infill buildings have been constructed along Steuart Street, including the mixed-use Rincon Center, ›

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3: Pier 7, located to the north of the Ferry Building

4: Pier 7, already a favourite destination for San Francisco's joggers, walkers and rollerbladers

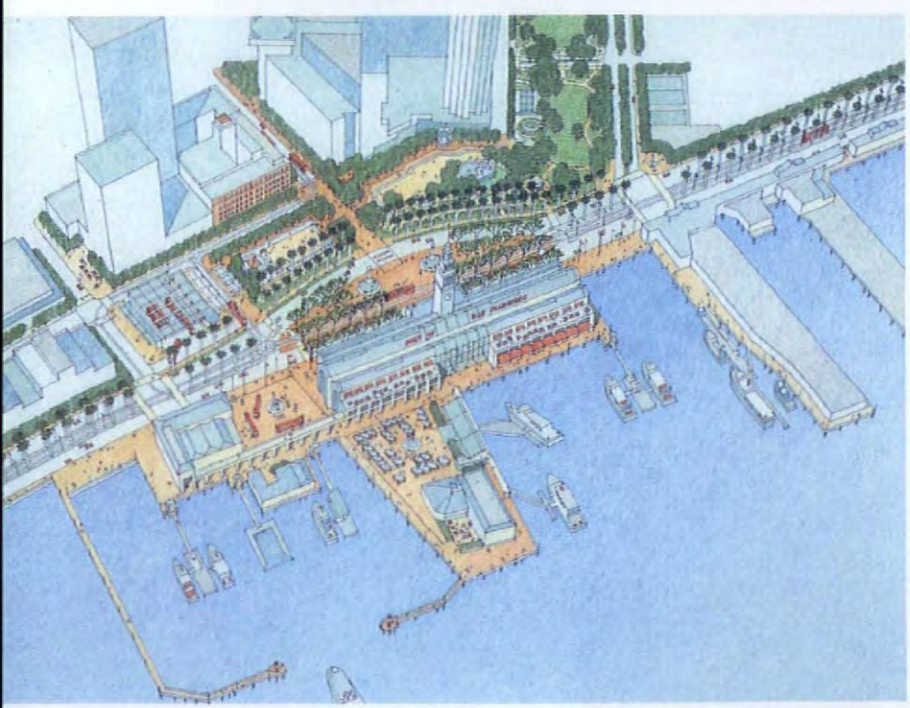
5: Rendering of Robert AM Stern Architects' 17-storey GAP building scheduled to break ground at Folsom and Steuart Streets within the next two years

5

Courtesy of Robert AM Stern Architects

Aerial images

1



2

1: Aerial view of downtown San Francisco, looking north. The waterfront is on the right of the image

2: Rendering of the downtown ferry terminal. Construction will start later this year

designed by Johnson, Fain and Pereira. The successful GAP clothing retailers will build its new headquarters at the junction of Folsom and Steuart Streets, overlooking the Embarcadero. The 17-storey building, designed by Robert AM Stern, is scheduled to break ground in the next year or two.

The best-loved waterfront landmark is the Ferry Building (1896) at the foot of busy Market Street. At the turn of the century, the Ferry Building was the city's crossroads, because it stood at the terminus of the Market Street trolley lines and served as many as 50 million ferry passengers a year from East Bay communities like Oakland and Berkeley.

With the opening of the Bay Bridge and Golden Gate Bridge in the late 1930s, the ferry system declined. Sadly, the Ferry Building became a run-down, ghostly shadow of its former bustling self, partly hidden behind the double-deck Embarcadero Freeway.

At present, a Ferry Building restoration and redevelopment feasibility study is nearing completion. This study proposes several actions: (1) restoration of the Ferry Building's facade and interior; (2) seismic upgrades, and (3) various retail and entertainment uses which will help pay for the restoration and seismic work, a funding strategy used at Union Station in Washington D.C and Union Station in St Louis.

Later this year, construction is scheduled to start on the new Downtown Ferry Terminal behind the Ferry Building. Designed by ROMA Design Group, the terminal will have new ferry

berths and related facilities for the increasing number of ferry passengers, both commuters and tourists.

In 1998, construction is scheduled to start on a new Ferry Building Plaza, designed by ROMA Design Group, in front of the Ferry Building. At present, this 18-acre site (which was partly covered by the Embarcadero Freeway for decades) consists of the awkwardly designed Justin Herman Park, several parking lots, and jumbled streets. Upon its completion, this new plaza, notes the *San Francisco Chronicle*, "could become a premier public space, a combined park, promenade, and festive meeting place that would be unique in the world".

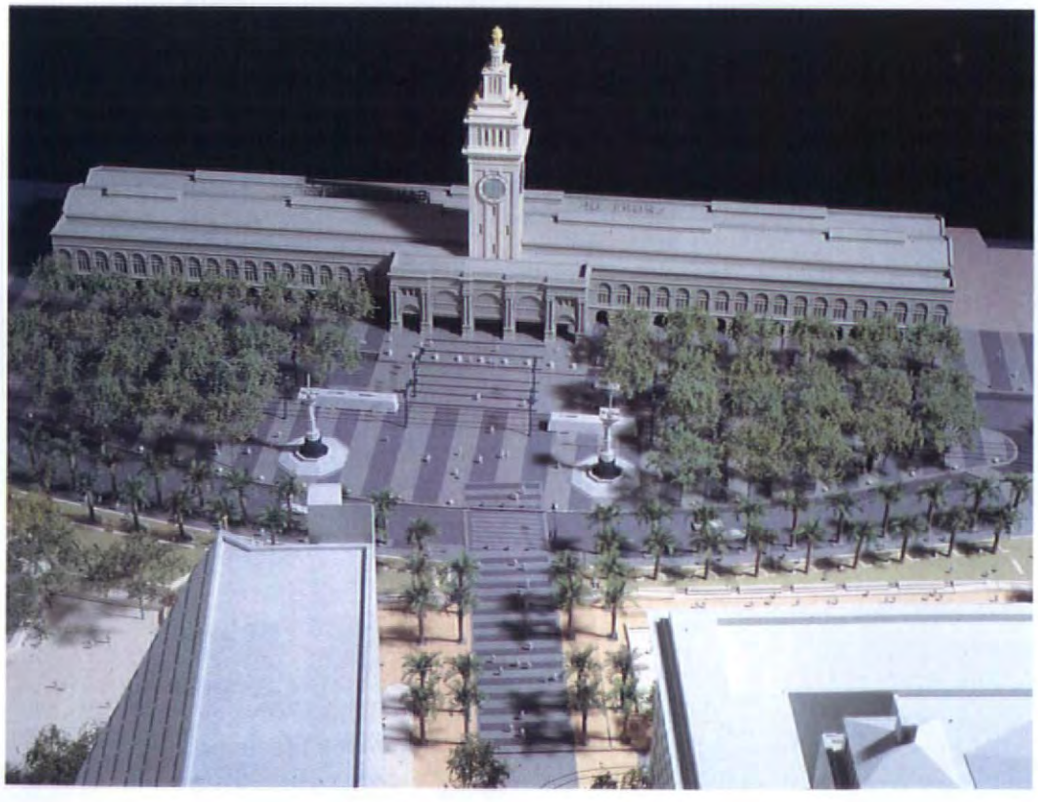
All these waterfront projects have created a domino effect, spurring the redevelopment and repositioning of nearby properties. Cesar Pelli has redesigned and repositioned the retail space at One Market Plaza to provide more food and entertainment for the growing numbers of San Franciscans and visitors who come to the waterfront. ELS/Elbasani & Logan Architects of Berkeley has carried out similar work at the nearby Embarcadero Center.

"In a surprisingly short period of time, San Francisco has gained a large, attractive, and accessible new public realm along the Embarcadero" says Boris Dramov, a principal at ROMA Design Group. "Now, all the major parades from St Patrick's Day to Gay Freedom Day end at the waterfront. Special events like the annual Fourth of July fireworks have recently moved to the waterfront. The Embarcadero has become San Francisco's vibrant civic heart."

All publicly and privately funded projects are being carried out under the terms of the Northeast Waterfront Survey masterplan. WA

3

Clients
San Francisco Redevelopment Agency
City Planning Agency
Port of San Francisco
Preparation of masterplan
All above plus
Citizens Advisory Organisation
ROMA Design Group



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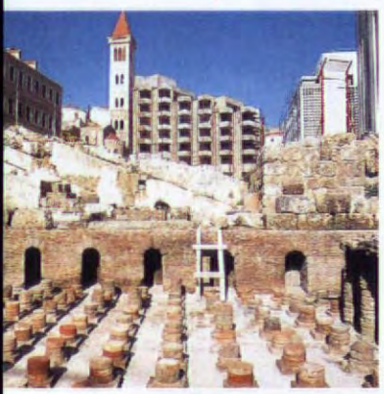
3: The Embarcadero "before" the 1989 earthquake, showing a portion of the now-demolished double-deck waterfront Embarcadero Freeway, with the Ferry Building in the distance

4: Model of the proposed Ferry Building Plaza

Urban Planning Consultant
Angus Gavin
Photographs
Solidere Archives

Building Beirut

Beirut, Lebanon

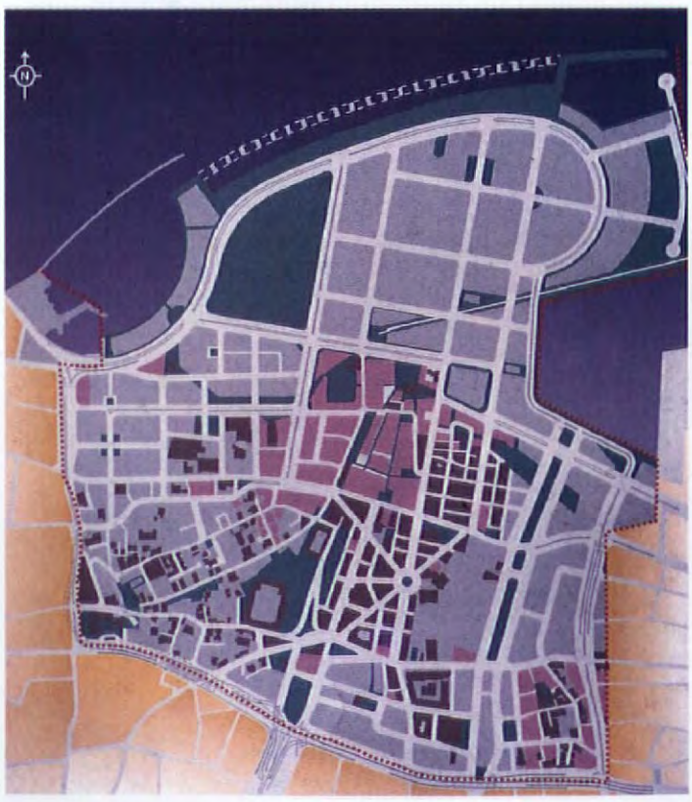


1

As major regeneration projects go, few can be as ambitious as Solidere's reconstruction of central Beirut, for which 45 percent of the proposed infrastructure is already complete. The 4.6-million-square-metre development will revitalise the city.

The project also involves the reclamation of approximately 608,000 square metres of land, made available as the result of destruction wrought by the 1975-90 civil war. This will be developed into residential, commercial and office space, incorporating Beirut's new Financial District as well as corniche promenades and public gardens, marinas, and leisure, recreational and cultural areas.

The urban plan has been revised several times incorporating influences from modernism to historicism via Beaux Arts. The plan that has been adopted, which takes into account the layered history of the area from the Phoenician civilisations and the culture of the Souks to the present day, has provoked considerable controversy – not so much because of the plan itself but because of Solidere, a joint stock corporation that was formed in 1994. The shareholders of Solidere include former property owners and rightholders in the city centre, with new investors providing the working capital. The organisation grants what some claim are effectively coercive powers of acquisition to a private company where the owners of buildings lose title in exchange for shares within the development company which will be diluted by new investment. How else, Solidere argues, can infrastructure can be afforded?



2

Preserved building

BCD boundary

New development

3

1: Restored ruins of the Roman baths

2: Beirut Central District business plan 1996-99

3: Aerial view of the area showing the reclaimed land on which the central Financial District will be built

4: Restoration of existing buildings is already underway

4

5

6

7

The recent annoucement, by Healy & Baker, of a letting to Printemps of a 15,000-square-metre store in the 100,000-square-metre Souks development – creating the largest department store in the Middle East – signals the arrival of foreign investment. But Solidere's Mr Nyst stresses that the company is already well funded and has committed itself to the first 500,000 square metres of development. More than investors, it needs tenants.

Opportunities for international involvement are considerable with firms such as architect-planners Perkins & Will, New York City and Koetter Kim and Associates Incorporated, Boston taking responsibility for a massing scheme for a mixed-use development on 18 mostly razed blocks in the historic hotel district. The Paris-based contractor Bouygues SA obtained a US$230-million contract to build a reef-like sea defence system last year.

One of the main causes for concern is the lack of a public enquiry system, although Angus Gavin, urban planning adviser to the chairman for urban planning of Solidere, claims that effective public debate means the people's voice has been heard. Fouad Samara, one of the plans most outspoken critics, argues that Solidere's masterplan is a "superficial and thematic approach to urbanism...where squares, parks, avenues and so on are created primarily to increase the value of properties and not for the benefit of the city and its citizens". This has focused attention on what is seen as a lack of social housing in an effort to attract "movers and shakers" back from exile. "The effective eviction of the existing population, eliminating the rich social fabric, the greedy reclamation of land from the sea up from about 200,000 to 6000,000 square metres; and the increase by seven or eight times in the total population density of the site" are some of the reasons why Samara feels that what is taking place is hardly what Solidere have described as a "rebirth" – referring to the title of Gavin and Maluf's recent book *Beirut Reborn*. Ramez Maluf, former editor-in-chief of the *Middle East Times* told the audience at a Royal Institute of Brtish Architect (RIBA) lecture in March that US$260 million has been made available for the authority responsible for refugees and that both the government and Solidere were involved in helping to rebuild their home towns. WA

Client
Solidere
Consultant engineers and master planners
Dar al-Handasah (Shair & Partners)
Construction management
Méthode Pilotage
Landscape architects
Maurice Bonfils

5: The Saifi residential project consists of 145 apartment blocks "combining heritage with modern amenities"

6: Souks, the traditional Lebanese markets area, are to be recreated

7: Major office development on Riad El Solh square

Skin deep

Focusing on the shell of the building – from glazing systems to roofing – Nicola Kearton looks at the latest innovations from international product manufacturers as they strive to keep up with designers' increasing demands for flexible solutions to their design requirements.

1

All the components which form the skin of a building, providing shelter and protection from the elements, have to comply with similar functional as well as aesthetic requirements including: durability, economics, thermal and climatic considerations, security and building regulations. With glass comes the additional considerations of strength, safety and levels of transparency. As Maritz Vandenberg described in his book *Glass Canopies*, "a central dream of modernism has been to exploit fully the transparency of glass – to use it as a sheet of 'frozen air' that keeps the rain out and the warmth in while remaining invisible".

Glass

DuPont, one of the major global manufacturers of polyvinylbutyral interlayer (PVB), recently awarded Rafael Viñoly with first prize for the 1997 DuPont Benedictus award for the Tokyo International Forum in Japan, which has been described as "a virtuoso piece in glass", a true descendant of the crystalline exhibition halls of the nineteenth century. The DuPont Benedictus Awards for Innovation in Architectural Laminated Glass is part of DuPont's scheme for initiating support programmes for this growing architectural market. Laminated glass is made by bonding layers of glass using heat and pressure with one or more interlayers of PVB and is increasingly recognised for its visual clarity as well as its record for safety, energy efficiency, ultraviolet protection and sound insulation. Due to seismic considerations more than 80

1: Structural glazing by Schüco International for Foster & Partners' Faculty of Law building, Cambridge University, UK

2: The Peek & Cloppenburg Department Store in Berlin with glazing manufactured by Cricursa SA for MBM Metalblau Möckmühl GmbH

3: Rafael Viñoly's Tokyo International Forum – the winner of the 1997 DuPont Benedictus Awards for Innovation in Architectural Laminated Glass

4: Okalux Light Diffusing Insulating Glass in situ at the Chinese Buddha Gallery, Metropolitan Museum of Art, New York

5: Colin Avery Associates' One Neathouse Place in London clad with Saint-Gobain Cool-Lite K and Planilux glass

2

3

"A central dream of modernism has been to exploit fully the transparency of glass – to use it as a sheet of 'frozen air'"

4

percent of the glass used in the Tokyo Forum was laminated, which, along with its framing, was designed to move with a tremor. In the spectacular Glass Hall alone, the facade uses around 20,000 square metres of 17.5-millimetre laminated glass supplied by Guardian Industries from Michigan, US and Asahi Glass of Japan.

Schüco International have collaborated on the north facade of the recently-completed Faculty of Law and Institute of Criminology at the University of Cambridge, designed by Foster & Partners. The facade is a cylindrical all-glass curved wall forming a dramatic entrance to the faculty. Schüco's structural glazing system is supported by a triangulated steel vierendeel structure forming a lattice-work effect. Energy efficiency and low maintenance were primary considerations. Each of the triangular glass panels is comprised of sealed double-glazed units silicone-bonded to individual aluminium support frames. The edge of each glass unit is stepped so that the outer face protrudes beyond the inner sheet to give a smooth surface as well as reducing dirt retention.

Okalux has been producing light diffusing insulating glass for use in roof and facade glazing for more than 30 years. Notable projects where Okalux products have been used to good effect have included the Metropolitan Museum of Art, New York and the Museum of Contemporary Art, Los Angeles. Light diffusing insulating glass provides glare free natural illumination without excessive solar heat gain or direct sun penetration and thus is particularly suited to museum situations. Okalux has recently developed Kapilux-W to provide evenly diffused natural illumination without direct sun penetration, which still allows good through vision. Each unit consists of two leaves of clear glass separated by a white tinted honeycomb structure held in an aluminium spacer and hermetically sealed around the perimeter.

MBM Metallbau Möckmühl GmbH found that the only manufacturer who could produce the 2,400 square metres of undulating glass which ripples on the facade of the Peek & Cloppenburg Department Store in Berlin is Cricursa SA, of Barcelona. Saint-Gobain recently supplied the two main facades of One Neathouse Place in London, renovated by Avery Associates, with more than 4,000 square metres of Cool-Lite K and Planilux glass producing a dramatic zigzag effect. The solar control and low emissivity properties of the Cool-Lite glass provides passive solar control to the building.

Ulrich Theisen

5

›

1

1: Rigidised Metals' blue mirror finished stainless steel in situ at Antoine Predock's Omnimax Theatre, Tampa, Florida

2: Agrob Buchtal Keraion facade in use at thermal electric station, Viborg, Denmark – designed by Arkitekterne Peter Kjelgaard and Thomas Pedersen

2

"A good product can be used both for dynamic new developments and also to transform a tired building"

› Nippon Electric Glass manufacture uniquely beautiful architectural panels which are a gift for designers as well as providing surfaces which are extremely durable and almost vandal resistant. Neopariés is created from crystallised glass which can produce a perfect, smooth finish with a special shimmering quality that comes from the reflection of light from its textured crystal surface. As it is made of glass it can be softened and bent when heat is applied creating flexible curves. Neoclad is a thinner, more economic version often used for interiors but also for exteriors. Both materials are lighter and stronger than granite and can be cut into thinner panels than natural stone, they are virtually impermeable and can therefore resist both weathering and graffitti, making them perfect urban solutions. NEG also produce glass blocks for both external and internal use including Opaline, translucent milky-white glass blocks which can help create the ultimate relaxing environment by softening the light and at the same time reducing harmful ultraviolet rays by about ten percent.

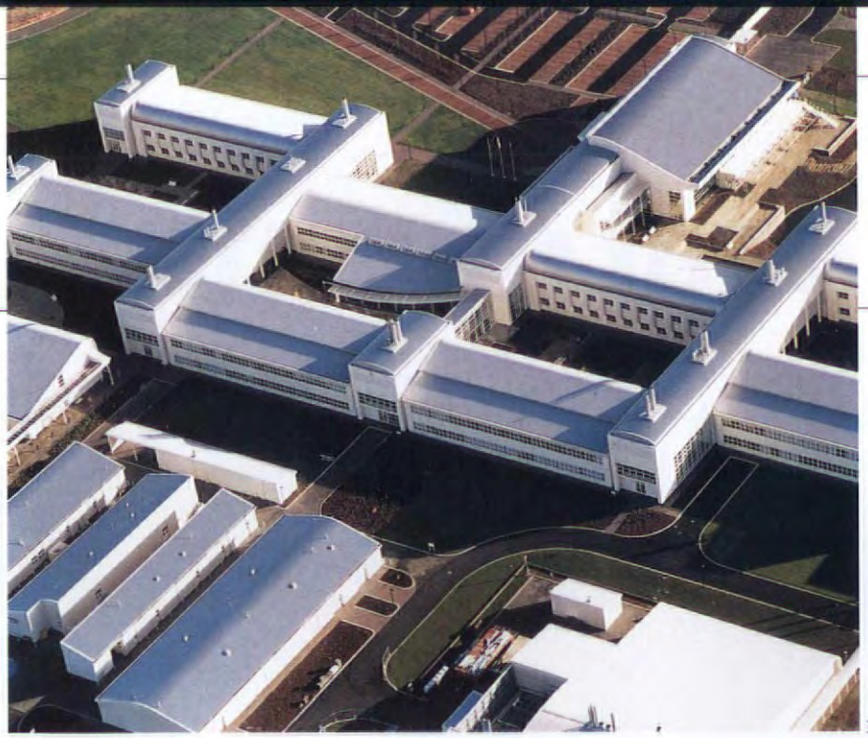
Ceramic facades

Heavy gauge porcelain enamel panels are another extremely durable solution and PG Bell is one of the largest producers in North America. They provide versatility for the designer as it is not necessary to work with set sizes, they work very well with curved facades and come in an unlimited range of colours. Porcelain enamel has an inorganic surface which cannot corrode or weather so it is an ideal cladding for severe climatic conditions. If burned there are no toxic fume emissions and it is also almost completely resistant to vandalism making it useful for areas of dense usage such as subways and airports. The leaders in ceramic facades in Europe are Agrob Buchtal and a stunning use of their Keraion facade panels was the highly sculptural thermal electric station in Viborg, Denmark by Arkitekterne Peter Kjelgaard and Thomas Pedersen.

Steel cladding

As Kermit Baker, chief economist for the American Institute of Architects has recently pointed out, "the renovation market will be as large if not larger than new construction. It should account for 50-60 percent of total construction activity". This should have some effect on the market for cladding where a good product can be used both for dynamic new developments and also to transform a tired building.

London-based Rigidised Metals Limited (RIMEX) is an extremely innovative company which came to prominence when it provided the



3

3: Kal-zip aluminium roofing sheets in Kal-Kolor covering the Ministry of Agriculture, Fisheries and Food's laboratories, UK

4: Frank O Gehry's Team Disney Building, Anaheim clad in Rigidised Metals' green quilted bead-blasted stainless steel

5: Johns Manville modified bitumen roofing in situ at the US Air Force Academy, Colorado

outer cladding on Richard Rogers' Lloyd's building in London. Rimex's unique surfaces are created using the rigidising process by which steel is passed through patterned rollers to produce a raised patterned surface which is not only attractive but also has the effect of strengthening the original material as well as offering increased damage resistance. The company has recently developed a range of coloured stainless steel surfaces – ranging from bronze through to blue, gold, red and green – which have rapidly gained acceptance in the architectural world. Recent projects working with the contractors Zahner & Company of Kansas City include the Museum of Science and Industry at Tampa in Florida which was designed by Antoine Predock Architects, and is covered in a stunning 4,000 square metres of blue mirror finished stainless steel. In contrast the Team Disney Building, Anaheim, California designed by Frank Gehry was covered in 6,000 square metres of lustrous green bead blasted and quilted stainless steel, a material chosen by Gehry because of its unique reflective qualities.

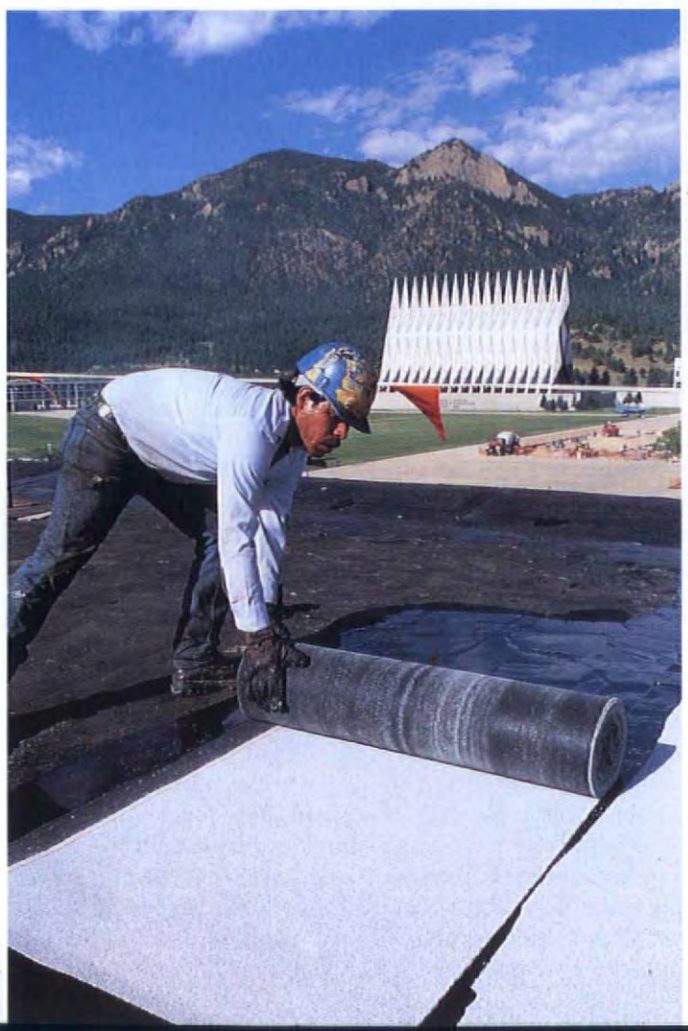
Roofing systems

Two recent roofing systems both designed to withstand harsh weather conditions have been provoking attention. Johns Manville formerly Bronzena & Schaller have carried out a successful re-roofing programme at the US Air Force Academy near Colorado Springs, an area subject to the harsh climate of the Rocky Mountains. The modified bitumen roofing system was able to withstand high winds and the tapered perlite-based Fesco Board insulation system eliminated large areas of pond water as well as providing excellent all round insulation.

The roofing system by Hoogovens Aluminium Building Systems now covering the Ministry of Agriculture Fisheries and Food's new Central Science Laboratories outside York is an attractive as well as highly functional design. It consists of 27,000 square metres of Kal-zip aluminium standing seam roofing sheets and a similar quantity of Kal-liner aluminium trapezoidal sheets. The curved roofs with their clean lines and soft colours blend sympathetically into the surroundings while special manifolds minimised the number of protrusions in the roofs for the service outlets. The Kal-zip sheets are clad on both sides by Kal-Alloy which acts as a sacrificial outer layer in bad weather conditions.

4

Charles Birchmore



5

Structural glazing

The ideal solution for frameless facades

Schwedlerstrasse 6 in Frankfurt

1: A complete overview of all levels. The new J. Walter Thompson office building in Frankfurt a.M. seems to consist of a series of glass shelves with a staircase as a communication center.

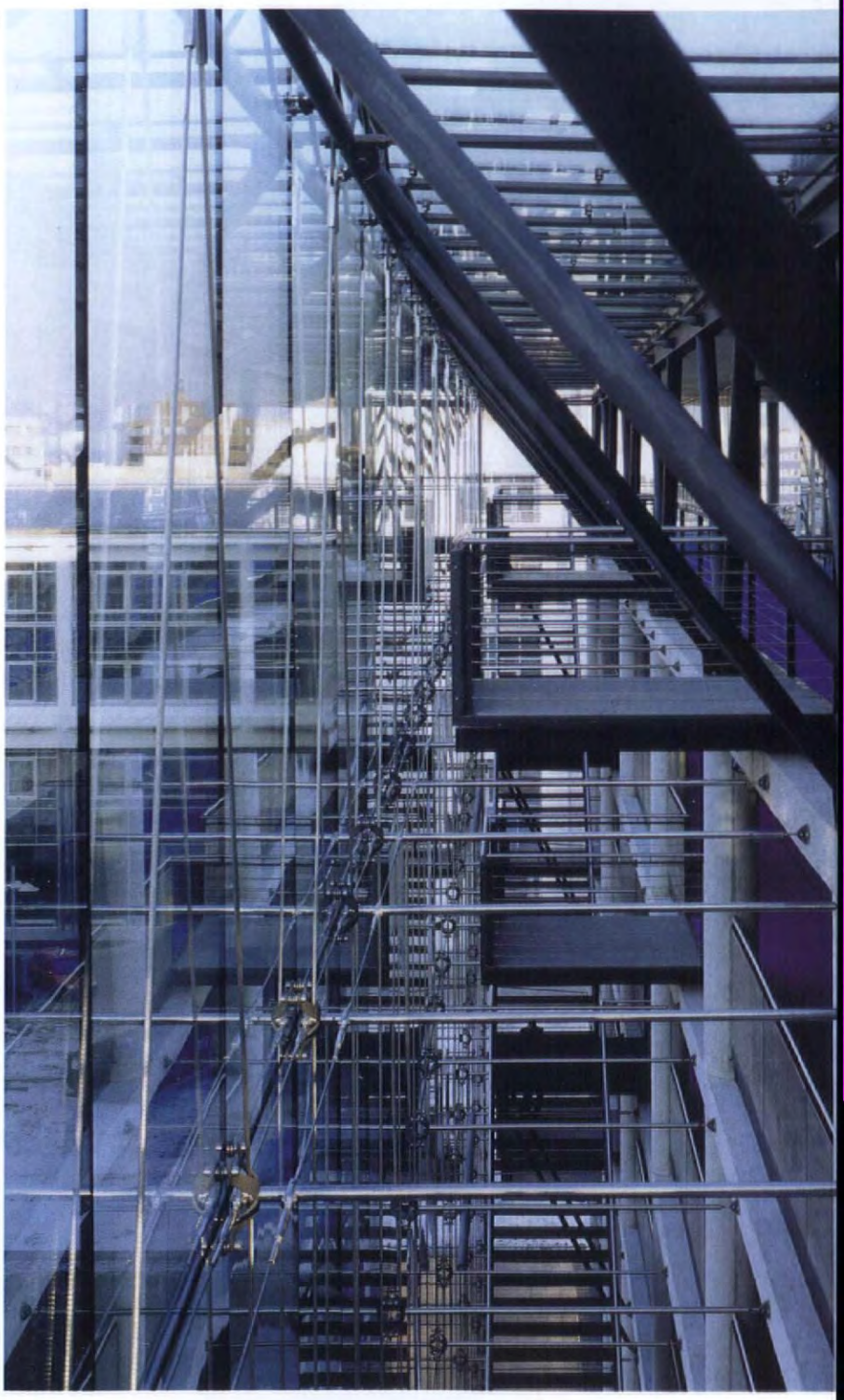
2: A composition in glass and steel. The design is based upon the use of frameless PLANAR® structural glazing to expose structural elements.

3: Construction detail. Stress is transferred to the substructure by means of cables and rods.

Structural glazing has become an element of style in the repertoire of modern architecture. Two recent projects involving the use of completely transparent, non-mirrored glass show the kind of dramatic visual effects that can be achieved through the combination of vast expanses of glass and the exposed underlying structural elements. The PLANAR® system marketed by PILKINGTON FLACHGLAS AG allows architects to create impressive facades of glass and steel that offer virtually unlimited potential in terms of visual and structural variety.

The Stadthalle Wuppertal, an ornate neorenaissance concert hall, and the Frankfurt office building of J. Walter Thompson, the international advertising group, were built a century apart. Although these two structures could not be more different in terms of architecture, both feature the same type of transparent frameless facade. The system used–the PLANAR® system produced by PILKINGTON FLACHGLAS AG–offers the advantage of architectural style and at the same time represents an impressive element of architectural design.

2



Glass creates space for communication

The structural glazing of the impressive facade of the J. Walter Thompson building in Frankfurt strikes passers-by as a huge "office show window". This transparency was obviously deliberate. After all, it's only natural that a company involved in a business that uses every means of modern communication available would also want to create a physical setting with an atmosphere conducive to communication among employees and between employees and clients. The architectural solution opted for by J. Walter Thompson consists of a six-storey hall in front with corridors leading from it, "stages" and an impressive staircase that extends all the way to the top floor. In addition to its aesthetic value, this glass-steel construction based on the

3

PLANAR® system constitutes a thermal and acoustic buffer on the northern side of the building, which is exposed to relatively little sunlight but considerable noise. (Figs. 1-3)

Soft contrast in a historical facade

One of the major problems facing the architects responsible for the complete renovation of the Stadthalle Wuppertal, which is an architectural monument, was to find a "soft" way to bring the structure into compliance with contemporary building standards. In addition, it was also necessary to take into account specific requirements in terms of insulation, safety ›

4

5

Stadthalle Wuppertal

4: Closed but open. An open area of the Stadthalle Wuppertal (built in 1905, renovated in 1995) was converted into a covered space through the use of PLANAR® structural glazing.

5: Wind and suction stress is transferred to the substructure by means of pistons, claws and tie rods. Glass elements inside provide additional accents.

›and fire protection. The architects wanted to achieve these goals by using modern functional glass, and this was in fact possible. This approach was also applied to the facade of a garden hall which was originally open but then closed off and hidden from view. By using a PLANAR® facade, it was possible to restore the view of the facade and at the same time create an attractive enclosed functional area (Figs. 4 and 5).

PLANAR® system components and glass

The PLANAR® facade system marketed by PILKINGTON FLACHGLAS AG consists of individual glass panels and the necessary brackets. Each panel is delivered with the appropriate countersunk holes in the corners and on the edges as a function of dimensional, stress and structural criteria, and the system can accommodate either single panes or double-pane insulating glass. A wide variety of different types of glass can also be used, which makes the system extremely versatile. For example, in addition to DELODUR® single-pane tempered glass, energy-saving glass as well as tinted glass and sound-insulating glass can be combined with the system. For those cases in which the system is used to cover structural elements or windowless walls, for example, architects can choose from a large selection of coated colored panels or silk-screened panels.

Besides facades, the PLANAR® system can also be used on other parts of buildings, and many indoor applications are equally feasible such as, for example, overhead glazing, partitions and railings. The structural characteristics of the PLANAR® system have been extensively tested and verified by leading testing laboratories. Potential users can consult a list of international projects executed with PLANAR® components and they can also count upon the international know-how of the manufacturer.

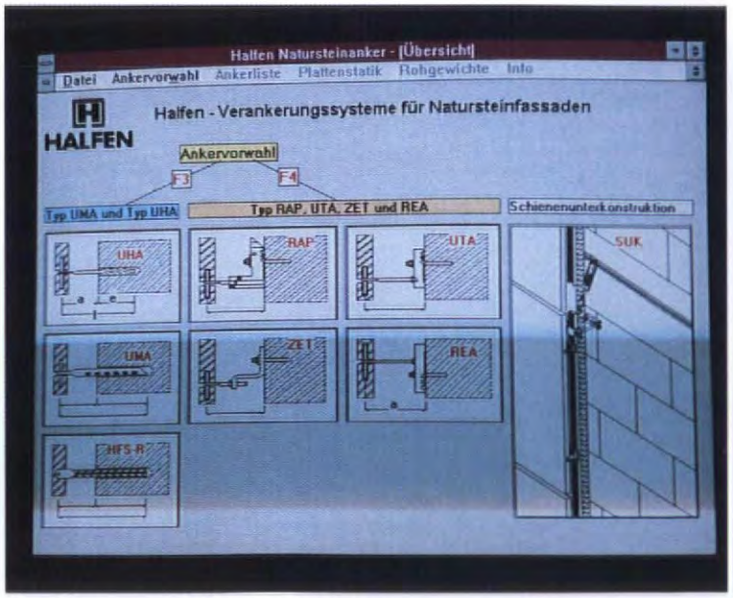
For further information, please contact:

PILKINGTON FLACHGLAS AG
Dept. MK
Haydnstr. 19
D-45884 Gelsenkirchen
Tel. +49 / 209 168-0
Fax. +49 / 209 168-20 53

PLANAR® Project Schwedlerstrasse 6, Frankfurt a.M. (Germany)
Application: PLANAR® structure (length: 66 m, height: 20.2 m, depth: 2.8 m) with visible tubular-steel supporting structure. Glass: insulating glass consisting of 2 single panes of tempered glass.
Building use: Offices of J. Walter Thompson.
Architects: Schneider + Schumacher, Frankfurt a. Main (Germany).

PLANAR® Project Stadthalle Wuppertal (Germany)
Application: PLANAR® system for structural glazing in front of garden hall (length: 42 m, height: 4.7 m). Load distribution via stainless-steel claw clamps, pistons and tie rods. Glass: insulating glass consisting of 2 single panes of glass.
Building use: Facility for exclusive concerts, meetings and events.
Architects: Baltzer + Partner, Wuppertal (Germany).

The Haas-Haus building, Vienna, Austria

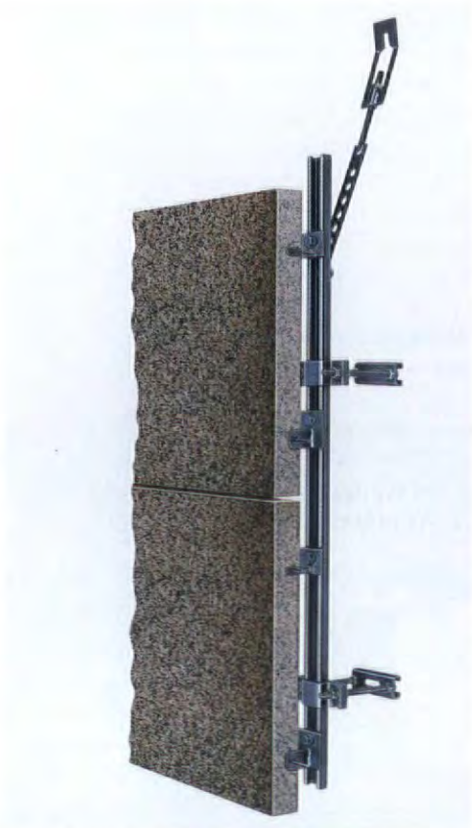


Halfen's PC-programme for stone facade fixings

Fixings for challenging architecture

"Many of the prestige buildings we have worked on impress both the professional and the layman, who can also appreciate the building quality. The buildings excel in their overall impression and, under closer inspection, in the quality of their detailing. Fixing technology is a major part of this high quality detailing."

(Prof Henschker, Innsbruck)



Support system for stone facades

Halfen systems and products help to meet modern architectural aims and complicated technical requirements in building projects all over the world.

Since 1929 the company name, and trademark "Halfen", has been providing answers to all conceivable building related problems, amongst them fixing, anchoring and framing technology.

The range of products is mainly used in precast concrete work, commercial and industrial building as well as in civil engineering, highways and infrastructure.

The basic philosophy of the company is to create fixings for the construction industry that are safer, easier to assemble and more economical to use. The success of the Halfen group is the best proof that this philosophy has gained acceptance.

Today Halfen ranks among the world's leading enterprises in the field of fixing systems.

The company group has its origin in Düsseldorf where in 1929 the founder Josef Halfen established his company for the manufacturing of cast-in channels.

There was a constant growth resulting from the continuous expansion and improvement of the product range and the development of a distribution network, at home and abroad, leading to a completion through the merger and integration of the Frimeda-Unistrut group at the end of 1991.

Halfen has been a part of the Haniel Group, Duisburg since 1991. In 1993 the Halfen group had approximately 1,300 employees in Germany and five other European countries. Haniel holds significant market positions in various segments of the construction supplies industry with production of construction materials, additives and concrete products under the roof of "Haniel-Baustoffindustrie GmbH".

Nowadays the Halfen product range comprises the following:

- Halfen channels for cast-in, T-head bolts and accessories
- Facade fixings
- Rebar connections
- Lifting anchor systems
- Framing systems

The key markets in Germany, Europe and overseas are being covered and supplied by own branches, factories and affiliated companies in more than 20 locations as well as by distributors in approximately 30 countries.

Terracotta and granite facade for the picture gallery, Berlin, Germany

HALFEN

Halfen GmbH & Co
Liebigstaße 14
D-40764 Langenfeld-Richrath
Germany
Tel: +49 2173 970 0
Fax: +49 2173 970 123

Solaglas Limited

Solaglas delivers for Pizza Express

The stunning structural glass frontage of the Pizza Express restaurant at Alban Gate, London was supplied and installed by Solaglas. To maintain the clear glazed facade, Solaglas subsidiary, Marcus Summers, in conjunction with Campion & Partners and Bere Associates, developed the "Spin Glass Door", a frameless revolving door system. Just two small stainless steel patch fittings and brackets are required for each curved glass side to achieve complete lateral stability with the main structural glazing.

Solaglas Limited
Waterside Drive,
Langley Business Park,
Langley SL3 6EZ, UK
Tel: +44 1203 458844
Fax: +44 1203 636473

Stoakes Systems Limited

Arndale House

Arndale House in Leeds, UK is a major refurbishment of a 1960s brick office block where tenants suffered from heat loss and solar gain. Architects W Gower & Partners designed a new gable end to form a spectacular atrium with walls clad by Stoakes Systems in 1,200 square metres of Astrawall double glazed grey tinted units and matching spandrels. Stoakes Systems have been international leaders in the design, manufacture and fixing of cladding and curtain-walling for over 30 years.

Stoakes Systems Limited **Tel: +44 1883 623329**
1 Banstead Road **Fax: +44 1883 625506**
Purley, Surrey CR8 3EB, UK

Stoakes Systems Limited

KeyMed

The Southend headquarters of KeyMed has been refurbished to provide modern offices by replacing the original external walling with high performance glazed cladding by Stoakes Systems. Developed with architects Ayshford & Sansome, this includes aluminium *brise-soleil* hung from the roof which double as maintenance walkways. Stoakes Systems have been international leaders in the design, manufacture and fixing of cladding and curtain-walling for over 30 years.

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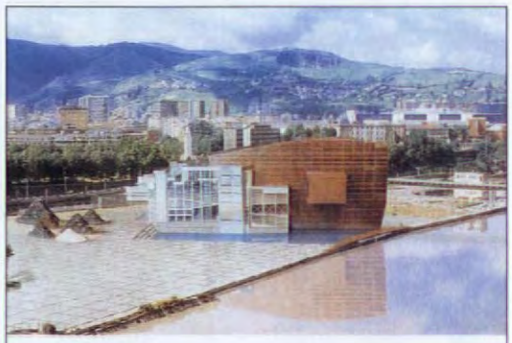

Butler Cladding Systems

Crowing glory

Architect, Frederico Soriano, based his design for the Palacio de Congresos y de la Musica in Bilbao, on the superstructure of a Spanish galleon. Known as "The Vessel", the Palacio is being topped with the Butler MR24 standing seam roof system in a single, curved span of copper coloured aluminium panels, totalling 3,800 square metres. The project is the first by Butler's Spanish system specialist, Norton SA.

Butler Cladding Systems
1 The Parade, Lodge Drive
Culcheth, Warrington
Cheshire WA3 4ES, UK
Tel: +44 1925 764335
Fax: +44 1925 763445

BUTLER

Stoakes Systems Limited

Pamplona Law Courts

The new Palace of Justice Law Courts in Pamplona, Spain is one of the most imposing new buildings in the city. The facades comprises 4,000 square metres of Astrawall curtain-walling in Luxguard blue with hidden opening vents and gaskets capped with aluminium. The glazed facades are designed to complement the dramatic solid curved walls. Stoakes Systems have been international leaders in the design, manufacture and fixing of cladding and curtain-walling for over 30 years.

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In next month's WORLDARCHITECTURE

1

1: View of São Paulo, Brazil from the top floor of the Edificio Metrópolis by Isay Weinfelt and Marcio Kogan

2: Kwan & Associates Architects' University of Hong Kong phase V redevelopment

3: Nokia Mobile Phone office interior, Tokyo, by Gensler

2

3

BUSINESS

International news, reviews and previews.
OnScreen continues in the pursuit of computer related innovations and their relevance to architectural offices around the world.

COUNTRY FOCUS – BRAZIL

Brazil is, according to Pablo Laguarda, director of Latin American projects at RTKL in Dallas, Texas, "the big market of the future". Stalled projects, the product of the hyper-inflationary chaos that followed the 1980s boom, have restarted and fresh developments have begun. Carlos Eduardo Comas and Ruth Verde Zein, two of Brazil's foremost architectural critics combine with Jonathan Wheatley, Brazil correspondent of the UK's *Financial Times* to bring *World Architecture* readers a comprehensive analysis of the potential of this continent-sized country. Birmann 21, a high-rise speculative office building in São Paulo's new business district is examined in detail and Rafael Birmann speaks frankly about the aspirations of developers in modern day Brazil. Sergio Parada's massive extension to Brasilia's airport reveals a lingering love of concrete forms in Brazil's capital city. *World Architecture* speaks to Brazil's world famous architect, Oscar Niemeyer, about his most recent project – a modern art museum for Niteroi.

PROFILE – KWAN & ASSOCIATES

As the dust settles on the handover and British colonial rule becomes a fading memory, Hong Kong is beginning to explore its new life as a part of China. In this novel business environment it is safe to predict a prominent role for the new generation of architects, born and educated in Hong Kong and working alongside an emerging elite of Chinese developers. *World Architecture* visits one such firm, Kwan & Associates, and finds a close-knit, hard-working group of people, well-placed to capitalise on the Government's expected shift towards greater social investment.

PRODUCTS – FURNITURE

Layla Dawson breaks down the pre-millennium design iconography in international furniture, based on visits to this year's Köln and Milano furniture fairs.

SPECIAL REPORT – INTERIORS

Every building has one ... Jeremy Melvin examines the increased emphasis on the "interior" revealing the extent to which international firms are either developing their own interior departments or buying interior design companies. Interior design throws up all sorts of questions - the "gender issue" for example: "Lots of architects see something effeminate in interior design" explains architectural historian Robert Gutman. *World Architecture* examines the implications of commercial necessity versus the uncompromising modernist attitude that the "architect should design everything down to the last door knob" and details the way in which different practices co-ordinate projects between their architecture and interiors departments. Projects on the massive scale of the German architect Peter Jöhnk's multiple commission to create a corporate design for the interiors of the Young Budget Bank, Bad Seegeberg, eastern Germany are examined alongside Jim Fenhagen and Erik Ulfer's "one off" MSNBC 24-hour cable news station studio interior in New York.

SURVEY – INTERNATIONAL PROPERTY DEVELOPERS

World Architecture's first in-depth survey of the Top 250 international property developers reveals that the industry is on course for a return to a period of strong growth, particularly in Western Europe and the US. Editorial commentary includes comprehensive listings, league tables, regional comparisons and trend analysis.

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