

WORLD ARCHITECTURE

The business magazine for the global architect

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Cultural centres – antidote to globalisation

CHINA

Architects in the PRC's 11,000
design institutes are catching
up fast, but foreign firms
will not be deterred



ISSN 0956-9758



Profile: B+H Architects International | Charpentier's Shanghai Opera House in detail | The latest in handle design and technology



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Cover
Casa de Cultura de Ciempozuelos,
Spain by Carlos Puente.
Photograph: A L Baltanás + E Sánchez

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34 **People's Republic of China**

In the last decade the construction boom and subsequent slowdown in Shanghai and Beijing have been well documented. Most commentary has focused on the foreign architects working in the PRC. *World Architecture* reports on the activities of some of China's 11,000 state-run design institutes, and charts the progress in southern and western China, where new domestic policies are having an unprecedented impact on the property market.

58 **Project reviews**

Shanghai's remarkable new "glass" Opera House by French architects Jean-Marie Charpentier et Associés has provided the city with a new focus. Plus reviews of SOM's Bank of Industry and Commerce in Beijing; THAPE's Zao Fong Universe Building in Shanghai, and Atelier Feichang Jianzhu's Mathematical Research Institute in the capital.

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Profile – B+H International

- 70 Leading Toronto-based firm B+H Architects saw a gap in the Chinese market in the early 1990s and moved in. *World Architecture* profiles the work of B+H Architects International which includes large residential schemes and airports – neither of which are the traditional territory of the foreign architect. Since 1992 the firm has had a fully operational base in Shanghai as one of the few practices to be granted a government license.

80

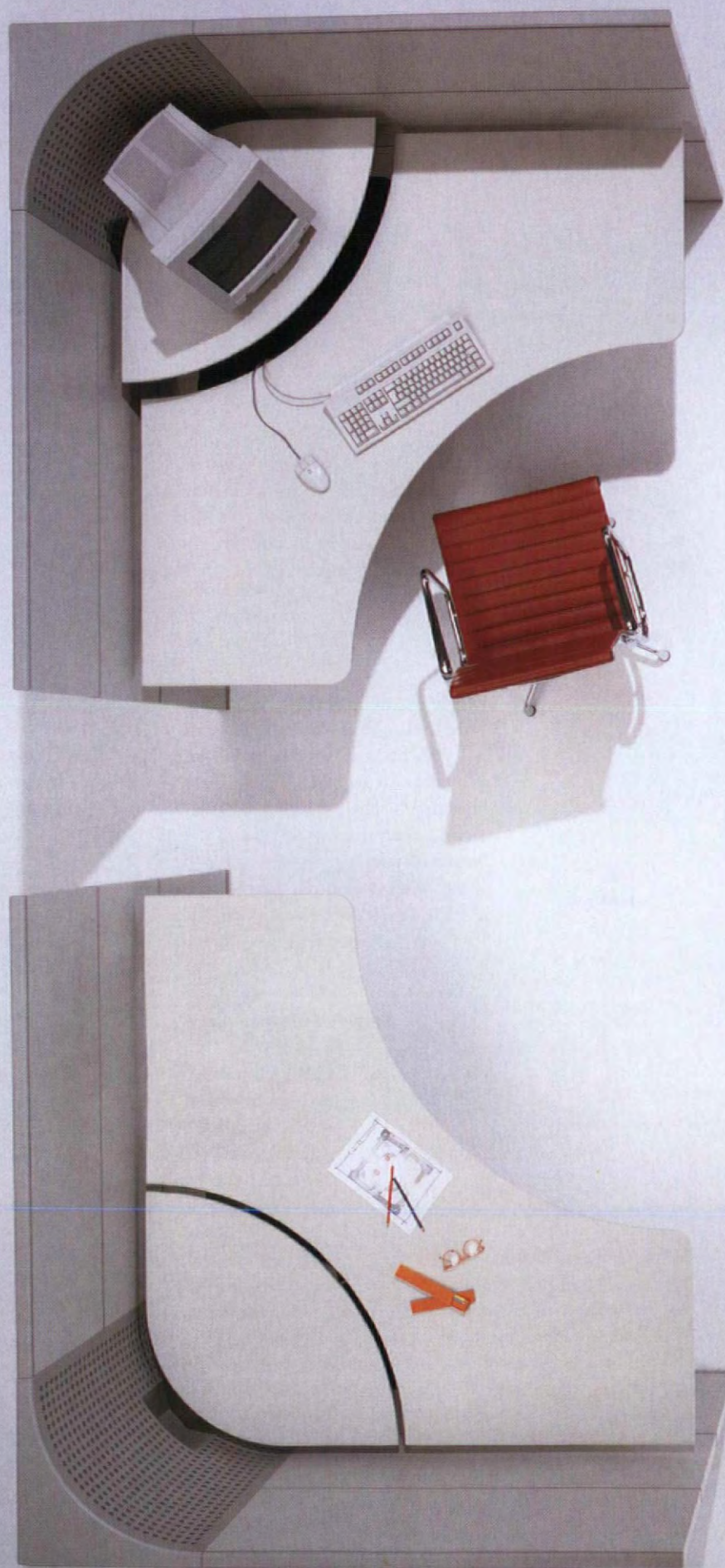
Sector Analysis – Cultural Centres

- 80 Cultural Centres serve to reinforce national identity. David Cohn examines this emerging building type which for many dislocated minority cultures is a distillation of their customs, literature, language and traditions. Case studies focus on a wide variety of centres throughout Europe, Asia and the USA, including Rafael Moneo in Spain, Greg Burgess in Australia and Yabu Pushelburg in Canada.

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- 96 **Architectural Hardware – Taking architecture by the hand**
Nicola Kearnton provides a tour of the best new products at this year's International Hardware Fair in Cologne. Plus a review of Isabella Maffei's *Opening up the World of Handles* and news on innovative handle solutions at the Breda shopping centre in The Netherlands, and the Renault premises at Tipton, UK.





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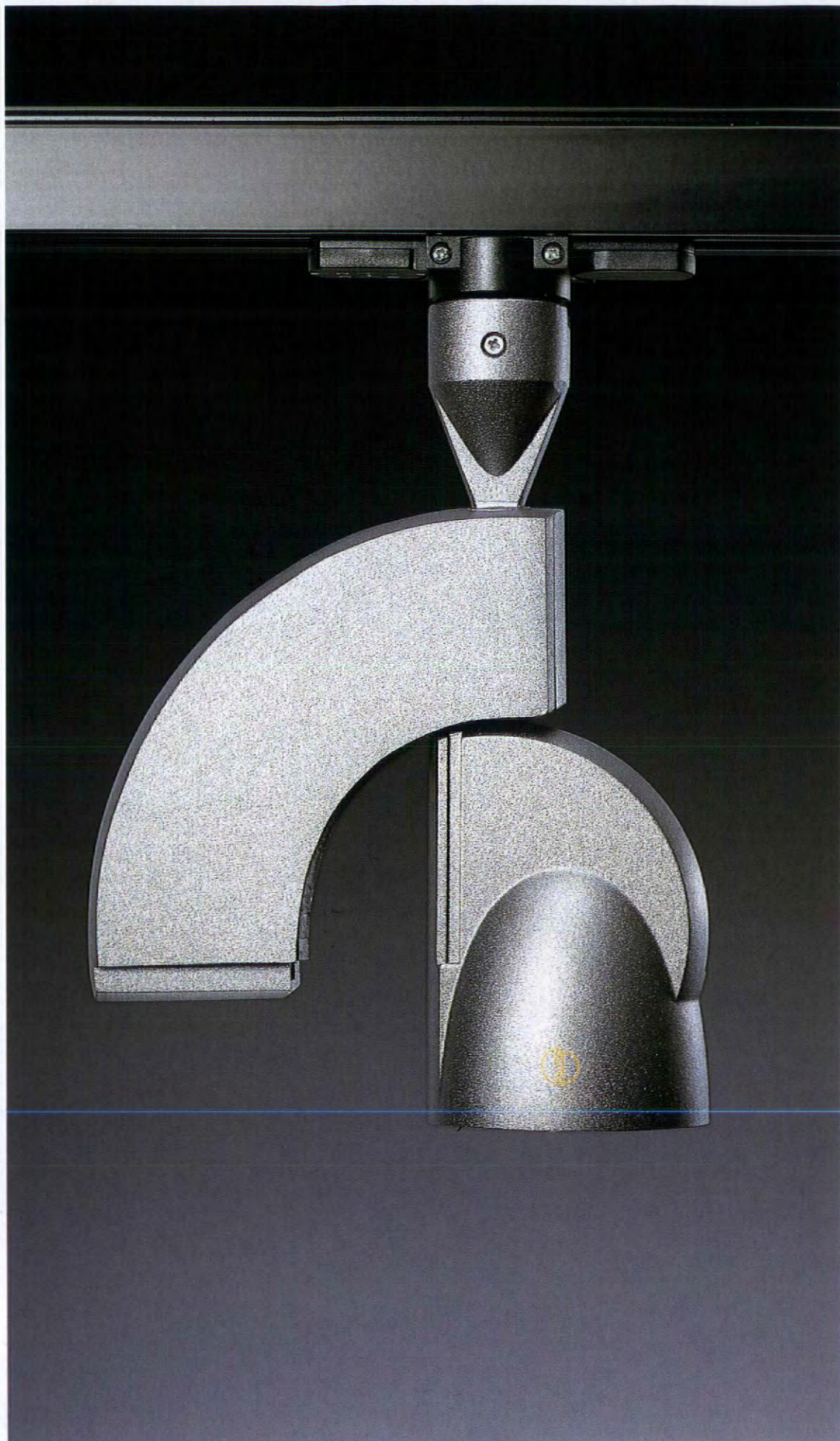
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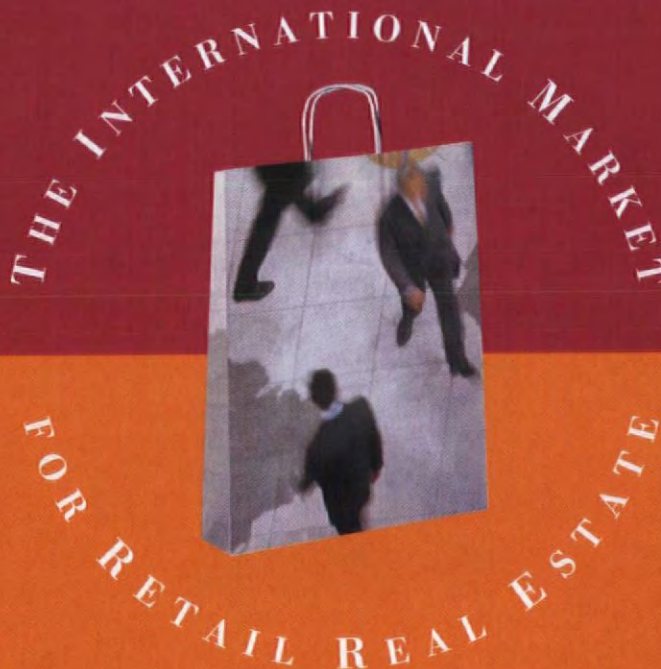
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Architects: Avery Associates Architects, London



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Total area of facade: 7'500 m²

Client: Nestec SA, Vevey

Architects for the refurbishment: Richter & Dahl Rocha, Lausanne



Security

General Bank of Luxembourg

Total area of facade: 14'000 m²

Client: General Bank of Luxembourg

Architect: Pierre Bohler, Luxembourg



Prestige

Bancotrans, subsidiary of Deutsche Bank in Barcelona

Total area of facade: 6'000 m²

Client: Bancotrans, Barcelona

Architects: Master SA, Barcelona



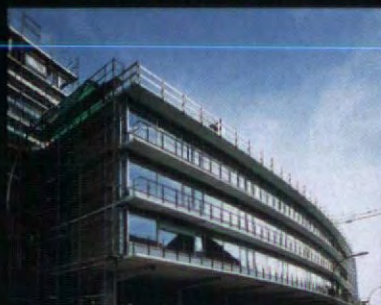
Energy

Glaxo Wellcome in London

Total area of facade: 6'000 m²

Client: Glaxo Wellcome, London

Architects: RMJM, London



Ecology

Swiss Federal Statistics Administrative Building in Neuchâtel

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Client: Swiss Federal Building Office, Lausanne

Architects: Bauart Architekten, Berne



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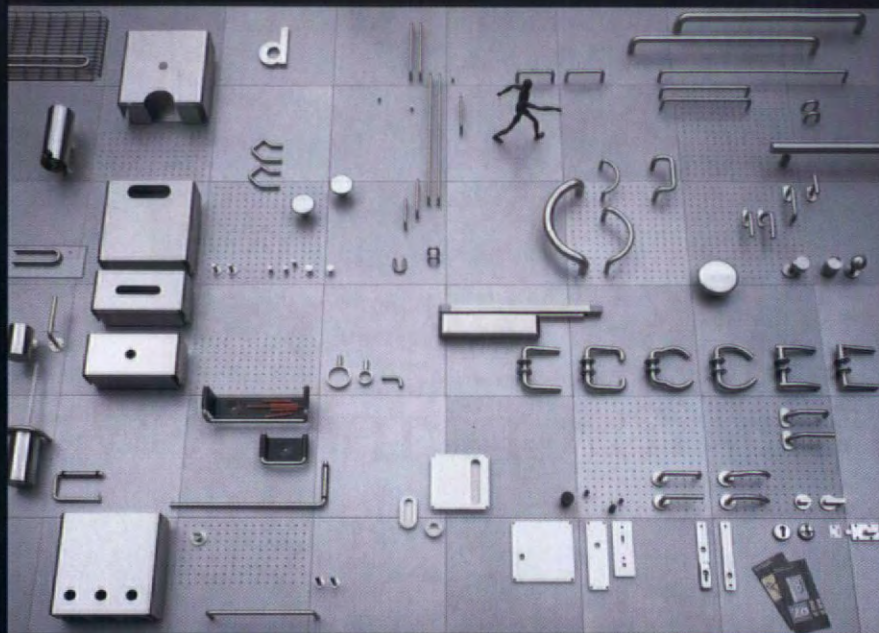
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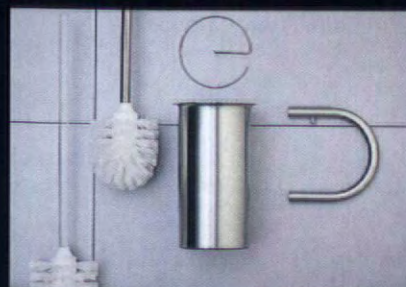
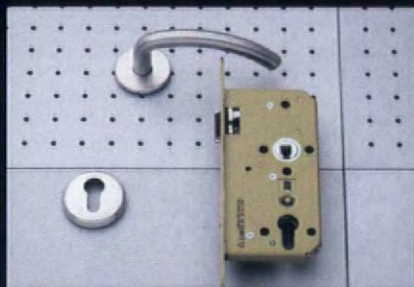
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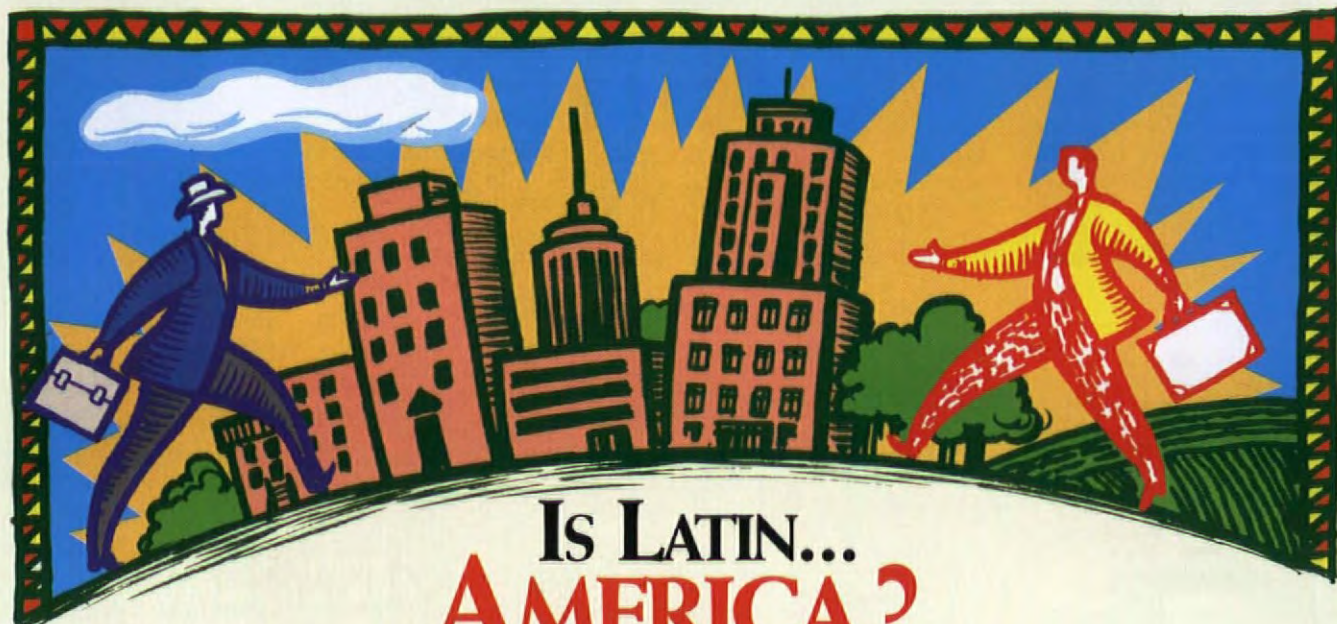
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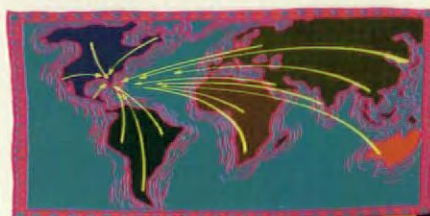
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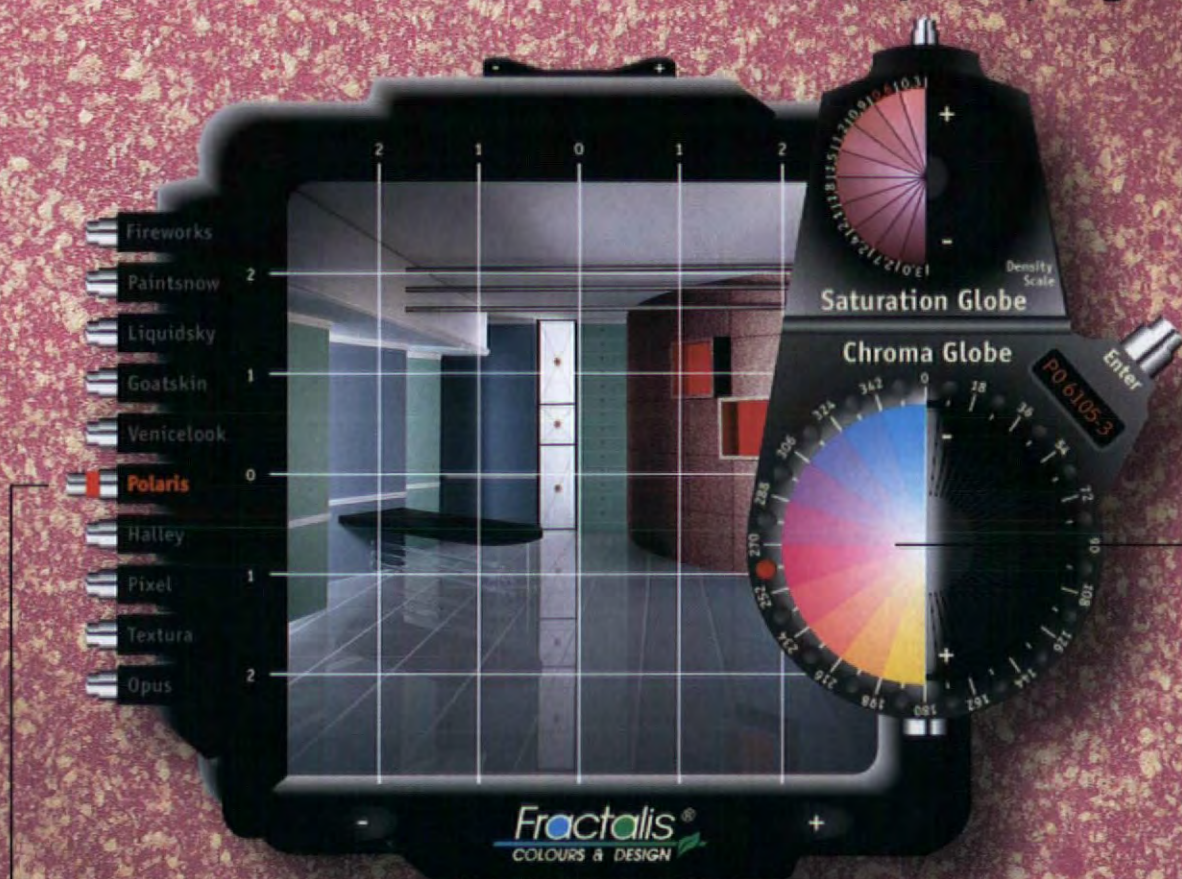
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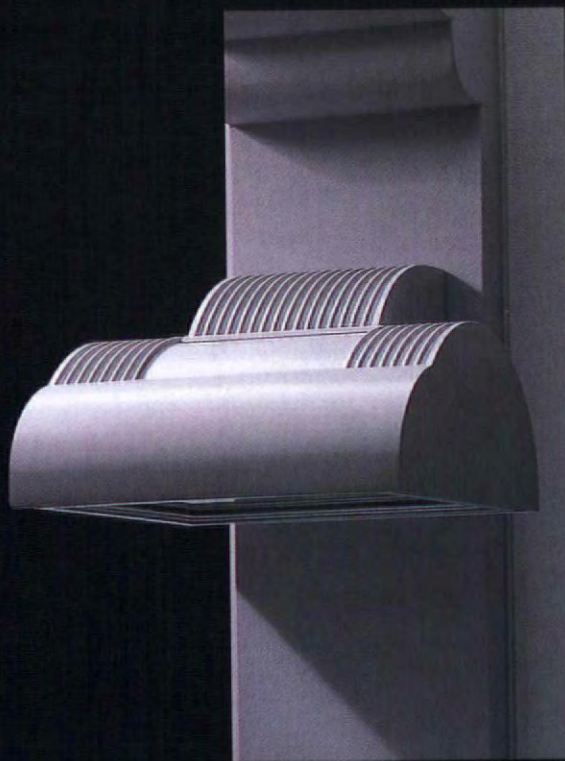
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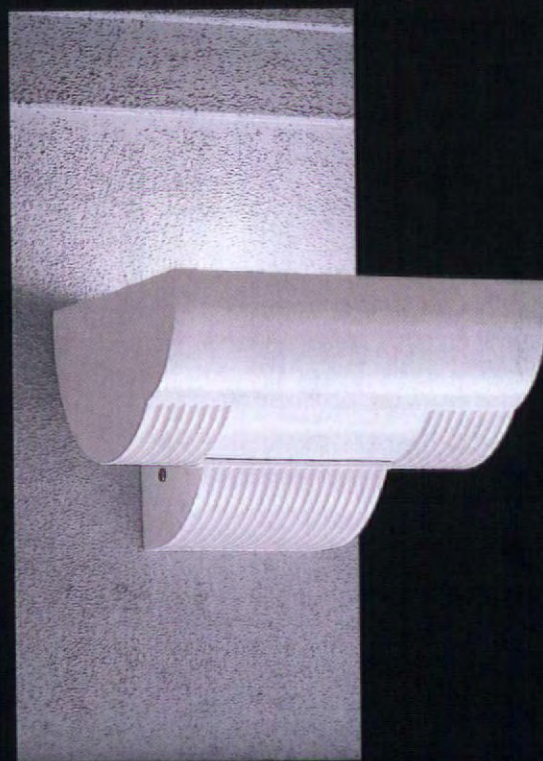
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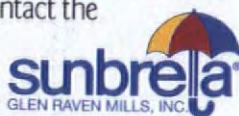



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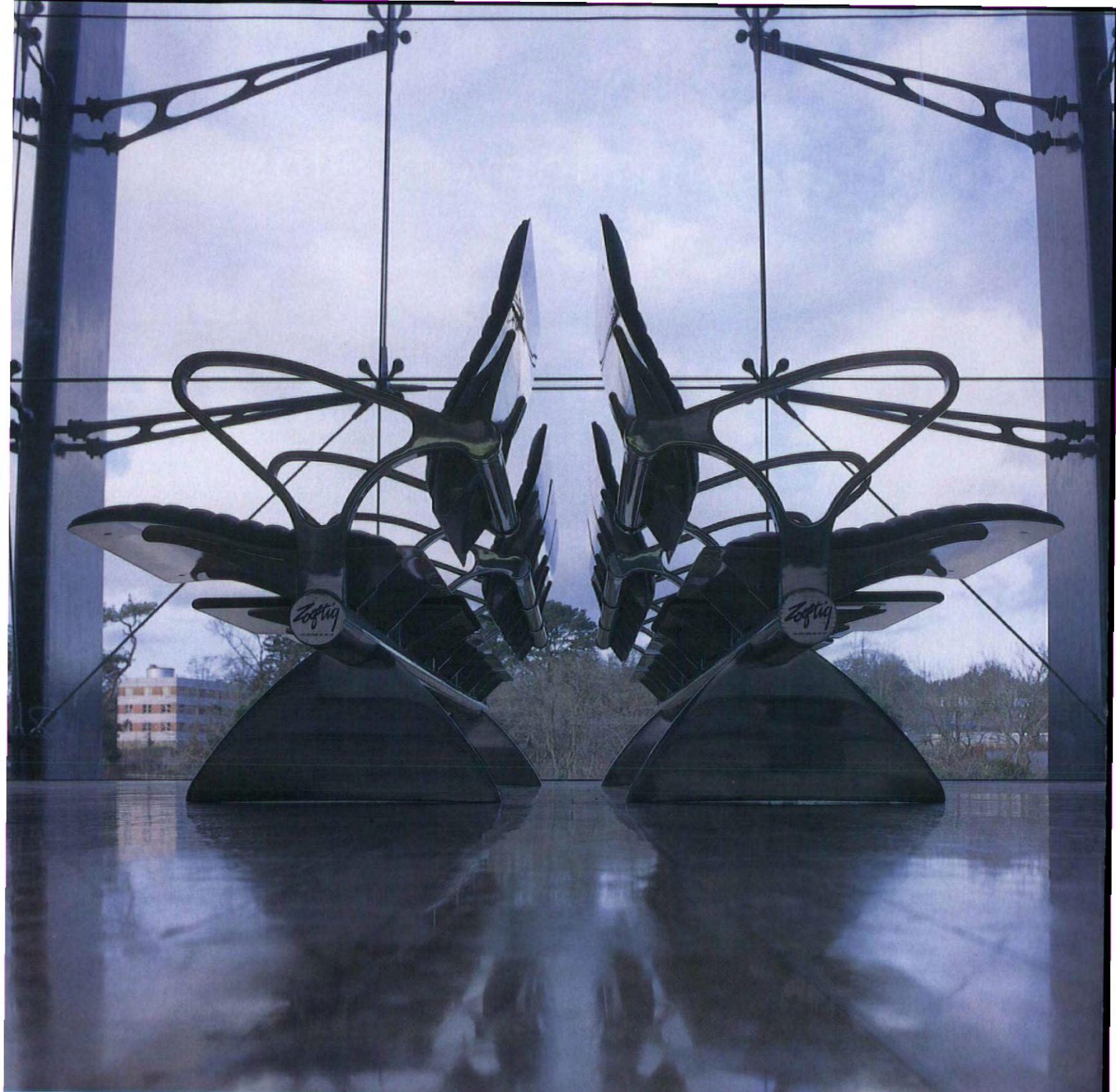
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Too big to ignore

The United States currently claims 59,000 AIA registered architects, and an estimated 90,000 practising architects. For China such figures are hard to come by, but what World Architecture can now reveal is that there are currently around 11,150 state-owned design organisations with more than 763,000 employees in total. The latter figure includes engineers of every discipline, as well as administrative staff – but no fewer than a third are said to be “architects”, which puts the figure at around 250,000. And that’s before accounting for the employees in the 20,000 collectively-owned institutes and the splattering of “private” firms which are being test-run by the more enlightened authorities in some of the Special Economic Zones, or any of the practices within the former British colony of Hong Kong.

The registration process on the Chinese mainland is still in its infancy, with a mere 30,500 names, and it is therefore foolhardy to place too much store by sensational statistics. However, they serve to illustrate the superficial nature of so many of the reports on architecture in China put about by the Western press. The one-off projects undertaken by overseas firms are interesting, and often glamorous, examples of what foreigners can build in an emerging economy. But more often than not the finished product is dished up in the pages of the glossy magazines without so much as a mention of the context in which it has grown, or a reference to those who have made it happen. The Country Focus in this issue attempts to redress the balance by focusing on the participation of the Chinese institutes in two high profile schemes; Skidmore Owings & Merrill’s Bank of Industry and Commerce in Beijing, and Jean-Marie Charpentier’s Shanghai Opera House. For as long as the media refuses to acknowledge the role of the local architects, firms seeking to venture into the exciting but precarious world of Chinese architecture will continue to be both ill informed and disillusioned. Sectors in which foreign architects have conventionally found work, such as offices, retail and hotels have been hit with some force by the economic slowdown in Shanghai. China’s architects are weathering the storm with a constant flow of housing and infrastructure projects. Those who are able to contribute to these sectors, such as B+H International, will find rich opportunities in the PRC. Those who continue to view their work in China merely as a promotion exercise will continue to be disappointed.

Nicola Turner

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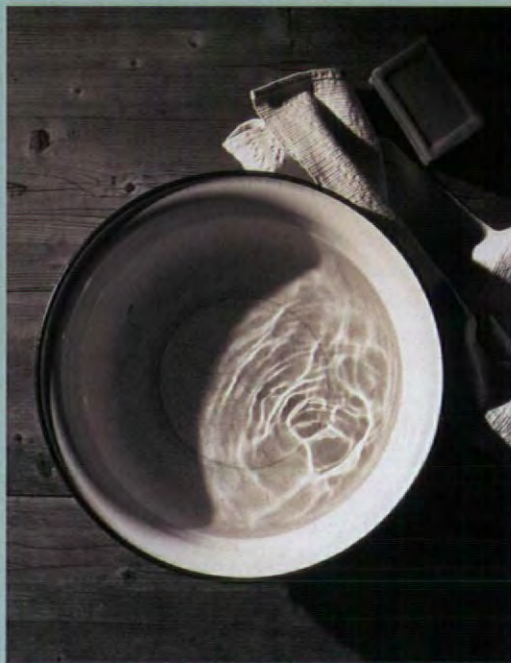
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In next month's WORLDARCHITECTURE



1: A new Marks & Spencer store. The British company is one of Europe's largest retail outlets

2: Philippe Starck-designed wash basins and wash tables by Duravit

3: California Science Center, Los Angeles by Zimmer Gunsul Frasca Architects

BUSINESS

Round up of international news + reviews and analysis.

COUNTRY FOCUS – WEST COAST OF THE USA

James Krohe makes some surprising discoveries concerning the business of architecture in California, Oregon and Washington. He reveals that companies that have the money, and need new headquarters are choosing low-rise buildings to reflect their flatter management hierarchies leading to the development of the suburban-style campus, instead of signature skyscrapers. He describes a trend towards renovation and adaptive reuse of individual structures and whole districts – a vogue consistent with the American yearning for connection and continuity.

Krohe claims that the "popular museum" is to the 1990s what the mall was to the 1970s and 1980s – a locus of community identity, popular entertainment and economic development. Building is catching up with changes in the economies of west coast cities, as warehouse and manufacturing districts find eager new tenants for residential, retail and office space and working waterfronts become play spaces for the yuppies. New, more flexible zoning and building codes mean that projects are inherently more complex in programme – office headquarters have daycare centres and gyms, and apartment complexes are built atop retail space.

Building on the west coast of the USA represents certain state characteristics: land use law is particularly cumbersome in Oregon, while in San Francisco contentious neighbourhood politics hampers progress, and tougher seismic codes are coming in to play everywhere.

Also, microchip manufacturers such as Intel have spent enormous sums here on plant expansion, with no architectural effect. Krohe discovers how a billion dollar building can be invisible.

SPECIAL REPORT – RETAIL CENTRES

Catalogues, electronic commerce and home shopping – the retail industry is without a doubt undergoing one of the most significant changes ever. Renée Bilston, editor of *Retail Weekly* claims that the mandatory weekly shop for necessities has become obsolete. Consumers are now demanding an experimental visit to the shopping centre or department store. And retailers are offering it... or trying to. Retailing is one of the most competitive industries and merchants place a great deal of emphasis on the store environment – the interior and exterior design – in order to boost their competitive advantage and brand recognition.

In the USA entertainment and leisure features strongly but now there is also a move towards regeneration to integrate the shopping centre within its urban context. Chuck Twardy analyses The Mall of Georgia, designed

by Thompson, Ventulett, Stainback & Associates and, moving south, WA looks at Shopping Santa Usula in Brazil, designed by RTKL.

In Asia the emphasis is on innovation – new, bigger, better. Despite the drastic consequences of the Asian crisis, Asian shopping centres are still going up and their designers are looking to the West for design principles. WA investigates the design idiosyncrasies of six Wal-Mart hypermarkets, by Liang Peddle Thorp architects of Hong Kong, in cities across the region.

The UK might be known as "a nation of shopkeepers", but continental Europe has never been particularly consumer focussed in its retailing, meaning that the aesthetic has traditionally been secondary to the function. Initially, Europe looked to the USA for inspiration but as it forges its own identity the emphasis on the retail centre as a leisure destination is increasing. WA looks at the examples of the Centro shopping and leisure centre in Oberhausen, Germany by RKW + Partner (see Profile WA65), and Billa Merkur Group by Gorgona Boehm Associates in Vienna, Austria.

PRODUCTS – BATHROOMS

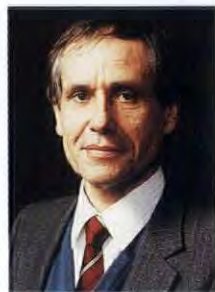
Bathing is a luxurious activity which stimulates the imagination. Phil Stronach analyses some of the most exciting recent developments in bathroom products, from manufactures such as D-Line in Denmark, Agostinelli in Italy and Hoesch in Germany.

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International contributors: David Cohn, Spain; Bay Brown, USA; Ed Peters, Asia-Pacific; Arbind Gupta, India; Brigitte Scheffer, The Gulf; Dennis Normile, Japan

Warped justice sees architects axed

Native American dumped from US\$110 million Museum of the American Indian, Washington DC



Douglas Cardinal, until recently project architect of National Museum of the American Indian

USA

The Smithsonian Institution, the parent organisation of the proposed National Museum of the American Indian, has terminated its contract with native American project architect Douglas Cardinal (63). The Institution has also severed ties with Cardinal's collaborators,

Philadelphia-based GBQC Architects. The US\$110 million, 23,000-square-metre project was due to break ground this autumn.

A spokesperson at the Smithsonian said that its actions were provoked by delays and the architect's "failure to meet contractual requirements".

The issue dates back to events late last year: Cardinal went US\$200,000 over budget – an amount which the Institution agreed to reimburse – in order to take in design adjustments requested

by the Smithsonian. Upon delivery of the updated plans Cardinal was told that his services were no longer required. To date, some of the US\$200,000 has been repaid, but the difference is in danger of crippling Douglas Cardinal Architects.

Cardinal told WA that his Indian heritage – which he claims was used to secure funding in the early stages of the project – combined with his Canadian citizenship, was used against him. "This is a project that I have put my heart and soul into, but as a non-US citizen I have no statutory rights". On the advice of lawyers and native American elders involved in the project, Cardinal has withheld completed design documents until compensation is paid in full.

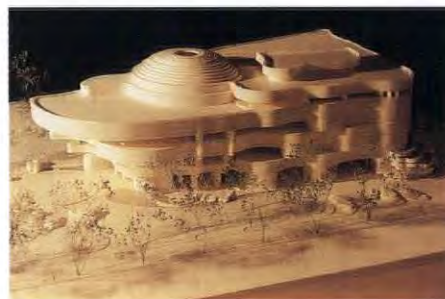
James Snyder, Principal of GBQC, is "still trying to understand the decision. I have worked very hard to resolve the procedural difficulties. I am hoping to be reinstated. I think it would be very difficult for anyone else to take the project over".

According to museum officials, the Smithsonian Institution still intends to build Cardinal's design, but employ another firm to complete the project.

Cardinal and GBQC intend to appeal against the decision, but – for the moment at least – Cardinal is refusing to enter into potentially lengthy litigation. The Smithsonian, having terminated "with cause", is attempting to sue Cardinal in order to pay for the architects who take over the project.

In the interim, James Stewart Polshek and Partners and Tobey and Davis have been hired to conduct a review to evaluate where the project stands. There is speculation that Mr Polshek may take over the project.

AM BB



Model of the National Museum of the American Indian. The curved stone walls "undulate like ageing rock formations"

World's longest suspension bridge complete

JAPAN

Over four years in construction, the Akashi Kaikyo bridge, the world's longest suspension span, has opened to traffic. Connecting Kobe on the Japanese mainland with Awaji

on Awaji Island, the 3,910-metre structure, with a central span of 1,900 metres, is the penultimate piece in the Honshu-Shikoku Bridge jigsaw (see WA53 pages 100-101). The structure was engineered by the Honshu-Shikoku Bridge Authority.

The bridge has already withstood the Great Hanshin earthquake (January 1995), which registered 7.2 on the Richter scale – although the distance between the central towers increased fractionally.

AM

View of Akashi Kaikyo Bridge from Awaji-cho, Hyogo Prefecture, Japan



Bankruptcies up 31% in Japanese market

JAPAN

Several of Japan's major general contractors are finally facing up to economic reality. In April alone, three of the nation's ten largest general contractors announced they would take extraordinarily large losses as part of plans to restructure operations. The moves are likely to presage a consolidation of the overall building industry as the large general contractors here, with their in-house design departments and active development efforts, play a dominant role in design and development as well as construction itself.

Tokyo-based Taisei will record a net loss of US\$862 million (¥112 billion) for the year ended 31 March after taking a loss of US\$962

continued on next page, first column

ANALYSIS page 27

BOOKS page 28-29

ONSCREEN page 30

IN THIS ISSUE

The next generation of US architects are struggling to break through, and the MoMA isn't helping. David Cohn explains.

Dejan Sudjic on Martin Pawley's "Terminal Architecture", and Martin Pawley on a capital dilemma + more.

Previews of Piranesi, the software package that can change your life; and the latest Infini-D upgrade.

ASIA/AUSTRALASIA

continued from front page

million (¥125 billion) to write off bad loans, appraisal losses on real estate holdings and sour investments in affiliated companies. The majority of these loans and investments were related to development operations. Shimizu, also of Tokyo, announced it will write off US\$1.69 billion (¥220 billion) in bad loans and investments over two years. And Kumagai Gumi, Tokyo, will write off US\$1.67 billion (¥217.5 billion) in the just-ended fiscal year.

The write-offs are just the beginning of the bad news. Taisei is staggering under US\$10 billion (¥1.3 trillion) in debt and revenues are falling. Taisei estimates its fiscal 1997

revenues will total US\$10.6 billion (¥1.38 trillion), down from a peak of US\$12 billion (¥1.56 trillion) two years ago. Taisei intends to cut its workforce by 1,000 to 11,200 over the next four years through attrition and cut the number of overseas subsidiaries from 28 to 12. Shimizu and Kumagai Gumi are planning similar steps and other Japanese contractors have previously announced belt-tightening measures.

The announced losses and debts are reckoned to be only the tip of the iceberg for the industry as a whole. Teikoku Databank, a credit-rating agency, reports that bankruptcies in the construction sector are running about 31 percent greater than a year ago. **DN**

A fright at the opera

AUSTRALIA

The unspoiled site of Joern Utzon's seminal Sydney Opera House (1973), for so long cherished by Sydneysiders, is under threat from developers.

Desperate to maximise the potential of the sea front site, Hong Kong and Shanghai Hotels, owner of the East Circular Quay site facing the Opera House and the Botanical Gardens, is constructing three blocks of luxury apartments.

"Save East Circular Quay", the group campaigning against the

development, has called on prime minister John Howard to dip into the government's heritage budget to stop the construction of the apartments. The campaign group's principal bone of contention is that, if built, the flats could jeopardise the Opera House's proposed World Heritage site status.

Benelong Point, the site of the Opera House, and East Circular Quay, were the sites of Australia's first European settlements at the end of the eighteenth century. **AM**

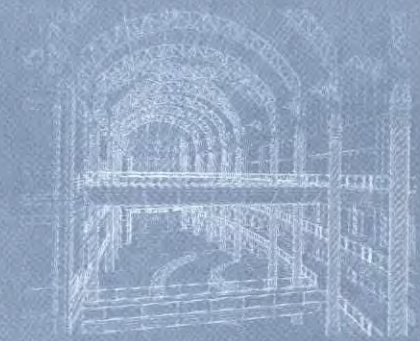


Views around the Sydney Opera House are under threat from developers

Contracts

PHILIPPINES

- San Francisco-based **Architecture International** has been awarded the commission for the 375,000-square-metre Ayala integrated, mixed-use urban centre in Quezon City, Philippines. The 18-hectare, city centre site will house office and residential towers, a hotel and regional centre. **Ayala Land Inc.**, one of the largest developers in the Philippines, is developing the project. The first phase will go on site in January 1999, with completion expected by the end of the following year.



Arched "Glorietta" atrium in the retail centre at the Ayala development

PRC/THAILAND

- Bucking the trend of almost unrelenting regression in East Asia, the world's largest firm of structural engineers, **Ove Arup & Partners** (see Survey of the Top 125 Structural Engineers, WA57 pages 132-169) has won two commissions in Hong Kong – worth a combined total of US\$120 million – and announced plans to open two offices in Thailand.

Ove Arup & Partners Hong Kong has been commissioned by Hong Kong's Mass Transit Railway to carry out detailed design for the depot of Tseung Kwan O Extension. A multi-storey residential development for approximately 50,000 people is planned for the airspace above the depot; a station and public transport interchange will be integrated with the development. The Kowloon-Canton Railway Corporation in Hong Kong has awarded Ove Arup & Partners the consultancy for the detailed design and construction of West Rail Tuen Long Section – an 8.75 kilometre railway viaduct with three elevated viaducts.

In Thailand, the record-breaking structural engineers are to set up two offices. One to work on the US\$1 billion Bangkok Mass Transit scheme. The other is a Trade and Investment Support Office (TISO), which will allow the firm to have a permanent resident in the country.

Commenting on the developments, Arup Chairman Dr Duncan Michael says, "We are very committed to East Asia. It accounts for 30 percent of our turnover and 20 percent of our staff."

US\$50m HK museum complete

PRC

The US\$50 million (HK\$390 million) Hong Kong Museum of History is due to open this summer.

Designed by P&T Architects and Engineers, and developed by the Urban Services Department with supervision from the Architectural Services Department, the idea for the project was first mooted in 1973. Currently housed in a former barracks in Kowloon Park, the new building in Tsim Sha Tsui East will be the museum's first permanent, purpose built home.

A four-storey structure with

a gross floor area of 18,000 square metres, the museum has a series of steep vaulted roofs which are covered in a lightweight aluminium cladding. The height and massing of the museum has been carefully reviewed and a stepping effect of the exhibition halls has been created to produce the desired spatial quality to be achieved at the elevated plaza. A main feature of the museum was the provision of a large south-facing open space as an external entrance foyer.

A grid of 18 metre by 18 metre modular spaces with service zones of 4.5 metres

has been adopted to allow clear circulation and service access while providing maximum flexibility for exhibits which include a tram, junk and medicine shop. The grid system provides a simple and ordered exhibition environment without visual distraction and allows the full height of the exhibit spaces to remain unencumbered by infrastructure.

In all, some 6,775 square metres of space will be devoted to permanent exhibitions and 1,000 square metres for temporary displays. **EP**

PRC's aqua tonic

PRC

China's mania for outsize aquatic projects has seen two more new schemes unveiled recently. In Haikou, capital of Hainan Province, the US\$100 million (800 million yuan) Huaxia Sea World is now underway. It includes a tropical, ecological botanical garden, a fun fair, a man-made island, a swimming pool complex, an oceanic science city and a beach development.

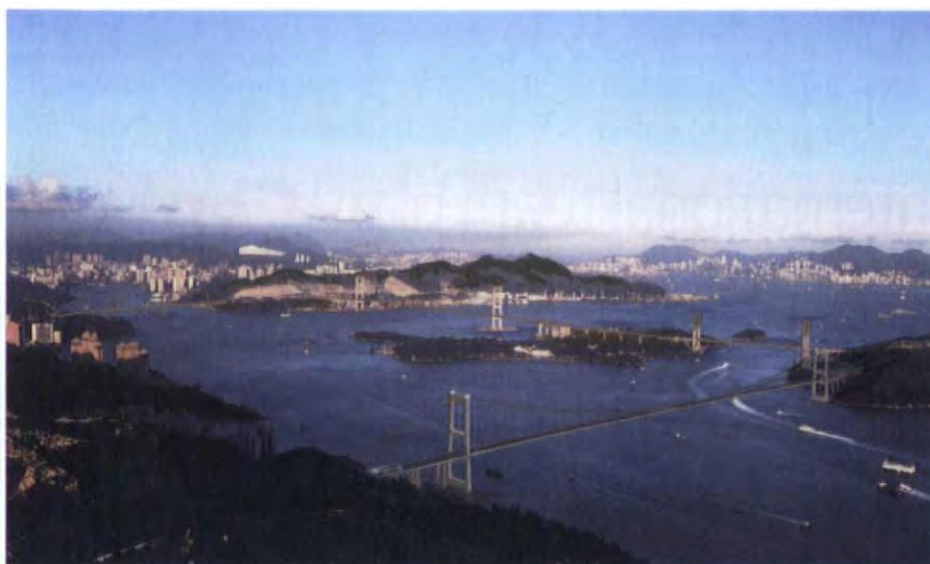
And in Shanghai foundations for an Oceanic Aquarium have been laid, which at 29,733 square metres will make it the largest in Asia, when opened late next year. **EP**

C&W open office in India

INDIA

Undeterred by the depressed Indian real estate market, international real estate service provider, Cushman & Wakefield Inc (C&W) has entered Indian territory with a wholly-owned subsidiary, Cushman & Wakefield, India. The move is C&W's first foray in the Indian sub-continent.

C&W India will provide a complete range of integrated real estate services to both multinationals and Indian corporations. In its recently published report on the Indian real estate market, it has forecast a continuation of the on-going sluggish trend throughout 1998, with a further decline in asset values – between 15-20 percent – by the end of the year. Moreover, with the growing focus on the infrastructure sector there will be reasonable activity in the construction industry, which may cover the gap. **AG**



Photomontage of Route 10, developed by Yee Associates and Mott MacDonald

UK consortium bridges the gap

PRC

London-based architecture and design firm, Yee Associates has been appointed to design Route 10, a new highway that will link the Lantau Expressway and Lantau Island with the New Territories. The route comprises three major bridge spans – including the

two kilometre Kwai Shek suspension bridge – ten kilometres of elevated viaducts and 15 kilometres of tunnels. Yee Associates won the contract in collaboration with a consortium led by consulting engineer Mott MacDonald, in limited competition.

Yee Associates and Mott

MacDonald have previously collaborated on the design of the adjacent Tsing Ma Bridge and the Lantau Fixed Crossing.

Another of Yee Associates' high profile bridges, Ponte Vasco da Gama in Lisbon (see WA53 page 86), opens this month prior to the opening of Expo 98. **AM**

Shanghai boom slows down

PRC

City and housing officials in Shanghai have announced a slow down in future building plans (see Country Report).

Some 12 million square metres of property is due to open in 1998, adding to the current glut of 6.9 million

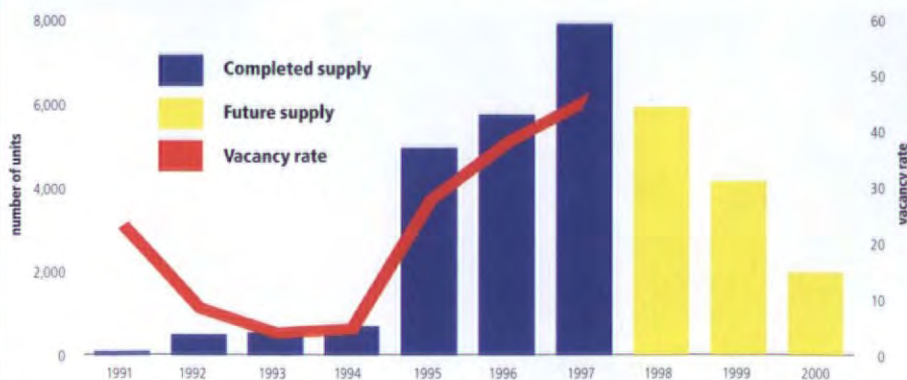
square metres.

Observers have long noted that occupancy in many projects remains below 15 percent and that in many cases banks are taking over properties one floor at a time as developers run out of money. Last year, according

to city officials, 25 million square metres of housing was under construction.

The situation in Shanghai mirrors that in the Chinese capital, Beijing where authorities recently called a halt on luxury property developments. **EP**

Residential supply and vacancy Shanghai



Data provided by Cushman & Wakefield/Jones Lang Wootton, Hong Kong

In brief

INDIA

Industrial Park at Durgapur

After lagging behind in India's recent industrial movement, the state of West Bengal is to set up an industrial park in Durgapur, the "steel city". Spread over 65.5 hectares of prime land, the park has an estimated preliminary cost of US\$3.6 million. According to sources, the park represents an effort to boost several industries belonging to various sectors in the region, and will go a long way in boosting the sagging industrial image of the state.

PRC

Leo Daly leads the way in Kowloon

Washington DC firm, Leo A Daly has completed designs for a speculative 55-storey office tower, planned for Kowloon, Hong Kong. The tower is the first of several planned for the district, located near to Kai Tak International airport. Height restrictions in the area will be relaxed once Chek Lap Kok airport opens next month. The tower, developed for the Land Development Corporation, comprises a three-storey retail and entertainment zone at its base and direct access to the MTR (Hong Kong's mass transit system). The 73,000-square-metre tower will be the tallest building in Kowloon.



EUROPE

In brief

FRANCE

Taxpayers suffer for Stade de France

French taxpayers will have to pay an extra US\$12 million per year until 2025 for the new Stade de France sports stadium in Paris (see WA63 page 26). The extra cost has arisen because Paris Saint-Germain, the biggest soccer club in the French capital, has decided not to rent the stadium for its league fixtures, causing the stadium operators to lose a regular source of revenue. Under the terms of the Stade de France, the government is required to reimburse the stadium operators.



French taxpayers face soaring rates thanks to the Stade de France

PORTUGAL

University planned in Constanti

The Institute Piaget of Portugal has bought a 20 hectare tract in Constanti, outside Tarragona, to build a private university. The Institute has five centres in major Portuguese cities, and specialises in humanities, ecology and social sciences. The promoters hope to have the school under way within two years with an initial investment of US\$6.5 million (1,000 million pesetas).

International team plan eastern retail drive

POLAND, HUNGARY, CZECH REPUBLIC

Paris-based contractor Bouygues SA has joined forces with US investment bank Lehman Brothers, and London-based real estate consultant Jones Lang Wootton, to raise US\$150 in equity for retail develop-

ments in eastern Europe. The companies expect to spend in excess of US\$400 million on ten retail developments of up to 40,000 square metres each in Poland, Hungary and the Czech Republic. Bouygues will be the developer and contractor for all developments. **AM**

LDDC bows out with a bang

UK

The London Docklands Development Corporation (LDDC) marked the completion of its 17-year regeneration remit in east London by breaking ground on the city's first new university campus for 50 years.

The development is located on the site of the former Royal Albert Dock, opposite London's City Airport.

Edward Cullinan Architects (ECA) is the architect of the US\$65 million low-energy mixed-use campus for students of the University of East London. The low-rise development combines both residential and academic spaces. An enclosed linear street provides

access to a range of academic spaces. Four hundred student rooms are gathered in paired towers along the dockside.

The development is the first major infrastructure work in an area of London which has remained neglected since the completion of the Royal Docks in 1851. At the time, the docks were the longest in the world. But within years the even larger ships, made possible by the steam age rendered the docks all but obsolete.

The LDDC hands over responsibility for London's former port area to the government's regeneration unit for England, English Partnerships and the London Council of Newham. **AM**



Central Moscow site up for grabs

RUSSIA

Moscow's city planners are searching for investors to solve the dilemma of the Rossiya Hotel. Located behind St Basil's Cathedral, the 3,000-room Stalinist eyesore has disfigured the Kitai-Gorod district of the Russian capital for over three decades.

City planners recently gave

up their four-year search for foreign investors to take over the hotel, preferring instead to start again. The search is now on for investors to clear the site, and make proposals for what might replace the hotel.

Moscow's chief city architect, Alexander Kuzmin has already proposed one scheme – a new hotel, designed by ... himself. **AM**

Madrid park awaits approval

SPAIN

Time Warner has submitted preliminary design plans for a theme park in San Martin de la Vega, south-east of Madrid, for the approval of the regional government.

Time Warner won the contract to build and run the park last October, defeating proposals by Paramount and Pearsons.

The 150-hectare park will have 30 hectares of rides and attractions, a 90-hectare hotel, office and

commercial development, and parking for 10,000 cars. Three million visitors are expected annually. The budget is US\$300 million. Opening is planned for 2000.

The regional government bought the 550-hectare site for the park in 1996, and will be a capital partner in the project – other investors are being sought. Time Warner runs similar parks in Brisbane, Australia and Düsseldorf. **DC**

Eco-conscious social housing on mega scale

SPAIN

The Municipal Housing Authority of Madrid is planning to build 3,500 prototype energy-saving units of social housing in the new development of Vallecas. Features planned include solar panels, extra thermal insulation, and recycling systems for waste water and garbage. Heating will be centralised, and public outdoor spaces will be micro-climatised with water misting, etcetera, as in the Expo 92 in Seville. The

project is seeking financing from the European Community's "Plan Termini" and from private sources.

The project is part of a development of 30,000 housing units planned by the city and carried out by private developers over 7.3 million square metres, the largest such development in Europe. Over half the units are subsidised by state and local governments. Construction will begin in 1999. **DC**

The people decide in Saltsjöbaden

SWEDEN

Having dismissed eight master plans over the past 20 years, Saltsjöbaden town council, eventually turned to its inhabitants for help.

The charette – a week long workshop event open to all interested parties – attracted 850 local residents and representatives of four



political parties, to work with a team of 13 US and European designers, led by Washington-based Thadani Hetzel Partnership. The process of design, community feedback and re-design gives form to participants ideas. For the first time, diverse groups were able to visualise each others ideas.

The nineteenth-century coastal spa town, known as the "gateway to the archipelago", was financed and built by entrepreneur K A Wallenberg. Over the years, large elements of the nineteenth-century urban infrastructure – comprising public baths, a hospital, a church, an observatory a meeting house and a hotel – have fallen into a state of dilapidation. Civic disputes concerning the future development of certain privately-owned areas for public use have long been the stumbling block to progress.

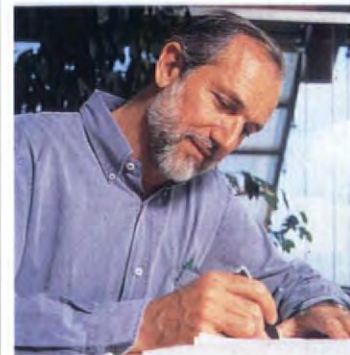
The complex brief demanded that five parcels of land spread over two separate areas of the town be developed for residential and commercial uses. The outcome of the charette is that 170 residential units, comprising 17,000 square metres of housing, and 3,000 square metres of space for commercial use will be developed.

AM

People and practice

ASIA/EUROPE

Six new directors have been appointed to the board of **Ove Arup Partnership**: Andrew Chan and Peter Ayres (both directors of Ove Arup & Partners Hong Kong), Cecil Balmond, John Harvey, Richard Cowell and David Whittleton. **Foster Wheeler Corporation**, New Jersey-based design, construction and engineering firm, has announced the formation of **Steril (Schweiz) AG**, a new company based in Basel, Switzerland. Peter Sala has been named general manager of the new company. Chung Wah Nan has been elected as the **Commonwealth Association of Architects'** vice president for the Asia Region – an area comprising: Bangladesh, Brunei, Hong Kong, India, Malaysia, Pakistan and Sri Lanka.



Italian architect, **Renzo Piano** is the twentieth winner of the US\$100,000 Pritzker Prize for Architecture. Piano will be presented with his award at a ceremony attended by President and Mrs Clinton in Washington on 17 June.

USA

Kevin Scholl and David Moore have been made senior associates of Honolulu-based hotel and leisure specialists **Wimberly Allison**



Far left Kevin Scholl, left David Moore

Contracts

ISRAEL

- **ABC (SAL)**, a major Lebanese retail developer, had commissioned British firm **Building Design Partnership** to design a new US\$80 million leisure development in the Achrafieh district of Beirut. The five level development will consist of a department store on three levels, unit shops and restaurant and leisure facilities. Construction of the 50,000-square-metre site is expected to start next year, and is due to be completed in 2001.



UK

- **RMJM** the sixth largest firm of architects in Western Europe (WA World Survey 1998), has been appointed to design and engineer a US\$33 million relocation of the University of Cambridge computer facility. The London-based practice will act as architect and structural and services engineer of the scheme. The quantity surveyor is **Gardiner & Theobald**. RMJM was chosen in competitive interview, ahead of four other British firms: **Building Design Partnership**, **Sheppard Robson**, **Fitzroy Robinson** and **Terry Farrell & Partners**.
- The first phase of a US\$50 million contract – spread over five years – for a major housing refurbishment project in London, has been awarded to London-based **Hyder Consulting**. The scheme seeks to modernise a total of 978 apartments in East London. The first phase will go on site in July next year.

Tong & Goo. HLW Strategies, a division of New York-based HLW International LLP, has opened a new office in San Francisco. David S Soleau AIA has been promoted to Executive Vice President of Boston-based **Earl R Flansburgh + Associates Inc.** Houston-based **Kendall/Heaton Associates Inc.** has named Daniel H Brooks AIA, Lawrence D Harris AIA, Christopher O Heikkila AIA, Tami L Merrick AIA and Kirk L Swanda AIA as associates of the firm. Theatre consultant Don Guyton has joined the staff of New York firm, **Jules Fisher/Joshua Dachs Associates Theatre Planning and Design**.

Minneapolis-based practice, **The Leonard Parker Associates**, has named designers Bill Englehardt, Colleen Nelson and Sara Rothholz Weiner as senior associates. New York firm, **FRCH Design Worldwide** has appointed Christopher Barriscale as senior vice president and creative director. **TBA² Architects**, of Charlotte, North Carolina, has announced the addition of Steve Engelhardt as project architect.



Christopher Barriscale

NORTH AND SOUTH AMERICA

Nice and sleazy in New York

Corruption allegations threaten interiors industry overhaul

USA

"Every single corporation that renovated its space or relocated in the past decade could be affected by what will come out of this" says Thomas D Thacher, president of New York corporate investigations firm Thacher Associates.

Thacher is leading the long-running investigation into allegations of bid-rigging and kick-backs in New York's US\$5 billion-a-year office construction market – see "US firm axed pending corruption probe" (WA66 page 19).

Investigators believe a tight-knit group of company

executives overcharged clients by up to 20 percent on almost all office renovation and relocation projects in New York during the 1990s.

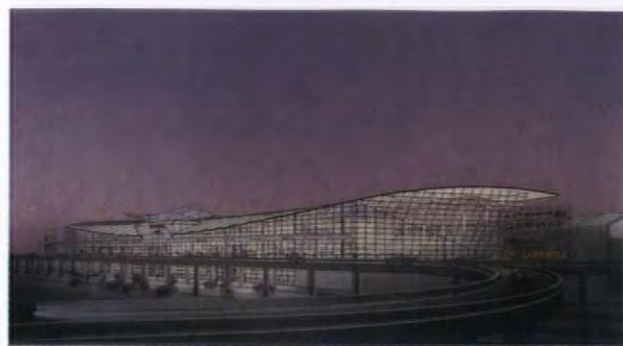
The market was unaffected by the recession: if firms could not afford to relocate they renovated instead.

The investigation, which has been running since 1995, is drawing to a close, with the Manhattan District Attorney's office negotiating plea deals with at least six companies. Should negotiations break down, charges of tax evasion, money laundering and bid-rigging will be brought against more than a

dozen company executives. In the fullness of time, it is expected that the charges will extend to architects, real estate brokers and lighting and furniture suppliers.

One chief executive – who preferred to remain anonymous – describes the situation as a cartel. "If you didn't play the game, you couldn't get any work."

As reported last month, firms under investigation are already losing work. Auction house Christie's, has terminated its contract with construction company AJ Construction, and consulting firm Bennis & Reissman. AM



TOGA terminal opens at JFK

USA

The first new passenger terminal at New York's JFK Airport in 25 years opened last month. The terminal – funded by a limited partnership between the French, Korean, German and

Japanese national airlines (known collectively as TOGA) – is the work of local architect William Nicholas Bodouva + Associates. Its swooping roof line is intended to invoke sensations of air travel. AM

World's fifth largest acquires MMZ

USA

HNTB, the fifth largest firm in the USA (see *World Architecture World Survey 1998*, WA62) has acquired Mackey Mitchell Zahner Associates (MMZ), an 18-person, Kansas-

based architecture and design firm.

MMZ's staff will work out of HNTB's Kansas City office. MMZ principal Becky Cotton Zahner AIA, has been appointed as an HNTB vice president. AM

Contracts

NORTH AMERICA

ANTIGUA

- Hotel and leisure specialist, **Wimberly Allison Tong & Goo Architects** has been selected by Asian Village Antigua Ltd to design a 3,500-hectare multi-phased, master-planned resort on the Caribbean island of Antigua. Construction is scheduled to begin in January 1999. The project has been master planned by **Ecoplan**. Architect of record is **GDP Architects Sdn Bhd** of Malaysia.

USA

- Mayor Deedee Corradini of Salt Lake City has announced the appointment of **HNTB Corporation** and **Gensler** as collaborative architectural team for a US\$994 million improvement programme at Salt Lake City International Airport. The firms will overhaul the concourses, retail and concession facilities in the airport terminal.
- Jerry Garcia may be dead, but not forgotten. The band that he led, The Grateful Dead, will be memorialised at a 6,500-square-metre museum and entertainment centre to be built in San Francisco. **Simon Martin-Vegue Winkelstein Moris** is to design the complex.
- Flad & Associates** has been commissioned to design the renovation of the primary laboratory building for the National Cancer Institute at the National Institutes of Health's Bethesda, Maryland facility. Flad will collaborate with

architects **AEPA** and **James Posey Associates** on the project. The first of the eight construction phases is one site and will be complete by July next year. Completion is scheduled for 2004.



- New York-based **Fox & Fowle** has completed preliminary designs for the new 80,000-square-metre Reuters building that is destined to command Manhattan's Times Square along with its companion tower already under construction for the Condé Nast publishing empire across the street, also designed by Fox & Fowle.

SOUTH AMERICA

ARGENTINA

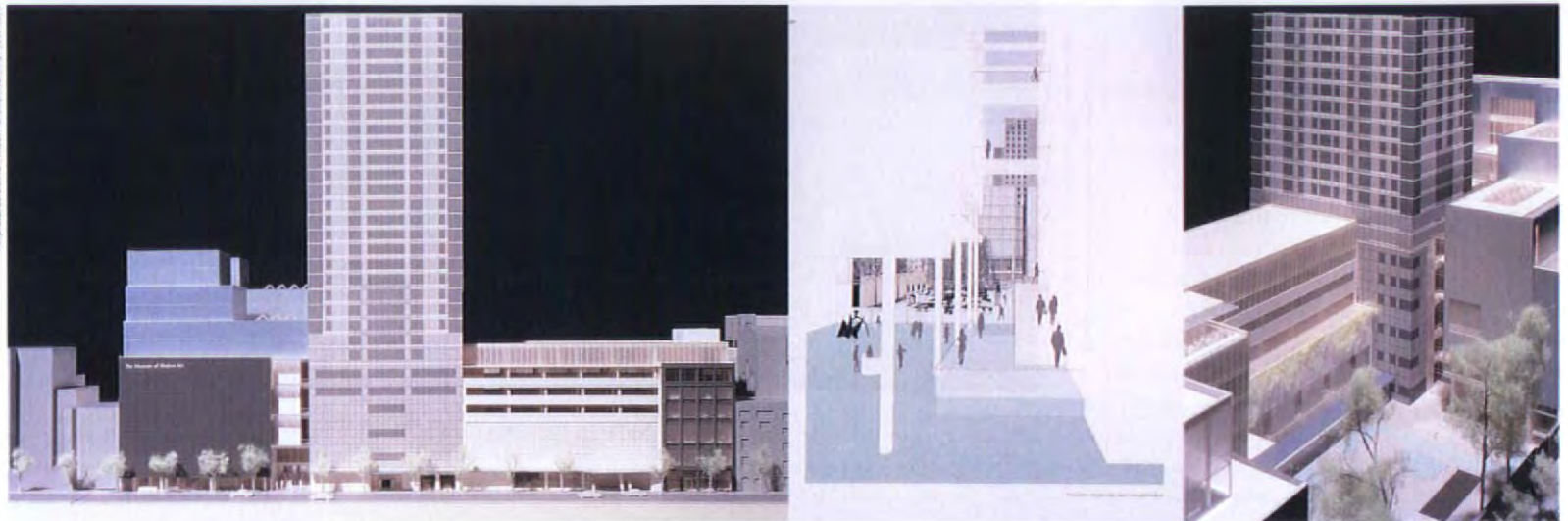
- Ground has been broken on BankBoston's new 31-storey headquarters building in the Catalinas Norte District of Buenos Aires. New Haven, Connecticut-based **Cesar Pelli & Associates** is the architect for the US\$100 million, 140-metre high structure, known as Torre BankBoston (BankBoston Tower). Construction will be carried out by local firms **Gerlach Campbell Construcciones SA** and **Obras Civiles SA**. **Gensler** is the interior fit-out architect. **Flack & Kurtz** will carry out mechanical, electrical and plumbing services.

BRAZIL

- RTKL Associates** has been awarded the design contract for Recife Office Complex, a three tower 50,000-square-metre commercial development in Recife, on the north-east coast of Brazil. The local developer is **Lismar Ltda**. Each of the towers will be at least 30 storeys. Phase one is to begin early next year. The development will be fast-tracked, with completion anticipated in 2000.

ANALYSIS

Is the bottom line stifling US architecture?



Yoshio Taniguchi's winning proposal for the MoMA extension from left to right: 53rd Street facade; concept sketch, and aerial view from the north-east of the Abby Aldrich Rockefeller Sculpture garden

The results of the competition to enlarge the Museum of Modern Art (MoMA) in New York were on view there throughout March and April. Following last year's exhibition of projects by ten invited competitors, the museum has now presented the full designs of its three finalists: Bernard Tschumi; Yoshio Taniguchi and Jacques Herzog & Pierre de Meuron. Taniguchi was announced as the competition winner last December.

After doubling its exhibition spaces in 1984 with an addition by Cesar Pelli, already over-taxed by crowds, the MoMA is preparing to double its galleries again. The expansion site is west of the present building on 53rd and 54th Streets. A fund-raising campaign of "several hundred million dollars" is contemplated, according to Director Glenn Lowry, who hopes to finish construction in 2004.

MoMA's search for an architect was exhaustive. The ten semi-finalists included

"This is another symptom of the current crisis in American architecture. The generation that should be succeeding that of Meier, Gehry or Graves has not yet been able to emerge"

Rem Koolhaas, Dominique Perrault, Wiel Arets, Toyo Ito, and the Americans Steven Holl, Williams & Tsien, and Rafael Viñoly. The list testifies to architecture curator Terence Riley's efforts to gather the cutting edge of American and international practice, including many who have participated in his department's shows. But the Board of Trustees, made up of wealthy private donors, chose the most conservative of the competing proposals.

Taniguchi, 61, graduated from Harvard in 1964, and his elegant, studied work recalls the formalist post-war American modernism championed at the MoMA itself for decades by Riley's influential predecessors, Arthur Drexler and Philip Johnson.

Taniguchi is the author of museums for Toyota and the Nagano Prefecture, but he has never worked outside Japan. His discrete design re-focuses the Museum from 53rd to 54th Street, with a new entry beside the sculpture garden.

The garden is framed by two black slate facades. Inside, a grand stair leads to a circulation atrium and galleries on six levels of the western addition, many skylit via building setbacks. The setbacks circle around Pelli's apartment tower, which financed the 1984 addition, although Pelli's four-storey glass atrium overlooking the sculpture garden will be demolished.

Herzog & de Meuron's project featured a striking angled curatorial tower on 53rd Street west of Pelli's tower, adding an original note of minimalist flash to an otherwise cool and well-organised design, more restrained than the pair's original proposals. Tschumi's proposal was more fervent but less coherent, with an exaggerated cantilevered volume overlooking the sculpture garden.

The outcome of the competition is another symptom of the current crisis in American architecture. In

the aftermath of the failure of post modernism, today inseparable for many from the real estate excesses of the 1980s, American clients increasingly see building in strictly functional and economic terms, and are wary of bold architectural claims. This backlash is hurting the development of new architectural options. The generation that should be succeeding that of Richard Meier, Frank Gehry or Michael Graves has not yet been able to emerge. Figures such as Tod Williams or Steven Holl, already in their 50s, needed a commission such as the MoMA to gain mainstream acceptance. The new international trends represented by other entries, which might have brought airs of renovation to American practice, were equally rebuffed. Instead, the MoMA has chosen a safe, elegant and practical design, turning its back on the more risky temptations of the cutting edge.

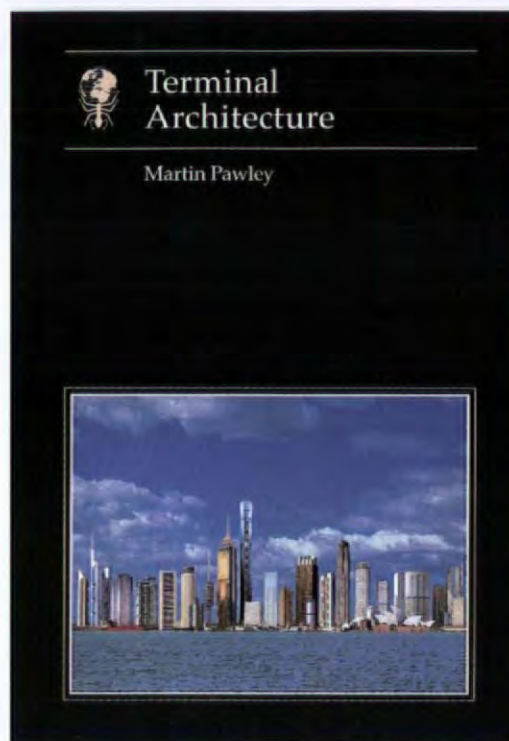
Vision of the future

Terminal Architecture. Martin Pawley. Reaktion Books Ltd, London. 224 pp, 81 b&w illustrations. £12.95 (paperback)

Reviewed by Deyan Sudjic

Martin Pawley has the unusual gift of turning complex architectural ideas into page-turning prose. One might add that he is even more unusual among architectural critics in that he has actually succeeded in building something as provocative as his ideas. While he was a professor in America, he and his students completed a house constructed entirely from garbage – chiefly recycled beer bottles if I remember correctly. The point of the exercise was not so much an act of militant messianic greenism as a reflection of Pawley's long standing determination to extract architecture from, as he sees it, the sterile grasp of art history. To him a worthwhile critical discussion of architecture is not a matter of investigating the shape of the windows or the rhythms of the facades, it is about understanding what architecture means, not how it looks, but why it is. And that in essence is the message of "Terminal Architecture".

Pawley is not of course entirely alone, in his intense interest in issues of how architecture impinges on technology and society, politics and war, he could be seen as belonging to a strand that in England begins with Reyner Banham, but his style owes as much to J G Ballard. There are, however, other literary antecedents to "Terminal Architecture". It is a work that follows in part in the long established polemical device of imagining the future in a way that William Morris would recognise. In Pawley's version of *News From Nowhere* not only have cities as we know them crumbled, architecture itself has vanished altogether. He paints a beguiling image of a world in which identity is electronic, and shelter is a matter of software rather than hardware. It echoes Michael Sorkin, as well as Ballard, but also posits an architecture that



sounds very close indeed to the imaginings of Archigram and Peter Cook that belong to era long before dispersed computing power made their speculations seem more than mere dreams. Part of the power of this part of Pawley's narrative is that he never discloses whether he sees the developments that he speculates about as either negative or positive. In fact one might almost believe that there are no value judgements in Pawley's worldview. If there is a received wisdom to challenge he is always ready to oblige: industrial sheds are not ugly, or even if they are it is irrelevant to the fact that they represent a fascinating phenomenon. Building in the green belt is not an outrage, it is simply a fact of life. It comes as something of a shock then to hear this prophet of the *laissez faire* aesthetic use the word "quising" to describe the accommodation of conservation and modernism in the Docomomo movement. An accommodation in which, as Pawley sees it, modernism finally surrenders just like the Red Indians to lead a life trapped on reservations, in exchange for the protection of a limited number of their sacred sites. They have conceded finally that they are nothing more than just another art historical movement.

After the dramatic foreground of the introduction Pawley leads us through an account of how we got to this parlous state. He guides us through the landscape of the giant

shed – in particular his favourite stamping ground at the intersection of the M5 and M4 motorways in England, and its strange windowless boxes so large as to be all but invisible. He charts the rise and fall of the highrise in the City of London, and contrasts it with the firestorm of growth on the Pacific Rim which has temporarily at least petered out, just as Pawley went to press, unhelpfully, but not by any means fatally to his argument.

Deyan Sudjic, one of Britain's foremost architectural critics, is currently Director of "Glasgow 1999"

Exorcising Adolf

Capital Dilemma: Germany's search for a new architecture of democracy. Michael Z Wise. Princeton Architectural Press, New York. 192pp, 48 b&w illustrations. US\$25.00/£18.95 (paperback)

Reviewed by Martin Pawley

As this book powerfully reminds us, like bear-baiting, the consumerisation of architecture is a cruel sport that only the heartless can enjoy and only the most resolute survive with dignity. During the 1980s English architecture went through an orgy of consumerisation at the hands of a squad of witless young fogies egged on by a mischievous Prince. Birmingham City Library was

described as "a place for burning books"; the first winning extension to the National Gallery became "a fire station with a tower for the bell"; a Mies van der Rohe bank became "a glass stump"; a micro-processor factory "a modern version of a Victorian prison" and so on.

Of course this game did not originate in Britain. It flourished famously in Germany during the 1930s when National Socialist critics and politicians lammed into Bauhaus architecture with a similar vocabulary. The modern housing schemes that had been the pride of the Weimar Republic became "collections of stationary sleeping cars" and "cages for apes", "aquariums" and "stalls for horses". Flat roofed buildings in general were held up to opprobrium because they were said to imply occupants with flat heads.

It might have been thought that the memory of that era of witless, non-technical, non-expert, threatening "criticism" would have been sufficient to cure Germany of it for millennia, but apparently not. As "Capital Dilemma" makes abundantly clear, where architectural criticism is concerned the 1930s were but a dress rehearsal for the 1990s and the whole of Germany but a stand-in for the city of Berlin. With the reunification of the country and the decision to move the capital from Bonn to Berlin, a new era of demotic architectural criticism began that still smoulders like an Indonesian forest

FREE BOOK OFFER

Free issues of "Terminal Architecture" will be sent to the first four people to answer the following question:

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Send answers, marked Free Book Offer, to 3-6 Kenrick Place, London W1H 3FF, UK.

To order a copy of "Terminal Architecture" including p&p contact Maria Kilcoyne at Reaktion Books, Rathbone Place, London W1P 1DE. Visa/Mastercard accepted.

fire. Between 1991 and the present, funded by the US\$12 billion allocated by the German government to the recapitalisation of Berlin, the architectural profession and its baggage train of administrators, academics, critics and commentators has created a cross between a McCarthyite witch-hunt, a mass exorcism and a Marx Brothers film.

The witch-hunt is the search for "Fascist elements" in all the designs for new Berlin buildings – not difficult to find when, as architect Hans Kollhoff complains, "In this paranoid situation everything that has a stone facade and a large door is regarded as a fascist building". The exorcism is the process of "architecturally cleansing" former Nazi and Communist buildings so that they can safely be occupied by German government departments (the bizarre wrapping of the Reichstag by Christo being only one of many examples).

The Marx Brothers film is the parade of absurd opinions about the extent to which existing and projected Berlin buildings might betray the existence of new German plans for world domination. "I am sure you have heard that Germany has been reunited," the author quotes Jay Leno, "the only question now is when it will go on tour again".

This last inflammatory idea is a *leitmotif* running through the whole book and, it must be said, one that is eagerly stoked by the author with unsubtle hints like: "'We can occupy this building very easily,' said senior finance ministry official Hans Michael Meyer Sebastian as he sat in the aviation ministry where the bombings of Coventry, Rotterdam and Guernica were planned".

Like these lapses into side-taking, Wise's journalistic background diminishes his stature but not his readability. His chapters stop and start and repeat themselves, betraying their origin in newspaper and magazine articles, but the saga he describes is so lunatic that this hardly matters. Like medieval divines his architects, critics, politicians and general purpose advisers spin a web of

polemical ectoplasm so enormous that for long periods the reader forgets that it is the reconstruction of a city and a national government that the book is about and not a jury-squabble in a school of architecture. Not a single practical issue relating to planning, information technology, housing or transport is mentioned. The only time energy consumption is discussed is in the context of the Foster and Partners Reichstag refurbishment, where it is explained that the architects "took refuge in problem solving" as a way out of the "debate" on whether they should be preserving Red Army graffiti or not. Who can blame them?

By the end of "Capital Dilemma", excellent read though it is, one has grown heartily sick of the symbolism of the Reichsbank, the Reichstag, the Luftwaffe Building, the Ministry of Propaganda, countless modified competition schemes and the infinite bruiseability of everyone concerned. If what we read about here is as close as Berlin has got to the "new architecture of democracy" of the book's subtitle, after spending over US\$12 billion, it would surely have been better to hang on to the old one and stay in the capital made earlier in Bonn.

Martin Pawley, architectural writer and critic, is a regular contributor to, and consultant editor of WA.

Docklands appraised

London Docklands – an Architectural Guide. Elizabeth Williamson and Nikolaus Pevsner. Penguin, London. 320pp, illustrated throughout. £11.99 (paperback)

Reviewed by Andrew Rabeneck
It is a propitious moment to take stock of London's docklands, after nearly two decades of helter-skelter speculation, and with the disbanding of the London Docklands Development Corporation (LDDC), the agency set up to manage the process of development, a recent memory. Elizabeth Williamson's concise scholarly tone is helpful, as is

her willingness to express opinion. The Smithsonian's Robin Hood Gardens is "ill-planned to the point of being inhumane", for example. But Crédit Suisse First Boston's 1-5 Cabot Square at Canary Wharf has a "refreshing bluntness when compared with the historicist posing of its neighbours".

Ironically, a hundred years ago an earlier spate of uncontrolled cut-throat speculation in the docklands led to over-investment in new docks and warehouses, bankruptcies and a move eastwards to Tilbury in an attempt to grab market share and cope with rapid technological change. Sounds familiar: it led in 1909 to the formation of the Port of London Authority, to bring coherence and control excess.

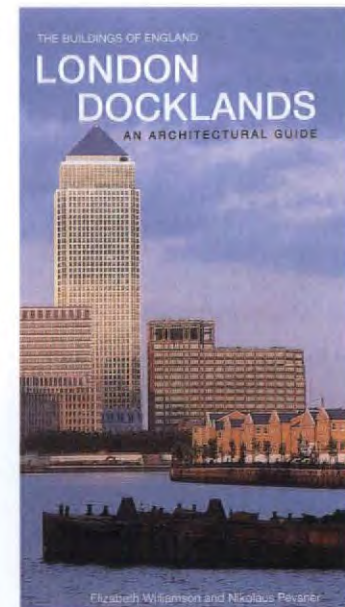
By 1980 the legacy of 300 years of opportunistic development, the Luftwaffe and containerisation was a desolate mess, punctuated with the occasional architectural jewel or engineering marvel. The docklands was already a relatively isolated and ill-defined area, as a result of commercial and security concerns, and without much connection to adjacent communities. To open it up as a playground of urban regeneration with a minimum of planning controls seemed no bad thing in the early days of the Thatcher administration. It was a self-conscious challenge to years of punitive, "development control", unrealistic land valuations, and the tidy planning habits of classic post-war urban renewal. The whole area became a safety valve for growth in London and especially the City. It seemed too good to be true, and in some ways it was. Clumsy architecture, inept or underfunded infrastructure, and a legacy of continuing isolation from its surroundings give the area a curious semi-detached feel.

However, a huge amount was accomplished in a short time. When

the Jubilee line extension is opened, and when some of the hastily erected developments are recycled it will eventually mature and become an integral part of the Great Wen, as William Cobbett characterised London at the beginning of the nineteenth century, meaning an abnormal growth, a blotch on the land! Meanwhile, Elizabeth Williamson's concise and detailed guide makes an ideal companion for explorers of the docklands.

This handsome book is the first paperback companion to the six hardback volumes which will eventually cover the whole of Greater London in the "Buildings of England" series. The idea is to provide convenient guides to key London subjects and areas, perhaps a little lighter on the pocket and the purse, and certainly more within reach than the two 1994 volumes of the "Survey of Poplar, Blackwall and the Isle of Dogs: The Parish of All Saints" XLIII, XLIV, even though it benefits from much of the photography and line drawing done for those fine volumes.

Andrew Rabeneck is a London-based businessman and critic.



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FREE CARRIAGE WORLDWIDE

OnScreen

Richard Spöhrer profiles two new packages; the latest upgrade of Infini-D and the versatile Piranesi. Also a look at Meta-4's new strategy for solution provision.

Piranesi – the software application that could change your life Piranesi from Informatix is one of that rare breed of software applications – it really could change the way you work.

Named after the eighteenth-century architect and illustrator Giovanni Battista Piranesi, this application allows the user to import 3D geometry and produce visualisation material interactively using a number of natural and photo-realistic painting styles.

Piranesi uses the Extended Pixel (EPix) file format to maintain both depth and material definition in formation as well as details of RGB colour values. The 3D models used for rendering need to be produced using a conventional modelling application and then saved in or converted to EPix format. Models from 3D Studio Max, Viz and MicroGDS can be opened directly, while the Vedute application supplied with Piranesi can be used to convert DXF files from other applications.

What makes Piranesi so interesting is the way you interact with the imported models. There are only four basic painting tools: the brush, fill and painter tools are all methods of applying colour to an image. The montage tool is used to place "cut-

outs" within your image – cut-outs are external image files used to enhance your composition, acting like cardboard cut-outs on a stage. They can be used to add trees, people or other items of scenery to your final image. Locking options allow you to fully exploit the qualities of the EPix file format by restricting the paint area to pixels in a particular plane, material, colour or a combination of the three. Locks are selected by clicking on the icon in the toolbox and will operate based on the first pixel over which you click the mouse. For example, if the plane and colour locks are selected and the first pixel you click is blue and in the Z axis, only blue pixels in that plane will be affected by paint actions. The tolerance of each lock can be adjusted to suit all situations.

Unlike many visualisation tools Piranesi is ideal for use early on in a project's life, as simple block models can be used as the basis for your painted visualisations. The results produced with Piranesi speak for themselves and this is an application that is sure to find its way onto many architect's PCs. Piranesi is available from Cambridge Design Systems. Tel: +44 1480 398353

3D software taken to the Max

The National Association of Broadcasters show (NAB) held in Las Vegas just before Easter was the setting for the launch of a number of major upgrades to 3D modelling and animation software packages. While the show is aimed at the television and film industry much of the technology on show is currently being used by architects for design development and marketing purposes. Kinetix announced an upgrade to 3D Studio MAX, taking it to version 2.5. Featuring improved NonUniform Rational B-Spline (NURB) modelling and animation, Version 2.5 came on the market in May 1998 with upgrades from the MAX R2.0 list priced at US\$120. New commercial licenses of 3D Studio MAX R2.5 are priced at US\$4,500.

Version 4.5 Infini-D from MetaCreations was also announced at the show. Infini-D is a popular



The ability to render images using natural media styles with Piranesi appeals to both architects and clients

package with architects due to its ease of use and speed. Version 4.5 incorporates a substantially faster rendering engine with the scanline renderer, first introduced with Infini-D 4.0, optimised to increase final rendering speeds in phong-shading modes. It will incorporate a new set of render management tools including a render job queue with the ability to add multiple jobs, and re-order and view statistics on each. Version 4.5 will also add the ability to "suspend" and "resume" jobs, and fault-tolerant rendering will ensure that information will not be lost in the event of a system crash. Infini-D 4.5 for Windows 95/NT and Power Macintosh will be available on a hybrid CD during the second quarter of 1998 priced US\$980.

Go to Meta4 for the latest word in technical support

Developments in the reselling of CAD and design software may not strike many as interesting, but a recent move in the UK may well be an indication of how your reseller could become far more involved in your everyday work. Meta4 Systems Ltd brings together 3Di Systems, CadHouse Systems Ltd and QA Design Systems Ltd to form a new kind of solution provider. What makes this move so interesting is that Bentley Systems, the developer of MicroStation, has taken a stake in the new company via a substantial shareholding.

Paul Ligget, the new marketing director says, "Meta4 Systems will be the leader in providing engineering software and user services based around Internet/Intranet/Extranet technology, enabling our clients to maximise productivity and stream-

line the design process".

It is interesting to note that with the ever-increasing reliance on technology within the design environment and its spiralling complexity, a new kind of supplier is needed. Long gone are the days of simple box-shifters who were happy to sell you the product and then leave you to get on with it. A growing number of members of the design team are looking to their suppliers to become members of the team and outsourcing aspects of the information management process to them.

Tracey Robinson, former MD of CadHouse Systems and new managing director of Meta4 says, "We secured additional backing from Bentley to support our growth strategy on the clear basis that we will provide whatever software is most appropriate to the customer's need, regardless of vendor. Our current users will benefit from the greater technical resources we have and users will be drawn to Meta4 Systems as a multi-disciplinary, nation-wide 'one-stop-shop' to support large engineering projects".

This has the odd function of providing Bentley with revenue from the sale of its competitors' products. Bentley's involvement also has the effect of providing a direct channel for user feedback on future product development, benefiting both the software developer and the end user.

Richard Spöhrer is a writer and Creative Director of hyper-M, multi-media and visualisation consultants. He can be contacted via WA, or Tel: +44 181 662 0075; e-mail: hyper-m@dial.pipex.com

3D Studio Max is fast becoming the de-facto standard for computer modelling and animation. Its sister product 3D Studio Viz should also see a major upgrade later this year



The supreme formula for progress

Polemic

Seventy years ago, in an exploit long since forgotten, Major Ramon Franco, younger brother of the future Dictator of Spain, flew across the South Atlantic from La Rabida to Buenos Aires, linking by air the Hispanic countries of the old and new world for the first time. Franco's feat was greeted in the Spanish-speaking world by the kind of explosion of popular enthusiasm that was to greet Charles Lindbergh's flight from New York to Paris the following year, and indeed was still available to greet Yuri Gagarin's pioneer orbits of the earth 30 years later. In his time Franco was compared to Christopher Columbus and his aircraft to the *Santa Maria*, and the comparisons were not specious. The Spanish historian Don Manuel de Sierot wrote, "We can see now that Don Quixote has learned science. He can make fantasy into reality by constructing life out of technology and romance. This is indeed the supreme formula for progress."

Two generations later it is easy for us to understand this "formula for progress". Today no one would dispute that wide body jets, global positioning systems and satellite communications links are the direct descendants of the propeller-driven flying boat and Morse-key radio that transported and directed Major Franco. Over the years the heady mix of technology and romance has spread further afield. After the great long-distance pilots of the 1920s came the scientists, the surgeons, the astronauts, the athletes and the designers of the modern world. Today the admiration of the world is no longer directed at the pilots of transatlantic airliners: instead our great heroes are global architects, men as singular as Frank Gehry, Cesar Pelli, Sir Norman

Foster or Rem Koolhaas. Aerospace and electronic communications have long since solved the problem of linking the five continents into a single interconnected whole: the new task is to create new identities for the patchwork of old and new cities caught up in the one-world network of the globalised future. It is no accident that Frank Gehry's Bilbao gallery has been as lavishly praised as Major Franco's flight, for the new identity that it conferred, like the new identity conferred by the Petronas towers and the Commerzbank, is a priceless gift.

Month by month in the pages of this magazine we see buildings from all over the world that are built according to Manuel de Sierot's supreme formula for progress. If the epic flights of the great aviation pioneers were the symbolic events of the beginning of the age of globalisation, the creations of today's global architects are the symbols of its maturity.

Today global architecture is decentralized; scattered across cities that are linked by the space/time continuum of electronic communications. World architects like Foster, Pelli, Pei, Gehry, Nouvel and Koolhaas may travel the world in high speed aircraft, but they leave behind them back-office technicians working the time zones via satellite links. Their clients are government agencies and multinational corporations whose names are household words. These clients too dwell in a global universe. They make, sell or process products and services on any continent. They are exigent, demand crucial changes overnight. To serve the instantaneous impatience of clients like this the global architect has learned to mobilise an awesome array of brain power.

Whatever the challenge, it can bring together an expert task force to meet it; not just a team of experienced architects but structural and service engineers, product designers, constructors, building economists, legal experts, planners, building code analysts, property development strategists, communications experts, negotiators, visualisers, model makers and more. All of them not only available at short notice, but organised to offer their services in a sequence running from pre-design strategy, through outline and detailed design, statutory permissions, finance, construction, completion and post-completion surveys. And just as the latest Boeing airliner is still as much an aeroplane as was Major Franco's primitive flying boat — so is all this multifarious capability still architecture. Through expertise, experience, organisation and genius it creates the way stations of a new global geography by an old kind of art.

The 1997 *World Architecture* top 500 survey confirmed the existence of at least sixteen fully globalised architectural firms. All of them bill in excess of US\$ 100 million a year, and six of them earn more than 50 per cent of their fees outside their home markets. Although most of them maintain a strong national presence they have long since followed their multinational clients overseas, opening offices wherever prospects have appeared to justify the investment, and increasingly exploited the synergy that a global network of offices can offer for distributing the resultant workload. They have headquarters offices of course, but they also have semi-autonomous satellites, like asteroids in space, each rooted into a gravitational system of its own.

Surprisingly perhaps, at this level of globalisation there is less competition rather than more. All global businesses, not only the key identity-giver of architecture, have been transformed by the accelerating speed of communications heralded by the pioneer aviators of 70 years ago. Today designs that once took three years to develop can now be produced and refined in ten months or less. But at the same time collaboration — not competition — has made the formation of expert teams and the subdivision of large contracts easier to manage. Technology and romance may always attend any major architectural project, but both are modulated by the occult connectivity that links all architects.

Today competition is internalised, so that global architects appear to compete when really they are collaborating. Thus while big global firms cruise deep waters in search of monster commissions, smaller local firms, like pilot fish, try to make themselves useful. By way of collaboration and job-sharing each is rewarded. This is indeed the supreme formula for progress of which the Spanish sage spoke so many years ago.

Martin Pawley



"A new task confronts the global architect: the creation of new identities for the patchwork of old and new cities caught up in the one-world network of the globalised future."

Events

Lectures, congresses and conferences

Australia

International congress on light-weight structures in architecture, construction and engineering

Congress focusing on new technologies and the future directions of light-weight structures. Runs from September 28 to October 2 1998 at the University of New South Wales, Sydney.
Tel: +61 2 9262 2277
Fax: +61 2 9262 2323
e-mail: lsa98@tourhosts.com.au

Canada

16th Annual International Conference on Urban Waterfront Planning, Development and Culture

The theme of this year's conference is, Developing Distinctiveness – Countering Formulas, Fads and Flummery. Runs from 12-14 November 1998 at the Royal York Hotel, Toronto, Ontario, Canada. For information contact the Waterfront Center, 1622 Wisconsin Avenue, NW Washington DC 20007, USA.
Tel: +1 202 337 0356
Fax: +1 202 625 1654
e-mail: waterfront@mindspring.com

Cuba

Ibero-Americain Symposium

The Cuban Section of the UIA is organising a conference on, Quality and Competitiveness in Building, as well as study tours and an exhibition of building products and materials in Havana. Runs from

12-16 October 1998. For information contact, Union Nacional de Arquitectos y Ingenieros de la Construcción de Cuba.
Tel: +537 798357/703896
Fax: +537 333523

Japan

Engineering challenges for the twenty-first century

An International Association for Bridge and Structural Engineering (IABSE)-organised symposium on long-span and high-rise structures. The event coincides with the completion of the Akashi Kaikyo Bridge (see News Review this issue), part of the Honshu-Shikoku Bridge Project (see WA53 pages 100-101). Runs from 2-4 September 1998. Keynote speakers include Cesar Pelli, Shankar Nair, Niels Gimsing and Giorgio Diana.
Contact Secretariat of IABSE Symposium, c/o Simul International, 13-9 Araki-cho, Shinjuku-ku, Tokyo, 160-0007.
Tel: +81 3 3226 2822
Fax: +81 3 3226 2824

Sweden

DOCOMOMO Conference 1998 – Vision and reality

The fifth international conference for documentation and conservation of buildings, sites and neighbourhoods of the modern movement (DOCOMOMO), will focus on the social aspects of architecture and urban planning in the modern movement. Conference runs from 16-18 September 1998 at the Swedish Museum of Architecture, Sheppsholmen, S 111 49, Stockholm, Sweden.
Contact Harina Botta.
Tel: +46 8 4630500
Fax: +46 8 4630560

UK

International symposium on the management of highway structures

Two-day symposium organised by the Transport Board of the Institution of Civil Engineers and the Highways Agency. Runs from 22-23 June 1998 at the Institution of Civil Engineers, One Great

George Street, London SW1P 3AA, UK. For information contact Sabrina Kühn.
Tel: +44 171 665 2313
Fax: +44 171 233 1743
e-mail: WATT_K@ice.org.uk

Architecture and design competitions

Finland

Aalto Centennial International Student Prize 1998

To celebrate the centennial of Alvar Aalto's birth, all registered part time and full time architectural and design students world wide are invited to design proposals for a New Library in the city of Seinäjoki, Finland. The winner will be appointed as architect for the realisation of the library. Competition organised on behalf of Seinäjoki and the Regional Council by the Alvar Aalto Museum in association with the RIBA International Student Competition, London, UK. Application deadline 10 August 1998. Contact Hanni Sipponen, The Alvar Aalto Museum, PO Box 461, 40101 Jyväskylä, Finland.
Fax: +358 14 61 90 09
e-mail: hanni.sippo@jkl.fi

Italy

Verona Ex-Cava: The Spaces of Piazza San Zeno

International ideas competition invites proposals for the preservation of public monuments and spaces in the historic district of San Zeno, Verona, Italy. Competition open to practitioners who completed their terminal university degree during the past ten years; students of architecture, urban design, landscape and interior design. Awards of US\$3,000 (plus grants) are offered. Registration by 25 June 1998. Deadline for entries 10 September 1998. Awards announced 10 October 1998. Contact Livio Dimitriou at Ten West Fifteenth Street, Suite 1126, New York City, New York 10011-6826, USA.
Tel: +1 212 727 2157
Fax: +1 212 727 2159
e-mail: Ldusainst@aol.com



Exhibition, Austria: The Havana [Cuba] Project

Following on from "Architecture Again" conference (1994/95), a team of internationally renowned architects examine Havana as a city that embodies the problems facing all major cities at the end of the twentieth century. Coop Himmelb(l)au, Morphosis/ Thom Mayne, Eric Owen Moss, Carmé Pinós, Lebbeus Woods and CPPN propose solutions to sprawling slums, conservation and restoration. Runs from 26 August to 31 October 1998 at MAK, A-1010 Wien, Stubenring 5, Austria
Tel: +43 1 711 36 233
Fax: +43 1 711 36 227

Above: Proposal for the Meta-Institute, Havana by Lebbeus Woods



Exhibition, USA: Breaking Through – The Creative Engineer

Exhibition exploring how creativity is expressed through the work of modern engineers – the people who give shape to the material world, built environment and systems of information. Eight case studies demonstrate the breadth and depth of the field; from roller-coasters to space shuttles. The exhibition runs until 8 November 1998 at the National Building Museum, 401F Street NW, Washington DC 20001, USA.

Tel: +1 202 272 2448

Fax: +1 202 272 2564

Web: <http://www.nbm.org>

Above: The Anaconda at Kings Dominion, Richmond, Virginia, USA, designed by Arrow Dynamics

USA

Design competition for Pier 40 on New York City's Hudson River Waterfront

The competition – co-organised by Manhattan and the Van Alen Institute – calls for the development of the 37-hectare Pier 40 for public use. Contact Community Board 2, Manhattan/3 Washington Square Village Suite 1-A, New York, NY 10012, USA, or the Van Alen Institute.

Tel: +1 212 924 7000

Fax: +1 212 366 5836

Web: <http://www.vanalen.org>

Cyborg City: Mechanical Islands for New York

International ideas competition opening up the debate about the development of artificial islands in New York's river and sea bays. Competition open to practitioners who completed their terminal university degree during the past ten

years; students of architecture, urban design, landscape and interior design. Awards of US\$3,000 (plus grants) are offered.

Registration by 15 November 1998. Deadline for entries 25 February 1999. Contact Livio Dimitriu at Ten West Fifteenth Street, Suite 1126, New York City, New York 10011-6826, USA.
Tel: +1 212 727 2157
Fax: +1 212 727 2159
e-mail: Ldusainst@aol.com
Fax: +1 514 939 7020

Exhibitions

Belgium

Les mots de la ville

Following on from *Mots de la Maison* (1995) the Fondation Pour L'Architecture's *Les Mots de la Ville* looks at the role of public spaces and public monuments in the twentieth century city. Runs until 28 June 1998 at the Fondation Pour L'Architecture, 55 Rue de l'Ermitage, Bruxelles 1050, Belgium.
Tel: +32 649 02 59
Fax: +32 640 46 23
fonda-architecture@yahoo.com

France

Cities on the Move (2)

An insight into the architecture and art of Asian cities through the work of 33 architects and 58 artists. Co-organised by the capcMusée 'art contemporain de Bordeaux and arc en rêve centre d'architecture. Runs until 30 August 1998. For information contact, François Guillemeteaud (capcMusée). **Tel:** +33 5 56 00 81 70; or, Nadine Gibault (arc en rêve). **Tel:** +33 5 56 78 36

UK

The Work of Charles and Ray Eames

The first UK exhibition of the work of husband and wife design team. Runs from 19 September 1998 to 3 January 1999 at the Design Museum, Shad Thames, London, SE21 2YD, UK.
Tel: +44 171 403 6933
Fax: +44 171 378 6540

Trade shows

Azerbaijan

Baku Build 98

Third Azerbaijan international building and construction exhibition. Runs from 30 September to 3 October 1998 at the Baku Sports and Exhibition Complex, Baku. For information contact Ben Leighton at the IT&E Group, Byron House, 112a Shirland Road, London W9 2EQ, UK.
Tel: +44 171 286 9720
Fax: +44 171 286 0177

Russia

Stroymat 98

Russia's premier trade show for the construction industry takes place at the VVC All Russia Exhibition Centre, Moscow from 14-17 September 1998. For information contact the IT&E Group (see Baku Build above).
Tel: +44 171 286 9720
Fax: +44 171 286 0177

UK

FIT 98

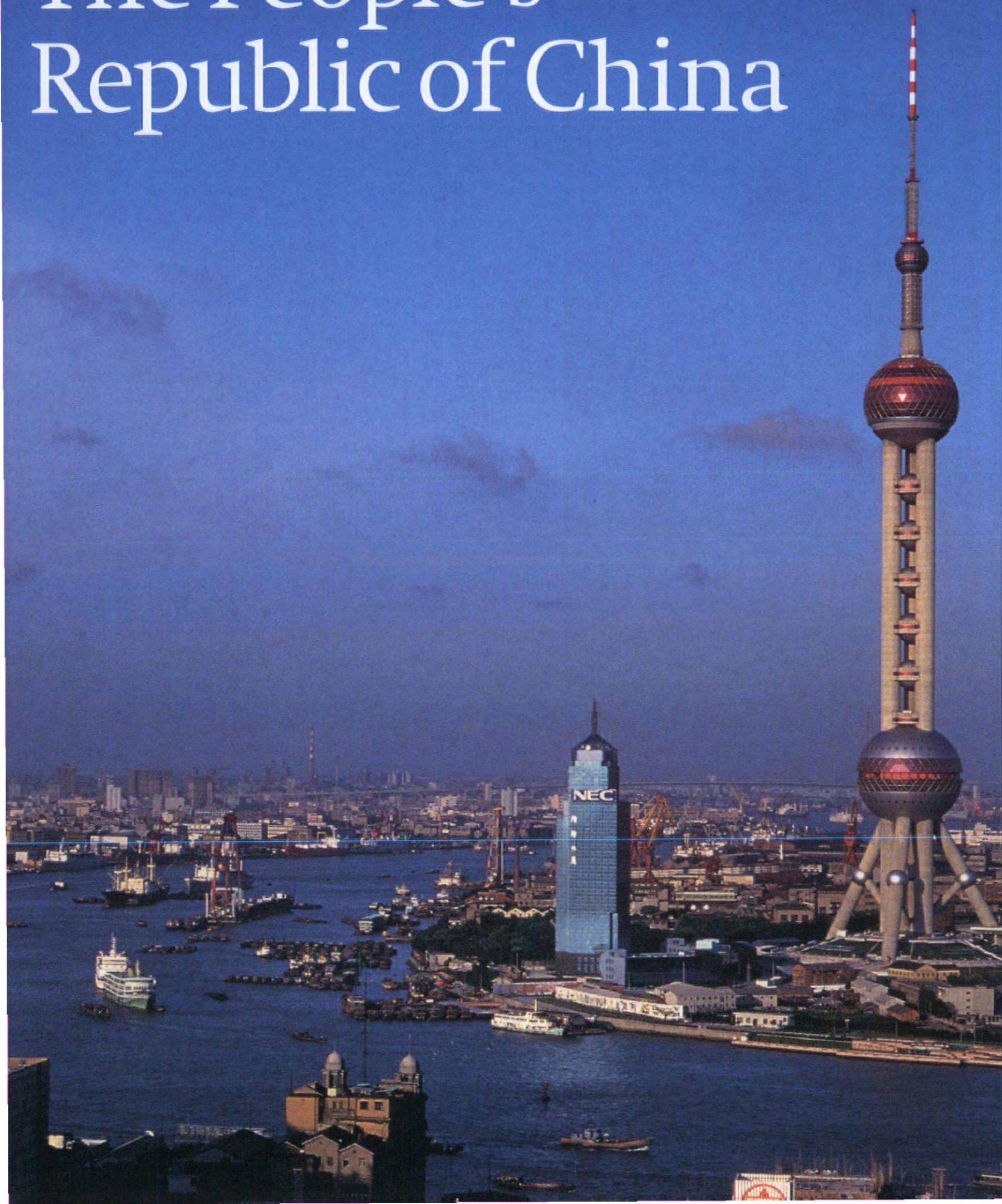
New products, finishes, components and technology trade show takes place at Earls Court 2, London from 16-18 June 1998. The exhibition has been designed by leading British architecture practice RMJM. For exhibitor and attendee information contact show organisers Montgomery Exhibitions Ltd.
Tel: +44 171 886 3000
Fax: +44 171 886 3051

Vietnam

Vietbex 98


Combining: Interiors Vietnam 98, interior decorations, furnishings, fittings, materials and trade exposition; and, Surfaces Vietnam 98, surfaces materials and supplies exposition. The two events run concurrently from 28-31 October 1998 at the Ho Chi Minh City International Exhibition & Convention Center, Ho Chi Minh City, Vietnam. For information contact Julie Lim, Project Manager for Reed Tradex Company in Thailand.
Tel: +66 2 503 2199 x 403
Fax: +66 2 503 41001

The People's Republic of China



Country Focus

Property speculators are predicting that the new domestic policies for economic reform and development in the south of the People's Republic of China will have a larger impact on the property market in that region than the recent Asian economic crisis. In recent years commentary on the construction industry in China has concentrated on the cities of Beijing and Shanghai which, despite the recent slowdown, still has over 20,000 construction sites. But the eastern coastal cities are the tip of the iceberg for local and foreign architects alike. Professor Li Shirong, of Chongqing Jianzhu University, reports on the surge of growth in central and western China, and architect and writer Lawrence Liauw reports on opportunities for architects in Hong Kong since the 1997 handover.



View of the Pudong commercial district south of the Bund in Shanghai, with the Oriental Pearl television tower in the foreground. Photograph Zhi Xin Yu/Image Bank



The introduction of Deng Xiaoping's economic reform and open door policy in the late 1970s in China launched a period of remarkable economic growth. The real GDP per capita has increased at an annual average rate of over 10 percent since 1979, and the country is on course to produce one of the world's greatest economic miracles. Unlike most Central and Eastern European countries, the PRC has achieved remarkable results with rapid economic development, and a relatively low inflation and unemployment rate. The economic target for 1998, as Premier Zhu Rongji indicated recently, is to maintain GDP growth at eight percent, limit inflation to three percent, and prevent devaluation of the Chinese currency.

All this would appear to be good news. Many overseas

companies have ventured into China in search of a stake in the world's fastest growing economy. Because of the open door policy and its huge market, China is second in the world to the USA in attracting foreign investment. The PRC's foreign currency reserves reached US\$140 billion up to the end of 1997, from only US\$0.84 billion in 1979. The latest boom is only one in a series of investment cycles begun in 1979 with the advent of the open door policy.

In order to meet the economic expansion up to the year 2010, China will need to invest heavily in developing and improving billions of hectares of housing, new urban areas, social facilities, and, crucially, infrastructure. In order to maintain its long-term economic programme new sources of investment must be considered. According to the report from the



COUNTRY FACTFILE – PEOPLE'S REPUBLIC OF CHINA

The land:

China is the third largest country in the world with a total land area of 9,561,758 square kilometres.

Climate:

China's climate is as varied as its geography of eight major land regions. There are arid and semi-arid regions in the north and west. Tibet and Manchuria have long, bitter winters. The south has a warmer climate and the south-east coastal regions have a tropical climate. Summers are hot and humid in eastern and southern China with average highs about 27°C throughout the region.

Population:

China is the world's most populous country with over 1.2 billion (excluding Hong Kong). Most of the population lives in the eastern third of the country.

Number of architects:

Approximately 720,000 in state-owned institutes; 20,000 in collectively-owned institutes.

Language:

The official language is Northern Chinese (Mandarin to Westerners), which is spoken by 70% of the population.

Capital:

Beijing.

Time difference:

Beijing is 8 hours ahead of Greenwich Mean Time (GMT) and 13 hours ahead of Eastern Standard Time (EST).

Currency:

Renminbi or Yuan (RMB), which has 100 fen. The Renminbi is not an internationally convertible currency. (8.3 RMB = US\$1).

Dialling code:

China's inward dialling code is 86.

Miscellaneous:

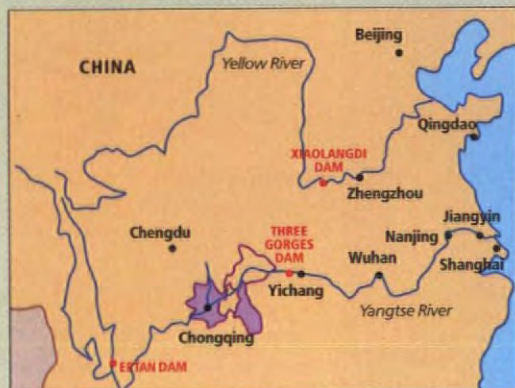
Relationships are important in negotiations and in the resolution of disputes later. Agreements are simply the point where further negotiations start. China lacks a litigating tradition. Chinese writing is pictographic and not as precise as Western language. Activities do not usually occur on schedule. The Chinese concept of time is much different from the Western view. Forward planning is not something the Chinese do well. Patience is important. Clear communication will be difficult. It is more than a language problem. There are cultural differences and expectations. The bureaucracy is extensive.

Chongqing and Three Gorges Dam

New Chongqing

New Chongqing in central China is expanding rapidly, with a population of 34 million. It currently has the following four advantages to attracting foreign investors:

- It has increased significance since its "independence" as the PRC's fourth municipal city.
- It is located in the Yangtze River economic zone, known as the Dragon's Tail, the head being Shanghai.
- World famous power project, the Three Gorges Dam is partly located within this area.
- It is one of the key areas of development



during the Ninth Five Year Plan period (1996-2000).

These advantages, as well as the preferential policies given by the central government have attracted foreign investors to Chongqing. From January to September 1997, for example, 170 new foreign enterprises registered in the city. Foreign investment reached US\$205 million during the same period.

Three Gorges Project

China's Three Gorges Project is the biggest power project in the world. According to 1997's estimate, over 200 billion Yuan/RMB (8.3 RMB = US\$1) will be spent on the project over 17 years – four years have already passed. The area which includes around 110 cities, population of 700,000 and 30 million square metres of building, will be flooded. More than 1 million people will be displaced. Many are concerned about the environmental and human cost of the project. The three main benefits will be: flood control, power generation and shipping.

In order to obtain enough funding for this project, a multiple approach to finance has been adopted, including investment from

central and local government, society and overseas. Because of its enormity, the project will attract a huge market for material and equipment accounting for about two thirds of the total investment. The three main materials required are as follows:

- Cement: 10,800 million kilogrammes
- Steel: 1,950 million kilogrammes
- Timber: 1.6 million square metres

Those for residential buildings:

- Cement: 4,600 million kilogrammes
- Steel: 6,996 million kilogrammes
- Timber: 1,3421 million square metres

The construction area of the project is about five to six square kilometres. It includes about 100 million square metres of earthwork under and above water, and 30 million square metres for concrete work.

The construction work also includes:

- 11.04 million square metres of housing in urban areas, 6.57 million square metres of housing in rural areas and 4.14 million square metres of industrial buildings, to be demolished and rebuilt.
- 956,000 kilometres of roads to be built.
- 44 important historical relics to be moved.

› Department of Policy Development of the Ministry of Construction, between 1998 and 2000, the scale of investment in China will reach US\$1,200 billion – a rate of US\$400 billion invested each year.

The Chinese construction industry

China's construction industry ranks amongst the largest in the world. Up to the end of 1996, the industry employed 34 million people, accounting for five percent of the country's total employment, in comparison to only two percent in 1978. In Shanghai alone there are 20,000 construction sites, employing as many construction workers in the one city as in the whole of

the UK. The contribution of construction to GDP increased from 4.3 percent in 1980 to 6.7 percent in 1996.

Where to go

China's diverse geography, natural resources, changes in government policies and the people's demands, are the key factors that should be considered when weighing up the regions in which to work. A poor choice in the initial stages will inevitably affect the success of any venture, however well intended.

The major proportion of China's swelling population is crowded along the eastern seaboard and the river valleys, and



Beijing's Kerry Centre under construction. Architects: Dennis Lau, Hong Kong



Computer image of Beijing International Financial Centre by the Beijing Institute of Architectural Design



China Singapore Suzhou Industrial Park



KEY TO SUZHOU MASTERPLAN

Phase 1	limit
Phase 1a	start-up area
Phase 1a	developments are progressing eastward towards Shanghai
Phase 2	limit
Phase 2a	the second phase is already underway
Phase 2b	
Phase 2c	expected completion December 1998

Land use	District 1		District 2		District 3		Total	
	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
Industrial	304.0	26.2	300.3	18.6	1515.4	42.5	2119.7	33.4
Commercial	55.0	4.7	26.9	1.7	46.5	1.3	128.4	2.0
Residential	341.3	29.4	617.7	38.3	599.5	16.8	1558.5	24.6
Public facilities	25.7	2.2	102.5	6.3	122.9	3.4	251.1	3.9
Infrastructure	205.9	17.7	284.1	17.6	752.1	21.2	1242.1	19.7
Warehousing	11.0	0.9	14.2	0.9	137.4	3.9	162.6	2.6
Open space & recreational	185.1	16.0	215.3	13.3	310.3	8.7	710.7	11.2
Waterbodies	32.0	2.8	50.3	3.1	84.7	2.4	167.0	2.6
SUBTOTAL	1160.0	100.0	1611.2	100.0	3568.8	100.0	6340.0	100.0
Golf course/resort	342.8						342.8	
GRAND TOTAL	1502.8		1611.2		3568.8		6682.8	

The idea of a Singapore-style town in China was formalised in February 1994 by the two governments. Within two years 300 hectares of industrial land has been filled, compacted and infrastructure has been installed, creating an industrial city on a 70-square-kilometre site east of the city of Suzhou. The city is located 80 kilometres from Shanghai in the PRC's richest province, Jiangsu, along the Yangtze River. Eighty investors from 11 countries have invested US\$2.1 billion in the industrial park. Twenty six manufacturing companies are in full production, and 21 factories are under construction or renovation.

lowlands of the east and south-east. This area which has both the major share of agricultural development, and the greatest concentration of industry in the PRC, only represents 11 percent of China's total land mass. The density of population in Shanghai, for instance, is more than 2,000 people per square kilometre. Those provinces with higher GDP volume are all located in the eastern, south-eastern and south coastal areas.

Another notable feature of the Chinese market is the policy guidance which largely determines the flow of foreign investment to different areas of China. The gradual approach of economic development started from the economic zones located in most coastal areas, is now focusing on development

in central and south-west regions. In early 1997, the Chinese government selected Chongqing as the fourth municipal city after Beijing, Tianjin and Shanghai. Guangzhou in the south is another major city to watch in the PRC, but is part of Guangdong province, not a city-state.

Ownership of design institutes

State-owned and collectively-owned design institutes are the major players in China. There are about 760,000 employees working in state-owned design institutes, and 20,000 employees working in collectively-owned design institutes. Share holding companies and joint ventures (between Chinese >



Shanghai stadium, recently completed by the Shanghai Institute of Architectural Design & Research now amalgamated with ECADI

What to do when working in the PRC ...

- 1 Early participation in the Chinese market is crucial.
- 2 Be aware that it might be necessary to start out with little or no profit.
- 3 Note that the door to the PRC is opened only for those foreign participants who can provide services of which China has a shortage.
- 4 Try to undertake foreign financed projects.
- 5 Provide concept designs – the main activity for foreign designers in the Chinese market.
- 6 If a foreign firm does the concept design, make sure the local design institute is able to do detail working drawings well.
- 7 Ensure that your Chinese partners are from the Class A or B design institutes. Make sure that you establish and maintain good relations.
- 8 Study the local materials selected by the design institute. The specification may be "relationship" based, not quality based.
- 9 Monitor the relationship between the general contractor and the local site supervision team required by the government.
- 10 Ensure the design institute shows the typical details on drawings rather than code the detail specification.
- 11 If you want to know about the state of a project talk to the workers.
- 12 Face to face communication is more important than paper work in order to achieve mutual understanding and trust.
- 13 Always get a fixed price or a unit price prior to starting work.
- 14 Contractors will claim that government issued price books govern their charges, but the system is open to abuse.

... and what not to do

- 1 It is not a sensible strategy to wait for a "pure" free market coming to China before entering the market, as the economic transition in China is a long term process, but the huge opportunities can not be ignored.
- 2 Don't treat China as a free market.
- 3 Don't ignore risks in the market. The transition process leads to relatively high risks, such as foreign currency, foreign exchange rate, inflation, political and regulation risks.
- 4 Don't adopt a similar business approach as that adopted with other developing or transition countries since China is adopting a fundamentally different approach in its transition.
- 5 Don't ignore regional architectural style since China is vast and style changes from region to region.
- 6 Don't ignore the functions of local authorities since they may help to smooth the relationship between parties.
- 7 Don't force western design standards on China's architectural and business practice and culture.
- 8 Don't start work before fully understanding the design requirements of the clients. It is easy to be misunderstood due to different standards, different design rules and regulations, different design processes and the language barriers which can exist between China and western countries.
- 9 Don't ignore the Chinese business culture, such as *guan xi* – long term relationships based on trust and mutual respect.
- 10 Don't attempt to be everywhere in the PRC at once. Each region has different development strategies and speed. Official development planning from the Chinese government, such as Five Year and Ten Year Plans are important documents to use to determine the key locations and key economic activities.

CAD image by WAVE



► firms and foreign partners) are a new thing in China and still relatively few in number – but the growth is rapid. In Beijing, for example, there are 545 state-owned and collectively-owned design institutes, but only 30 joint ventures, and less than 30 share-holding companies. Private design institutes are not legally allowed in China although it has been tried in Shenzhen, Guangzhou and Shanghai, with very few licensed private design institutes (less than 20).

The reforms of the government design institutes in China

The reform of the Chinese design institutes has been ongoing since 1979. The first step was to try to set up a system of payment for design work. The following changes have taken place:

- Offering design fees from the client directly to the institutes.
- Reducing funding from the government.
- Adopting a contractual system between clients and the design institutes.
- Reducing government control.
- Giving design institutes more freedom in operation.

The second stage of reform started in 1984. During this time, the system moved away from government funding for design institutes. A contractual system was established between the institutes and the client. Meanwhile, another most important reform for design institutes was the interior system reform, focusing on the establishment of technical and economic responsibility, changing the payment and employment system. State-owned design institutes now operate as commercial enterprises. They compete for design projects through competition, charging design fees from clients. But further reforms are still needed. State-owned design institutes, for example, still have enormous responsibilities for their staff and families, often operating schools and hospitals within the organisation.

Classification

All design institutes must be registered with government authorities such as the Ministry of Construction, local construction commissions or local industrial commerce bureau. A Design Qualification Certificate is issued which allows design institutes to undertake design work, and a Payment Qualification Certificate allows them to charge design fees from clients.

There are four classes of registration for design institutes in China – A, B, C and D – within each of the 28 different industrial

- 1: CAD image of Terry Farrell & Partners' Shangdong International Conference Centre, Qingdao, in design development phase
- 2: SOM's landmark Jin Mao tower in the Pudong district, Shanghai, nearing completion
- 3: CAD image of KPF's World Financial Centre which will rise close to Jin Mao
- 4: Ingenhoven Overdiek Kahlen und Partner's Wan Xiang International Plaza in Shanghai which will occupy an important site in the centre of old Shanghai. UK structural engineers, Buro Happold, are active throughout the PRC



classes, reflecting the considerable variety in the size and expertise of the institutes. The highest category – Class A – is registered by the State to work throughout China (and a small number receive a license to work overseas) on projects of any size and complexity. Class B is registered locally but can also work nationwide. Foreign investment projects tend to be allocated to the higher design institutes, such as Class A and B, and the design work for large and middle sized projects in China is usually done by those institutes. Class C and D denote local design institutes and include a large number of very small collective institutes.

Design institutes may be approved for just one type of building or for a range of specified building types. They may also be approved for either building or civil engineering works, or both. The working scope for each class of design institute is also limited. For example, six classes of buildings project are given, including Super Class, Class 1, 2, 3, 4, and 5. There is no limitation for Class A working for all classes of buildings.

Class B cannot work with Class 1, Class C with no more than Class 3, and Class D with no more than Class 4.

Professionals

Design institutes in China usually have wide working scope, including feasibility study, concept design, primary design, detailed design (working drawings) and estimating work. It is usual for the construction companies to do site work while design institutes do all the detailed working drawings. Some design institutes even provide services as general contracting or project managers. Most large design institutes are usually set up as comprehensive multi-disciplinary organisations incorporating disciplines such as city planning, structural design, interior design, water supply and drainage, gas, heating, air-conditioning, telecommunication, lighting, power, pre-tendering estimation, consultation, and project management. Therefore, professionals in a design institute usually include architects, structural engineers, electrical and mechanical engineers, construction managers and quantity surveyors.

In the past, China adopted a different qualification system for individuals. Registration systems are new in China, and

individuals are now required to be registered. Until the end of 1997, there were about 5,500 registered architects with Class 1, and 25,000 registered architects with Class 2. The registration process is still in its infancy, but the number of the registered architects is increasing fast.

Infrastructure and housing development

China needs about US\$500 billion for infrastructure development during the Ninth Five Year Plan period. The Ministry of Transportation has estimated that more than US\$20 billion will come via foreign investment during the same period. In order to implement the national railway construction programme, it is estimated that there is still a capital shortage of 10 billion Yuan (8.3 Yuan/RMB = US\$1) and foreign funds have become the major source for this capital demand. More than 200 berths will be constructed with an expected 300 million tons of cargo to be handled. The Chinese government also intends to build or

"China needs about US\$500 billion for infrastructure during the Ninth Five Year Plan. It is estimated that more than US\$20 billion will come via foreign investment during the same period."

expand 20 of the largest airports during this period.

The annual increase in capacity of power generation is more than 15,000 MW, the equivalent of the total installed capacity of the whole of Switzerland. Given the size of the Chinese market, such growth represents only a small part of the existing potential. Power generation capacity per capita in China is only six percent of that in North America and 10 percent of that in Western Europe.

Since 1993, China has remained the World Bank's largest borrower, at around US\$3 billion per year. More than 40 percent of the total amount loaned by the World Bank to China was invested in infrastructure. In 1996, US\$1.4 billion was borrowed from the World Bank for China's power and transportation, accounting for 48 percent of the bank's total lending to the PRC, 26 percent of its total lending to East Asia and the Pacific, and 6.6 percent of its total lending. In 1997, the share of the World Bank's total lending to China, especially to China's power and transportation further increased, >



Shanghai Square, along Huai Hai Zhong Lu, by Hong Kong firm Wong & Tung International Ltd



The Shanghai Stock Exchange, one of the city's most popular landmarks, by the Canadian firm, WZMH



Sun Dong An Plaza in Beijing designed by Wong Tung & Partners Ltd with RTKL

accounting for 15 percent and eight percent of the World Bank's total lending in power and transportation.

China's housing development is also huge. In 1996, about 1.2 billion square metres of housing was constructed accommodating approximately 15 million households. However, the rapidly expanding housing market still cannot meet the enormous demand. This is a market which should be capitalised upon by foreign architects, but many are loathe to do so due to the low level of fees. Current housing conditions of eight square metres per capita is still in urgent need of improvement. The targets set for housing in urban areas are 12 square metres per head by the year 2000, and 16 square metres per head by the year 2020.

Overseas design participants in China

Many of the big architectural names from SOM, John Portman, KPF, Norman Foster, WZMH and RTKL are well known throughout the PRC, along with engineers Ove Arup and Partners and Buro Happold from the UK. Overseas designers are legally obliged to work with a Chinese partner. These partnerships are encouraged by the government, which is keen to learn advanced techniques from overseas participants in an effort to improve the Chinese design process, standards and regulations.

Overseas design organisations can work with Chinese partners through joint venture or collective venture schemes. They can also set up a project team with local partners. No matter what co-operation forms are used, registration is always needed either at central government level (ie the Ministry of Construction) or from local government authorities. It is usual that the local partners will take the application process for registration of the joint body due to their understanding of the approval process. In most cases, foreign designers do the concept design and the local partner does the primary and detailed design. The opportunities are still good for foreigners, many clients opting to employ them for the concept design if they are able to afford the privilege.

Advice from those who know ...

- "A joint venture is like a marriage when you eventually get into bed with each other. Only, in China, the courtship tends to be longer than elsewhere; however, the marriage can be just as fruitful." (UK manufacturer).
- "We met difficulties; we always complained about doing business with the Chinese. However, we never talk or think about giving up the potential huge construction market in China. In our opinion, the more co-operation, the more understanding, the easier it will be." (DHV General Contracting).
- "Western cultures and ideas should be adopted only if they fit *guo qing* - the Chinese characteristics." (Deng Xiaoping).

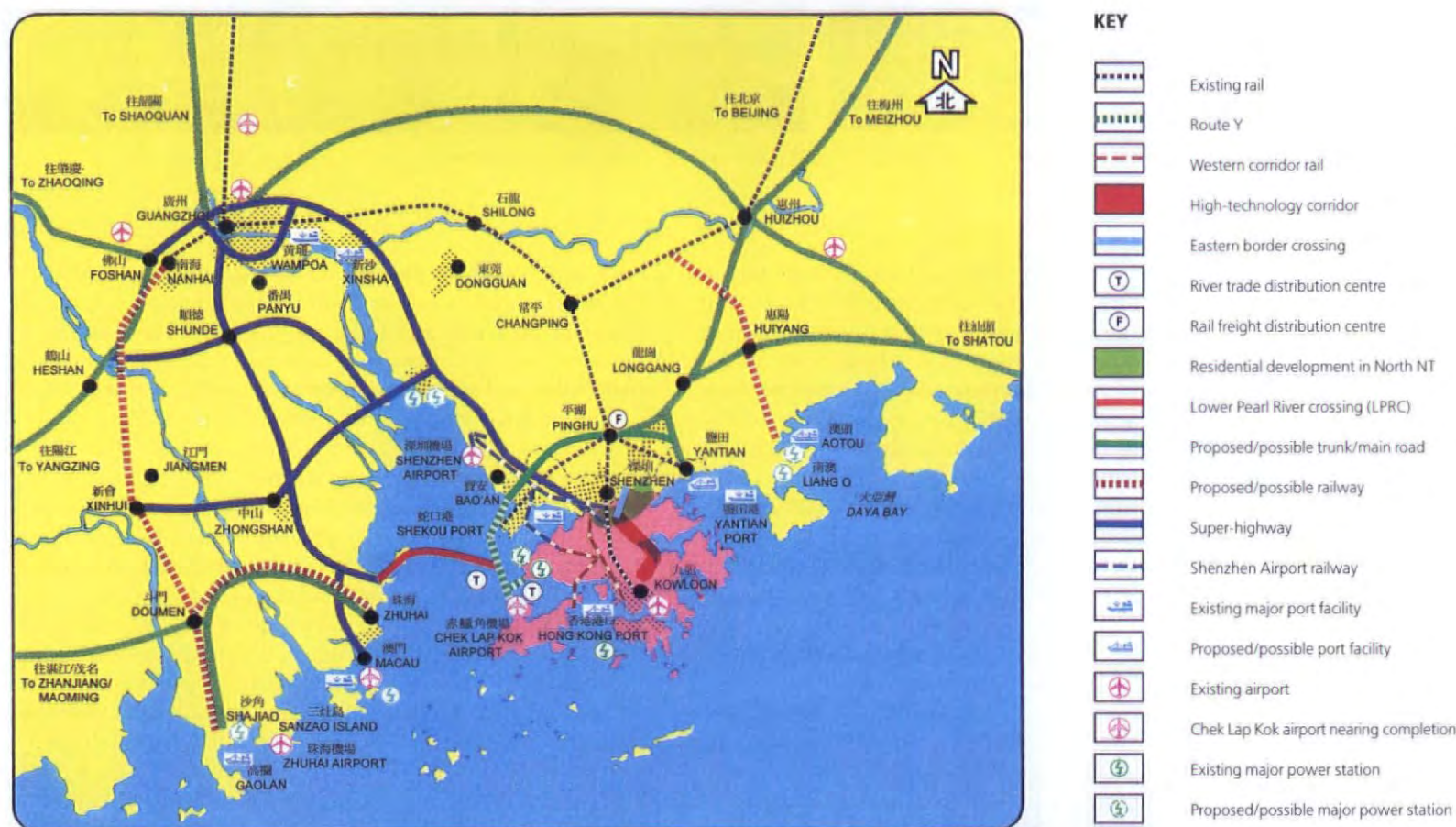
"We should provide China with the whole construction package ... it has an urgent need for final construction products."

Bovis, UK

- "China has the technical capacity to design and build construction projects. China has one-fourth of total construction employees in the world. However, we need foreign expertise for advanced technology and project management." (Yao Bing, Ministry of Construction).
- "We should provide China with the whole construction package, including financing, design, build and operations since it has an urgent need for final construction products." (Bovis, UK).
- "If you try to run across a river, you will be swept away; put down one foot first, check to see if the stone beneath is firm and then, and only then, put your other foot forward; if at any point you feel the stone beneath is not firm, then move back until your feet feel solid ground and then begin again." (Deng Xiaoping).
- "We would like foreign designers to help us to find out the best way to combine western advanced-technology with China's traditional style of architecture." (Design Institute of Ministry of Construction).

Southern China and Hong Kong

The Pearl River Delta – Key Infrastructure



Pearl River Delta (PRD) - Boom City

The late Deng Xiaoping's "To get rich is glorious" proclamation followed by a high profile tour of Guangdong Province in 1992 triggered the most rapid urbanisation process China has experienced in centuries. Over the last decade Southern China has been treated as a test bed, spearheading the transformation from rural to market economy. New cities have sprung up from rice fields and *tabula rasa* sites, Special Economic Zones (SEZ) have been established, whilst old cities like Guangzhou have been reconfigured. The story of the south has been new economic policy, urban development and infrastructure growth, with a population of 40 million projected by 2006. It is triangulated by Shenzhen, Guangzhou and Zhuhai, whilst Hong Kong as a capital and skills provider continues to play a major role post-1997 Hong Kong Handover. Mini "parasite cities" such as Dongguan, Shunde, and Zhongshan have also germinated, feeding off major urban hubs. Cities compete through differentiation of specialisation – manufacturing, administration,

leisure, residential – all hyperconnected by a growing network of infrastructural links. This new concept of the PRD as City, is comparable with the *Raanstaad* urban model in the Netherlands. It raises the question of whether cities of the future will be comprised of dispersed concentrations of interdependent densities rather than existing as single entities.

New Policy – the next phase

According to Jones Lang Wootton research director Tim Bellman, China's new domestic policies will have a larger impact on the property market than the recent Asian economic crisis. Guangzhou is now one of China's five metropolises which operate almost as independent city-states. New Prime Minister Zhu Rongji has recently introduced economic reform regionally, aimed at streamlining inefficient state-owned enterprises and abolishing state-subsidised housing. Architect Dennis Lau believes these policies will bring about a housing boom, and that Hong Kong architects will benefit. Professor Zhao, Vice President >

Air Photos International



The 39-gate terminal at Foster's Chek Lap Kok airport has a 490,000 sqm concourse and gate area which narrows and stretches 1.3 kms before it splits like a swallow's tail



Terry Farrell's Kowloon Station, Hong Kong, nearing completion

of the Southern China Design Institute suggests that Southern China may once again be China's laboratory for radical reform. Regional integration continues to generate numerous airport, metro, highway, railway, power, bridge and port related projects, all of which provide opportunities for foreign expertise to be imported. Hong Kong's two mega transport projects, Foster's Chek Lap Kok Airport (see next issue WA68) and Terry Farrell's Kowloon Station, will both open for operation imminently. The massive 516,000-square-metre airport terminal, the largest in the world, and the Tsing Ma suspension bridge to Kowloon and central Hong Kong have been designed to retain Hong Kong's status as gateway to the PRC. Guangzhou's new metro system is nearing completion, and its new development area Tian Ho is maturing. The Lingding Superbridge linking Zhuhai to West Hong Kong will be built, completing the Pearl River Delta loop starting with the Guangzhou-Shenzhen-Zhuhai Superhighway.

Market conditions in big cities point to a continuing oversupply

tendency for a building's function to be indeterminate, with amendments up until completion". This phenomenon is partly caused by client indecision, but also due to the hybrid building types in China. Kwan goes on to comment that "flashy presentation models and perspectives are important for marketing projects, space planning is more generous than in Hong Kong, regulations are more stringent but ambiguous. Stylistic references are often external and vague. Anything goes in China!"

As a generalisation, construction standards in northern cities tend to be better than in the south. That is unless you mobilise an entire site operation including plant and machinery, glazing contractors, building materials and training staff, as did Kumagai Gumi (HK), contractors for two of Shenzhen and Guangzhou's most desirable commercial buildings – Shun Hing Square and Citic Plaza. David Suff, Kumagai's project director for both buildings puts it down to clients who demand quality, supervised control of local subcontractors, importing critical

components and a close working relationship with the local design institute at the detail design stage. Winston Shu, director at Foster & Partners confirms that foreign

"Retail activity remains buoyant since the purchasing power of southern cities can be five times the national average."

of new commercial space. J.L.W.'s Bellman estimates a 10-15 percent drop in 1998 rental prices. According to property surveyors CY Leung & Co, multinational companies continue to seek new office space in Guangzhou whilst local players dominate in Shenzhen. Occupancy rates are averaging around 40-60 percent, but can be as high as 80-90 percent, for example in Guangzhou's older business district where there is little new supply. Retail activity remains buoyant in the region since the purchasing power of southern cities can be five times the national average.

Design types, practice and building standards

Speculative development and a lack of coherent planning still dominates urban growth in southern China. The main building typologies tend to be mixed-use residential or office-retail developments, with zones dedicated to manufacturing or leisure. According to P&T Architects director Bing Kwan, "due to fluctuating market conditions, increasingly there is the bizarre

contractors are key to maintaining quality and that the distribution of costs in buildings can be different, making more working drawings and inspections necessary. Foreign architects are often typecast, for example as corporate tower builders (US firms) or infrastructure builders (European firms). Dennis Lau believes that Hong Kong's architects currently may have the edge over their Western counterparts, because of their more pragmatic approach to the economics of building design. Foreign architects are able to charge higher fees, but frequently complain that communication problems, regulatory difficulties and uncertainty of fee payments prevent many from gaining a foothold. That is changing however, with local clients becoming more sophisticated and improvement in building standards. Cities are now holding international competitions for municipal facilities in order to create landmark buildings. Convention centres, libraries, stations, theme parks and auditoriums are examples of this new civic realm in southern China's urbanisation.

CONSTRUCTION FACTFILE compiled by Hanscomb

Construction outlook: China created numerous Special Economic Zones, mostly along the coastal areas, as part of its strategy to bring in Western technology in a controlled manner. They remain popular with foreign investors. Nevertheless, significant investment occurs outside these zones. The government offers incentives, such as breaks on import taxes, in the zones. Also popular are special industrial parks developed by a city or province that offer incentives to the investor.

Procurement of construction: The degree of completion for designs and specifications by the designers before tender is variable. It may range from 35% to 100%. This is somewhat dependent on the option chosen for awarding the construction contract. Contract documents consist of drawings and conditions of contract only. Bills of quantities are not typical, but may be used in southern regions of China near Hong Kong.

Traditionally, the government assigned projects to construction enterprises. The project price was determined from the government price book. Unit prices can fluctuate during the project if price updates are issued by the government authority. China's "open door" policy and the move to a market economy have introduced a form of tendering. Its use is increasing on government projects. Most foreign investors use the tendering approach, but a few elect to use the cost data book method. Tendered projects usually are fixed unit price contracts using a bill of quantities or fixed price. The FIDIC contract is popular with foreign investors, but many forms are used including a Chinese Form of Contract prepared by the MOC.

The Tendering Committee process is rather unique. Tender documents and an estimated cost must be submitted to the Tender Committee. Jointly with the foreign owner, a project value will be established. Tenders falling outside of a percentage range of this value will be rejected. The Commissions receive a fee, based on percent of construction cost, for their work. Open or selective tendering may be used.

The differentiation between general contractor and construction company categories is significant for how construction is procured. General contractors generally only manage the project and do not directly perform any of the work. The work is subcontracted to construction companies and specialist subcontractors. In most cases, the general contractor company is a holding/parent company of a construction corporation, which is a group of construction companies. When using a general contractor the Tendering Committee may not be involved at the award of the main contract to the general contractor, but major sub-contracts will go through the Tender Committee.

Construction companies will perform construction activities with their own resources. Specialist work on the project will be subcontracted to various specialist subcontractors. These may be subsidiaries of the construction company. Typically, the construction company will dominate the construction site, controlling most of the labour and equipment.

The quality supervising company, rather unique to China, plays an important role in the industry. They are an independent party retained and paid by the owner. However, they do not represent the owner's interests exclusively. They assure quality and compliance with codes and regulations.

Contractors: Many construction entities are either state, city, or town owned. Private ownership of construction entities is limited. The government categorises contractors based on capabilities, employees and capital. There are six main categories that are further divided into types/grades. The categories are:

- General contractor (2 grades)
- Construction company (4 grades)
- Construction company under specialised government
- Department (18 types)
- Specialist contractors (14 types)
- Waterproofing companies
- Prestressing companies

Governing codes and standards: The central government has established numerous design codes (over 200) that cover all aspects of design. However, the current transition from a centralised government will result in many local codes of construction principles.

Construction materials and methods

Material availability: Many quality building products are now produced in China. Concrete remains the material of choice for building structure; quality structural steel remains expensive.

Labour availability: An adequate supply of skilled labour continues to be a problem. Many construction workers are villagers from nearby areas. These villagers are farmers and will return home twice each year for harvest and planting. This should be planned into any schedule. Because these are migrant workers, site housing for the workers may often be required.

Equipment availability: Most major construction enterprises own construction equipment. Leasing is not common.

Construction cost guides (effective early 1998)

Pricing guides: Cost guides published by local and central government are available.

Construction prices: In China, providing construction prices is particularly difficult, as there is something of an artificial construction market, in which prices are set and negotiated, rather than being allowed to find their own level. If you are a Chinese owner building for a Chinese user, then construction prices are mandated by elaborate price books, which follow the pattern used in other planned socialist economies. Prices tend to be low as a means of encouraging capital investment.

Approximate construction costs: The following square metre unit rates for Shanghai are provided for rough comparison purposes. Prices levels can vary dramatically and Shanghai is one of the more expensive areas to build in China.

Building type	RMB/m ²
Industrial/warehouse	3,750-4,500
Office building	7,000-8,500
3 star hotel (excluding FF&E)	8,000-9,000
Standard apartments	4,000-6,500

Leading Architectural Design Institutes of China (excluding Hong Kong)

- China has approximately 11,150 design organisations, employing more than 763,000 staff in total.
- These are a selection of some of the largest and most highly regarded institutes.
- Figures have been provided by the individual institutes and include architects, engineers and assistants, of which approximately one third are architects.

Institute	Location	Total number of staff
Beijing Institute of Architectural Design and Research	Beijing	1240
Building Design Institute of the Ministry of Construction	Beijing	670
China Space Civil & Building Engineering Design & Research Institute	Beijing	1040
Chongqing Architectural and Civil Engineering Institute	Chongqing	600
China Southwest Architectural Design & Research Institute	Chengdu	1000
Guangdong Provincial Architectural Design & Research Institute	Guangzhou	676
Guangzhou Building Design Institute	Guangzhou	500
Zhejiang Province Building Design and Research Institute	Hangzhou	800
China Northeast Building Design and Research Institute	Shenyang	1080
East China Architectural Design Institute (ECADI)	Shanghai	900
merged with the Shanghai Institute of Architectural Design & Research		1000
Tianjin Architects & Construction Engineers	Tianjin	1133
Central South Architectural Design Institute	Wuhan	900
Wuhan Architectural Design Institute	Wuhan	600
China Northwest Building Design and Research Institute	Xian	900

Leading Architectural Firms based in Hong Kong

	Number of Architects	Business Parks/Offices	Criminal Justice	Cultural	Defence	Education	Government Buildings	Healthcare	Industrial	Hotels/Leisure	Retail	Residential	Sports Stadia	Transportation	Other
Leigh & Orange Limited	200	■				■		■	■	■	■	■		■	
Wong Tung and Partners	143	■				■	■		■	■	■	■		■	
Dennis Lau & Ng Chun Man Architects and Engineers	90	■		■		■	■	■	■	■	■	■	■	■	
Kwan and Associates Architects Limited	63	■				■		■		■		■			
Simon Kwan and Associates	49	■		■		■	■		■	■	■	■	■		
Hsin Yieh Architects and Associates	40						■		■	■	■	■	■		
Spence Robinson	+/-40				■						■		■		
Rocco Design	37				■			■	■	■		■			
Frank C.Y. Feng Architects and Associates	30	■									■	■			
WCWP International	25	■				■				■	■				
CYS Associates (Hong Kong Limited)	25					■	■		■	■	■	■		■	
Architects Pacific Limited	11	■								■	■	■			
Nelson Chen Architects	6			■		■		■	■	■		■		■	
Arthur C.S. Kwok Architects & Associates	11	■				■	■	■	■	■	■				
P&T Architects	—	■		■		■			■			■			■
Liang Peddle Thorpe Hong Kong	—	■			■	■		■	■	■	■	■	■	■	

Foreign architects with offices in China and Hong Kong

Firm	Home Market	Working in
Woods Bagot	Australia	Hong Kong
Woodhead Firth Lee	Australia	Shanghai
Nikken Sekkei	Japan	Shanghai
Fox & Fowle	USA	Shanghai
Terry Farrell & Partners	UK	Hong Kong
WZMH	USA	Shanghai
Hassell	Australia	Hong Kong
CY Lee and Partners	Taiwan	Shanghai, Beijing
Brennan Beer Gorman	USA	Hong Kong
Leo A Daly	USA	Hong Kong
HLW	USA	Shanghai
Timothy Seow Group Architects	Singapore	Hong Kong
RTKL	USA	Hong Kong
Foster Asia	UK	Hong Kong
SOM	USA	Hong Kong
TSP Architects	Singapore	Hong Kong
Alfred Wong	Singapore	China

Architects Profile Showcase China and Hong Kong

- | | |
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| 49 | CYS Associates (Hong Kong) Ltd |
| 50-51 | Arthur C S Kwok Architects & Associates Ltd |
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| 53 | Leigh & Orange Ltd |
| 54-55 | Liang Peddle Thorp Architects & Planners Ltd |
| 56 | Timothy Seow Group Architects, Pte Ltd |
| 57 | WCWP International Ltd |



Art Gallery and Academic Offices, University of Hong Kong



Kowloon Motor Bus Company Office Headquarters, Hong Kong



Crystal Industrial City, Guangdong Province, P.R.C.

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Nelson K Chen, AIA RIBA HKIA
Associates:

Eric F C Sau; Jun Santos, UAP; Peter
Gorer, AIA RIBA

Services

Architecture, Master Planning,
Interior Design, Programming and
Space Planning, CADD Services,
Project Management.

Recent clients

Canadian Overseas Development
Chinese University of Hong Kong
Crystal Industrial City (P.R.C.)
Fairview Park Alliance Church
Hong Lok Yuen Estates
Kowloon Motor Bus Company
Lafe Computer Magnetics (P.R.C.)
Mandarin Oriental Hong Kong
Mattel Toys Operations (P.R.C.)
St. Andrew's Church
Silvermine Beach Hotel
Suzhou Garden Villas (P.R.C.)
Texwood Group
University of Hong Kong
Yeo Hiap Seng (Singapore)

Practice profile

Nelson Chen Architects are noted for design excellence and personalised client service in an international practice extending from Hong Kong and China to North America. The firm was established in 1987 as Wong Chen Associates, successor to the former practice of Wong Cho Tong and Clifford Wong, originally founded in 1947. With this fifty year legacy of professional achievement, the new firm remains committed to providing its clients with design solutions that are innovative and appropriate.

Under the design direction of Nelson K. Chen, an award-winning architect from the U.S.A., the firm maintains a diversified practice, offering full professional services in architecture, master planning and interior design, including renovations and adaptive reuse. Recent commissions have ranged in size from just 100-square-metre interiors to over 500,000-square-metre garden housing developments.

Regardless of size, each project is given the same meticulous attention to achieve the highest standards of design quality and technical performance. Thus, the firm has earned an outstanding reputation for its professional service at all stages from design concept to construction details. The work of Nelson Chen Architects is recognised by numerous publications, exhibitions and international design awards.

Areas of specialisation

Art galleries and museums; corporate offices; garden housing estates; health care facilities; hotels and resorts; industrial parks and factories; recreational clubs and sports facilities; schools and universities; shopping centres; transport terminals.

Additional information

Over the past decade, Nelson Chen Architects have completed several consistently high-quality projects in China. The firm has also collaborated successfully with overseas design practices by offering extensive local experience together with its international standards of design and professional service.



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Hong Kong Housing Authority
Hong Kong Architectural Services Department
Hong Kong Housing Society
The Mass Transit Railway Corporation
Land Development Corporation
City University of Hong Kong
Hong Kong Academy of Medicine
Sun Hung Kai Properties Ltd.
Hong Kong Resort Co. Ltd.
Henderson Land Limited
Hang Lung Properties Ltd.
Sino Land Company Limited
Wheelock Properties Limited

Key personnel

Kenneth T. H. Chau, HKIA, RIBA
Managing Director

Thomas H.P. Kam, HKIA
Director

Nicole W.Y. Chan, HKIA, RIBA
Associate

James W.C. Cheung, HKIA
Associate

Daniel H.Y. Ho, HKIA
Associate

Size of firm
Head office: 80

Areas of specialisation

Residential, commercial, transportation, institutional and industrial.

Company profile

Ever since the commencement of its practice on May 1, 1982, CYS has successfully implemented a wide variety of project types of substantial volume. Completed buildings range from commercial complexes and high density housing estates: schools and housing for institutional concerns; recreation and resort facilities; 'high-tech' industrial centres and flatted factories; renovation of office buildings as well as residential estates.

The architectural practice of CYS was founded in 1982, amalgamating with practices of RH Yu and Associates (founded 1978) and David Shek and Associates (1981). The firm became CYS Associates (HK) Ltd. in 1987. CYS currently has a staff of 80 under the directorship of Kenneth TH Chau and Thomas HP Kam (David Shek retired from the firm in 1986 and emigrate to Canada. Roderick Yu retired in 1993). There are altogether 18 fully qualified architects and 25 assistant architects, supported by a drafting section and full CAD facilities. There is also a interior design section.

The Directors are involved directly and closely on all aspects of all projects, from inception, design, construction, documentation to final implementation. The practice's philosophy emphasis is on design excellence, with sound and innovative technical back-up, balancing economy and aesthetics.

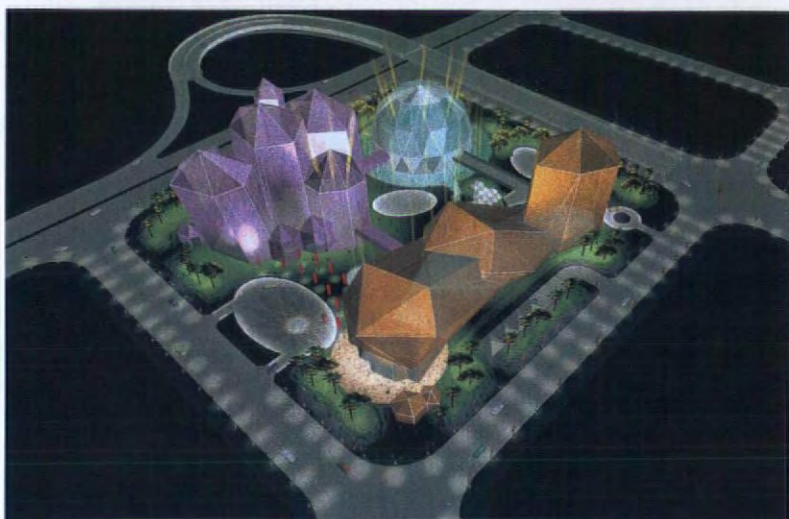


1: Eaton Hotel & Astor Plaza, Kowloon, Hong Kong

2: The Manhattan, Tai Tam, Hong Kong

3: La Costa, Discovery Bay, Hong Kong

4: Kwong's Memorial School, Huadu, Guangzhou, China





Arthur C. S. Kwok Architects & Associates Ltd

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Other office

Wuhan, China.

Key personnel

Arthur Kwok
Alfred Lai
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Size of company

60 Staff

Selected project list

Commercial development

- Nina Tower Proposal, Hong Kong
- Causeway Bay Plaza One, Hong Kong
- Hai Zhu Plaza, Guangzhou, China
- Tien He Entertainment Centre, Guangzhou, China
- Zhabei Commercial Development, Shanghai, China
- Wuhan Wholesale Centre & Sun Cultural Centre, Wuhan, China

Residential development

- Red Hill Peninsula, Hong Kong
- 37 Repulse Bay Road, Hong Kong
- Regent on the Park, Hong Kong
- Ocean Garden Development, Macau
- Wing On Life Garden, Singapore

Recreational

- Chinese YMCA, Hong Kong
- Aberdeen Marina Club, Hong Kong
- Waterfall Bay Golf Driving Range, Hong Kong
- Peng Chau Recreation Centre & Library, Hong Kong

Educational

- Improvement Programme for 100 Schools, Hong Kong
- Social Welfare Centre, Hong Kong
- Lingnan College Campus Redevelopment, Hong Kong

Hotel

- Tiantan Hotel, Beijing, China
- Asia Hotel, Beijing, China
- Holiday Inn Riverside, Wuhan, China

Company profile

Arthur C. S. Kwok Architects & Associates Ltd. (AKAA) is an architectural firm based in Hong Kong. Since 1971 when it was established, the practice has been responsible for many landmark buildings, both locally and in the S.E. Asia. AKAA continues nowadays to actively contribute to architectural developments in Hong Kong and in China.

AKAA offers a wide range of consultancy services, including urban planning, architectural design, interior design and project management. The directors and their professional staff always aim to provide their best personal attentions to their clients, to respect their needs, and to serve them with the highest standards of design excellence and building quality. It is the design philosophy of the practice to create user-friendly buildings, with particular consideration to their long term viability, architecturally, functionally and economically. All local projects are quality assured to meet the international standard of ISO 9001 : 1994.

AKAA has a wide range of job profiles in Hong Kong, China, Singapore and Macau. The office is well experienced in the design and project management of various types of buildings, and maintains excellent working relationships with their private and public clients. Many of the built projects are widely acclaimed in architectural publications.

Area of specialisation

- Retail and shopping centres
- Residential developments
- Commercial highrise towers
- Recreation
- Education



1: Tien He Entertainment Centre, Guangzhou, China

2: Residential development, Red Hill Peninsula, Hong Kong

3: Residential development, 37 Repulse Bay Road, Hong Kong

4: Competition entry for cultural park, Shenzhen, China

5: Aberdeen Marina Club, Hong Kong

6: Hua Lian department store, Nanjing Road, Shanghai, China

7: Shopping and office development, Hai Zhu Plaza, Guangzhou, China



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Company profile

Hsin Yieh was established in Hong Kong in 1948, after relocating its practice from China that was started in 1930. The firm has since grown steadily to its present size of over 200 personnel. The firm provides the full range of architectural and structural engineering services.

Projects undertaken by the firm embrace a great variety of building types, residential, commercial, institutional and industrial, as well as planning and design of substantial high density comprehensive developments to house large communities. The main bulk of Hsin Yieh's work is in Hong Kong. However, in recent years, the firm has again undertaken projects in major cities in China.



1: South Horizons – Ap Lei Chau, Hong Kong

A comprehensively planned development for 30,000 population in 32 towers of over 10,000 apartments completed in 1995 together with supporting shopping centres, educational, recreational and residents' private club facilities on a 15.43ha site.

2: Laguna Verde – Hung Hom, Kowloon, Hong Kong

Currently under construction for overall project completion in 2000, a planned community for 5,000 flats in 25 residential towers on a 6.7ha site. Building heights are maximised to the statutory limit to conserve ground open space in an "European" themed setting, complete with shopping, institutional, recreational, club and other supporting facilities.

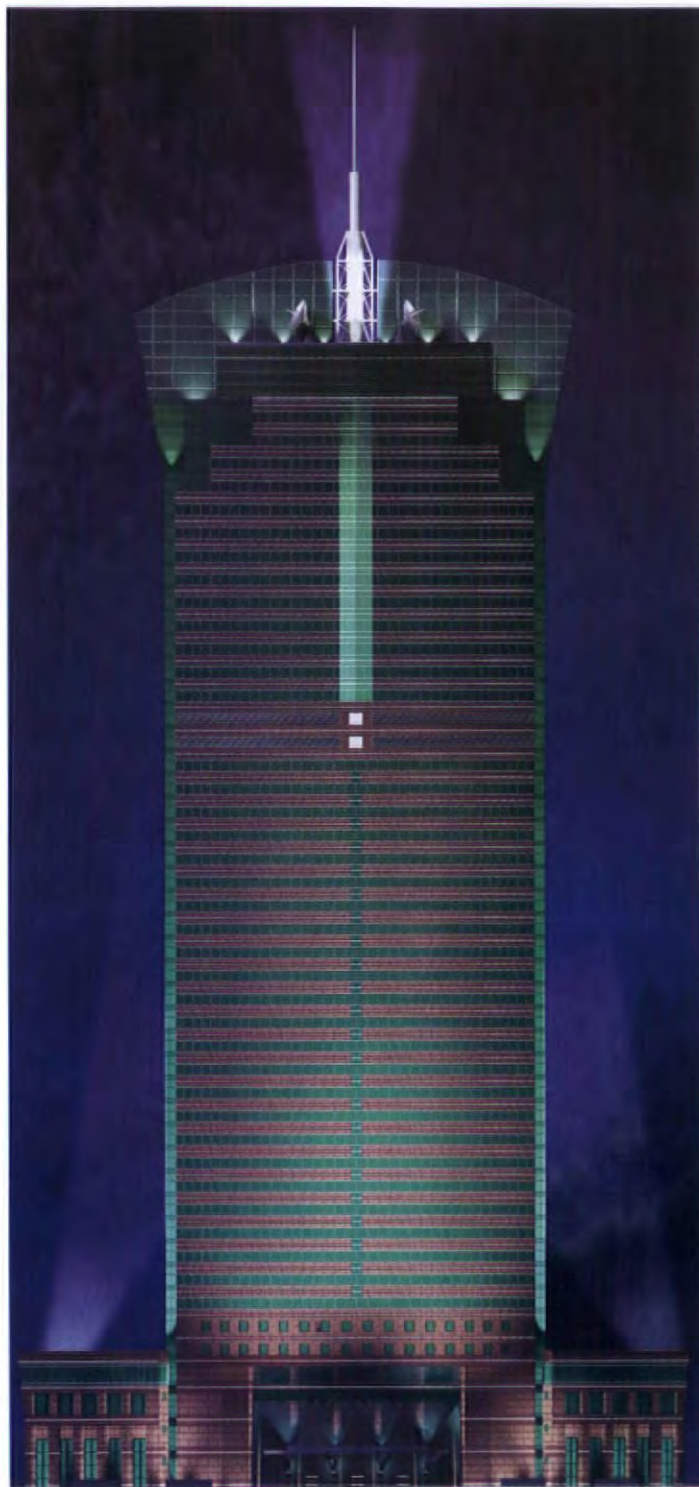
3: Urban redevelopment – Wing Lok Street/Queen's Road Central, Hong Kong

An old dilapidated part of town near the central business district was recently replaced by this 52 storey rectangular tower and a curved tower of 29 floors totalling over 100,000 square metres, flanking a new pedestrian plaza in between. The design was intended to promote a dialogue between the old and the new, the traditional and the modern, solidity and gracefulness.

4: 275/11KV Electric Zone Substation – Connaught Road Central, Hong Kong

Recently completed on a prime waterfront site in the central business district, the zone substation attempts to blend in with the urban environment and express its utilitarian function by sheathing most of its 50m tall facade in a gridded glass block wall.





World Finance Tower, Shanghai, CHINA



Shanghai University - New Campus Masterplan, Shanghai, CHINA

L&O

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Practice profile

Founded in Hong Kong in 1874 and now with a total strength of over 600 staff Leigh & Orange is a large well-established international architectural design practice offering high quality design and project management services to major local and overseas clients in a wide range of market sectors.

- Industrial
- Residential
- Mixed use
- Laboratories
- Offices and banks
- Swimming pools
- Computer buildings
- Hospitals and medicare
- Radio and television
- Clubs and restaurants
- Shopping malls and retail
- Telecommunications
- Hotels and hospitality
- Racecourses and equine facilities
- Grandstands and stadia
- Education including universities
- Sportsfields and gymnasias
- Oceanaria and theme parks
- Transport and infrastructure

Services include architecture, interior design, urban planning and design, project management, and materials science consultancy. The firm has been established in the P.R.C. market for over 20 years and has developed close working relationships with a number of P.R.C. based design institutes. The practice is certified under ISO9001 and operates an integrated quality management system covering aspects of quality, environment, and safety.



Terminal & West, Hong Kong



Gaysorn Plaza, Thailand, night view



Ramada Renaissance Hotel, Hong Kong



John Hancock Tower, Singapore



Eastern Central Plaza, Hong Kong, front elevation



Pacific Plaza, Singapore



Saigon Tower, Vietnam



Saigon Tower, entrance detail

Liang Peddle Thorp Architects & Planners Ltd

Head office address:

4/F, China Overseas Building
139 Hennessy Road
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Tel: +852 2861 1728
Fax: +852 2529 6419
E-mail: lpt_hk@compuserve.com
Contact: Mr. Keith Griffiths, Director

Singapore office:

163 Penang Road
#07-01 Winsland House II
Singapore 238463
Mr. Tony Ang, Director

Malaysia office:

Lot 16 Godown No.5
Jalan Tun Sambanthan
50470 Kuala Lumpur, Malaysia
Mr. Frank McGoldrick, Director

Key personnel:

William T.K. Liang, Chairman & Managing Director
Keith Griffiths, Director
Agnes K.Y. Ng, Director
Kyrin Sze, Director
David Roberts, Director
John Fitzgerald, Director
Stephen Coates, Director

Size of firm: 180 staff

Specific past and future projects:

Industrial, infrastructure & special use

- MTRC C603 Bored Tunnels and Ancillary Buildings, HK 2002
- MTRC C602 Tseung Kwan O and Tiu Keng Leng Stations, HK 2002
- KCRC DD400 Yen Chow St and Mei Foo Station, HK 2002
- Kuala Lumpur Sentral Station, Malaysia 2001
- ASD Indoor Recreation Centre and Library, HK 2000
- MTRC Airport Railway Depot, HK 2000
- Tung Chung Wan Telephone Exchange, HK 1999
- ASD Improvement to Castle Peak Road, HK 1999
- River Trade Terminal, HK 1999
- AAT Asia Air Cargo Terminal, HK 1998
- Kerry Cargo Godown KCTL 455, HK 1998

Residential

- Homantin Residential Development Phase II, HK 1999
- Laura Court, HK 1998
- Dragon View, HK 1998
- Royal Camellia, HK 1997
- Pierhead Development, HK 1988
- Prime View Gardens, HK 1986

Office building

- Swire House Redevelopment, HK 2003
- No. 30 Hill St, Singapore, 1999

- 63 Ly Thai To, Vietnam 1998
- Saigon Tower, Vietnam 1996
- Grand Centre, HK 1995
- John Hancock Tower, Singapore 1993
- China Overseas Building, HK 1991

Hotel

- Sheraton Hotel Refurbishment, HK 1998
- Excelsior Hotel Refurbishment, HK 1998
- Ramada Renaissance Hotel, HK 1988
- Newton Hotel, HK 1988

Retail

- Esplanade Mall, Singapore 2001
- 1160 Nanjing West Road, PRC 1999
- Whampoa Garden, Site 1, 2, 3, 7, 9, 11, 12 and Streetscape 1994-1998
- Bank of America Retail Podium, PRC 1997
- Lotus Supercenter, PRC 1997
- Pacific Mall, Johor Baru 1995
- Gaysorn Plaza, Thailand 1994
- Pacific Plaza, Singapore 1994

Recent clients

- Asia Airfreight Terminal Co Limited
- Bouygge Group
- C.P. Group of Companies
- Excelsior BVI Ltd.
- Gaysorn Holding Co. Ltd.
- Hong Kong Telecom
- Wayfong Property Limited (Formerly HSPM Property)
- ITT Sheraton
- Kerry Properties
- Lotus Supermarkets
- Mass Transit Railway Corporation (HK)
- New World (Upon KCRC Pierhead Project)
- Ocean Park Corporation
- Playmates International Holdings Ltd.
- Royal Sporting House Pte Ltd.
- Sun Hung Kai Properties Ltd.
- The Hongkong & Shanghai Hotels Ltd.
- Wal*mart International
- Yamasin Investment Co. Ltd.

Company profile

Since the establishment of the Peddle Thorp Group in 1889, the Group has grown to become one of the most wide-spread and active architectural practices in South-East Asia and Australasia. The international group employs over 650 staff in 14 architectural offices who can be drawn upon for support and specialist expertise if required. Key offices of the group are in Hong Kong, Singapore, Indonesia, Sydney, Melbourne and Vietnam.

LPT is an independent member of the Peddle Thorp Group which represents the Group in the Far East. LPT was established in Hong Kong over 15 years ago and has evolved as a prominent architectural practice with significant involvement and influence across a broad range of diverse market sectors including industrial, infrastructure, commercial, hotel, residential, and retail in Hong Kong and throughout South East Asia. LPT's experience covers all forms of projects from both Government and private sector. By offering a complete consultancy, the company can provide a very high quality of service to their clients. LPT has the resources and expertise to carry out a full range of consultancy services including project management, planning, design and documentation.

Timothy Seow Group Architects, Pte Ltd



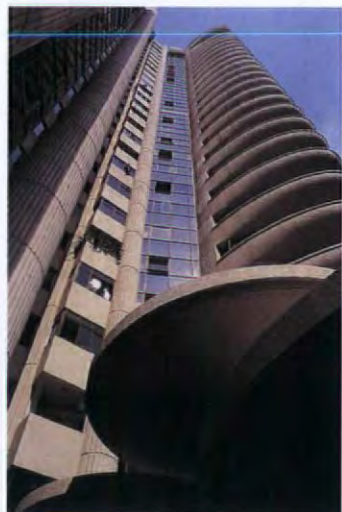
Amara Hotel, Shanghai, China



Amara Hotel, Chengdu, China



The Grange condominium, Singapore



Futura condominium, Singapore

Main office

Timothy Seow Group Architects Pte. Ltd.

170 Bukit Timah Road
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Tel: +632 410 0253
Fax: +632 725 3254

Atelier WestArchitects Inc. (Canada)

402/1501 Howe Street
Vancouver BC Canada V6Z 2P8
Tel: +1 604 688 8825
Fax: +1 604 688 0789

Directors & key personnel

Timothy Seow

D Arch (Oxford)
ARIBA MSIA APAM

Henry Loo

B Arch (Melb)
FRAIA ARIBA MSIA

Colin Seow

B Arch (USA)
MAIBC MRAIC Assoc. AIA

Kelvin Chiang

BES M Arch (Canada)
MRAIC AAIBC Assoc. AIA

F. Macalino

B Arch (Philippines)
MRAIC, AAIBC
UAP

Company profile

There are currently forty-five staff members distributed among Timothy Seow Group Architects' regional offices. This includes both locals and expatriate staff, many drawn from diverse backgrounds. This creates a melting pot environment where varied ideas are germinated, evaluated and the best selected.

Timothy Seow Group Architects is a regional architectural practice based in Singapore. The practice today traces its roots to the firm Seow Lee and Heah established by the late Dr. E.J. Seow in 1946. This firm evolved in 1970 into the firm SLH Partners. The retirement of the late Dr. E.J. Seow to take up the chair of the School of Architecture at the University of Singapore in 1974 prompted Mr. Timothy Seow to reorganise the firm culminating in the firm of Timothy Seow and Partners.

In 1987, after a very successful career beginning in the early nineteen sixties, Mr. Timothy Seow retired from Timothy Seow & Partners to Vancouver, British Columbia in Canada. From 1989 to 1993, together with a group of Canadian Architects he established SLH International Architecture. This practice established itself by winning several prestigious international limited competitions, which led Mr. Timothy Seow to renew his practice with former Singapore partners practicing under the partnership of SLH International Architects. This firm, SLH International Architects eventually evolved into the current firm Timothy Seow Group Architects Pte. Ltd. which retains the core group of architects and designers from Canada and Singapore under the leadership of Timothy Seow.

Already well known for high and low-rise condominiums and commercial office developments, the firm is now creating a reputation for design excellence and innovation in hotels, resort developments and urban planning.

While the current regional economic crisis has caused a reduction in the total volume of work (particularly in Thailand and Indonesia), the firm continues to expand locally as well as into new markets such as China, providing architectural, interior design, and urban planning services.

Philosophy

Timothy Seow Group Architects is a highly design and client oriented professional architectural and design practice providing very personalised services. This is ensured by the assignment of a partner/director directly responsible for every project, and the personal involvement of Mr. Timothy Seow on every project. It is precisely this close personal attention that allows the firm to assist in defining and ultimately achieving the needs of clients.

The firm is also committed to the use of information technology, which is integrated into all aspects of the practice. In particular, the advanced design and visualisation tools assist greatly in studying and communicating to the client the various design aspects of a scheme. This allows the client to not only understand; but also participate more effectively in the design process, which ultimately allows the proposal to fit the client's requirements more closely than would otherwise be possible.

Ultimately, through the personalised attention of the directors, use of the latest technologies and the teamwork of a diverse group of talented individuals, Timothy Seow Group Architects is ready to take on the challenges of designing for the most discriminating clients.



Japanese International School, Tai Po, Hong Kong



Goldlion Commercial Building, Guangzhou, PRC



APT Station



Metropolitan Plaza, Chongqing, PRC

WCWP International Limited

Head office

18th Floor, Chinaweal Centre, 414-424 Jaffe Road, Wanchai, HONG KONG.
Tel: +852 2893 3000. Fax: +852 2834 5281

Overseas offices

24 Lyall Street, South Perth, 6152 Western Australia, AUSTRALIA.
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SHANGHAI, The People's Republic of China
Tel and Fax: +8621 6481 4792

CHONGQING
Tel and Fax: +8623 6382 0483

Size of firm: 130

Expertise/specification: architecture, interior design, urban design and planning

Company profile:

April 1996 marked the establishment of the architectural practice of WCWP INTERNATIONAL LIMITED. This formation was the final step of an evolution that has occurred over the past twenty years in which the penultimate group was Woo Chow Wong and Partners (HK) Ltd. The practice combines the experience of the older directors in synergy with the energy and dynamism of the younger directors, that well equips it for the coming century. The company and its forerunner have successfully implemented a wide variety of project types in Hong Kong and the PRC, and also throughout Southeast Asia. Completed projects include large scale mixed-use developments, hotels, housing estates, luxury apartment complexes, commercial complexes, offices, purpose-built high-tech industrial buildings, flatted factories and schools. Headed by seven principals, with a core of 20 fully qualified design professionals, and supported by a team of over 40 technical and administrative staff using comprehensive CAD facilities, WCWP International Ltd. provides a broad base of services in architecture, planning, structural design, interior design and construction management. With ISO9001 certification since 1996, WCWP International is committed to continually develop and enhance the quality and reliability of its professional services. The guiding philosophy emphasises design excellence, professional service and innovative technical support, which is balanced by economy and aesthetics.

Recent projects/clients

Project

Residential

Metrocity Phase II at Tseung Kwan O Lot 34, Hong Kong
Proposed Luxurious Residential Development at Tai Po 118, Hong Kong
Proposed Luxurious Residential Development at South Bay, Hong Kong
Residential Development at Tsing Sin Street Area 37B, Tuen Mun Town Lot 409, Hong Kong

Client

Henderson Real Estate Agency Limited
Henderson Real Estate Agency Limited
Henderson Real Estate Agency Limited
Emperor Investment Limited

Commercial

Kwong On Bank Headquarters Redevelopment, Hong Kong
Proposed I/O Development at Cheung Sha Wan, Hong Kong
Proposed I/O Development at Castle Peak Road, Hong Kong
Sing Pao Centre Extension, Hong Kong

Kwong On Bank Limited
Sun Hung Kai Real Estate Agency Limited
Sun Hung Kai Real Estate Agency Limited
Sing Pao Newspaper Company Limited

Government

School Improvement Programme (Package 2), Hong Kong
Redevelopment of Sau Mau Ping Estate Phase 15 Agreement No. CSRB/A/97/6
Interior renovation work for Indoor Games Hall in Hong Kong
A&A Works for 4 nos. of Urban Council Markets and Cooked Food Centres

Architectural Services Department, Hong Kong
Hong Kong Housing Authority
Architectural Services Department, Hong Kong
Architectural Services Department, Hong Kong

Institutional

Japanese International School, Tai Po, Hong Kong

The Hong Kong Japanese School, Limited

Overseas

Comprehensive Residential/ Commercial Development at Guangzhou Wong Sha MTR Station, PRC
Comprehensive Development for Metropolitan Plaza, Chongqing, PRC
Chao Yang Garden at Beijing, PRC
Goldlion Commercial Building Development at Guangzhou, PRC

Hutchison Enterprises Limited
Hutchison Enterprises (Chongqing) Limited
Dynamic Holdings Limited
Goldlion Properties Development Company Ltd

Personnel

Clement H. Chu
Executive Director

Anthony S. O. Wong
Director

Wilson Shu
Director

Lavinia P. H. Lau
Assistant Director

Tang Lui Chi
Senior Associate

Victor M. C. Kwok
Executive Director

David K. Woo
Director

Enn Chow
Assistant Director

To Luen Kee
Senior Associate

Pamela, Chiu Wai Man
Associate

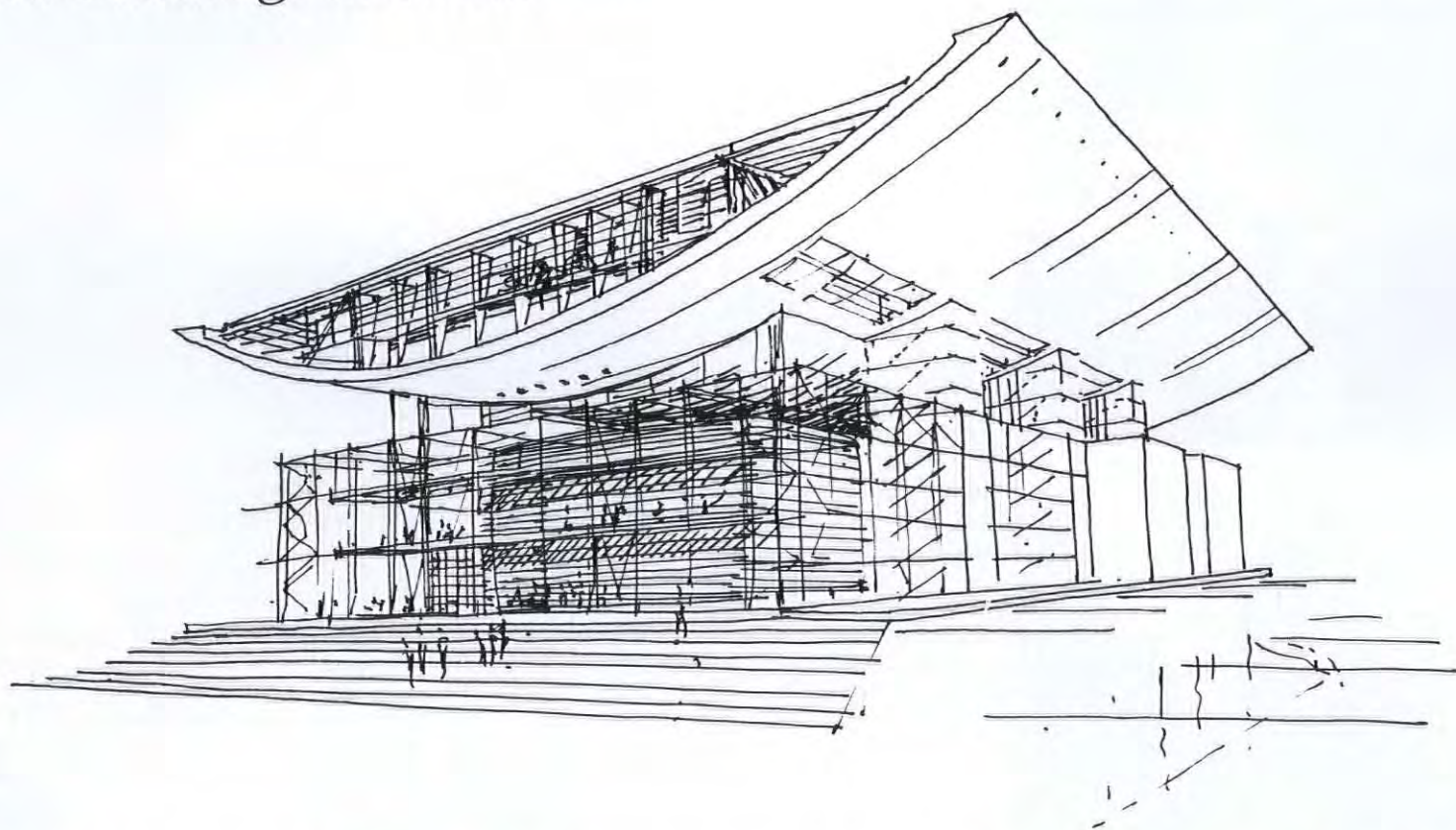
Barry F. Will
Director

Jimmy K. C. Koo
Director

Tony S. Y. Siu
Assistant Director

Bob P. K. Leung
Senior Associate

New buildings in China



State of the art in Shanghai

The collaboration between French architect Jean-Marie Charpentier et Associés, from Paris, and the world's largest design institute, the East China Architectural Design and Research Institute, has resulted in one of the most significant landmark public projects in Shanghai – the Opera House, due to open in October this year. The low-rise "crystal palace" sitting on its granite podium offers a welcome contrast to the gleaming glass-clad skyscrapers adorning the Shanghai skyline, and has provided the Shanghaiese with an alternative interpretation of modern "Western" design. Nicola Turner visited the Opera House and spoke to the client and to both teams of architects.

The architects

Jean-Marie Charpentier Associés – project architect Andrew Hobson

Charpentier's association with China has been long and fruitful. The practice first came to China 15 years ago, and includes amongst its portfolio high-profile work such as the International Exhibition Centre in Pudong, Shanghai, currently under construction; a study for a new town square in front of the town hall in Pudong; university buildings; a five star hotel in central Shanghai and a plan for a new town of 100,000 – Wan Li. The design and construction of the Shanghai Opera House has taken place within this hive of activity, and although chronologically not the first commission, it is the first to be completed.

Andrew Hobson comments that the practice is feeling quite at home in Shanghai, although they have not set up a perma-

nent office there. (Four years ago there were around 150 French living in Shanghai. Now there are some 1,000.) Charpentier's office has always operated with Chinese partners and employs mainland Chinese in its Paris headquarters, including a Shanghaiese Asian marketing director. "The Chinese are interested in 'the French touch', whatever that is", explains Hobson. "Our clients insist that the work is drawn up and conceived in Paris, which is why they come to us. Otherwise they might as well employ a Chinese institute. This is just one reason we feel it is important to keep the focus of the work in Paris, although we always have architects from the office on site." The number varies on the stage of construction. Hobson explains that at the start of any project the foreign architect's involvement is 100 percent. This then dwindles to five percent by the end of the project. As project architect he is the only one currently left in Shanghai to oversee the details in collaboration with ECADI.

The Shanghai Opera House is the first Opera House to be designed by the office, but music is entrenched in both Charpentier and Hobson's families, and they therefore had a clear understanding of what was required both theatrically and in terms of acoustics, although they employed a comprehensive team of consultants.

"The question we had to address was how to make an international-standard Opera House work in Shanghai. The client's programme was very brief. Initially it was more of an ideas competition, rather than a Bastille-style competition where the backstage areas were pre-designed. In Shanghai the request was simply for a theatre to hold an audience of 2,000, in which opera, ballet and concerts could be performed. The client wanted to employ the most sophisticated stage machinery and accommodate a rehearsal hall. Other than that they left it up to us" – although at every stage even the slightest adaptations had to be approved by a grand jury.

"Of all the competition entries ours was the only one which used a German cruciform plan of main stage, back stage and two side stages, to enable light repertory work alongside the larger international productions. Beneath the stage are all the technical facilities including the workshops to maintain or complete construction of the scenery, the actors areas and the rehearsal spaces were required to have international dimensions." The design process incorporated maximum adaptation. Walls can be moved and spaces reallocated without any structural re-working.

Charpentier's team worked with acoustic engineers from France who had also worked on the Bastille and at the Cité de la Musique in La Villette. They also used theatre consultants and lighting specialists, as well as interior designers from the USA. Despite the integration of so many specialists at different stages of design and construction – many of whom were employed directly by the client, including Shanghai ship builders and airforce engineers for the roof – the majority of the original competition design has been maintained.

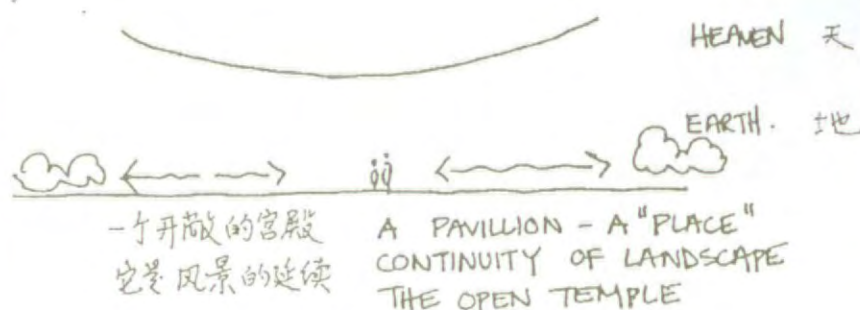
"The major ideas such as the scissor staircases up to the roof, the warm curved walls conceived as a jewel box encasing the auditorium, and the transparent crystal box are all still there."

"We were trying to find a building that would be particular to Shanghai. The fritted glass which looks solid by day and translucent by night, and the mixture of a glazed front and granite rear provides a contrast. It is not a Sydney Opera House, with everything encased in a sculptural form. Here you can see where everything is. It can easily be read as a kind of temple to culture."

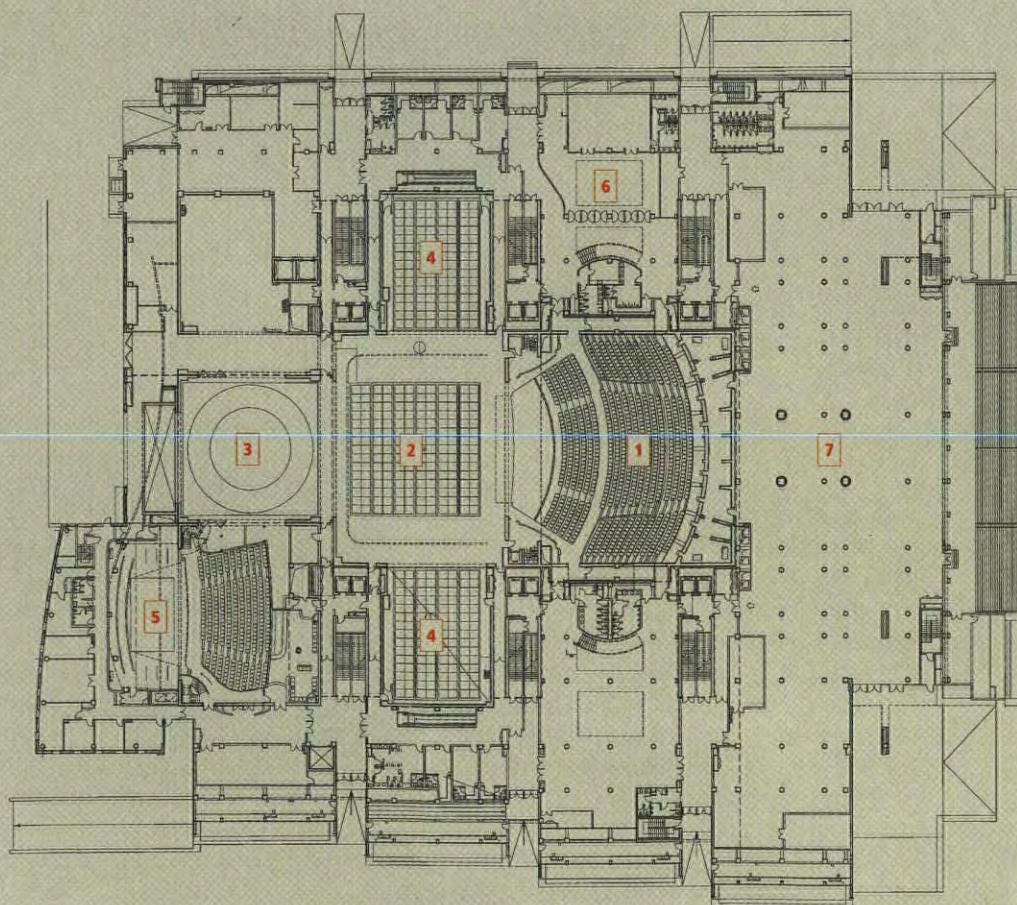
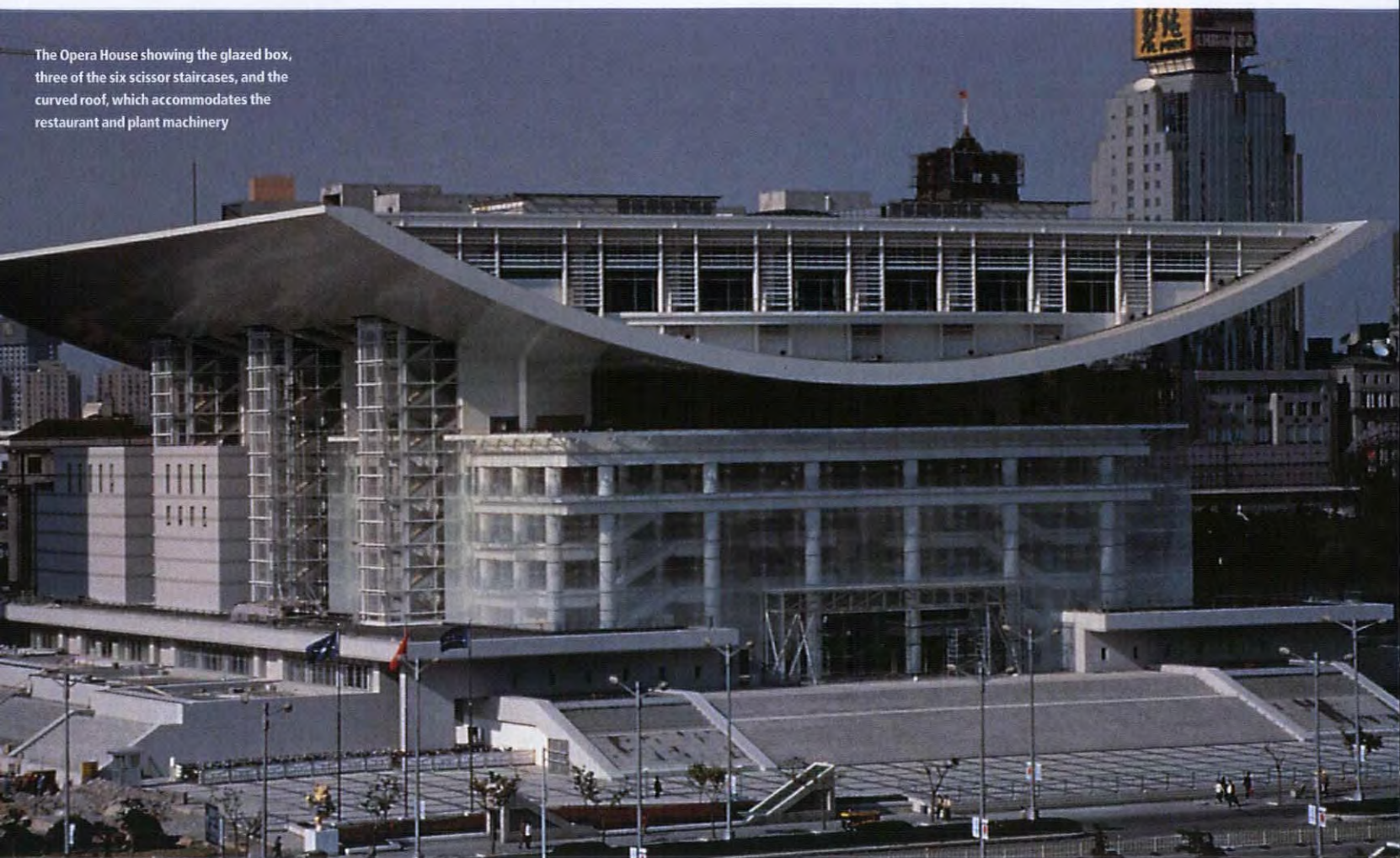
This is clarified when Hobson explains the concept of the building and most particularly the roof, which "has its origin in ➤

From top to bottom:

Detail of the scissor staircases enclosed in glazed shafts; worker on the underbelly of the roof; night view showing the contrast of the granite and glass on a side elevation; view across the People's Square through the glazed facade. All photographs by Olivia Savouré

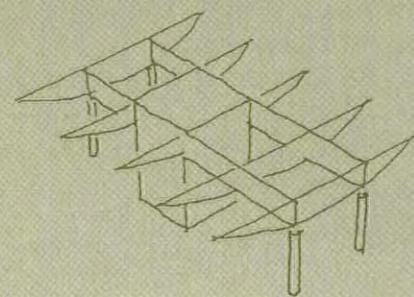


The Opera House showing the glazed box, three of the six scissor staircases, and the curved roof, which accommodates the restaurant and plant machinery



Key to ground floor plan

1. Main auditorium
2. Main stage
3. Back stage
4. Side stages
5. Small auditorium
6. VIP area
7. Lobby



the Yu Yuan Garden in Shanghai, originally a Chinese theatre with a central courtyard and a temple roof supported by columns on a raised platform." In its simplest form the new Opera House echoes this structure exactly. "Our concern was that the People's Square onto which the Opera House faces is fairly small. We had to think how we could make a visually airy building without using too much of the space. The second problem was that because of the water-logged ground that Shanghai is built upon there was a limit as to how far we could go below ground. We needed the basement for rehearsal space and so on, so a certain amount of the technical equipment was going to have to go elsewhere. This was bound to have an effect on both the texture and the volume of the building. One idea was to create a horizontal superstructure with everything in the roof, and create a temple roof which allows views of the People's Square and leaves the foyer as a continuation of the park."

The roof therefore became a megastructure floating above the theatre itself, housing a restaurant with panoramic views, as well as much of the plant work. The auditorium and performance areas are protected by acoustic joints and the suspension of the roof protects the rest of the building from any superfluous noise. Talking to Hobson the religious and spiritual symbolism which has been assimilated in the design becomes clear. "The plan of the building describes a square, the Chinese symbol for the ground, and the roof forms a part of a circle, which in Chinese symbolises the sky."

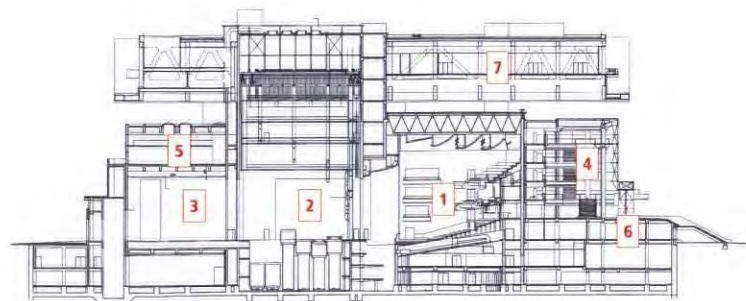
Andrew Hobson paints a sunny picture of working in China, but he is realistic about the number of problems any foreign architect will encounter. The Shanghai Opera House is one of the first major municipal buildings to be built by a foreign firm and Charpentier experienced many problems along the way. Hobson says the experience reminds him of "what it must have been like building cathedrals in the Middle Ages. It's a far less sterile process – a very human experience," an exhilarating and rewarding experience, but an arduous and exhausting one too.

Chinese architects

East China Architectural Design and Research Institute - Chen Ying

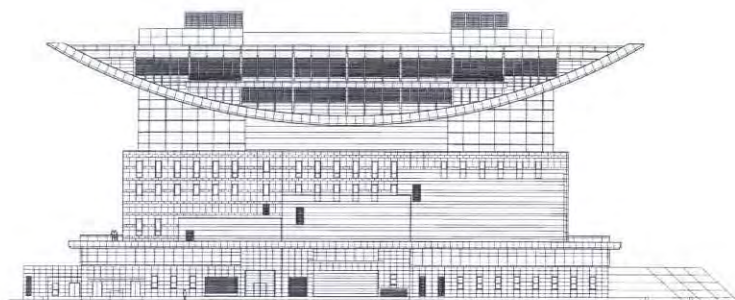
Both the East China Architectural Design and Research Institute (the largest state-run design institute in the PRC) and Charpentier Associés have benefited from their collaboration on the Opera House. Significantly, three of the key players from the ECADI team are women – Chief architect Zhu Xiu Rong, the engineer who designed the steel structure, Wu Zhi Xian, and Chen Ying – architect in charge of the facade, and responsible for most of the interpreting and liaison between both architectural teams and the client. In the PRC it is not unusual for a female architect to head a team; indeed within ECADI some 40 percent of the designers are women.

ECADI are clearly proud of the Opera House, and conscious of what they have learned in the design and construction process. "I think what Charpentier has created is a beautiful thing", says Chen Ying, "... a crystal palace enclosing a jewellery box". She explains that ECADI was responsible for responding to changes requested by the client, mid-construction. Due to the finely-tuned working relationship developed between Andrew Hobson, project architect from Charpentier, and the ECADI team, a satisfactory compromise could be reached in most instances. Chen Ying explains that one of the significant adaptations to the original scheme was increasing the lobby area, thereby reducing the circulation space at first floor level. This is an example of a western design having to be adapted to accom-

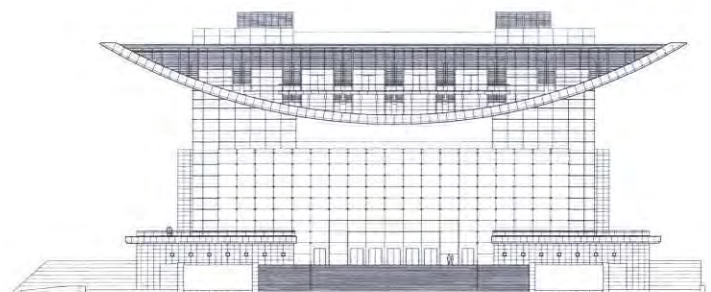


Key to north-south section

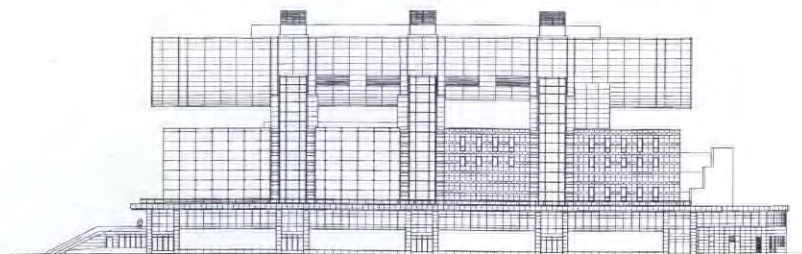
- | | | | |
|--------------------|-------------------|--------------------|---------------|
| 1. Main auditorium | 3. Back stage | 5. Rehearsal rooms | 7. Restaurant |
| 2. Main stage | 4. Entrance foyer | 6. Retail space | |



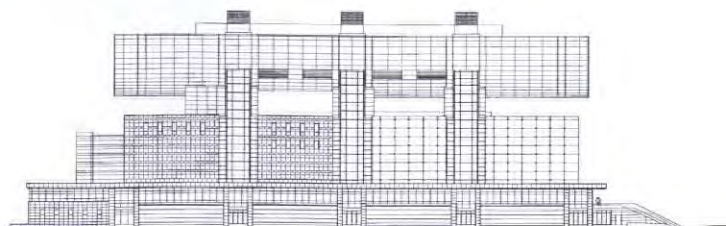
North elevation



South elevation



East elevation



West elevation

moderate current Chinese culture. Where circulation around the entrance to the auditorium might be a paramount consideration in European or American design, in China the grandeur and scale of the lobby is considered to be more important.

Client

Director of the Opera House – Le Shenghi

Le Shenghi has been responsible for realising the project, and is answerable to the Vice Mayor of Shanghai. Essentially, he became the project manager, as well as controlling the Opera House's production programme. Mr Le explains that the board chose ECADI to work with Charpentier since they had worked together before in Shanghai, and ECADI had originally introduced the client to Charpentier.

"The idea was to create an Opera House in which most of the performances would be Western – opera, ballets, orchestras and so on. Therefore we paid much attention to western architects in the competition, although there was only one team from Europe, who were in fact the winners. We gave the competitors two months to submit their designs. In April 1994 I went to Paris to Charpentier's office. I was shown several designs. The reason we chose this one was largely because of the modern, open facade and transparent volume, and also the materials chosen. It was a unanimous decision from all those on the panel."

"This is the first experience for all of us of this kind of project. I think we have cooperated very well together. We've all had a common aim. We've worked hard and struggled with obstacles, but we've learned a lot along the way. I will have very happy memories of the collaboration. It's like a good marriage, and just like with a husband and wife there has been some quarrelling, but it is always patched up – and anyway we have given birth to a son in the end!"

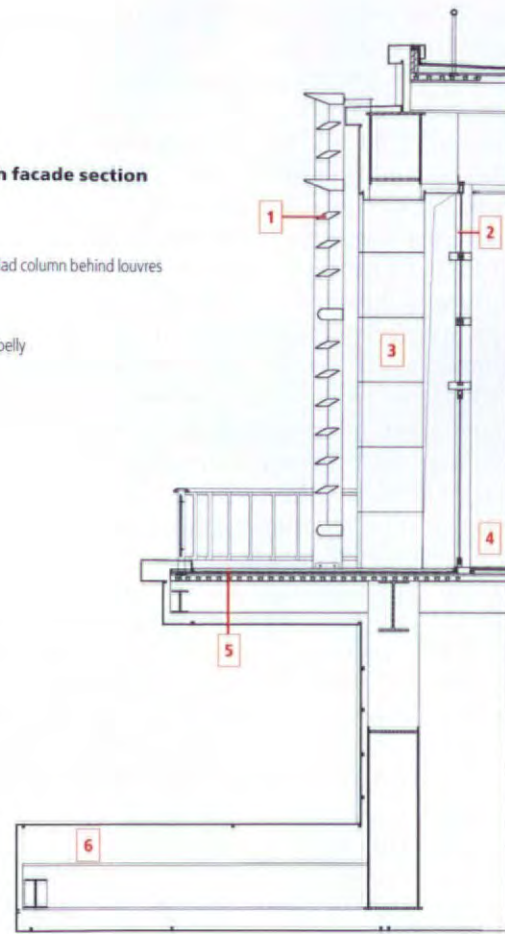
In answer to why Shanghai commissioned an Opera House, Mr Le cites the burgeoning tourist industry as one of the key factors. "Before this there was only a small concert hall in Shanghai. Also, we wanted a central symbol and tourist attraction for the city." Like all cultural building in Shanghai, the Opera House is state funded. The building has come in on budget, at around US\$120 million. The government does not expect to recoup any of it, although any profits will be consumed by the Opera House company which is itself governmentally run.

Appraisal

Much has been made of the difficulties encountered by foreign firms forming a working partnership with Chinese design institutes. Inevitably, there were problems to be overcome in this case too, but it is testimony to the design of Jean-Marie Charpentier Associés, and particularly the diplomacy and sensitivity of Andrew Hobson, that the end result has justified all the sweat and anxiety. Because ECADI were in the privileged position of learning not only about new building and design techniques, but a whole new building type, its architects have flourished under each new challenge – in

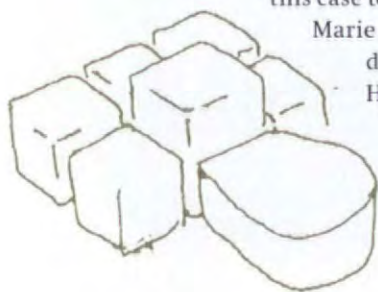
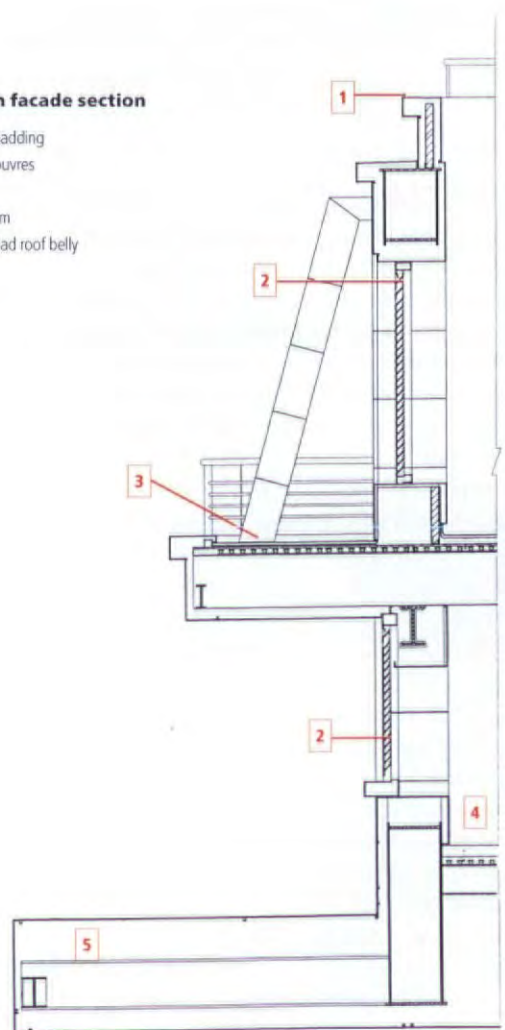
Key to south facade section

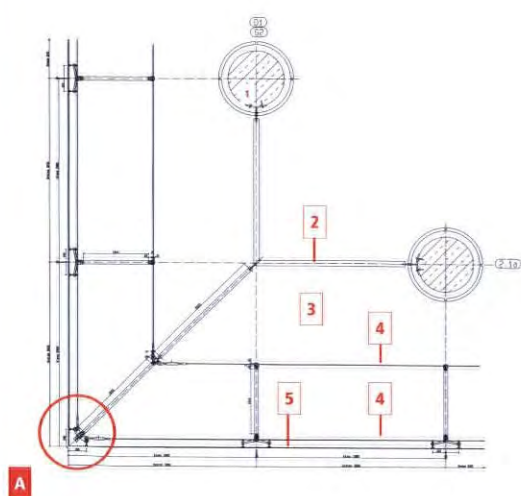
1. Louvres
2. Glass
3. Aluminium clad column behind louvres
4. Restaurant
5. Balcony
6. Curved roof belly



Key to north facade section

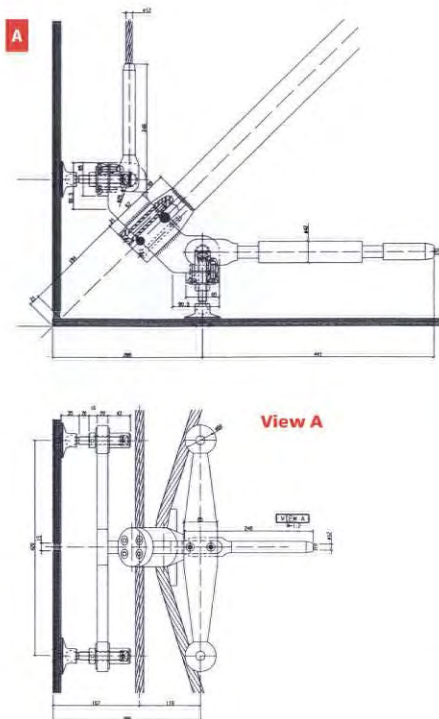
1. Aluminium cladding
2. Aluminium louvres
3. Balcony
4. Machine room
5. Aluminium clad roof belly





Key to corner detail

- 1. Column
- 2. Steel bar
- 3. Lobby
- 4. Cable
- 5. Glass



many cases coming up with solutions before their counterparts in Paris. It has been a collaborative venture in the truest sense. After its many years of participation in Chinese construction Charpentier's office has learned many of the rules of working in China the hard way, but has benefited from an alliance with a reasonable client and some talented Chinese architects.

Some of the adaptations which have been incorporated have modified the initial design, most significantly the expansion of the lobby area and thus the limited circulation space at first floor level. However, the sight of the magnificent bow-shaped roof suspended above its transparent box is perhaps proof that Shanghai's powers-that-be might at last recognise the extent to which foreign designers should be allowed to contribute more to the urban environment than the latest world-beating skyscraper.

WA



1: View of the lobby during final interior fit-out

2: View from the lobby showing glazed entrance

Client

Municipality of Shanghai

Client organisation

Shanghai Grand Theatre Engineering Co

Design architects

Jean-Marie Charpentier Associés

Jean-Marie Charpentier and Andrew Hobson

Interior designers & consultants

Studios & Team 7 International

Programmer

AGSP Synthèse & Programme

Theatre and stage design consultant

Didier Onde & Sophie Thomas

Acoustic design consultant

Jean-Paul Lamoureux

Lighting consultant

Philippe Almon & Michel Pironi

Structural engineers conceptual design

Ingerop (SEEE)

M & E engineers conceptual design

Michel Catherineau Engineering

Fire safety & security engineers conceptual design

CASSO & Co

Concrete structure contractor

Shanghai No 4 Construction Co

Steel structure contractor

Shanghai Jingnan Shipyards

Metal cladding contractor

Wuhan Lingwun Building Decorative Engineering Co

Suspended wall glazing contractor

Seele

Glazing supplier

Saint Gobain & Eckelt Glas

Architects

THAPE (Tian Hua Architectural Planning Engineering Limited)

Reviewed by

Nicola Turner

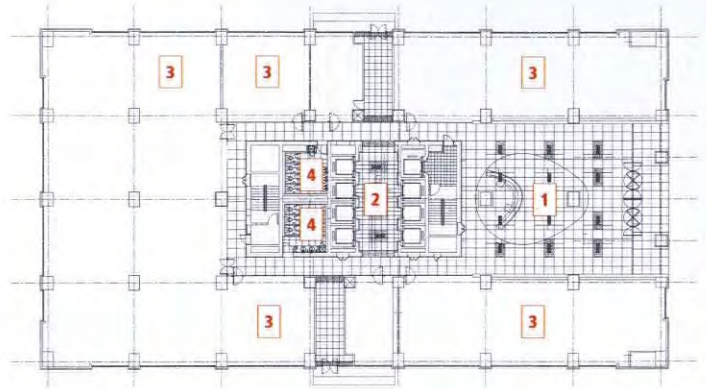
Going it alone

Zao Fong Universe Building, Zhong Shan Xi Lu, Shanghai, PRC

The majority of design work in the PRC is executed by the giant state-run institutes. But the tide is beginning to turn, and there are a handful of architects who are willing to risk setting up independently, while using foreign consultants, and offering an all-in package to rival the service provided by the institutes. One such venture is Highpower Holding Limited owned by Hong Kong-Chinese Jeff Zhao, incorporating the architects THAPE, interior designers TDeco and TMT Trading Development Company. All the key principals hail from Tongji University and have experience of practice in Europe or the USA. A government license was granted to THAPE in August 1997, by which time the exterior of the Zao Fong Universe Building had largely been completed. THAPE has been responsible for the podium and the interior fit out of the tower. China has a very short history of interior design, and the firm has seen this as a market to exploit in the current less stable economy.

The clean undramatic exterior of the tower is complemented by an intelligently detailed interior. On entering the lobby the eye is immediately drawn to the floating ovoid in the ceiling recess, the shape of which is reflected in the marble and granite pattern of the floor. The ovoid is suspended to house the back lighting, forming a firmament of stars representing the theme of the universe. The client was keen to express a 21st century theme within the interior, hence the microchip motif in granite and stainless steel on the walls and floor. The thick granite clad concrete columns are adorned with stainless steel fins. The curved bespoke reception desk in timber provides a contrast to the marble and steel, and is echoed in the pannelling behind it, which continues up to the first floor, concealing the obligatory fire door.

The steel frame aluminium-clad entrance canopy provides scale



Key to ground floor plan

- | | |
|-------------------|----------------|
| 1. Main lobby | 3. Tenant area |
| 2. Elevator lobby | 4. Restrooms |

to the entrance and its curved shape allows maximum light into the lobby whilst reflecting the other soft lines within the interior. The continuity between interior and exterior is maintained by the continuation of the design on the walls and floor either side of the glass entrance facade. THAPE will complete its second office tower for the same client by the end of this year.

WA

Client

Reventon (Shanghai) Limited

Architect/Structural and MEP engineer

THAPE

Main contractor

Shanghai Zhu An Construction Co Ltd

Architectural collaborators in the schematic phase

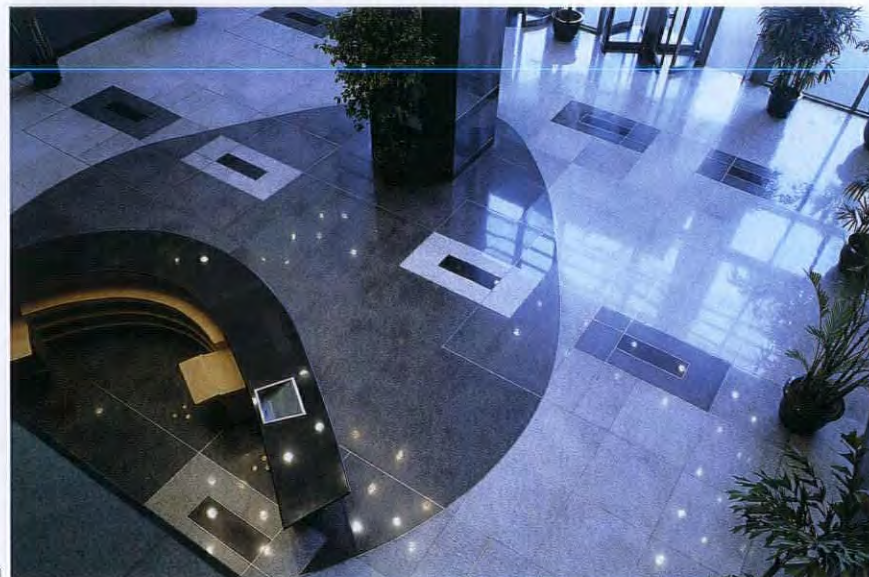
Resolution 4: Architecture of New York

1: View from first floor of lobby with marble and granite floor and microchip and ovoid motifs

2: View of the entrance with the steel frame aluminium-clad canopy

Facing page:

Full view of the lobby showing the "floating" ovoid in the ceiling





Projects under construction in China

Architects

Skidmore Owings & Merrill, San Francisco office

Reviewed by

Nicola Turner

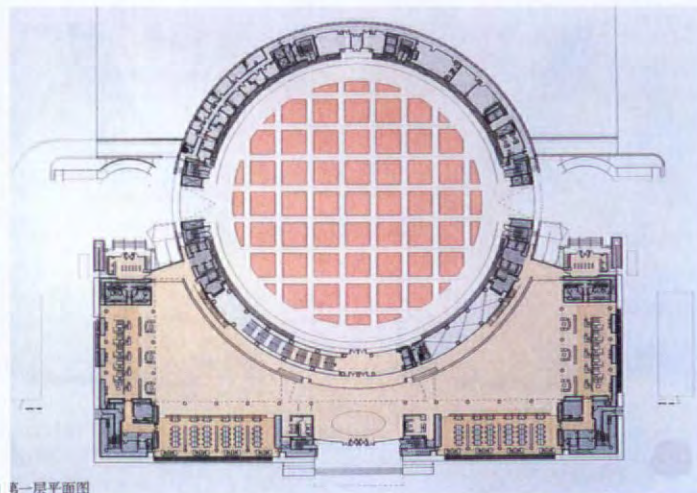
A world apart

Industrial and Commercial Bank of China headquarters, Beijing, PRC



Beijing's central business district is situated within three blocks of Tiananmen Square and the seat of China's national government, in an area of rich cultural significance. Driving along Chang An Street, the main east-west ceremonial boulevard bisecting Beijing, it is impossible to ignore the mass of new commercial blocks. But one building, nearing completion, stands out amongst the hotch potch of postmodernism. In its transparency, choice of materials and form, Skidmore Owings & Merrill's vast eleven-storey Industrial and Commercial Bank of China headquarters, covering a four hectare site, is a world apart.

The bank wanted to commission an international standard building and invited five Western firms to submit designs to a very specific programme, which was the catalyst for the built form. SOM's solution addresses the form of the workplace in China, incorporating the best of Western design, whilst respecting the cultural differences. The ICBC headquarters is described by SOM partner Brian Lee as "conforming to traditional patterns of Chinese civic architecture. Based on an axial, nine-square grid similar to the ancient Beijing city plan the complex holds the streetwall on the perimeter and carves a circular garden courtyard out of the centre of the project". The result is the creation of a circle in a square formation, with twin atrium spaces rising the full height of the building, referring to the Chinese symbols of the square for earth and a circle for heaven, whilst also allowing for maximum light and views out from all workstations. The building respects its ceremonial site



1 第一层平面图

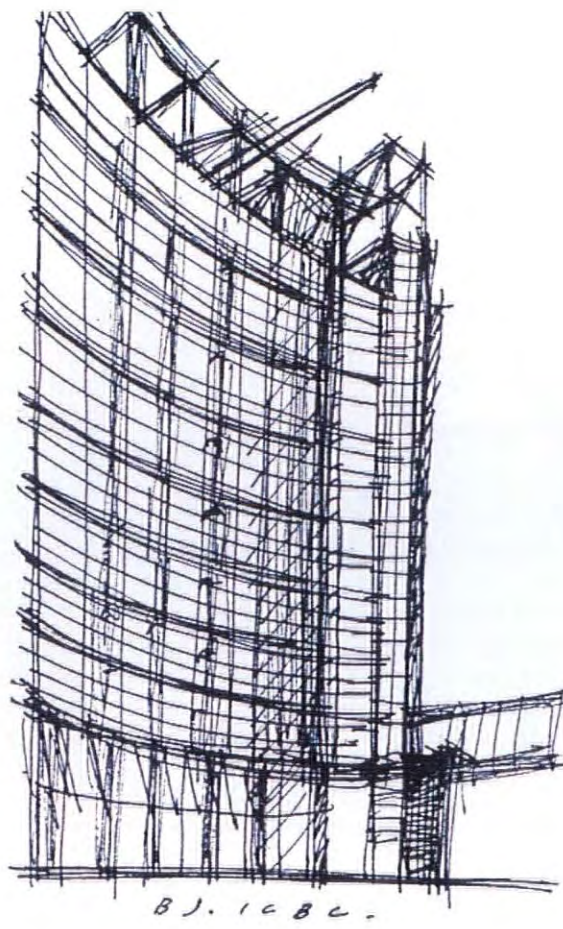
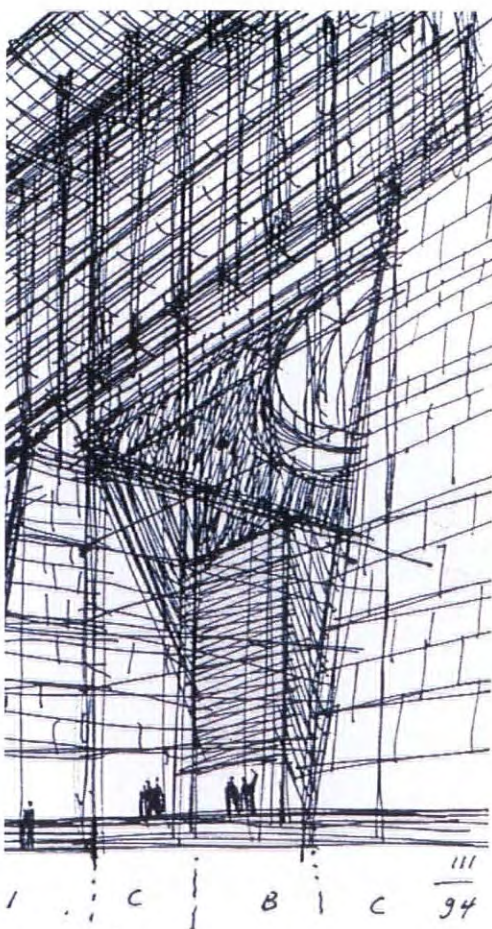
1: A single tree in front of the entrance has survived the construction process

2: Ground floor plan showing the circle and half the square – the ring and bar buildings

3: Model showing glazed curve of the courtyard elevation

4: Model showing section through the bar building

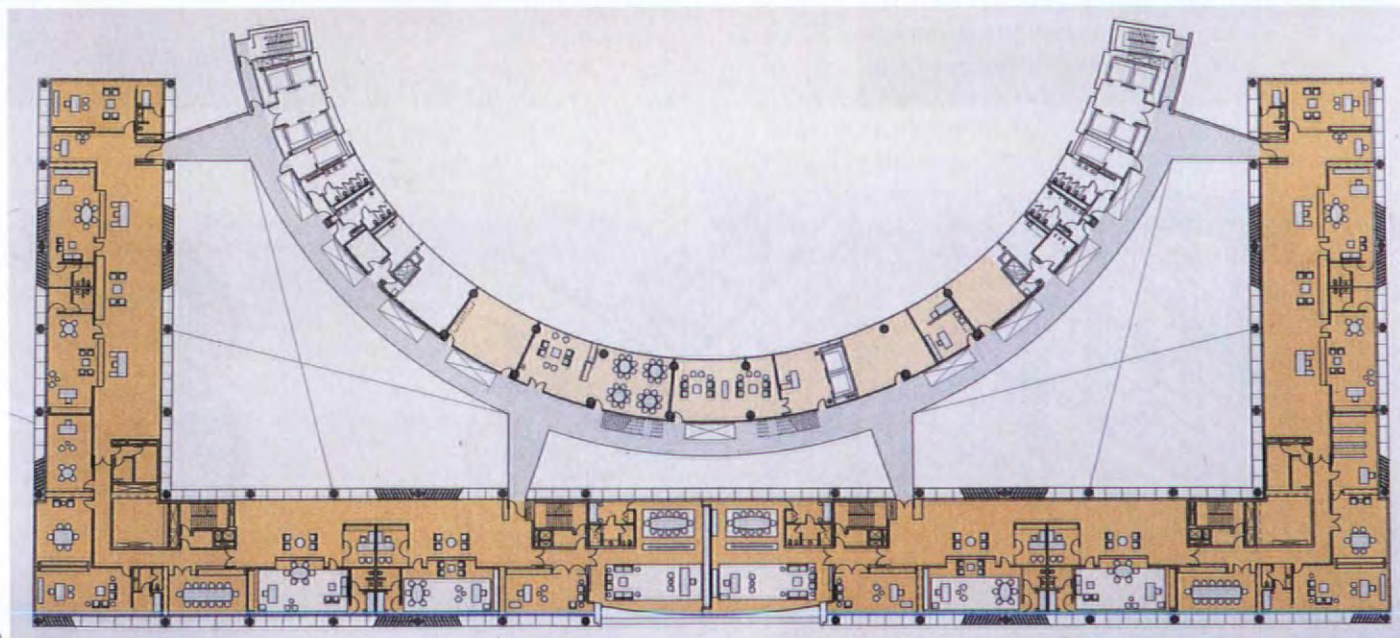
5: Concept sketches from Skidmore Owings & Merrill show the scale of the 11-storey bank





1: South elevation showing the exposed steel frame. The bank is set back from the main east-west road running through the centre of Beijing

2: Tenth floor plan showing the ring and bar buildings of the first phase with the four connecting bridges



with substantial landscaped setbacks from the road. A preservation order on an existing tree lends an eerie atmosphere to the building site around it.

Most of the offices are contained within the square bar buildings in double-loaded corridors lit by clerestory windows. The soaring semi circular ring around the inner garden courtyard houses the public spaces for conference rooms, libraries, dining rooms, elevators and stairs. Four bridges on each floor

connect the ring and bar buildings.

Steel and glass structures, now so usual in Western design, are remarkable in China. This has caused some problems of material availability and techniques with the contractors. As Lee confirms, "we've had a good relationship with the Beijing Design Institute and contractors, but we've had to remain guardians of quality control". The first phase will be completed this autumn, and will be followed by a second phase in 1999. **WA**

Client

Industrial and Commercial Bank of China

Architect

SOM San Francisco

Structural engineers, MEP engineering, interiors, graphics

SOM San Francisco

Architects and engineers of record

Beijing Institute of Architectural Design

Landscape consultants

Peter Walker William Johnson & Associates

Landscape architects

Beijing Landscape Bureau

Lighting consultants

Fisher Marantz Renfro Stone

Soils engineers

Beijing Geotechnical Institute

Design/code consultants

China Jingye Construction

Architects

Atelier Feichang Jianzhu

Reviewed by

Nicola Turner

Compact solutions

Morningside Centre for Mathematical Research, Beijing, PRC

The capital is quite unlike Shanghai, where autonomous firms are now more usual. Beijing authorities have not yet been persuaded to "experiment" with such independence. As a result Atelier Feichang Jianzhu, an independent firm set up by Yung Ho Chang, is forced to collaborate with state-run institutes, in a similar way to a foreign firm.

The Morningside Centre for Mathematical Research in Beijing, currently under construction and due for completion in September, will be the architects' first major work. The 2,500-square-metre facility incorporates all the living and research facilities, except for dining, for the scientists. Chang talks of the similarities with European and American residential colleges where all activities take place within one complex. In this case the site is tight, at around 300 square metres, and the development from a European quadrangle to a traditional Chinese courtyard plan was therefore impossible. Instead, Chang has produced a seven-storey densely packed building, more typical of contemporary Asian design. The solution is the creation of a series of five "micro-buildings" within the one block: these include individual research rooms; dormitories; public spaces; semi-public spaces (such as seminar rooms); service core. The five units are defined by the use of glazing. The individual units have one open side, public spaces are given two glazed sides – the semi-public having one side glazed with translucent glass. The core is essentially "blind". The five elements are connected by internal bridges, passages and small courtyards, lit by skylights.



Computer image showing the reinforced concrete sheer walls and single and double glass infill walls



The research centre under construction in March this year. The building is due for completion in September

Client

Morningside Group, Hong Kong

Architect

Atelier Feichang Jianzhu

Supporting architects and engineers

Beijing Architectural Design Office of the Chinese Academy of Science

Contractors

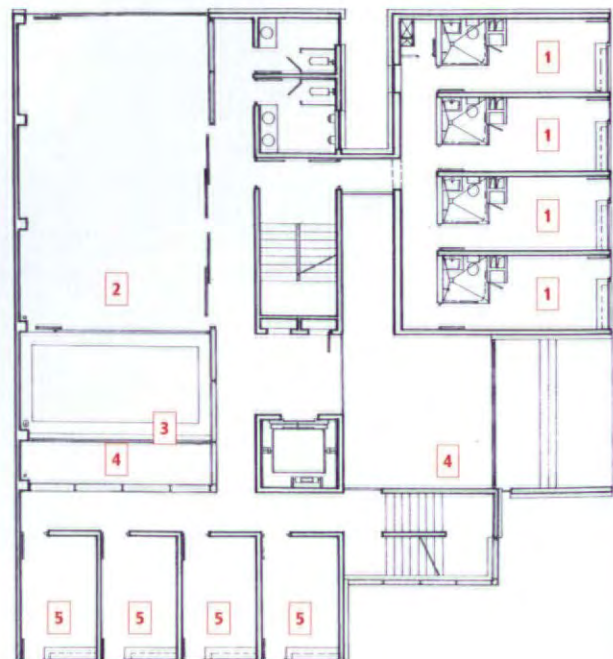
First Construction Company of Hebei Province

Section

East elevation

Key to ground floor plan

1. Dormitory
2. Lounge
3. Terrace
4. Void
5. Research



B+H Architects International: weathering the storm

In 1992 a leading Canadian architectural firm, Bregman + Hamann, joined a handful of foreign firms that have received a government license to set up shop in Shanghai, China. As well as enjoying a nationwide reputation for airport design B+H is also making a name for itself in the lucrative housing market – a sector hitherto avoided by foreign firms because of prohibitively low fees. World Architecture profiles the rise of B+H Architects International, and talks to the architects in the Shanghai office, and the Toronto-based president, Paul Tan de Bibiana, about the qualities which have ensured its success in an unpredictable market.



B+H International's recently completed New Shanghai International Tower, third from the right, with rooftop helipad



Before even thinking about setting up in China three qualities are essential, according to Paul Tan de Bibiana, the Chinese-Canadian president of B+H Architects International Inc. Firstly, wholehearted dedication and commitment to the cause; secondly, face to face contact, *guan xi* – “one day the door is locked, and the next day it is open to you all the way to the top” – and lastly, and in Tan de Bibiana’s opinion, most importantly, “choosing the right guys for the job”. This is the only way to ensure a delicate synthesis of Chinese culture and western expertise.

“We have minimised the commuting between Toronto and Shanghai and set up the machinery to be able to service our clients much more efficiently. We have become a real fighting force with a core of four or five Canadians of Chinese origin, who therefore have a knowledge of practice and culture in both China and North America. Some say that if Chinese clients are hiring Western architects they should send a bunch of Caucasians over; but many clients think that’s mad – the architects don’t understand a word of what the client’s saying, or what their needs are. We’ve sent people here who have been mistakes. We’ve sent some who shouldn’t have even left Toronto! You just don’t come to a country with a 5,000 year history and then tell them what to do. The people you send

a colleague in China who suggested that B+H team up with them for the competition. As Paul Tan de Bibiana explains:

“We sent a couple of designers to sharpen their pencils and see where it went. We won the competition and on the back of that another developer in Shanghai, running a competition for the Shanghai World Tower, asked us to compete. When we won this we rented an apartment for two architects, and then as more designers arrived from Canada we rented another, converting one into an office and keeping the other for accommodation. We wanted to start slowly, and try to understand what was going on until we felt we had commitment for contracts for three to four years. Then we decided to set up with a ‘real’ office.”

Another successful landmark scheme for B+H in the early days was the second Xiamen Gaoqi International Airport terminal. As Wendy Qui in the Shanghai office explains, the proximity to Taiwan and the connection to east Asia has given this airport particular significance. The government was keen to enlist an international firm for its design, given its high profile. “They liked B+H’s ideas because of the clean design, but also because it showed some vocabulary from traditional Chinese language.”

B+H has gone on to be known as a specialist firm in airport design, recently winning a competition for its fifth, at Hangzhou Xiaoshan International Airport, and currently submitting final designs for Guangzhou

“We studied the market and knew China was going to have to build airports ... basic logic tells you it must be a big thing.”

have to have a desire and interest to work in the new culture. You need a special kind of person.”

As a result B+H tend to send Chinese-Canadians over from the Toronto office, or hire Shanghai locals. There are practical reasons for this too: “There is a tremendous amount of entertaining as a way of communicating and doing business, to the extent that if you hate eating you’re gone. There’s a lot that’s important besides being a good architect, and most of the difficulties arise because people don’t have the patience to understand.”

Only a dozen or so international firms have been granted licenses to set up an office in Shanghai on a permanent basis – of which Bregman and Hamann, founded in Toronto in 1953, is one. B+H Architects International Inc set up as a subsidiary to the parent firm in 1992, after first working from an apartment with only a couple of designers, to test the water. The break for B+H came in the shape of an unexpected competition-win for a housing development in Shenzhen, southern China. One of B+H’s Senior Associates, Thomas Kinng, an immigrant from China who had lived in Canada for 18 years, was approached by

Airport in the south. Tan de Bibiana explains that they “had a lucky break with Terminal 3 in Toronto, Canada’s first privatised airport, and when we came to China we studied the market and knew China was going to have to build airports, so decided to concentrate on this area. The airport market seems to me to be clear. Five years ago the USA population was a quarter of that in mainland China and had over 5,500 airports of various sizes. China had 350, and rumour has it that on an average day 80 percent of the people getting on the plane were doing so for the first time. Basic logic tells you it must be a big thing. Now the situation with airports is unrecognisable. The government has privatised airlines so that they are now the responsibility of the individual provinces”.

But amidst the triumph have been inevitable setbacks. “Our first three years were tough, in that financially it didn’t make sense. It was proving to be an expensive learning curve. But unlike some of the Eastern European countries we’d tried to work in, China at least provided signals that it was opening up to foreigners. We felt the Chinese had a vision for raising their standard of living. There were many moments when we

B+H INTERNATIONAL DATA

Bregman and Hamann founded in Toronto 1953

B+H Architects International Inc 1992

Number of staff in Toronto, Canada 87

Number of staff in Shanghai 16

Partners Dan McAlister, chairman B+H; Tönn Altsaär; Bruce Creba; William Nankivell; Paul Tan de Bibiana, president of B+H International

Areas of specialisation Airports; commercial; residential

Completed work

New Shanghai International Tower, Pudong District, Shanghai, PRC

1997 80,000 m² Total cost US\$55 million

Xiamen Gaoqi International Airport Terminal, Xiamen, PRC

1996 110,000 m² Total cost excluding airport equipment approximately US\$65 million

Selection of work in progress

Shanghai American School, Shanghai, PRC 11.6 hectares

Shenzhen Community Shopping Park, Shenzhen, PRC 5.8 hectares

Hangzhou Xiaoshan International Airport, Hangzhou, PRC 200,000 m²



Paul Tan de Bibiana

thought we were idiots; we couldn't get any answers, there was no one to ask about specific details such as taxation law; it was all a bit of a struggle. We were putting out money for three to four years with no profit. Then about three years ago I took over the Chinese operation. I had had my own practice before going to B+H, so I had good experience and knowledge of running a business. It's good to practise architecture, of course, but at the end of the day it's got to make good business sense. The last two and a half years things have turned around for us. We are much more optimistic and now have the infrastructure set up, with technical people, designers, interpreters and administrators creating a team of expertise moving together; those with local and North American knowledge, and site managers who know how the local and Hong Kong and Chinese contractors work."

Although B+H is a licensed firm it is still obligatory for it to collaborate with local institutes on all its Chinese work. "What it means is we do the business development here" says Qui. "It also gives the clients more confidence. They trust our service and feel that if we set up a licensed representative office here they will get the daily communication they need, and can solve all their problems immediately. We've got a good reputation, and potential clients are now coming to us to talk about future business. Since 1995 the government has passed a law

to ensure that foreign firms are limited to doing the concept design and design development. The working drawings must be done locally."

Tan de Bibiana continues: "The government is conscious of educating China's architects and keeping them in the country." By allowing local architects to work with foreign firms they encourage education by experience. "Technological transfer is not just buying a product," he confirms, adding that similar collaboration is obligatory across the board for all foreign businesses importing not only their hardware, but their skills.

Another logistical advantage enjoyed by Western firms in China is the ability to work around the clock. The bulk of the concept design work is executed in the Toronto office, and working drawings and management is carried out on the ground in Shanghai. "This is an important point ... we are able to compete very well with the other foreign firms, but often the client picks us, largely for the security of knowing we have an office in Shanghai."

B+H also has the distinct advantage of having worked on several high-profile schemes, and is fast becoming one of the biggest condominium designers in Shanghai. "Other foreigners have not looked into this market because of low fees, but because of our infrastructure we're able to compete." And as with airport construction, housing is one sector which will have to continue regardless of economic instability.

B+H has had to adapt the knowledge the architects have accrued in North America to deal in a quite different housing market. The Chinese codes are very strict, and architects are forced to work on tight plots and maximise natural sunlight in every home. Legally, every unit within a highrise block must enjoy at least one hour of sunshine each day, "which inevitably results in a complicated plot massing. We're just starting to learn how to cope with this successfully".

In planning the complexes B+H has introduced the concept of a sunken plaza, as in the Tao Lin residential development, currently under construction and already selling fast. This has proved popular with clients who are often seeking a more European or North American solution to housing schemes.

Following the boom of construction from the eastern cities of Shanghai and Beijing towards central China, B+H has begun work on Nambo Garden, a residential scheme in Wuhan, on the Yangtse River. The firm is now profiting from its Chinese ventures and is determined to pursue long term ambitions throughout the PRC. There are still political and logistical problems to be overcome at every turn, but, says Tan de Bibiana, "the Chinese architects are becoming more skilled at the drawing board and on site, and it's becoming increasingly easy to work here". All things are relative, after all. VA

Changsha Huanghua International Airport - New Terminal, Changsha, PRC 33,000 m²

Hong Yang Garden - Master Planning and Residential Component, Pudong District, Shanghai, PRC 119,950 m²

Guangzhou International Exhibition Centre, Guangzhou, PRC

Concept design complete 336,000 m²

Changning District Central Hospital, Shanghai, PRC

Concept design complete 62,710 m²

Selection of work under construction

Tao Lin Garden Residential Development, Pudong District, Shanghai, PRC 23,600 m²

CAAC Pudong Tower, Pudong District, Shanghai, PRC 63,000 m²

New World Centre, Shanghai, PRC 140,000 m²

Golden Magnolia Plaza, Shanghai, PRC 280,000 m²

Haikou Meilan International Airport Terminal, Haikou, PRC Phase I - 89,000 m²

Beijing Capital International Airport - New International Terminal Design and Consulting, Beijing, PRC 254,900 m²

People's Construction Bank of China Bank - Computer Clearance Building, Beijing, PRC 46,000 m²

Shanghai Hotel and Tennis Facility, Pu Tuo District, Shanghai, PRC 40,000 m²

Jin Wu and Jin Sui Towers, Nanjing, PRC 140,000 m²

Xiamen Gaoqi International Airport Terminal, Xiamen, PRC

Description

This 110,000-square-metre airport terminal was built in response to the PRC's rapidly expanding air travel requirements. It caters for international and domestic passengers, with 13 direct boarding gates and 12 remote boarding positions. A Great Hall accommodates the processing functions. The roof, recalling a traditional Chinese profile, provides a generous canopy over the departures area, while the arrivals level below opens up to this space. The resulting atrium contains all the major vertical circulation stairs and escalators for departing and arriving passengers. A mezzanine for retail and a number of departure lounges overlook this space.

The intent of the concept is that the Great Hall and its processing functions be expressed differently from the airside piers and their boarding function. The Great Hall is expressed in concrete, with a main column,

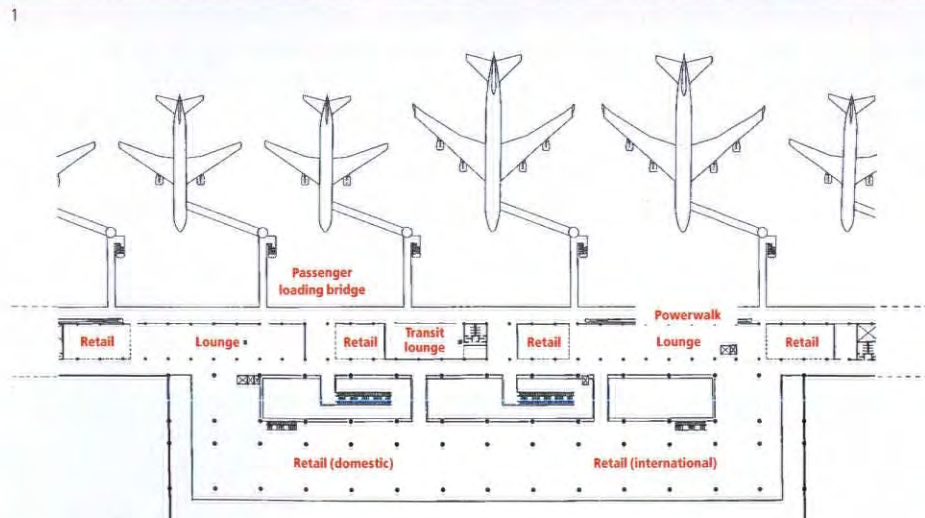
beam and Vierendeel truss structure on an 18 x 18 metre bay system. This gives a gradually ascending series of roofs with filtered sunlight through clerestory windows. The remaining concrete structure is on a nine by nine metre grid. *Brise soleil* with horizontal concrete slats are used on the large east and west windows of the hall where low angle sun requires control. The piers are more hi-tech, with metal cladding and circular windows, in order to relate more to the airside and aircraft functions and the aircraft themselves. The China Aviation Authority regards this facility as the yardstick by which airports now being planned in the PRC are being measured.

Client

Xiamen International Airport Group Co Ltd

Date

1996

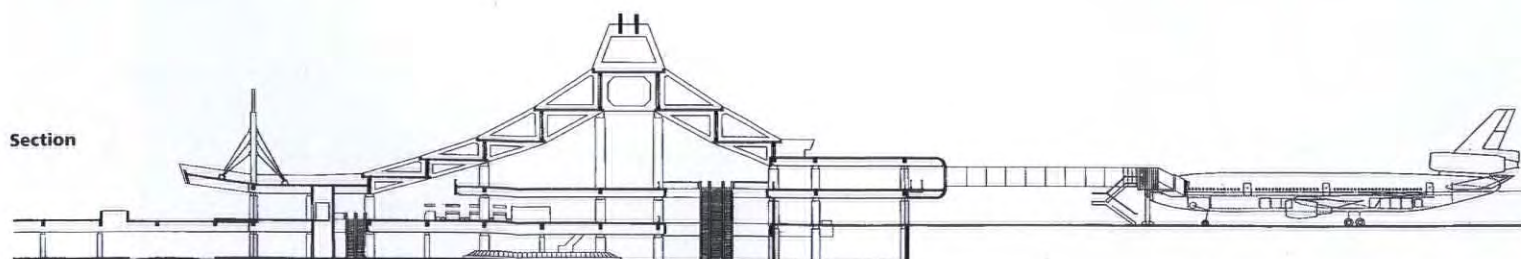


Lounge/mezzanine level



1: The roof recalls a traditional Chinese profile

2: Brise soleil with horizontal concrete slats are used on the east and west windows



Section

Hang Zhou Xiaoshan International Airport, Hang Zhou, PRC

Description

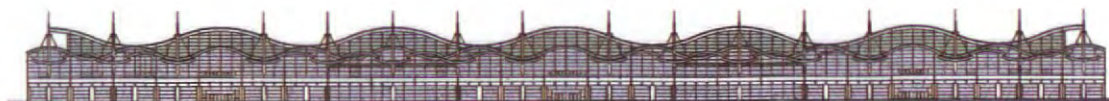
The design of this 200,000-square-metre terminal is currently in progress. The undulating metal-clad roofs of the main hall, departure lounge and octagonal hub containing passenger lounges and VIP facilities respond to Hangzhou's picturesque setting alongside the lake and nearby mountains. Phase Two will extend from this hub at a right angle, and Phase Three will consist of an identical hub and right angle extension at the opposite end of Phase One. The interior enhances openness and expresses clarity through the use of large expanses of fenestration and clerestories, and a layout which maximises operational efficiency and orientation. B+H International is also responsible for landscaping the surrounding area, which will include a large pond, numerous trees and a water feature spanned by walkways between the terminal and parking lot. Phase One will include an 860,000-square-foot terminal with 13 gates, and Phase Two and Three will add 12 and 19 gates respectively.

Client

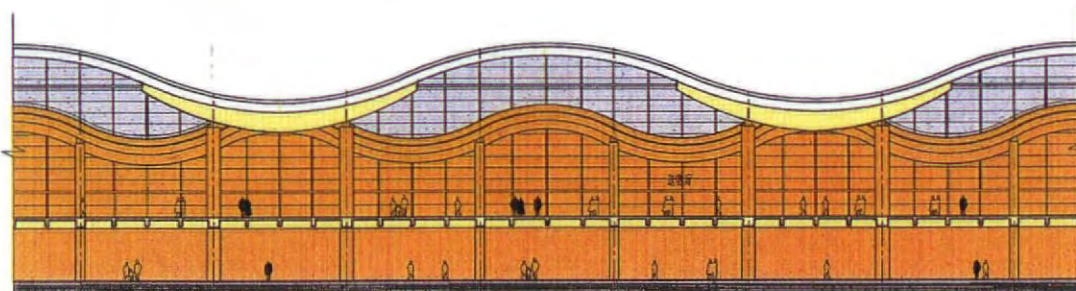
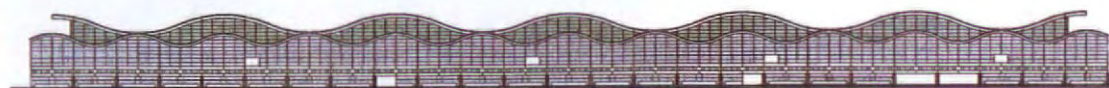
Hang Zhou Xiaoshan International Airport Co

Expected date of completion

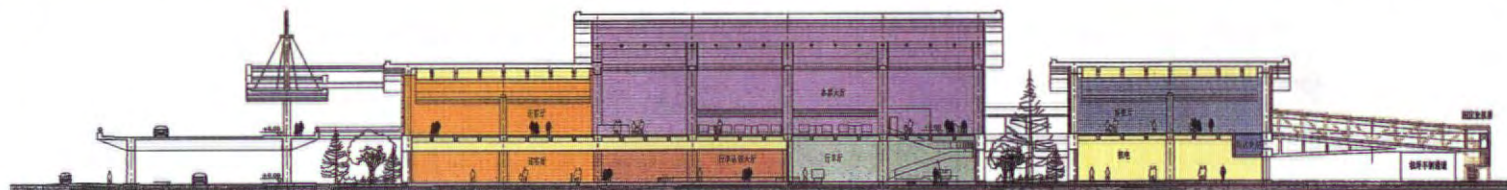
2000



Above and below: schematic roof design



Above and below: sections through the terminal



1: CAD image showing undulating metal-clad roofs



Tao Lin Residential Development, Pudong District, Shanghai, PRC

Description

Tao Lin Garden is situated in one of the sought-after residential areas in the Pudong district of Shanghai. The development has been spatially designed along a north-south axis to maximise sunlight, an important consideration in all residential design in the PRC. In highrise blocks every unit must have at least one hour of direct sunshine a day, and cannot be blocked by a neighbouring building. The layout is coordinated in clusters with three large outdoor public activities grounds with the central landscape and sunken plaza at its core. The design promotes logical traffic flow and parking, and reduced numbers of vehicles amongst the residences. The curved elevations of the buildings face along Zhang Yang Road. At the intersection of Tao Lin Road and Wei Fang Road step-shape multiple storey buildings enrich the environment and limit the concentrated landscape space with the arc highrise building at the back. Public facilities include a business centre, small supermarket and swimming pool. The individual homes are European and American in style, as requested by the client.

Client

Lui Jia Zui Real Estate Development Co Ltd

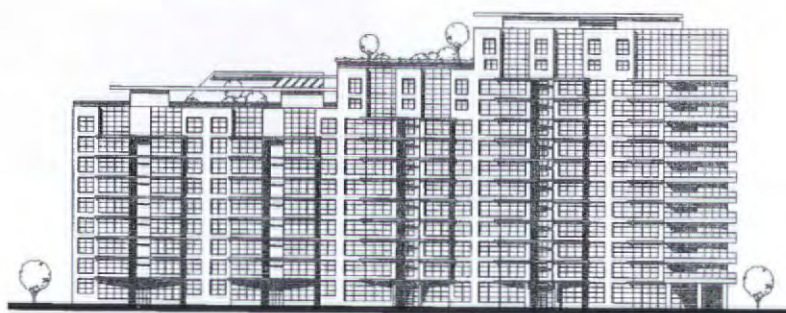
Expected completion date

Phase one December 1998

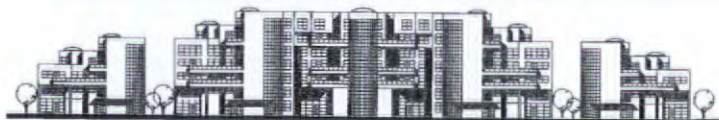
Phase two December 2000



South elevation of building "a"



South elevation of building "b"



North elevation of building "c"



South elevation of building "c"



Key to site plan

1. North entrance
2. West entrance
3. Play lot
4. Waterfall plaza
5. Changing rooms
6. Pool
7. Sunken court
8. Putting greens
9. Future connection
10. Sculpture
11. Private garden
12. Tent structure
13. Play surface
14. Grand entrance gate and lay-by

Tao Lin
GARDEN
Scale: 1:500

Hong Yang Garden, Pudong District, Shanghai, PRC

Description

The masterplan consists of three phases, including residences, offices, retail and recreational facilities. Hong Yang Apartment is in Phase One, and occupies approximately

16,800 square metres. Two rows of buildings form a "fish-like" shape, with the serpentine row lower than the blocks the other side of the internal courtyards. The residential area will be closely integrated with the

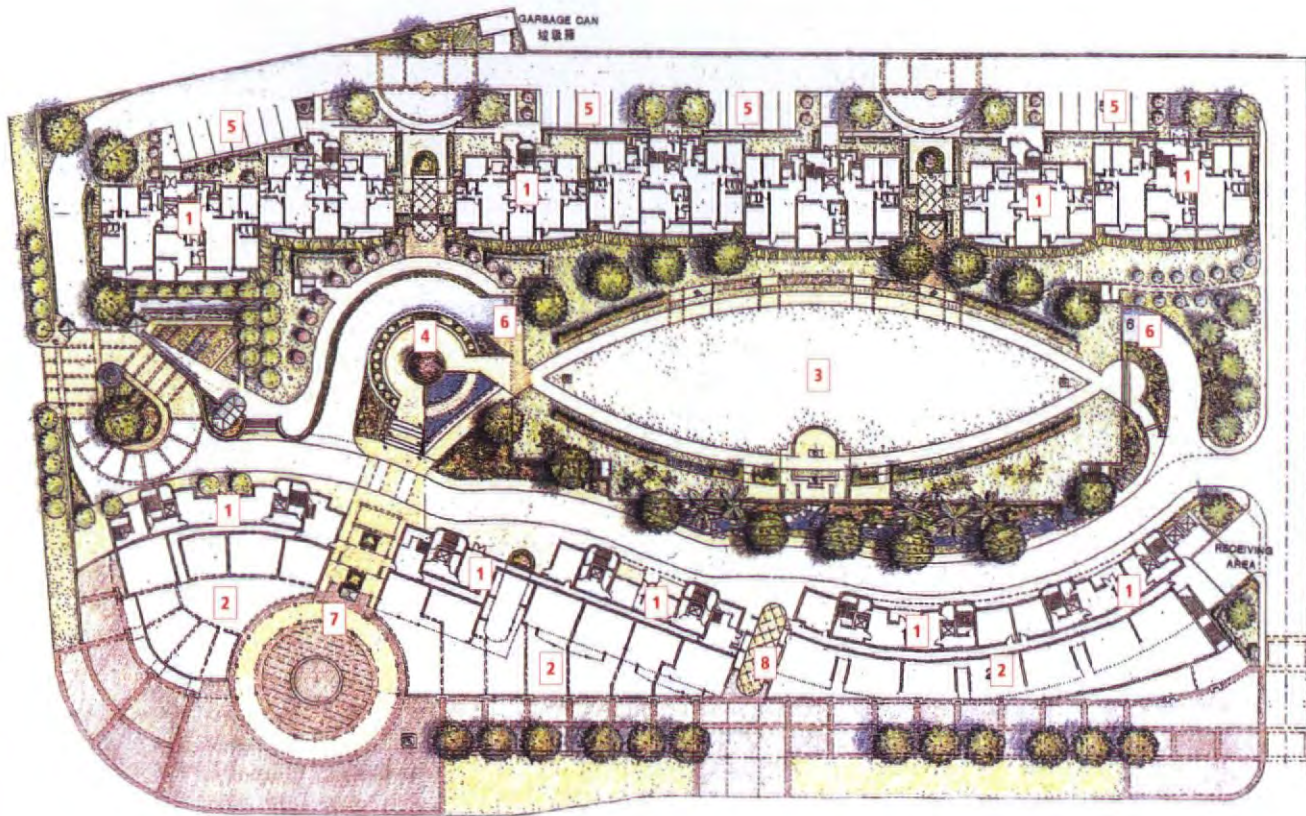
surrounding commercial district, with separate vehicle and pedestrian flows. As at Tao Lin sunshine requirements have been considered, as has the landscaping of the whole scheme.

Client

Hong Yang Real Estate Development Ltd

Expected completion date

1999



Key to site plan

- 1. Residential building
- 2. Commercial podium
- 3. Garden
- 4. Main court
- 5. Car parking
- 6. Car entrance
- 7. Main entrance
- 8. Emergency driveway



South row front elevation showing connecting bridges



North row front elevation



Typical floorplan

New World Centre, Shanghai, PRC

Description

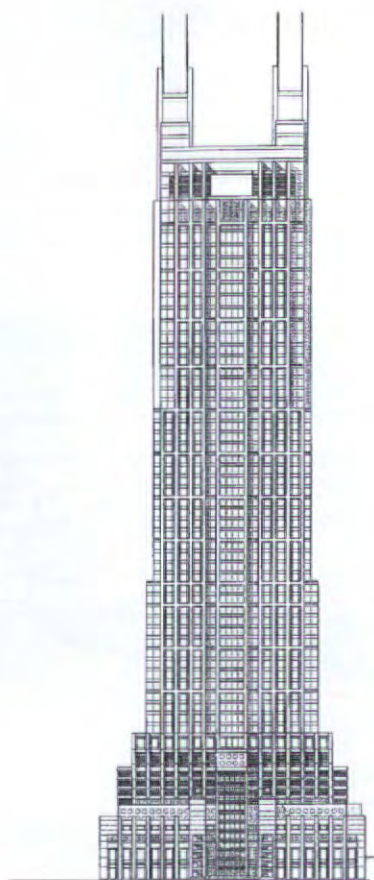
New World is one of Hong Kong's leading real estate developers. Its New World Centre in the heart of the Huai Hai Road special development precinct in Shanghai is a mixed use development incorporating retail and business facilities and a five star hotel as well as public open spaces. The client requested the most prestigious landmark building in the precinct for which B+H has designed a tower rising from a four-storey podium to 58 storeys and a height of 235 metres. The architects have chosen a classical solution using modern construction techniques and materials. The podium will provide definition to the main shopping street of Huai Hai Road.

Client

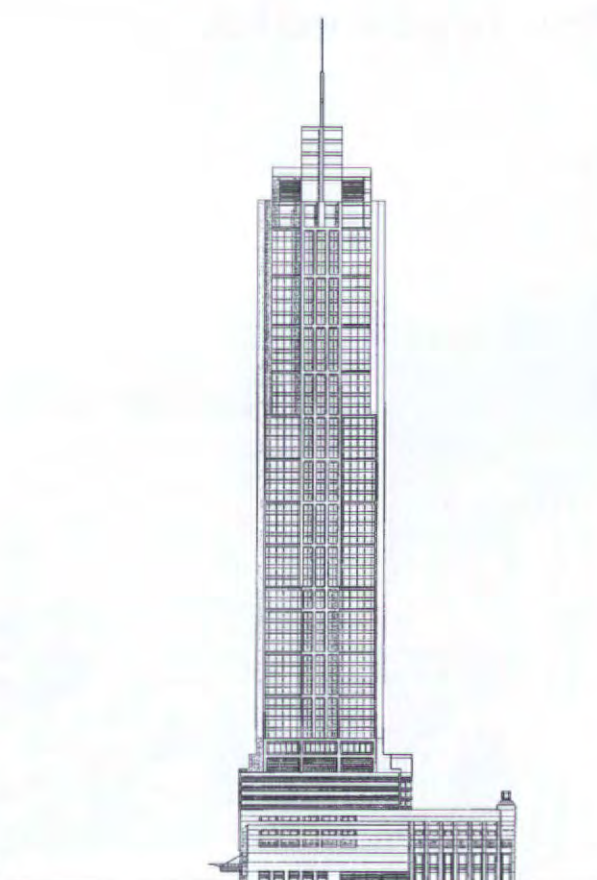
Shanghai New World Hua-Hai Property Development Ltd

Expected date of completion

2000



South elevation



West elevation

New Shanghai International Tower, Shanghai, PRC

The 39-storey New Shanghai International Tower was completed last year and now makes up one of the landmark buildings of Pudong's Lujiazui finance and trade zone. The seven-storey podium is accessed by an entrance behind a mirror-finish stainless-steel canopy relating to the design of the rooftop helipad. Secondary entrances are set into the podium's rear elevation of polished granite. The main lobby area is surrounded by a ring of banking, stock exchange and airline ticket offices as well as a business centre, conference and exhibition facilities and restaurants, all on the upper floor. A seven-storey skylit atrium is at the rear of the complex. In response to concerns about the effects of shadow and wind circulation, the tower is almost totally surrounded by open space covered with granite paving stones bonded to concrete slabs.

Client

New Shanghai International Tower Company Limited

Date of completion

1997



Shanghai Hotel and Tennis Facility, Pu Tuo District, Shanghai, PRC

Description

The 40,000-square-metre second phase of Shanghai's latest state-of-the-art sports facility is currently under construction, comprising a 323-suite three star hotel with restaurants, retail, indoor swimming pool, multi-purpose

hall, and health spa.

The first phase included a development of eight tennis courts for China's National Athletic Meet, and they now provide facilities capable of hosting international tournaments.

Client

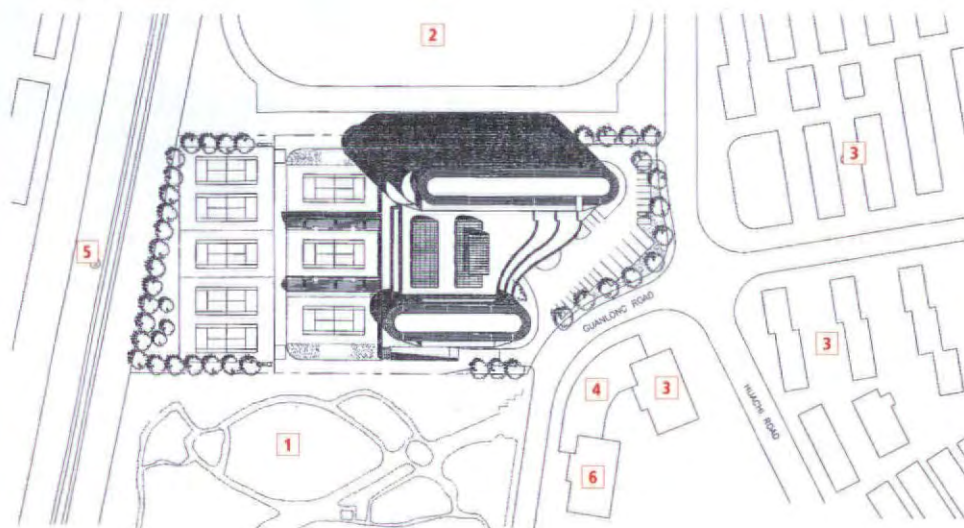
New Athlete Tourists' Co Ltd

Expected date of completion

Construction on hold

Key to preliminary design

1. City park
2. District stadium
3. Apartment building
4. Retail podium (2 levels)
5. Railway
6. New apartment building



Guangzhou International Exhibition Centre, Guangzhou, PRC

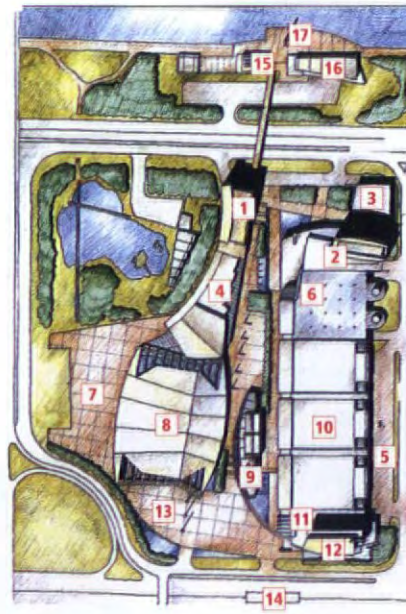
(feasibility study only)

Description

The concept design is now complete for the 336,000-square-metre exhibition centre in Guangzhou, the booming city of southern China. It is situated on a 16-hectare site with a north-south pedestrian spine running down to

the Pearl River and its associated activities. Components include exhibition space, office accommodation, hotel and apartment facilities, a conference centre and restaurants. The north-south axis is flanked by display halls, multi-function and exhibition halls to the east

and west, each of which will be accessed from an arrival area linked to the entrance plaza. The pre-function spaces will link the larger exhibition spaces at grade level, and a terraced plaza will rise above these spaces and lead visitors to the river view and other facilities to the north.



Key to site plan

1. Hotel
2. Office
3. Entertainment complex
4. Conference centre
5. Service & loading
6. Parking garage
7. Outdoor exhibition
8. Class 1 exhibition
9. Registration hall
10. Class 2 exhibition
11. Display hall
12. Business centre
13. Surface parking
14. Subway
15. Restaurant & terrace
16. Special exhibition
17. Riverside park

Sector Analysis – Cultural Centres

Global antidote



- 82 **EUROPE** – Islamic communities in Ireland and Nouvel's KKL Centre in Switzerland
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- 92 **CANADA AND USA** – Cultural centres for the Japanese in Toronto and Jews in the USA

Carlos Puente's
Cultural Centre at
Ciempozuelos, Madrid,
Spain. Photo: A.L.
Baltanás + E. Sánchez

In a global world, displaced cultures are reaffirming themselves through architecture. David Cohn analyses this phenomenon throughout Europe, Asia and the USA. Designs reflect specific cultural heritages – addressing ethnic, religious, foreign or other “minority” groups. Elsewhere, cultural centres are designed for multi-cultural activities with spaces for performance, study and worship.



Europe

Switzerland: KKL Lucerne

Architect: Jean Nouvel

"Culture has replaced cult: museums are the twentieth century's churches," according to Jean Nouvel, "and so multi-cultural buildings have an important urban role. Such is the case in Lucerne. The annual music festival has an international reputation, and the city's collection of

contemporary art is a major one. The brief asked for a world-class 2,000-seater concert hall and a museum space for showing the existing collection and temporary exhibitions, together with conference facilities and a second multi-purpose performance space." Nouvel's solution is to deliver three buildings linked by an immense roof, placed in a pivotal position on the edge of Lake Lucerne. The main concert hall opens in August 1998, and the whole building will be delivered in December 1999.

Nouvel's Kultur und Kongresszentrum, Lucerne, is a major new building, and it's a major achievement. Swiss participatory democracy in planning meant that the whole plan was the subject of five public referenda before construction started, and progress is monitored through regular public meetings and a permanent web site (<http://www.kkls.ch>). Nouvel's first project was rejected because it involved building in the lake. "So we brought the lake to the building the second time," he explains, "with channels running from the lake between the main sections of the building down to the service spine that links them."

The front facade distinguishes each element: burgundy and blue for the main concert hall, with picture windows in the main foyer framing landmarks in the city and surrounding countryside, black for the central multi-purpose building and a suspended metal grid pattern fronting the museum (on the top floor) and the conference centre. The green copper roof links the individual components and projects over the lake – its diagonal corner is 45



Key to KKL

1. Conference centre and museum
2. Multipurpose hall
3. Large concert hall
4. Inland waterways
5. Outline of the cantilevered roof
6. Area of facade photographed opposite in image 1

metres from the corner of the building – and the restaurant and bar immediately under the roof which has a panoramic view over the lake and the city. "I wanted to give Lucerne a landmark from which Lucerne itself could be enjoyed," says Nouvel. He has succeeded.

by Conway Lloyd Morgan



1: Facade of the building under construction (See 6 on key opposite)

2: Photomontage showing the proximity of the lake to the building

The cultural centre as a common building type has emerged relatively recently. It is a product of the same sociological phenomenon that has produced the wave of museum building in the developed world. Its origins can be roughly dated, like that wave, to the opening of the Pompidou Centre in Paris in 1977, which could be considered the prototype of the genre. Incorporating a museum, library, cinema and multi-purpose spaces, the

Pompidou established the basic definition of the type as a combination of different cultural uses in a single facility.

Cultural centres are built today with myriad program elements, and are dedicated to a wide variety of social uses. In its most generic form, as found for example in many small communities in France and Spain, the cultural centre groups together an exhibition space, an auditorium and a library or media centre (in France, the well-coined *mediatèque*), together

with a few classrooms or meeting rooms and a café. The building type thus represents an updating of the library as the traditional public cultural facility of a small town or urban neighbourhood. It reflects the growing importance given to visual and performing arts, in societies in which visual, oral and electronic media of communication are gaining terrain over traditional written media.

In this generic form, the cultural centre takes on a similar role in the community to

Europe

The Netherlands: Kunstcluster Cultural Centre, Tilburg

Architect: Jo Coenen



International attention has focused on projects in the Hague and Rotterdam but Tilburg is a city in the making. Jo Coenen's recently completed Kunstcluster cultural centre in Tilburg, the Netherlands is the result of the symptom whereby Dutch cities have been competing to renew their cores. Despite the pressure on costs (the average square metre price in the centre to about US\$500 with the concert hall US\$1,500) the design has attracted a wide and positive response. Coenen's design encompasses general urban renovation of the area in Tilburg. This includes not only the centre with its concert hall, conservatory and ballet academy, but a new open space and an art university (See review in upcoming WA 69 Country report on the Netherlands).

Coenen uses contrasts with the warmth of wood and the transparency of glass, and the rectangular main facade with the undulating roof above

that of earlier building types such as youth or senior centres, the country club or social club, the religious centre, the school building used after-hours for public activities and adult education, or the meeting spaces of the town hall. In this sense, it differs from a traditional community centre mainly in that it does not include recreational facilities, which today are generally spun off into a building or campus of their own (although in Japan local cultural centres increasingly include sports facilities).

In larger towns, the cultural centre is often a contemporary reinterpretation of traditional facilities such as the German *kunsthalle* or art exhibit hall, and the local opera or theatre. Foster and Partner's 1992 Carré d'Art in Nîmes, France, combining a *mediatèque* and contemporary art museum, was built on the site of a burned 19th-century opera house, for example. Other cultural centres grow around a specific local custom or event, such as Jean Nouvel's Lucerne Culture and Congress Centre in

Switzerland, now under construction, which will house the annual Inter-Music Festival.

When it is conceived as more than simply a local institution, the cultural centre may represent an intent to update the museum as a type. The success of the Pompidou Centre revealed a previously untapped demand for cultural facilities that were more multi-disciplinary and event-oriented than the traditional museum. It was the first of many centres, especially in France, to promote the

Europe

Ireland: The Ark; Islamic Cultural Centre

Architects: O'Toole and Kelly; Michael Collins Associates



1: Islamic Centre, Dublin

2: Detail of the facade of the Islamic Centre, Dublin

3: The Ark, Children's Cultural Centre, Dublin, by O'Toole and Kelly Architects showing the Calatrava designed theatre curtain in a closed position

► Idea of a potential fertile interaction between cultural disciplines, an idea which has produced centres incorporating research laboratories, workshops, artists' studios, and arts schools. Excitement about the potential for new electronic media to facilitate this kind of interaction has inspired recent projects such as the National Studio for Contemporary Arts at Fresno, France, or the Kunst und Media Zentrum in Hamburg, Germany.

In this regard, cultural centres are more

common in continental Europe and Japan than in the USA, where institutions for the arts are conceived in more conventional terms. Americans seek the potential synergy of mixed cultural activities at a much larger scale, in the form of cultural campuses that bring together various institutions. San Francisco's Yerba Buena Gardens, for example, is an 87-acre "cultural arts district", financed in part by city revenues from the surrounding development that it has helped to attract. It includes a

theatre and Visual Arts Gallery, both built over the roof of a convention centre, Mario Botta's San Francisco Museum of Contemporary Art, a children's centre now under construction, and plans for Jewish and Mexican museums.

Often the cultural centre is simply an extended and modernised concept for a museum. In established museums, traditional exhibition formats are today frequently extended from viewing galleries to include an introductory lecture or video and related



Dublin is a cosmopolitan city which plays host to the international set and is, therefore, ahead of much of the rest of Europe in its approach to cultural centres. The Ark designed by O'Toole and Kelly, a Dublin-based practice, is Europe's first purpose-built cultural centre for children. It is comprised of a 150-seat amphitheatre, gallery and attic workshop. The facade to Meeting House Square, Temple Bar, features a giant theatre curtain (a Calatrava-designed folding screen) facilitating The Ark's "gift to the city" – a stage for open-air events in Dublin's newest urban space. The client, Temple Bar Properties, believes that the design is "not daunting for children" because its 1,600-square-metre space is divided into three distinct medium-scale spaces: theatre, gallery and workshop and three smaller spaces: eating area, reception and Long Room. Architectural critic Cathal O'Neill claims that it is obvious that the question that was uppermost in the architects' minds as they designed the building

was how it would appear to children.

Similarly, Dublin has tackled the question of religious minorities in an innovative way. There are about 4,000 Muslims in Ireland and the majority live in the Dublin area. By the early 1990s their requirements had far exceeded the available mosque, school and social centre located in a disused church on the South Circular Road.

The Islamic Cultural Centre was designed by Michael Collins Associates, a Dublin-based practice comprising of seven architects with an additional seven technical support staff. Michael Collins himself had worked as an architect in Libya and Iraq and his practice had a good working relationship with the Islamic Foundation in Ireland. The practice had designed stud farms in Ireland for Sheikh Hamdam of the Maktoum family who are the ruling family of Dubai. The family has extensive interests in the racing industry in Ireland, and in 1992, they generously agreed to fund new facilities for the Islamic community in

Dublin. "It is like any building commission, you have to understand the project before you can do a good job and the Islamic Foundation here answered any questions we had," said project architect Brian Murphy.

The brief for the new building was to convert an existing single storey training centre into the main prayer hall, daily prayer halls, a five-classroom school, a multi-purpose sports hall, a shop, restaurant, library, training rooms, meeting rooms, laundry, ten apartments and administration offices.

The architects rose to the challenge of accommodating the Islamic tradition. They designed the building to have separate entrances and accommodation for men and women and facilities for traditional ablutions on entering the mosque had to be provided.

Murphy pointed out that the main prayer hall had to be oriented towards the Kaba, the holy black stone at Mecca so the architects decided to orientate the whole building on this axis.

performance arts. Concert programmes have long been a regular feature at museums such as the National Gallery in Washington, or the Metropolitan and Whitney in New York, while the Museum of Modern Art incorporates a film archive and cinema. Museums are also increasingly reaching out to their communities through educational programmes, members' clubs and the like. When these ancillary performance or community activities occupy a considerable proportion of the institution's

programme and identity, it may be termed a cultural centre. A recent example is the Skirball Cultural Centre and Museum in Los Angeles, by Moshe Safdie, dedicated to the cultural history of American Jews.

Finally, the function of the cultural centre as cultural ambassador or embassy, exporting and promoting cultural exchange between peoples and nations, amply predates the Pompidou Centre as a sub-type. These centres can be government-owned, like the upcoming

Austrian Cultural Institute in New York by Raimund Abraham; built for a religious faith, such as many Islamic Centres; or turned over to minority ethnic groups within a larger community, as in the Uluru Cultural Centre at Ayers Rock in Australia, dedicated to the culture of a major aboriginal tribe.

The cultural centre as a generic community facility is illustrated in its essence by Rafael Moneo's building for the small town of Don Benito, in Extremadura, Spain. The building

Europe

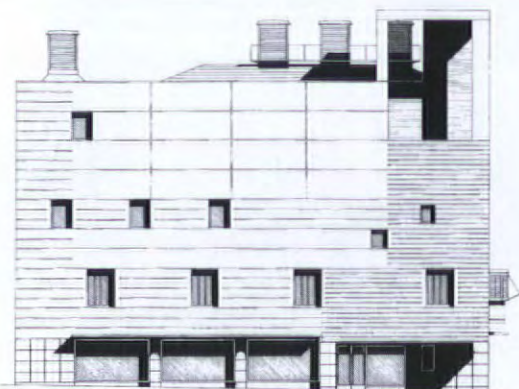
Spain: Don Benito Cultural Centre; Ciempozuelos Centre

Architects: Rafael Moneo; Carlos Puente

While elsewhere in Europe cultural centres are frequently designed with a light, contemporary vocabulary of glass and steel, the architects for Spanish centres continue to draw on traditional building vocabularies for a modernism adapted to local conditions and culture. Two cases in point are the centres designed by Rafael Moneo for the town of Don Benito, located a few miles east of Mérida in the isolated autonomous region of Extremadura, and by Carlos Puente for the modest suburban bedroom community of Ciempozuelos, on the extreme southern periphery of Madrid, a former agrarian town whose narrow streets are now crowded with apartment blocks.

Moneo's building stands on the town square, on the former site of the town hall, a tightly-packed box of white brick with a corner tower

marking the entry, and windows placed according to the demands of the interior. The building is intricately organised in section. The ground floor auditorium is double-height, with the periodicals reading room and classrooms wrapping around it on a mezzanine. The double-height periodicals room in turn is crossed in its upper part by three bridges that rob light from the exterior for the windowless library reading room above the auditorium. The reading room is also ingeniously lit by skylights that are sunk through the top-floor museum, where they read as circular columns. A temporary exhibition gallery on the ground floor is visible through large windows from the plaza, while a long shuttered gallery overlooks the street from the periodicals room, a spot particularly favoured by senior citizens.



▲ Groizard street elevation of Don Benito Cultural Centre



▲ Villanueva street elevation of Don Benito Cultural Centre



Duccio Malagamba Fotografato



Duccio Malagamba Fotografato

occupies a prominent site on the town square, next to the parish church, with a tower marking the corner entrance. The ground floor auditorium is succeeded by floors for classrooms, a library and a skylit permanent exhibition hall. Like similar facilities across Spain, the building was financed by the regional government as a basic public service.

Other notable cultural centres of a surprisingly modest scale have been built in the small Galician town of Chantada (Manuel Gallego's

reform of a vernacular house, 1990, with its open tent-like interior); in Villanueva de la Cañada, outside Madrid (Juan Navarro's modern, horizontally-extended centre, 1997, surrounded by walled patios); and in nearby Brunete (a design by Víctor López Coteló, 1996, inspired in simple rural vernacular forms). In general, these designs project solid civic and urban values in an understated modern vocabulary which often assumes vernacular type-forms and construction methods.

In Spain's major cities, ambitious cultural complexes have been planned by local governments seeking innovative cultural policies. In Barcelona, the Centre for Contemporary Culture, 1993, was conceived as an open academy for urban issues. Designed by Viaplana and Piñón, it is housed in a rehabilitated building in the medieval Raval, beside Meier's Museum of Contemporary Art. It is described by Director Josep Ramoneda as a "multi-disciplinary, multi-functional centre"



◀ Ground floor of the cultural centre in Ciempozuelos

▼ Facade of, and section through, the building's rear



The top-lit low-arched vaults of the reading room and museum are signature Moneo elements; most of the furniture was also designed by the architect.

The Ciempozuelos Centre is located on a narrow street near the main plaza. The simple, low-budget design features an elegant sequence of spaces, from the double-height exhibition area at the entry to the top floor library, and a poetic use of details with a strong rural flavour. Windows are shielded from direct sunlight by patios covered with trellises and vines, by a balcony enclosed in wood slats like a harem window, or by a box of polished zinc, with randomly-cut slits that admit striking patterns

of light. The large front door is scored with rows of broken shells, producing a dramatic texture of shadows that echoes vernacular nail-studded doors. The rough stucco walls are stained in vivid pigments.

Moneo's building, with the muscular power of its bearing walls and vaults, is the most substantial construction, beside the parish church, in the town. Puente's reflects the lost agrarian roots of Ciempozuelos and its inhabitants, largely emigrants from poor regions such as Extremadura. Both are testimonies to the value of architecture as a cultural depository in the face of the heedless new constructions that surround them.



- 1: Skylights on the roof of Moneo's Don Benito Cultural Centre
- 2: Library at Don Benito
- 3: Double-height exhibition area at the Puente designed cultural centre in Ciempozuelos
- 4: Articulated facade in Ciempozuelos

A.L. Belandis + E. Sánchez



A.L. Belandis + E. Sánchez

dedicated to the city "in all its dimensions, historical and cultural, present and future, technological and environmental." It includes three floors of exhibition space (Barcelona's largest venue for international travelling exhibitions), a floor of classrooms for a graduate programme in urban planning, facilities for special conferences, and a research library and videotèque dedicated to Barcelona.

In 1993, Madrid's regional government announced an ambitious plan for a Centre for

the Arts and Culture in a former beer factory, a 35,000-square-metre complex that would have contained a regional reference library, design school, performing arts production facilities, theatre, and art centre with exhibition galleries and studios. A newly-elected government cancelled the plan in 1995. The city of Madrid had already converted a large 17th-century barracks into the Conde Duque Cultural Centre, with city archives, performance and exhibition spaces, rehabilitated

under the direction of the late Julio Cano Lasso. Since 1996, the new regional government has revitalised a languishing existing institution, the Circulo de Bellas Artes, which occupies an extravagant multi-use building of 1926. The Circulo now hosts exhibitions in three different venues, a cinema, and facilities for public lectures, conferences, debates, book launchings, receptions and the like.

Portugal's economic and cultural flourishing has trailed behind Spain's, although the ▶

Australia

Aboriginal cultural centres at Ayers Rock and Halls Gap

Architect: Gregory Burgess

Aboriginal art and crafts, dance and music have attracted worldwide attention and are seen, at least outside Australia, as emblematic of the landscape. Indeed, art produced by Aboriginal people is perhaps the more vital and authentic and of greater interest compared to white painting and art making.

In the past, White Australian art dealers exploited Aboriginal artists as producers. Today Aboriginal groups market their art and work not only to achieve greater economic returns, but in order to ensure that it communicates accurately their spiritual values, especially the centrality and significance of their

relation to the land.

Often paintings were exhibited with a typed dreaming story attached to them to explain the meaning. This was a commonplace means of conveying to tourists the living Aboriginal experience and spirituality, as achieved by architect Greg Burgess at two Aboriginal cultural centres, the Brambuk Living Centre at Halls Gap in the Grampian National Park, north of Melbourne, and a second more recently completed centre beside Uluru, or Ayers Rock, in Central Australia – the Uluru-Kata Tjuta Cultural Centre.

Both the centres have a cafe and craft shop

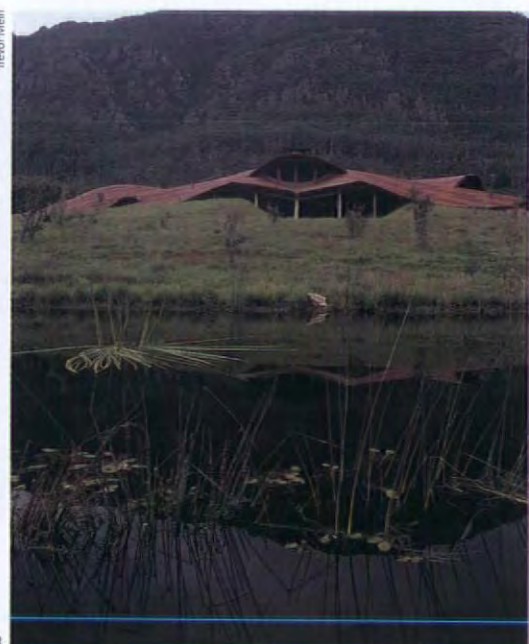
which are operated as commercial enterprises to make them self-sustaining in the longer term. At Brambuk, immediately behind the meeting area and in the centre, is the kidney shaped shop, around which are distributed circular theatre and display spaces. It looks very like a Masai village that has coalesced underneath the single outspread warped red colourbond metal roof. Holding it all together, symbolically and physically, is a massive central stone chimney. From a distance, the roof appears to sway this way and that expanding and contracting under the influence of unseen forces.



1: Interior of Brambuk Living Centre

2: The roof echoes the mountain silhouettes nearby

3: Striking organic form where spaces weave together



Upcoming Expo 98 is a sign that the country is catching up. In Lisbon, the large Belém Cultural Centre, by Italian Vittorio Gregotti Associates, was opened in 1992. It comprises an experimental theatre, 1,500-seat opera and concert hall, contemporary art museum, library, and conference centre, in a group of volumes finished in rugged limestone and grouped around a central axis and plaza.

More perhaps than any other country, France has dedicated considerable public funds to

cultural centres, as part of a programme of decentralisation similar to Spain's, in which cultural resources are distributed to new regional centres. Since the 1960s the Ministry of Culture has financed ambitious cultural programmes to encourage social adhesion. High state and local debt and funding cutbacks have affected activity in recent years, resulting in a new emphasis on the re-use of existing facilities, for example. But in 1996 the government approved a five-year building programme that

includes seven major regional centres and 122 local projects, many of which are defined as cultural centres. The government has set aside 800 million francs (US\$140 million) for this effort, with other funds coming from regional sources.

French designs more frequently reflect the celebration of avant-garde technical progress first embraced by the Pompidou, rather than the more vernacular idiom of many Spanish works. On a local scale, the Centre Culturel



4: Uluru-Kata Tjuta cultural centre is based on a symmetrical flower-like plan



5: Unlike the Brambuk centre, Uluru consists of two compact pavilions



6: Anangu people's performance space

The outside is a product of the interior which floats up through two storeys around the funnel shaped stone of the central chimney. Around this, a pole frame supports the inclined roof very much like the poles of a circus tent props up the canvas of a big top.

The Uluru-Kata Tjuta Cultural centre began with a centripetal outspreading form like the Brambuk Centre and was developed by means of discussions and conversations, paintings and sand drawings which emphasised the importance of a central area where the Anangu arts and crafts could be made and displayed with an Inma ceremonial ground where the Anangu people could perform. At first the building was flower like, and while the symmetry of this pattern has been kept, it later acquired a more fluid and dynamic

expression when it split into two. The two separate serpent-like structures resemble the two snakes, Liru and Kuniya of Anangu legend, who collided in battle on this side of the Uluru monolith.

Once again, the arts and craft shop is close to the entry within the east pavilion, which is separated from the western multi-purpose area and souvenir shop by a space containing a dead desert oak and the Inma dance area. The roof of bloodwood shingles with copper tiles across the ridge is multi-layered and seethes and sways as one might expect of a snake. Under the roof, behind walls of adobe brick, radially sawn cladding and a timber pole structure, the space continues this movement.

The challenge was to place a man made structure against the mute and massive red conglomerate outline of Uluru without disturbing the place or the atmosphere. By using natural materials such as timber cladding that are warm toned and shapes that are irregular and lack any consistent linear rhythm, the building builds on the rhythms of the landscape without insistence, without challenging or competing, without contrast. The spaces are discursive, enveloping, layered so the visitor is immersed and surrenders to the ambiguity of the place itself.

Greg Burgess lived among the Aboriginal groups to acquaint himself with their traditions and way of life. At the present time, the Federal Government of Australia and the Labor opposition is deadlocked over its Wik

legislation which attempts to control and limit land claims by Aborigines under the Native reconciliation. At the heart of this dispute is the recognition of the importance of the land in Aboriginal culture and its illegal seizure when Australia was settled in the 18th-century.

By establishing Aboriginal cultural centres such as the Brambuk Living Centre, the relationship of Aborigines to the land can be understood by non-Aboriginal Australians much better and sources of misunderstanding in the Wik debate replaced by a more sympathetic appreciation of Aboriginal values and culture. To facilitate this, Burgess created striking organic forms which lack square corners and have instead spaces which flow and weave together like a river. The roof of the Brambuk building echoes the mountain silhouettes nearby, at Uluru, the more compact introverted pavilion has been split into two.

In their two century long battle to survive, the Anangu like other Aboriginal groups have suffered because of the subtlety of their culture and its lack of aggressive weapons. The Centre adopts a similar strategy of envelopment, seeing the environment as a living extension of the self, which must be cared for and maintained. It is a lesson white Australia desperately needs to learn if it is to hold onto the land without destroying it, and find an identity which is not simply borrowed from outside from more powerful neighbours.

by Philip Drew

d'Argenten, by Pierre and Pascal Prunet consists of a sleek open glass and concrete volume added to a 19th-century convent building to accommodate a *mediatèque*, exhibit spaces and auditorium. The impressively titled Espace Apollo in the town of Mazamet, by architects Joseph Almudever and Christian Lefebvre, is housed in a tidy 4,500-square-metre prismatic volume fronted by an enormous open-air canopy that completely covers a large public plaza. Located in a town of

20,000, in its first year the facility received 65,000 visits to its cinema and 12,000 to its dance and performance theatre, while 4,000 have borrowing privileges at the *mediatèque*.

Of the major regional centres underway, Christian de Portzamparc's Nouvel Espace Culturel (NEC) in Rennes brings together a Centre of Scientific Culture featuring a planetarium, a Museum of the Art of Brittany, dedicated to local popular arts, and a library. Its components are respectively enclosed in a

sphere, a rectangular lozenge and an inverted off-centre pyramid, in a kind of pop "*architecture parlante*". In Auberville, north of Paris, the Facility for Multi-media Research, also known as Project Metaphor, has been given a futuristic glass and steel design by architects Finn Geipel and Nicolas Michelin. It is intended as a laboratory which will confront new electronic media with traditional means of artistic expression, a cultural equivalent, its promoters say, to the MIT Media Lab.

Asia

Japan: Yamanashi Fruit Museum; Nagaoka Cultural Hall

Architects: Itsuko Hasegawa; Toyo Ito

Outside the densely populated urban centres of Japan, new cultural facilities built in recent years try to enhance the unique characteristics of the regions. They are new cores for areas in decline hoping that some unique identity might be revitalised which was so rudely plastered over by years of planning without any sensibility from the central government in Tokyo. The stunningly innovative forms of the two projects presented here herald this new approach and the pride found with new identities. Finally, maybe, some of the unique diversity for which Japan was so famous can be rediscovered.

Toyo Ito has created a gently moulded landscape for this cultural facility on the West coast of Japan. The Nagaoka hall has a huge, curving roof that echoes the playful

treatment of the adjacent park, and covers the tools for culture: a concert hall that seats 700 people, a theatre for 450 people and adequate facilities and all equipment for the performance of different genres of art are sheltered by this generous and inviting gesture spanning almost 150 metres.

The heavy black theatre belfry and the shiny oval of the concert hall walled with corrugated panes of translucent glass perforate the silver roof adding even more attraction to the extravagant shape of the shiny, elegant wing. The flat concrete slabs which make the roof are supported by freely arranged columns giving the impression of a rare structural freedom which goes well with the programme. With its ten practice rooms open for public use the Nagaoka hall

Tomio Oishi



2



3



1

› Bernard Tschumi's recently completed National Studio for Contemporary Arts at Fresnoy, near Lille, is designed as a multi-disciplinary workshop for graduate students and recognised professionals in the fields of dance, cinema, video, and the visual arts. The facility is established in a campus of old industrial-type buildings, which Tschumi has covered with an enormous canopy. The space between the roofs of the existing buildings and the canopy, accessed via catwalks and stairs, is

conceived as a kind of open studio set for the realisation of multi-disciplinary art.

The Zentrum Kunst und Media (ZKM) in Karlsruhe, near Hamburg, is Germany's answer to these experimental facilities. Originally awarded to Rem Koolhaas in a 1989 competition, the project was "scaled back" due to budget problems and installed in a vast 42,000-square-metre renovated munitions plant from the First World War, under the direction of local architects Schwegger + Partners. Its main

public feature is a Media Museum dedicated to projects realised in cyberspace and virtual reality. A reduced replica of Koolhaas' abandoned design, which features a facade wrapped in illuminated electronic images and messages, has been installed at the entry.

Outside France, however, cultural centres in the rest of Europe tend to be dedicated to more modest aims. Music and the performing arts play an important role in many facilities, such as the Kunstcluster in Tilberg, the Netherlands,

1: General view of Toyo Ito's L-Hall in Nagaoka

2: Interior of L-Hall

3: Interior of Itsuko Hasegawa's Fruit Museum in Yamanashi

becomes a base for the exploration of a new regional identity.

Two hours out of Tokyo, in the rolling hills of a fruitgrowing area in Yamanashi, Itsuko Hasegawa has built a museum. She suggested three separate buildings which translate the idea of nature into new forms. Like strange and beautiful plants sophisticated steel and glass structures grow here and give room to an unusual programme.

Much more important than an exhibition space for the local fruit industry the architect chose to provide workshops for artists, kitchens for housewives and a huge multifunctional foyer for activities of all kinds, many of which she could not even foresee while planning. All possible activities which will take place here finally will be responses to the sensation of a beautiful landscape which can be experienced inside the glasshouses.

The fruit museum will be the place for the creation of an unique regional culture much more than a place for consumption of culture. Unfortunately the challenging programme by the architect was watered down by the clients fear of the unknown. The underground exhibition space now shows a disappointing exhibition of local products which are undeserving of an architecture of such excellent beauty. But the pride of the population in their new building, and its wide acceptance, proves that it still can be a powerful centre for modern culture inspite of such an incongruence.

by Wilhelm Klauser

designed by Jo Coenen, which combines a concert hall with practice rooms, classrooms and rehearsal spaces for a conservatory and ballet academy, as part of plans for a new local university. The building is also the centrepiece of a general urban plan for improving the relatively modern town.

In the small town of Witten der Ruhr, Germany, architects Von Busse and Klapp have set the Haus Witten Cultural Centre in the ruins of a 15th-century manor house

Australasia

Kanak Cultural Centre, Nouméa, New Caledonia

Architect: Renzo Piano Building Workshop



The Kanak people are Melanesians of New Caledonia, an island east of Australia. The island with Nouméa as its capital is a French territory, now set on a peaceful course toward autonomy. During the negotiations for independence, the local authorities asked the government in Paris to fund a major centre devoted to Kanak culture with permanent exhibitions devoted to the community's traditions as well as events that would bring it to life. Renzo Piano was chosen to build it.

"When we say 'culture' we usually mean our own: a fine soup blended from Leonardo da Vinci and Freud, Kant and Darwin, Louis XIV and Don Quixote" says Renzo Piano. But as he puts the finishing touches to the Tjibaou Cultural Centre in New Caledonia, he observes that in the Pacific, culture means an all together different thing. "It is not just the recipe it is the ingredients that are different.

We can approach their soup with detachment, bringing our own cutlery. Or we can try to understand how it emerged, why it has gone in a certain direction and what philosophy of life shaped it." Piano believes that he won the competition because "I didn't bring my own cutlery ... I had to create a symbol: a cultural centre devoted to Kanak civilisation, the place that would represent them to foreigners and that would pass on their memory to their grandchildren."

The centre is composed of ten "cases" of three different sizes and with different functions intended as a celebration of Kanak Culture. It is a village, with its own paths, greenery and public spaces, in direct contact with the ocean. The project addresses the difficulties of finding a way of expressing the tradition of the Pacific in modern language and embodies the decisive contribution of the anthropologists.

destroyed in the Second World War. Fragile new pavilions in glass and steel stand inside the ruined walls in eerie juxtaposition. The facility is used as an evening institute, music school, film club, and café.

Günther Domenig's Exhibition Building at Hüttenberg, Austria features a similar contrast between unrestored ruins (a 19th-century smelting factory on a rural site) and new skeletal programme elements, which are dramatically balanced over them. It was primarily built to

host an annual regional exhibition programme.

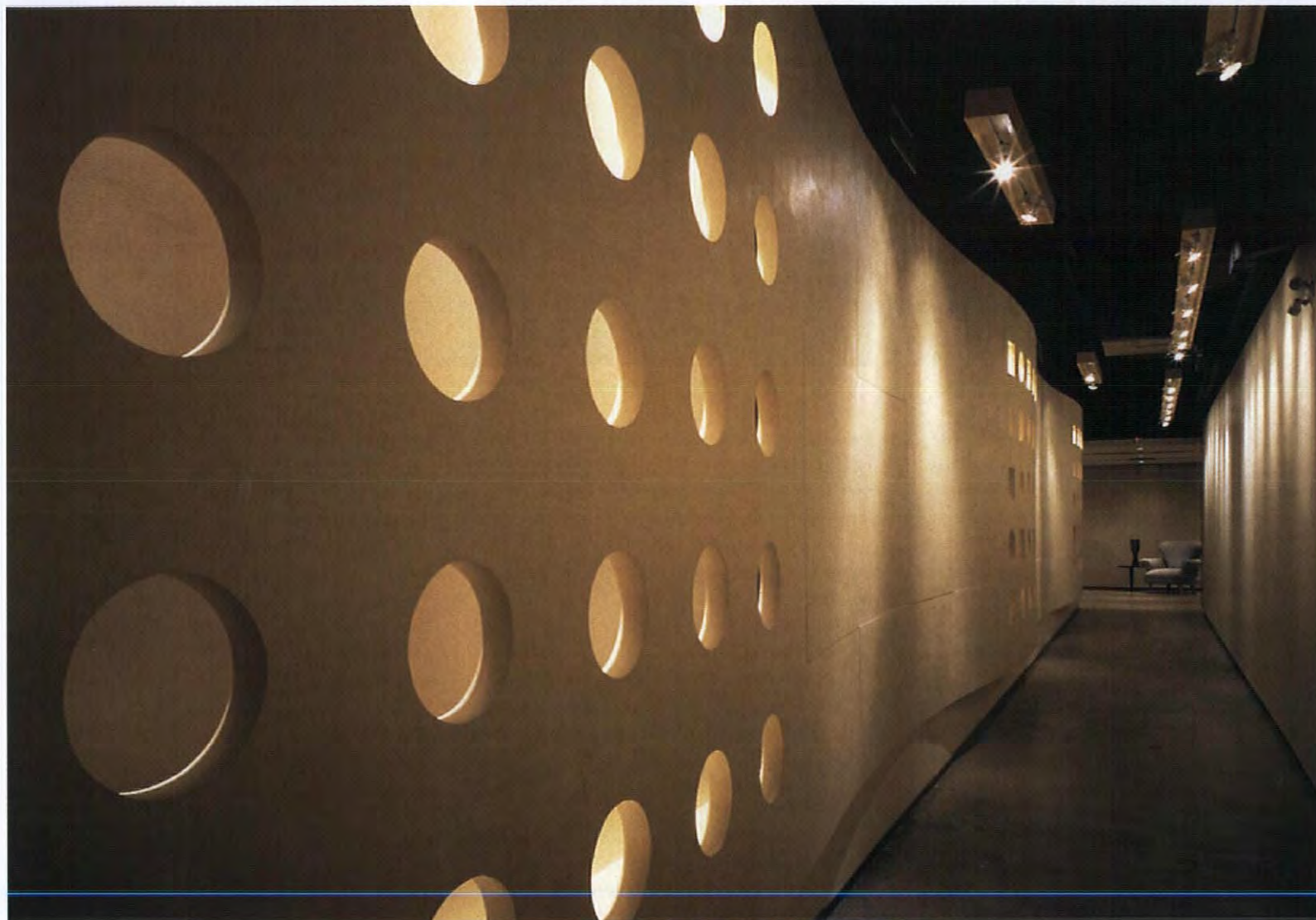
Outside Europe, only Japan seems to have a well-documented portfolio of recent cultural centres. They are an offspring of the general popularity of museum-building among prosperous local governments and large companies. At a local level, community activity centres can include exhibition spaces, a museum with a small collection of local artefacts, workshops, meeting rooms, media library and restaurant, although spaces for the performing arts are

Canada

Japan Foundation, Toronto

Architect: Yabu Pushelberg

Perforated wall articulating interior space in Toronto's Japanese Centre



►rare. These centres resemble traditional village communal facilities in function, though they are built at a larger scale. Architects are given a great deal of freedom in their design, in accordance with the buildings' representative role. But WA correspondent Wilhelm Klauser notes that since the crisis of 1991, a trend has emerged that replaces museum elements, which were generally underused in previous buildings, with sports facilities for baseball, soccer and the like.

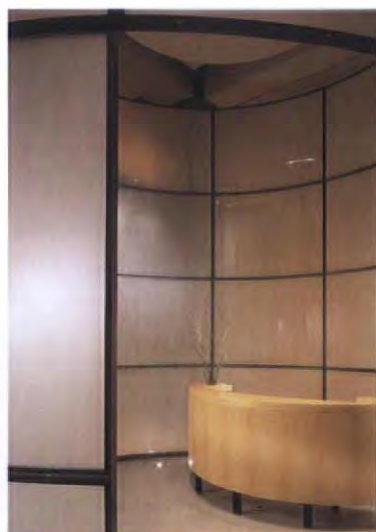
One of the brightest architectural stars in Japan, Itsuko Hasegawa, has designed several cultural centres. Her Sumido Culture Factory of 1992 resembles some of the more advanced European centres in its incorporation of artists' studios and workshops with exhibit spaces, in a bold futuristic design that towers over its surroundings. Equally remarkable is her 6,200-square-metre Yamanashi Fruits Museum, 1995, (see WA61 p26) sponsored by the association of local fruit farmers and also containing work-

shops and ateliers, which is housed in three playful round volumes distributed over a 19-hectare site. Hasegawa's Niigata Performing Arts Centre will open in the autumn.

Other prominent architects in the museum field with mixed-use centres in their portfolios include Toyo Ito, author of the Nagaoka Cultural Hall, 1997, dedicated mainly to the performing arts, and Shin Takamatsu, whose Community Centre in Gotsu, Shimane includes a multi-purpose hall, library and



Auditorium in the centre of the Japan Foundation's building



Reception area



Entrance uses traditional Japanese screens

The Japan Foundation, a cultural agency funded by the Japanese Ministry of Foreign Affairs, operates facilities of varying size and scope around the world. Prior to 1995, the foundation's presence in Toronto, Canada was minimal: it maintained a small grant and information dispensing office on the 27th floor of a downtown tower.

When the organisation decided to upgrade its Toronto branch to cultural centre status, it required larger, more conspicuous premises. The main additional programmatic components were a lending library and multipurpose spaces for public activities. Today, the Japan Foundation (JF) occupies 12,000 square feet on the second floor of The Colonnade, a 1960s retail and residential complex in the heart of the upscale Bloor Street shopping district.

Foundation officials wanted the facility to reflect traditional Japanese aesthetics in an up-to-date, cliché-free way. They felt that the ideal firm to design it would have at least one partner who was of Japanese descent. Toronto's Yabu Pushelberg fitted the bill perfectly. Creative director George Yabu, who founded the company in 1980 with managing director Glenn Pushelberg, is a Toronto-born designer of Japanese descent, and the firm is

renowned for its urbanly contemporary retail and restaurant interiors.

The Japan Foundation actually occupies two discrete spaces, separated by an interior street. Its administrative area, which fronts onto Bloor Street, is on one side of this interior corridor. The public spaces, which include the library, an event hall and three smaller seminar rooms, are on the other side.

Along both edges of this divide, Yabu Pushelberg used expanses of plate glass to suggest that the Japan Foundation is an accessible institution. At the same time, the designers employed a variety of screens to create more secluded areas where needed. For example, the library's stacks are fully visible from The Colonnade's interior street, but the librarian's office is housed in a freestanding curly ash cube with a sliding door. Similarly, a reading area is screened from view by the *shoji*-like sandblasted acrylic screens of the cylindrical reception area.

An undulating wall penetrates this cylindrical space, partitioning the library from the corridor leading to the multipurpose rooms. The soft tones and subtly contrasting textures of this patchwork-patterned wall are meant to evoke kimono fabrics, and the waviness alludes to water, a key element in traditional

Japanese design. In other areas, thick plaster screens with repetitive square and circular cut-outs express the "opposing dialogue" that Yabu associates with Japanese treatment of colour and space – contrasts of light and dark, of positive and negative. "In Japan, what's not there within the confines of a room is just as valid as what's inside that room," he says.

To keep costs down, the designers left existing ductwork in place wherever possible and only partially finished the ceilings, leaving openings that look particularly intriguing from Bloor Street. Polished concrete floors suffice in many areas.

This centre has proved popular and versatile. Librarian Mariko Liliefeldt reports that the library's bilingual collection of books, films and recordings often attracts more than 100 visitors per day, and that English is the first language of 70 percent of the borrowers. And when programme officer Koto G Sato notes that the Japan Foundation's seminar rooms have worked well for a multitude of uses, she means it. Most often, they provide space for art exhibitions and meetings. But on at least one occasion, they served as changing room facilities for a group of *taiko* drummers.

by Pamela Young

social services offices, in a complex which will eventually comprise a medical clinic, hospital and senior citizens' centre. These latter two designs are conceived in the more sedate and monumental terms of the conventional museum.

In the rest of the world, cultural centres are generally associated with a specific minority or immigrant culture. This culture is represented as a whole in the centre, through the different dimensions of various artistic media,

including the architectural design. The Islamic Centres built by wealthy Arab states around the world to serve minority Islamic communities belong to this category, for example. The recently-completed Islamic Cultural Centre in Dublin, by local architects Michael Collins and Associates, offers a convincing version of a traditional mosque and minaret, surrounded by patios, classrooms, a multi-use gymnasium assembly hall, a shop, restaurant, library, offices and apartments. It was financed by the

Maktoum family, rulers of Dubai, and serves an Islamic community of about 4,000, whose origins range from Indonesia and Central Africa to Morocco and Bosnia; most come to Ireland as students and many settle there permanently.

The attempt to emulate a non-Western culture in architectural terms can result in spectacular and innovative designs. The Renzo Piano Building Workshop's Kanak Cultural Centre in New Caledonia mixes native

North America

USA: Skirball Cultural Centre, Los Angeles

Architect: Moshe Safdie

The Skirball Cultural Centre was conceived in the early 1980s as an outgrowth of the Hebrew Union College in Los Angeles. Moshe Safdie was asked to design the US\$65 million project as an "oasis in the city" and as what he describes as "a new institution that is trying to reach out in a positive way to its community". His design has created a series of interconnected courtyards in which the outdoor spaces function as living rooms. Safdie sees this commission as the most recent in a line of civic commissions in Canada that began in the early 1980s: "it brings into relief one of the principal issues I've dealt with since Habitat, that of authenticity in building. Does the building make the most of the place; does it discover what I call

the secrets of the site? ... There is no all-purpose solution; an authentic way to build in Jerusalem will not be an authentic way to build in New York or Los Angeles."

The main masses of the buildings, made of concrete, pink stone and greenish slate are designed to blend in with the natural topography at the foot of the hill intervening as little as possible in nature. The vaulted roofs are made of stainless steel designed to reflect the sky. Except in the museum and the auditorium, indoor spaces are almost always experienced in relation to outdoor space, in continual and often surprising juxtapositions of interior and exterior views. Soft natural

light filters into the interiors through the vaulted roofs which function as clerestories. Located on a 15-acre site in the Santa Monica Mountains, the centre is a multi-use compound, informed by the American Jewish experience but addressed to people of all ages and backgrounds. The Centre's indoor and outdoor spaces are designed to accommodate permanent and temporary museum exhibitions, concerts, lectures, performances, readings, symposia, film and video screenings and educational programmes for adults and children. It also incorporates a full-service restaurant, catering facilities for special events and a museum shop.



1: Skylights on the roof of the Skirball Cultural Centre, Los Angeles

2: This copper fountain is part of Moshe Safdie's landscape design

construction techniques and typologies with Western hi-tech concepts of modular design and interchangeable elements. The two design cultures converge on issues of low energy use and passive climatisation methods. Piano felt free to adapt and re-interpret native forms, creating for example soaring towers that naturally ventilate the complex and give it a monumental focus.

The Uluru National Park Cultural Centre in Australia by architect Gregory Burgess more

loosely incorporates aboriginal mythologic forms and ideas in its design. The buildings blend into the sinuous, amorphous forms of the surrounding sand dunes, and employ local materials and building methods in harmony with the harsh desert climate. The Anangu tribe plays an active part in the running of the centre, making crafts that are sold in its shop and performing ritual Inma dances for visitors in a sheltered outdoor space.

Children form another group addressed by

cultural centres. The Ark in Dublin, for example, occupies the shell of an 18th-century former Presbyterian Meeting House. It has been simply equipped by O'Toole and Kelly with an interactive exhibit centre, a small theatre, music workshops and a storytelling room.

Finally, cultural centres may be commissioned to promote cultural interchange between different countries. Once again, France and Japan are particularly active in establishing new cultural centres abroad.

Hanscomb – cultural centre cost analysis

MAJOR COST ISSUES

- 1 Funding availability – suitability for Lottery funding
- 2 Brief content
- 3 Total gross area requirement
- 4 Gross to net floor area ratio
- 5 Auditorium/community requirements
- 6 Car parking (subject to planning conditions)
- 7 Number of different uses centre is required to cater for
- 8 Other community use
- 9 Architectural quality, internal and external
- 10 Special provisions
- 11 Extent of imported content e.g. display material from country of origin
- 12 Procurement strategy

COST COMMENT

From our investigations, we have found a very wide range of costs for cultural centres. This is due to the factors listed above. We have therefore provided two typical cost models, one for a major city cultural centre and a second one for a smaller regional centre. One common problem, regardless of location, is that cultural centres do not generally have access to substantial funding, therefore the vast majority of centres tend to provide a limited range of facilities than is considered ideal by its users.

The costs provided in the table opposite are for centres without auditorium and special communication facilities. For instance, should a quality auditorium be included in the major city project, an allowance of £1,500 (US\$2,400) to £2,000 (US\$3,200) per square metre of auditorium space provided should be added to the projected cost. It is not common practice for regional cultural centres to contain expensive auditorium or communications facilities. Additionally, a regional centre will tend to use its main space for multi-use purposes.

TYPICAL CONSTRUCTION COSTS FOR CULTURAL CENTRE PROJECTS IN THE UNITED KINGDOM (IN STERLING; US\$1.6 TO £1)

Element	Major centre (10,000m ²)		Regional centre (2,000m ²)	
	£	%	£	%
1 Substructure	450,000	3.38	200,000	11.64
2 Frame and upper floors	1,000,000	7.51	0	0.00
3 External walls and windows	1,800,000	13.52	110,000	6.40
4 Roofs	450,000	3.38	300,000	17.46
5 Stairs	225,000	1.69	15,000	0.87
6 Internal walls and doors	650,000	4.88	75,000	4.37
7 Floor finishes	450,000	3.38	50,000	2.91
8 Wall finishes	500,000	3.76	75,000	4.37
9 Ceilings	450,000	3.38	50,000	2.91
10 Mechanical installations	1,500,000	11.27	170,000	9.90
11 Electrical installations	1,250,000	9.39	100,000	5.82
12 Lifts	350,000	2.63	0	0.00
13 Furniture and fittings	750,000	5.63	100,000	5.82
14 Drainage and external works	982,500	7.38	149,400	8.70
15 Preliminaries/site organisation	1,296,900	9.74	167,328	9.74
16 Design and construction contingencies	1,210,440	9.09	156,173	9.09
Totals	13,314,840	100.00	1,717,901	100.00
Cost per m² £	1,331		859	

Notes

a) Costs current at Q1 1998

b) Costs exclude allowance for the following:

value added tax
client management costs
design fees
land purchase costs
specialist uses

These can range from the tiny Kaetsu Educational and Cultural Centre at New Hall, Cambridge, by architects Austin Smith Lord (Japanese), to the Centre for Cultural Exchange of the Twin Ports in Osaka, by architect Phillippe Blanchot (French). The elaborate Osaka centre was designed to promote French wine and cuisine. It comes complete with waterfalls, pools and a transparent bridge, which lead visitors to exhibition areas and a luxury restaurant. Planned for a surprising

one million visitors a year, it bends the cultural centre concept towards the commercial aims of a trade fair.

In these myriad variations on the cultural centre, "culture" is obviously the key word in the equation. The term can be used to relate the different media of art to a particular social context. It is a more participatory and less object-oriented concept than that of art alone. Although "culture" can be equated with the identity of a group, people or nation, in its

more general sense it is open in content, defining a field of debate rather than a specific cultural project. The same could be said for the cultural centres we have considered here. If museums are built to house artworks as objects, cultural centres are occupied with broader social themes. And if museums are repositories for the art of the past, cultural centres are dedicated to culture in the making, grounded in the past but with its sights set on the present and future.

TAKING ARCHITECTURE BY THE HAND



The door handle is one of the most concentrated forms of architectural



expression, containing the essence of an individual design strategy. Ironically, in a world where increasingly doors open as you approach them, or with one swipe of a smartcard, the market for design-led handles is still strong and the idea of a completely bespoke approach is growing. Looking at news from leading international manufacturers, Nicola Kearton sifts through a selection of the latest architectural ironmongery, focusing on door handles. Plus a round up of news from the 1998 International Hardware Fair, Cologne, and a review of Isabella Maffeis' "Opening up the World of Handles".

Above: FSB door handle
designed by Nicholas
Grimshaw

Fusital, M Novantotto, designed
by Renzo Mongiardino



Fusital, MG Novantotto, designed
by Michael Graves



Fusital, RM Novantotto, designed
by Richard Meier



Fusital, P Novantotto, designed by
The Renzo Piano Workshop



Fusital, NF Novantotto, designed
by Norman Foster



The International Hardware Fair, Cologne (8th-11th March 1998)

Big name architects collaborate with Fusital; FSB "continue to eschew postmodernist candyfloss"; Vieler improves on technicalities and Colombo/Alberto Meda wins the 1998 Compasso D'Oro Award

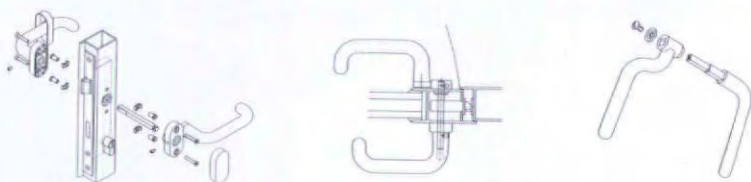
The main event in the architectural hardware calendar, the Cologne International Hardware Fair, reported record attendance with over 3,568 exhibiting companies from 52 countries and 99,000 trade visitors from 126 countries. Architectural hardware is limited to the Security Systems Locks

+ Fittings sector but on show is the most comprehensive range of new products in the field with an almost complete showing by international manufacturers. Visitors to this sector came mainly from the European countries and the USA; manufacturers are decidedly upbeat, business was said to be brisker than last year and it was felt that the economic

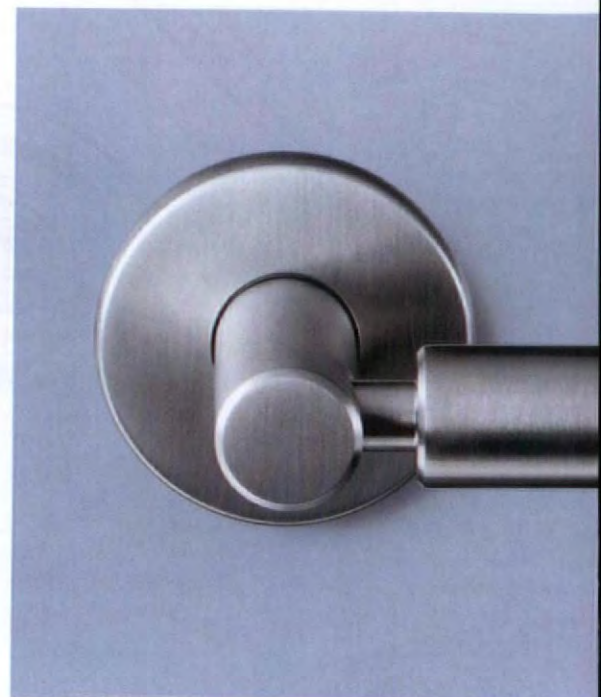
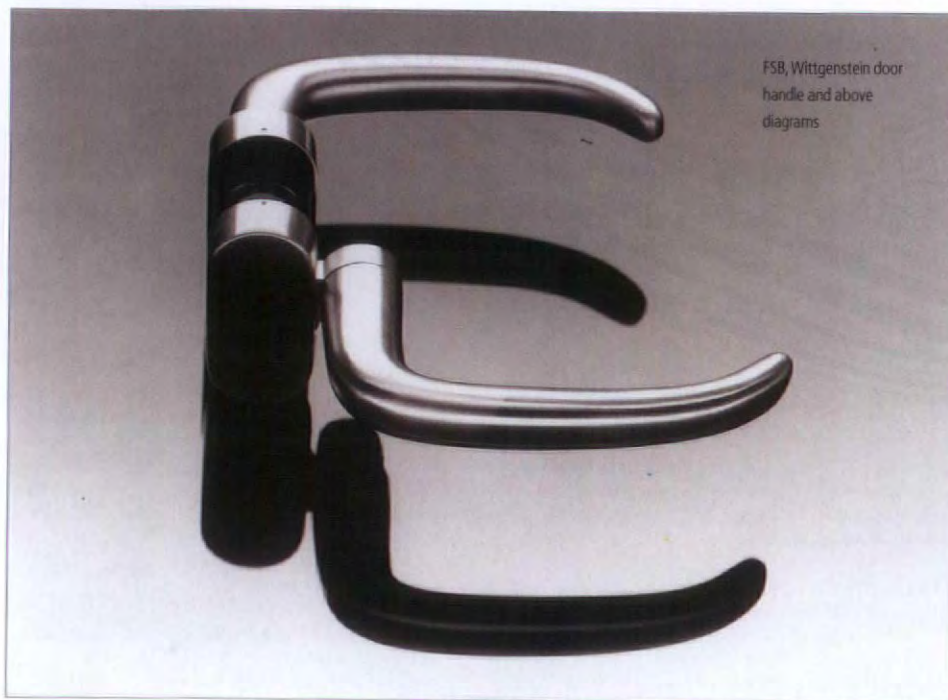
slump had finally been overcome despite the persistently stagnant condition of the construction industry in Western industrial countries.

Continuing their successful collaborations with renowned international architects, Fusital recently presented five new series of door handles at Cologne designed by Norman Foster, Richard Meier, Renzo Piano,

Michael Graves and Renzo Mongiardino. Each handle strongly reflects the design preoccupations of its originator. The contrasting selection of designers chosen provides something for every taste, whether it is for Meier's paired-down elegance or Graves' exuberant flutings. The collection includes door handles with rosettes, window pulls >



FSB, Wittgenstein door handle and above diagrams



Above and right, FSB, Trendy, door pull



with 4 click movement, escutcheons, keys and pull handles.

FSB "continuing to eschew post-modernist candyfloss" presented 20 new lever handle models offered in either stainless steel or aluminium at their huge 250-square-metre stand at Cologne. Other new developments included two pulls, which

provide a sleek solution to the problem of attaching handles to glass doors with well concealed fixings attached to an internal steel plate. Newly available from the FSB catalogue are the collection of handles originally designed by philosopher Ludwig Wittgenstein for his sister's house in Vienna in the early

1920s. These provide an ingenious way of coping with sagging handles on narrow-frame doors, as Dieter Eller puts it they are "utterly safe to use, flawless fixing on both sides, positive mechanism on the slamming face, spindle with tolerance compensation as well as a snug fit with lug reinforcement".

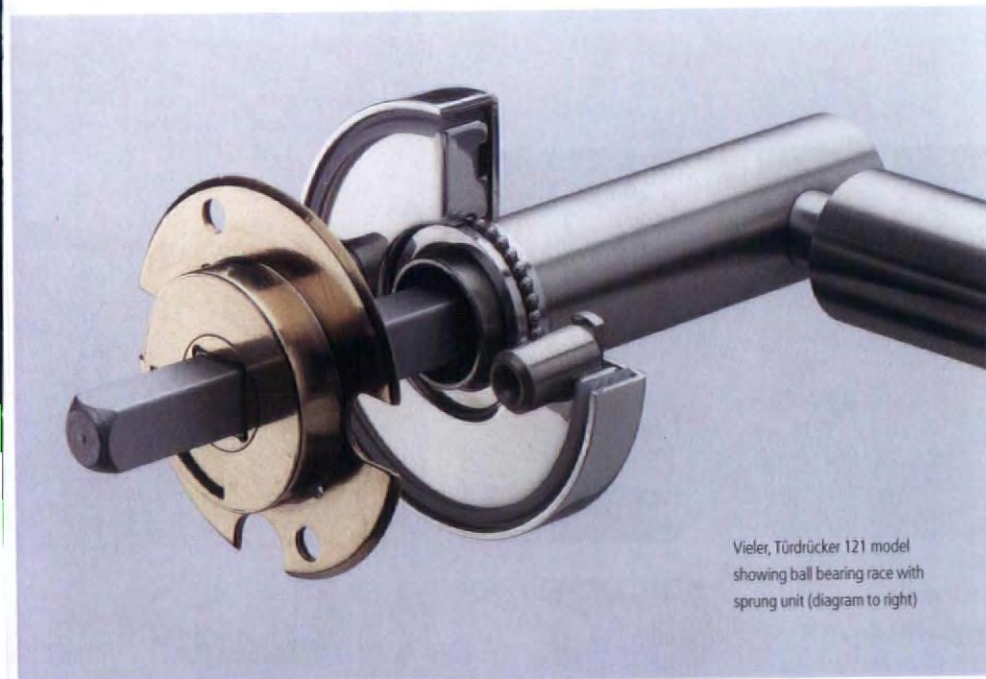
Also in full production is the collection designed by Nicholas Grimshaw for projects in Berlin. Reminiscent of a Henckle knife handle in aluminium casting with plastic injection mouldings bonded together with stainless steel screws, it was shown at London's Spectrum exhibition in April 1998 and 2,000



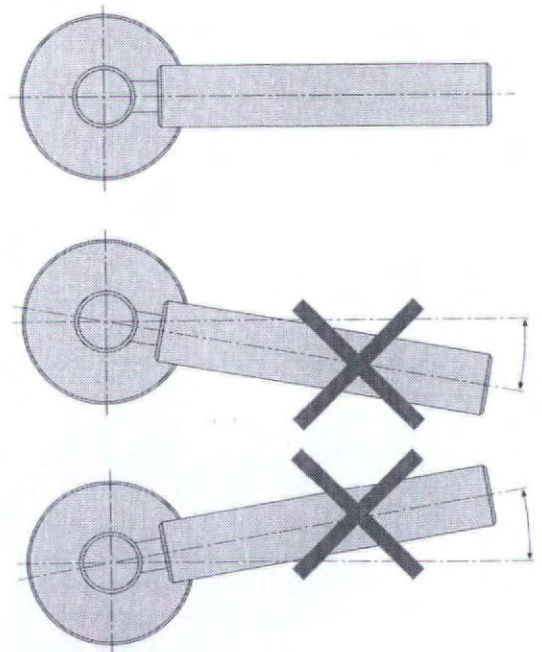
Vieler, Türdrücker
121 model



Colombo Design, Madi,
designed by Alberto Meda



Vieler, Türdrücker 121 model
showing ball bearing race with
sprung unit (diagram to right)



units have found their way into the soon-to-be-completed LVA Headquarters in Munster.

Amidst considerable interest from the architectural world, Vieler launched a brand new system which combines the ball bearing race for a lever handle, designed some years ago, with a sprung unit whereby the

handle will always spring back to a level position. This provides the long awaited answer for avoiding the drooping handle syndrome which has afflicted the industry as handles become heavier and more complex. The system is also hard wearing even with intense usage.

Colombo Design, headed by Carlo

Bartoli as Art Director, presented a series of new design collaborations including Claudio La Viola's Emma, Andrea and Agata, all made of brass, Gira by that refined minimalist Jasper Morrison, Class by Ambrogio Rossari who created the bathroom series Melò by Colombo Design and Carlo Bartoli's Arco, a coat rack in

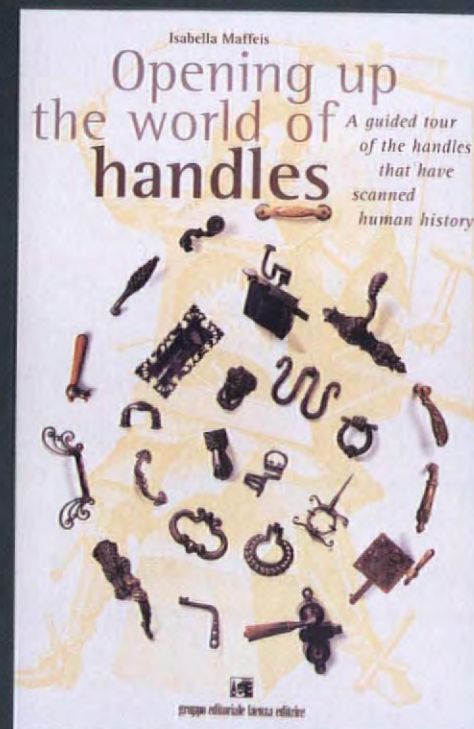
brass and resin. Good news for Colombo was the selection of Madi, a door-handle and window-pull series in brass designed by Alberto Meda, for the prestigious 1998 Compasso d'Oro Award. Finished in 24 carat gold plate, polished brass, matt gold, matt chrome or matt black, it was launched last year.

"As lipsticks are to lips, hats are to heads, handles are to hands"

Opening up the World of Handles: A Guided tour of the handles that have scanned human history.
Isabella Maffeis. Faenza Editrice. (Text available in English and German)

There is very little documentation available on the subject of handles, their uses, history and technology as it has developed down the centuries. This book, initiated by Michele Colombo, head of Colombo design and himself an avid collector in the field, provides a fascinating history of the systems of opening and closing from earliest times to the early modern period. Technical information as well as a section on the development of the catalogue as an instrument of distribution is combined with a wealth of imagery. These include examples from the doors of Notre Dame Cathedral in Paris, through the early experimentation and ornamentation of locks through to the fantastical door-knockers of Gaudi and Horta which

took iron to the limits of its expressive potential, and finally to the first handles designed with mass production in mind by Gropius in the 1920s. Interwoven are some intriguing art historical references to key holes and keys from Ancient Egypt where the key was an important symbol in funeral rites, to the key hole through which Raymond peeps in a medieval manuscript to discover that his bride is really a monster, or the painting by Fragonard where a passionate lover mid embrace, surreptitiously pushes the lock of his lady's bedroom. All in all, this is a book which admirably opens up the world of architectural ironmongery in a variety of unexpected and highly informative ways.



UPDATE Bespoke appeal

Moving away from large international companies towards a more individualised approach, Sebastian Wrong and Jonathan Burchall of the design partnership Re Form have created unique ear-shaped door handles for CZWG's recent Breda shopping centre in The Netherlands. Echoing the sculptural qualities of the architecture, the handles give a personal appeal to the entrance of a shopping centre, normally a deeply impersonal environment. London-based Wrong and Burchall both studied and practised sculpture and provide a casting service realising individual concepts for door handles with meticulous attention to detail. The ears evolved from an initial design by Jay Stewart of CZWG and were cast in aluminium and attached with secret fittings to thick glass doors. The shape developed from the idea of a democratic form which people of all heights could grapple with, the taller reaching out for the top of the ear and the smaller taking hold of the bottom.

Also realising that the humble door handle can significantly con-



tribute to the identity of a building and hence an organisation, T Saveker have been producing door handles cut to represent company logos. This has been facilitated by the acquisition of the latest water jet-cutting equipment which uses a high powered jet of water to cut through sheet metal. Intricate and delicate shapes can therefore be achieved quickly and at a relatively low cost. A recent example has been the new Renault premises at Tipton in the UK, the symmetrical design of the Renault logo of course lending itself to this approach.



1&2: Re Form, door handles for CZWG's Breda shopping centre, The Netherlands

3: T Saveker, door handles in the shape of Renault logo, Renault Headquarters, Tipton, UK

Other news

With their vast range of products impeccably crafted in cool Scandinavian stainless steel, d line international have been involved in a number of high profile projects recently including Chek Lap Kok Airport, the Hong Kong Exhibition and Convention Centre, Rafael Moneo's acclaimed Moderna Museet, Stockholm and the National Museum of Art, Copenhagen. Illustrated here are recent products in situ at the design shop Illums Bolighus, Copenhagen (Product number 4812/14) and Unicon Beton Headquarters, Roskilde (Product number 1916). A recent collection from Olivari contained some timeless designs. The streamlined and understated Futura, designed by Penta Associati, is now in production and available in chrome, matt chrome, matt nickel as well as the more traditional polished brass for which Olivari is well known. Nirvana, by Massimo Iosa Ghini, is an exceptionally fluid design echoing the sense of movement and dynamism which characterise his work. Available for doors and windows it comes in polished brass, chrome and matt chrome.

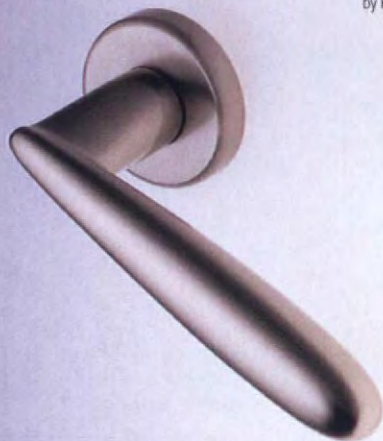


d line international, door pull, Illums Bolighus, Copenhagen



d line international, door handle, Unicon Beton Headquarters, Roskilde, Denmark

Olivari, Futura, designed by Penta Associati



Olivari, Nirvana, designed by Massimo Iosa Ghini

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Kim Lighting	15	6	Spetra srl	14	16
KFV	5	7	Summit Furniture (Europe) Ltd	13	17
Reed MIDEM / MIPIM Americas	12	8	Unifor spa	2/3	18
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