WORLD ARCHITECTURE

ıe business magazine for the global architect

e number 61 | November 1997 | US $18.00 | UK £12.00

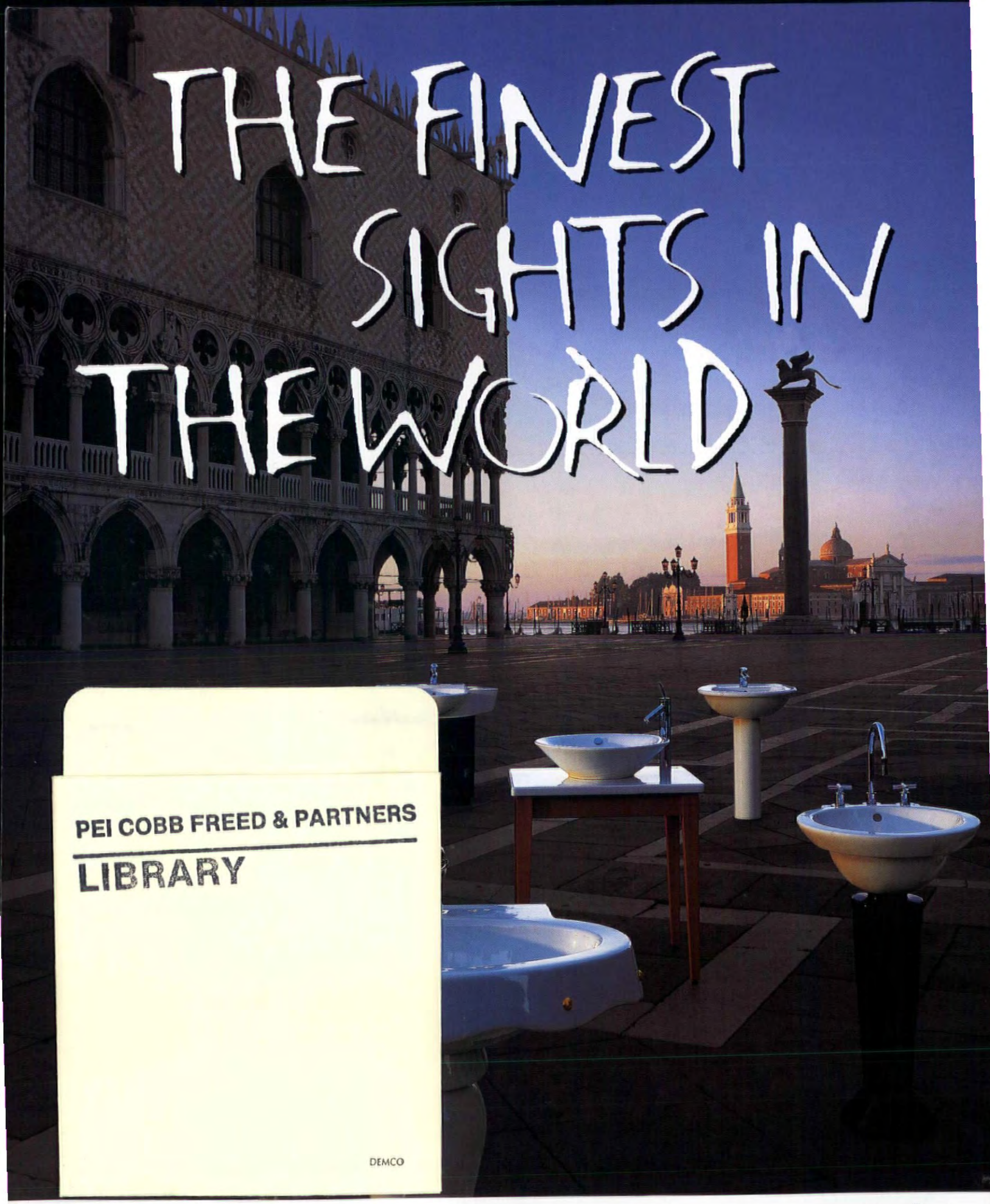
Global salary survey –
the colour of money

Japan – what's happened
since the bubble burst

The Stubbins Associates

ISSN 0956-9758

esar Pelli & Associates' Japanese staying power | Hiroshi Hara's Kyoto controversy revealed | The latest in CAD



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WORLDARCHITECTURE

Issue Number 61 | November 1997

Cover
Landmark Tower, Minato Mirai 21, Block 25, Yokohama, Japan by The Stubbins Associates, with Mount Fuji in the background

Glass Block

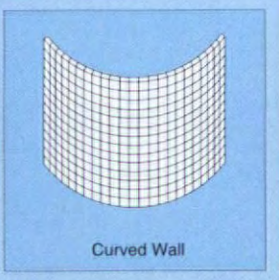
GB

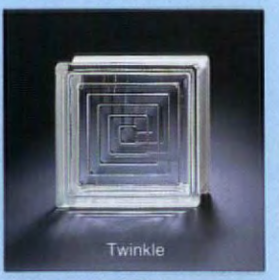
Glass Block-Architecture of Light

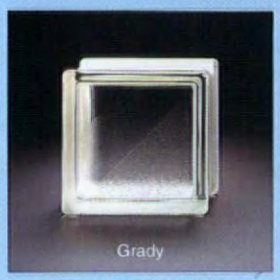

Point


Clear


Corona


Curved Wall

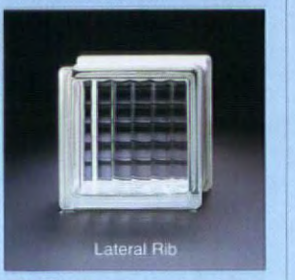

Twinkle

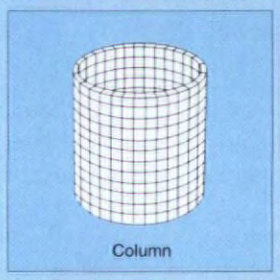

Grady


Loop


Right-Angled Wall


Crystalline

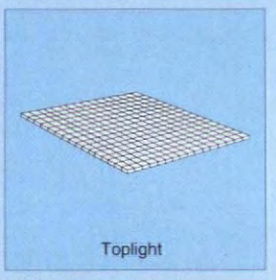

Lateral Rib


Column

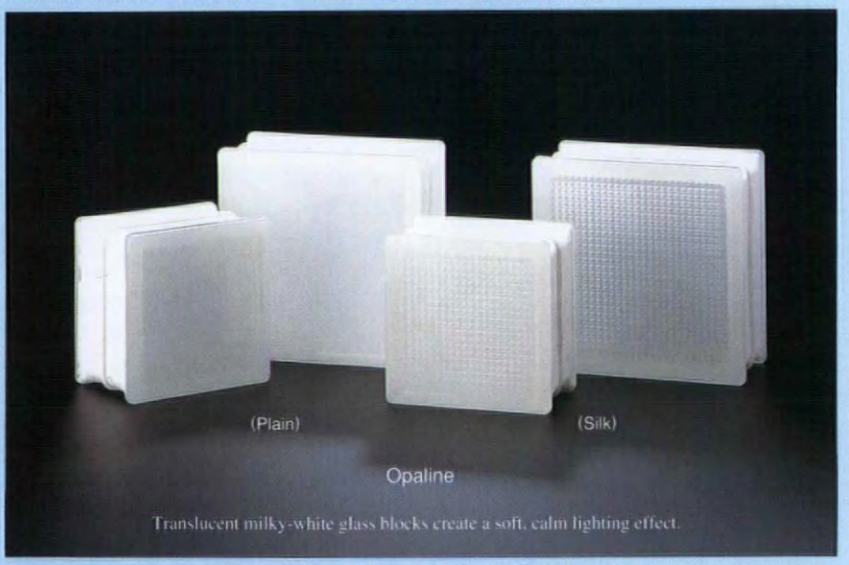

Cut


Mist


Bark


Toplight


Combination Series (Corona/Light Directive)



Opaline

Translucent milky-white glass blocks create a soft, calm lighting effect.

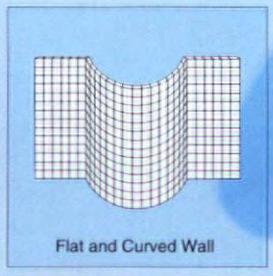
Creating Artwork of Light and Shade

Glass Blocks broaden the range of creative possibilities in space design offering natural lighting and a versatile selection of block designs. With a diversity of features including solar reflective, transparent, translucent and refractive properties, as well as wide variations in form such as corner blocks, non-slip glass for floor surfaces, etc., Glass Blocks have an extensive range of use and purposes that serve to create a comfortable surrounding catering to any design and environmental requirements. Any desired construction of wall surfaces, combined with creative imagination in light design, brings about new potential in urban architecture.

A Wide Selection of Designs and Features

Dawn

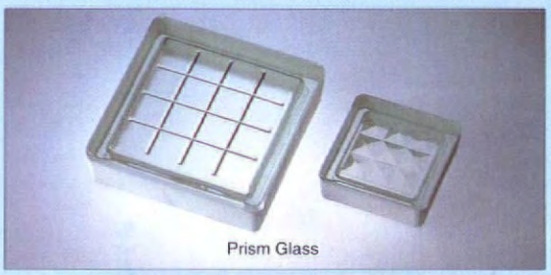
Transparent glass block combines wave patterns on the inner surface, with a smooth, clear outer surface.



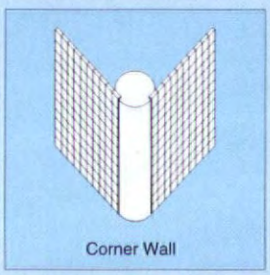
Flat and Curved Wall

Solar Reflective (Clear)

Corona Mat



Prism Glass



Corner Wall

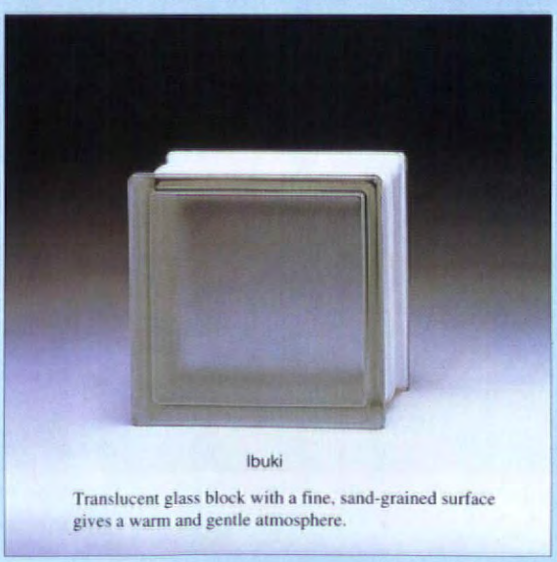
Light Directive

α-90 Light Directive

Non-Slip Prism Glass

Opt

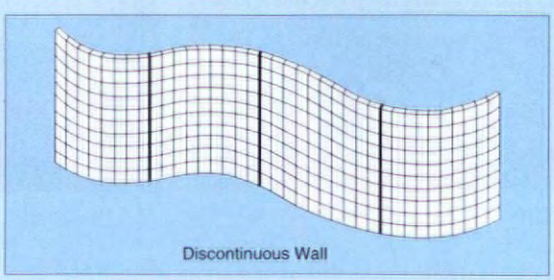
Triangle Light Directive



Ibuki

Translucent glass block with a fine, sand-grained surface gives a warm and gentle atmosphere.

Rhythmicolor



Discontinuous Wall

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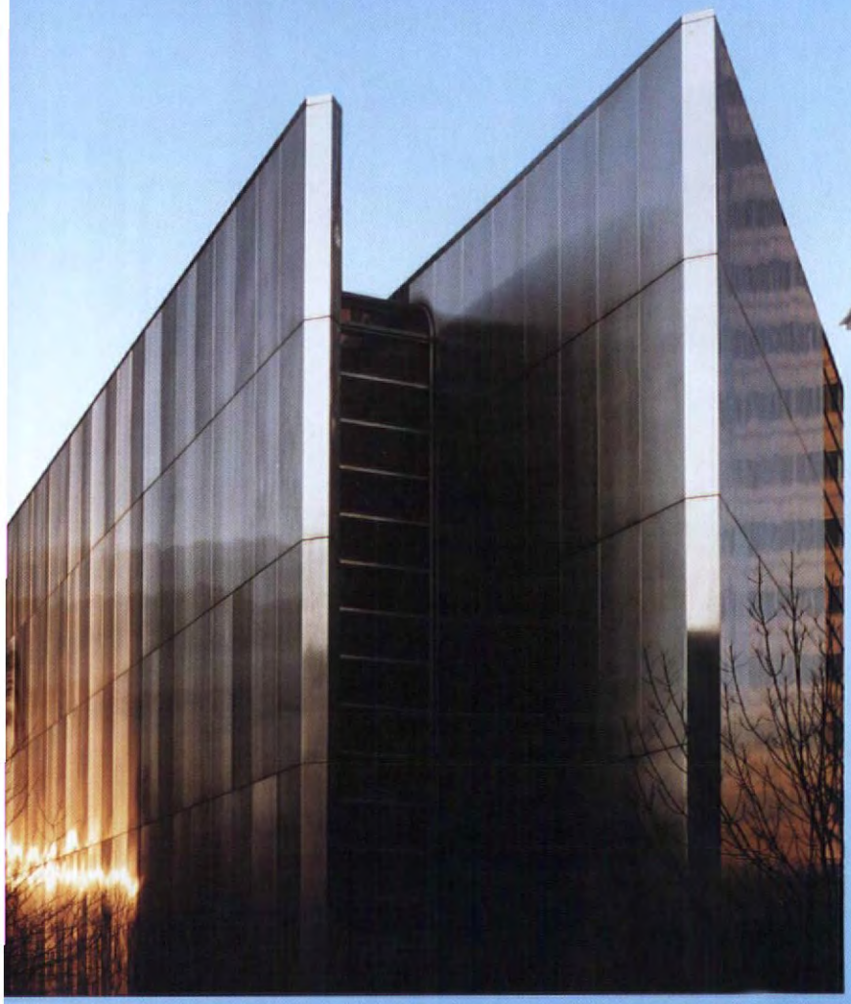

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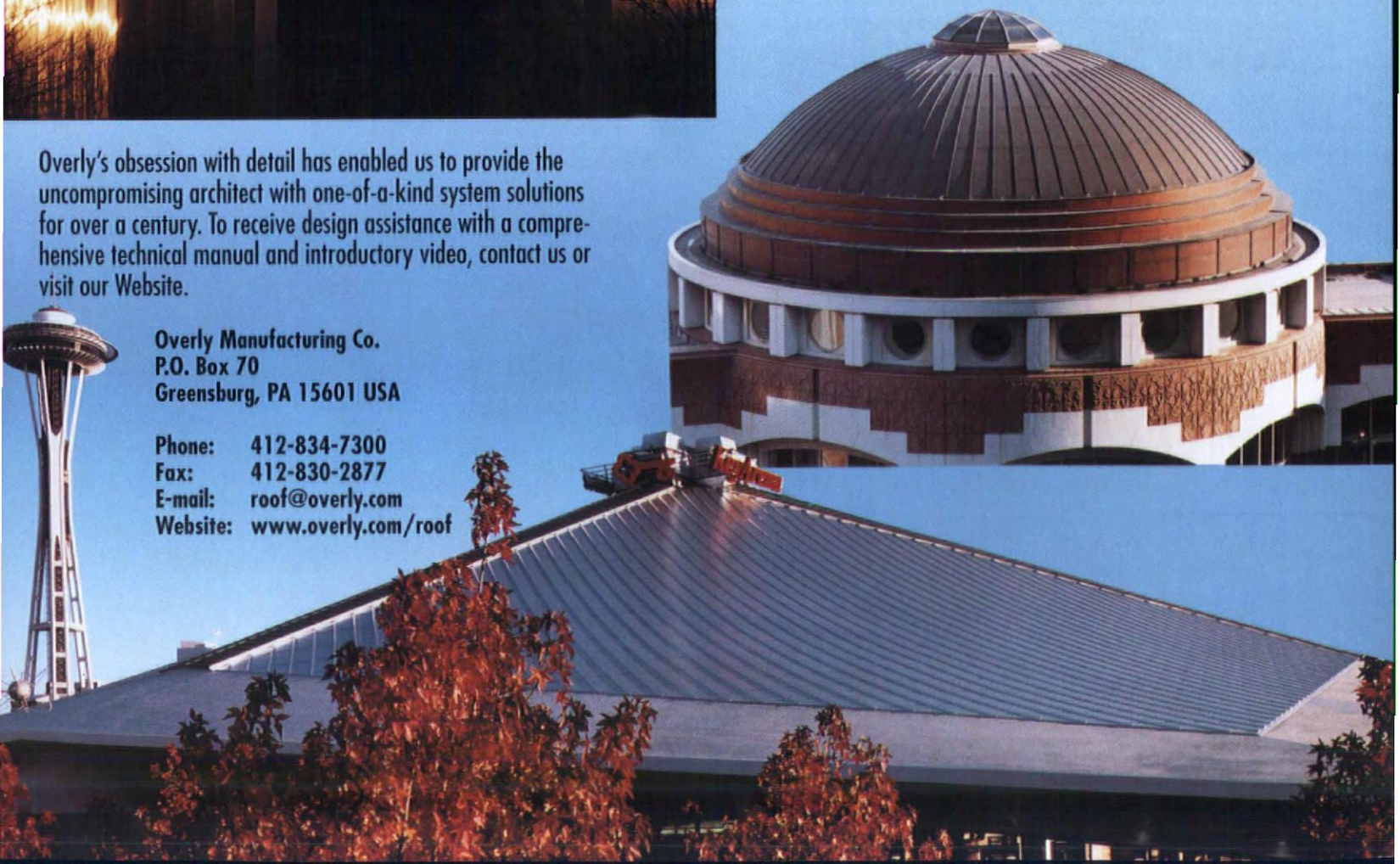

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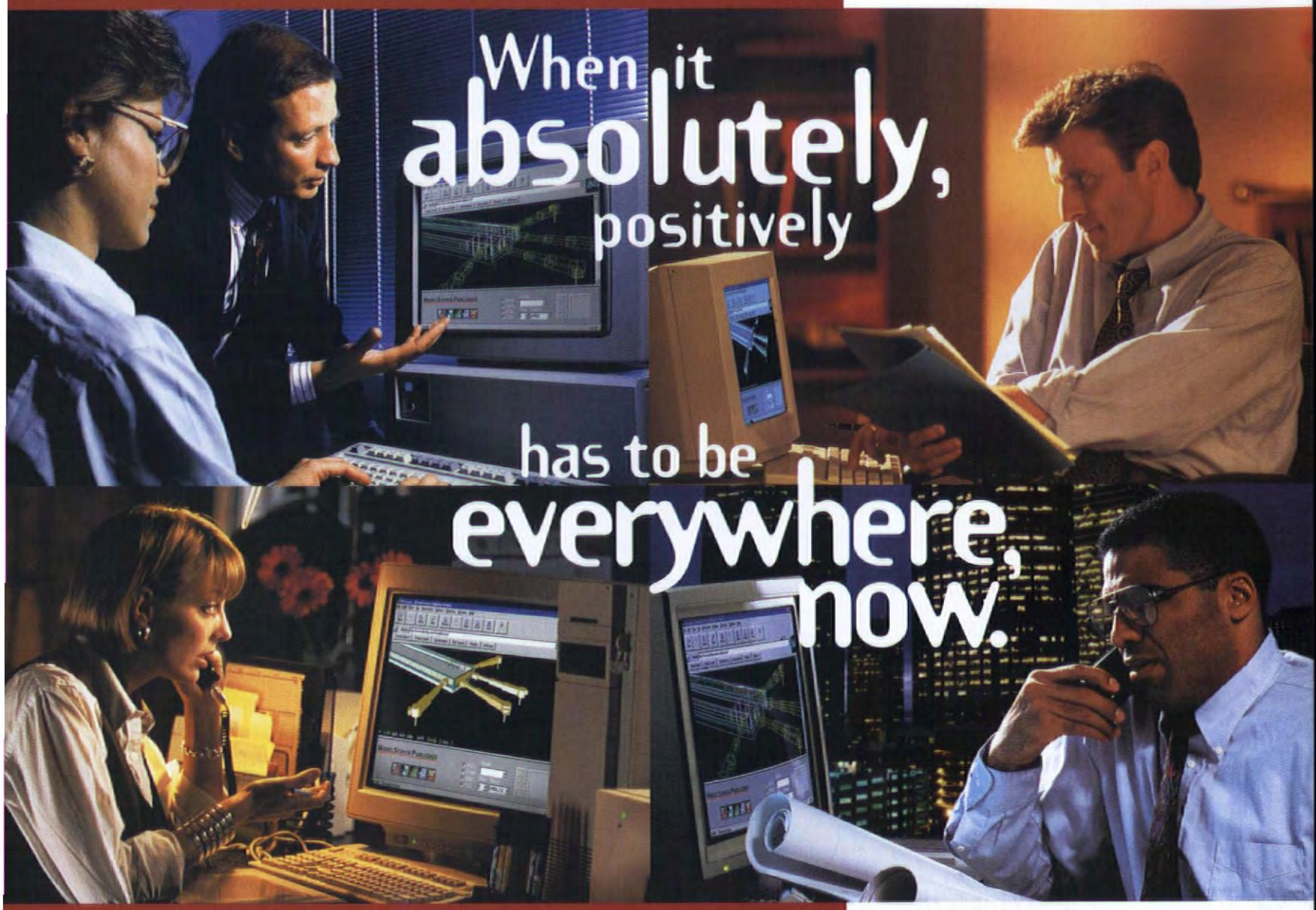

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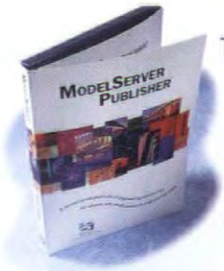

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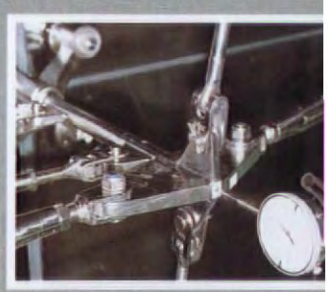
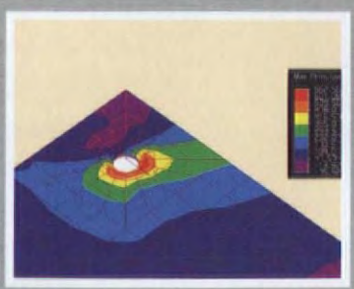
Ciba Geigy, Barcelona
Architects: Master Ingenieria.





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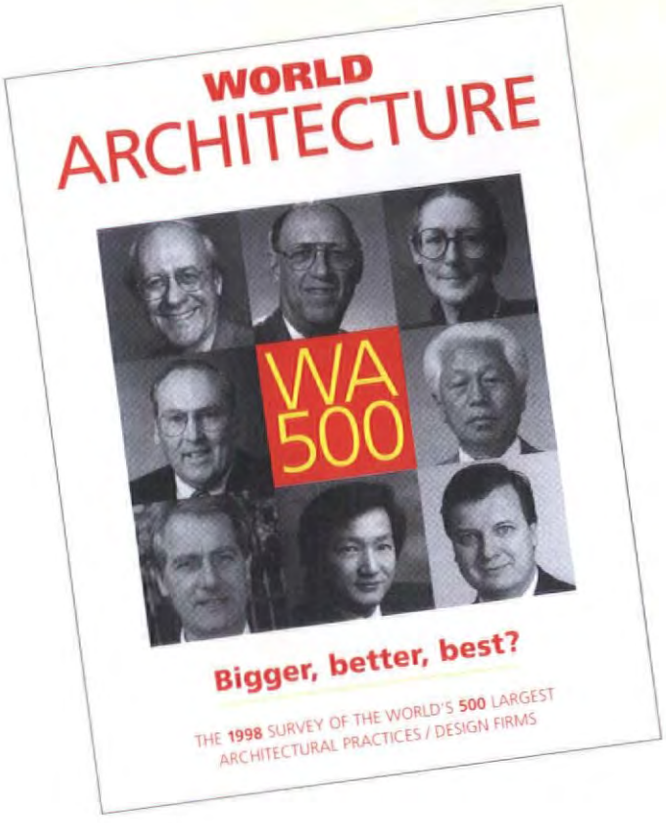

What is the largest architectural firm in the world? In your region? In your sector? Which firms grew fastest in 1997 and which were the most efficient? Which professionals did the Top 500 practices vote the best in the business?

You'll find the answers to these questions and many more in this year's **World Architecture Top 500 World Survey.** It's packed with information on the major projects, personalities and practices that are shaping the future.

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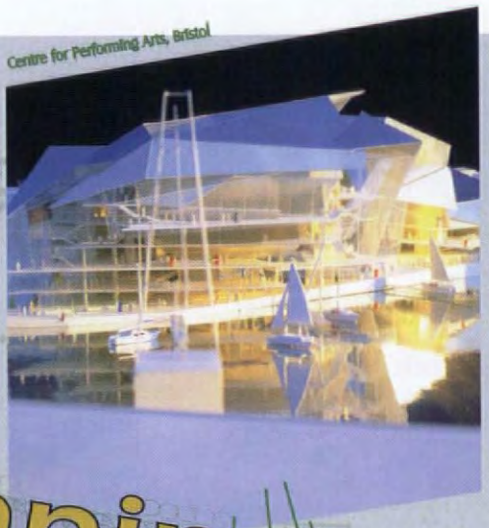
Winning Designs


Centre for Performing Arts, Bristol

The architectural firm of Behnisch and Partner has created over 100 impressive and notable edifices during its 50 year history including the Bonn Parliament building and the sports facilities at the 1972 Munich Olympics. Based in Stuttgart, Germany, the company has designed buildings in many German cities and has recently created designs for other European countries.

Today, the practice has two offices within the group which are run by the father and son team of Professor Gunter Behnisch and Stefan Behnisch. Prof Gunter Behnisch runs the office of Behnisch and Partner while Stefan runs the office of Behnisch, Behnisch and Partner. The practice tends to concentrate on the international contracts, but in general they are just two offices within the same group.


Plenary Complex of the German Bundestag, Bonn

Where the practice stands out from the competition is in its creative approach to winning contracts. Almost all of its business comes through architectural competitions, typically for high profile public buildings, so it is not only the quality and creativity of the design that helps Behnisch, Behnisch and Partner win the business, but also the visualisation and communication of the proposal.

"CAD is a simple 'black and white' tool in architecture – almost anyone can do it," comments Stefan Behnisch. "We have extended its application to make it into a more creative tool, where we mix designs, photographs and graphics, in order to communicate the effect of the design within its final context. We don't aim for realism, but we try to emphasise effect of that building on the landscape around it – almost like a cartoon. This is where we find the large format prints a useful tool in communicating the visual effect."

Behnisch, Behnisch and Partner uses information technology where it is needed and where it helps. Between the 50 employees in the office, they have a handful of computers and a couple of HP DesignJet printers. Using applications such as Quark Express, they add to their design with photos from a CD or scan in a graphical montage. They build the images for final presentation and print them out on a DesignJet 750C. They will soon be adding a DesignJet 2500CP for even higher image quality and better photo-realism.

Current projects that Behnisch, Behnisch and Partner are working on are the Harbourside performing arts centre in Bristol, UK, the Danish National Archive in Copenhagen, a swimming complex in Leipzig, Germany and Nord LB Bank Headquarters in Hannover, Germany. The Bristol project has recently gained significant coverage in the national press in the UK with the stunning imagery created by computer collage processing.

"We don't buy technology for the sake of it, but we use it to help our imagination and make a strong impression," concludes Stefan Behnisch. "The HP DesignJet lets us do just that, and we find it a valuable tool in our office."

More information about Hewlett-Packard DesignJet large format printers can be found through your local Hewlett-Packard dealer or on the web at: http://www.hp.com/go/designjet.


Olympic Stadium, Munich

HEWLETT PACKARD

Japanese sense and sensibility

As the British architect David Chipperfield observed in a letter to his Japanese friend Waro Kishi: "Metropolitan Japan seems to indulge in the formal chaos of the modern while holding on in a more personal and domestic way to the continuity of culture"*. A visit to the Japanese archipelago confirms this observation. Power lines dangle above the historic streets of Kyoto and dominate the Tokyo skyline. The street elevations of homes, shops and offices are disregarded in favour of the sanctity of an inner courtyard, however diminutive. The "chaos" of the modern city is evidence that Japan's architects and planners alike have traditionally been more concerned with the craftsmanship of individual buildings than with urban planning.

An aspect of this "continuity of culture", manifest in an attention to detail, can be observed in Japan's dynastic construction firms. Most of the big five contractors – Ohbayashi, Kajima, Shimizu, Takanaka-Komuten and Taisei – are rooted in the 300-year-old tradition of temple building; the origin of design and build in Japan. Regardless of subjective judgements on the aesthetics of these firms' buildings, what cannot be disputed is the unsurpassed quality of their construction, which leads to overseas architects, such as Cesar Pelli, declaring that "there is no more satisfying experience than building in Japan" (see Face to Face in this issue).

What is offered by these giants of industry is a complete service for the commercial business of architecture. Japan, more than any other country, excels in this department. So why is "commercial" still a taboo word there, even to the most hardened practitioners? The practice of building as a business is their life blood, but architects – including a chief designer of one of Japan's largest architectural firms for some 25 years, for which he won countless awards and commendations – still shy from describing their work as "commercial". When talking about his newly-established independent firm he was quick to defend a move away from "commercialism" and towards "design", as if the two cannot coexist – although his clients, many of whom he took with him, still commission the same building types, from government offices to hotels and office blocks. The architect should not be afraid to promote his work as both well-designed and commercial. Japan should pride itself on the quality and tradition of its commercial architecture; it is a very real part of its "continuity of culture".

Nicola Turner

*published in Kenchiku Bunka Vol 52 July 1997

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Letters

"I would welcome more "turn-key" firms [in the UK] who can do everything from the ground up."

Criticism – personal or professional?

From Edison Musa architect, Rio de Janeiro, Brazil

"After the friendly treatment we gave your *WA* representative in Brazil, we were puzzled that our building received the only critical piece in the report. Reading your review of the Ipiranga Headquarters Building ('Indifferent to Ipiranga', *WA*59 page 56) left me extremely confused. Mr Carlos Eduardo Comas has missed the point – our Ipiranga Building is by far the best building to have been built in south Brazil for decades.

Firstly, the creation of a podium for the building was proposed to solve the problem of a recessed ground floor due to a three metre difference between the original level of the site and the main road. This solution has been admired and emulated on neighbouring sites.

Secondly, the building has deep facades, the larger one protected from the north sun by an overhang of 60 centimetres; the louvered west facade possesses the same overhang; the east is temporarily closed awaiting the second phase and the service areas are concentrated behind the south facade, which does not get the sun.

Thirdly, climatic responsiveness in the roof pyramid is of no importance at all since it only covers a concrete slab over the elevators machine room giving the building a silhouette on the skyline with no sun protection or solar energy implications at all. "

Escritórios Edison Musa's Ipiranga headquarters building, Pôrto Alegre, Brazil

LETTER OF THE MONTH

More turn key please

George Georgiou restaurant consultant and recruitment specialist at Thomas & Worth, UK

"I always thought London's new Oxo Restaurant was themed and I am so glad that finally someone agrees with me. However, I disagree with Juli Capella of *L'Arca* who is quoted as saying that good design is perceived as compensation for bad food. This was possibly true 10 years ago with the video cafes of the 1980s, but now people are more informed about what good food is. It was also interesting to see an international overview of what is often perceived to be a regional architectural type: *WA*'s project coverage of the Genki Sushi bar in New York didn't mention, however, that this is a reproduction of the type of restaurant all Japanese businessmen visit after work. The UK equivalent is 'Yo Sushi'. As a consultant the most interesting point made in your report was that Americans have, and expect, a turn key service. Here in the UK we have different consultants for menus and design and a separate PR consultancy. I would welcome more 'turn key' firms who can do everything from the ground up."

Credit (if credit's due)

From Sara Topelson de Grinberg, UIA President

"I read with interest Nicola Turner's Foreword in *WA*59 'In Favour of a Youth Culture' it was stated that: 'As at last year's UIA Congress in Barcelona, the Interarch proceedings were painfully lacking in organisation and co-ordination, and the stars who were wheeled out were a predictable cast of the same old names.'

I am very surprised at this criticism of the UIA Congress. Furthermore, it seems to me absurd to make a comparison between the Sofia Triennial and the UIA Congress, as they are two distinct events of a different scale and nature.

For example: the organisational set-up in Barcelona and Sofia; the quality of the speaker's interventions – numerous in Barcelona, a far smaller number in Sofia; the number of participants in the Barcelona Congress as compared to the number in Sofia; the excellent level of the debates and exhibitions (unanimously acclaimed by the media) in Barcelona. The two events could not have been more different.

The content of the article, particularly those concerning the UIA Barcelona Congress, are all highly debatable. The Barcelona Organising Committee (COCAB), and local and Spanish architects devoted a great deal of time and energy to organising the UIA Congress under the best possible conditions, not only in terms of the intellectual content, but also in dealing with the flux of last minute participants from all over the world."

Please accept my apologies if you, or anyone at the UIA, is personally offended. I hope it goes without saying that my editorial in July-August was not directed at any individual or indeed organisation, but was rather a personal opinion piece on the possibility of opening up conferences and congresses such as the UIA and IAA Triennial, to include younger names and faces, and more exhibitions such as the "Twenty Young Architects" mentioned in the piece.

I feel confident in saying that all our readers are perfectly aware of the difference in scale and quality between the UIA and IAA events. Of course the gargantuan task of co-ordinating the events in Barcelona far surpasses the effort required for Sofia, but I am hardly a lone voice in expressing the lack of organisation experienced by those of us who queued outside the Spanish venues for hours – often with no chance of getting in the end. This is not to say that I didn't enjoy and appreciate much else about the week in Barcelona.
The Editor

If the face fits

From André Sousa, Lisbon, Portugal

"I have just received my copy of the October issue of *World Architecture* (*WA*60). For me there is one thing that makes the issue stand out: your profile on Ingenhoven Overdiek Kahlen und Partner. In my opinion it was by far the most interesting and internationally significant profile since 40 pages were devoted to Kisho Kurokawa in the May issue (*WA*55). Keep up the good work."

Erratum

Maybank, 2 Battery Road, Singapore a project featured within the Profile on Kwan & Associates Architects Ltd (*WA*59 page 112) was a competition entry carried out by SYL Architects, Singapore in association with Kwan & Associates Architects Limited. This information, as well as the name of Sitoh Yih Liang from the Project team list, was erroneously omitted.

WA reserves the right to edit any letter. Please send to the Editor at warch@atlas.co.uk, or fax: +44 171 470 7007. The best letter in *WA* 62 will receive a free Lamy fountain pen.

International contributors:
Ed Peters, Asia-Pacific;
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David Cohn, Spain;
Chuck Twardy, USA

Foster's full metal jacket

Foster & Partner's US$48 million (£30 million) Clydeside auditorium, which opened on 15 September (six weeks ahead of schedule), has already been nicknamed the Armadillo. Glaswegians are not content to let its celebrity rest simply on Sir Norman Foster's claim that his design is the most efficient shape to "shrink wrap"the separate elements that comprise this "industrial theatre".

The form was actually derived from the tightest natural counter curvature of the aluminium cladding sheets, equivalent to a cylinder with a 38-metre radius. By using this property to his advantage, Foster removed the need for re-bending, substantially reducing costs. The glass screen of the eastern facade reveals lessons learned at Chek Lap Kok airport, Hong Kong.

Foster has now used this emerging three dimensional form with different interpretations, load distributions and materials in a series of buildings from the metro stations of Canary Wharf in London and Bilbao, Spain to the hangar museum at Duxford, near Cambridge, UK but he told WA: "it is always difficult to generalise. It depends on what is appropriate. The Hong Kong airport consists of a rippling series of vaults with a flowing geometry although Stansted is comprised of regular orthogonal vaults". Foster admires Peter Cook's observation that organic voluptuous geometry can exist simultaneously with more rectilinear solutions because he believes that variety is crucial, "while architecture is restlessly evolving and moving on". But it is perhaps worth noting that the emerging form can really only be realised in brittle "industrial" materials through use of CAD and that, as a signature form, it is almost unique to Foster. MM

Pulled up on a (hi)technicality

London-based Nicholas Grimshaw, architect of the British pavilion at Expo 92 in Seville, will build his second Spanish project in La Coruña, after winning a competition for the Caixa Galicia Foundation, the cultural centre of a local savings bank. The 5,500-square-metre, city centre structure is to be complete by 2000. But the competition has provoked indignation amongst Spanish professionals for its alleged organisational deficiencies and abuses.

The Foundation wanted a "representative", "luminous", and above all, "futuristic" building. Bearing these conditions in mind, a long list of disaffected invitees (including Enric Miralles, Manuel Gallego, Alberto Noguerol, Bonell & Gil and Manuel de la Casas) felt that the organisers could have saved themselves a great deal of time and trouble as the contest seemed tailor-made for any one of the representatives of the British "hi-tech". DC

Confident enough to start again

Hongkong Land – part of the Jardine Group – announced in mid-September that Swire House in the heart of Hong Kong's central business district is to be demolished and replaced with a US$300 million (HK$2.3 billion) state-of-the-art office tower. Work on the building, provisionally known as 11 Chater Road, will commence in October next year and should be complete by 2003. Designed by US architects Kohn Pedersen Fox (KPF), it will have 30 floors of offices above a three-level retail podium and a three-level basement.

Hongkong Land said the state of the property market and the planned departure of major Swire House tenant Cathay Pacific Airways meant it was time to redevelop. Cathay, a member of the Swire group, plans to move to the new airport at Chek Lap Kok next year.

Hongkong Land owns about 40 percent of the office space in Hong Kong's CBDI, including Swire House, Jardine House, Exchange Square, the Princes Building, and the Hong Kong Club Building. Group managing director Percy Weatherall said: "The time is right for Hongkong Land to maximise the value of its oldest property in Hong Kong. When complete, 11 Chater Road will deliver the opportunity for improved office rents compared with the current property." He said the building had been designed specifically to cater for multinational banking and financial tenants. "We wouldn't be doing this unless we felt confident about Hong Kong in general and the financial services industry in particular," he said. "This building is very much aimed at that market."

Weatherall said the new building would not clash with the rush of major property projects connected with the airport railway as most of the supply is due for completion before 11 Chater Road is complete. EP

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In brief

CHINA

High, higher, highest

The Jin Mao Building, Shanghai, the third tallest structure in the world, was topped off in a ceremony attended by business leaders and government officials on 28 August. When fully complete, in August next year, the tower (which has been designed and engineered by Skidmore Owings & Merrill) will stand 1,380 feet tall. Fifty of its 88 floors will be occupied by offices and the top 38 floors will accommodate the world's highest hotel, the Grand Hyatt Shanghai.

GERMANY

Stoned to say the least

Gunther Zamp Kelp, award-winning architect of Neanderthal Museum fame (*WA*55 pages 126-7), has unveiled his design for the project "Steinzeichen Steingergen" (Stone symbol at Steinbergen), an official project at Hanover Expo 2000, and representative of the organiser's quest to decentralise the event – making it more about a region than a city. Enormous stone squares will be used to build the staircase leading to the top of a platform, 120 metres above ground level, from which point visitors' sightlines will be framed by a bridge with eight parallel steel and glass partition-like walls.

Steinzeichen Steingergen is intended to illustrate the innovative ways in which a semi-closed-down quarry can be put to further use: "It invites visitors to come to terms with a new way of viewing the role of stonework as reflected in architecture, art, culture and ecology".

Michael Reisch

SOUTH KOREA

Minoru Yamsaki Associates design Incheon Kyeyang District Town Hall

Minoru Yamsaki Associates Inc (MYA) has won the international competition for the design of the Incheon Kyeyang District Town Hall, in Incheon a town south of Seoul.

Construction costs for the 495,000-square-foot building are estimated at US$90 million. Construction is due to commence next month.

Spaniards in the Nether regions

The strong institutional support for innovative architecture in the Netherlands has been extended to several Spanish practitioners. In particular, the ongoing conversion of obsolete port facilities to residential use in Amsterdam includes projects by Barcelona's *enfant terrible* Enric Miralles; the Seville team of Antonio Cruz and Antonio Ortiz, and Josep Llu's Mateo of the MAP Studio.

Java Island, by Cruz & Ortiz – the Spanish architects are developing 150 units of housing on seven sites

On Java Island, Cruz and Ortiz are building 150 units of housing on seven sites. The six-storey infill structures are part of a 600-unit development master planned by local architect Sjoerd Soeters. One building has been completed and two more are under construction. On nearby Borneo Island, Miralles has been invited to design a small group of rowhouses facing the sea, now in design development. Mateo is also designing a group of 28 luxury residences on the Borneo Docks, part of a master plan by architect Adrian Geuze and the West 8 team.

The three firms are also involved in three other Dutch projects, all winning competition entries. A 1992 design by Cruz and Ortiz for a river crossing in Masstricht is still awaiting local approval. The bridge is conceived as a concrete tube-beam, with circulation inside and a clear span of 130 metres. In early 1997 Miralles won a limited competition to renovate the medieval City Hall of Utrecht. His design will clear away later additions to the complex and add a new office wing; demolition starts in 1998. Rem Koolhaas is heading an international team (also including Mateo) that is converting a complex of military barracks in Breda into housing – a 1994 competition winner.

Barcelona firm Martorell Bohigas Mackay has three private housing projects underway in Holland. The first block of a three phase development is complete in Masstricht, master planned by Jo Coenen. Design development is underway for an 80-unit project on three linked sites in Breda, and for a 75 unit rehab and addition in the town of Heerlen, near Masstricht. These latter projects include urban site plans by the Spanish team. DC

The ups and downs of Indonesia

Going up

Indonesian State Secretary Murdiono has inaugurated construction of the Jakarta Tower, which, at more than 500 metres, will be the country's highest building. "We hope the Jakarta Tower will be one of the country's landmarks," Mr Murdiono said. The tower is expected to cost US$560 million, and will reach a height of 558 metres. The gold-tipped national monument in central Jakarta, currently Indonesia's tallest structure, is 132 metres high.

State-owned Telkom and Indosat each hold 20 percent of the project, while state television TVRI holds nine percent and 51 percent is owned by Indocitra Graha Bawana, a private company controlled by businessman Sudwikatmono, a cousin of President Suharto. The tower, which is to include telecommunications and television broadcast facilities, hotels and offices, is to be completed by 2001.

Going down

Meanwhile, the Indonesian government plans to curb luxury housing developments to stem the growth of bad loans in the property sector. Housing Minister Akbar Tanjung told the Antara news agency that the economy would be affected if developers continued building high-priced houses without considering market conditions. "If repayment of loans invested in the property sector cannot be made on time there will be bad loans and this is what we do not want to happen," he said. The minister could not place an exact value on bad loans in Indonesia's property sector, but said it was millions of dollars. He said the duration of the restrictions would depend on the monetary authorities. "If the monetary authorities think the situation has returned to normal, credit extension to the sector may be reopened," he said. EP

Marriott Courtyard hotel, Washington DC by Brennan Beer Gorman

Boom or bust?

Does a office renovation project in Washington DC give an indication of a potential boom area for US architects? Developers are currently adapting Class-B office buildings into hotels throughout the country. Brennan Beer Gorman Architects' renovation of the 100,000-square-foot former headquarters of the National Rifle Association into a Marriott Courtyard, is just one example of the burgeoning trend. Several other projects are following suit, but analysts warn that it is unlikely that every unused office building will work. Hotel plans require high ceilings and column bays, office buildings are not built like that. Bill Wheaton of Torto-Wheaton Research also warns that the hotel market is notoriously "unstable", pitching in a marked boom-and-bust cycle due to the lag between demand and supply. CT

The shock of the old

Construction work on the Pudong Development Bank Mansion, designed by Canadian giant, the Webb Zerafa Menkes Housden Partnership (WZMH) in association with Ecade of Shanghai, has just begun. Designed to express an air of "permanence", the Art-Deco-influenced 40-storey tower will stand in marked stylistic contrast to its self-consciously hi-tech neighbours – buildings typical of Shanghai's on-going reinvention as the banking and finance capital of China. Composed of three main elements: base, incorporating a six-storey main arch; middle, with pronounced granite piers and metal fins, and top, dominated by a five-storey lantern and stainless steel spire, the Pudong Development Bank Mansion will be complete by the end of next year. AM

Lenscape Inc

Austrian cube takes root

The Kunsthaus Bregenz, known as KUB, is the first publicly financed art gallery or museum to be built in Austria since 1898. The building process has been similarly slow and torturous. It took four years, from the announcement of the competition result in 1990 in favour of the Swiss architect Peter Zumthor, to the groundbreaking ceremony.

Zumthor's building, completed this summer, consists of two translucent glass cubes for museum and administration offices around a small public square. KUB overlooks the Bodensee lake and the movement of reflected light from water and glass is part of the concept. Thirty metres higher than the neighbouring buildings it is a clear landmark on the lakeside. Internally the exhibition rooms are naturally lit although there are no recognisable windows, only the translucent milky glass walls. A computer controlled artificial lighting system concealed within the wall construction compensates for gloomy days and nights, maintaining a constant light level within. LD

In brief

ISRAEL

Ahrends Burton Koralek get ahead in Tel Aviv

Chris Edgecombe

Developer Royal Albion has commissioned London-based practice Ahrends Burton Koralek to build a 19-storey office and residential tower in the heart of Tel Aviv on the corner of Rothschild Boulevard and Allenby Street. The building, whose footprint is a modified triangle, accommodates 11 office floors, with an entrance and mezzanine deck above it, and two interstitial plant rooms on the first and thirteenth levels. A separate entrance lobby is provided for the flats with access from Allenby Street. A five-storey underground car park provides 135 car parking spaces.

SPAIN

Guggenheim opens in Bilbao

Four years in production, and US$100 million down the river, Frank Gehry's much vaunted Guggenheim Museum in Bilbao opened on 16 October. See next month's World Architecture for a full report

USA

Perkins & Will's days at the office

Perkins & Will architects, of Chicago, are currently working on two office projects in the Illinois area: W W Grainger Inc's new corporate headquarters in Lake County and a corporate headquarters/manufacturing facility, for an undisclosed client.

The Grainger HQ was conceived as a multi-phase development. The first phase, currently under construction, includes two office buildings and an atrium – which acts as the centre point to the complex. The headquarters/manufacturing facility represented a different challenge as the client required its numerous local offices to be settled into one "dynamic", "unified" campus. Located on a 130-acre site, the initial facility will house light assembly manufacturing, general office and laboratory space. Design development was completed in early October.

People and practice

GERMANY

New Berlin head for Household Henderson

Hazel Macfarlane is to head Household Henderson Architects' (HHA) Berlin office. Macfarlane, a UK-qualified architect, replaces Eddie Miles who, having spent five years with HHA in Berlin, has gone to set up the firm's London office. Macfarlane hopes to use her position to expand HHA's activities both in Germany and eastern Europe.

HONG KONG

AIA form Hong Kong Chapter

The Executive Committee of the American Institute of Architects (AIA) have approved the formation of the AIA Hong Kong Chapter. The National AIA President, Mr Raj Barr-Kumar formally presented the Charter at an AIA members reception in September at the American Club in Hong Kong. Hong Kong is only the third Chapter outside the USA, following the formation of AIA London/UK and AIA Continental Europe, based in Paris.

UK

PTP face the music ...

Percy Thomas Partnership (PTP), the 85-year-old architectural practice, has avoided the threat of sale, or even liquidation. With debts of US$3.9 million (£2.4 million) the firm has installed a four-person temporary management team to allow more effective and rapid decision-making, after securing an agreement with the necessary 75 percent of its creditors. The arrangement averts the immediate threat to the company, assuming that there is no delay to the payment of a proportion of the debts over the next five years. With a firm fee forecast of US$5 million (£3.1 million) for next year PTP remains positive about it prospects for the future.

... whilst Buro Happold make it

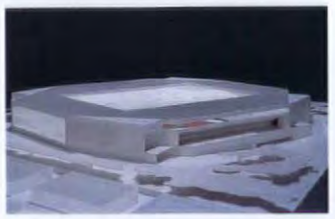
Buro Happold Consulting Engineers has announced figures for the financial year ending 30 April 1997, showing the practice achieved the highest level of fee income since it was founded in 1976 by Professor Sir Edmund Happold. Fee income for the year 1996/7 increased to US$16 million (£10.1 million), a growth of 15 percent over the previous financial year.

USA

Kim N Way joins Ellerbe Becket

Kim N Way has joined Ellerbe Becket as urban design director. He moves to the firm after 16 years with LDR International Inc, where he spent five years as head of the UK office during which time he worked in over 30 locations throughout Europe. Way, who specialises in downtown and neighbourhood revitalisation, will direct projects for Ellerbe Becket's planning and landscape architecture team.

Technology and entertainment – Seville's last resort



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1: Model of Seville's Olympic Stadium, designed by local architects Cruz and Ortiz

2: The El Jaguar roller-coaster at Magic Island on the site of Seville Expo 92

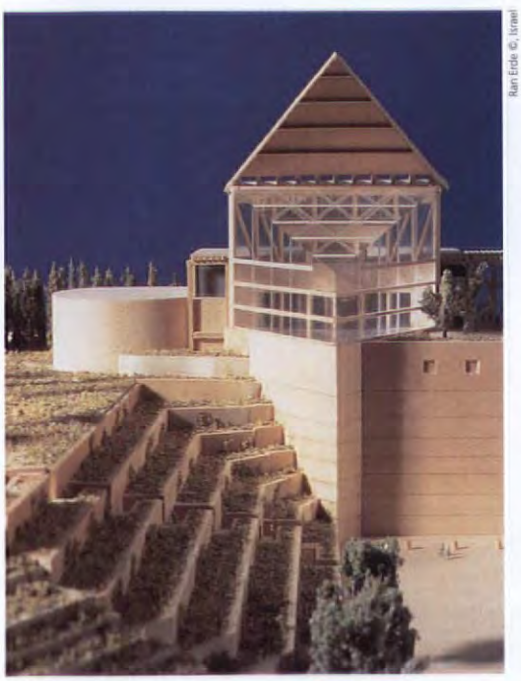
Five years after the enormous expenditures of Expo 92 in Seville, Spain, which closed its books with a loss of US$250 million (37,000 million pesetas), public and private entities are investing another US$266 million (40,000 million pesetas) to bring the Cartuja Island site back to economic life.

Magic Island, a US$100 million theme park which opened this June, is the centrepiece of the redevelopment. Built around the Expo's lake, the park is billed as a "visit to the New World," in which visitors take the role of early Spanish explorers. Six theme areas, including recreations of sixteenth century Seville, a pirate port, the Amazons or the Fountain of Youth, and eight themed theatrical performances are combined with the usual roller coasters and aquatic rides. Replacing a disappointing earlier venture, the new park has met expectations in its first season with 250,000 visitors a month.

The Technological Park originally planned for the area of the Expo's national pavilions got off to a slow start in 1993, but is now moving forward with 46 companies installed. Rules limiting occupancy to hi-tech firms have been loosened, and the government consortium that owns the land has begun to sell sites to move the venture forward. Complementing the Park, in October the University of Seville opened the first phase of a US$53 million (US) Science Park, with schools of engineering, computing and education.

The Expo island has also been selected as site for an Olympic Stadium, now being designed by the Seville architects Antonio Cruz and Antonio Ortiz. Seville will host the World Athletic Meets in 1999 and bid for the Olympics of 2008. And finally, as planned in 1992, Andalucia's regional government is moving many of its offices to the Island, occupying buildings such as the Torretriana by architect F J Sáenz de Oiza.

Planners of Lisbon's Expo 98 have taken note of Seville's troubles; the Portuguese fair site will become a new city suburb after it closes. DC



Rain Erde ©, Israel

Safdie to design Yitzhak Rabin memorial

The cornerstone has been laid for the Moshe Safdie-designed memorial to Yitzhak Rabin, in Tel Aviv. Built on top of an abandoned war-time emergency power generating station, on an escarpment overlooking the city, the memorial will include: a museum devoted to Rabin's life, a research centre, a library and archive and a multi-purpose hall. The memorial has been designed on the model of USA presidential libraries.

The glazed great hall incorporates a dramatic shading system, including a 23-metre triangular roof pivoting with counterweights from a closed to fully open position, depending on the season and time of day. Construction will commence next summer with completion two years later. AM

You can't teach an old city new tricks

In September a consortium lead by the London Planning Advisory Committee (including London Boroughs, the Government Office for London and English Heritage) commissioned another consortium, lead by BDP Planning, comprising London Property Research, London Research Centre and Ziona Strelitz Associates to conduct a study into the approach that London should adopt for tall buildings. The possibilities due for consideration include, the banning of all skyscrapers and the preservation of certain views around which the construction of tall buildings may be permitted. But why is the study being conducted at all?

Have last year's high profile debates about the (un)suitability of Sir Norman Foster's proposed Millennium Tower (385.5 metres) and Santiago Calatrava's City Point redesign (296 metres) provoked a city-wide identity crisis? Is the incoming Labour's government's plan to re-establish a Central London Council – a body which would have the final say in such matters – just too threatening after more than a decade of dithering local borough control? Or are the causes for concern more far reaching than Britain's inherent conservatism?

After a period of relative quiet, the battle to build the world's tallest building entered a new era last year with the completion of Cesar Pelli's Petronas Towers, Kuala Lumpur. The rise of the tiger economies and the tall buildings that were built to reflect their new financial strength sent shock waves around the "bigger is better" world of the tall building. Perhaps the tremors are now being felt in London?

The results of the study will be published in March next year. AM

Even newer towns

Alfred McAlpine, Bryant and Bovis are financing a US$720 million (£450 million) housing scheme designed by the British architect Terry Farrell in Cambridgeshire. The new 3,300 home development will house more than 8,000 people in three villages. Construction is due to start at the end of the year and will last for a decade.

The project includes a 750,000-square-foot business park as well as a hotel, retail space and extensive leisure facilities. Landscaping alone is expected to cost up to US$12.8 million (£8 million). Two new schools are planned as well as police and fire stations, a library and health centre.

A second US$800 million (£500 million) new town has also been planned near Peterborough.

Both developments are within a 40-mile radius in the south Midlands, directly north of London, an area predicted to be one of the UK's strongest economic regions over the next ten years. KM

It's good to talk

Nearly a century ago inhabitants of the developed world were up in arms about the detrimental impact on the landscape of telephone pylons. Recently, certain factions amongst the good citizens of the USA have been having a pretty similar reaction to the apparently indiscriminate placement of cellular phone relay towers. However, when Airtouch Cellular Inc encountered opposition regarding the placement of a tower in the town of Ann Arbor, Michigan an amicable solution was found.

Airtouch wanted to place a tower on grounds of the Domino Corporation's headquarters. However, the owners of the land were only prepared to grant a lease to Airtouch on the conditions that the tower be designed by Gunnar Birkerts – architect of the Domino campus – and that it be a "sculptural object". The result is reminiscent of a dog's hind leg, only in blue and ... 165 feet high.

It seems safe to assume that the public furore over cellular phone towers is likely to die down before these catch on. AM

People and practice

USA

Five new partners at KPF

Michael Greene, Paul Katz, Kevin Kennon, Peter Schubert and James von Klemperer have been named partners at Kohn Pedersen Fox (KPF). In addition the New York-based firm named six new senior associate partners: Thomas Alvarez, Gabrielle Blackman, Joshua Chaiken, Robert Goodwin, Anthony Mosellie and Robert Whitlock.

Earl R Flansburgh + Associates

Marie E Fitzgerald IFMA has been promoted to Director of Space Planning and Interior Design at Earl R Flansburgh + Associates. Fitzgerald will be responsible for design leadership, management and marketing of the Boston firm's interior design division. She joined Earl R Flansburgh + Associates in February.

Scott Welch takes the plaudits

Scott A Welch, an intern architect with CHK Architects and Planners, has been appointed as a member of The American Institute of Architect's 1998 National Honor Awards Jury for Architecture.

HLW and Thomson Design Associates form strategic alliance

New York firm, HLW International LLP has formed a strategic alliance with Boston-based Thomson Design Associates Inc. The alliance HLW-Thomson Design will collaborate on projects in the Greater Boston area.

Obituary

US

Mourning of an Italian rationalist

Aldo Rossi, Italian architect, writer and professor was killed in a car accident in September, he was 66. Rossi, winner of the Pritzker Prize in 1990, was noted for his personal interpretation of modernist theory – rationalism.

With his unique combination of influences: from Vienna-era Loos to Plato-style geometrics Rossi carved out a notable niche in the dispersion of modernist precepts. His belief in the basic forms (square, circle, cone, cube) as the necessary foundations of twentieth century architecture later lead him to renounce the ornamental trappings associated with post-modernism. In 1991 Dennis Sharp noted that Rossi's approach could best be described as "an attempt to fulfil the functional, and humanistic architectural ideas associated with the earlier periods of modernism".

Rossi was noted for his inclination towards the broader picture. In his design for the Quartiere Gallaratese, Milan (1967-74), the commission that brought him to prominence, he was driven by the relationship between the urban past and the urban present. Rossi believed that tradition has a part to play in design.

Chuck Twardy

1

Memories are made of this

Memorials have been in the news in recent months. *Architectural Record* reports that discount retailer Target Stores' support for the renovation work needed at the Washington Monument, the familiar obelisk dominating the Washington DC Mall, might herald a new era in which "architects will receive fewer commissions from the government and more from private corporations". Target raised US$5 million and guaranteed US$1 million for the project, and commissioned Michael Graves to design the scaffolding. Graves says he will draw upon historical precedents, including obelisk-raising in ancient Egypt and scaffolding depicted in Piranesi prints.

Meanwhile, plans for a World War II memorial on the Washington, DC, Mall have hit a snag. *Architecture* report that architect Friedrich St Florian's "grandiose design will interrupt the expanse between the Lincoln and Washington Memorials and ruin one of the nation's most cherished vistas".

The memorial promises to prolong the debate, both in the design and general media, about the nature of modern monuments, a debate launched by Maya Lin's controversial but undeniably affecting Vietnam Memorial, also on the Mall. The recently completed memorial to Franklin D Roosevelt, opened earlier this year in Washington, attracted disputes from right and left, with columnists such as George Will deriding the political correctness of omitting FDR's trademark cigarette, and advocates for the disabled complaining that the sculpture of the president should have depicted him in a wheelchair. Noting all this, Nathan Glazer, writing in *The New Republic*, urges the nation to wait awhile before building the World War II memorial.

But plans press ahead for an Air Force memorial that will share the same park, across the Potomac River from Washington, as the famed Marine Corps Memorial, which depicts Marines raising the US flag on Iwo Jima during World War II. A private Air Force Memorial Foundation is raising funds for the 50-foot-tall aluminium star, but Marines hope to defend their hill against the unwelcome incursion, as *USA Today* reported in September. CT

1: The Franklin D Roosevelt Memorial, opened earlier this year in Washington DC, has attracted criticism from right and left

Empire strikes back

Toowoomba, Queensland one of Australia's larger regional centres is home to one of the country's (recently restored) Art Deco gems, which closed in 1971. Brisbane-based practice, HASSELL completed the US$9 million renovation of the Empire Theatre at the end of the summer.

The new design incorporates a restoration of the original 1933 front foyers and auditorium, as well as new side foyers with bar facilities, stage, fly tower, rehearsal rooms, dressing rooms and offices. AM

David Sandison

Making a drama out of an opera

The Cardiff Bay Opera House debacle (main players: Zaha Hadid, Sir Norman Foster, the Millennium Commission and a non-committal Conservative government) has been dragged up again following the publication of Opera House Lottery: Zaha Hadid & the Cardiff Bay Project (University of Wales Press, 1997) by Lord Crickhowell, the chairman of the Cardiff Bay Opera House Trust.

Between September 1994 and March 1996 a catalogue of complications resulted in the abandonment of Zaha Hadid's scheme to build what was billed as the first great architectural project to have emerged from the Millennium Commission. (Hadid had won the competition to design Wales' Opera House, two months after the Millennium Commission was launched – designs by Sir Norman Foster and Itsuko Hasegawa were commended.)

Lord Crickhowell's book, whilst clearly written with the litigious nature of many of the main players in mind, offers a clear chronological account of what might have been from the perspective of someone who was committed to Hadid's winning design. AM

Shenzhen City Hall

New York practice John M Y Lee/Michael Timchula Architects, winners of the Shenzhen City Centre Urban Design Competition International Consultation (SCCUD) – reported in these pages (*WA*53 page 21) – has been busy putting into practice the first part of the masterplan: Shenzhen City Hall, in the heart of the south Chinese city.

The 150,000-square-metre structure is based around a curved extrinsic space frame covered with photovaltic panels (which will generate 7.5 megawatts of power at completion) shading a series of two and three storey volumes. Open-air courtyards and two towers

punctuate the roof. Between the towers the structure is bisected by an open air axis.

Construction is expected to take two years. Full occupancy is planned for the year 2000. AM

Analysis

Kazakhstan: the first Central Asian Tiger?

by Adam Mornement

On 16 December 1991 the Republic of Kazakhstan, the world's ninth largest country, became the last of the former Soviet Republics to declare independence. Three years later President Nursultan Nazarbaev (who holds 95 percent of the vote) announced his intention to move the capital from sophisticated southern city Almaty, to isolated rural backwater Akmola, requiring an immense and economically demanding construction programme – conservative estimates suggest that US$1 billion should just about cover it. The first buildings are now complete.

Many reasons for the move have been suggested, from the cynical: that Nazarbaev is desperate to assert himself and is nervous of the historical capital's proximity to China; to the practical, Akmola is centrally located and consequently a good vantage point from which to govern Kazakhstan's 120 ethnic groups; to the tenuous, Almaty, which last suffered an earthquake in 1887, is due for another. But whatever the reason, and regardless of the clear lack of support from business and government officials alike, Nazarbaev is hell-bent on pressing ahead.

"Presidential zeal may have the upper hand over practical realities"

Its my party and I'll do what I want to

In his six years in power Kazakhstan's premier has made no secret of his desire to do whatever it takes to bulldoze his nation into the front line of emerging nations. Whenever questioned about the economic viability of his quest Nazarbaev cites the country's vast reservoirs of oil, gas and minerals as collateral. The signing of the US$6.3 billion "deal of the century" at the end of September, allowing China exclusive rights to develop Kazakhstan's Caspian Basin oil fields, adds significant weight to Nazarbaev's aspirations.

Akmola is a city of 250,000 inhabitants (Almaty has a population of 1.7 million). It is estimated that provision for 450,000 new homes needs to be made before 2010 – equating to an area of 72 million square feet. Also, given the city's distance from Almaty (1,000 kilometres), as well as its notoriously harsh winters (-40°C on a bad day), the provision of reliable infrastructure links for oil, gas, telephone networks and class "A" roads is of paramount importance. The high-speed Almaty-Akmola rail-link is already in place, but the absence of an international airport, surely a prerequisite for any self-respecting capital city, suggests that presidential zeal may have the upper hand over practical realities. What's the use of a showcase city that can't be readily shown-off?

Nazarbaev is acutely aware of the need to create a new climate for investment – in a recent poll of foreign companies working in Kazakhstan, 54 percent stated that bureaucracy was still the biggest barrier to progress. FINTRACO, a Turkish-run construction and trading company founded in 1991 with the specific aim of operating newly independent ex-CIS states would certainly not quibble with this statistic.

Fast track to the future – the high-speed Almaty-Akmola rail link is already in place

Two of the company's first projects in Akmola are due for completion next month: Kazakhoil's new 8,500-square-foot headquarters, and a 10,000-square-metre office building for three government ministries and the "government information office". Although the recent loosening of restrictions on foreign labour, and the increasing availability of local materials have made life easier for foreign construction companies, Dr T Selçuk Atalik, of FINTRACO notes that new hurdles always seem to be on hand. Dr Atalik speaks of "changing goal posts". "It is not unknown for laws to change between the commencement and completion of a project ... this leads to some confusion."

Blind leading the blind?

The placement of economic considerations above all others confirms the widely held belief that Nazarbaev is taking the south-east Asian "tiger" economies as the model upon which to build Kazakhstan's future. And the parallel does not end there: just as Malaysian prime minister Mahathir Mohamed still has high hopes of using the development of Putrajaya, proposed as Malaysia's new "federal administrative" capital, as a national jewel of pioneering technological achievements and futuristic business practices, so Nazarbaev is developing Akmola as Kazakhstan's premier twenty-first century city.

Nazarbaev will be hoping that the fate which has befallen Malaysia's economy, resulting in the long term shelving of the latter two of Putrajaya's three construction phases, does not repeat itself in Kazakhstan. As Dr Mahathir has found, there is much face to be lost when a national economy stumbles and ill-thought-out construction projects take the lion's share of the blame.

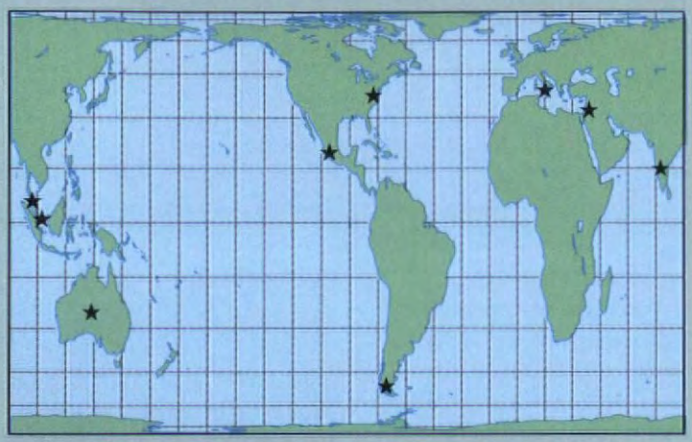
Clearly there is nothing natural about the evolution of these cities, they are powerful people's babies, built to impress. And though still unbuilt, they descend from a rich twentieth century lineage of (dramatically unsuccessful) ceremonial urban experiments. Indeed, for a multitude of reasons the twentieth century is littered with them: Brasilia, Bucharest, Chandigarh. Will Akmola continue the tradition into the twenty-first century?

In next month's WORLDARCHITECTURE

1: World Architecture's first Country Focus Round-up reviews the architecture and construction business in Malaysia; Singapore; Australia; East Coast US; Mexico; South Africa; Italy; Israel and India

2: Derek Lovejoy Partnership's landscapes for Euro Disneyland near Paris, France

3: Office furniture from USM Haller Modular Furniture System – one of the full spectrum of chairs, desking systems, partitioning and wall storage systems profiled in next month's Products section



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BUSINESS

International news, reviews and previews.

COUNTRY ROUND-UP

Martin Pawley introduces *World Architecture*'s first round-up of Country Focuses, from September 1996 to July/August 1997. Correspondents from each country assess the changes and developments since original publication of the report. In Malaysia, Dr Mahathir's cavalier image-building for the country has met with disaster, while in Mexico the economic situation has improved. David Hinojosa, Vice President of Helluth, Obata and Kassabaum's Mexico office predicts that in the next year: "We'll see a climate which will be very favourable for foreign investors". In Australia, Peter Ward looks at the implications for the construction industry involved with the Olympic Games to be held in Sydney in 2000, and in Italy David Lane discusses the implications of Rome's failure in the bid for the Olympics in 2004 quoting Sebastiano Brandolini, of Gregotti Associati who claims that: "Any implication on the architectural community would probably have been bad. A little more work, but highly political".

PROFILE – DEREK LOVEJOY PARTNERSHIP

Landscape architects have traditionally been forced to play second fiddle to architects, but London-based Derek Lovejoy Partnership (DLP) is proof that a more constructive relationship between the two disciplines can have a lasting effect on the success of a project. J William Thompson, senior editor of *Landscape Architecture*, profiles the rise of DLP despite the worldwide recession of the early 1990s and the ever-changing demands of both clients and architects.

SURVEY – 5TH ANNUAL SURVEY OF THE WORLD'S LARGEST FIRMS OF ARCHITECTS

Now in its fifth year, *World Architecture*'s annual survey of the leading architectural and design firms has expanded to include the top 500 global practices, allowing for an even more comprehensive analysis of the current state of the industry and the leading players. The survey examines the industry by region and by sector, providing details of the top practices in each. Interviews with some of architecture's most influential people provide on-the-spot analysis of the changing face of the international profession. Regional analysis highlights areas of opportunity, and the growing importance of the "emerging" markets in today's industry.

PRODUCTS – OFFICE FURNITURE

Furniture design has had to adapt to changes in the office; changes in demographic organisation; changes in technology; changes in health and safety regulations and even changes in the standard of working conditions. Nicola Kearton charts the progress of furniture design through the international office product fairs of EIMU 97 in Milan and NeoCon 97 in Chicago. The full spectrum of chairs, desking systems, partitioning and wall storage systems are profiled in detail to provide a comprehensive overview of the options available.

Polemic

Creating a city of monuments

According to estimates, more than a billion people watched the funeral of Diana Princess of Wales in London last September, making it the biggest global spectacle since television began. More than a million camped out to watch the procession from Kensington Palace to Westminster Abbey. The funeral service itself was broadcast live to 187 countries with commentary in 45 languages. In Britain 31.5 million viewers – three quarters of the adult population – watched the ceremony on TV. In Japan, three of the five national television networks broadcast the event live. If ever proof were needed of the power of celebrity or the existence of the "global village" predicted by the media philosopher Marshall McLuhan, the funeral of Diana Princess of Wales provided it.

Yet to some minds there were other truths confirmed by this phenomenal event. The tremendous visual power of architecture multiplied by television, for one. This rapidly became clear while the one and three quarter hour journey of the funeral cortege was in progress. The route was covered by 28 outside broadcast cameras occupying vantage points on the roofs of buildings and on specially built towers. Under bright sunlight and with all streets cleared of traffic, the cameras celebrated grand royal palaces, magnificent parks and offices of government suddenly given an awesome beauty and solemnity. For 115 minutes the cameras had nothing to focus on but the unchanging cortege, the crowd, and the great buildings and monuments passed along the way. With none of the pace and change of a sporting event, this small palette of colours might have been overtaxed, but it was not. By means of the judicious filming of great buildings and monuments, it became a triumph instead. The passage of the horse-drawn gun carriage through the narrow arch between Horse Guards Parade and Whitehall was daringly scanned from end to end by a single camera at the apex of the arch. The scene in the Abbey was presented in plan, exploiting the tremendous height of the building. One by one fresh camera angles revitalised the historic identity of the city.

Days before the event, the newspapers too had latched on to the connection between grand architecture and grand tragedy. Every national and local newspaper produced maps of the funeral route. As the route was extended, to zig-zag across the royal, ecclesiastical and governmental heart of London, the maps underwent a transformation, becoming larger and more detailed, with outlines of Kensington Palace, St James's Palace, Buckingham Palace, Westminster Abbey and the Houses of Parliament. The final metamorphosis was achieved on the day of the funeral itself. Then maps, plans and aerial photographs were abandoned in favour of elaborate perspective graphics spread across whole pages. "Landmarks of London tell the story of her life", headlined the *Sunday Times*, while its daily counterpart *The Times* confirmed the truth of it, with potted histories of each great building and monument complete with cues from the life of the Princess.

In this way too the identity of the city was recast in a new form. The graphic in *The Times* went so far as to remove all sign of the unimportant buildings that stand between and around these grand buildings, replacing them with a pale green colour wash, as though all of them stood alone in one continuous park, criss-crossed with broad pedestrian walks in place of traffic-laden streets. Subsequent events were to suggest that this image was much more than just a simplified drawing. It was an image of a London of the future in which all the non-ceremonial buildings between Kensington Palace and Westminster Abbey had been razed to the ground. A traffic-free city dominated by great buildings, arches and monuments rising like icebergs from a sea of glass. This was the idea that emerged later from the heady chemistry of architecture and the camera.

Only days after the funeral came the cry from the newspapers that whole areas of central London should be closed permanently to traffic. A well-orchestrated campaign soon got under way, with commentators and tourist organisations calling for up to 11 square miles of London's city centre, from Hyde Park in the west to Tower Bridge in the east, to be pedestrianised in order to preserve the memory of the beauty, order and spectacle of that sunny day in September.

Three years before, in response to the terrorist bombing of the City of London, the authorities had already ringed the financial district with road blocks manned by armed police that effectively pedestrianised many of its streets. Within a year these road blocks were made permanent. Downing Street, the home of the prime minister and a public right of way for 300 years had already been closed in 1986. Today the prospect of living behind gates and beneath the scrutiny of cameras has become a daily reality for over a million London-dwellers. The meaning of this process was cleverly defined by the artist Anne Eggebert in an exhibition at London's Royal College of Art. She affixed video cameras to the roof of the college building and relayed what they saw to monitors inside it. "The cameras," she said, "can be equated with the masterful gaze of colonists, whose supremacy reflects the continual scrutiny by a dominating nation of its colonial subjects."

Colonisation by pedestrianisation does indeed seem to be the process fuelled by the great funeral. The creation of urban "exclusion zones" that began with the closure of Downing Street, and went on to pedestrianise much of the City, is set to continue. Already planned before the death of the princess was the creation of a controlled-access government quarter running from Trafalgar Square to the Thames and Whitehall to Parliament Square. With the aid of the new popular support for an end to motor traffic, it now looks as though this project will not only go ahead, but incorporate the Mall and St James's Park as well, in the guise of a pedestrianisation scheme blithely named "World Squares for All".

Is it not ironic that the power of celebrity and the global village, and the power of architecture multiplied by television, should between them spell the doom of the city street?

Martin Pawley

"Is it not ironic that the power of celebrity and the global village, and the power of architecture multiplied by television, should between them spell the doom of the city street?"

Book Reviews

Jumping the gun

Intelligent Spaces: Architecture for the Information Age. Otto Riewoldt. Laurence King Publishing, London. 240pp, 226 colour illustrations, 128 b/w. £45 (hardback)

Reviewed by Alex Morris

Intelligent Spaces presents the reader with a multitude of large-format photographs, accompanied by brief textual descriptions of recent buildings from around the world. The pictures are, on the whole, of superb quality but the organisation of the book into five nominal classifications – "The Multimedia Industry"; "Advanced Office Environments"; "Hybrid Constructions"; "Cyberentertainment"; "Knowledge Exchanges" – presents a false impression of cohesion.

The examples range from well-known buildings, such as Richard Rogers' Channel 4 Headquarters, London to obscure European work, perhaps reflecting the fact that this book has being translated from the German original. What emerges from the five chapters is an extreme variety of approaches. However, this variety actually compromises any coherent analysis of how information technology is affecting contemporary architecture. The accompanying text ranges from amusing anecdotes to extracts from corporate PR packages, but fails in most cases to distinguish the buildings from mainstream architectural design.

As a prelude to discussion this approach might have worked, but the reader ends up having to draw his/her own conclusions. However, ignoring the structure of the book and delving in at random leads to some interesting questions and conclusions.

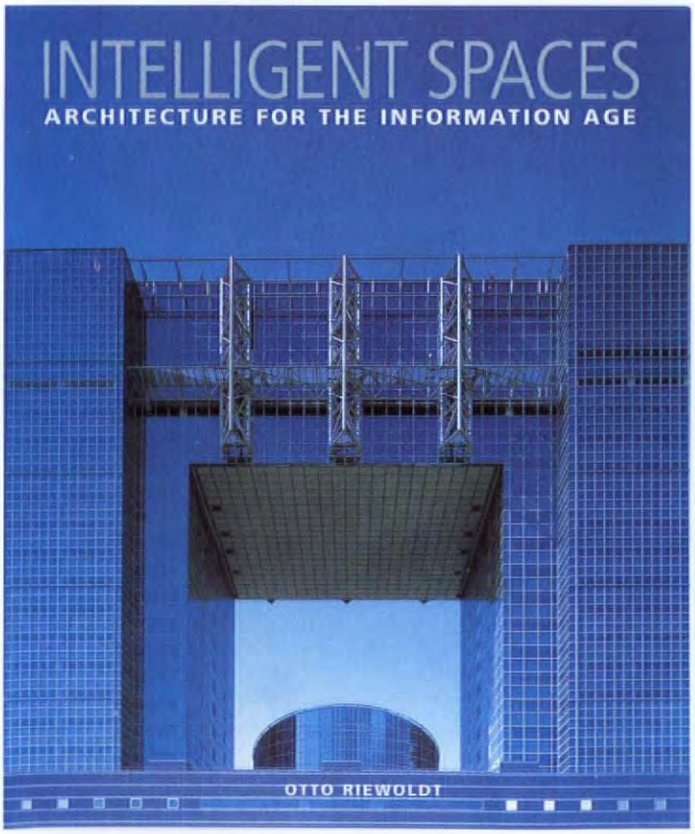
It is striking that the small scale projects seem to be more successful at addressing technological and workplace problems, whereas the larger corporate headquarters buildings really represent linear descendants of those from the 1960s and 1970s. As such these can hardly be termed as belonging to any "information age", unless their ability to hide wiring is taken into account. This also illustrates how these buildings rely on imagery rather than content ... certain post-modern designs spring to mind! It is unclear whether the author has included these to illustrate current technology or the results of using it.

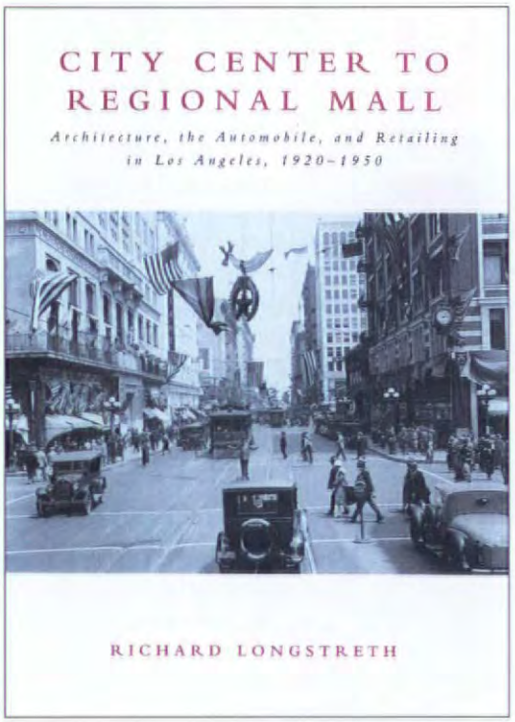
Without doubt Riewoldt's biggest omission is any discussion about "virtual" architecture. This is unfortunate since about half the designs could have been used to illustrate several points not otherwise touched on. For example, it is possible to predict the progress of technology at least five years ahead. So whilst this can represent extreme change, it falls well within the design time scale of most architectural projects. If this is the case, why is architecture so slow to accommodate this flow?

Architects are always portrayed as the least technically aware of the construction professionals, and yet those who are participating in the "information age" are using systems and techniques at the forefront of this movement. Perhaps it is due to this fact that nobody has yet dealt with the secondary issue of style, having been (rightly) preoccupied with more technical and visual concerns, such as security and environmental management.

If this is the case we will have to wait a long time before any distinct visual trend presents itself, which makes such a photographically biased work more or less redundant, except as "eye candy".

Alex Morris is an architect with Hayes Davidson Ltd of London





If I was going there I wouldn't start from here

City Center to Regional Mall: Architecture, the Automobile and Retailing in Los Angeles 1920-1950. Richard Longstreth. MIT Press, Cambridge , Massachusetts, London. 504pp, illustrated throughout. US$60/£50.95 (hardback)

Reviewed by Martin Pawley

This is a dense, profound, monochrome and encyclopaedic study (in all save its curiously deficient index), of a subject that seems at first arcane, but soon emerges as central to the whole issue of urban development and sustainable growth in the future. Longstreth's narrative begins with accommodation of the motor car into the planning of the American city, moves on to the early years of the disurbanisation of retail in the 1930s and 1940s, and concludes with the post World War II development of the small out-of-town shopping malls that are instantly recognisable as the ancestors of the giants still being built today. Thus, in his chosen space of only 30 years (although the indefatigable Longstreth also includes much material on earlier and later retail designs), he succeeds in explaining how the most advanced society on earth created the infrastructure of

mass consumption that the rest of the world has adopted today.

Among the many surprises thrown up by this study of over 200 shopping centres, is the evidence it offers of the extent to which urban planning in the USA had successfully reconciled itself to the invasion of the automobile as early as the mid-1920s. Given the drastic allocation of whole urban blocks for parking, and the profusion of basement, and seven and eight storey overground parking garages alongside or surmounted by department stores – all of which existed in the USA as early as 1924 – and given the survival in business of many city centre department stores up to the present day (even in Los Angeles, the paradigm of automotive decentralisation), it is evident that the emergence of out-of-town shopping centres was a more complex phenomenon than might have been thought. As the planner Victor Gruen put it: "No automobile, not even a Cadillac, ever bought a thing". So in the USA the suburbanisation of shopping was not so much driven by car ownership as gambled upon it. Parking was important, but the chainstore retailers who first made the move to the suburbs and beyond took their counter-commuting chance in search of profits – they could not prosper in the downtown areas because city centre retail floorspace was sewn up by cartels of the older major department stores.

In architectural terms there is little that looks revolutionary to us today in Longstreth's extensive cast of shopping projects. Throughout his period, as is the way with business ideas, anything successful was copied exactly with innovation seen as an unnecessary risk. The very few totally innovative schemes owe everything to extraordinary circumstances, as for instance the influential 1942 plan for a shopping centre to serve the hastily built defence housing for the World War II bomber plant at Willow Run, near Detroit, by Eero Saarinen.

Perhaps the biggest lesson in this book dawns on the reader slowly. If the road from inner city to out-of-town retail was as incrementally ponderous as Longstreth shows it to have been, the route back to urban centrality, public transport and reduced pollution seems almost certainly unattainable. Scanning the aerial views of shopping centres here – all of them much smaller and more suburban than the projects that followed them – reminds one of the famous Irish answer to an appeal for directions: "If I was going there, I wouldn't start from here".

Martin Pawley is a consultant editor and regular columnist for WA.

Peripheral but pertinent

20th Century Architecture: Ireland. Edited by Annette Becker, John Olley and Wilfred Lang in association with the Deutsches Architektur-Museum, Frankfurt am Main. Prestel, Munich. 192pp, 100 colour and 360 b/w illustrations. DM98/US$65/£39.95

Reviewed by Angela Brady and Robin Mallilieu

This new anthology of twentieth century Irish architecture has been published to coincide with the exhibition of the same title in Frankfurt am Main, Germany. The book adopts an exhibition catalogue format with a collection of background essays followed by a chronologically arranged "greatest hits" selection of buildings. This latest offering follows closely on last year's exhibition and catalogue "Building on the Edge of Europe" at the Pompidou Centre, Paris, which covers similar territory.

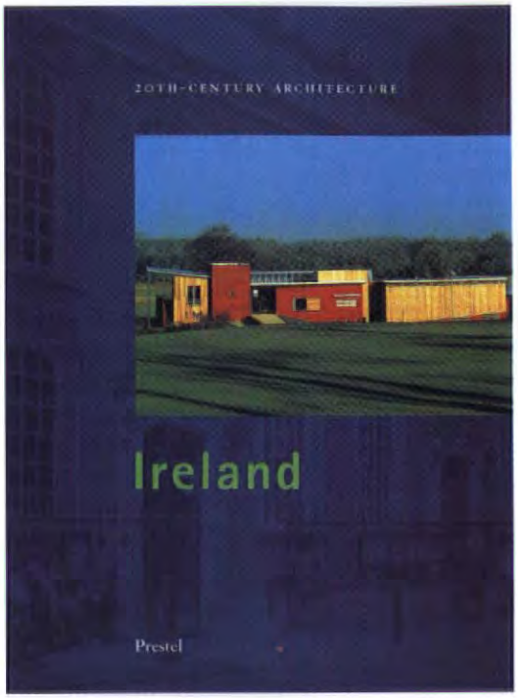
The sudden rush to promote Ireland's hitherto largely unknown architectural back catalogue has been prompted by a national reorientation of outlook towards Europe rather than the UK and America, the success of the country's so called "Celtic Tiger"-economy and the consequent building boom in Dublin and elsewhere, figure-headed by the high profile urban reconstruction of the Temple Bar district.

Following independence in 1923, Ireland was quick to embrace international modernism as an appropriate expression of the new state and has remained a country well disposed to contemporary architecture despite the presence of an unusually rich and important historical heritage and natural landscape of great beauty. As elsewhere the modern architectural legacy has left a few buildings of quality and great tracts of the mundane and mediocre. The influence of key figures of modernism – most notably Mies, Kahn and le Corbusier – pervades much of the work shown, the best of which manages to forge a characteristic synthesis between place and progeny.

The editors' choice of buildings sticks mostly to the accepted script with a few quirky additions to enliven the debate. Dublin's Bus Station and Airport Terminal building and Liam McCormick's Church of Aengus are all familiar images but welcome exposure is also given to less well known buildings such as Barry Byrne's 1931 gem of a church in Cork and Ronald Tallon's vertiginous Goulding House in Enniskerry. The most recent buildings show less variety of choice with the full monty of Group 91's variable output included. There is extensive coverage of Allies and Morrison's new British Embassy, but surprisingly the best work by Gilroy McMahon and recent developments at Trinity College are only mentioned in passing in the essays section.

The short essays at the start of the book make up for a lack of depth and focus by covering a broad range of issues – including much on the disastrous suburbanisation of both towns and country – and when read as a whole, paint an adequate picture of the events and forces which moulded the architecture on display. The book itself is let down by too many tiny, difficult to read drawings and photographs, some of which are printed back to front – which is at odds with the large scale, expensive hard back format.

Angela Brady and Robin Mallalieu are practising architects and partners in Brady + Mallalieu Architects, London. They are co-authors of Dublin – A Guide to Recent Architecture, published last month by Konneman-Ellipsis.



BOOKS RECEIVED

Cuba: 400 years of architectural heritage

Rachel Carley. Watson-Guptill Publications, New York. 224pp, 300 colour illustrations. US$49.95/£38.50 (hardback)

A Spirit of Progress: Art Deco Architecture in Australia

Roy Lumby and Patrick Van Daele. Craftsman House, Reading, UK (an imprint of G+B International). 287pp, 194 full colour plates. A$95/£48 (hardback)

Bridges: a history of the world's most famous and important spans

Judith Dupré with an introductory interview with Frank O Gehry. Black Dog & Leventhal, New York. 128pp, b/w illustrations throughout. US$22.98 (hardback)

Events

Lectures, congresses and conferences

Austria

In Search of Dialog Spaces

Conference exploring notions of territory and the "potentials of collective and intersubjective spaces of action, event and communication within, through and across existing material and immaterial urban structures. 13-16 November 1997. Part of the Internationale BIENNALE Film und Architektur at Hallerschloß straße 21, A-8010 Graz, Austria.
Tel: +43 316 356155
Fax: +43 316 356156
e-mail: artimage@xarch.tu-graz.ac.at
Web: http://xarch.tu-graz.ac.at/filmarc.

Brazil

The Third Bienal Internacional de Arquitectura

Organised by the Instituto de Arquitetos do Brazil and the Fundação Bienal de São Paulo, the third BIA runs from 9-30 November 1997 at the Oscar Niemeyer-designed Pavlhão Ciccillo Matarazzo, Parque do Ibirapuera. For full details of seminars, exhibitions and debates contact Lúcio Gomes Machado/Luiz Fisberg at the Fundação Bienal de São Paulo at Curadoria da 3 Bienal Internacional de Arquitectura, Pavilhão Ciccillo Matarazzo – Parque do Ibirapuera/Portão 3, São Paulo-SP, CEP 04098-900, Brazil.
Tel: +55 11 574 5922
Fax: +55 11 549 0230
e-mail: bia@arqitectura.com.br
Web: www.arquitetura.com.br-bia

The Netherlands

Series of lectures at the Berlage Institute

Peter Wilson; Recent Work (18 November 1997, 20:00 hrs). Peter Zumthor; "Wohnen, Bauen, Denken, Wohnen" (25 November, 20:00 hrs). Kenneth Frampton; "Alvar Aalto and the city" (28 November 1997, 20:00 hrs). Bernardo Secchi; Recent Work (4 December 1997, 20:00 hrs).

Special event

Rem Koolhaas in conversation with Architectural Ideologues. The first in a series of conversations between Koolhaas and an "architectural ideologue" of his choice takes place on 27 November 1997 at 17:00 hrs. Kenneth Frampton is the first guest. All events take place at the Berlage Institute, Marnixstraat 317, Amsterdam, the Netherlands.
Tel: +31 20 4285080
Fax: +31 20 6237614
e-mail: bia@xs4all.nl

Spain

Conference on architectural education

Organised by the European Association for Architectural Education (EAAE) the conference will cover the state of architectural education and architectural magazines. Runs from 13-15 November at ESTA Campus de Tafira, 35017 Las Palmas de Gran Canaria, Spain.
Fax: +34 28 451378

USA

Designing Islands: The Public Future of New York's Archipelago

Forum on design competitions and projects for New York's islands, focusing on David's Island, Governor's Island, Randall's and Wards Islands. As well as updates on the current status of plans and designs for the islands, the forum will include a discussion about the role of design and design competitions in envisioning an urban future. An exhibition of selected and winning entries in the "Ideas Afloat: International Design Competition for the Development of David's Island coincides with the talk. Forum and exhibition open on 12 November 1997 – exhibition runs throughout November – at the Van Alen Institute, 30 West 22nd Street, New York, NY 10010, USA.
Tel: +212 924 7000.
Fax: +212 366 5836
e-mail: vanalen@vanalen.org
Web: http://www.vanalen.org

Architecture and design competitions

Romania

International Ideas Competition: Architecture and the Eradication of Poverty

Competition open to architects and students of architecture, the aim of which is to highlight ideas for improving the built environment of the less privileged – in line with the United Nations' "International Decade for the Eradication of Poverty". The UIA's Romanian branch is hosting the jury meeting and exhibition of projects. Deadline for registration 30 November 1997. Deadline for the reception of entries 2 March 1998. Adjudication April 1998. For registration contact UIA General Secretariat, 51rue Raynouard, 75016 Paris, France.
Tel: +33 1 45 24 36 88
Fax: +33 1 45 24 02 78
e-mail: uia@uia-architectes.org
Send submissions to:
Uninea Architectilor Romania, Str Academiei 18-20, 70109 Bucharest, Romania.

Spain

Office for the Fundació Mies van der Rohe, Barcelona

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

UK

British Young Architect of the Year Award

The inaugural competition to find the best in emerging British architecture has been organised by *Building Design*, the weekly British newspaper for architects, and sponsored by British Steel plc. Entrants must be under 35 years old, or practices where all partners are under 35. Portfolios must be submitted by 28 November 1997. The 14-person jury, including Lord Richard Rogers, Chris Wilkinson, Gabrielle Bramante and Amanda Levete of Future Systems will meet in January 1998. The winner will be announced in February 1998. Contact The Editor at *Building Design*, Miller Freeman House, 30 Calderwood Street, London SE18 6QH, UK; or Julian Christopher, 69 Monmouth Street, London WC2H 9DG, UK.
Tel: +44 171 497 3001
Fax: +44 171 497 8915

Build a Building 1998

Seventh annual challenge to young professionals from all sections of the construction industry to test their skills in a weekend of teamwork. Nine teams of between four and six members will be selected to compete in the design and construction of a genuine "millennium project". The final will be held at the Institution of Civil Engineers (ICE), London, over the weekend of the 25 April 1998. All entrants much be ages under 28 years of age on 1 January 1998. Register now with Alison Bullen at the ICE, One Great George Street, London SW1P 3AA, UK.
Tel: +44 171 665 2238
e-mail: bullen_a@ice.org.uk

Exhibitions

Belgium

Les Lieux de Plaisir

Focussing on the twentieth century evolution of Brussels' bars, theatres, clubs and restaurants, from rooms in private houses to the purpose-built palaces of neon and glitz of the present day. On show at the Fondation pour l' Architecture, Brussels. From 23 November 1997 until 15 February 1998.
Tel: +32 2 649 0259
Fax: +32 2 640 4623
e-mail: fondation.architecture@skynet.be

Canada

Other soundings: selected works by John Hejduk, 1953-1997

The first retrospective of the renowned architect and teacher focuses on themes that have dominated Hejduk's life: architecture as a social act; the nature of the house,

Toy Town/La ville en jeux

The sixth in the Canadian Centre for Architecture's (CCA) series of exhibitions on architectural toys explores how notions of urbanity (whether villages, towns or cities) have been represented through toys – from 19th century Russian and German wooden villages to recent CD-Roms. Toy Town attempts to show how children's toys reflect changing social values and different approaches to the design, planning and organisation of urban/village life. Until 31 May 1998. CCA, 1920 rue Baile, Montréal, Québec, Canada H3H 2S6
Tel: +514 939 7000. Fax: +514 939 7020

and the experience of the city. John Hejduk will give a lecture on Thursday 6 November 1997 at 5:45pm in the théâtre Paul-Desmarais. Exhibition runs until1 February 1998 at the Centre Canadien d'Architecture, 1920 rue Baile, Montréal, Québec, Canada H3H 2S6.
Tel: + 514 939 7000
Fax: +514 939 7020

France

36 modèles pour une maison
An exhibition of 36 proposals to a competition organised by the Périphériques association, to build an individual house for less than US$85,000 (FFr499,000), inclusive of architects' fees. Until 18 January 1998 at arc en rêve centre d'architecture, Entrepôt, 7 rue Ferrère, F-33000 Bordeaux, France.
Tel: +33 5 56 52 78 36
Fax: +33 5 56 81 51 49

Germany

Modern Architecture in Germany: Power and Monument
The third in a trilogy of exhibitions on aspects of twentieth century German architecture. Runs from 13 December 1997 until 22 February 1998 at DAM, Frankfurt am Main, Germany.
Tel: +49 69 21 23 88 44

UK

Airport
A collaborative exhibition of photographs, organised by the Architectural Association (AA), the Architecture Foundation (AF), the Netherlands Design Institute and the Film and Video Umbrella, examining the airport as a technological, architectural, social and cultural phenomenon of the twentieth century. Elements of the exhibition run concurrently at the AA, AF and the Photographer's Gallery – all venues are in London – until 8 November 1997. For information contact Anna Starling at the Photographer's Gallery.
Tel: +44 171 831 1772
Fax: +44 171 836 9704
or, Nicole Crockett at the AF.
Tel: +44 171 839 9389
Fax: +44 171 839 9380

Exhibition of entries to "An Exercise in Contrafactualism" competition
In September the Architectural Association (AA) invited AA students and members to propose designs for an area of the City of London from which all wheeled traffic will be excluded at the beginning of 2005. The exhibition of entries runs from 11 November to 16 December at the AA, 36 Bedford Square, London WC1B 3ES, UK. Contact Andrew MacKensie
Tel: +44 171 887 4031
Fax: +44 171 636 0998

USA

L'Enfant to Legacy: Planning Washington's Monumental Core
Exhibition exploring the history of planning in Washington, from Charles Pierre L'Enfant design for the young city (1791), through the Senate Park Commission Plan (1902), to the present day. Runs until 30 May 1998 at the National Building Museum, 401 F Street NW, Washington DC 20001, USA.
Tel: +202 272 2448
Fax: +202 272 2564

Times Square Project
An exhibition of Arquitectonica's (Miami-based architectural practice) proposals for Times Square, New York. Runs until 1 January 1998 at the Cooper-Hewitt Design Museum, 2 East 91st Street, New York, USA.
Tel: +212 860 6868

Trade shows

France

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

Russia

Strosi-Sib 98
The eighth "Siberian Fair" annual International Building, Materials & Construction Equipment Exhibition, organised by The Siberian Fair runs from 10-13 February 1998 in Novosibirsk. For information contact Valeri Nemilostivy, 630099, 16 Gorky Str, Novosibirsk, Russia.
Tel: +7 3832 100203
Fax: +7 3832 236335

Singapore

Luminaire Asia 98
International lighting fair/conference runs from 19-21 February 1998. Kaoru Mende, of Tokyo International Forum-fame, is the guest speaker. Venue, Singapore International Conference and Exhibition Centre, 1 Raffles Boulevard, Suntec City, Singapore 039593. For information contact Mr Chow Wai Kuen.
Tel: +65 431 2293
Fax: +65 431 2268

Spain

TECNODEPORTE 98
The seventh International Technical Show of Sports Facilities – offering "a panoramic view of the most recent products and developments on the market all over the world" runs from 11-14 March 1998 at the Zaragoza Trade Fair centre, Spain. For information contact TECNODEPORTE, Apartado de Correos 108, 50080 Zaragoza, Spain.
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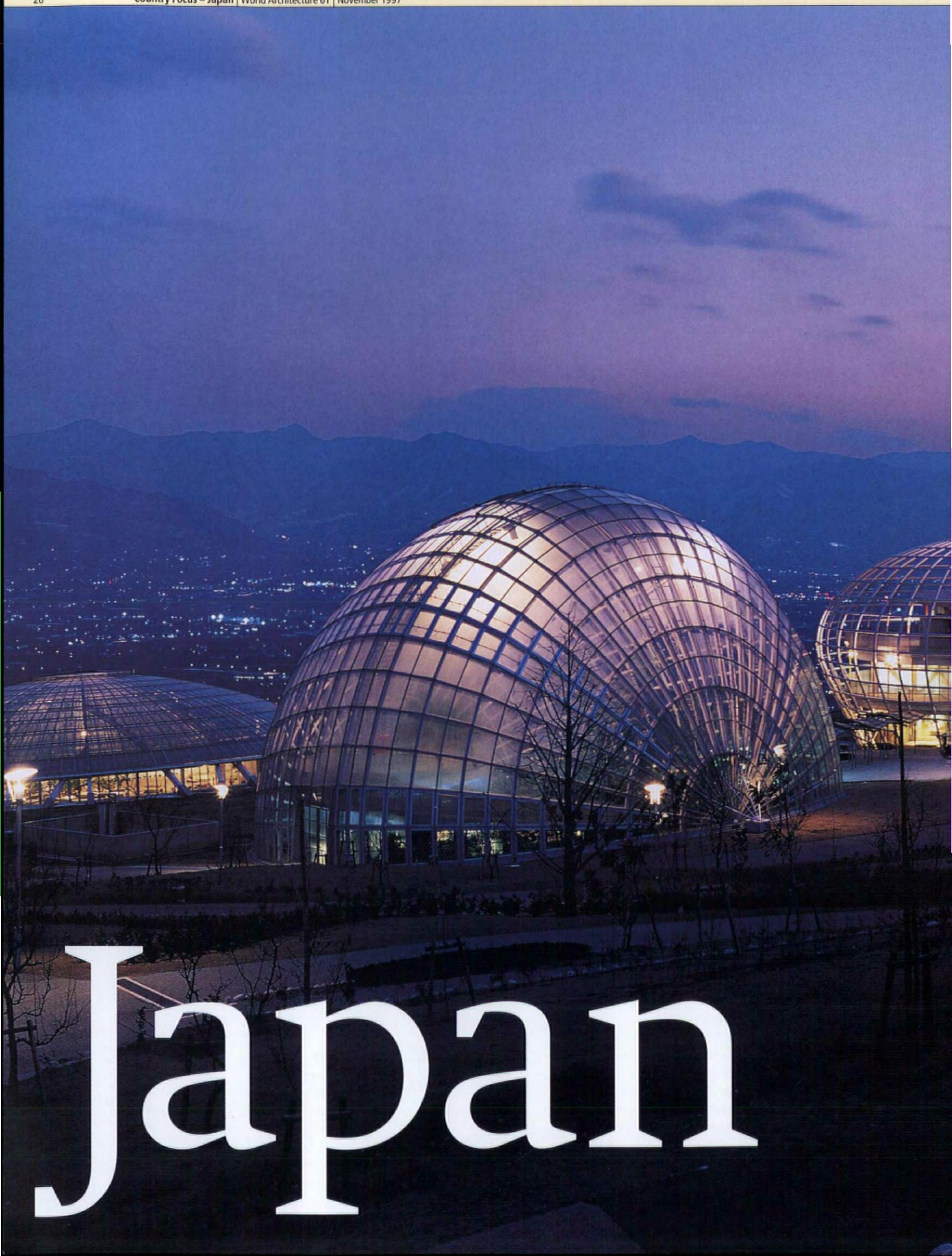
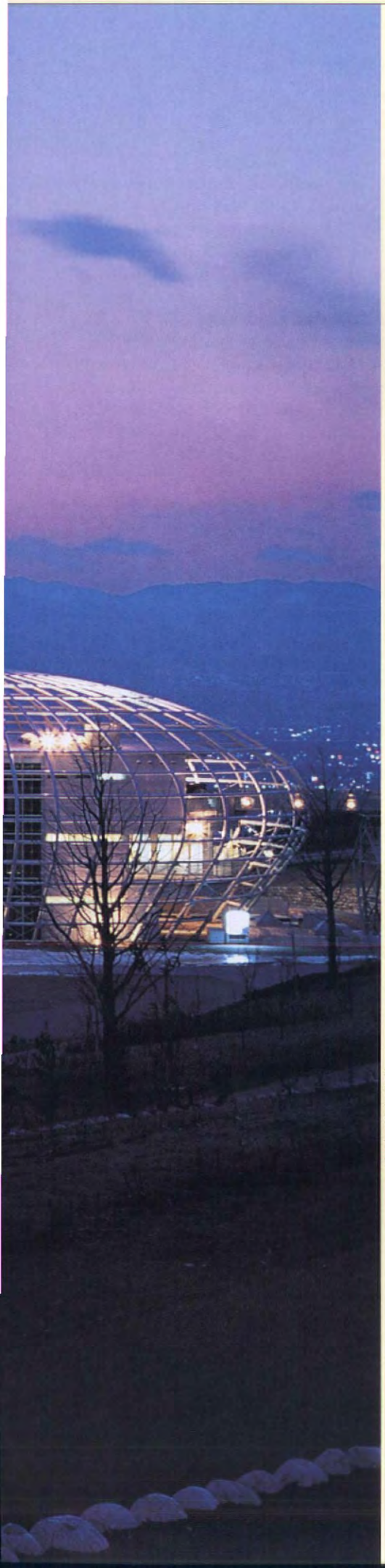
UK

Interbuild
The trade show for the domestic and residential markets. The event runs from 23-28 November 1997 at the National Exhibition Centre, Birmingham, UK. For information contact Simon Prichard.
Tel: +44 171 486 1951
Fax: +44 171 935 4764



Japan



John Edward Linden/Arcaid

The Yamanashi Fruit Museum and Garden in Yamanashi prefecture, 320 kilometres west of Tokyo, by Itsuko Hasegawa. Completed late 1996

Country Focus

A decade ago, thanks to explosive economic growth, Japan's construction market became the largest on earth. The skylines of Tokyo, Yokohama and Osaka were transformed, and then transformed again as insatiable demand for office space fuelled the development of skyscrapers and massive redevelopment projects. Public bodies throughout the nation built new concert halls, convention centres and city halls. And thanks to a new-found popular interest in design, architects were encouraged to produce headline-grabbing buildings. The bursting of the bubble economy in the 1990s has heralded some significant changes to all this, as Dennis Normile reports.

The "go-go" years ended, as they usually do, with a crash. The stock market collapsed in 1990, and average share prices have since been stuck at roughly half their peak values. The economy stumbled into recession in 1991 and although it technically lasted only six months, economic growth has been sluggish ever since. Demand for office space and new commercial buildings collapsed with the economy; land prices and office rents have sagged to their lowest levels in at least a decade. For several years, the national government tried to stimulate the economy with aggressive public works spending. This softened the blow from the loss of private sector work for the industry as a whole but did little to lift the economy. Now the government has to cut spending across the board to reduce a massive budget deficit, and public works spending is going to be hit particularly hard. The Ministry of Construction's requested budget for the fiscal year, beginning April 1998, is down five percent from this year's budget, and even that is likely to be cut further before the budget is finalised.

Picking up the pieces

Many industry analysts believe the construction sector is facing a long and painful period of contraction. Earlier this year, in the first such case in 50 years, a publicly listed general contractor went bankrupt, squeezed between late client payments, slack demand and a crushing debt from real estate investment for its own development work. Several more have followed and yet more are reported to be on the brink.

Despite the slowdown and bleak prospects, however, Japan's construction market is still large in comparison to that of many industrialised countries. The Ministry of Construction puts the nation's total construction investment at some US$691 billion for the year through to 31 March 1997, up 4.1 percent from the previous year. And, while the atmosphere has become far more competitive, there are still opportunities for architects and contractors willing to face the challenges.

COUNTRY FACTFILE

The land: Japan is a chain of over 3,000 islands stretching along the east coast of the Asian continent. There are four main islands; Hokkaido, Shikoku, Kyushu, and the most populated, Honshu. The total area is 377,727 square kilometres. More than 70 percent of the total land area is mountainous, rugged and inhospitable resulting in a highly urbanised population. Japan's south-west neighbour is China separated by the East China Sea, Russia is north-west, and the Pacific Ocean is east.

Capital: Tokyo.

Climate: Japan's climate varies from sub-tropical to temperate. The temperatures are generally mild due to the warming effects of the Kuroshio and Ushima current, although temperatures vary widely from the north island Hokkaido to the south island Kyushu.

Population: 124.7 million, 77% Urban, 23% Rural. Japan is the most densely populated country in the world with a density of about 333 people per square kilometre.

Language: Japanese is the official language.

Religious affiliations: The two primary religions are Shintoism and Buddhism. There is a small Christian minority.

Time difference: Japan is 9 hours ahead of Greenwich Mean Time (GMT) and 14 hours ahead of Eastern Standard Time (EST). It does not recognise an hour ahead during summertime.

Currency: Japanese Yen, divided into 100 sen.

Airport information: Narita Airport is 66 kilometres from Tokyo.

Dialling code: Japan's country code is 81.

Devastated Kobe included in major new work

There are, for example, still plenty of world-class projects in the works. Major schemes include Tokyo Teleport, the first phase of which has been completed, and projects along Tokyo Bay, including Makuhari, plus Tokyo Teleport and Minato Mirai in Yokohama. The city of Nagano has spent about US$753 million on five major new sports facilities for the Winter Olympics which open in February 1998. Notable among these are the 10,000 seat "M-Wave" speed skating arena built entirely of local larch and designed by Kume Sekkei, Tokyo; and a 6,000 seat steel and glass ice hockey stadium with a retractable roof, designed by Yamashita Sekkei, also of Tokyo. The city of Kobe is still rebuilding from the devastating earthquake of January 1995. HAT Kobe is just one of several massive redevelopment projects underway. When completed in 2000, the US$466 million HAT Kobe project will have built some 7,000 mostly low-rise buildings to house 30,000 residents and 40,000 office workers as well as parks and amenities over 120 hectares of the city centre. Even though office rents have declined precipitously and are now reckoned to be at their lowest levels in ten years, the Yebisu Garden Place project, opened in 1994, proved that there was still demand for quality office space in the right location. Yebisu Garden Place is a massive mixed-use hotel, housing, retail and entertainment redevelopment on a 83,000 square-metre site adjacent to a major train station in Tokyo. The 40-storey 162,200 square-metre office tower was fully rented before it opened. Design of the US$2.5 billion complex was also by Kume Sekkei.

Emphasis on design

The pace of activity has dropped off dramatically since the late 1980s. But there are a number of positive effects from the bubble days that linger on. One is an increased appreciation for good design. Japan had always had a number of independent architects, some of whom won international acclaim for their work. But until very recently most private sector projects were design-build agreements, with the design provided by the contractor and the whole package bundled into one lump sum. In the 1980s, however, there was a growing public appreciation for good design. In some cases, clients with a genuine interest in and knowledge of architecture went out of their way to hire foreign architects. Japanese businessman Kazuo Akao travelled to Hong Kong three times to see Sir Norman Foster's Hong Kong and Shanghai Bank Building, and then commissioned Foster to design Century Tower, a 21-storey Tokyo office building completed in 1989. And others were sought after for particular design expertise. Hugh Stubbins was asked to do the conceptual design of the Landmark Tower in Yokohama (see Cover, and *Profile* of TSA in this issue) by owner Mitsubishi Estate because of his track record with mixed-use projects. The 70-storey tower, completed in 1993, is still Japan's tallest building, housing offices, a hotel, and a five-storey shopping mall.

But the interest in architecture went so far as to become a fad. Clients, behaving like art patrons, started competing to uncover the latest up and coming architect or be the first to commission a Japanese project to a non-Japanese signature architect. Architects

1: Downtown view of a major new centre in Tokyo, Shinjuku, where Kenzo Tange has built several major schemes including the Park Towers shown here. The top floors house the exclusive Park Hyatt Hotel

were encouraged to produce daring designs and there was much novelty for the sake of novelty. For these various reasons, the so-called bubble years brought to Japan such established architectural luminaries as Michael Graves, Philippe Stark and Richard Rogers, among others, and gave many debutants, both Japanese and foreign, their first chances to tackle significant projects.

Foreign architects still a significant presence

Since the recession, the faddish aspects have died down and the definition of "good architecture" has subtly shifted. "I think we're being much more selective about what we choose to call good design," says Benjamin Warner, a British architect who splits his time between running his own firm, CDI Aoyama Studio, and representing Richard Rogers in Japan. He says that unlike in the 1980s, designers now have to wrestle with the economics and function of their projects as well as their form. And with clients more knowledgeable, conditions are much more competitive. "I think that kind of atmosphere always produces good design."

The interest in good architecture lingers, and clients still commission high-profile projects to signature architects. The Shinji Shumeikai, a Japanese spiritual organisation, chose I M Pei to design the Miho Museum, which will house its collection of ancient art. The US$216 million museum, located in a nature preserve in Shiga Prefecture 20 miles from Kyoto, officially opens this month.

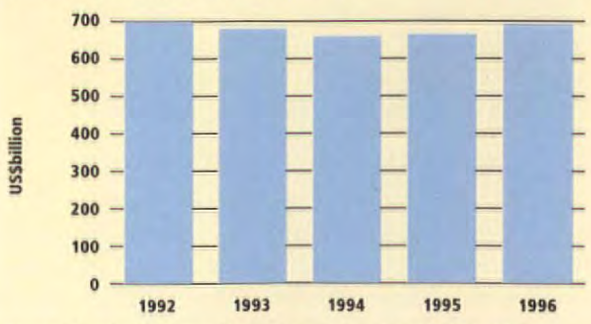
A second trend continuing from the 1980s is an enthusiasm for competitions. The first design competition which really followed international standards and rules was the invitation-only competition for the Passenger Terminal Building at Kansai International Airport, near Osaka, in 1988. Renzo Piano won the competition and produced a stunning project that has received worldwide attention. Rafael Viñoly got the commission of a career – and, reportedly, US$80 million – by winning an open competition for the massive Tokyo International Forum, which opened earlier this year.

Competitions continue to be popular and foreign architects continue to win their share. In September the Richard Rogers Partnership (RRP) won a competition to design a new headquarters building for Nippon Television. The 210-metre tower will occupy a site in central Tokyo, and will allegedly be joined by a new headquarters building for Dentsu, Japan's largest advertising agency, by Kevin Roche, and an office tower by Jean Nouvel. Unlike many who have won major competitions, the Nippon Television project won't be Rogers' first project in Japan. Rogers was invited to come to Japan in the late 1980s. Rather than a trophy project, however, he was asked to do several smaller office buildings for a developer. Unlike many of the big name architects, who did their projects and went home, Rogers took the opportunity to establish an on-going presence here. Warner, who had been working in Japan for several years, joined Rogers in Japan to help execute those first projects. They later worked out the present arrangement whereby Warner pursues his own projects but also seeks work for Rogers' office. "We decided to pay equal attention to smaller projects," Warner says. They eventually did start winning commissions which allowed them to gradually assemble a small staff and, importantly for clients, establish a track record of successfully managed projects. Currently RRP has six jobs in various stages and its own trophy project in the Nippon Television headquarters.

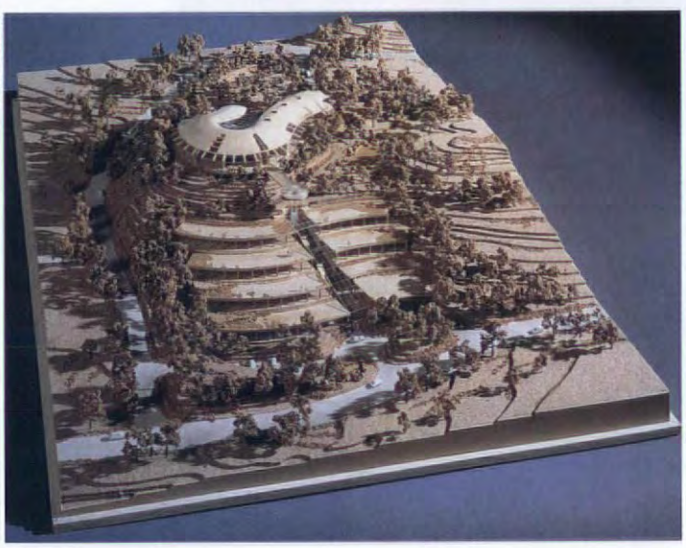
A few corporate architects, including American giants Hellmuth Obata + Kassabaum (HOK) and RTKL, have taken a similar approach. RTKL was also invited to do studies and work on several speculative projects in Japan in the late 1980s, most of which were never built. The firm opened an office in 1990 after recruiting Michiyasu Yamaguchi, a bilingual Japanese-American architect then working in the USA, to head it.

Rather than the design vision of a signature architect, Yamaguchi says what RTKL offers clients in Japan is its expertise in certain types of projects, particularly mixed-use commercial developments. "We know shopping centres" Yamaguchi says. The firm also designed a major government office building that is now under construction in a joint venture with two Japanese design firms. That project gave them a chance to learn how things are done and gain experience. "Now", he says, "we can bring the ›

Trend of construction investment



Source: Ministry of Construction. Yen figures converted at Y120 = US$1



Eamonn O'Mahony

M. LaFour/CP&A

1: The most-recently completed mega-project by a foreign architect: Rafael Viñoly's Tokyo International Forum

2: Model of The Richard Rogers Partnership's VR Techno centre, Gifu

3: Cesar Pelli & Associates have a long association with Japan. (See Face to face). Shown here, model of the Osaka Museum

› latest American design trends but deliver them in a way that suits a Japanese client." They currently have about a dozen projects under way and Yamaguchi says 95 percent of their work is for Japanese clients, although recently they have been getting inquiries from American developers.

Another firm that has carefully nurtured contacts with local clients is the structural consultancy Ove Arup and Partners. Arup's local office was opened in the late 1980s by John Batchelor, a Japanese-speaking British engineer. Arup got its first big breaks in Japan working for foreign architects, and was the structural engineer for Piano's Kansai airport terminal, for example. The firm used such projects to gain local experience, build up its local staff and acquire the licenses needed to work as the engineer of record. Then, using its reputation for helping architects find unique solutions to unusual problems, the firm built up contacts with Japanese architects. Arup's largest project to date for a Japanese client is now under construction, the US$420 million Osaka convention centre, designed by Kisho Kurokawa Architects and Associates.

How to set up in Japan

Local licenses and working with local partners is something every foreign architect has to consider. The Japanese government has become very hospitable in such matters. Architects who are considered sufficiently eminent can be licensed simply through a committee review of their credentials. Richard Rogers, among others, has been licensed this way. Those not considered world class must take the usual tests and face an examination by a committee, but this can all be done in English. But because it takes years of working with local codes and local contractors to become fully comfortable with local conditions, most of the foreign firms work with local partners. Often it will be required by the client. Warner says that Rogers' Japan office does have the in-house capability of handling smaller projects completely on its own. But for large projects, it still prefers to have an established partner. For the Nippon Television building it will be working with the design department of developer Mitsubishi Estate.

The power of the contractors

The design process is somewhat different from the practice in North America and Europe. Typically, drawings are not taken to the contract document stage that is common in the USA – (see *Face to Face* with Cesar Pelli & Associates). "In Japan, that phase just does not exist," says RTKL's Yamaguchi. The large general contractors – of which Takenaka, Kajima, Obayashi, Taisei and Shimizu are the big five – have extensive technical capabilities and resources, and construction details are worked out as the project progress to suit a particular contractor's preferences and experience. The major contractors also have their own thoroughly competent design departments which are used to offering clients design-build packages. Often foreign architects work directly with such contractors, with the foreign firm doing the conceptual design and the contractor's team doing the final drawings.

Design capabilities are just one aspect of the large contractors' wide-ranging technical capabilities. The largest firms have research centres working on new materials and seismic resistance techniques, research that is more typically done at universities in the USA and Europe. Contractors of all sizes generally work to high quality standards and, in the experience of most architects, have proven to be cooperative partners in the design-construction process. What often amazes foreign architects is that there are rarely claims for additional payment for mid-stream changes. Foreign architects, including Rafael Viñoly and Cesar Pelli invariably rave about the experience of working with Japanese contractors, citing their technical capabilities and willingness to cooperate.

Counting the cost

There is a down side, however, and that is cost. Japan's construction costs are reckoned to be among the highest of any industrialised country. In a recent survey Hanscomb cost consultants estimated that a standard industrial building would cost 47.8 percent more in Japan than in the USA. Other surveys have reached similar or even greater discrepancies for office buildings.

The vast differential is the result of a number of factors. First there is the exchange rate. Currently the yen is trading at 120 to the dollar; yet studies have concluded that for purchasing power parity, it should be 180 to the dollar or more. This makes all Yen-based costs extravagant when expressed in dollars. Japanese construction executives like to say that the country's stringent safety precautions add to the bill, though the accident rate is not significantly better than in other industrialised countries. Structurally, buildings are designed more conservatively than they are in the USA. The thin concrete slab on steel joist flooring systems common in speculative office buildings in North America, for example, are not used in Japan, where floors are typically of thicker slabs on steel beams. This undoubtedly contributes to floor stiffness, avoiding the vibration problems building tenants increasingly complain about in the USA, but it increases costs as well.

But there is also evidence that the Japanese industry has been less cost-conscious and less cost-efficient than the construction sectors in other countries. Takayoshi Sato, head of Sato Facilities Consultants, a Tokyo-based construction cost consultant, says that with the emphasis on lump-sum contracts, which are either negotiated or bid, details of construction costs are shrouded in a "black box" making it difficult for clients to make intelligent cost decisions about their projects. He notes that prices have dropped precipitously since the bubble years, but he says most of the reductions have come from contractors simply negotiating lower prices from suppliers and subcontractors, with little effort having gone into actually making the construction process more efficient.

The dangers of "dango"

Inextricably bound up with this issue is Japan's notorious "dango". Euphemistically translated as "pre-bid consultations", the dango is in fact a thoroughly entrenched bid-rigging scheme that affects virtually all public works and encroaches on the private sector as well. A Japanese public interest group recently surveyed public works projects throughout the country and concluded that dango was heavily suspected in 90 percent.

Dango is illegal, of course. And Japan's understaffed Fair Trade Commission does occasionally crack down. Industry officials publicly deplore dango but privately defend it, claiming the practice is necessary to keep competition from getting too severe. Rather than cost-gouging, they say it is a way of sharing the available work ›

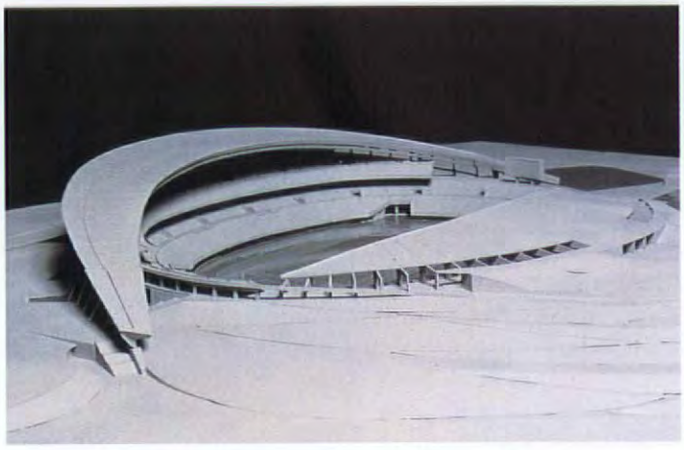
Shinkenchiku-sha

3

4: Interior view of the Miho Museum, built into a precipitous mountain side 30 kilometres from Kyoto. The museum, by I M Pei opens this month

1: Philharmonic hall by Takashi Murai, who recently set up on his own after leaving Japan's largest design firm, Nikken Sekkei

2: Although most high-profile architects are based in Tokyo some may be found elsewhere, including Hitoshi Abe, who is currently working on the Miyagi Stadium in Sendai, where he is based



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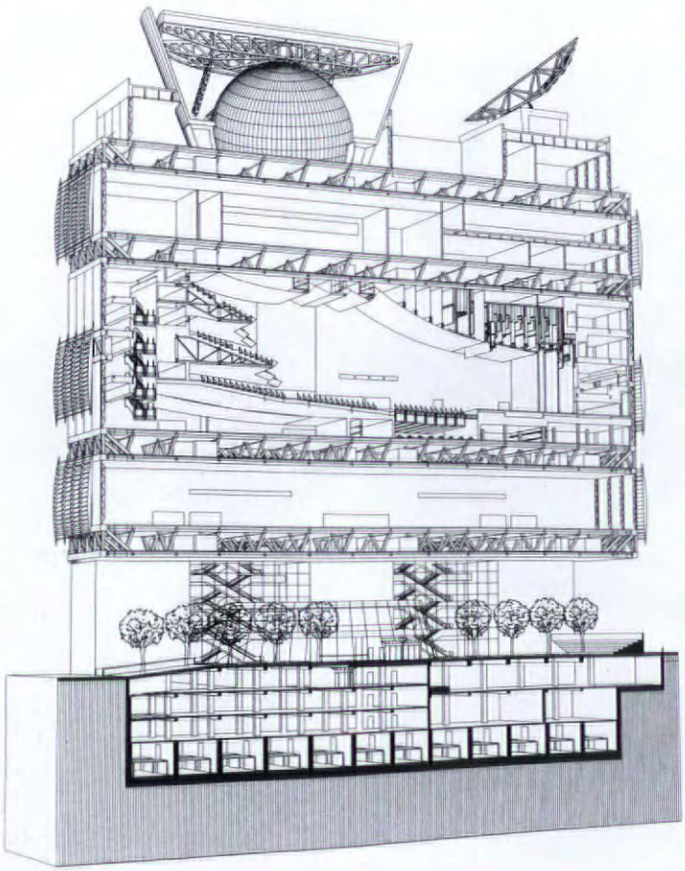
›among the qualified companies. This is one reason public works projects are built by large multi-company teams, typically comprised of a careful balance of large national contractors and smaller regional companies. Once the winning team is decided through dango, other teams simply go through the motions, submitting bids sure to be higher than the designated winner's. For public works officials, who tacitly comply with the practice, dango ensures that the work is entrusted to a technically competent and financially secure team, a particularly important point since there is no system of bonding or insurance backing up construction contract performance in Japan.

In North America and Europe, such a practice would be a recipe for shoddy work in addition to high prices. But in Japan, the practice gives contractors the cushion to handle mid-stream changes without asking for additional money. Contractors who produce sloppy work or violate safety standards can be barred from the public works market for an arbitrary period of time by the Ministry of Construction or local government bodies.

3: Section through Osaka International Convention Centre by Kisho Kurokawa & Associates. Completion date 1999



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For foreign companies seeking to establish a presence in Japan, dango has had a mixed effect. In the mid-1980s, the USA government started pushing for greater access to Japan's public works market for USA design and construction firms. This led to what were called the Major Project Arrangements (MPA), which designated 40 large public works projects for special measures to encourage foreign participation. This was one reason public bodies first experimented with design competitions.

While foreign architects won some notable commissions, the arrangements did little to dislodge the dango. But, in deference to the MPA, foreign contractors were included in the teams submitting bids. Such participation did give foreign contractors a relatively painless way to acquire experience in the market. An official at a foreign contractor once admitted that their strategy was to figure out which firm was on the inside dango track for a particular project and then lobby to be a part of their team.

But the system has also effectively kept foreign contractors as the junior partners in the consortia assembled for public works projects. As such they feel they haven't had the chance to use the cost-control and project management skills they believe are their strong points. Only a few firms are still making any serious efforts to participate.

But those that are still here feel that the current belt-tightening may make public officials willing to try different approaches to managing public works. John Dickison general manager of the Japan branch of Chicago-based Schal Bovis Inc, says that they are finally getting some interest from public officials in the project management services they have been promoting in Japan for nearly ten years. Recently the city of Yokohama asked the firm to review a planned city office complex and Schal Bovis "found real space for savings," Dickison says. Till now, Schal Bovis has kept busy with construction work. But recent inquiries from other government bodies have made Dickison optimistic that they will be able to rapidly increase their preferred project management work over the next few years. Like many of the design firms, he thinks a more competitive market will play to their strengths. WA

CONSTRUCTION FACTFILE compiled by Hanscomb Associates

Construction outlook: The downturn in Japan's economy since 1991 has been more severe than typical economic cycles. Current forecasts for construction demand show it remaining the same through 1998. The only area that can be expected to generate any demand is rehabilitation and renovation of existing buildings. Construction prices, amongst the highest in the world, have declined continually since 1991.

Rates of inflation: Inflation for the construction industry in 1996 was about -1%. Inflation for 1997 is expected to be about 0.5%.

Economic data			
Consumer Price Index: 1990=100		*Exchange Rates: Japanese Yen per US$*	
1992	105.0	1992	124.8
1993	106.4	1993	111.9
1994	107.1	1994	99.7
1995	107.0	1995	102.8
1996	107.0	1996	115.1
1997 (March)	106.8	1997 (June)	115.7

Forms of contract: There is a strong sense of social obligation beyond the conditions of the contract. It is important to sustain a good and long term relationship. If a loss is sustained at the end of a contract, often there will be negotiations to secure a adjustment to the fixed price. Lawyers are almost never present at contract negotiations. However, many of these principles are disappearing in larger contracting firms with more international business. Just under 50% of private sector projects are let using design/build contracts. In the public sector, all projects are let using the traditional separate contracts for design and construction. There are several standard forms of contract used in Japan for construction work, and they are essentially based on a fixed lump sum and a fixed completion date.

Design professions: Except for small buildings, only authorised architects (first and second class) can perform building design services. The architectural design may be executed by either architectural firms or contractors with a design department. Government agencies also have their own architects on staff.

Contractors: The "big five" which dominate the construction industry are: Obayashi; Kajima; Shimizu; Takenaka-Komuten; Taisei. Nearly all construction is performed by specialised trade subcontractors on the basis of fixed lump sum contracts. The specialised contractors have almost a "family" relationship with the general contractors, and in many cases they will work for only one contractor. At the bid and award stage the general contractor stipulates the contract price rather than letting the specialised contractor price the work. There are two categories of the specialised trade subcontractors: the installation arm of a major manufacturing company (electrical, mechanical, component equipment); independent contractors ranging in size.

Governing codes and standards: The Building Standard Law regulates all building projects. There are also regulations for registered architects and construction which related to building activities.

There are two types of standards which regulate construction materials: Japanese Industrial Standards; Japanese Agricultural Standards. Items of special interest: seismic concerns are an important part of the design and have very definite cost impacts.

Construction methods and materials

Methods: Construction methods are not significantly different from Western methods. The buildings are designed for extreme seismic conditions using reinforced concrete, steel reinforced concrete, or steel frame structures. A greater emphasis on-site fabrication rather than prefabrication is evident. Japan is one of the few countries where major construction companies invest heavily in research and development. The use of robots is one area in which Japanese research is well ahead.

Material and equipment availability: Most building materials and products are produced and readily available in Japan. Generally major plant equipment is leased.

Labour availability: No longer a problem, given the recession.

Construction cost guides (effective 1997)

Pricing manuals: There are two major publishers of construction costs: Kensetsu Bukka Chosa Kai (Construction Prices Investigation Institute), has published an English translation of material from their main publication entitled *Construction Prices*. Keizai Chosa Kai (Economic Research Association) also publishes construction costs.

Approximate construction costs: The following rates are provided for rough comparison purposes.

Square metre unit rates for Tokyo area	Yen(1,000s)/m^2
Warehouse – with offices	120-130
Office building, 5-10 stories, shell & core	210-300
Office building, 11-20 stories, shell & core	250-380
Mid rise hotel	260-380
Apartment block	150-180

Regional cost variations: Due to higher demands for construction, costs are highest in Tokyo, followed by Osaka and Sapporo, respectively. Costs are comparatively lower in the western regions such as Chugoku, Shikoku and Kyushu.

Useful addresses

Overseas Construction Association of Japan, Inc.
Tokyo Tatemono, No 3 Yaesu Building, 1-9-9 Hatchobori, Chuoj-ku, Tokyo 104
Tel: +81 3 3553 1631. Fax: +81 3 3551 0148

Japan Architects Association
Kenchikuka Kaikan, 3-16, Jigumai 2-chome, Shibuya-ku, Tokyo 107
Tel: +81 3 3408 7125. Fax: +81 3 3408 7129

Credit
World Architecture and Hanscomb wish to thank Sato Facilities Consultants for assisting with this country report.

Japan – Major architectural design firms

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

Architectural practice | design firm	Total architects	Total staff	Total offices	Area of Specialisation: Health care	Industrial	Commercial	Office buildings	Housing | Residential	Planning	Interiors	Sport | Leisure | Recreation	Hotel | Restaurant	Education	Laboratories | Research	Transport	Other
Nikken Sekkei Ltd	684	1,698	19	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Nihon Sekkei, Inc.	350	746	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Kume Sekkei Co., Ltd	289	718	9	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Yamashita Sekkei Inc.	287	602	8	■			■	■	■	■		■	■		■		■
Daiken Sekkei, Inc.	287	322	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Yasui Architects & Engineers, Inc.	250	415	6	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Institute of New Architecture	230	280	7	■	■	■	■	■	■			■	■	■	■	■	■
Tohata Architects & Engineers, Inc.	200	355	6	■	■	■	■	■		■	■	■	■	■			■
Ishimoto Architecture & Engineering Firm, Inc.	191	354	9	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Research Institute of Architects (R.I.A.)	190	390	10		■				■		■	■	■		■	■	
Azusa Sekkei Co., Ltd	189	414	10	■	■	■	■	■				■	■	■	■	■	■
MHS Planners, Architects & Engineers	182	367	4	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Nissoken Architects & Engineers	171	256	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Educational Facilities, Institute of Architecture	160	255	6	■								■		■			■
Kisho Kurokawa architect & associate	138	152	4	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Yokogawa Architects & Engineers, Inc.	121	139	7	■	■	■	■	■	■	■	■	■		■	■		■
Showa Sekkei, Inc.	100	300	4	■	■	■	■	■	■	■	■	■	■	■	■		
Kanko Kikaku Sekkeisha	100	110	4						■	■	■	■	■				
Naniwa Consultants International	94	211	1	■			■	■				■	■	■			■
K. ITO Architects & Engineers	90	171	4	■		■		■						■	■		■
Kenzo Tange Associates, Urbanists & Architects	90	102	5	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Zen-Noh Architects & Engineers Inc.	70	130	2	■	■		■	■				■	■				■
ITO Architects & Engineers Inc.	70	80	2	■	■	■	■	■	■	■	■			■	■		
Kibou Sha	66	106	5	■	■	■	■	■				■	■				■
Naito Architects Firm	65	157	12	■										■			■
Nikken Housing System Ltd	60	139	2			■	■	■	■	■			■				
Nittei Kenchiku Sekkei, Inc.	59	100	7		■			■				■					■
Raymond Architectural Design Office, Inc.	59	97	1	■	■	■	■	■	■	■	■	■	■	■	■	■	
Izumi Sohken Engineering Co., Ltd	51	51	5					■						■	■		■
Irie Miyake Architects & Engineers	50	55	1	■	■		■	■	■				■	■			■
Takahashi Ueda Sekkei Jimusyo	48	122	6	■	■		■	■				■		■			■
Kyodo Architects & Associates	47	52	5	■				■	■								
Aoshima Architects & Engineers Inc.	44	96	3	■	■	■	■	■	■	■	■	■	■	■	■		
Sowa Architects & Engineers	43	137	9	■	■			■	■	■	■	■	■	■			■
J R East Design Corporation	40	150	3	■			■					■	■	■		■	■
Koken Architects Inc.	40	100	5			■	■	■						■	■	■	■
Akamatsu & Sugano Architects & Engineers	40	100	4		■	■	■		■	■	■	■	■	■	■	■	
Kuroda Kenchiku Sekkei Jimusyo	40	60	1	■	■	■	■	■		■	■	■	■	■	■	■	
Marunouchi Architects & Engineers Co., Ltd	38	41	2		■	■	■	■	■	■	■	■	■				
G.K.K. Architects & Engineers	36	80	2	■		■	■	■	■					■			
Yoshimura Architects & Associates Inc.	36	47	2	■	■	■	■	■		■	■	■	■	■	■	■	■
IAO Takeda Architects & Associates	32	81	6	■		■		■	■	■	■	■	■	■			■
S. Uchii Architects	31	37	1				■	■	■	■			■	■	■		
W.M Vories & Company Architects Ichiryusya	31	35	3	■				■						■			■
Sozosha Co., Ltd - Consultants, Architects & Engineers	25	160	6	■	■	■	■	■	■		■	■	■	■	■	■	■
Okuno Architects & Engineers	25	50	4		■	■	■		■	■	■	■	■	■			
Ataka Sekkei Co., Ltd	25	51	1					■	■								
Tadanaga Miyamoto Architect & Associates	23	30	2						■								■
AAA General Architectural Design Co., Ltd	21	42	1				■	■		■		■					
Ishii Architectural Engineering, Inc.	21	34	1				■		■	■		■	■				■
Kikutake Architects	20	25	2				■				■	■	■				■
A.C.A.	18	38	1	■			■	■			■	■	■	■			
Syuken Sekkei	17	50	1					■					■				
Gendai Keikaku Architectural & Planning Office	17	39	3					■	■				■		■		
Atelier	16	17	1	■		■	■	■	■	■	■	■	■	■	■	■	■
TAK Associated Architects Inc.	13	28	1				■										■
Plantec Architects	5	12	1		■	■	■	■						■	■		■

K.ITO Architects & Engineers

1

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Size of company
150 staff

President
Kazuaki Ito

Contact person
Chieko Obara

1: Samsung Medical Center, Seoul, Korea 1994

2: Keiyu Hospital, Yokohama, Japan 1995

3: Toyonaka Municipal Hospital, Osaka, Japan 1997

4: Toyonaka Municipal Hospital, entrance hall

Company profile
K.ITO Architects & Engineers was founded in 1952 as an architectural design office, and today it consists of 150 staff members including planners, architects, designers, engineers, CAD operators and administrative staff members.

Our main emphasis has always been on medical facilities, including facilities for the senior citizen. Designing medical facilities calls for highly organised project work and a sound knowledge of not only the medical and hospital management systems, but also medical practices. Also, we are determined to design a warm environment.

We have been compiling a database of information related to all our activities over many years. Our specialists knowledge does not end with architecture, but extends to all facets of modern hospital buildings, including the clinic system, management and control systems, financial planning, communication, and internal materials distribution systems. We work together with the following subsidiary companies as occasion demands.

– Medical facility system planning
It offers comprehensive consulting in the area of medical service management and personnel service, and provides multifaceted support to clients through direct and indirect involvement in the management of the hospital.

– B for C
It provides training programmes and operational support to various facilities where human services are required.

Concerning international projects, we have been involved in hospital related projects in different countries including China, Pakistan, South Korea, Indonesia, Peru and Western Samoa.

At present, we have an established reputation as a unique team of engineers, all of whom have some experience in architectural design of medical and physical care-facilities and most of whom are specialists in this field.

Designers International – DI
We are members of DI EEIG which is a network of prestigious architect offices (1,650 staff) in Europe and Japan. DI offers a unique service to clients seeking to develop projects throughout Europe and worldwide.

Kanko Kikaku Sekkeisha Yozo Shibata & Associates Architects and Designers

1: Proposed Tokyu Hotel in Shibuya, Tokyo

2: Two hotels at KL Sentral Station in Kuala Lumpur, Malaysia

3: Pudong Shangri-La Hotel in Shanghai, China

4: Swissotel The Bosphorus Istanbul in Istanbul, Turkey

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Kenji Ohki, Vice-President
Kenzo Watanabe, Senior Executive Director
Masae Kawamura, Senior Executive Director
Hideo Gilbert Osuga, Executive Director
Tomoki Shakuta, Executive Director
Yutaka Suzuki, Executive Director
Shoji Sasahara, Executive Director

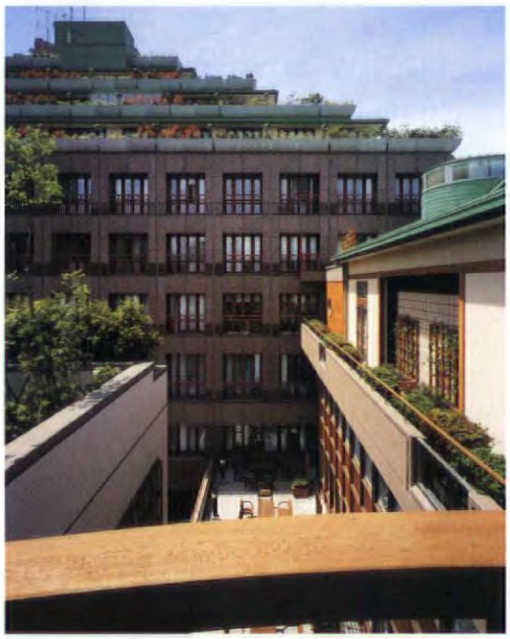
Company profile

For over 35 years Kanko Kikaku Sekkeisha has been a leader in professional architectural and interior design services for the hospitality industry. The firm's credentials have been well established by creating environments that enrich the lives of everyone while providing an excellent, far-reaching design strategy for the client. KKS gives the same attention to large and small projects alike, while mastering the most difficult situations with equal ease. From lush resorts in the Pacific and opulent city hotels to the scenic ski resorts in the northern Alps of Japan, it is high quality that describes the core of KKS's work.
KKS cares very much about the total environment design of all our projects enhancing not only the guest's experience, but also the convenience and comfort for the management and staff increasing their efficiency and work quality.

Specialisation

Hotel/resort/mixed-use
- Architectural design
- Master planning
- Feasibility studies
- Interior design
- Research
- Cost control

Irie Miyake Architects & Engineers



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Yoshito Kato
Takehiko Yamashita
Yoshito Kato
Masanobu Oono

Areas of specialisation
Offices; housing; retail; hotels; health care; education; factories; urban development for mixed-use

Recent clients
Mori Building Co Ltd
Sapporo Breweries Ltd
SKF
Nihon University
Recruit Co Ltd
Housing & Urban Development Corp.
Innotech Corporation

Practice profile
Irie Miyake Architects and Engineers have built a reputation for producing successful buildings, in terms of both quality and function, since 1947. This prestige is a result of our rapid response to changes in construction techniques and socio-economic order. All the while we have maintained our respect for traditional Japanese construction skills, especially the idea of module, flexibility and prefabrication. Our team of 65 consists of designers, project managers, quantity surveyors, as well as in-house structural and M&E engineers.

As project managers, we have collaborated on several foreign-designed projects, including a 1992 Tokyo office building with Richard Rogers Partnership; the Swedish Embassy in Tokyo with BSK Arkitekter AB in 1992; a 42 storey office and 43 storey residential building with Cesar Pelli & Associates now in development design stage; and several proposals and competitions with Kohn Pederson Fox Associates. In addition, our knowledge of regulations and experience of project management, including structural engineering, construction management and cost control, has led us to collaborate with several specialist organisations on mixed use urban redevelopment projects.

Within the projects in this decade, "Ark Hills" (3.6ha), completed in Tokyo in 1986, is recognised as the first privately funded urban redevelopment project in Japan and includes an office building and an hotel building, both of 37 storeys, a TV studio and a concert hall. The Swedish Embassy was also completed as part of the "Siroyama Hills" (2.7ha) urban redevelopment project in Tokyo and completed in 1991. Away from these larger scale projects, our design for the Sapporo Brewery in Gunma Prefecture demonstrate d our highly sensitive management skills in dealing with complicated beer production facilities; at the same time, we have designed traditional Japanese style buildings utilising not only traditional but also modern construction techniques.

1: Ark Hills, Urban Redevelopment, Tokyo, Japan

2: Swedish Embassy, Tokyo, Japan

3: Sapporo Breweries Ltd, Gunma Brewery, Gunma, Japan

4: Tubaki, Hotel, Kanagawa, Japan

Face to face

Codes of conduct

Cesar Pelli & Associates (CP&A) has been building in Japan since the 1970s. What distinguishes the firm from its fellow foreign competitors is its staying power, demonstrated by the opening of a Tokyo office in 1995 under the directorship of Jun Mitsui, a former pupil of Cesar Pelli. Nicola Turner talks to Jun Mitsui in Tokyo, and principal Fred Clarke in Pelli's USA New Haven office, about the finer details of Japanese business culture, which can make or break a career in the Orient.

Fred Clarke makes no bones about the way to do business in Japan. He understands that in order to get a look in on the largest public projects it is necessary both to research the background of the client, and the contractor to which they are most loyally affiliated, and to learn to read the codes of conduct specific to the Japanese construction industry. "Our teams are based on the project we're going after, and are custom-fitted to the circumstances. Jun [Mitsui] is the key to all of that, and I've made it a part of my career to figure this out. No one ever sits you down and explains the rules, you have to work through it in your own way, and it's easy to make a series of blunders. The cultural differences are stark, but the good thing is that if you take the time it is legible. There are clear rules, and you choose either to play within them, or to violate them."

One of the clearest rules is that in order to participate in the big game at all, it is necessary to appreciate the links between the country's most influential clients and the largest, most powerful contractors – all of which have their own design teams. "The larger firms represent an intensive set of relationships built over the years. They have a network of clients which you can then get to if you choose to team up with them." This provides the answer as to why it is still necessary to form joint ventures with the larger firms, despite now having an office in Japan.

"In Japan you have to retrain yourself ... the risks are quite different, and I'd say they're equal to being sued. But at least you can insure against being sued."

One of the most identifiable differences between practice in the USA and Japan concerns contracts. Jun Mitsui cites a visit made by the Pelli team to the clients for the NTT Shinjuku headquarters building after the competition win in 1990. "NTT had the contract ready to be signed on our arrival, before we even looked at anything. This was very awkward for us. We thought this is crazy, and Cesar rejected to sign right there. We had several days discussion before he finally agreed. Now what we're realising is that the contract doesn't mean so much in Japan as long as you have a good faith and do a good job ... usually it is negotiable." Pelli's partner firm on the NTT project, Yamashita Sekkei, told them not to worry, as did the lawyers they consulted. Explains Mitsui: "In the last 20 years no architectural office has been sued, and no office in Japan even has insurance because the practice is such that you don't need it ... this might change as the country becomes more internationalised ... if they have to sue, the client will sue the construction company, but this is also very unusual. Business operates on a much more personal level."

Clarke is rather more cynical about the way he views this: "Japanese architects are never sued, but when you sign a contract with an owner [client] they own you. The fee will almost never change once it has been agreed. You are expected to perform at their request and be completely devoted beyond the end, with absolutely no fee or time compensation. One of the key procedural differences is that you save your fees until late in the project. The construction of the building is sorted out in the field, amongst the contractor, the architect and the owner. In the USA up to 75 percent of the fee is in the design stages. In Japan you reverse that. You have to retrain yourself. The risks are quite different, and I'd say they're equal to being sued. But at least you can insure against being sued."

Jun Mitsui has been an invaluable navigator of these uncharted waters. Says Clarke: "There is no question that it has helped us. He's energetic and does an enormous amount of promotion of the firm – although he runs his own practice in parallel to the work he does for us. We're good collaborators and mutually supportive, with a great symbiotic relationship. I don't know whether it is essential to have your own office in Japan in order to get the work, but it helps to play the game."

Robert Lisak

1

"The builders are the best. There is no more satisfying experience than building in Japan."

2

Mitsui naturally sees his office in Tokyo as crucial to the continuing high profile of Pelli's name in Japan. "It certainly helps client confidence that Cesar Pelli & Associates are not just going to disappear ... and of course it helps my own office too. My people are always busy, and my private projects sustain us between the peak times. I ensure that my own projects have a time scale of two years maximum as most of the Pelli projects span five years. I would say that 70 percent of our work is now under the Pelli name." This includes the National Museum of Contemporary Art in Osaka, the Chubu Cultural Centre in Totori, and NHK's commission for its Osaka headquarters and broadcasting tower, alongside a new city museum and archeological centre, won with Nihon Sekkei and NTT facilities.

"Although the competitions are officially 'open' there are still a lot of Japanese entries from big names such as Arata Isozaki, Fumihiko Maki and Kenzo Tange. Japanese architects are not so resentful of international representation. The percentage, after all, is tiny – but because international architects participate only in the major projects, it seems like a lot. People's concerns, if they have them, are founded more from sentimentality than anything else." Clarke believes that the Japanese are "too polite and indirect to voice their resentment. But I can imagine how they must feel. We're all going after the same jobs. Perception is the issue. The big work centres on the visible projects that attract publicity. But it is still true that the very largest projects are going to the big Japanese architects".

Fred Clarke is realistic about the commercial viability of working in Japan and sees each new project as an additional bonus to the firm's international output. Work for international architects is currently decreasing, and there can be no guarantee of future commissions. Given the pressures, both visible and invisible, of working in Japan one might legitimately wonder why overseas architects persist in pursuing the market. Clarke's response is rapid and enthusiastic: "First, the Japanese genuinely appreciate good architecture; secondly their builders are the very best in the world – there is no more satisfying experience than building in Japan. The building trade goes back centuries to the temple builders who were essentially running design/build practices. The 'Big Five' contractors all have their roots in temple building. Takenaka extends back 300 years. They see no distinction between architecture and building, which explains the ethos of design/build in the big firms. They all exhibit genuine pride, responsibility and commitment to their work. Contractors are on call for the life of the building, so it's no wonder they are so well built. And lastly, and perhaps most importantly, the Japanese are wonderful people to work with, as long as you understand their culture."

1: Fred Clarke, principal at CP&A in the New Haven head office, and involved with projects in Japan

2: Jun Mitsui, the key to CP&A's continued success in Japan

New buildings in Japan

Kyoto's latest controversy

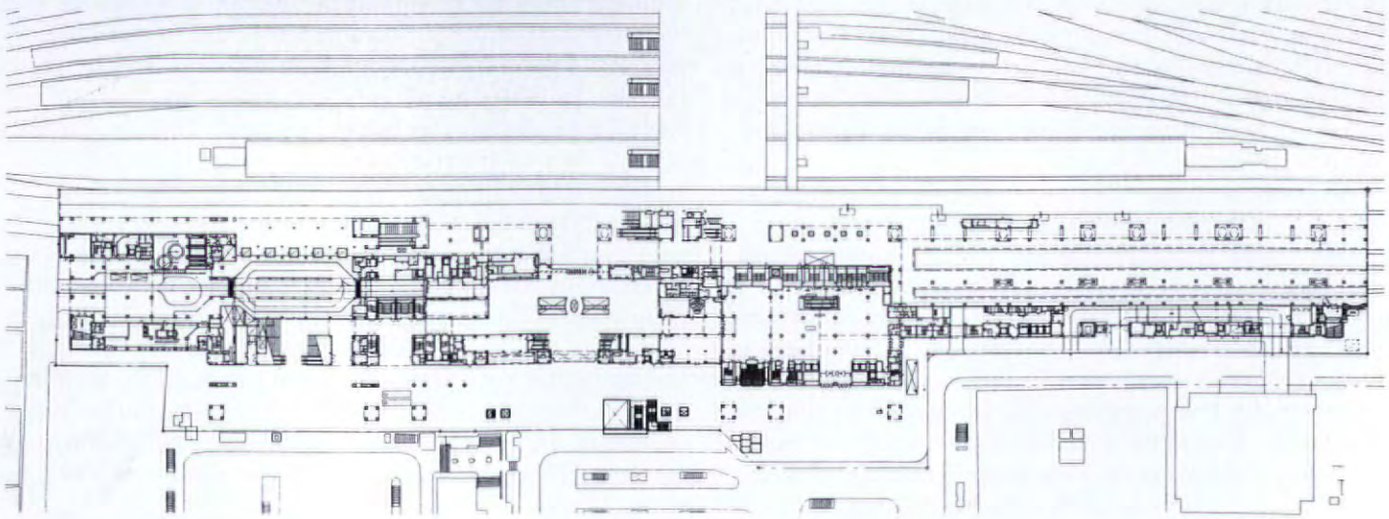
With only five percent of the overall floor area dedicated to transportation, Kyoto's enormous new "station" is a far cry from the elegant rail terminals associated with nineteenth century European or American rail travel. But as Carol Mancke and Michael Bade, architects and long time residents of Japan report, however controversial the design, it embodies the forces shaping transportation facilities in Japan and elsewhere around the world. Photography by Tomio Ohashi.

1

The client , the brief and the site

The story of Kyoto's new station building really begins in 1987 when the former Japan National Railways (JNR) were privatised. At the time, JNR boasted over 21,000 kilometres of track including 2,000 kilometres of the fastest and most punctual high speed rail system in the world, and a US$210 billion debt. Privatisation split the railway into six regional rail companies and the JNR Settlement Company whose mandate remains to recover debt by profitable development of station buildings and on other JNR-owned sites. Kyoto Station, with an average of 200,000 passengers passing through its gates every day, clearly had the potential to be a real "dollar bako", ("cash cow").

It took three years for West Japan Railway Company (JR West) – one of the six privatised companies – and subsidiary Kyoto Station Building Development Company to assemble a programme squeezing 238,000 square metres of space including a hotel, department store, shops, parking, a cultural facility, as well as the new station, onto a narrow 38,076-square-metre site along the tracks. The size of the project compares with contemporary projects of note in Tokyo, but



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Kyoto, in contrast to the capital, has a population of only 1.4 million and is a city primarily made up of three- to six- storey buildings in an urban grid dating from the eighth century. The project proposed by JR West, and opened in September, is by far the largest commercial development Kyoto has ever seen – and, inevitably, has proved controversial.

Kyoto remains divided over whether new development should exceed the height of 60 metres. The Kyoto Hotel proposed a taller building about ten years ago and sparked outrage among citizen groups and an especially vocal association of Buddhist Temples. Eventually, a 16-storey, 60-metre hotel was completed in 1994. JR West's proposal seemed destined to challenge local sentiment again. In search of a solution that would reconcile the commercial objectives with an architecture acceptable to the people of Kyoto, JR West held an international competition, inviting four Japanese and three foreign architects to participate. Four of the final schemes respected a 60-metre height limit (Hiroshi Hara, Tadao Ando, Peter Busmann, and Yoshiro Ikehara), while three included sections over 100 metres (Kisho Kurokawa; James Stirling, Michael Wilford and Associates and Bernard Tschumi). Each architect personally presented his scheme and after a day of discussion, only Stirling's bold, urbanistically sensitive solution featuring a 120-metre tower and linking the city grid across the station, and Hara's 60-metre high articulated block with its unusual interior space and sophisticated surface design remained. The jury selected Hara's proposal by a seven to four vote.

Six years and US$800 million (¥95 billion) later, JR West opened the new Kyoto Station Building on 11 September 1997. The success of the business venture is not yet known, but the experience of visiting Kyoto by train has been thoroughly redefined.

The architect and the design

Hara carved a dynamic 27 x 470 metre "geographical concourse" from east to west lengthwise through the site to spatially organise the major functions. The ground level station entrance is at the base of a "valley" with slopes of cascading stairs and escalators forming the roof of the department store to the west, and stepped volumes housing the hotel lobby and cafe to the east. The concourse is populated by landscape features, bridges, and sculptural objects (some of which have functional roles), and is sheltered by a dense steel truss supporting a glazed double curved barrel vault 60 metres above the valley floor, with megaphone shaped canopies extending east and west covering roof terraces.

From the north, the building presents a highly articulated facade perceived as two structures linked by a recessed reflecting glass volume. The eastern structure, housing the theatre and hotel, is articulated by escape balconies. The western structure houses the department store and parking. Fractal glass volumes at the fourth floor level give each structure visual identity. The link houses the station, with the exterior of the concourse vault forming a facade intended to reflect the northern sky. The urban grid of Kyoto shapes the facade at portals located where the north-south streets meet the station. The western portal is actually a pedestrian passage which links the city across the platforms.

The most important technical feature of the project is a structural platform called the "matrix". Existing track and subway prevented free placement of columns forcing the new building to span certain areas. Described by the architect, as the "mother body", "womb" or "stage", and apparently inspired by the grid of Kyoto, the matrix is a four-metre-deep super-stiff steel truss creating an interstitial floor between the second and third floors. The matrix transfers loads from the upper floors ›

1: North elevation of the station showing the complex in the context of the "old style" Kyoto, with a temple in the foreground

2: Site plan showing the tracks to the south

3: West portal obscured by power lines. There is currently a move to re-route them underground

Site area	38,076 square metres
	Three basements, 16 storeys above grade
Footprint area	32,351 square metres
Floor area	237,689 square metres
Program areas	
Station	12,000 square metres
Department store	78,000 square metres
Speciality shops	10,000 square metres
Hotel (539 rooms)	70,000 square metres
Theatre (926-seat)	11,000 square metres
Parking (646 spaces)	37,000 square metres
Government facilities	19,700 square metres
Height	59.55 metres
Zoning	Commercial, Fire Prevention Zone, Kyoto Station Special Zone
Structure	
Below grade	Steel reinforced concrete
Above grade	Steel
Foundations	Earth drilled piles (some friction piles) and OWS sheet piles
Excavation retaining walls	Soil columns
Excavation	to 19.3 metres, 240,000 cubic metres
Structure	used 110,000 cubic metres of concrete, 14,000 tons reinforcing bar, 200,000 cubic metres of formwork, and 55,000 tons steel
Construction cost	(excluding tenant improvements): US$800 million (95 billion yen)

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to columns on a shifted grid below and allows free horizontal distribution of building services.

The tripartite organisation, clearly visible from the north, can only be recognised at great distance from the south. The matrix, upon which the building sits, is visible on this side as a curved platform, projecting over the tracks. At best, this elevation is a straight forward expression of the interior functions. The exterior is clad in a pre-cast concrete curtain wall with granite, steel and aluminum panels, mosaic tile, and reflecting glass in a free and engaging composition that has become Hara's signature. Touches of Hara's personal graphic genius can be seen throughout the interior of the concourse where he combines over 70 kinds of stone with a few carefully placed brightly painted panels to create a landscape collage that has visual interest at both the scale of the entire space and in the individual details.

In the hotel lobby, Hara uses the same collage technique to achieve a heightened "Japanese" atmosphere. At the east end of the station building, is the 926-seat theatre where Hara exhibits a whimsical streak in the asymmetric interior form and the playful graphic ceiling design. The department store entrance is off the second level cross platform passage and features an effective white on white cascading escalator/atrium designed by Hara – a diagonal lozenge of space linking all ten floors and giving views of the sky from the entrance. Each floor of the department store also opens onto the stairs of the geographical concourse.

The complex programme involved the architects in protracted negotiations with building officials, which resulted

in the elimination of bulky fireproof cladding for the concourse roof truss and bridges and allowed the portion of the matrix cantilevered over the tracks on the south side, to function as a fire escape floor, avoiding the requirement that all fire stairs empty directly to ground level.

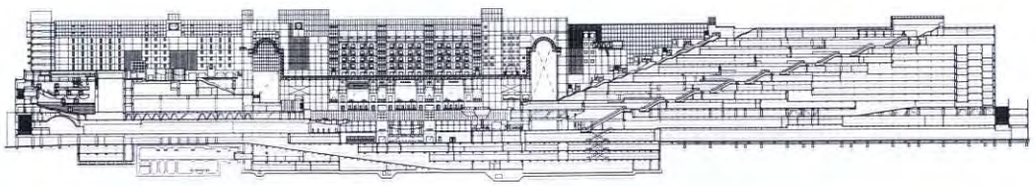
The structural engineer

Keeping the building under 60 metres required a very large floor plate and led to two fundamental decisions: whether to incorporate expansion joints, and how to deal with the 3,100-square-metre area where columns could not be brought to the ground. The engineer, Toshihiko Kimura, addressed the first issue by designing seismic links which might suffer damage during an earthquake, but could easily be repaired. With this approach, expensive expansion joints and structural redundancy were avoided achieving lower initial costs and a lighter, more open structure. The matrix provided the solution to the second issue.

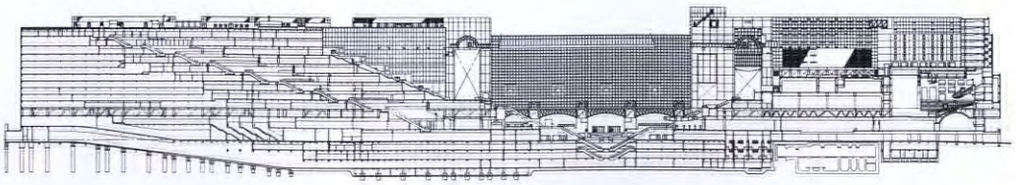
Structurally, the building is comprised of the geographical concourse and three wings linked by two bridges with different spanning structures. The building also has four distinct structural characteristics in section: three basement levels (steel reinforced concrete); two floors above grade but below the matrix (steel frame), the matrix (steel truss); and a partially braced steel frame above the matrix. The matrix is a steel truss lattice constructed of standard elements configured for flexible horizontal distribution of building services. The structure was modelled dynamically under two models to verify the design integrity.

The glass roof canopy over the concourse is designed as a simple two metre-deep welded steel truss of 100 millimetre ›

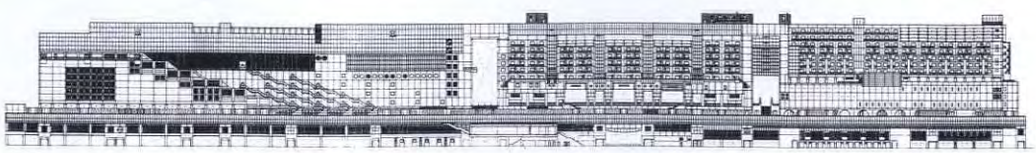
East-west section



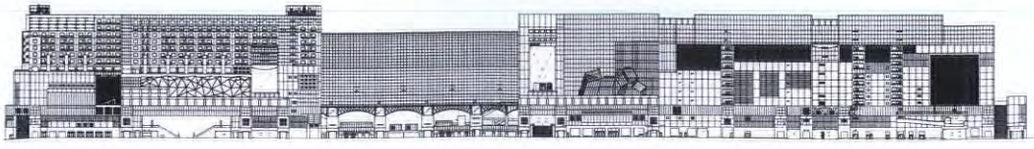
West-east section



South elevation (facing the tracks)



North elevation (facing the town)



1: Detail of the west portal which provides a pedestrian passage across the tracks. Fractal glass volumes on the fourth floor level provide texture and identity

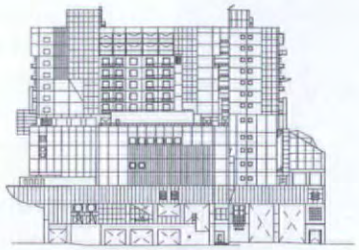
2: Sections and elevations identify the theatre and hotel to the east and department store to the west, the roof of which is formed by cascading stairs and elevators. The link houses the station. The facade forms the exterior of the concourse vault

›square tubes of varying wall thickness. A public skyway is hung from the atrium roof 45.2 metres above the station entrance level. Each of three bridges spanning the concourse expresses a different structural design. To bridge over the subway six, thirteen-metre-deep trusses (the matrix plus two adjacent floors) span 52 metres to support the theatre and hotel floors above.

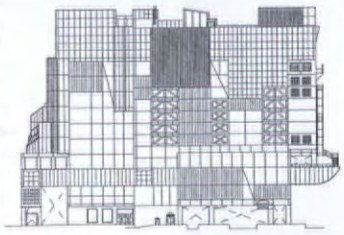
Appraisal

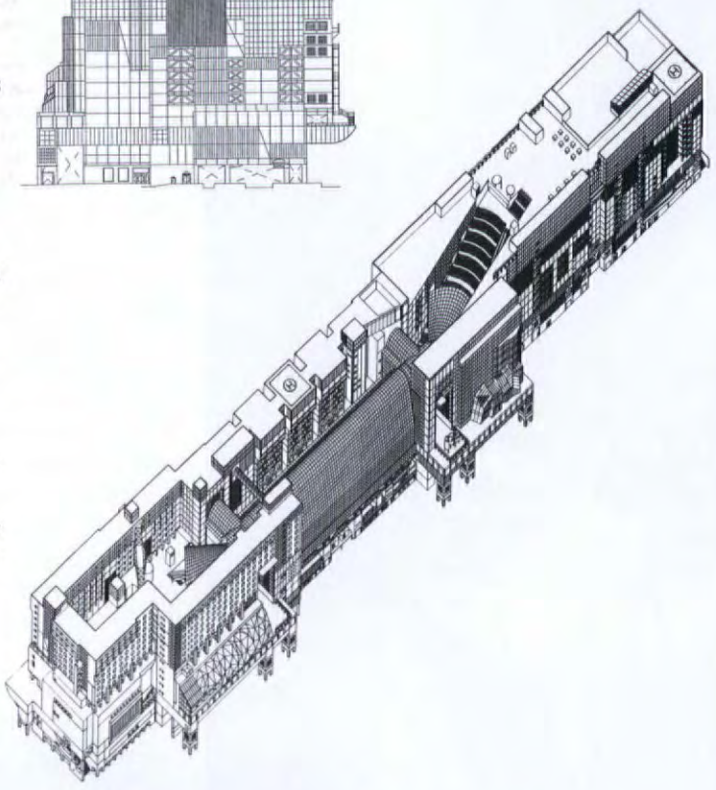
One's understanding of a place is made up of a combination of memory and sensual impressions. While some cities live more in memory, others give more immediate sensory information. Kyoto, with immaculately maintained references of a past and disconnected grandeur, is a city where memory dominates. It is not shaped by architectural monuments, but rather, gently guarded by green mountains on three sides it hides its charm in leafy pockets, and reveals a fragile urban aesthetic inextricably linked to the natural setting.

Building well in Kyoto is a serious and delicate endeavour requiring a balanced vision of the public realm by developers and a willingness to engage the setting in a complex exchange by the architect. For better or worse, the new Kyoto Station was shaped by JR West's commercial programme and a competition format that limited the architects' opportunities to develop a dialogue with the setting. In the public discussion that followed the competition, a number of architects noted that a building height limit of 60 metres made it virtually impossible to arrange the programme on the site in a way sensitive to the urban form of the city. The competition jury praised Hara's building for creating an



1





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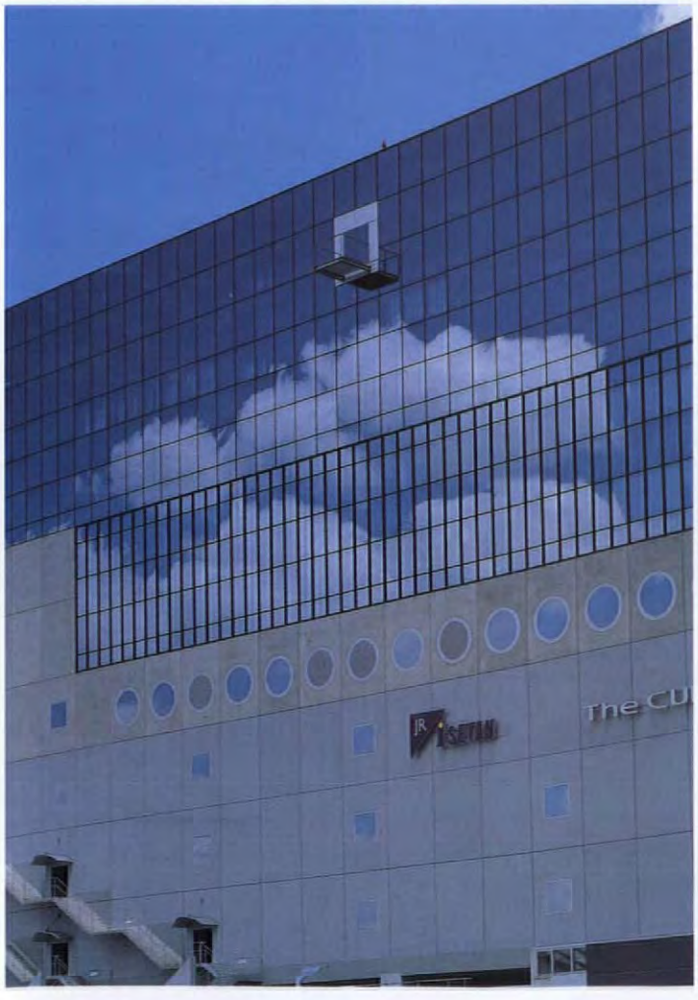


3

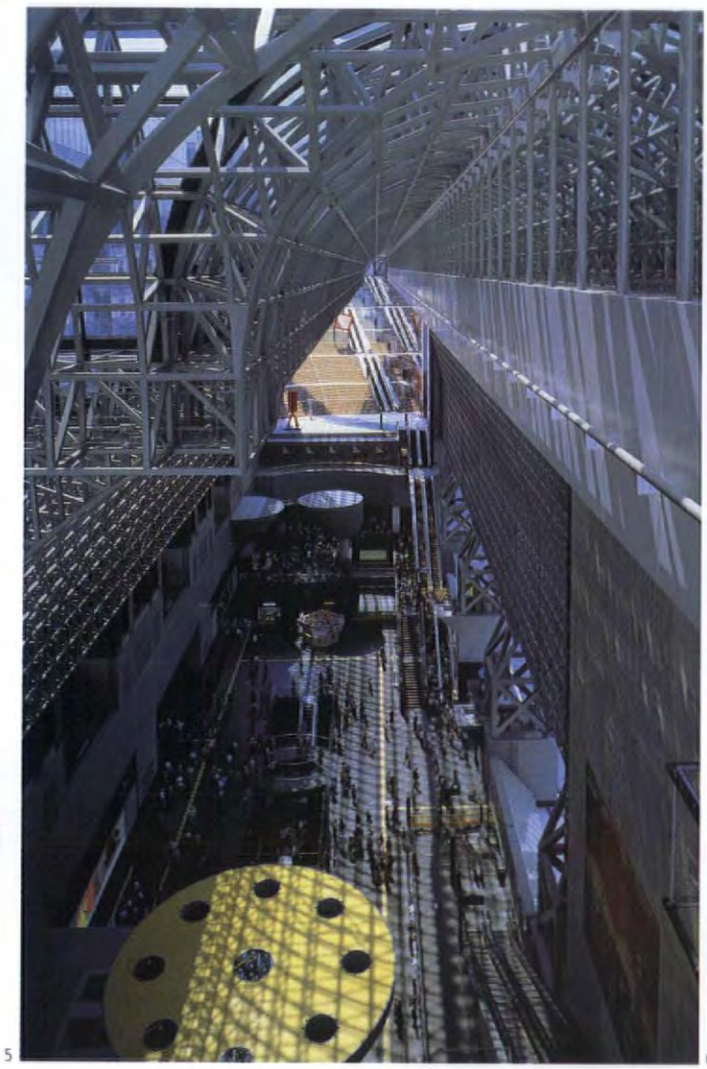
4

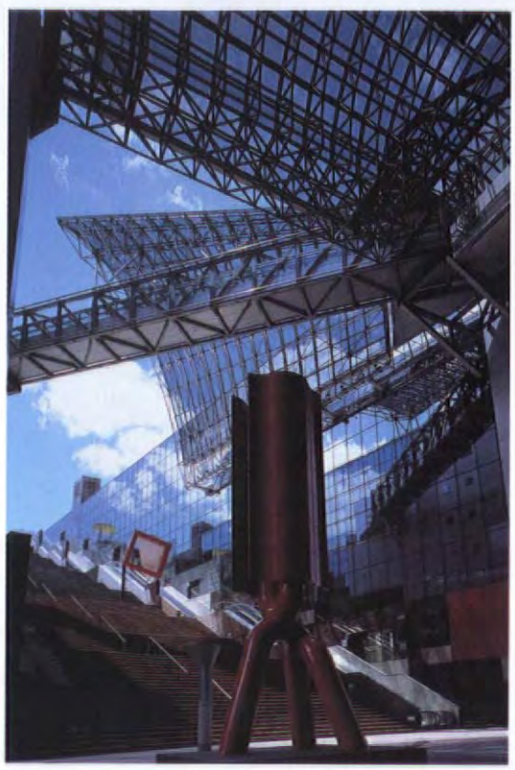
1: East elevation (top) and west elevation (bottom)

2: Axonometric

3: Detail of the link from the south side, showing reflection of the sky

4: South elevation. The pre-cast curtain wall with granite, steel and aluminium panels, mosaic tiles and reflecting glass reveal a free and engaging style which has become Hara's signature





5: Looking down from the east side over the hotel into the geographical concourse. The yellow disk is the roof of the hotel coffee shop

6: Looking up the grand stair over the department store. Geographical concourse is populated by colourful sculptural objects

7: An "art advertising" programme for the complex was conceived and executed by Fram Kitagawa. Shown here; advertisement for hi-tech ceramic manufacturer Kyocera, using "In the Car" by the late Roy Lichtenstein

exciting new kind of interior space, but the space increases the volume of the building and ultimately its impact on the city. The 60 metre-high, 600-metre-long building dominates the neighbourhood but offers no memorable feature to the larger urban landscape. Indeed, the only way the building engages the special setting of Kyoto is by presenting large areas of mirrored glass to "reflect the northern sky," at the same time creating a cubist rendering of the garish Kyoto Tower across the street.

In the geographical concourse, Hara has created an exciting new urban space that may well become an attraction in itself, but travellers to Kyoto may resent the relentless commercialisation of arrival. The initial view arriving by train from the west, looks like what it actually is – the rear elevation of a department store and parking garage. The welcoming view of the mountains to the north is now blocked by a wall, however colourful and interesting, that must be negotiated in order to reach the city.

Unlike the grand spaces of older train stations around the world, the geographical concourse is outside the train station proper and oriented perpendicular to the movement of passengers. It is an inward looking space where the primary views out are of the sky. The wide cascading stair, the concourse's most inviting piece, is most easily accessed from inside the department store, offers no grand view of the city at the top, and contributes little to the experience of the traveller entering or leaving the city.

Despite these apparent shortcomings the architecture of the new Kyoto Station is ambitious and dynamic. But as a public building it raises the question of why so few new public buildings in Japan truly engage their surroundings in a lasting way. To criticise Kyoto Station as a civic building is to miss the point. The new "Station" is a purely commercial venture. It is not, and despite initial publicity was probably never intended to be, a civic building in this sense. WA

Client
JR West, Kyoto Station Building Development Company
Architects
Hiroshi Hara and Atelier Phi Architectural Design Office
Structural engineer
Toshihiko Kimura Structural Design Office
M&E engineer
Akino Setsubi Kenkyujo, Kenchiku Setsubi Sekkei Kenkyujo
Lighting Design
Lighting Planners Associates (Geographical Concourse)
Hotel Guest Room Interiors
Yamashita Sekkei
Department store and speciality shop tenant interiors
Koken Sekkei
Construction administration
JR West
Construction
Kyoto Station Building Construction Joint Venture: Obayashi Construction Company, Tekken Construction Company, Daiken Kogyo, Fluor Daniel Japan, Kosei Construction Company

Architects
Tadasu Ohe/PLANTEC
Reviewed by
Nicola Turner

Space age

SANTEN Pharmaceutical Co Ltd R&D Centre, and Cedar House dormitory, Nara, near Kyoto

Shinkenchiku-Sha

1

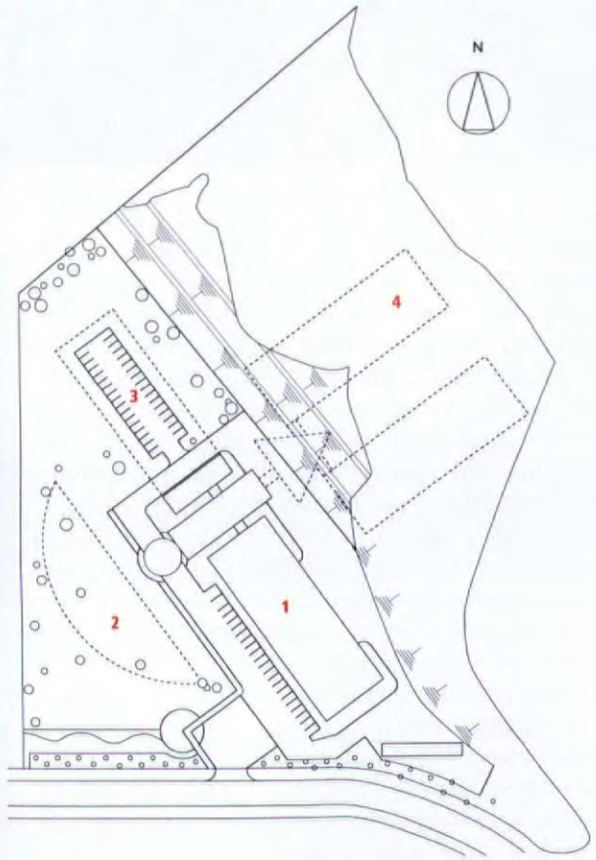
The multifarious activities of Tadasu Ohe, founder of PLANTEC architects in Tokyo, reflect the broad spectrum of architectural commissions received by this young practice in the last decade. Award-winning buildings include the Fun House (an office building in central Tokyo); other work includes the Toshima United Government Department and the Institute of Environmental Science at the University of Shiga. The Hosomi Museum in Kyoto is in the process of completion, and a record-breaking 55-metre high rise is currently being designed. Although there are now skyscrapers beyond 55 metres, Ohe is the youngest architect to build what he describes as "a true high rise". Also in his portfolio is a range of product designs, from chairs and door handles to ultra-slim cameras. While a large proportion of his contemporaries floundered through the recession of the early 1990s, Ohe invested in computerising operations throughout PLANTEC, stressing the importance of service to the client and providing a personal attention to detail which ensured that he not only retained his client base, but attracted new names at an impressive rate.

1: Entrance elevation to the R&D Centre showing the glass wheel which continues round to the rear elevation

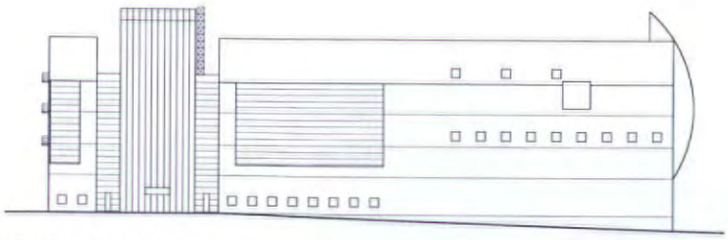
2: An enormous sculpture by Yoshio Kitayama, made of bamboo and Japanese paper, hangs in the full height entrance hall

2

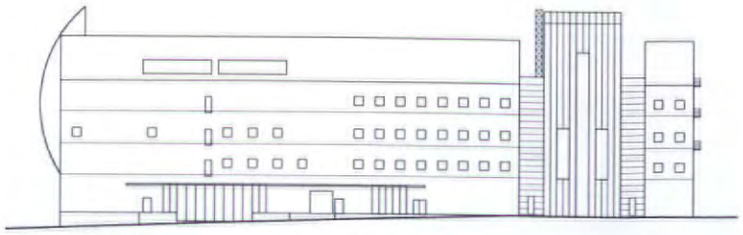
Shinkenchiku-Sha



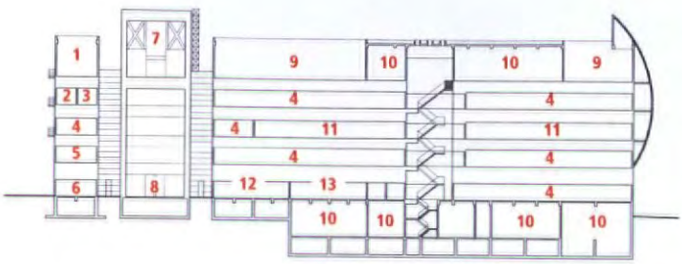
1. R&D centre
2. Training centre (completion 1999)
3. Laboratory (completion 2002-3)
4. Computer centre (completion 2005)



West elevation (entrance)



East elevation

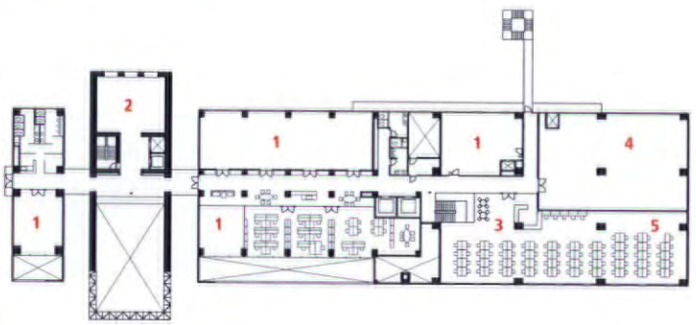


Key to long section

1. Rooftop
2. Resources room
3. Specimen room
4. Laboratory
5. Reception room
6. Multi-purpose room
7. Information
8. Entrance
9. Roof plant room
10. Plant rooms
11. Study
12. Office
13. Dining/meeting room

Key to second floor plan

1. Laboratory
2. Staff/rest room
3. Meeting corner
4. Plant room
5. Study



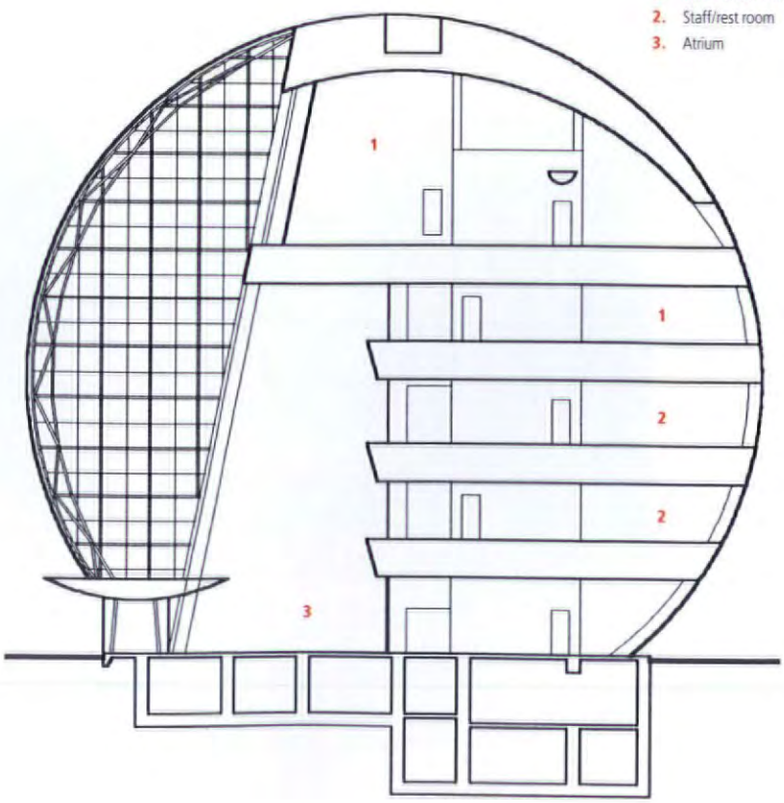
3: The use of "wasted" space, such as corridors, facilitates "information flow"

Shinkenchiku-Sha

3

Key to short section

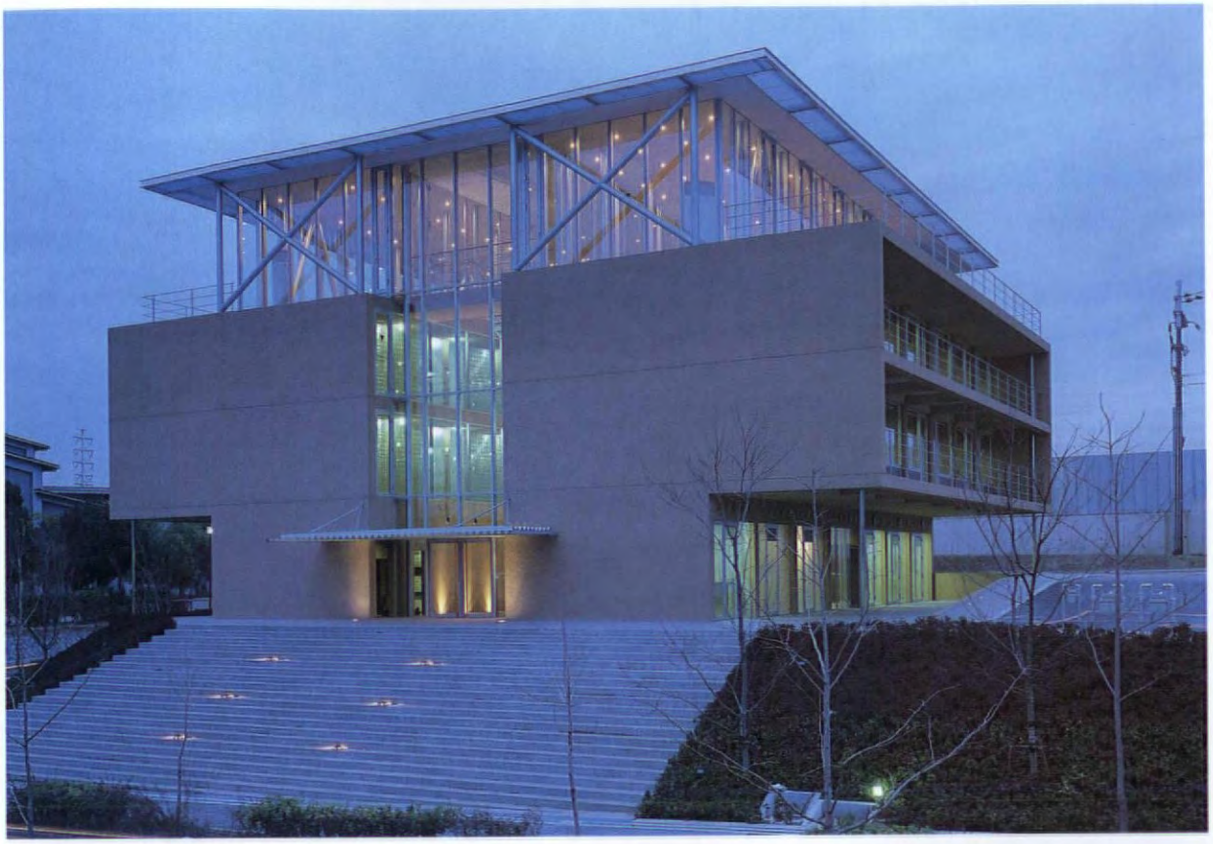
1. Information room
2. Staff/rest room
3. Atrium



One such client is the leading Japanese pharmaceutical company, SANTEN, which commissioned PLANTEC to design an entire campus outside Kyoto for its operations, consisting of a research and development centre (R&D Centre) and dormitory for its workers (Cedar House) – now fully occupied – plus a computer centre, laboratory and training centre set for completion over the next eight years. The clarity of his composition and his refreshing interpretation of Japanese traditions (such as a shifted emphasis on the private/public domains), overlayed with an eclectic assimilation of "Western" style and conventions, is evident both at the R&D centre, and almost more so in the jewel-like dormitory, three kilometres down the road.

Continuing on his theme of computerisation and human interaction, Ohe describes his SANTEN R&D centre as an example of the realisation of "information flow", his "flow of tacit understanding" – by which he means that throughout the centre, and in the dormitory building, occupants are able to ›

Koji Kobayashi/Spiral



1

1: The glass box of Cedar House houses the public spaces. The private rooms occupy the concrete "arms"

2: The double skin of the private rooms allows visibility through the glass blocks, and privacy beyond the inner hallways

3: Uninterrupted views are afforded from the lounge to the canteen

4: The canteen. All furniture designed by PLANTEC

Koji Kobayashi/Spiral

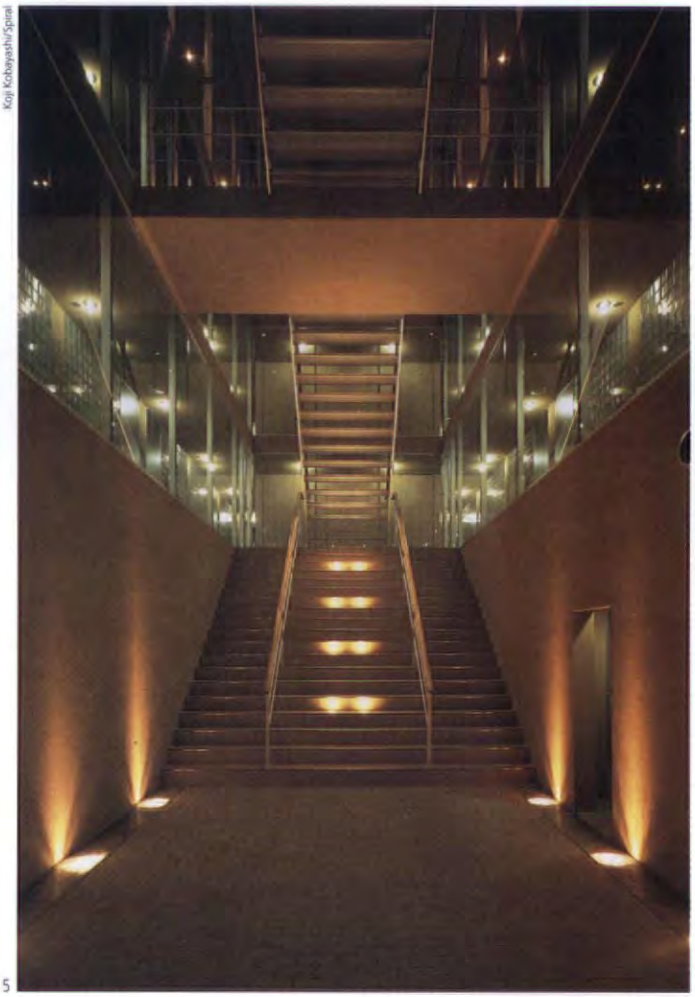
2

Koji Kobayashi/Spiral

3

Koji Kobayashi/Spiral

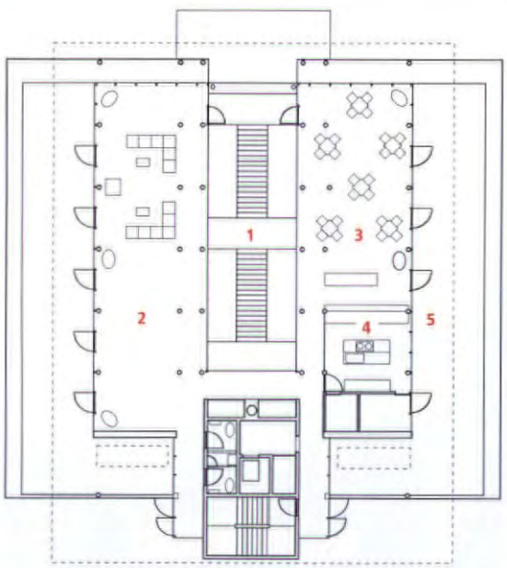
4



Koji Kobayashi/Spiral

5

5: Illuminated night view of the central staircase at Cedar House



Key to fourth floor plan of Cedar House

1. Atrium
2. Lounge
3. Canteen
4. Kitchen
5. Terrace

interact and communicate via the structure of the spatial programme and transparency of the internal and external skins. The internal space is programmed around a system of "open" corridors, creating meeting spaces in hallways, away from the desks of other employers, but still in full view through the plate glass partitions – thus maximising the use of floorspace and promoting the "information flow".

A full-height wheel, constructed of steel and glass for the entrance facade – and following through to the back of the building in concrete, forming a curved wall to the library and back offices – refers to the shape of the eye-drop bottle manufactured by SANTEN, and also represents the head of the body which the completed masterplan depicts (see site plan). The glass also lends a transparency to the form which is otherwise lacking, due to the requirements of the "blind" laboratories inside. The extravagance of this grand gesture appears out of scale when the building is viewed in isolation, but will be reconciled upon the realisation of the masterplan.

In both the R&D Centre and Cedar House Ohe has preserved the full height of the building's volume at the core of the building, whilst still maximising usable space. Interior details including furniture, door handles and staircases are shared in both projects, and the rough concrete cladding on both buildings echoes the rich burnt orange colour of local Kyoto architecture. The use of natural materials, including timber, helps impart a feeling of well-being to the workers, although the components may not be structural in the way the glass and steel is; this Ohe describes as his "protocol to psychology ... using natural materials as a media or interface".

Cedar House, positioned up a flight of steps above road level, instills qualities of light, simplicity and cleanliness, without sterility. Two concrete "arms" enfold a glass cube, leaving the central full-height core and top level reception rooms transparent. A flat steel-framed roof cantilevers over the catwalk on both sides. The private rooms, symmetrically arranged around the central staircase are enclosed within a double skin: the outer door constructed from glass blocks to promote visibility from within and without, and the inner steel door providing privacy when required. A further glass screen separates the corridor from the stairwell. The canteen area and living room at the top of the building also face the central core with glass walls, revealing the minimal furniture and timber and silver-sprayed airconditioning units also designed by PLANTEC. WA

SANTEN R&D CENTRE
Client
Santen Pharmaceutical Co Ltd
Architectural design
Tadasu Ohe, PLANTEC
Ishikawajima-Harima Heavy Industries Co Ltd
Structural engineers
Ishikawajima-Harima Heavy Industries Co Ltd/Alpha Structural Design
M&E engineer
Ishikawajima-Harima Heavy Industries Co Ltd
Contractor
Ishikawajima-Harima Heavy Industries Co Ltd/Toda Corporation

CEDAR HOUSE DORMITORY
Client and architectural design
as at R&D centre
Structural engineers
Alpha Structural Design
M&E engineer
Setubi-Giken Architectural Engineers Associates
Contractor
Toda Corporation

Architects
MIKAN with furniture by Klein Dytham Architects
Reviewed by
Nicola Turner

Broadcast news

NHK Broadcasting Station, Nagano

1

French man Manuel Tardits is one of several young foreign architects breaking new ground in Japan. He has been working in the country with his Japanese wife since 1989. In 1994 they formed MIKAN in order to compete in a national open competition for the new NHK broadcasting station in Nagano for the Winter Olympics in 1998. Their scheme was selected from over 60 entries, including proposals from Foster and Partners and Kohn Pedersen Fox. While Tardits is aware that their status as a young, relatively unknown firm (with the commensurate design fee and flexibility) played a significant part in securing the win, it still marked a significant victory for MIKAN, and has proved to be the stepping stone for several significant commissions since. The competition was also a first for the client, NHK, who were keen to update their image in time for the Olympics.

The resulting scheme is characteristically understated, but appropriately imposing – and will be more so once the satellite dishes and antennae are in place. The long shed, of steel reinforced concrete, and the adjoining tower, are raised on pilotis and wrapped by a steel frame with aluminium louvres on the entrance facade, onto which the distinctive NHK logo is sprayed. MIKAN has been directly responsible for all interior design and detailing, working with Astrid Klein and Mark Dytham of Klein Dytham architects who have provided the bespoke furniture. Klein refers to the squashed oval forms of the NHK logo which form the profile of benches and units, as "macaroni furniture". The shiny vinyl exteriors in pastel shades, with sensuous velvet material of a brighter shade to line the inside, act as a foil to the otherwise muted colours and forms of the building. A double skin is formed by the bright blue "information wall" running the length of the entrance hall, and the curved glass curtain wall, through which computer screens and monitors are visible. The asymmetric stone paving flows from the exterior square through to the reception area.

The uniformity and scale of the entrance elevation is in proportion to the huge surrounding buildings, while the rear elevation is composed of disparate elements, in sympathy with the smaller neighbouring structures. WA

1: Front elevation with aluminium louvres and NHK logo

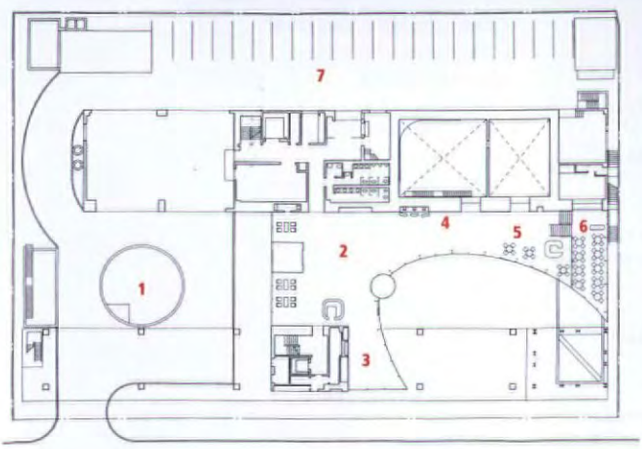
2: Rear elevation is composed of disparate elements in scale with surrounding buildings

3: Ground floor plan
1. Sunken garden
2. Entrance hall
3. Courtyard
4. Information wall
5. Cafe
6. Restaurant
7. Parking

4: "Macaroni" bench

5: Entrance hall showing blue information wall

2



3

4

5

Client
NHK
Structural engineer
Keishosha, Umezawa
Mechanical engineer
Daiichi Sekkei
Lighting
Light Field Architect
Landscape
Shinji Suzuki, Keiji Mochida
General contractors
Joint venture between Taisei Corporation, Moriya Shakai, Iijima Kensetsu

Architects
COELACANTH Architects
Reviewed by
Nicola Turner

Breaking the mould

Utase Elementary School, Makuhari, Chiba


Bin Asakawa
1

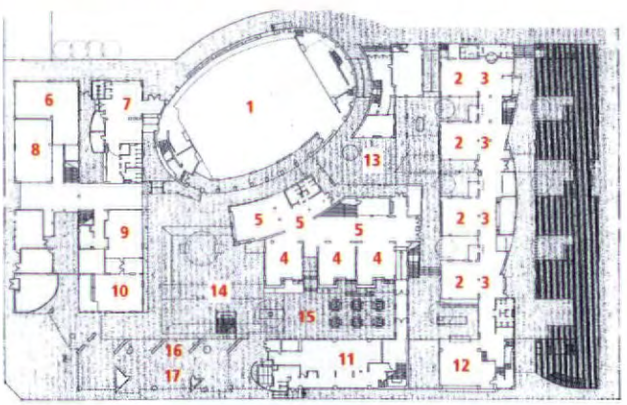

2


Bin Asakawa
3

Key to ground floor plan (below)

1. Arena
2. Lower grade classroom
3. Lower grade workspace
4. Middle grade classroom
5. Middle grade workspace
6. Home economics room
7. Plaza
8. Computer room
9. Audio visual room
10. Music room
11. Kitchen
12. Workshop
13. Summer court
14. Winter court
15. Lunch court
16. Gallery
17. Pilotis

Grey tint = exterior
Dark = future extension



There are few more encouraging sights for an architect than visiting a school on a hot summer Sunday afternoon and finding at least a dozen pupils, some with their parents, enjoying not only the school grounds, but the building itself – despite the fact that it is locked up. At the Utase elementary school in Makuhari – a new town outside Tokyo masterplanned by COELACANTH, also the architects of the school – the boundaries between exterior and interior have been depleted; the exterior spaces offering as much to the inquisitive child as the interior.

The school is a direct response to the Japanese Ministry of Education's transformation of its education programme, with a greater emphasis on individuality and freedom. Open plan schools have become increasingly popular in Japan, but the variants on the former linear block plan merely offer widened corridors and omit walls, incurring associated problems with sunlight, noise and ventilation. COELACANTH's solution for Utase represents a radical departure from established prototypes, relating the school to the surrounding residential masterplan. By bordering the playground with a green belt they have realised the rare achievement of "a school without a fence", avoiding a formal school boundary, and integrating the school with the rest of the masterplan. Paths have been integrated to allow thoroughfare from outside the school grounds, creating a circulation system devised with loops, but no dead ends, enabling free movement and maximum choice. The school's activities are visible to the surrounding residents through the pilotis.

The basic design requirement of the government programme is for classrooms for 40 pupils and one teacher. COELACANTH derived a unit from this which it called a "class set", each one consisting of five elements: a classroom, courtyard, activity space, paths and alcove. The interior and exterior spaces are interchangeable, and furniture and equipment is placed both inside and outside the main structure, encouraging the children to move freely between spaces. The green belt, or field, is based on a class set as the unit. Special classrooms, the ovoid gymnasium, administration centre and cafe are grouped randomly to define courtyards throughout the site. WA

Client
Utase Elementary School
Associate architects
Jun Ueno (advisor); GA Yamazaki (landscape)
Structural engineers
T I S & Partners
Mechanical engineers
Sou Setsubi
General contractors
JV of Zenitaka and Shoei Corporation

1: View of internal courtyard. The circulation system is comprised of loops encouraging full integration of exterior and interior

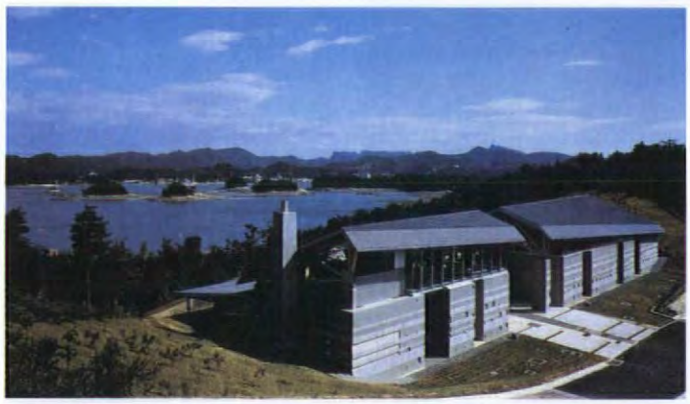
2: Smooth concrete exterior of the ovoid atrium, facing the boundary-free playground

3: "Open" ground floor workspace area

Concept

Invisible links

Willhelm Klauser relates the remarkable history of a uniquely Japanese approach towards urbanism. The Kumamoto Artpolis (KAP), on the island of Kyushu, is the ongoing project pioneered eight years ago by one of Japan's internationally-respected architects, Arata Isozaki, and the former Japanese Prime Minister Hosokawa, then governor of Kumamoto. The careful monitoring of each individual commission, and the subsequent control of the urban face of the prefecture, is the antithesis of Japan's urban growth elsewhere, which frequently leaves the impression that there is some irresistible force of nature at work, regenerating and spreading like organic cellular division.



1

Kumamoto Artpolis, (KAP), is surprisingly unusual in the Japanese built environment where short-term revenue is all too often the only design parameter. The confusing, apparently random, acceleration found in Japanese cities is the result of a general lack of overall planning. In this context KAP is unique in its longevity and its stubborn insistence on high quality, which is its only identifiable "rule". It is this rigorous control on content and direction which will guarantee its continued success.

The concept, established in 1984 and still ongoing, is the brain-child of Arata Isozaki and former Japanese Prime Minister Hosokawa, then governor of Kumamoto. The name "Artpolis" was chosen in contrast to the "Technopolis" projects

1: Amakusa Visitor's Centre by Nobukai Furuya and Nakagawa Architects, 1994

2: Shinchi Housing Block B by Kunihiko Hasakawa, 1992

3: Hatakubo Housing by Riken Yamamoto, 1991

4: Shinchi Housing Block A by Richiro Ogata, 1992

2

3

then sprouting up, and to stress the qualities of "art" and social responsibility. Its aim is to create high quality architecture in an economically troubled rural area. The prefecture of Kumamoto is on the island of Kyushu an hour and a half by plane from Tokyo, and it is blessed with an abundance of beautiful scenery. Here the ongoing project has stimulated the production of some extraordinary works by some of the most talented young architects in Japan and Europe. It certainly succeeded in putting the remote province of Kumamoto, an area with almost no industry and perhaps most famous for the world's worst ever case of mercury poisoning (Minamata, 1958), on the architectural map of Japan in a very positive way. Koji Taki, a leading architectural critic in Japan, baptised the project a "unique Japanese kind of urbanism", an approach to planning which was completely new and tailored exclusively to the needs of the people of this area.

The migration, since 1950, from rural Japan to the urban centres has slowed but is still obvious. Through the Artpolis project Kumamoto prefecture, one of the forgotten parts of Japan, has managed to recreate a specific identity by means of modern architecture to add a new quality to its natural beauty. But, even more importantly the impact of the scheme goes way beyond the individual buildings, to the invisible framework provided by the overall concept. This kind of urbanism, as expounded by Koji Taki, if it is an urbanism at all, does not aim at the sensual pleasures of a city in the European tradition, instead it intensifies the social and energetic exchanges within a community in a less visible way. The success of KAP can be explained by its quality of de-materialisation. The overall system of KAP acts like a huge "social sculpture", but how long this rather lose framework can succeed remains to be seen. Hopefully the project will continue to instill an identity within the prefecture which will be strong enough to survive in the future, and which will continue to create an environment which is unmistakably "Kumamoto".

Most of these buildings were erected by architects from Tokyo, and some from Europe, all of whom have successfully captured the essence of the place and the intent set out by the KAP task-force. Straightforward and modern, sometimes hi-tech and ecologically concerned, the architecture has become ›

4

"The method of selection for the Artpolis is the appellation contrôlée of regional architecture."

1

part of the landscape and the people, and is widely recognised as a huge success.

There has been almost no limit on the variety of building types erected: bridges and sewage plants are part of the Artpolis as well as production facilities and even public toilets. The remarkable Hatokubo Housing of Riken Yamamoto or the Saishunak Seiyaku Women's Dormitory by Kazuyo Sejima are still unmatched in their radical approach. At the other end of the scale small museums and workshops have been created with the aim of revitalising remote rural communities and their traditions, such as the much published Bunraku Theatre by Katsuhiro Ishii or the well known City Museum in Yatsuhiro by Toyo Ito. All these projects, large or small are unified by the invisible lines of a prefectural border and the high quality of the architecture

resulting from the rigorous selection of the architects. They have all been commissioned on the suggestion of Hajime Yatsuka and Akira Suzuki, directors of the Artpolis and architects themselves, thoroughly committed to the pursuit of quality design in Japan. All clients, whether public corporation or private individual, have had to consult the board of directors before commissioning a work. It is the *appellation contrôlée* of regional architecture. Artpolis has thus become a "quality brand".

The fundamental concept was to bring in new blood, to sideline all old connections and relations which hindered change. Governor Hosokawa aimed at the fresh and unspoiled approach towards the problems of the prefecture. Isozaki made reference to *kuro fune*, the "black ships", which sailed to Japan in 1856 from the USA, forcing open a society that had existed in self- imposed isolation for over 300 years, heralding the birth of a modern nation. Young architects from Tokyo and Europe were invited to Kumamoto with a similar intention, to force open a crack in an isolated community, wide enough to let in a draught of fresh ideas. The project took off. Today the prefectures of Nagasaki and Ookayama are following the example of Kumamoto to try to shape their own urban planning and rejuvenation projects, indicating the true measure of success for KAP.

3

2

In spite of the current recession the project continues, at a slower pace but still with quality design. The bridge in Ushibuka, designed by Renzo Piano, Peter Rice and Noriaki Okabe was opened in July this year, and next to it the new markets of Ushibuka designed by Hiroshi Naitoh. These are buildings of a structural beauty and elegance less frequently found in Japanese architecture today.

The masterplan has now been set, and as long as the adherence to quality is maintained the future of Artpolis is assured. The small architectural entities which are now dotted all over the province have mostly turned out to be commercial successes. Thus KAP has become an integral part of the prefecture. WA

1: Manihara Bridge, by Jun Aoki, 1995

2: Ushibuka Haiyu Bridge by Renzo Piano, Peter Rice, Noriaki Okabe and Maeda Sekkei, completed in July this year

3: Ushibuka bridge encircling the Ushibuka Kaisai-Kan Centre by Hiroshi Naito, also completed this year

The Stubbins Associates: in touch with the times

World Architecture profiles the work of The Stubbins Associates, from the icon of Manhattan's Citicorp Center to a contemporary range of international buildings and interiors including embassies, hotels, educational facilities and Japan's tallest tower. One of relatively few US firms to have made a successful transition to new leadership after the retirement of a famous principal, TSA carries forward the design ethos of founder Hugh Stubbins in a practice that elected to change in order to remain the same.

The Landmark Tower,
Yokohama, Japan

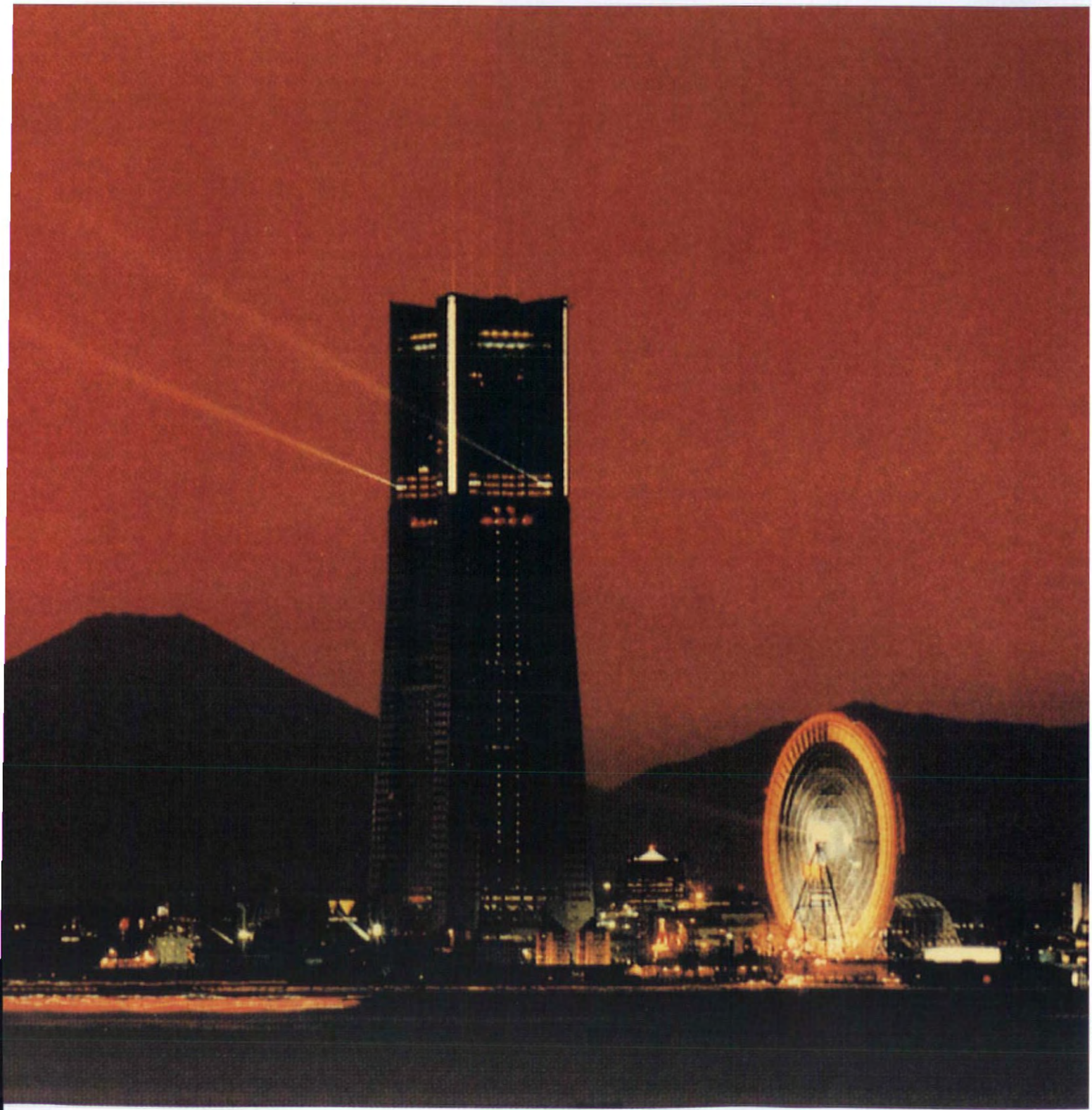


Photo courtesy of Nikko Hotels

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1: Citicorp Center, New York, 1977

2: Kuwait University, College of Administrative Studies

3: The Copley Place Marriott Hotel and Huntington Avenue footbridge, Boston, 1984

New York's Citicorp Center and Yokohama's Landmark Tower are separated by almost a quarter of a century that has seen radical changes in the ways that buildings are perceived, commissioned, designed and executed. Both are by The Stubbins Associates (formerly Hugh Stubbins and Associates) the Cambridge, Massachusetts-based firm now approaching its fiftieth anniversary, and both can be seen to belong to a continuum of tall buildings in which that practice has frequently sought to combine the grand gesture of celebratory landmark with integral public spaces that are invitational and accessible.

In a sense those two buildings also fulfil a useful psychological role for TSA. They stand as high-profile icons that, in effect, place matching parentheses around a body of work where a consistent approach to design issues and client needs typically takes precedence over signature-style building forms.

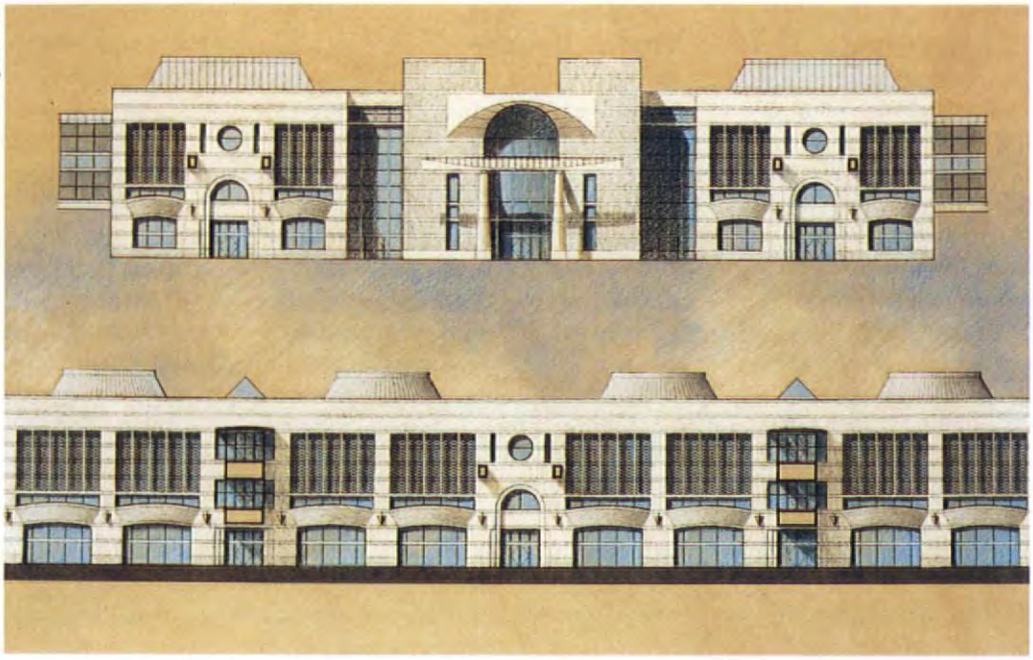
TSA's origins in the 1940s reflected both the personality of founder Hugh Stubbins and a commercial climate in which major commissions might come about as a result of casual conversations between influential friends. Stubbins had the vision and the integrity to turn such commissions into successful buildings that, as often as not, seemed to satisfy both the client and his own strong opinions about the need for architecture to be socially responsive in intent and regional in character. Under no illusions about architecture's overriding obligation to be a public art, Hugh Stubbins wrote, "buildings are constructed because of the demands of society – whether they be purely utilitarian or symbolic" ("Architecture In The Spirit Of The Times" by Hugh A. Stubbins, *Process Architecture* No 10). He was also keenly aware of the value of responsiveness on the part of the architect, both to the client and to the *zeitgeist*, although he also warned against embracing fashionable trends without first examining them rigorously.

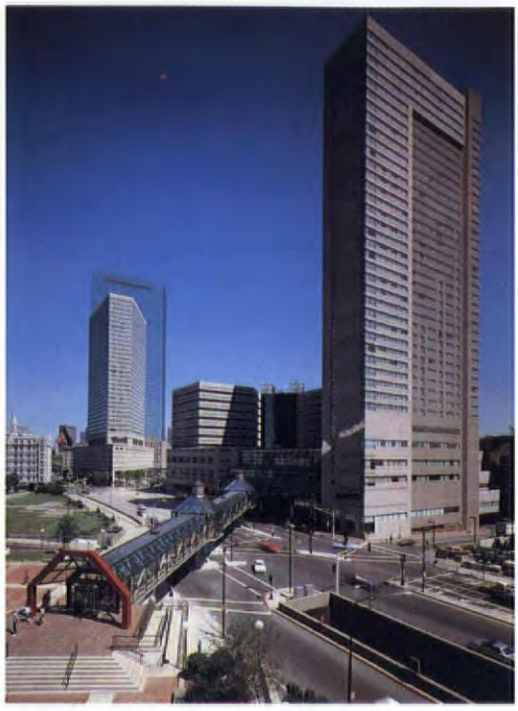
With perhaps more prescience than some other strong-willed entrepreneur/founders, Stubbins gave notice of his wish to retire in sufficient time for a careful transition to be engineered during the first half of the 1980s. Broadly, this process was intended to retain the emphasis on design excellence whilst encouraging a more collaborative practice structure. When Stubbins retired from the firm in 1992, he left his succeeding team exceptionally well placed to parlay past achievement into future success in a world that was fast changing, not least because of the demands of advancing technology and a new culture of commissioning.

The transition happened at a favourable time in economic terms, and the new strategy was to operate as a team led by Richard Green FAIA. As Vice President of Design,Green was the natural choice to succeed Hugh Stubbins as President and his commitment to design was intended to ensure that together the design process and creative teamwork would define the firm's marque. Today Richard Green is Chairman and one of six principals, each of whom brings a very individual approach to what is a now a substantial and catholic body of work.

Meanwhile, TSA demonstrates a continued commitment to its tradition of design excellence. Green is passionate about the practice and mindful of the continuing challenge of combining a range of creative ideas with the need to project a consistent image to clients who may bring a variety of expectations to the commissioning process.

"The clientele we're trying to reach is fairly pragmatic" Green





Steve Rosenthal

"There has been a shift of decision-making from the top to middle management [of client companies] where at first it can be difficult to make the connection about the more poetic side of architecture."

acknowledges. "There has been a shift of decision-making from the top to middle management where at first it can sometimes be difficult to make the connection about the more poetic side of architecture. However, we remain committed to an emphasis on design of the highest quality".

The conundrum of bringing extra value to projects whose full potential the client may not always recognise at the outset, is one that resurfaces constantly in TSA's work.

However, Richard Green acknowledges that the testing of assumptions is a two-way process, and cites an early project in Iran where he was commissioned to design a school. "The entire culture and climate were so different that they forced you to look at everything freshly", he says. "The urban scale, the project scale and detail scale – all were different. In Iran schools tended to need high volume spaces, a cultural ingrain dating from pre-air conditioning days. You have to take things like that into consideration and in doing so you begin to look at things differently. Working internationally makes us consider buildings in Boston with a fresh eye too".

By the same token it is a fact of life that some international clients like to reflect their growth and affluence by echoing the architecture of Southern California or New York. Green maintains that in such instances it is still perfectly possible to ground the solution in the local culture: "You can't preach to people about their culture, but when it feels comfortable, you can introduce appropriate references" he maintains.

He quotes the instance of another TSA building, this time in China, where this approach was unexpectedly rewarded when the client, upon seeing one of three TSA solutions, did a quick sketch of a traditional Chinese column which was quite clearly echoed in the building's treatment. "Maybe it was at the back of my mind – I don't know" Green says disarmingly, "but it seemed to reflect the concern and thought we put into making an appropriate design response to the local culture."

Today TSA is working both internationally and domestically, with a workload whose variety reflects a broad spread of talent. Its predominantly young team of over 60 designers is led by six principals with a considerable combined fund of experience. In addition to Richard Green they are C. Ronald Ostberg, W. Easley Hamner, Michael Kraus, Philip Seibert and Scott Simpson. The work itself falls into five distinct categories, most easily summarised as international high-rise and mixed-use; hospitality; civic; education; and the workplace environment.

The variety of TSA's work is immediately apparent. A new hotel and conference centre for the World Trade Centre spearhead the regeneration of Boston's emergent Seaport District. A new 23,000-square-metre College of Administrative Studies for Kuwait University is currently underway, the latest in a long line of educational facilities. Conceptual design for an International Medical Center in Beirut has enabled the firm to underpin the design process with far-reaching recommendations that in this instance grew from earlier consultancy work undertaken for a leading local hospital, Massachusetts General. Meanwhile their Suffolk County Jail in Boston, it is jokingly said, runs the risk of encouraging lawbreaking since it brings such an invitingly non-institutional look to its riverfront site.

As an indication of how TSA has spanned changing times in American architecture, it is worth noting that its current interiors division, headed by Principal Philip Seibert, was kick-started by the success of a monumental local building, the Federal ›

› Reserve Bank of Boston, back in 1978. This local expression of a major federal institution demanded a complex blend of architectural and interior design skills, although that distinction was perhaps at the time blurred by the firm's perception of the whole project as a unified design task. Visiting that building today one sees that it is remarkably unchanged and still operating as an efficient blend of office block, discreet maximum security building, partial public space, cheque clearing house, industrial coin and banknote processing plant and, not least, civic icon. Seibert will show visitors around in the manner of someone revisiting a familiar town (which in its complexity and self-sufficiency the Federal Reserve Building rather resembles), monitoring its changes, remarking upon the durability of its components and noting every minor change in its fabric. Seibert's pioneering work on the building laid the foundation for a division that now provides interiors for major clients such as Harcourt General and Lotus Development Corporation.

The Beirut project, with its strong element of consultancy, is championed by TSA's newest Principal, Scott Simpson, who is a strong advocate of using the firm's analytical expertise both as a saleable resource in itself and as a form of marketing for TSA's core services strategy. Approached to create a hospital based on their work for Massachusetts General Hospital, Simpson's team recommended instead a concept: a system that was more medical enterprise than a traditional hospital building. They did not simply start designing a building, as requested, but instead tested some of the brief's fundamental assumptions.

"The Medical Center is the kind of job that I think TSA does well, attitudinally and philosophically" Simpson says. "Whether it's a skyscraper or a university project or whatever – taking on a challenge that is meant to break some rules and meant to change some value systems. This office is very well-equipped to do that".

C. Ronald Ostberg, who brings a very cerebral approach to TSA's perspective, expresses a similar point with different emphasis. Ostberg's personal style is one that favours metaphor and comparison, cultural allusion and personal persuasion, to identify and maximise the hidden possibilities of a given project.

"Anytime you make an investment of time, money and land you have a tremendous latent potential", he says. "The challenge for the architect is to bring as much of that potential to the surface as possible. The people who put together the concept and funding initially don't necessarily know what all the potential is. That's one of our tasks – to make sure that the investment they are making fulfills its potential. How one works with the client to achieve that involves establishing a language you can both use, and this in turn establishes trust. The next task is to put some catalyst before them, some generative metaphors that allow them to engage in the process." Ostberg's goal is not to offload the design process to the client but rather to empower the client to participate in the creative discussion on terms with which he or she feels comfortable.

Principal Michael Kraus offers another example of TSA's underlying capacity to identify opportunities that may not have been evident at the outset. Carnegie Center in Princeton New Jersey was hailed by the *New York Times* as "a truly ambitious attempt...to meet the personal, human needs of office workers". Today it would probably be called a business park, but as Kraus points out, at the beginning of the 1980s the speculative development was something of an unknown quantity.

"It was a site on busy highway, a mini-development corridor for New Jersey. Our assignment was to subdivide the parcel. At first we were puzzled – what exactly is a speculative building? What is the programme? This was because speculative building was not common then. However, Carnegie Center became one of the first projects where we could think in terms of a large environment rather than just a building."

"You can't preach to people about their culture, but when it feels comfortable, you can introduce appropriate references"

Edward Jacoby

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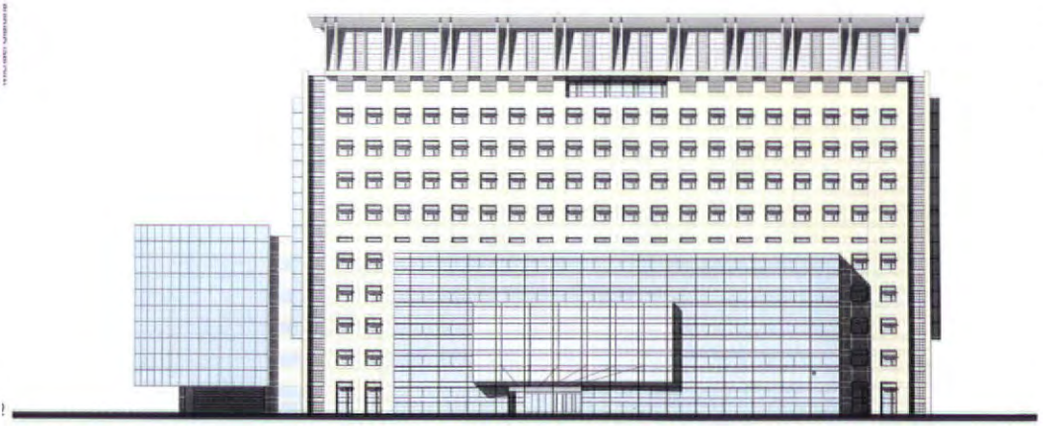

1: Suffolk County Jail, Boston, 1990

2: International Medical Center, Beirut, Lebanon

Quite literally a green field site – it was formerly used to cultivate sod – the Carnegie Center became an award-winning and pioneering exercise in planning for the corporate community in an enlightened way. This time the client had offered *carte blanche*, and TSA seized the opportunity to add value by organising the buildings, the vehicular circulation and the materials palette to make what might have been a routine collection of commercial buildings and a hotel, into an award-winning mixed-use commercial centre that displayed an environmental awareness well ahead of its time.

International high-rise and mixed-use, hospitality, civic, education, the workplace – the TSA portfolio cannot be accused of narrowness of vision. On the surface, though, it may seem to offer a bewilderingly wide variety of architectural solutions; in an age of bold visual statements – not just in the world of architecture, but across the whole spectrum of visual communications in which branding, logos, symbols and instantly recognisable style dominate – this sets TSA apart from many of its contemporaries. The question is, does it isolate them from the spirit of the times? In fact the reverse would seem to be true. As ever, the finished building is the high-visibility product, but TSA's real assets remain largely invisible until the client enters what Ronald Ostberg likes to call "the mutual exploration of emerging meaning". Then what emerges is a multi-faceted spirit of partnership: a team partnership between TSA staff and principals; a professional partnership between architect and client; and – quite often – a co-operative partnership between TSA and another architectural practice. For despite their size – perhaps ten times that of the average US architectural firm – TSA have always welcomed professional collaborations.

As Principal Easley Hamner, FAIA, points out, this is an unpopular idea among practices that see such associations as a threat to their own vision. At a recent AIA convention in New Orleans, Hamner was shocked to discover that he "was alone in the belief that resolution in the interest of the association is the first priority, not advancing the exclusive interest of one's own firm." Asserting that the appropriate role for the architect today is that of team builder rather than Master Builder, Hamner, in doing so, reinforces the image of TSA as a firm whose true signature is the quality of its design and the championing of a creative process that is inclusive in the fullest sense of the word. Collaboration, whether across disciplines, within societies or between nations, is very much the keynote of the transition to a new millennium. WA

The Stubbins Associates company data

Scope
Architecture
Planning
Urban design
Interior design
Landscape design

Established
1949

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WWW.TSA-ARCH.COM

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C. Ronald Ostberg, AIA
Michael J. Kraus, AIA
Philip T. Seibert, IIDA
Scott Simpson, AIA

Vice Presidents
James E. Beyer, AIA
Peter Blewett, AIA
Joseph P. Gates, CPA
William A. McGee, AIA
Roy A. Pedersen, AIA
Youngjo Sul

Representative clients:
Atlantic Mutual Companies
AT&T
Bally's Park Place Casino Hotel
Bank One Indianapolis
Boston Design Center
The Boston Company
Bristol-Myers Squibb Company
Carleton College
Carnegie Center Associates
Cheshire Medical Center
Citibank
Coopers & Lybrand
Cornell University
The Cousteau Society
Cushing Academy
Development Bank of Singapore
Doubletree Hotels Corporation
Duke University
Equitable Real Estate Investment Management
Erie Insurance Group
Federal Bureau of Prisons
Federal Reserve Bank of Boston
Fidelity Capital Corporation
Fisher Brothers
General Services Administration
Harcourt-General Inc
Harrah's Marina Hotel Casino
Harvard University
Houghton Mifflin Company
Indiana Historical Society
JMB/Urban Development Corporation
Lotus Development Corporation
Maersk Inc
Marriott Corporation
Massachusetts General Hospital
Meredith & Grew
The MITRE Corporation
Mitsubishi Estate Company, Ltd
Mt Holyoke College
North Carolina State University
Princeton University
The Prudential Insurance Co of America
Ronald Reagan Presidential Library Foundation
Sands Hotel and Casino
State of Minnesota, Community College System
Trammel Crow Company
The University of Chicago
University of Delaware
University of Massachusetts
University of Minnesota, Morris
US Department of State
Vanderbilt University
Westinghouse Furniture Systems
Willis Corroon Corporation
World Care
Yale University School of Medicine

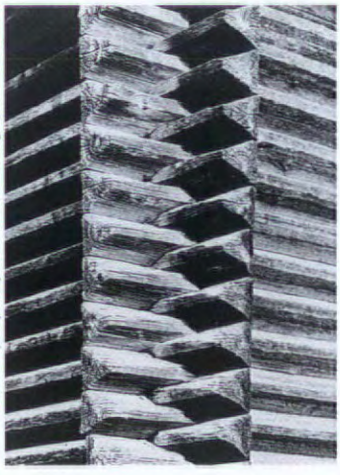
Landmark Tower
Minato Mirai 21, Block 25

The Minato Mirai 21 Development in Yokohama Harbor, Japan, is in every sense a symbolic undertaking. The name connotes a port (*minato*) of the future (*mirai*) for the twenty-first century. Its central feature, the Landmark Tower, is Japan's tallest building. When TSA was embarking upon its design the Chairman of the client company, Mitsubishi Estate Company, expressed his desire to be able to see the structure from his office in downtown Tokyo at night; the sight, he believed, would redeem his memories of witnessing the flames from American wartime bombing raids. Hence the Tower's topmost feature, a hotel with chamfered corners, glows like a giant lantern after dark.

The Tower is 296 metres high with 70 floors above ground and three below. Its low-rise accompanying structure has five floors above ground, four below and the combined total floor space of the two elements is 392,284 metres. The lower two-thirds of the Tower house office space and business support facilities, the top third is occupied by the hotel and a restaurant.

The lantern image is not the only aspect of the Tower's visual treatment that draws upon Japanese culture: the whole complex seeks to echo the subtlety and refinement of Japanese crafts. Delicate paper lanterns, gentle ridge arcs and precision jointing and chamfering of wood and bamboo provided the design inspiration; these are expressed in the taper of the Tower, the triangular folds of the transitional floors and the precision

Photos 1&2 by Takeji Iwamiya from *Forms, Textures, Images* (Tankosha/Weatherhill)



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1&2: The subtlety and refinement of traditional Japanese crafts are reflected in the detailing of the Landmark Tower

3: Model photograph of the Tower

4: The Tower's upper floors, a hotel with chamfered corners, glows like a lantern illuminating the night sky above the city

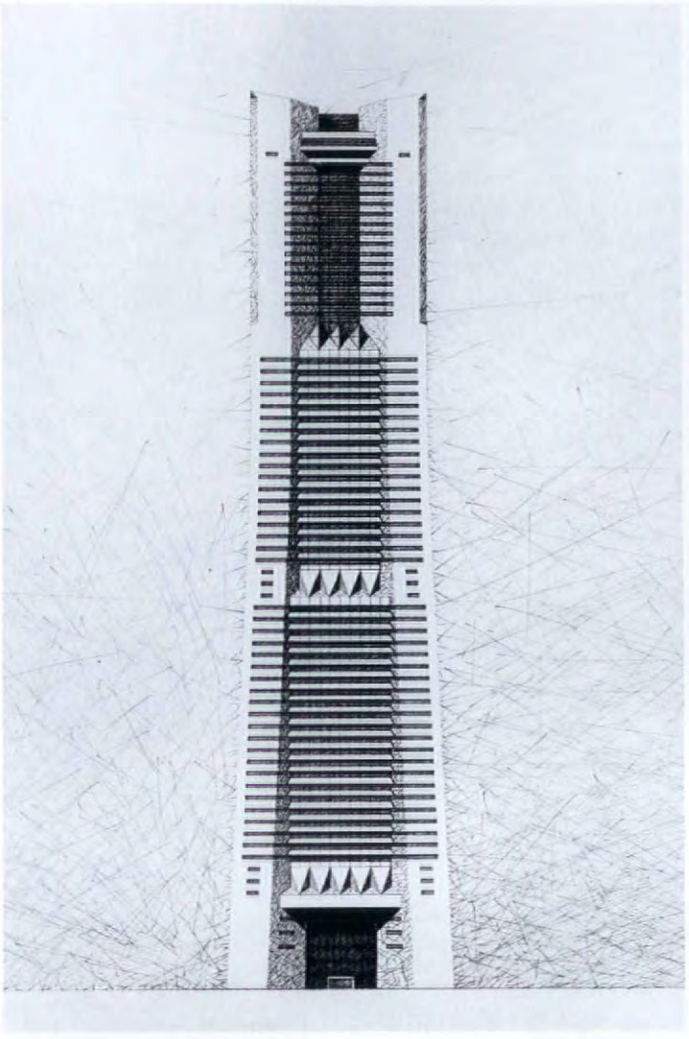
Photo courtesy of Nikko Hotels

of the horizontal windows as well as in the lighting of the four corners of the hotel storeys.

On the ground an outdoor performance area adds to the sense of portentous celebration and features a giant Ferris wheel so large that it tends to reduce the apparent scale of the tower.

Completed in 1993, this immense mixed-use building, undeniably spectacular even in its larger context of Yokohama Harbor and Mount Fuji, was always going to run the risk of being overpowering on a human scale, more colossus than community. It is a testimony to TSA's long cumulative experience of designing mixed-use tall buildings that the Tower has instead become precisely the accessible self-contained city that the Mitsubishi Estate Company wanted. TSA rendered conceptual design services and served as a design consultant. Design development was carried out by Mitsubishi Estate Co, Ltd.

The commission arose indirectly from TSA's work on another tall building: The Pacwest Center in Portland Oregon. Pacwest was in itself an influential TSA building of the 1980s featuring distinctive intermeshing towers and an imaginative response to local regulations which stated that the base of a building must be built out to the edge of the property line. It also introduced TSA to Mitsubishi who had participated in financing the building. The ›



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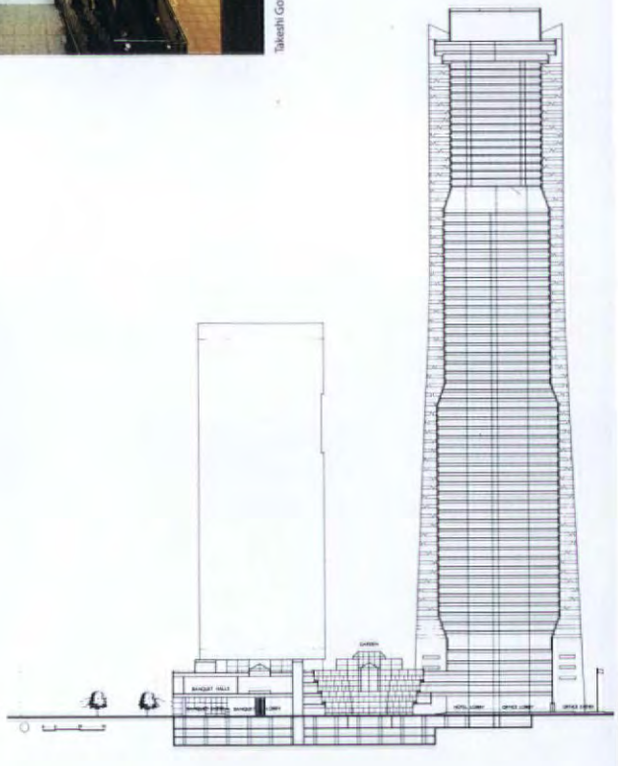
1: Sketch elevation of entrance facade

2: The retail space has proved to be a popular resource for the people of Yokohama

3: Section

4: Drawing comparing 18 high-rise buildings by The Stubbins Associates



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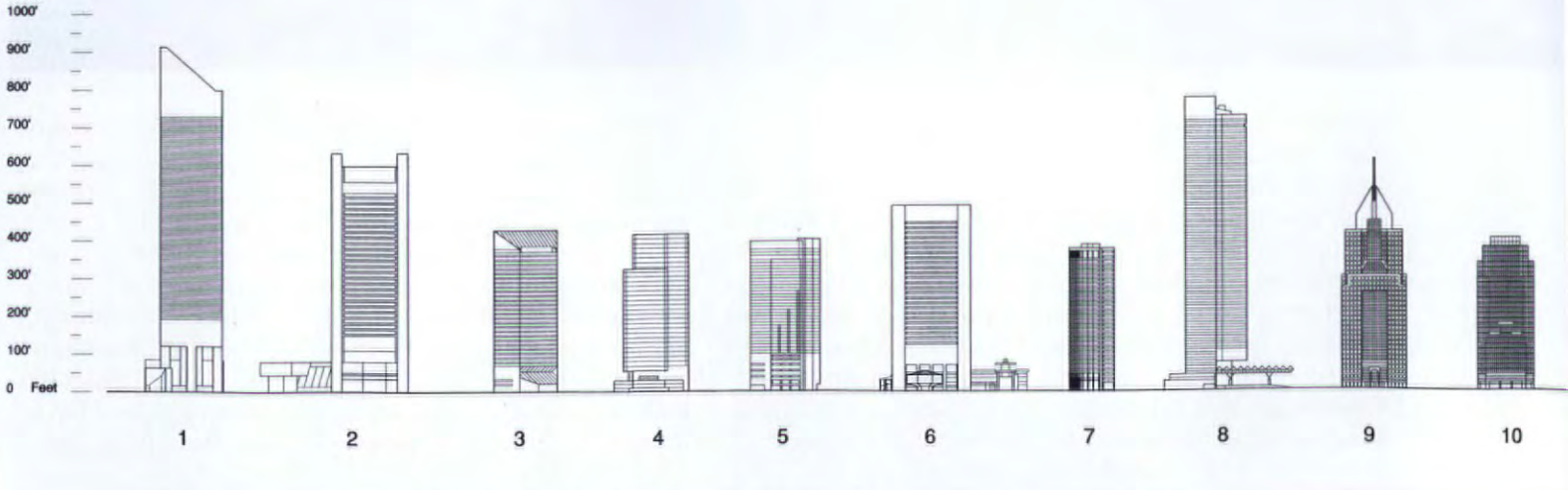
Key to high-rise drawing

1: Citicorp, New York, 1977
2: Federal Reserve Bank, Boston, 1977
3: One Cleveland Center, Cleveland, 1983
4: Pacwest Center, Portland, 1984
5: Copley Place Marriott, Boston, 1984
6: Metro-Dade Center, Miami, 1985
7: 260 Franklin Street, Boston, 1985
8: Treasury Building, Singapore, 1986
9: Fifth Avenue Place, Pittsburgh, 1988
10: 150 Federal Street, Boston, 1988
11: Nashville City Center, Nashville, 1989
12: Tower Center, East Brunswick, 1989
13: Charlotte Center, Charlotte, 1989
14: Bank One Center, Indianapolis, 1990
15: Capitol Tower, Columbus, 1991
16: Hang Lung OfficeRetail, Shanghai, China, 1994
17: Anhui International Trade Center, Hefei, China, 1998
18: Landmark Tower, Yokohama, Japan, 1993

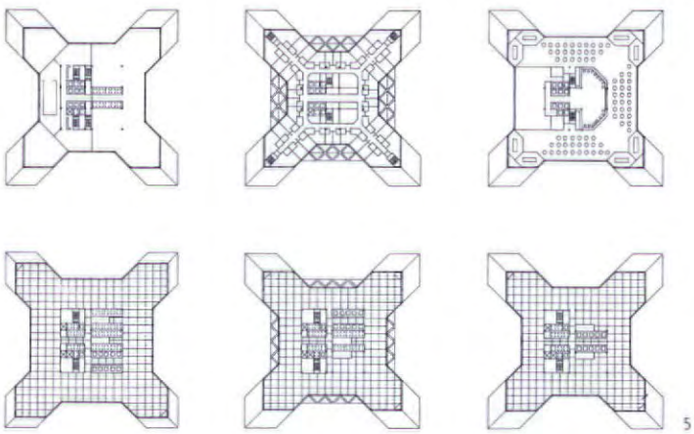


eventual invitation to design the Landmark Tower proved to be another in a series of international architectural relationships for TSA which included working with Architects 61 on the Singapore Treasury Building, an alliance that led to a further collaboration in Singapore, this time on the US Embassy. TSA is also currently working with the Anhui Architectural Design Institute in mainland China on the Anhui International Trade Center.

It is worth stressing that buildings like the Landmark Tower do not appear in isolation – rather they are part of a continuum. TSA's pioneering work in mixed-use buildings began with The Citicorp Center and The Federal Reserve Bank of Boston. The theme was frequently revisited, maturing through a series of variants including One Cleveland Center in Cleveland, Ohio, which takes the form of a prismatic sliver, and Richard Green's design for the Singapore Treasury Building, a cylindrical tower cantilevered from a central core to obviate the need for perimeter columns. Interestingly, the Singapore skyscraper's structure is the exact inverse of Citicorp Center where the gravity load was taken to the outside of the building to resist the wind loading.

How does the Landmark Tower incorporate the lessons learned in these and other tall buildings? In the end it comes down to a question of sensibilities and responsiveness to both client wishes and contextual issues. A recurring theme is that the treatment of lower floors addresses one set of problems – those to do with invitational public spaces and a logical integration of different public activities – whilst the upper floors extend the building into its other role, that of skyline statement. Since the Landmark Tower was originally conceived as the centrepiece of a stylised city, it is not too fanciful to see its lower sections as a local neighbourhood integrated into the greater mass of the vertical metropolis. The same issues of dual scale, micro and macro, are explored and the success of the venture is reflected both in the fact that Mitsubishi Estate have been able to lease all of the retail space and – perhaps even more significantly – that the public have endorsed it by making it a much-used resource even before the entire MM21 development is complete.

5: Top row, left to right: Level 54, hotel pool/mechanical; levels 57-72, hotel rooms; level 74, hotel restaurant. Bottom row left to right, office floors: levels 5-20, low-rise; levels 21-35, mid-rise; levels 36-53, high-rise



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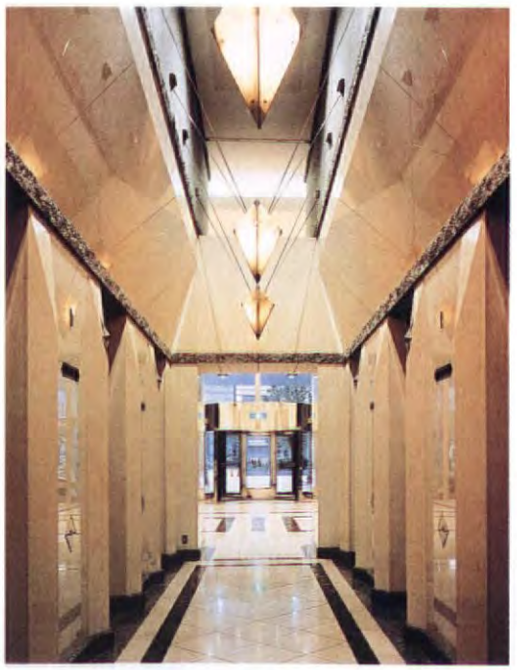
6: View from the lift lobby to the main office entrance



Koushi Miwa

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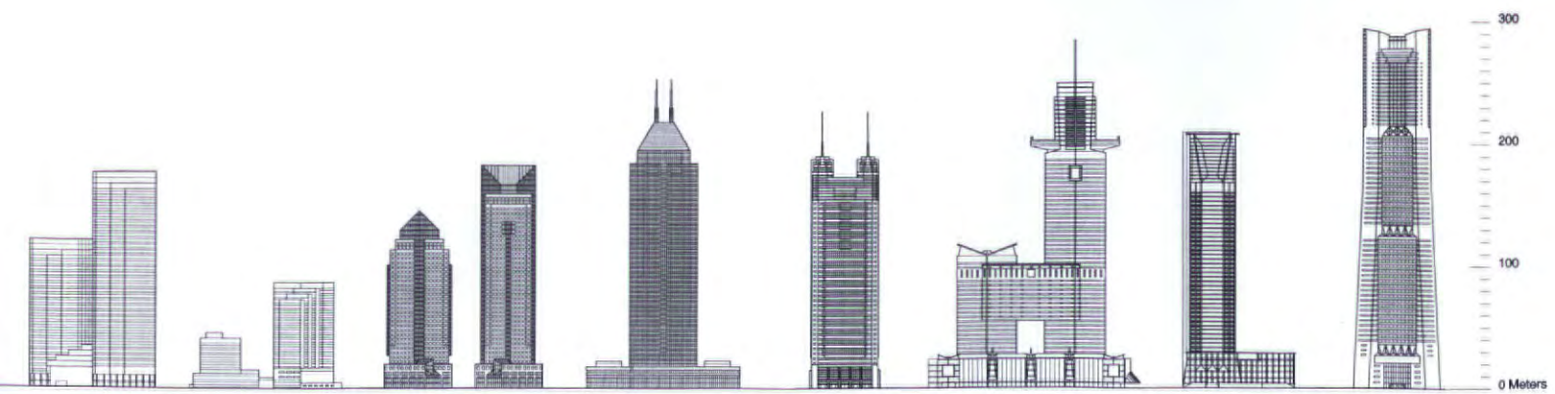


US Embassy & Residence, Singapore

Brief

For Singapore the United States Department of State commissioned TSA to design a 115,000-square-foot embassy building and a 10,000-square-foot residence for the ambassador. (Associate Architect: Architects 61.)

Challenge

Any embassy building is by definition something of a paradox, and the challenge here was to reflect both deference to Singapore, the host country, and celebration of the values of the USA in the guest presence. In addition there was a need to welcome visitors whilst maintaining adequate levels of security.

Solution

The security issue was addressed by projecting an entry pavilion forward to receive visitors whilst retaining a long, closed block behind to house secure functions. Cultural considerations were expressed in two ways: with a courtyard that mediates between host and guest, and by synthesising elements and materials of Western and Eastern architecture. This latter approach also found an echo in the treatment of the Ambassador's Residence.

1

Hans Schlupp

2

Hans Schlupp

1: Visitors are received in the entrance pavilion in front of the secure main building

2: The Chancery building and courtyard by night

3: Singaporean vernacular architecture was a design reference for the Ambassador's Residence

4: The Ambassador's Residence, a synthesis of Eastern and Western forms

Tim Griffith / Esto

4

Ronald Reagan Presidential Library, Simi Valley, California, USA

Brief

The Library was conceived as a scholarly resource concerning the office of President of the United States. Additionally it would house the personal and official papers of Ronald Reagan.

Challenge

Ronald Reagan wanted to bring a sense of openness and accessibility to his commemorative library. Structurally, seismic forces would have to be resisted whilst visually, the character of Southern California needed to be reflected.

Solution

TSA's design achieves a subtle blend of the formal and informal. A loggia with a main gateway leads to a cloistered courtyard with a central fountain. Buff-coloured stucco faces the exterior walls, roofs are Spanish-tiled, arcade and lobby floors are of Mexican Saltillo tile. The result brings an invitational atmosphere to a dignified commemorative resource.

1: Stucco, exposed timber and Spanish tiles reflect the architecture of Southern California

2: Presidents Bush, Reagan, Carter, Ford and Nixon at the opening of the library

Indiana Historical Society, Indianapolis, Indiana, USA

Brief

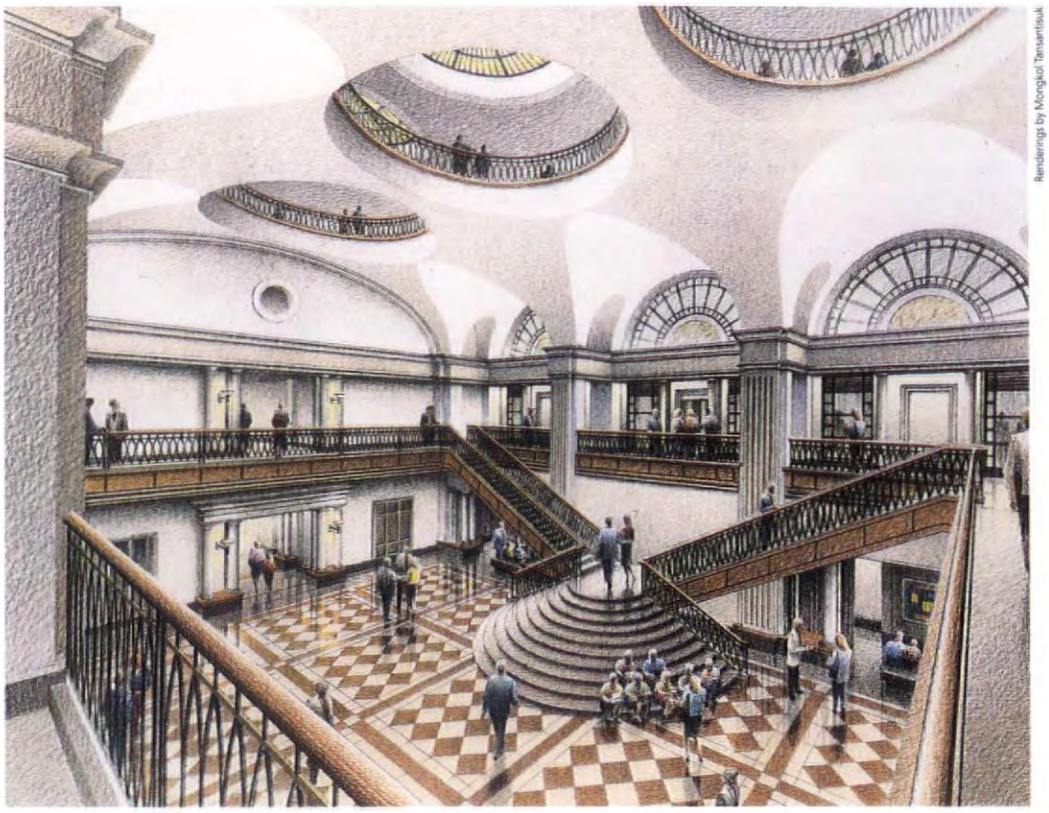
The requirement was for a 165,000-square-foot building to house the growing needs of an organisation dedicated to the preservation and publicising of Indiana state history. TSA was the design architect. (Prime architects: CSO Architects, Inc.)

Challenge

Flexibility is essential to the Indiana Historical Society as its constituency grows and spatial demands change. At the heart of the building will be a 20,000-square-foot manuscripts archive. Elsewhere a variety of supporting functions will be housed and the building is also to incorporate a theatre, exhibition space, meeting rooms and food service area.

Solution

The design of The Indiana Historical Society building is one that combines a sense of the past with a practical engagement of the future. Flexible solutions are provided for stacking systems, open office planning, multiple usage and the adaptable scheduling of public spaces.



Renderings by Mongkol Tansantisuk

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1: Rendering of the interior of the main hall

2: The building combines a sense of the past with a practical use of modern technology

Sands Hotel and Convention Center, Las Vegas, Nevada, USA

Brief

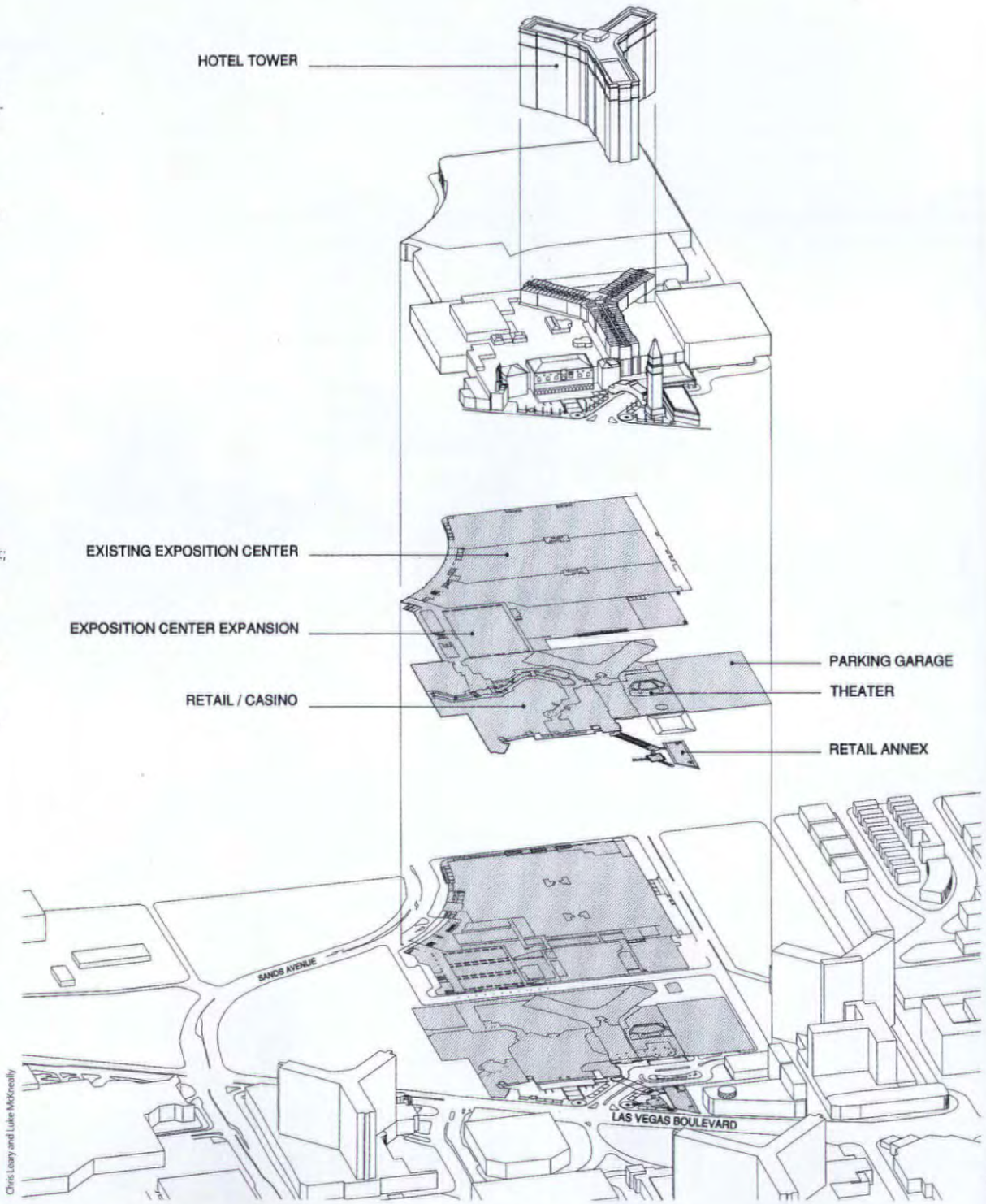
Currently under construction in Las Vegas, Nevada, the Sands Hotel/Casino will become the largest such facility in the world when it is complete in the year 2000. Its programme consists of two linked hotels, each with 3,300 suites. Each suite will contain 700 square feet of living area with a master bathroom of 130 square feet. Each hotel will be supported by its own casino, restaurants, and kitchens. In addition, an enclosed retail mall will link with Las Vegas Boulevard, "The Strip," the two hotels, and with America's largest privately owned convention/expo centre.

Challenge

With over 12 million square feet of enclosed space, the design and construction presents a unique challenge. "Fantasy architecture" has become a hallmark of Las Vegas and has expanded the business base of the city. Once a one industry town – gaming – Las Vegas has become the largest convention city in the world. It attracts nearly 30 million visitors each year.

Solution

Collaboration is the keynote of responding to the challenge: collaboration with the client, Las Vegas Sands, Inc; collaboration between the firms of TSA and Wimberly Allison Tong & Goo through their Nevada entities; and collaboration with the construction manager, Bovis Construction. Based upon the exploration of dozens of thematic ideas, a Venetian theme was adopted to communicate the luxury and romance of one of the world's most famous cities. Gondolas, lagoons, and canals will enliven the exterior spaces of the complex and invite the pedestrian to explore the interior.



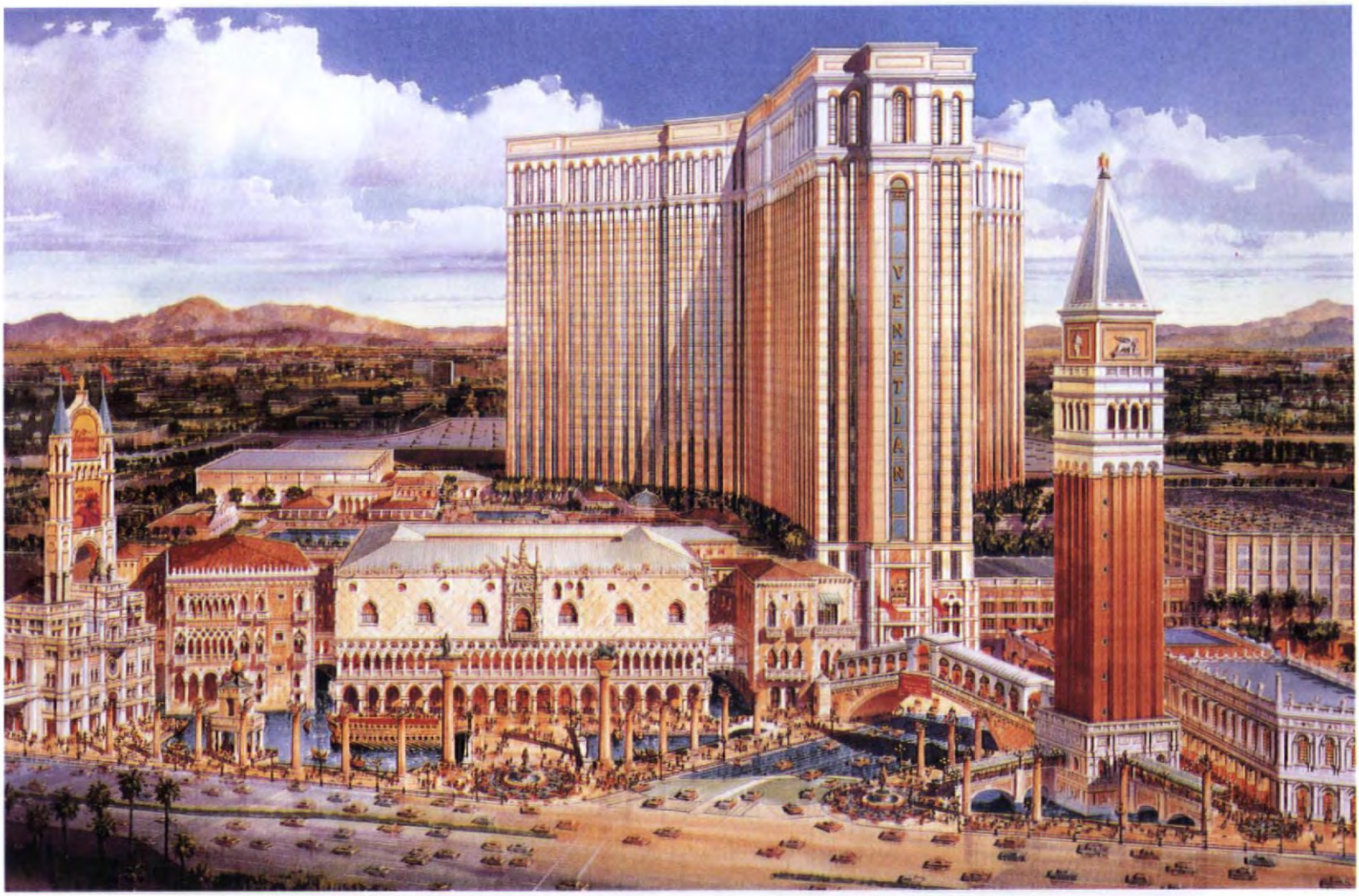
1

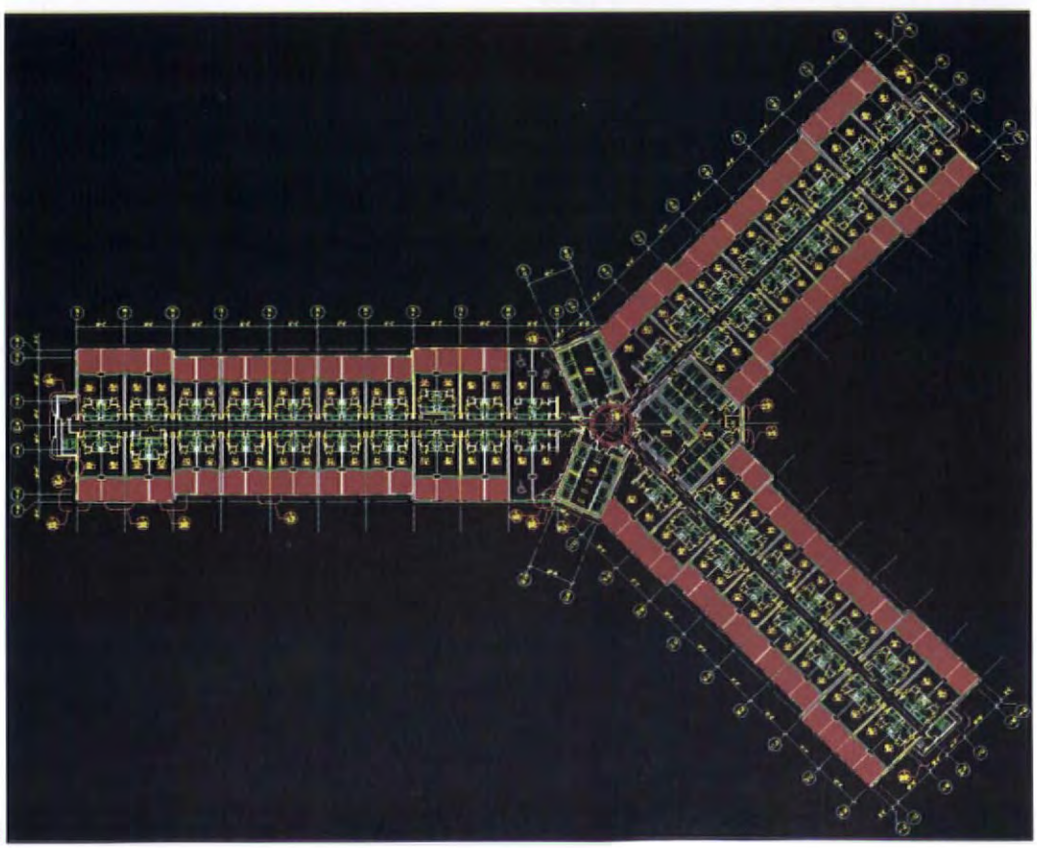
Industrial Photographics

2

1: Exploded axonometric of the site

2: The pouring of the massive concrete footings established a new size record for a continuous concrete pour





4

3: Rendering of the Sands Hotel in its Venetian fantasy setting

4: Typical floor plan

Biological Sciences Learning Center and Jules F. Knapp Research Center Complex, University of Chicago, Illinois, USA

Brief

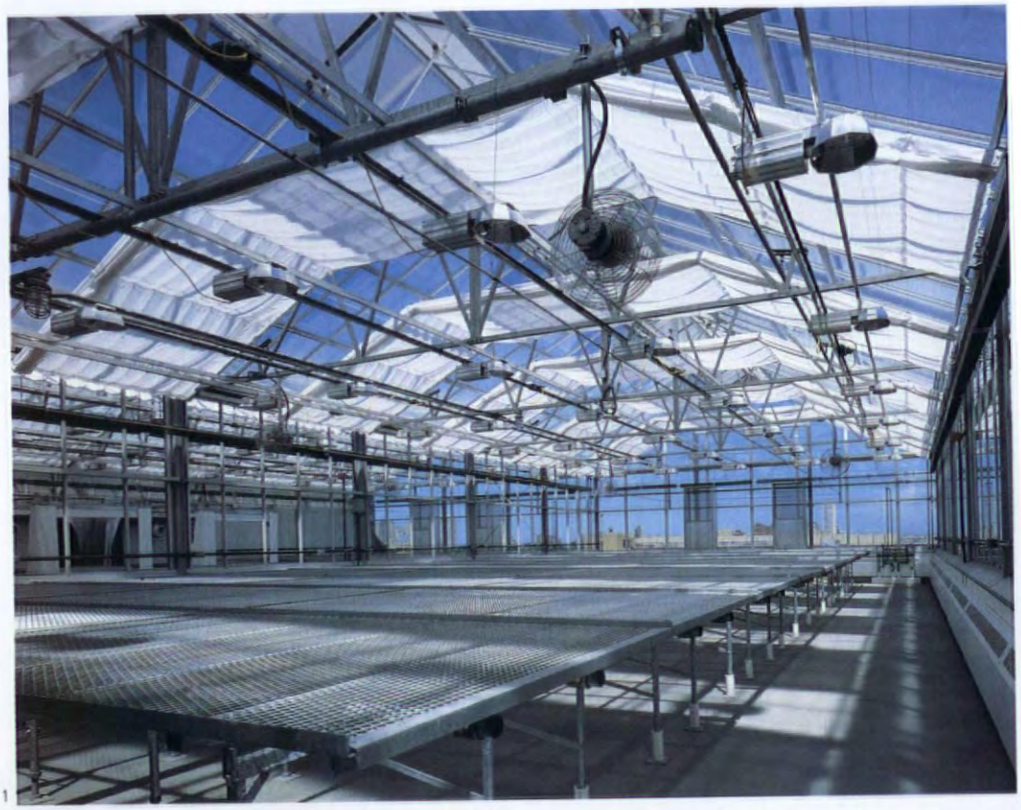
Teaching and research spaces were required for undergraduate, graduate and medical students. TSA were the design architects. (Prime architects: Loebl, Schlossman & Hackl.)

Challenge

There was a desire for the new Center to reflect a spirit of openness in the exchange and generation of information in this rapidly expanding field of the biological sciences.

Solution

With a combined area of 228,693 gross square feet, The Learning Center and Research Center buildings are connected by a glazed, six-story atrium. Articulated entrances in each building confer a sense of individual identity whilst the overall treatment is a conscious attempt to harmonise with existing buildings on the campus. In particular the rooftop greenhouses contribute to a distinctive "glass Gothic" feel that responds to the context whilst satisfying a practical requirement of the complex. The overall design is in the spirit of the "one-room" schoolhouse.



1

Scott McDonald © Hedrich Blessing

2

Richard Green FAIA

3

1: Interior of one of the rooftop greenhouses

2: Main entrance to the Jules F. Knapp Research Center. The entire complex is clad in buff-coloured limestone

3: Existing buildings on the University of Chicago campus

Scott MacDonald © Hedrich Blessing

4

4: The exterior is designed to harmonise with existing buildings. The rooftop greenhouses provide a "glass gothic" silhouette

5: Entrance elevation

5

The David K. Wilson Hall, Vanderbilt University, Nashville, Tennessee, USA

Brief

The University's Psychology faculty was to be consolidated with a building required "to look like it had always been there" whilst housing a variety of very specific operations.

Challenge

Clinical, cognitive and neuroscience operations would have to co-exist with facilities for outpatients, and animal care. Lecture halls for graduate and undergraduate students were also needed. Incompatible uses had to be reconciled without conflict.

Solution

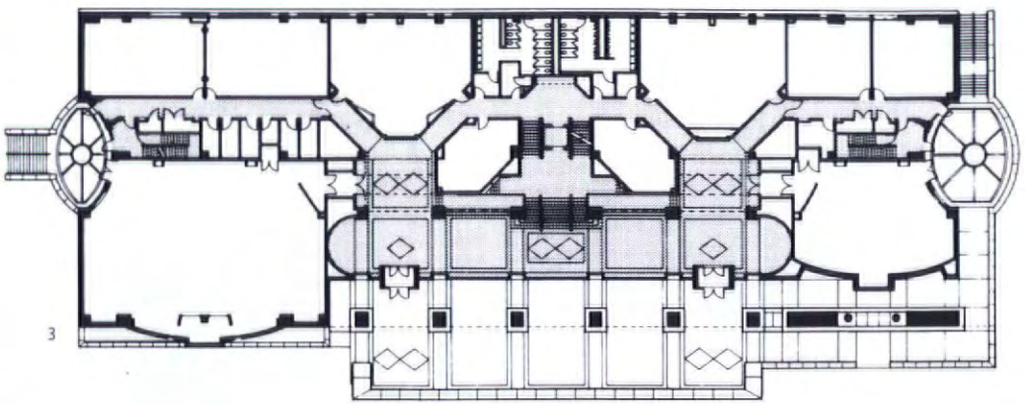
Circulation systems were separated and animal care areas secured. The rational internal organisation of space was matched externally by an architectural vocabulary extracted from the campus' existing historic buildings. The new building with its 270-foot facade responds imaginatively to the twin challenge of historical context and contemporary practicality.

1

Timothy Hursley

2

Timothy Hursley



3

4

Timothy Hursley

1: In order to achieve a timeless quality the Hall's architectural vocabulary was taken from the campus' existing buildings

2: Careful attention was given to external detailing

3: First floor plan shows classrooms

4: The rational internal structure achieves modern practicality within the building's historical context

Carnegie Center, Princeton, New Jersey USA

Brief

The commission was to plan a large-scale corporate community for a 410-acre green field site, a former sod farm. A speculative development, Carnegie Center presented TSA with exceptional freedom to create an added-value business centre.

Challenge

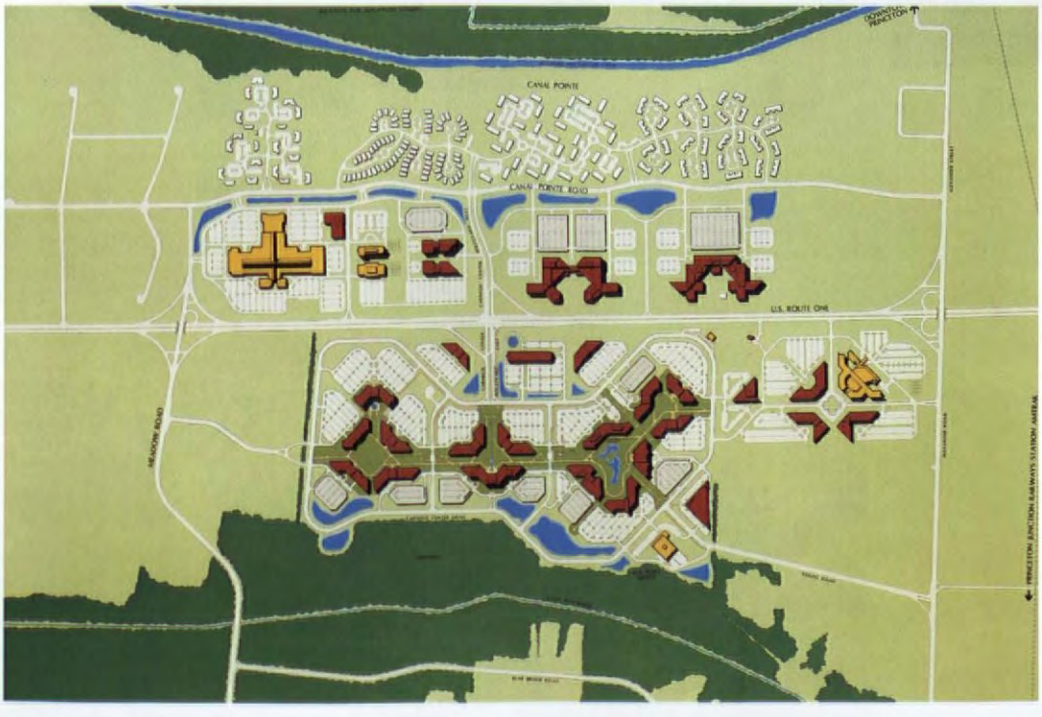
The principal design task was to develop a highly desirable working environment by creating a natural landscape that links the separate buildings and by maintaining architectural consistency throughout.

Solution

Four clusters of buildings, each cluster with its own visual theme, define a common open space that forms the central social spine of the complex. Traffic and parking are restricted to the periphery. Sixty acres of adjacent woodland were preserved as a wildlife sanctuary.

W. Frisby Hammer, FAIA

1



2

Offices
Hotel/Retail/Services
Residential

1: Architectural consistency is maintained throughout the development while respecting the natural surroundings

2: Site plan

Bristol-Myers Squibb Pharmaceutical Research Center, Wallingford, Connecticut, USA

Brief

The development of a long-range plan to consolidate the client's world-wide pharmaceutical R&D operations in a single high-quality complex.

Challenge

A tight schedule was imposed upon a programme intended to project Bristol-Myers' international pre-eminence in pharmaceuticals. Five distinct areas of research activity were provided in a building that would seek to attract top scientists and researchers through its exceptional design and facilities.

Solution

The site development plan includes the creation of a small lake and new roadways. The result is the flagship building the client wanted, housing many complex functions. Buildings are terraced into a hillside and integrated with the natural landscape that forms an important part of the complex's visual quality. Research functions are visually linked through skylit circulation corridors

Warren Jagger

1

1: Interiors reflect the high quality of design throughout the complex

2: Buildings and the man-made lake are integrated into the existing landscape

Nick Wheeler

2

Harcourt General Interiors, Chestnut Hill, Massachusetts, USA

Brief

This renovation of Harcourt's three-storey headquarters building was both a significant reconfiguration of space and an affirmation of corporate values.

Challenge

Harcourt General is grounded in international publishing and specialty retailing. The company is committed to maintaining a professionally challenging workplace in which its employees can work to their full potential.

Solution

TSA devised an urban grid approach to the plan, creating a varied sequence of open and closed spaces connected by primary and secondary paths. The psychological benefit of natural light (here supplemented by a secondary lighting system) is maximised and deployed to link the various departments. The light, linear feel of the design is emphasised through the materials and colourways which, on the third floor housing board room and executive offices, gives way to a darker palette. Throughout, new office technologies are integrated into both furniture and interior architectural components.

Warren Jagger

1

1: Open and closed spaces, redolent of an urban grid, are linked by primary and secondary paths

2: The third floor boardroom. The redesign of the offices was used to affirm corporate values

Warren Jagger

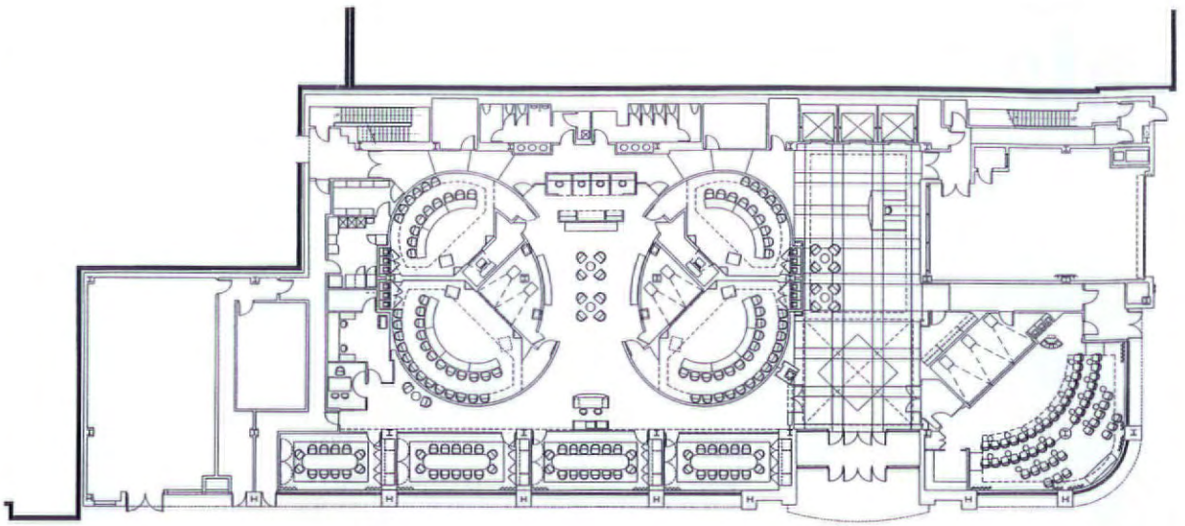
2

Lotus Development Corporation Interiors, Cambridge, Massachusetts, USA

Brief
For this additional headquarters building Lotus required five floors of office space for software R&D teams, and a ground floor state-of-the-art product demonstration and executive briefing centre.

Challenge
Flexibility of office space and fully-featured briefing centre were the key requirements of this high-profile technology client.

Solution
The ground floor Executive Briefing Center consists of one presentation theatre, four presentation rooms, and various support facilities. A typical office floor plan contains a standard core service module with coffee, mail and copy areas, conference, training storage rooms, video teleconference facility and a generic mix of perimeter private offices and open-plan workstations.



Sarah Springer

1

2

1: Plan of the ground floor Executive Briefing Center

2: Interior of one of the ground floor presentation rooms

Salary Survey 1997

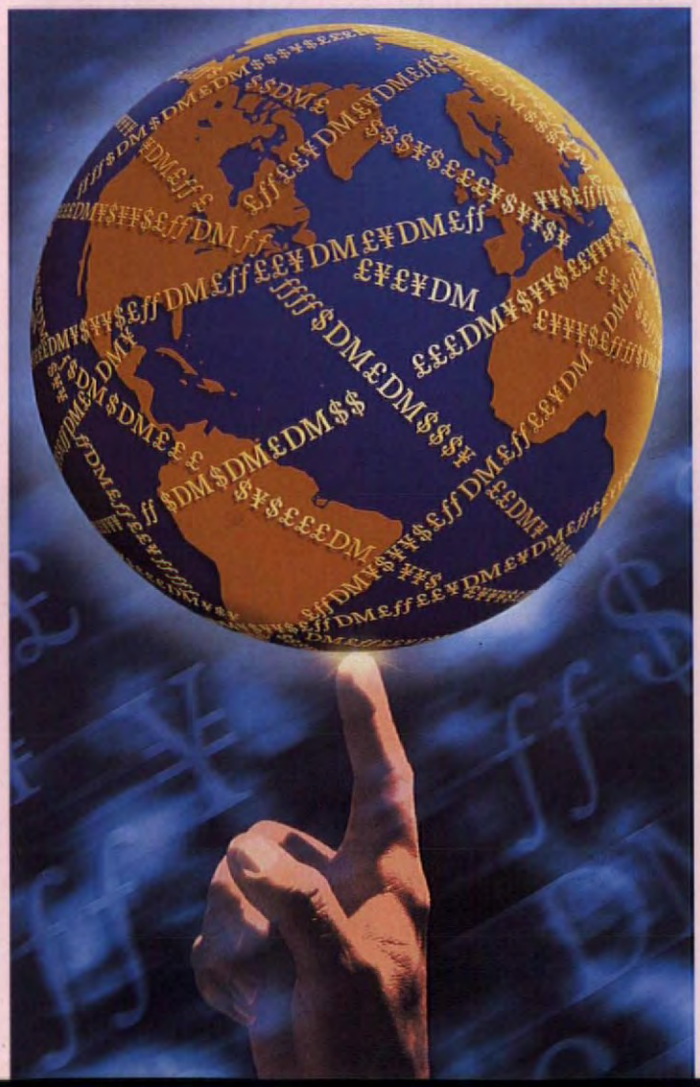
A salary of US$800,000 per annum, company car, health provision, pension scheme and bonus. Only in America! World Architecture's 1997 Salary Survey reveals the highs and lows of architectural salaries and benefits through a comprehensive study of international salary structures and pay awards. And, together with Hays Montrose International Recruitment Consultants and the Economist Intelligence Unit, WA takes a look at how it pays to be in the right place at the right time.

What is the most important aspect of any job? Is it job satisfaction? Is it the provision of a company car or is it the salary? The monthly pay packet is undoubtedly the most significant pulling factor of any employment contract, but additional benefits are becoming equally important. These could be anything from luncheon vouchers to crêche facilities or company pension schemes to a company car.

Our survey has shown that the region in which you choose to work makes a significant difference to the pay packet. If you work in Oslo, you will be living in one of the world's most expensive cities, but will not necessarily be paid a corresponding wage. If you live in Hong Kong, you will also be living in an expensive city, but the chances are that you will be paid accordingly.

There are no hard and fast rules as to how much an architect, at whatever level, should be paid. Our survey has revealed extreme variations in pay within the same job specification, and the same applies to benefits.

Many in the industry consider the architect to be an undervalued and underpaid member of professional society, and as competition grows in an increasingly hi-tech business, so the architect will not only have to be an inspired creator of the built environment, but also a managerial and commercial wizard. The demands and the pressures of the job are high, but do the salaries truly reflect the challenges?



Salary comparison – the high and the lows

(In US$'000 per annum)

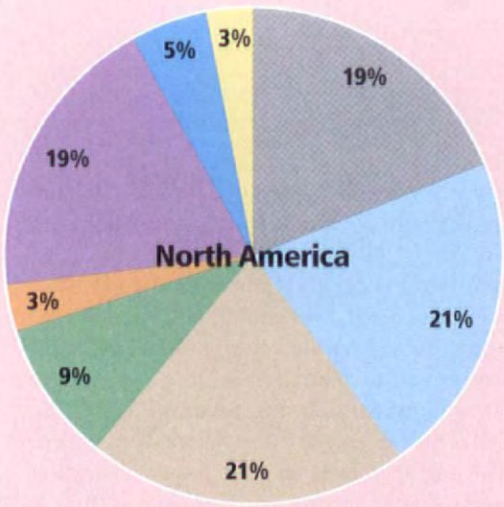
	Partner	
	High	Low
North America	500	105
Europe	200	70
Australia	182	70.5
Hong Kong/Japan	—	—
Scandinavia	81	48

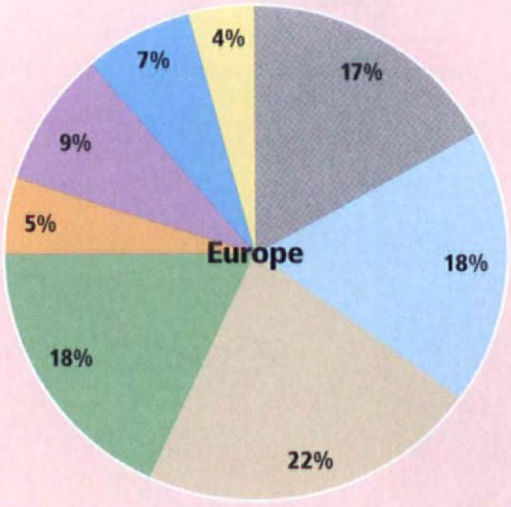
	Principal architect	
	High	Low
North America	222	80
Europe	200	30
Australia	100	56
Hong Kong/Japan	200	73
Scandinavia	75	40

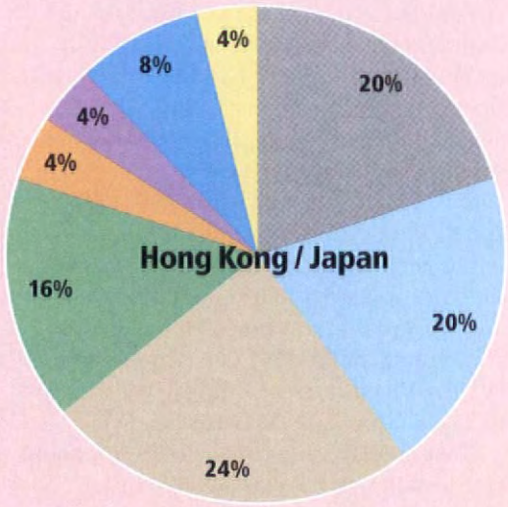
	Architect graduate	
	High	Low
North America	60	25
Europe	116	15
Australia	52	50
Hong Kong/Japan	156	34
Scandinavia	60	25

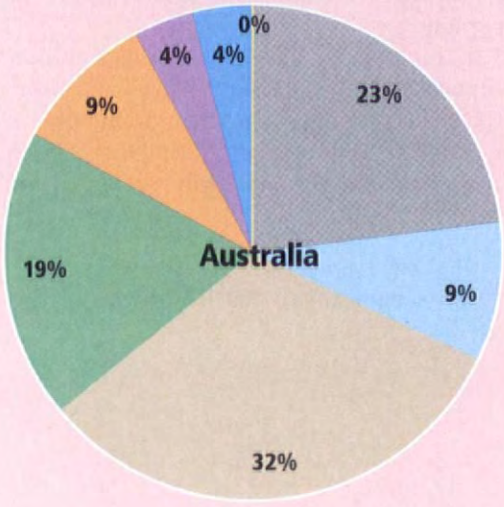
Perks of the job –

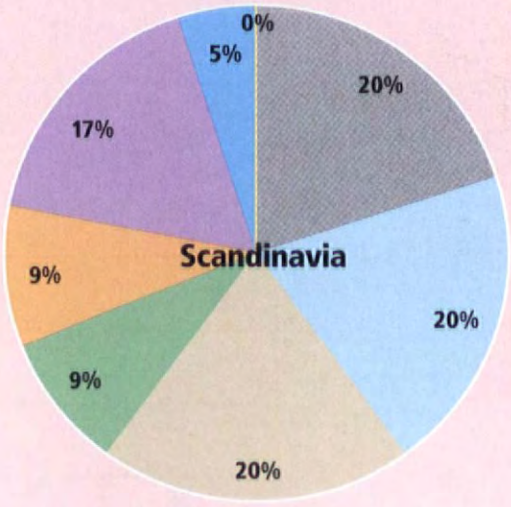
percentages of total architectural staff receiving additional benefits by region











Key to benefits

Pension – In addition to state pension

Healthcare – In addition to state provision

Bonus/profit share – A share of net profit, usually a percentage

Company vehicle – Either owned or leased by the company

Leisure facilities – Gratis or subsidised access to sports facilities etc

Holiday allowance – In addition to legal minimum (paid)

Subsidised meals – On-site staff restaurant or voucher system

Other – includes such items as subsidised parking, crêche facilities etc

Regional salary comparisons

Insufficient data available for South America, Middle East and Africa

North America is home to some of the world's highest-paid architects. Senior partners in the larger firms can command annual salaries of as much as US$800,000. Very often, this salary package also includes a range of enviable benefits, such as a company vehicle, healthcare provision, company pension scheme and participation in a bonus/profit share scheme. This is usually a variable sum dependent upon net profit which is divided amongst the equity partners.

The disparity between the highest earners and the lowest earners in the CEO/president/senior partner bracket is considerable, with the highest salaries four times larger than the lowest salaries in this range. However, the average salary of US$361,000 is more representative of this sector; according to *WA*'s research US$800,000 per annum is exceptional.

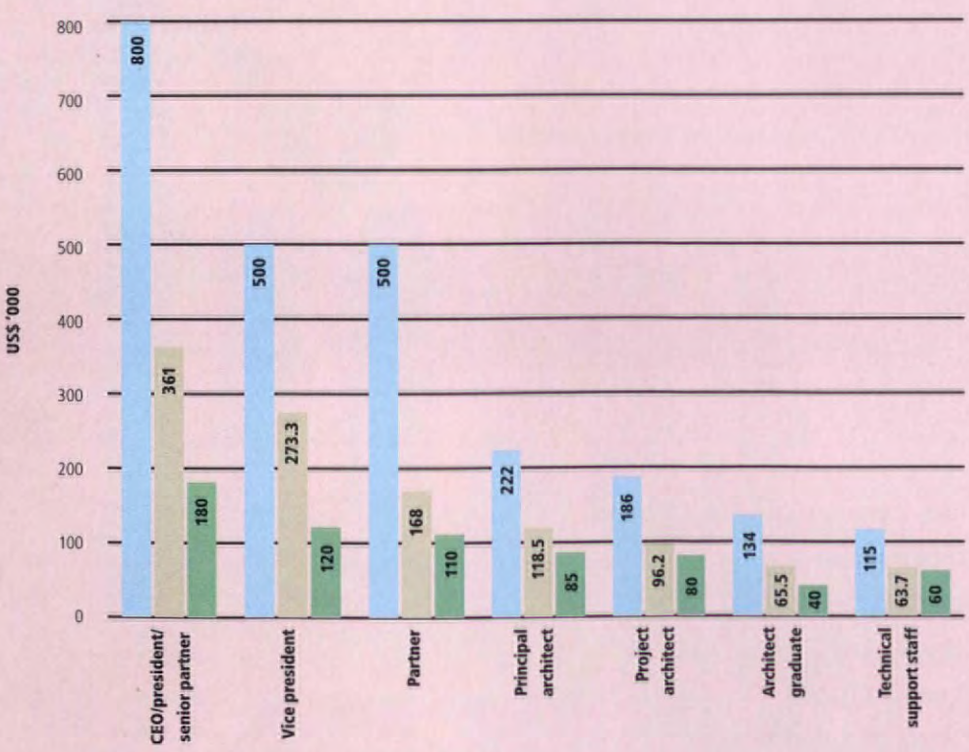
Vice presidents and partners can command salaries of much the same level in this maximum range, although the average salary varies considerably from US$273,300 for vice president's and US$168,000 for partners, indicating higher overall salaries in the former category.

Architectural graduates post the lowest earnings of salaried staff in this category, with individuals earning a low of US$40,000 per annum, against an average of US$65,500 per annum for this job specification.

Technical support staff, by the very nature of the job, need to be trained in specialist skills and are paid according to the level of their skill and their years of experience within the job.

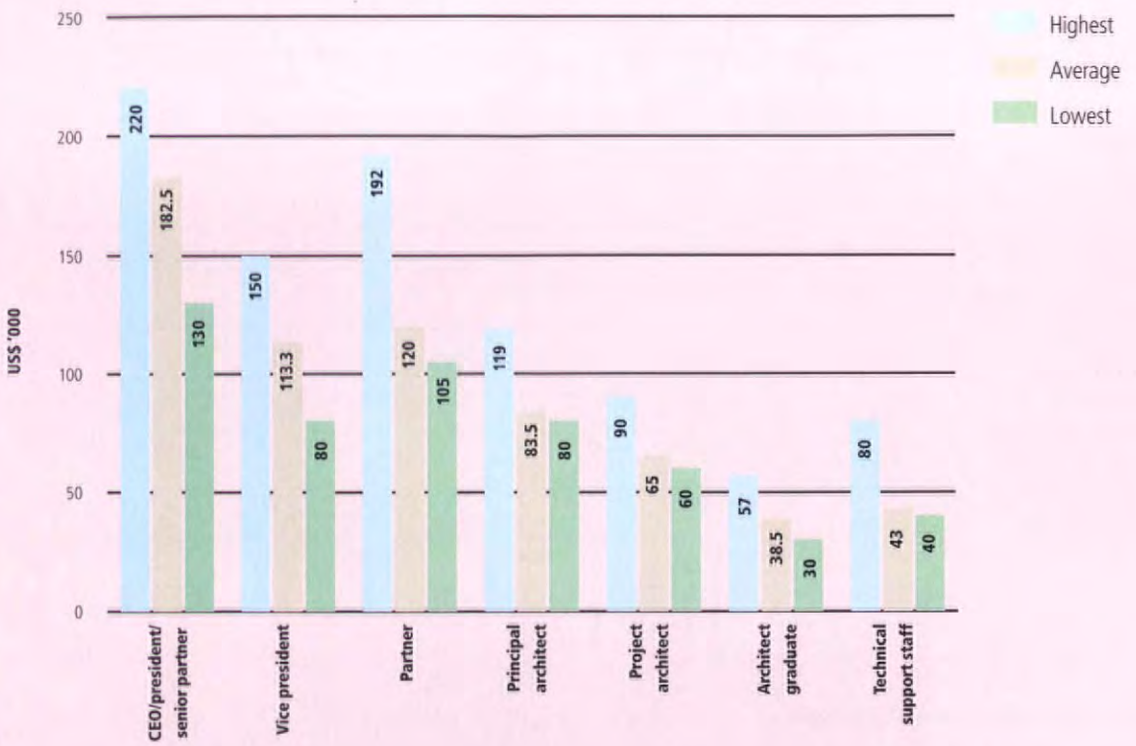
In the minimum range category, the disparities between the different salaries are not as dramatic as in the maximum range category. CEO's earn an average of US$182,500 per annum, whilst vice presidents earn average salaries of approximately US$113,000 per annum.

In this category, it can be seen that technical support staff can command salaries of up to US$80,000 per annum, with a minimum of US$40,000 per annum, indicating that this job specification covers a wide range of disciplines



Highest, average, lowest salary scale (maximum range) – North America

Highest, average, lowest salary scale (minimum range) – North America



and levels of responsibility.

Architectural graduates (entry level) remain on a relatively low salary for a period of two articled years during which time they gain experience under project and principal architects.

Employment conditions in the USA are widely-perceived to be "loosely-regulated". The most important piece of labour legislation here prohibits any form of discrimination. If caught, an employer is heavily penalised. The social security system is substantial, although most people do supplement state benefits with personal plans.

It is common for an individual to negotiate his or her own terms with the employer in North America, which employees are able to do under the Wage and Hour Law. It is a legal requirement that any time worked over the agreed maximum should be paid at time-and-a-half, unless negotiated otherwise.

The salary ranges disclosed for Europe reveal relatively little variation between salary levels of partners and principal architects, and project and graduate architects, which indicates a less hierarchical pay structure in Europe than that which exists in the USA.

It can also be seen that project architects, architect graduates and technical support staff are all paid top level salaries of between US$116,000 and US$160,000 per annum, once again indicating that, in certain countries of Europe, a higher level of job responsibility is sometimes afforded to newly-qualified architects as well as to support staff.

Regarding graduate salaries in the UK, a recent report suggested that firms may have to pay students a "golden hello", which will be a financial inducement to architectural students to join a particular practice following completion of their university course. This has become even more probable since the government introduced a fee of around US$1,600 (£1,000), payable by the student, for each year he or she spends in further education.

However, our survey has revealed that, with the exception of the United Kingdom, in Germany technical support staff consistently receive the lowest salaries of this job specification anywhere in the world. This indicates that technical staff in Germany act purely in a supporting role, whereas in many other countries they play a much more active and responsible role in project development.

At the time of reunification in Germany, wages, rents and prices were kept low in the east on the understanding that they would be increased gradually until they reached a parity with ›

USA overtime compensation

Architects have always been compelled to work long hours, but in the USA overtime is finally being recognised and rewarded. In conversation with *WA* Robert Strasser, chief financial officer of Swanke Hayden Connell Architects, confirmed that the turning point in overtime initiatives came in the shape of the Malcolm Pirnie case, where the engineer was sued by the US Department of Labor for docking his employees work for fractional missed workdays and was ordered to pay US$875,000 in back overtime wages. This is a significant victory for those architects whose principals say that a 40-hour week is not sufficient to stay afloat. (In a recent USA Department of Labor survey 90 percent of firm principals subscribed to this belief.)

Ethical debate about the exploitation of interns and entry level architects is now at the forefront of employers' minds. In 1995, out of 44,000 enforcement actions the department pursued in the USA, 4,485 were in construction-related industries.

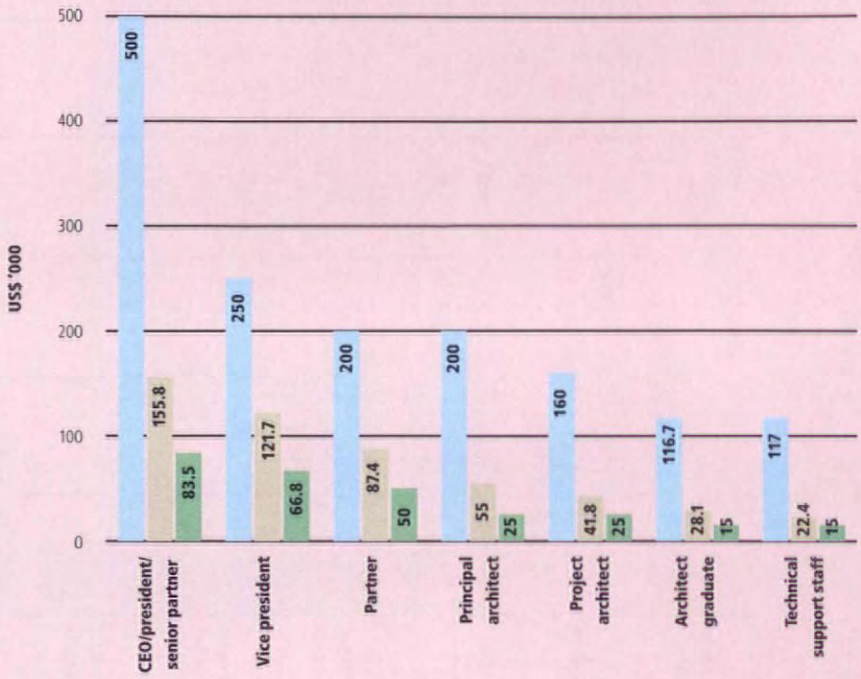
Confusion arises as to how employees should be classified under wage and hour laws; which should be salaried and which should be hourly. In some cases "salaried" employees are professionals paid an hourly wage times 40 hours per week. While 40-hour weeks seem to be the norm in Europe and Asia there is a move in the USA towards greater flexibility, the most popular alternative being the 160-hour month – allowing employees to opt for complimentary time and a half in lieu of overtime pay.

Large firms, especially those with personnel managers imported from other industries, tend to be better about complying to the new labour laws proposed by the Clinton administration.

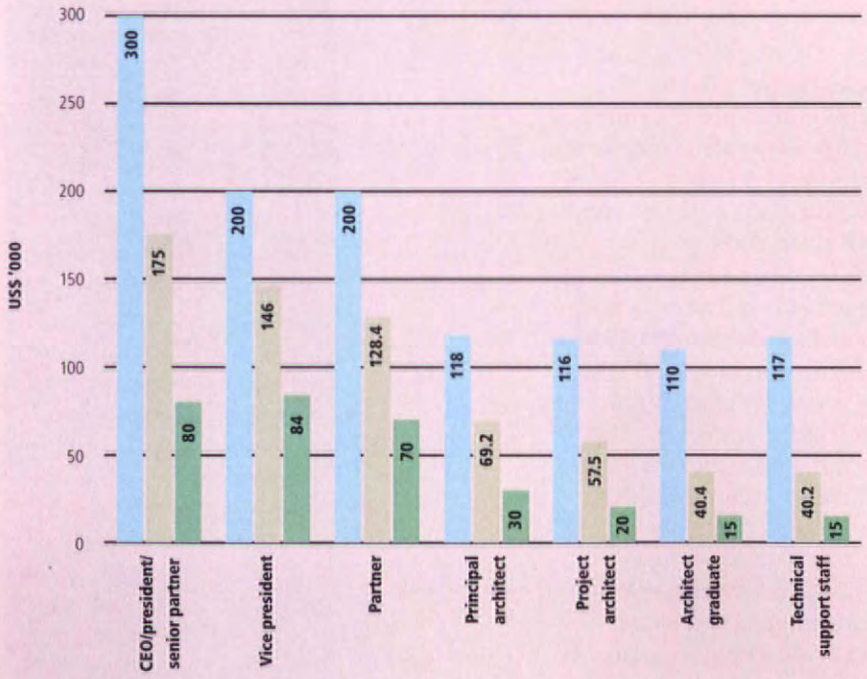
› the west. However, during July 1997, in Berlin some 530 building sites were adversely affected by industrial action taken by construction workers protesting about a lack of progress in national wage level discussions. The current building boom which is currently taking place in Berlin and nearby Potsdam is expected to come to an abrupt halt in 1998, when the government scraps tax and building incentives. This only serves to fuel rumours of a serious collapse within the construction sector. The repercussions for architects are painfully obvious. (*See Country Focus* WA60.)

Within Europe, the United Kingdom is the only country that maintains no minimum wage level, either by universal statute or by collective agreement and, along with Italy, is the only European country not to have a minimum legal annual leave allowance.

Highest, average, lowest salary scale (maximum range) – Europe



Highest, average, lowest salary scale (minimum range) – Europe

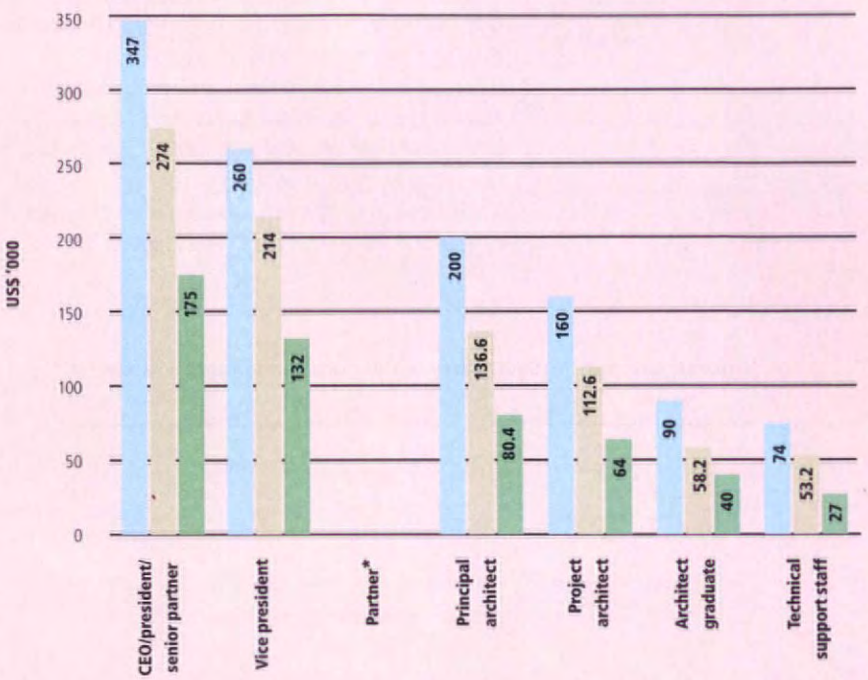


Working conditions in Hong Kong are considered to be more demanding than elsewhere in the Pacific Rim region, although this does not discourage people from wanting to work here. Contributing factors to the country's attraction include the relatively high salary levels and the current construction boom; Chek Lap Kok airport and the associated transport works, and the US$17 billion Three Gorges project in China.

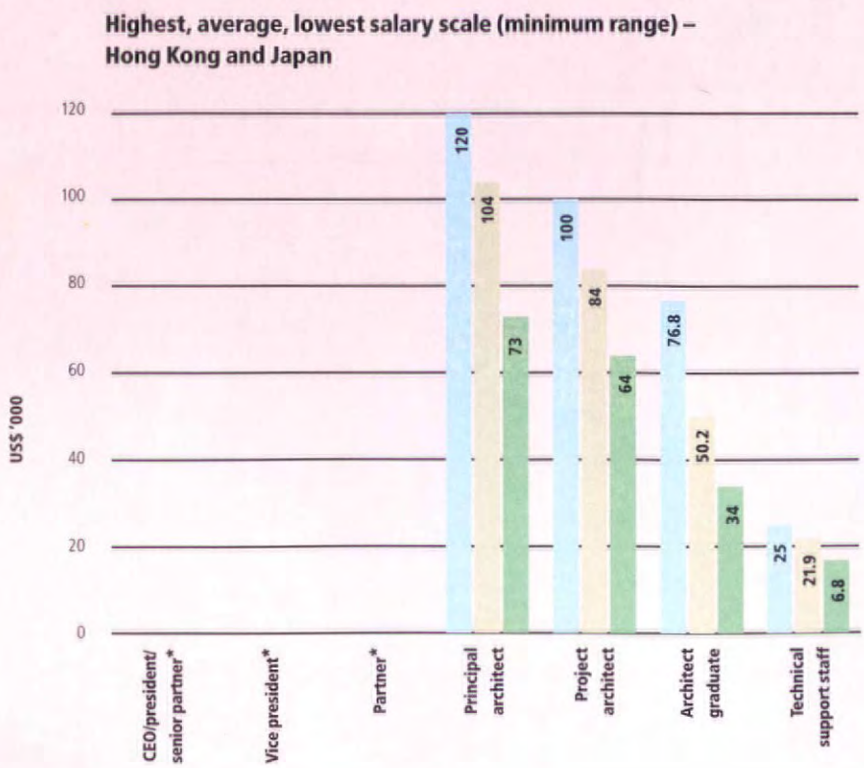
In Japan labour conditions differ significantly from other countries in several respects, including an established system of free collective bargaining at company level, traditionally longer working hours, and employee loyalty to a company that exists nowhere else. It is quite common for an individual to remain with the same company throughout his/her working life, and this loyalty is often rewarded with job security and long-term service awards in the form of money or additional holiday. Statutory annual leave is 10 working days, although Japan's 14 public holidays are usually given in addition.

Insufficient response regarding a minimum range from the top three job titles here has made it impossible to quote a minimum range. However, the consistent lack of response would indicate that there exists a single pay structure with no minimum range.

Highest, average, lowest salary scale (maximum range) – Hong Kong and Japan



Highest, average, lowest salary scale (minimum range) – Hong Kong and Japan



Highest
Average
Lowest

* *insufficient responses*

Given the high reputation of Australian architectural courses internationally, few Australian students travel abroad to receive training.

However a high number of students from Hong Kong and other neighbouring countries, particularly Malaysia, travel to Australia to undertake courses.

Qualified Australian architects, however, do tend to travel to gain international experience during their career, and many will go to nearby Hong Kong to work and enjoy a higher salary. This is rarely for longer than a period of a few years, and the large majority return to Australia to continue their careers.

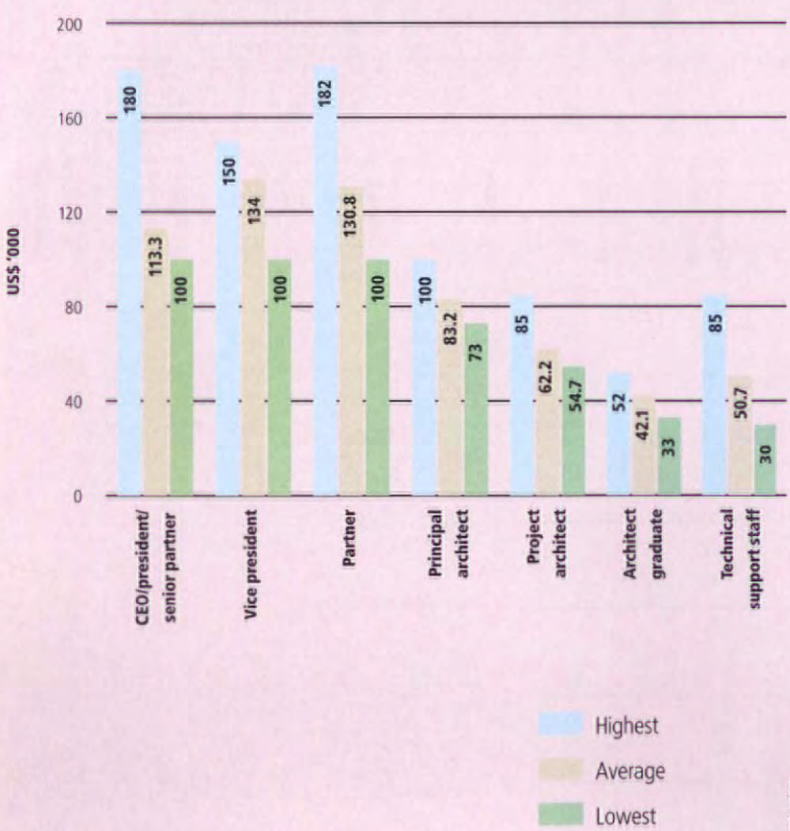
According to the Association of Professional Engineers, Scientists and Managers, Australia's (APESMA) annual 'Architects Remuneration Survey Report' an examination of total remuneration across the board reveals few benefits other than base salary or bonus payments. Allowing for this, it can be seen that superannuation and annual leave loading are two of the most common forms of remuneration beyond base salary.

Payment of bonuses and commissions is relatively common with approximately 20 percent of surveyed respondents being in receipt of such payments. On average, an architect can expect to receive an additional income of around eight percent beyond base salary exclusive of bonuses and commissions.

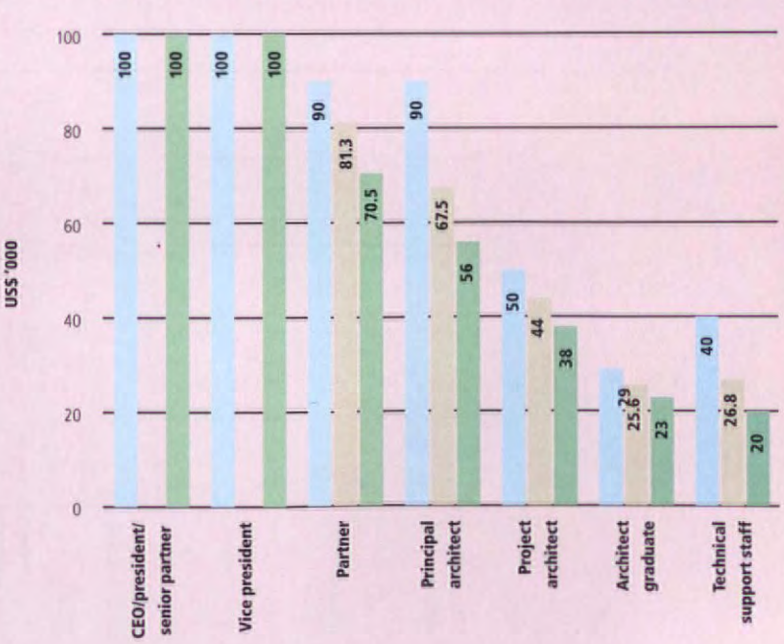
Full-time employees can be seen to work long hours as part of their employment contracts, with over half of all full-time employee respondents working in excess of 41 hours per week.

As with many professional groups, overtime is only paid in certain cases. APESMA's survey reveals that one-third of respondents working overtime received no additional payment.

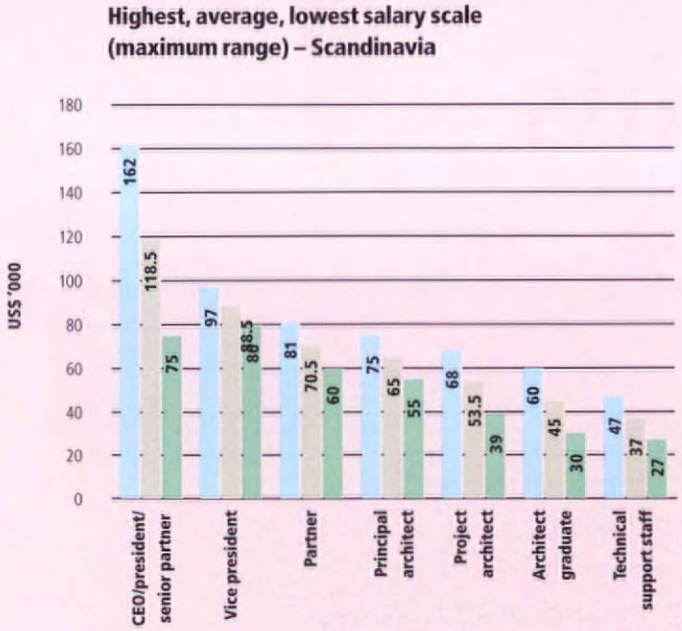
Highest, average, lowest salary scale (maximum range) – Australia

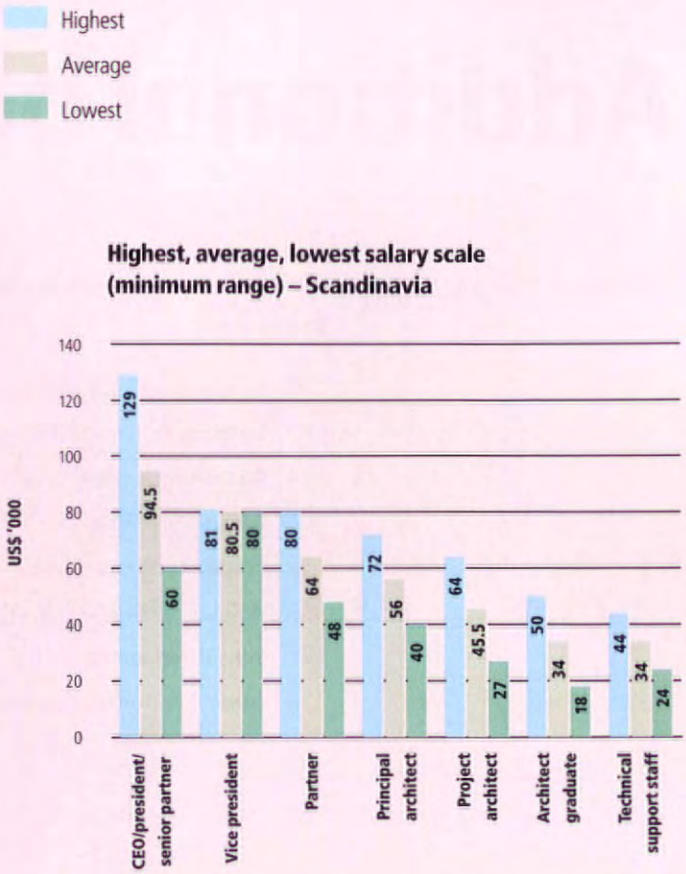


Highest, average, lowest salary scale (minimum range) – Australia



Highest, average, lowest salary scale (maximum range) – Scandinavia



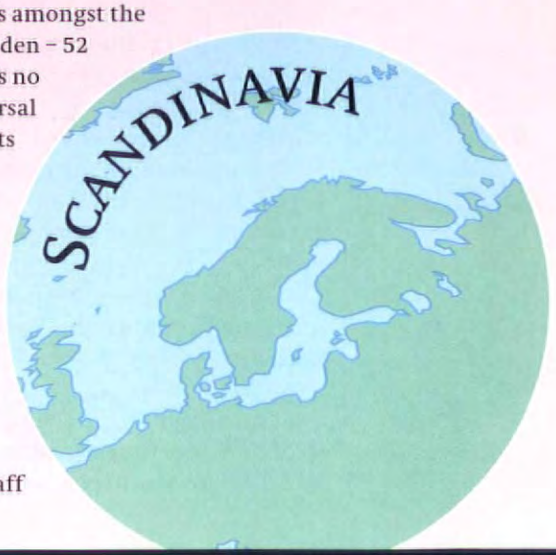


The overall salary scale in Scandinavia is relatively low, when compared to other regions. The maximum salary ranges for chief executives and senior partners amount to US$162,000 per annum, against US$800,000 in the USA, US$500,000 in Europe and US$347,000 in Hong Kong and Japan. The cost of living in Scandinavia is traditionally very much higher than in other countries; Oslo is the most expensive city in the whole of Europe, which effectively means that the Norwegian architect is amongst the poorest paid in the world. In Scandinavia there is a higher ratio of subsidised canteens to employees than anywhere else in the world.

There is a statutory maximum working week in Scandinavia, which is between 37 and 40 hours (although there is no legal maximum in Denmark); employees are entitled to a legal minimum of five weeks annual leave, and maternity leave in Scandinavia is amongst the most generous in the world (Sweden – 52 weeks at 75 percent pay). There is no minimum wage agreed by universal statute, but collective agreements have meant that each employment sector has been able to negotiate its own rate.

There is a relatively little variation between the maximum and minimum salary ranges in Scandinavia, indicating an "across-the-board" pay structure that benefits all employees. The range of benefits available to staff is also similar, regardless of an individual's rank within the company or the length of time that he/she has been employed by the company. It is as common for technical staff to receive many of the same benefits as a partner, including healthcare and pension provision.

Maintaining salaries that do not differ wildly between specific job titles does help to foster a feeling of "solidarity" amongst staff which, in turn, means a more productive working environment.



Additional benefits

Key to benefits

- **Pension** – In addition to state pension
- **Healthcare** – In addition to state provision
- **Bonus/profit share** – A share of net profit, usually a percentage
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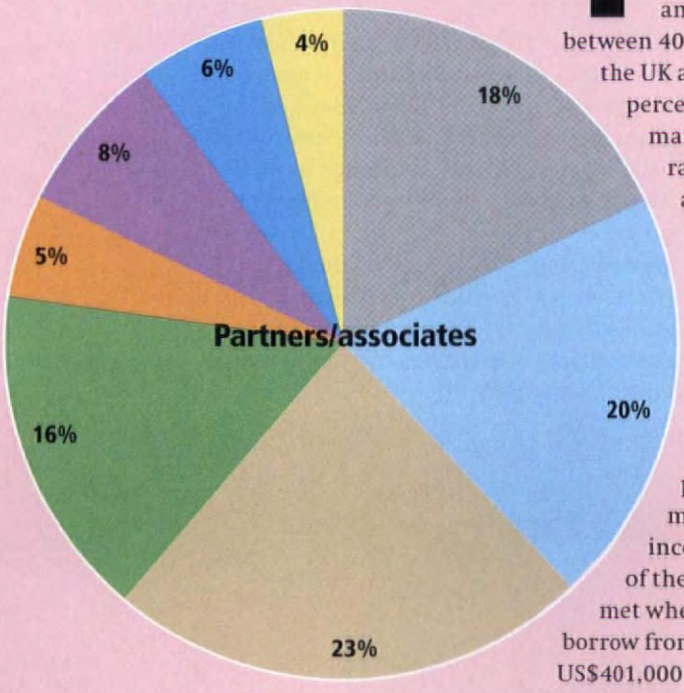
- **Other** – includes such items as subsidised parking, crêche facilities etc



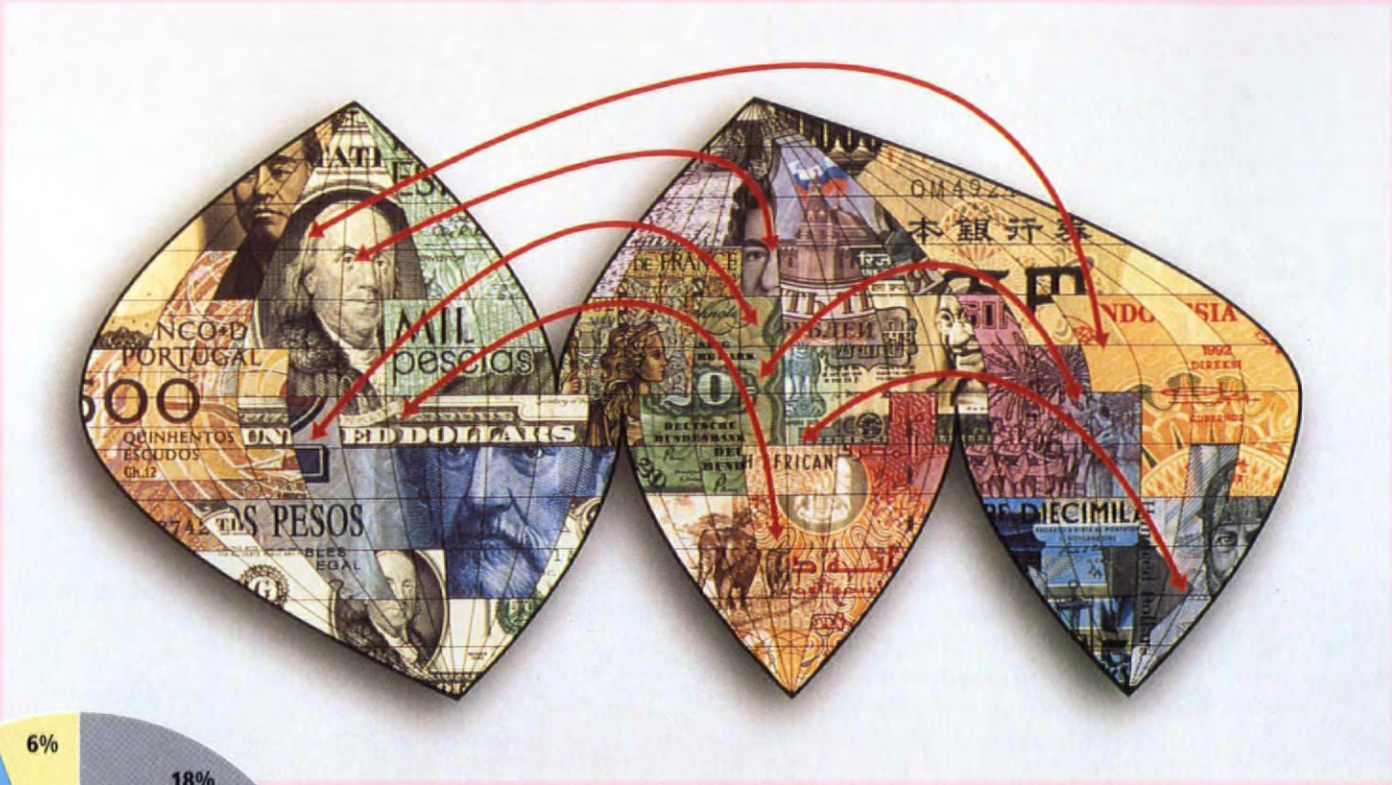
The most common benefit available to partners and associates is a bonus/profit share scheme. Healthcare benefits and pension schemes are also commonplace. In some countries in Europe, such as Belgium and France, mandatory contributions amount to between 40 percent and 50 percent of gross pay, whereas in the UK and Denmark this figure drops to under ten percent. Therefore, we see that in those countries that maintain a high level of state benefits, companies rarely, if ever, offer healthcare and pension schemes as standard benefits to employees.

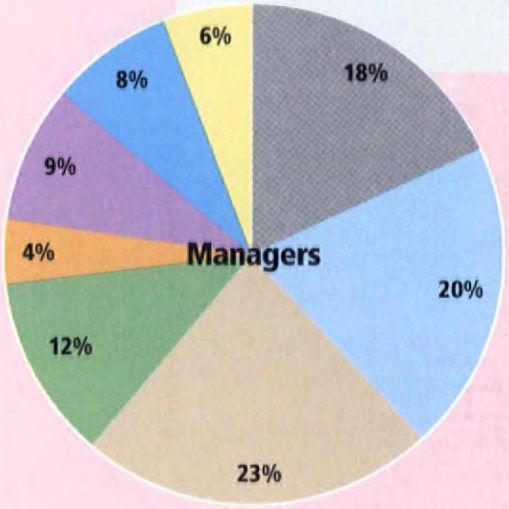
In the USA and Japan, where mandatory contributions amount to nine and 14 percent of gross pay respectively, healthcare and pension schemes are considered to be the responsibility of the individual, and many people take out their own insurance plans in addition to any offered by employers.

The 401K pension plan in the USA is commonplace, and is a cash accumulation plan to which a maximum of US$9,500 can be paid from pre-taxed income, the percentage paid from source is the choice of the individual. There are certain criteria that must be met when taking out a 401K plan, but it is possible to borrow from the plan at any time, and the overall aim of US$401,000 is to preclude discrimination in favour of employees who are paid higher salaries.

Company vehicles are more predominant at this level of employment, with 17 percent of partners/associates being offered a company vehicle as part of the employment package.

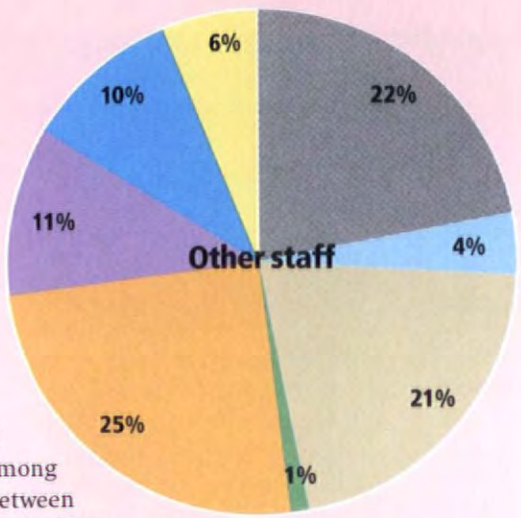
Subsidised meals and the use of company leisure facilities are becoming increasingly important components of an individual's employment contract.





In percentage terms healthcare provision, pension and bonus profit sharing are equally important for managers as for senior partners and associates and are considered to be a standard constituent of employment agreements at this level.

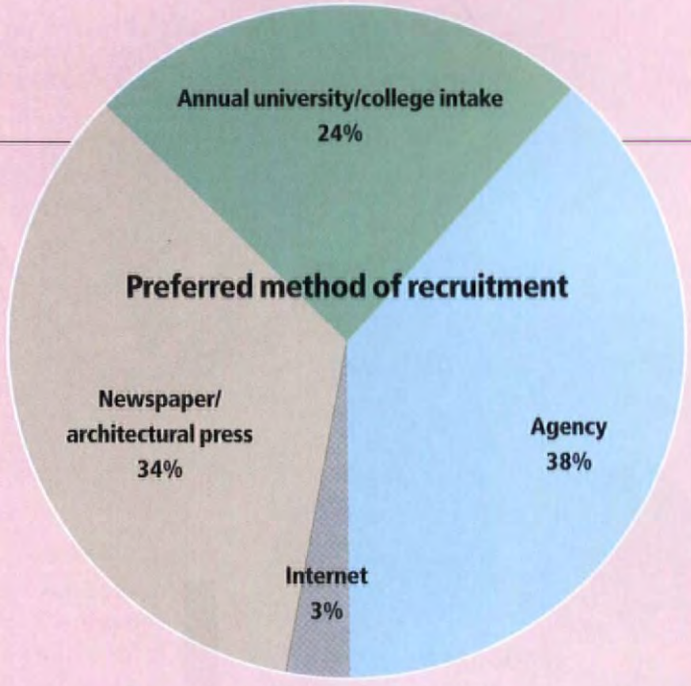
In Japan, where laws governing employment and benefits, are considered to be most generous to the employee, a basic monthly pay packet will comprise the standard month's salary, plus one or all of a range of additional benefits and allowances such as for housing and family, commuting and overtime. The allowances are usually paid in six-monthly instalments and sometimes include performance-related bonuses which allows companies to reduce labour costs without having to make staff redundant.



Company vehicles are a rare benefit at this level, although it is more common for employers to offer employees allowances towards the purchase of a vehicle. It is encouraging to see that as many as 22 percent of employees in this bracket are offered pension provision, 21 percent are offered healthcare and as many as 25 percent are earning in addition to their salary through a bonus/profit share scheme.

There are few countries that maintain no legal minimum annual holiday, the UK and Italy are among them, but the average annual leave amounts to between three and five weeks, plus any national and public holidays. Usually employers allow employees to accrue an additional day's holiday for every year that they work.

Recruitment



Just over half of all architectural practices surveyed had a Human Resources department in-house which deals solely with personnel matters. It is almost as common, however, for the senior partners to take responsibility for the process of recruitment. The survey has also revealed that the majority of practices favour using a recruitment consultant for the task, and are not averse to paying for the service.

Traditional methods of recruitment, such as the use of agencies, the architectural press and national newspapers remain the most popular methods of sourcing potential new employees. Agencies continue to figure prominently in recruitment as they now offer a more effective approach to search and selection than ever before. The recruitment consultant offers clients a one-stop, professional service that takes the effort out of the time-consuming and sometimes fruitless task of selecting the most suitable personnel for the job.

Surprisingly, the Internet has yet to become a significant recruitment tool despite the advantage of its global appeal; only three percent of respondents said that they used the Internet as a regular source of recruitment information.

Other methods of recruitment include the receipt of speculative applications and curriculum vitae, personal contacts and recommendations, referrals, recruitment of students who have previously worked in a practice as part of a college or university course, college and university posting boards, professional associations and internal promotion.

Frank C Y Feng Architects and Associates - Hong Kong

Frank Feng employs 180 staff at his office in Hong Kong. As the sole managing director, his ethic is to maintain a cheerful working environment in which office politics are discouraged. The company offers medical bonuses and holidays, amongst other perks, and Mr Feng does not envisage having to increase the range of available benefits in order to attract new talent.

Recruitment is carried out through the Hong Kong and English newspapers as well as by international agencies based in Hong Kong. Singapore and Taipei have also been targeted as potential pools of new talent.

Mr Feng strongly believes that recruitment in the building industry will become more competitive in both Hong Kong and China over the next decade, resulting in an increased demand for architects. He cites Chek Lap Kok airport, and the Chinese Government's commitment to building 85,000 housing units as reasons for the increased competition. The Three Gorges Dam project in China will also be a source of huge employment.

Mr Feng realises that Hong Kong is an expensive city in which to live, and he pays his staff accordingly. The tax rate in Hong Kong is currently a flat 17 percent, and Feng's employees are able to enjoy a high standard of living.

In terms of technology, Mr Feng's office is relatively new to CAD; the company has only used it since 1990, although some of its Chinese architects now working in Hong Kong have used CAD since 1985.

The recruitment consultant's view

Hays Montrose International Consultants – UK

As the UK's leading architectural recruitment consultants, Hays Montrose is well-placed to provide commentary. *World Architecture* spoke with principal consultant Matthew Lewis about where he considers the opportunities to be and how well qualified graduates have to be, past, present and future.

World Architecture: What recruitment patterns do you envisage for the next decade?

Matthew Lewis: We expect to see increased demand for architectural staff in Asia, primarily in Hong Kong and China. There is also expected to be an increased demand for architects in the emerging markets of east Europe and Russia.

The demands of the job now mean that graduates should be CAD-literate, they should, ideally, possess management skills and have a high degree of technical awareness.

WA: What are the requirements for CAD skills from staff in comparison to the requirements of 10 years ago?

ML: CAD requirements are now considered essential compared to 10 years ago when they were an additional skill. All of our international clients now require a basic understanding of CAD, plus hands-on experience for all technicians.

Ten years ago, good CAD skills were rare, but training undertaken during the recession means that most architects now have a basic knowledge.

WA: Does the requirement for IT ability mean that you recruit older/younger architects generally?

ML: IT ability means that the younger architects are being considered more often for international positions.

The older architects with limited IT ability, however, are being forced into stereotypical management and team leader roles.

WA: Are people able to be more selective about their choice of employment?

ML: Well, the world is getting smaller, and the advances in IT mean that they can work on projects without actually being in the same office or even in the same country as the project.

An increase in workloads in the UK has given domestic architects an option to remain at home instead of looking for international work.

WA: Where do you envisage the opportunities to be around the world?

ML: Asia – especially Hong Kong, China, Japan, Malaysia and Indonesia. Also, the former Soviet Union is growing due to huge western investment in places like Kiev and Moscow. Warsaw and Prague are also both considered to be significant centres of construction activity.

The architect's view

Bureau d'Architecture Henri Montoise SA – Belgium

According to Peter Van Kerckhove, President of the Bureau d'Architecture Henri Montoise of Belgium, both employers and employees are facing several important issues in today's changing job market.

For the employer, it is becoming increasingly difficult to find suitably-qualified personnel who can immediately be integrated into a project team. This is due to a number of factors, not least the ever changing environment that the architect has to work in; Euro-regulations that are constantly being updated, increasingly complex planning legislation and environmental regulations, increased use of CAD technology and the changing demands of the client.

A change in the socio-cultural fabric has meant that higher education is more accessible to a wider section of the population. This has resulted in a decline in standards at the same time as industry expectations are rising.

"For employees, the main issue is simply that the architectural schools are producing too many architects for the market to absorb"

Another important point to note, relevant to Europe as a whole, is that governmental restrictions issued for the purpose of meeting Maastricht regulations prohibit salary adjustments that are especially desired by younger architects. This makes it increasingly difficult for employers to hold onto them.

For employees, the main issue is simply that the architectural schools are producing too many architects for the market to absorb. Less than 10 percent of graduates find work as a private architect, and a further 20 percent find employment within a large firm which matches their expectations. The rest are often forced to take lower paid jobs or to find work in related fields such as interior design. This can sometimes prove difficult due to the specialised nature of architectural studies.

For both the employer and the employee, taxation in Europe is becoming increasingly demotivating. Non-financial issues are, therefore, becoming more and more important; issues such as job content, working environment and degree of responsibility along with improved benefits (pension, company car etc) are becoming more relevant.

Mr Van Kerckhove believes the architect to be seriously underpaid, considering the enormous pressures the profession is under. Consider the professional liability of the architect and the huge administrative tasks that have to be undertaken due to the ever-changing regulations.

Cost of living index

Compiled every six months by the Economist Intelligence Unit, the Worldwide Cost of Living Survey compares prices and products in 121 cities around the world. For the purposes of this survey, the EIU has provided World Architecture with extracts from the Spring 1997 issue. The index, when published as a complete volume, is designed to provide an independent guide to companies and individuals interested in relocating.

The Economist Intelligence Unit has provided the following cost of living index for twenty of the world's capital and primary cities. The index has been calculated using a basket of goods and services. (New York = 100)

- The Japanese cities of Tokyo, Osaka/Kobe are currently the world's most expensive to live in
- However, the gap between Japan and Europe's most expensive city, Oslo, has narrowed considerably
- Western European cities, with the exception of London, continue to become cheaper, relatively speaking
- Most German cities are cheaper than New York or Sydney and are comparable with Rio de Janeiro
- The Swiss cities of Zurich and Geneva, traditionally amongst the most expensive cities, have fallen down the rankings and now are cheaper than Paris and Hong Kong
- On the European continent, the cheapest city in which to live is Lisbon
- Moscow continues to climb in the rankings and is now the fourth most expensive city in the world in which to live
- Other east European cities are bottom of the league and, surprisingly, it costs approximately the same to live in Prague as it does in Johannesburg
- The Indian cities of Mumbai and New Delhi have the lowest cost of living on the sub-continent

Rented accommodation costs

City	Accommodation costs* per month in US$
Hong Kong	10,981
Beijing	8,600
Tokyo	6,314
New York	6,000
Moscow	5,000
London	4,193
Paris	4,145
Johannesburg	2,954
Berlin	2,441
Kuala Lumpur	2,419
Rio de Janeiro	2,380
Mumbai (Bombay)	2,231
Riyadh	1,888
Rome	1,762
Wellington	1,524
Warsaw	1,500
Sydney	1,417
Oslo	1,368
Buenos Aires	891

* = Accommodation comprising two-bedroom furnished apartment at the superior end of the market. Prices quoted are per month.

Source: Extract from the Economist Intelligence Unit's Worldwide Cost of Living Survey Spring 1997

WA discovers why the international firm Fitch, was recently voted amongst "Britain's 100 Best Employers".

Fitch was founded in 1972 and is widely considered to be one of the world's largest design and business consultancies, employing some 300 people in Europe, Asia and the USA. The company has recently been included in a ranking of *Britain's 100 Best Employers* published by the Corporate Research Group. Fitch was shortlisted following a three-stage selection process. Firstly, consultants Dun & Bradstreet identified a number of successful and expanding companies. Secondly, the list was studied by a panel of journalists, recruitment consultants and employment experts whose job was to further reduce the list. The last stage was to carry out a series of interviews with employees from each company. From this extensive search and selection process, a Top 100 was established.

WA discussed the most significant differences between the working environments of the USA, the UK and Asia, with financial controller Sangeeta Bhuchar from the London office.

Salaries

The salary structure in the UK is based around a package, as opposed to salary plus additional benefit. The company does, however, have a company pension scheme. All of Fitch's employees are paid according to individual merit and the location in which they work, and all are competitive with the market rate. For example, in the USA the salary structure in Boston is different to the salary structure in Columbus because of a variation in living costs.

Holiday allowance

In the United Kingdom Fitch employees start their employment with an annual leave of 20 days. When three years service has been completed, the annual leave allowance increases to 25 days, up to a maximum of 30 days after seven years. In the USA, however, the amount of annual leave an employee is entitled to depends upon the level at which he or she enters the company. The minimum allowance is ten days, the maximum is 25. Additional holiday is granted on promotion. The same rules apply in the company's Asian offices.

Additional benefits

Medical cover in the USA is 80 percent paid by the company, with the individual paying the remainder, and is discretionary. Permanent health insurance provision is the same in the USA as it is in the UK; if an employee is off for more than twelve weeks, the company pays between 60 percent and 75 percent of his or her salary.

A bonus scheme is in place both in the UK and in the USA, whereby a percentage of an individual's salary is paid if targets are met for each business unit. However, these are only available to senior staff in the UK and vice-presidents in the USA. A company share option scheme is also available.

Fitch also fosters a work ethic based on job satisfaction and a pleasant working environment. Maternity leave is generous in both the United Kingdom and in the USA; in the UK staff are offered six weeks at 90 percent, then a further ten weeks at 50 percent if the employee intends to return to work. In the USA, the statutory requirement of twelve weeks is supplemented by 100 percent of salary for six of those 12 weeks. A period of five days is also granted for paternity leave both in the USA and in the UK.

In-house training is offered to employees on both sides of the Atlantic, and professional subscriptions are paid by the company where applicable.

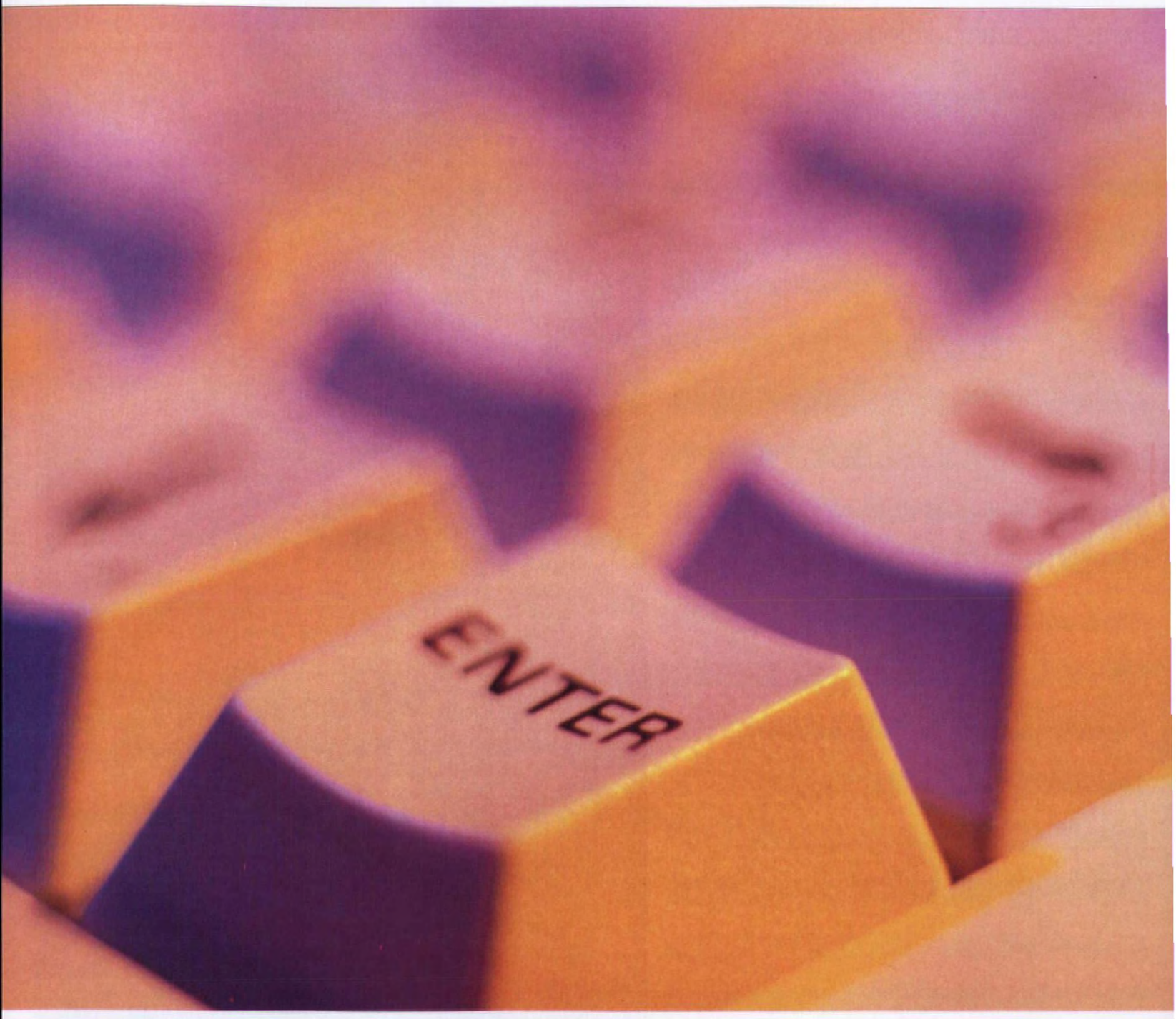
Staff are offered the opportunity to work in different locations, and relocation is available for a period of one or two months.

The company operates a social policy which allows for a range of events that encourage staff interaction such as softball, football, drinks, go-karting and an annual Christmas party, which all help to encourage people to stay and grow with the company.

Recruitment

The company maintains a human resources department in the USA, but not in Asia or in the United Kingdom. Recruitment is done either through a recruitment agency, newspapers/architectural press or word of mouth. Speculative applications to Fitch are also commonplace, not surprisingly, and a proportion of these are acted upon.

CAD



Cool tools and virtual lights

©David Gould/ Image Bank

Conway Lloyd Morgan looks at Autodesk's new AutoCAD Release 14 and considers it a new benchmark in the marketplace. He also discusses the future for incorporating the realistic effects of interior lighting design around two new radiosity programs. Leading industry expert, Ralph Grabowski, reports on new products from the AEC Systems 97 show in Philadelphia, USA, and Mark Dytham looks at what you can buy for under US$1,000.

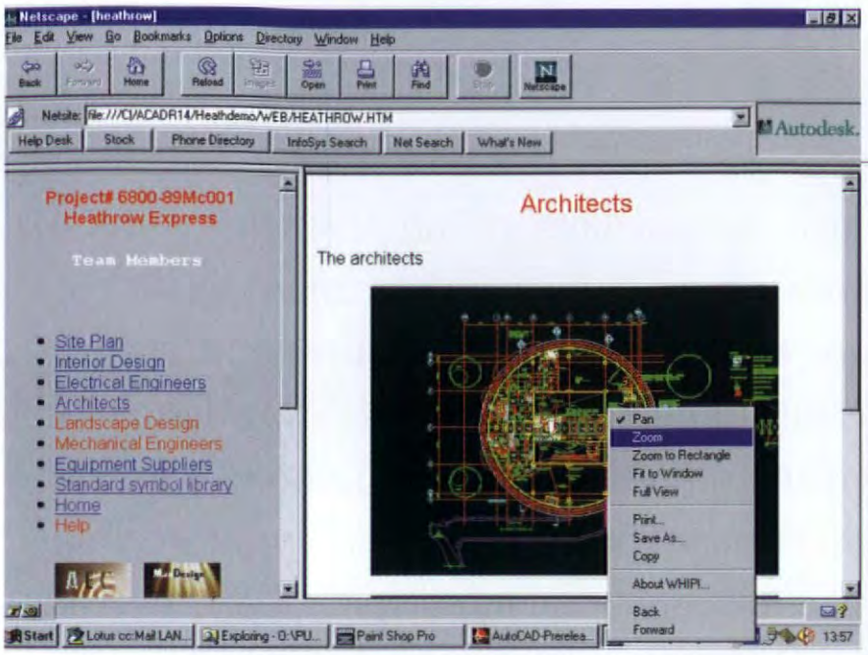
A year's a long time in CAD

by Conway Lloyd Morgan

You wouldn't have bet on it in January, but as we approach the end of 1997 it is clear that this has been Autodesk's year. The company's long-heralded takeover of Softdesk ran into two successive hurdles; firstly a spoiling bid from another CAD company, believed to be Parametric Technology, which forced Autodesk to pay US$17 million more than they were expecting, and secondly the refusal of the American monopoly authorities to allow Autodesk to acquire Intelli-CAD, part of the Softdesk target, which has now been acquired by Visio (see Ralph Grabowski's review of AEC Systems 97 for further analysis).

However with the enthusiastic response to wide beta testing for AutoCAD Release 14, and its generally good reception in the market since the summer, it looks as if Autodesk has put the past behind it, and is ready to maintain its position as the major top-end CAD supplier for the future. The two major challenges faced by Autodesk in creating Release 14 were the disastrously slow download and upload times encountered on Release 13, which had indeed persuaded many users to stay with the DOS-based Release 12, and the need to integrate more communications facilities into the program.

So how has Autodesk achieved these goals? According to John Goodman, AutoCAD product manager, the answer is simple: "It's a question of WOW! That means Windows, Objects, Web. Windows because we are now dedicated to 32 bit technology either under Windows NT or Windows 95, which affects both screen design and operational speed; Objects because of our new Object ARX extension, which is now standard, and Web because of our wholly compatible DWG and DWF file formats. The program is firmly web-enabled, and can thus be shared over the Internet or ›



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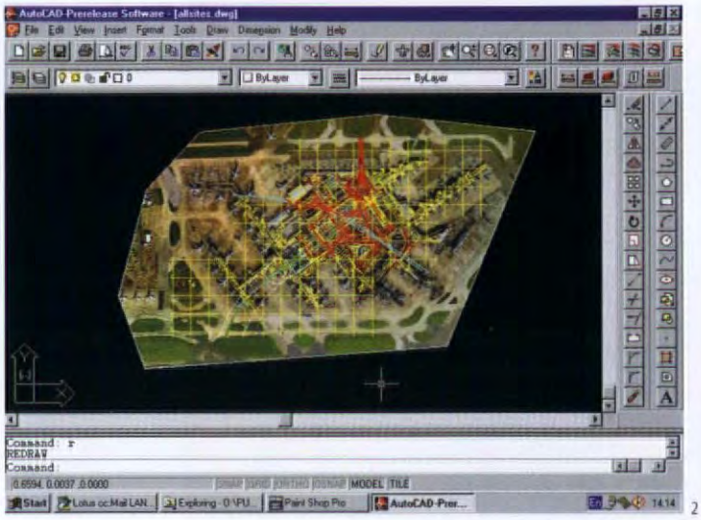

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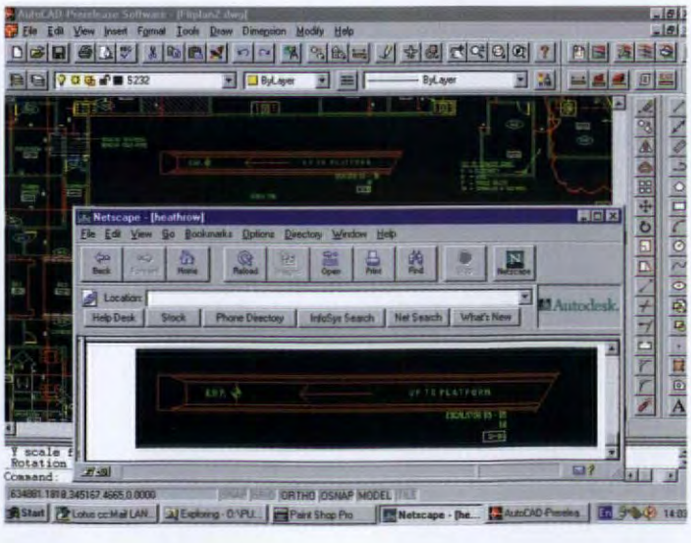
› an intranet by designers, clients and other suppliers." Looked at in more detail, this means a new graphics driver, which allows realtime pan and zoom in both paperspace and modelspace mode without the need for frequent screen regenerations, it means incorporating both raster and vector objects in documents, and it means faster imports of X-ref documents and the ability to clip them. Use of a sophisticated demand loading system memory overhead is reduced, and the result is to reduce operational times by one third to one half of the times required for similar functions in Releases 12 and 13.

The new screen and toolbars follow standard Windows 95 models (a right mouse button click for a reference menu, for example, and file-card-type options in dialog boxes rather than scrolled links). Specific tools have also been improved or added: AutoSnap now allows the user to preview snap point options before fixing them, a Drawing Preview feature in File Open allows you to see the document if you are not sure of the name. The new Image Support Module allows for the import and editing of raster images, and for presentation, TrueType fonts are also supported.

Files can be exported to Web or intranet locations using the DWF format, and the revised Whip plug-in allows the end user to pan and zoom over the drawings, and to import objects from the Web images into an AutoCAD document. This allows the communication process between architect, client and site manager to operate more smoothly. According to David Clarke, Autodesk's AEC Regional Sales Development Manager, this is a key development on which he and his colleagues have been working since their involvement in the UK's 1994 Latham report on IT in the construction industry. "This is really not about technology. It's about getting the right business information to the right people at the right time. It's about ensuring that the entire design process delivers high value products quickly. For the architect this means leaving more time for real design, and faster access to technical information." Those involved in beta testing confirm that Release 14 does operate faster and also more intuitively.

"In creating object based programmes," Clarke explains, "our first task was to create a basic structure of definitions, and then establish the relationships between them. These categories can be applied to specific design components, so that, for example, a wall knows that the hole in it contains a door. This intelligent functionality is a key to real collaborative design." Clarke and his colleagues also see the function of the program as extending across the whole life of a building, not merely the design and construction phase. Because the final model can include complete data on the components and systems in the building in a single unit, it can be used as the basis for facilities management after occupation. The present UK version of AutoCAD AEC is a straight port of Release 14 into AEC 5 (the USA version of Release 14 incorporates an AEC element for the first time). But Clarke promises even more with the next upgrade of AEC. "We're working towards true CAD modelling software, in which an initial concept sketch can be rapidly, even automatically, developed into a working design."

Whether Autodesk have got it right with R14 will take some time to tell, but the signs are good. Shareholders and industry analysts seem happy, and the ActiveX development tool released with R14 is finding favour with third-party developers. Other CAD manufacturers seem to be accepting the Autodesk file formats as near industry standard, Visio for example announcing that their drafting tool Phoenix will soon be R14 compatible, and database specialists IdeaGraphix and ESRI have announced systems that are multi-compatible between Autodesk and Microstation formats. If after the file-format battles of the past this seems as unlikely as Apple and Microsoft getting together, it's worth remembering that 1997 was the year that saw Steve Jobs coming back to the Apple board of directors, and immediately announcing, via a video link to Bill Gates at the Boston MacWorld exhibition, a US$1.5 million non-voting investment by Microsoft in Apple ... (see *WA*60 OnScreen).



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1: The Heathrow Rail Express link has been used as a test bed for R14

2: Documents from external sources such as this raster image can be pasted into R14 drawings

3: Interoperability with Netscape allows elements to be copied from the web or intranet into an R14 drawing

You've created the space, but where is the light switch?

Trick of the light

by Conway Lloyd Morgan

You've created the space, but where is the light switch? A long-standing problem for architects and interior designers has been how to create accurate lighting effects in renderings of interior spaces. Rendering programs tend to use a flat wash of light, often from a virtual source over the viewer's shoulder. This gives dimensionality to a design, but is far from being accurate. Even programs that allow for placing individual light fittings often only use a simple raytracing algorithm to design the extent and depth of shadows from a fixed viewpoint. While the position, beam width and intensity of a source can be generally fixed, this still does not virtually create the exact level of light distributed by an actual luminaire and lamp.

To calculate these values exactly, lamp and lighting manufacturers have created programs that will produce an outline of lighting levels in a regular space from exact technical data. These allow the architect or designer to check that lighting distribution and levels meet regulations such as those for health and safety. However, such programs do not produce a rendered image, so that the visualisation process is incomplete. High-end graphics programs can create visually appealing images, either from CAD data or from the designer's eye, and technical programs can describe the lighting solutions exactly. What was needed was to marry the two, so that the designer could show a client a correct view of the project.

Now two programs have squared this circle. The first, Lightscape, is a stand-alone program. It offers a series of libraries of surfaces, elements and light fittings that can be assembled to replicate an interior, and then lit. The complete radiosity program calculates the lighting effect accurately and from all positions. Lightspace recently released a link for 3DStudioMax and the new 3DStudioViz that allows the program to import files from 3DStudio and render them using the Lightscape radiosity engine. Lightscape are also releasing further libraries that contain both architectural elements and specific light fittings to extend and enhance the range of luminaires that can be used under Lightscape.

RadioRay, developed for Autodesk by the UK company LightWorks, is a plug-in for 3DStudioMax and the new 3DStudioViz. This also allows precise light fittings to be inserted into interiors created in 3DStudio, using the industry standard .elx file extension. These files, created by lamp and fitting manufacturers, contain complete photogrammetric data allowing the exact performance of a lamp and fitting to be depicted. So in a finalised and rendered design, precise lux values can be read off walls and worksurfaces, and the colour and diffusion of light are also visually accurate. Again, since this is a radiosity program, the values are created for all viewpoints.

These two programs represent a major meeting point between two approaches to computing. You could have good appearance, or formal accuracy in presenting lighting, but not, until now, both. By linking visual effects with technical precision, these programs extend the opportunity and potential for designers and architects. As to the choice between the two, Lightscape has the advantage of being a stand alone program on a very robust base (their radiosity system is virtually the industry standard) but the range of light fittings and lamps that can be used is currently small. The RadioRay plug-in is new and requires 3DStudioMax, but has the advantage, if it performs as expected, of working with a much larger range of lamps and fittings immediately.

1

1: RadioRay plug-in for 3D StudioMax and 3D Studio Viz by UK company LightWorks

2

2: A fully rendered interior created with the use of Lightscape

1: Asgard from Norse Mythology and Marvel Comics by Akos Ignac Ginder – winners of the 1997 Graphisoft Student CAD competition

2: The Church of Reason by Jad Silvester and Todd Henderson – second prize

AEC Systems '97

by Ralph Grabowski

Architects got a chance to see new directions in CAD software at the AEC Systems show, held earlier this year in Philadelphia, USA. In front of 23,675 attendees, CAD vendors showed some radical new software products.

• **AutoCAD AEC** is Autodesk's first in a line of vertical market versions of AutoCAD Release 14. Unlike the AEC package available for many years in England, this one is currently only available in the USA and Canada. The package combines AutoCAD Release 14 architectural utilities, 2,000 symbols, the 3D WalkThrough software, a one-year subscription to the DesignBlocks technical specification library of building products, and the DWG View software. Some of the architectural utilities include AEC Camera (creates and controls perspective views), AEC Mend (fixes lines and arcs), and improvements to R14's rendering.

• The Kinetix division of Autodesk showed off **VIZ**, a version of 3D Studio specific to design professionals. VIZ adds commands to 3D Studio that a CAD user would expect, such as object snaps, 2D editing commands, and 3D Boolean operations. For the architect, VIZ has nine parametric doors and windows, along with 50 new materials, such as brick and fabric. In addition to setting the sun's position, SunCam lets you see the model from the sun's viewpoint. To handle heavy-duty rendering jobs, such as that required for creating animations, VIZ can distribute the rendering tasks to 10,000 networked PCs. *More information is available from the www.ktx.com Web site.*

• Nemetschek Systems has found it a tough job to sell their allPlan AEC CAD software into the North American market. For this reason, Nemetschek is taking a second approach, called the '**Arch 14 plug-ins**.' The AEC functions in allPlan are being re-written from the ground up in ObjectARx, AutoCAD's object-oriented programming interface. Each function will be an individual module, priced from US$99 to US$249 each. Some of the modules will include automatic stair and roof design, wall and opening creation, editing in hidden-line mode, and project reports. I found it curious that ARCH 14 will be sold only in North America – even though you will be able to purchase it from the *www.arch14.com Web site.*

• At AEC Systems, Nemetchek announced allPlan v12.3. The next major release (called Release 14) is due out in the first quarter of 1998, while the specifications for Release 15 are under way. I noticed that Nemetschek is avoiding the name "Release 13", hopefully to avoid the problems Autodesk encountered with its Release 13.

• For many years, SoftSource sold its DXE drawing exchange engine to large corporations and other CAD vendors. Even Autodesk used DXE to create DWG/DXF translators for its AutoSketch and Generic CADD products. With that knowledge, SoftSource spent the last four years creating Vdraft, a CAD package that uses the same file format as AutoCAD Release 12 (support for Release 14 is promised with the next release). That makes **Vdraft** the only CAD package that is 100 percent compatible with the DWG format. There are some similarities in the user interface, primarily in the area of commands: Vdraft's commands are verbatim with about two-thirds of the commands found in Release 12. However, there is no compatibility when it comes to programming. SoftSource decided to make a complete break and use Visual Basic, instead. *Vdraft is shipping now; a 30-day demo is available from the www.vdraft.com Web site.*

• The Boomerang Project ... IntelliCAD ... **Phoenix** ... the name keeps changing but Visio Corp. is declaring the same aggressive strategy to unseat Autodesk's dominance in the CAD world. I was a bit bemused by Visio Corp's extravagant claims: they want to become the single standard for creating, storing, and exchanging technical drawings. With 1.6 million copies of Visio sold, the company plans to place the familiar Visio Technical for technical drawing at the low-end, Phoenix for 2D and 3D drafting, and provide hooks to a high-end CAD vendor for providing 3D solids at the top end. In fact, at a press conference held at AEC Systems, representatives from Cyco, Hitachi, Eagle Point, and Ketiv announced their applications were already running on Phoenix.

Phoenix began as a top-secret project within Softdesk. When Softdesk was purchased by Autodesk, the American government forced Autodesk to divest itself of Phoenix. Visio snapped up the software, having earlier hired the entire programming team. The product is due to ship by year's end. *More information can be had from the www.visio.com Web site.*

• At AEC Systems 97 Graphisoft announced the US$30,000 prize winners for their 1997 student competition. Graphisoft's latest offering is **ArchiCAD for TeamWork** a new way for architects to share the designing and drafting of a single building. "Similar in many respects to the document sharing functions in modern operating systems, ArchiCAD for TeamWork offers equal peer-to-peer access to a building project and object libraries. This allows members of a project team to work on separate parts of the same project, relatively autonomously, and merge their work into a master project file on command. No server software other than the operating system's network capability is needed."

Next year, AEC Systems '98 will be held in Chicago IL USA, 16 - 19 June.

CAD products under US$1,000

by Mark Dytham

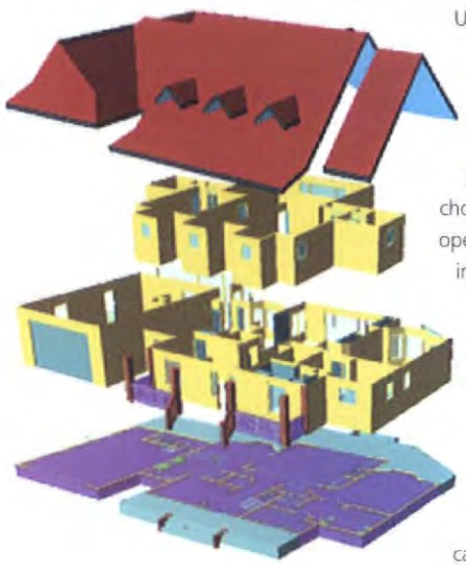
Looking at CAD packages under US$1,000 it becomes clear that these mid-range packages are beginning to give the big boys a run for their money. In fact packages costing as little as US$130, although not containing major 3D capabilities, could still be seen as professional level software packages.

Most of the packages look toward people who are not professional CAD operators. That includes architects, mechanical and civil engineers, landscape designers who know how a CAD program can benefit them, but who are too busy to spend countless hours learning a complex, cumbersome program. This is very important, especially if you have a small office and can't afford too much "down time" while you learn your CAD program.

Madis Pihlak, associate professor and coordinator for the University of Maryland's landscape architecture program, uses MiniCad in his CAD courses. He actually lets students teach themselves to learn the program, which allows him to use his class time to focus on design. "I could never do that with packages in the US$2500 range," he says. A CAD program that is easy to use can actually recede into the background, allowing his students to concentrate on their designs, even though most of them have no prior CAD experience."

All of the programs reviewed below, with the exception of AutoCAD LT, are not system dependent, with both Mac and PC versions available allowing them to dove tail into any office environment. The mid-range packages are also a lot lighter on system requirements than the top end packages, and as such little or no hardware up grading will be necessary.

All of which suggests these mid range packages should be considered as serious contenders in the CAD market.



1

• **TurboCAD V4** by IMSI, is one of the most popular software packages in this market. With over a million units sold to date, TurboCAD was rated in June by PC Data as the best-selling retail CAD product for the last 12 months.

IMSI believe TurboCAD "has the functionality of a professional CAD product but is as easy to use as a paint program, while delivering 90 percent of the functionality of high-end CAD programs for ten percent of the price". Certainly with the standard version costing US$129.95 and the Pro version, which includes database connectivity and advanced raster-to-vector conversion costing US$295.95, the price performance is very impressive.

Interchangeable user interface configurations give the user a choice of various levels of operation from beginner to intermediate to advanced – reducing the learning curve and providing easier accessibility to the software for the entry level user.

TurboCAD fully supports AutoCAD file formats and users can read and save existing drawings in AutoCAD's native .dwg format, .dxf format, or even the .dwf web file format. From an enterprise perspective, it is easy to integrate into an existing CAD group with existing AutoCAD seats. TurboCAD is available for both Mac and PC.

IMSI can be contacted through http://www.turbocad.com/

• MiniCAD by Diehl Graphsoft, is another very popular CAD program which is now available in both Mac and PC versions. The latest version, **MiniCAD 7** released a few months ago, is now fully compatible with the AutoCAD file formats. With powerful, award-winning design and drafting capabilities, along with ease of use and cross-platform functionality, MiniCAD 7 was recently voted "the easiest, most cost-effective way to design" by top designers during the Designers CAD Shootout, an annual CAD software competition sponsored by the Boston Society of Architects.

MiniCAD 7 offers true solid modelling tools and a powerful Digital Terrain Modeller, along with realistic rending and lighting functions. The software even allows the creation of thermal analyses with the new Sun Position dialog box. Along with supporting Quickdraw™ 3D, MiniCAD 7 also offers dashed hidden line rendering. In combination, these sophisticated features let you create realistic models without leaving your Drawing Window.

If you are are only looking for 2D capabilities then Diehl Graphsoft offers a very competitively priced pared down version of MiniCAD called Blueprint costing around US$300. If in the future you want to upgrade to a full version of MiniCAD then a side upgrade can be purchased for US$500 with the full version of MiniCAD 7 weighing in at US$800

Diehl Graphsoft can be contacted through http://www.diehlgraphsoft.com

2

• **DrawingBoard**, by Ashlar Inc is similar to Blueprint, an elegant 2D package with a bigger 2D/3D brother Vellum, again competitively priced at US$175. Both programs are powerful, simple, easy-to-use and have the precision, flexibility and power of top end packages, yet are not cumbersome or difficult to use.

DrawingBoard and Vellum combines an incredibly easy-to-use user interface with the patented Drafting Assistant, making it a very easy package to learn. Both programs are Mac and PC compatible making them ideal for offices with mixed systems.

Ashlar can be contacted through http://www.ashlar.com

• **AutoCAD LT**, Autodesk's pared down version of AutoCAD priced at around US$300 for Windows 3.1 and US$450 for Windows 95, now has a user base of more than 450,000. The latest version of AutoCAD LT incorporates numerous tools designed to help new users get started drawing quickly, as well as features that accelerate both new and experienced users through their work. If you are easing into CAD, or need a low-cost way to add AutoCAD compatible seats or work-at-home seats then this program is a good solution. Although the other programs reviewed are able to read and write AutoCAD .dwg files, it always remains a zen art converting one drawing file type to another, with text fonts and sizes regularly getting corrupted. AutoCAD LT does offer 100 percent compatibility with AutoCAD files.

Autodesk can be contacted through http://www.autodesk.com/

1: Even TurboCAD's modelling and rendering engines are quite sophisticated considering their price

2: New Smart Tools in MiniCAD 7 include the Wall Framer feature which automatically estimates the placement and number of studs needed in the design, as well as providing views for all sections

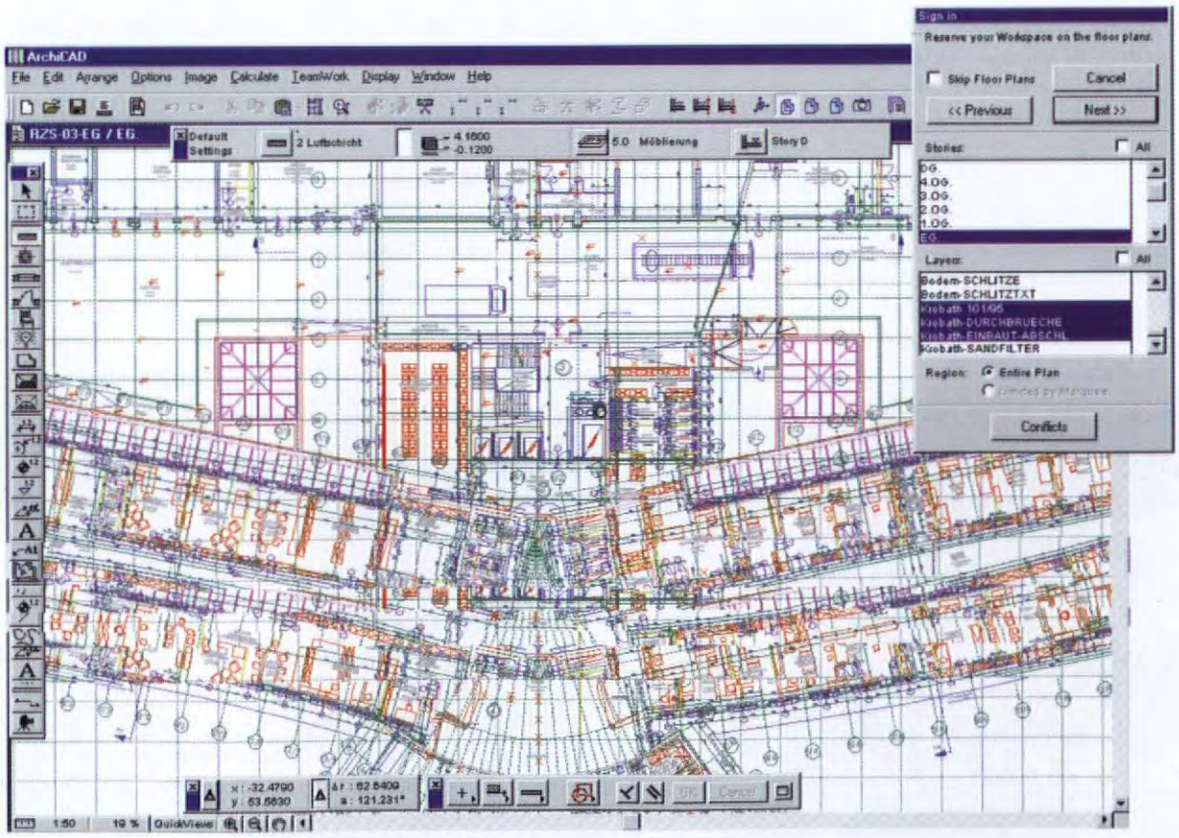
Sign-In To...

Simply and powerfully, ArchiCAD allows architects to work intelligently. Now, ArchiCAD for TeamWork allows **many** architects to work **together** intelligently.

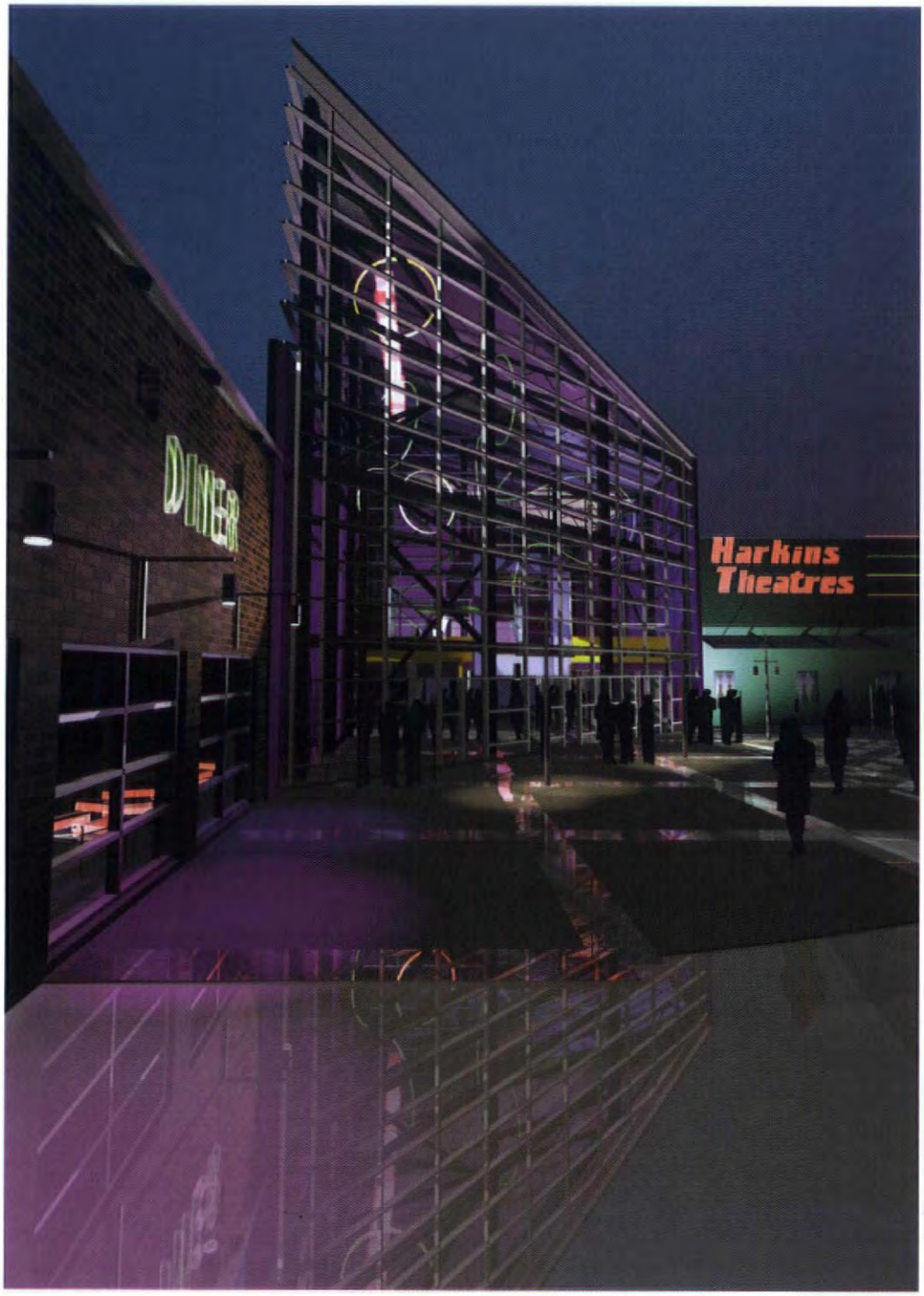
ArchiCAD for TeamWork is an original and elegant solution to the problem of sharing the work of building design and documentation. Easy and intuitive to set up and use, ArchiCAD for TeamWork allows architects to collaborate **simply, flexibly and securely** - while all building information remains stored in ArchiCAD's object-oriented, compact and integrated 3D project file.

"Graphisoft has taken a great product and made it even better. With projects becoming more complex and the need for information to be shared with more people, ArchiCAD for TeamWork will improve efficiency and document management." ***- Chuck Hill, Orcutt/Winslow Partnership***

Employing document sharing functions similar to those of modern operating systems, ArchiCAD for TeamWork offers equal peer-to-peer access to a 3D building model and object libraries across LANs or WANs. Its high level file sharing is both network neutral and network independent. ArchiCAD for TeamWork also supports collaboration with engineers and consultants with AutoCAD r13 dxf and dwg compatibility and the ability to import and re-export Xref files using its new Group feature.



Recreation Center – Bad Schallerbach. Architect: D.I.W. Nubsbaumer, Vienna, Austria



Harkins Theatre. Designed and modeled in ArchiCAD, rendered in Art•lantis Render.
Architect: CCBC Architects, Inc., Phoenix, Arizona.

"Flexibility and simplicity of ArchiCAD for TeamWork are key attributes for our design team who work on large scale projects with tight deadlines."
- Marty Ball, CCBC Architects, Inc.

"ArchiCAD for TeamWork shows that Graphisoft is committed to offering solutions to large architectural offices."
- Randy Sietz, Core Group

"We're excited about the new possibilities this opens up for us to work collaboratively among our offices."
- Bradley Skaggs, Studios Architecture

"Our work for a number of large retail clients demands a CAD system that can provide quality internal visualizations both quickly and easily. ArchiCAD achieves this at an early stage in our creative design process. Only a program written for designers by designers can offer this."
- Jevon Tucker, CAD manager, Adam Rawl Associates

ArchiCAD® for TeamWork

ArchiCAD® for TeamWork is available for Windows 95/NT and Mac OS.

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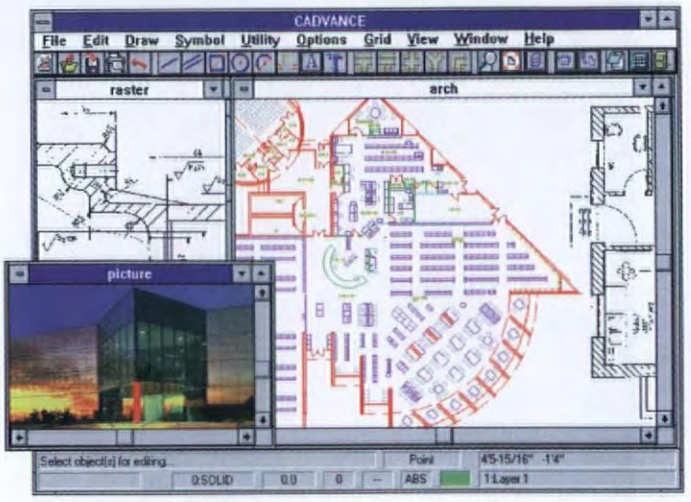
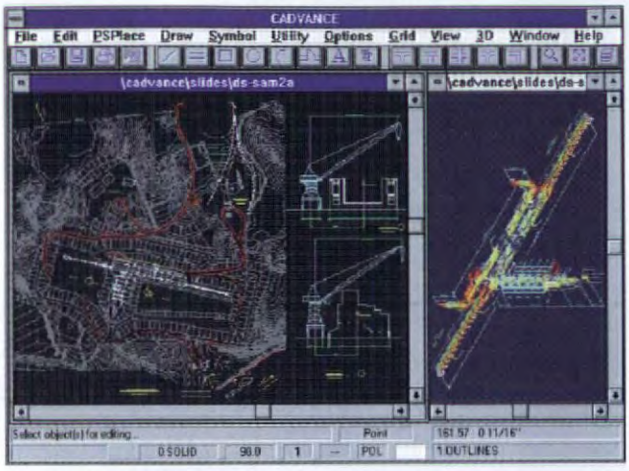
HIGHLIGHTED FEATURES INCLUDE: DXF, DWG, HPGL input/ouput, VGS 3D (hidden line removal, rendering, walk-through), ANSI/ISO standard dimensioning, associative dimensioning, reference files, mosaic plotting, and much more!

CADVANCE is fully compliant with Windows specifications such as CUA, MDI, DDE, OLE, etc.

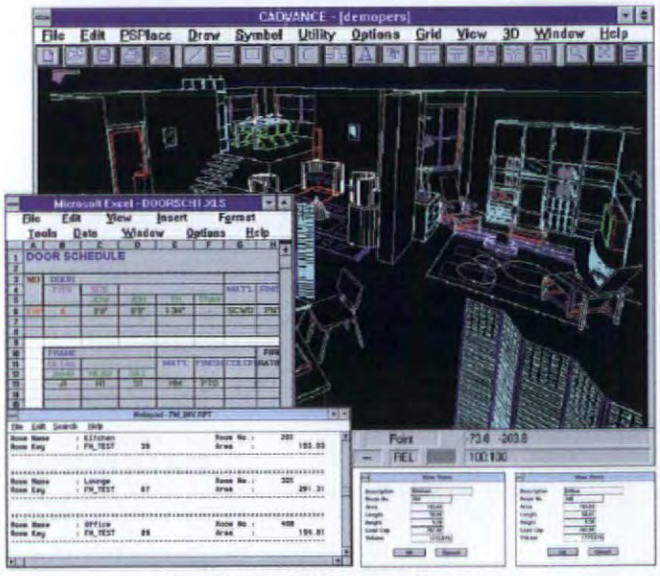
With CADVANCE, you can also easily develop applications using CDI (CADVANCE Development Interface) in C, Macros, and Delphi.



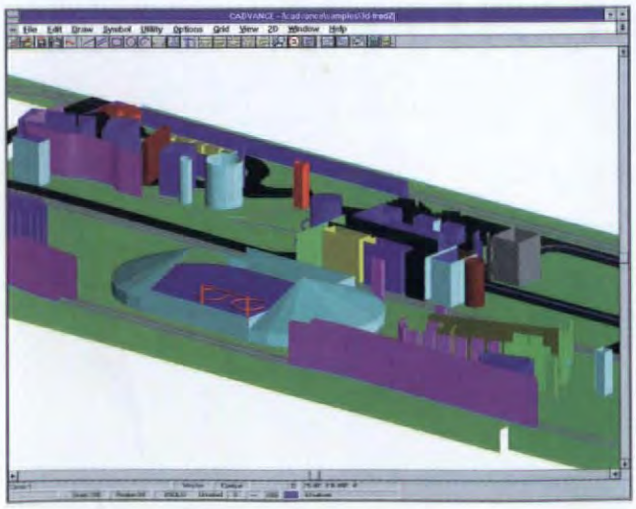
Raster data, picture and design work



Design and planning of Dam construction



Graphics with Database and Report



Elaborate 3D by CADVANCE

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AUSTRALIA	Computer Aided Arch	Ph: +61 2 9876 5153	Fax: +61 2 9876 6585

CADVANCE International Versions

Cadvance is available in several localised versions. In Japan the CADVANCE Kanji version is called CADVANTAGE which is sold through FIT Pacific. Another CADVANCE Kanji version called CADWave is sold through Systems Nakashima. The Chinese version is available through Mighty Exim. Likewise an Italian version is sold through NEOTECNICA and a German version through AT+C. FIT is also planning to produce a Spanish version.

CADVANCE Applications

CFM2100, cabling and facility management, is developed by German distributor AT+C and is sold worldwide through the FIT organisation. The Cable Manager program is a very high-end system which automates the management of data cabling within a facility while the Facility Management program manages and reports on space allocation in a facility. DASS system, furniture design and layout system, is developed by Design Assistant and is sold worldwide. The DASS program is a tablet-based system and creates full 2D/3D drawings of furniture layouts by easily picking icons on the tablet. Architectural and general design tools based on Italian designed systems is developed by Italian distributor, NEOTECNICA, and is sold worldwide. This program is a collection of macros and user-interface routines and includes tools for creating cornices, 3D doors, roof, and stairs. FM PRO (facility management) and Connect I.T. (network management), developed by UK distributor, Calibre, is also sold worldwide.

AE Tools, architecture and engineering tools, is developed by US (Texas) dealer AE Technologies and is the most sold application in the U.S. 3D Tools is developed by New York dealer Computer Ventures and has unique 3D function tools for CADVANCE.

FIT
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