

WORLD ARCHITECTURE

The business magazine for the global architect

Issue number 84 | US \$18.00 | UK £12.00 | March 2000



**"One of the
best things I've
ever done."
Frank Gehry**

Berlin enters the final stages | All change – the era of the super-hub | Tschumi works out in France

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How to turn late arrivals into regulars.

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WATER TECHNOLOGY



Cover DG Bank, Berlin, by Frank Gehry. Photograph by Christian Richters

WORLDARCHITECTURE

Contents Issue number 84 | March 2000

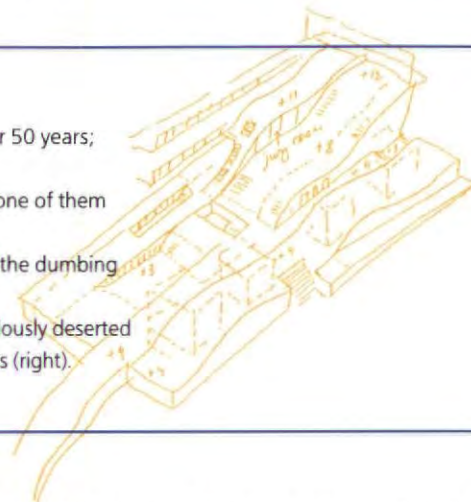
Regulars

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News and features

- 22 **News** Spanish politics keep Siza out of Ceuta; Jean Prouvé draws them in again after 50 years; Paul Andreu directs Morocco's World Cup bid, and much more.
- 30 **Analysis** Of the many foreign architects working on major commissions in the UK, none of them are German. Why should this be?
- 34 **Analysis** Does the fact that this year there are nine European Cities of Culture herald the dumping down of Europe's most valuable export – culture?
- 40 **Building study** The first phase of Bernard Tschumi's new architecture school on a previously deserted site in France shows the promise of things to come, while revelling in its incompleteness (right).



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City focus

- 46 **Confidence building** Since the mantle of capital city came to rest on Berlin's shoulders, it has seen an unprecedented building boom. Some say it has been quantity at the expense of quality, but some jewels shine out.
- 54 **Fish out of water** The DG Bank by Gehry, on a tight site and surrounded by standard-issue commercial buildings, displays the architect's trademark amorphic forms and is, he feels, one of his finest pieces of work.
- 62 **Architecture for the masses** Murphy/Jahn's Sony Centre in Potsdamer Platz is based around the business and expression of entertainment.
- 67 **Foreign affairs** An extension for the new foreign office by Mueller/Reimann Architects is built expression of the new spirit of open-ness of government in Berlin.
- 70 **Inner strength** Only one metre of Dominique Perrault's Olympic-scale swimming pool and velodrome shows above the ground, but inside all is space and light.

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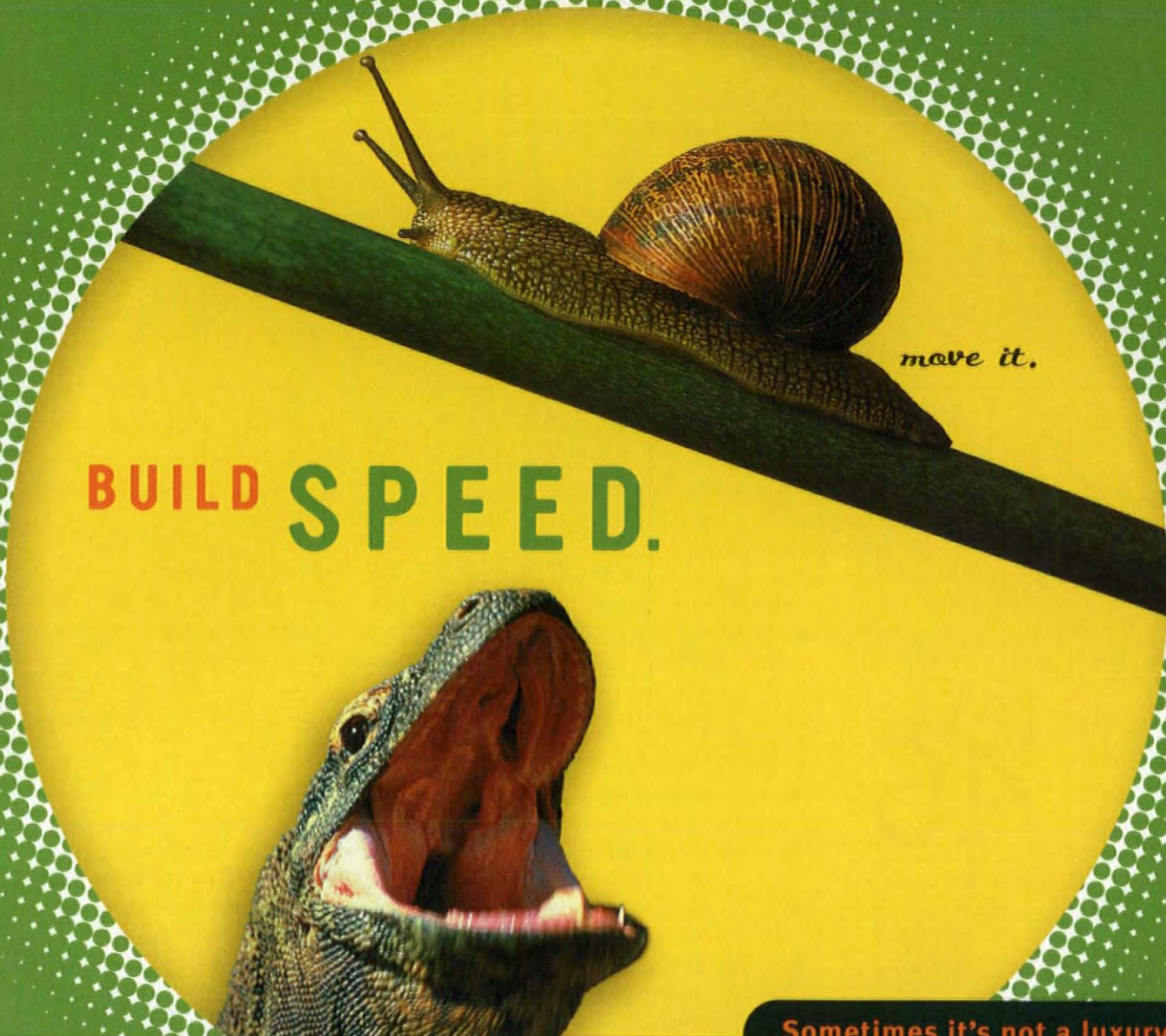
Sector analysis – Transport interchanges

- 74 **Access all areas** The world is getting smaller, as we are always being told. More people are travelling more quickly to more destinations. WA introduces the strategic transport hubs which will facilitate the continued acceleration of world travel, and generate immense new metropolitan developments. From Panama to Arnhem, architects are already creating the destinations of the future.

88

Products – Interior finishes and fittings

- 88 **The colour of money** It has been known for some time that colour has an affect on a building's occupants, altering their perceptions of space and even their mood. Now, colour forecasting and consulting have become an artform, and one which it may just pay to exploit.
- 94 **Race to the finish** The interior finishes market is more varied than ever, meaning that just about any effect can be created with anything from glazed plaster to wire mesh.



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Tall order

It's not beyond the wit of man to design and construct a building on time and within budget. Nor is it rocket science to make that building work for the end user, and provide an intelligent design solution to make the client glow with pride. But add to those fundamental requirements the running of a solvent office, the management skills to retain the best designers and the foresight to predict the shifting sands of the industry's fortunes, and winning the imaginary "most successful architect in the world" award slips from the grasp of even the best-known practices.

The globalisation of all major industries increasingly affects architects' thinking and operation, as the passport to success becomes ever more elusive. Architects should be sensitive to diverse cultural and business environments, as well as professional issues, be immune to the ravages of international travel and agile in their negotiation of building regulations which change from one week to the next. You're not the only one who considers this a tall order. At times rocket science looks infinitely preferable.

Happily, most of you relish the challenge. There is something irresistibly seductive about the impossibility of the task. This is why throughout 2000 *World Architecture* is committing itself to bringing you a series of crash-courses on how to enter the lion's den without getting eaten alive. The first is in Atlanta, Georgia: a six-day event, co-sponsored by WA, between 28 February and 4 March at the Georgia Institute of Technology, including "Where in the world are you?" on Friday 3 March. This will be followed by events in Durban, South Africa, and Birmingham, UK, where WA will be responsible for the international component of conferences for South Africa's property association and the British Council for Offices, respectively. Actively supporting events which promote the cross fertilisation of ideas from disciplines across the construction board seems to us to be the way forward. Stop the navel gazing, and join us in one of these three corners of the world.

For information on any of these events please email
Nicola_Turner@tbg.focusnet.co.uk

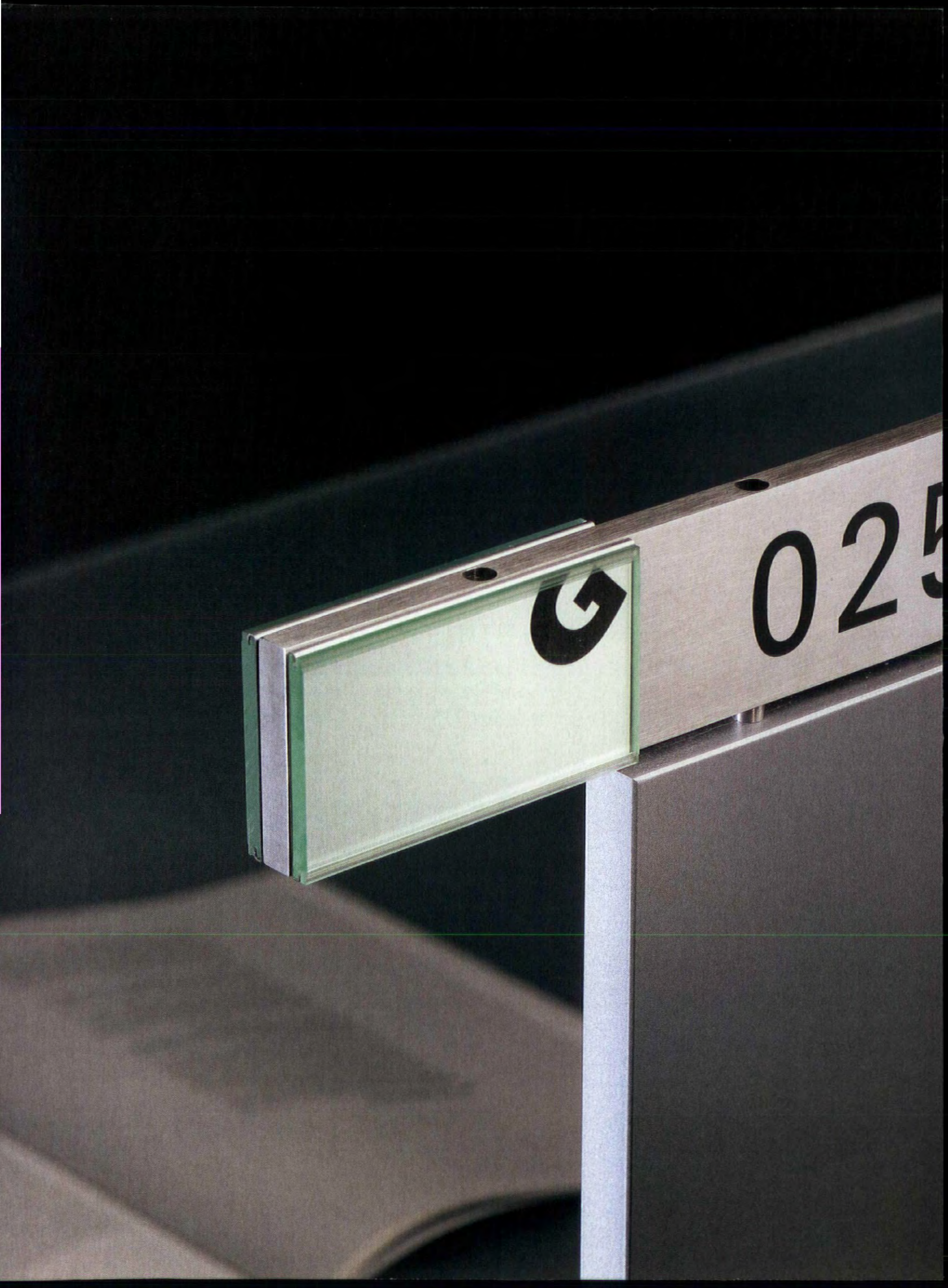
Nicola Turner, editor

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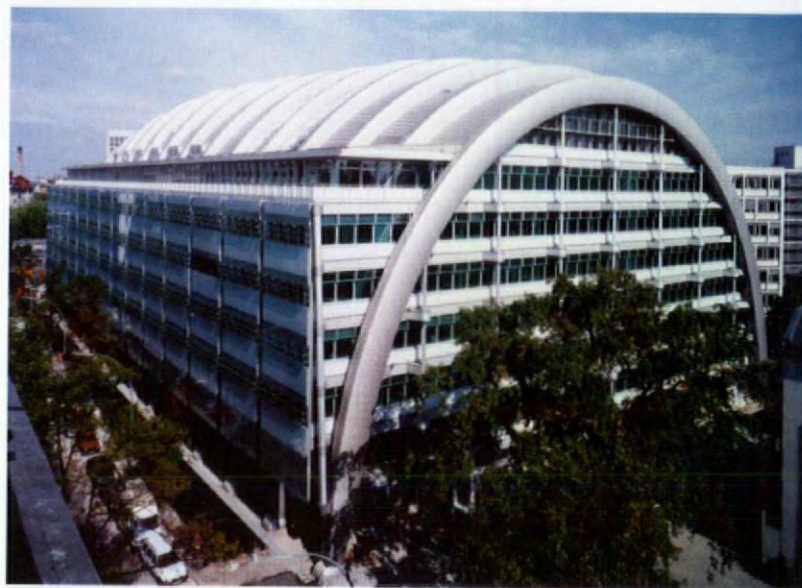
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SKR Architects, Bochum
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1998

end?

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1st Renovation 1956
1995/96 Roof SS 316 L Nirosta®
System NIROSTA-Metalldach®



Ludwig Erhard Haus, Berlin

Build 1998
Architect Nicholas Grimshaw, London
Roof SS „SharkSkin“ 316 L
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1995-1996



1996



Zollhof, Düsseldorf

Build 1998
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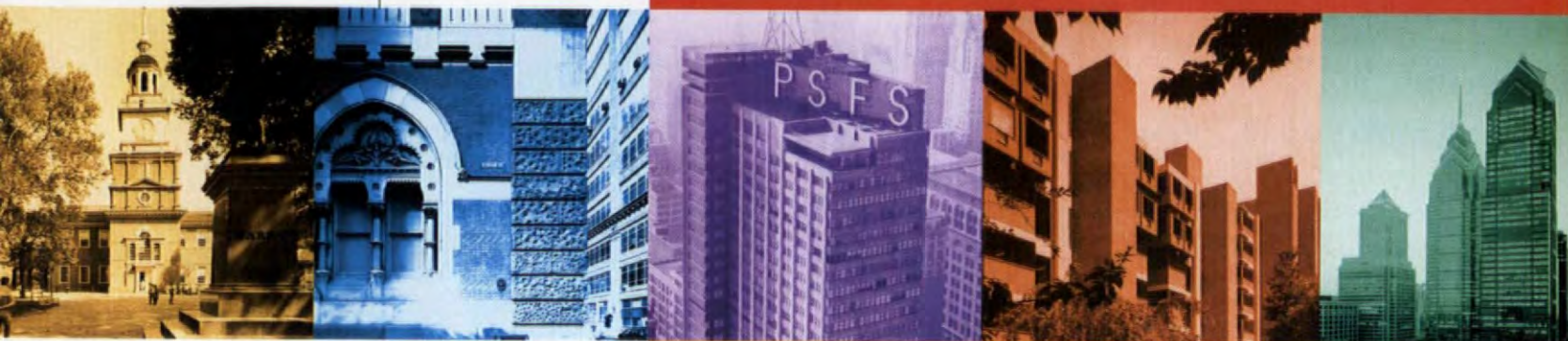
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CJ ☐ Other

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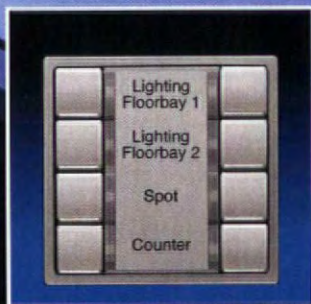
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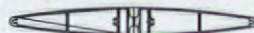
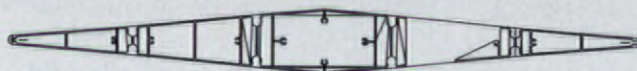
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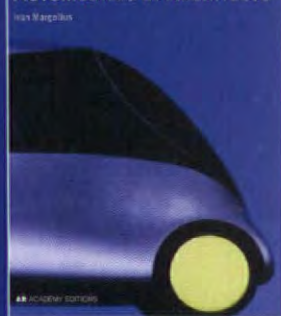
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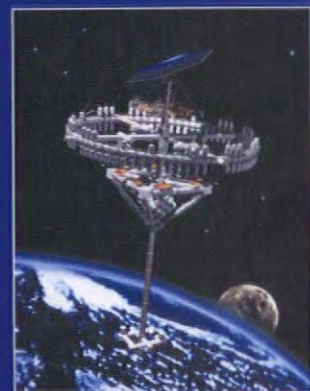
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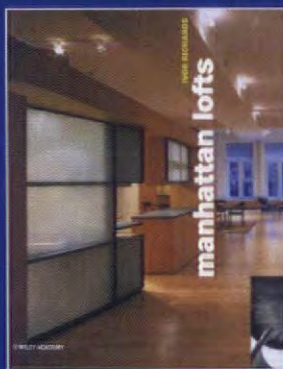
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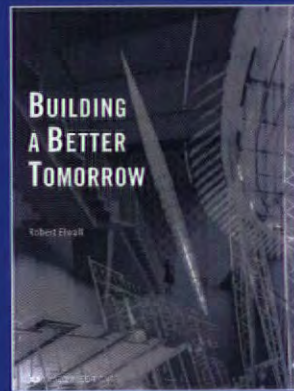
Manhattan Lofts

IVOR RICHARDS, University of Newcastle School of Architecture, UK

The New York City Loft has become a tradition. It is possible today to look back at the evolution of the loft as an architectural type that has influenced the whole concept of the New York apartment dwelling, particularly the nature of its space. This book presents a critical review that is set within the context of a group of ten different architects who have generously showcased their exemplary work - ranging in style from minimalist to opulent and sophisticated

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ROBERT ELWALL, London, UK

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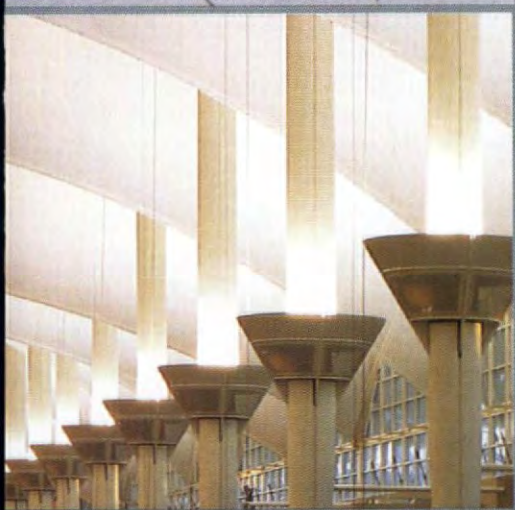
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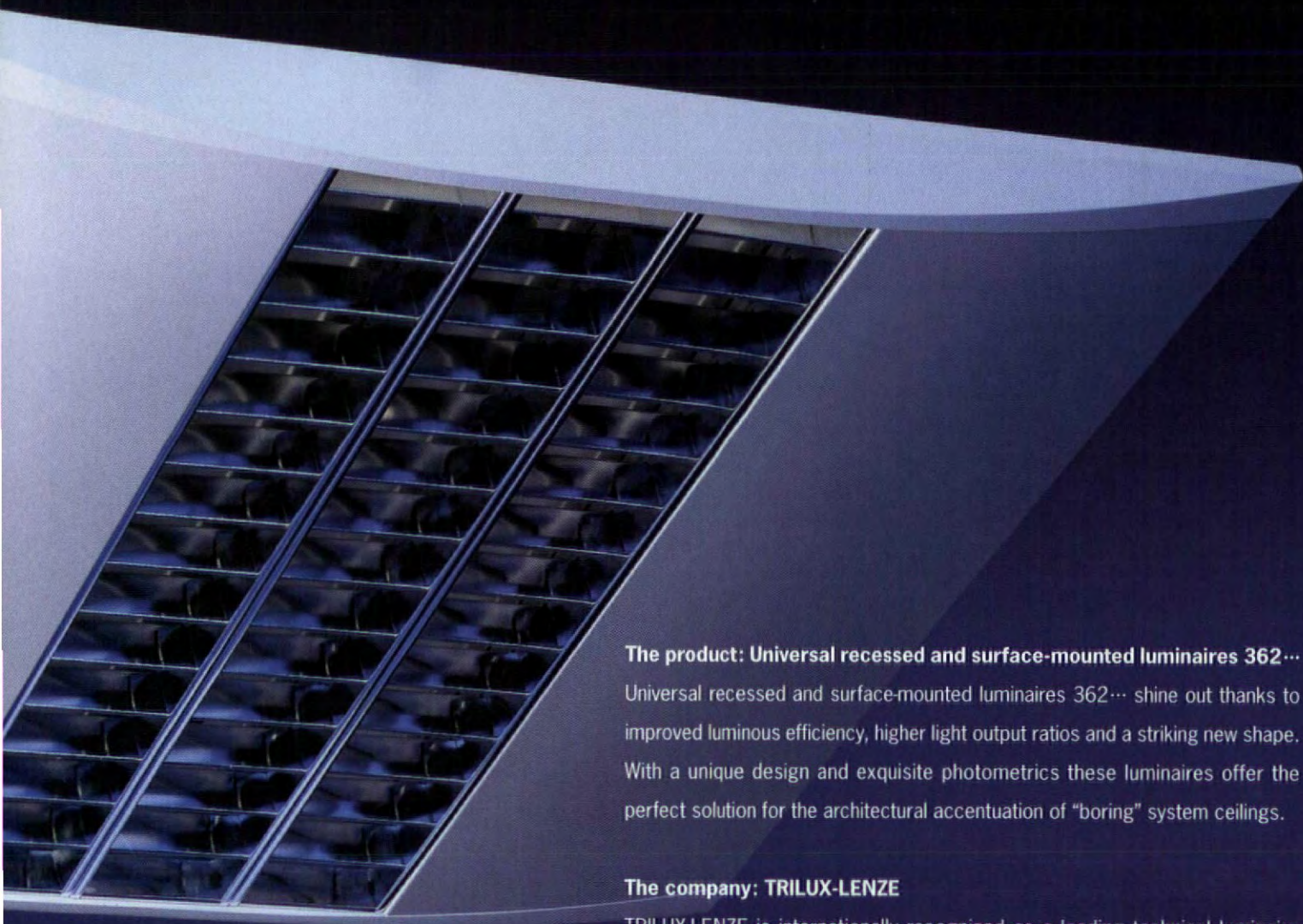
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Red interior; colour design David Bianchi



Blue house; colour design David Bianchi

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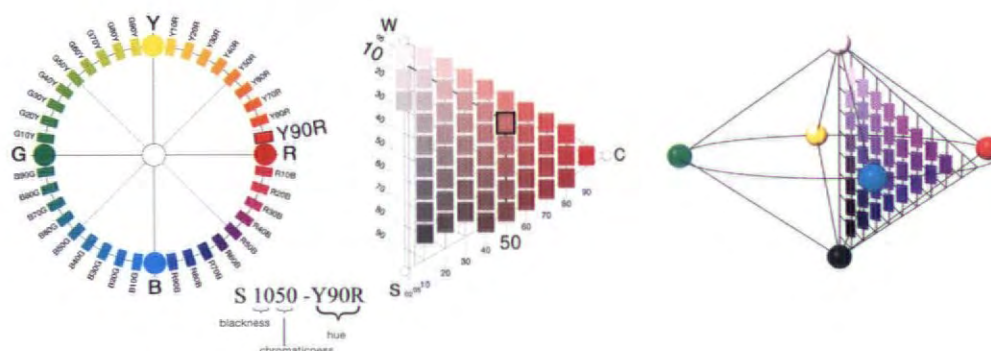
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Colour design in architecture with NCS colour samples

Siza frozen out of Ceuta

Politics punish Portuguese Pritzker Prize winner

SPAIN

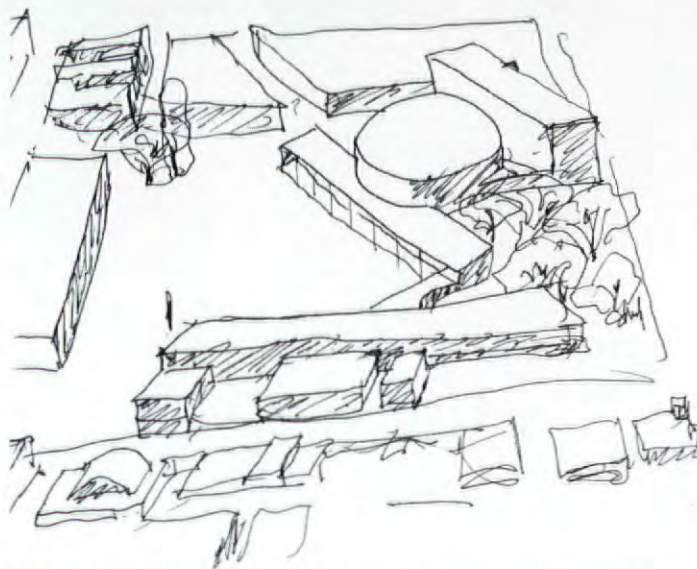
A cultural centre designed by Pritzker Prize-winning Portuguese architect, Álvaro Siza, for the Spanish city of Ceuta, has been cancelled. The decision to ditch the complex was taken by the new local government of the North African territory.

The US\$15 million project – to convert a former military barracks in the city centre into a music conservatory, school of languages, concert hall and library – had been in development for two years, and was due to go on site this summer. It would have been one of the most high-profile buildings in the city's history.

Victim

The cultural centre is the victim of a political battle that reaches to the Spanish mainland and Madrid. In municipal elections last June, the small Independent Liberal Group Party (GIL) wrested control of Ceuta's governing council from the conservative Popular Party, with the vote of a single dissident member of the Socialist Party.

The GIL is presided by Jesus Gil,



Siza's sketch for Ceuta's cultural centre, on the site of a former military barracks, branded as elitist by the city's mayor, who wants a conference centre instead

notorious owner of Athletic Madrid, the second largest soccer club in the Spanish capital. As the elected mayor and prominent developer of the famous coastal resort of Marbella, on the costa del Sol in southern Spain, Gil has flouted urban planning regulations and controls, authorising private construction on public land, excessive build-

ing densities, and other infractions and abuses. In response, the central government's ministry of development is moving to strip Gil of the power to control building and planning in Marbella, Ceuta and elsewhere.

Gil is also facing criminal charges for the alleged misuse of municipal and soccer club funds.

Elitist?

Opposition parties in Ceuta see the cancellation of the Siza project as part of a hurried effort by Gil's party to privately develop the valuable 6,000-square-metre site before the ministry of development freezes the city's planning powers, according to Spanish newspaper *El País*.

Ceuta's president Antonio Sampietro, on the other hand, has dismissed the project as "elitist", saying that it, "does not respond to the true cultural necessities of Ceuta's citizens". He has announced in its place a major commercial development on a proposed landfill in the city's port, comprising congress centre, luxury hotel, bullring and a shopping and entertainment complex – a project that, as critics point out, will also require authorisation from Madrid.

The US\$15million cost of Siza's cultural centre was to have been paid entirely by Madrid and the European Union. Siza still expects to collect fees of US\$950,000, but he turned down an offer from the Gil administration to design the new port meeting centre and hotel. **DC**

Ito makes international debut at last

Two firsts for Tower of Winds architect – it's not in Japan, and it's healthcare

FRANCE

Toyo Ito, who has been making waves in Japan since his Yokohama Tower of Winds (1986), has finally won an overseas commission.

Ito has been selected ahead of four French architects, including Jean Nouvel, to design a terminal care hospital facility for the Cognacq' Jay Foundation in Paris. WA has been told that the competi-

tion came down to a straight fight between Ito and Nouvel.

The invited competition requested proposals for a eight-storey (two below ground), 6,000-square-metre building to replace the ageing building currently occupied by the Hôpital Cognacq' Jay. Illustrations of the winning scheme were unavailable at the time of going to press.

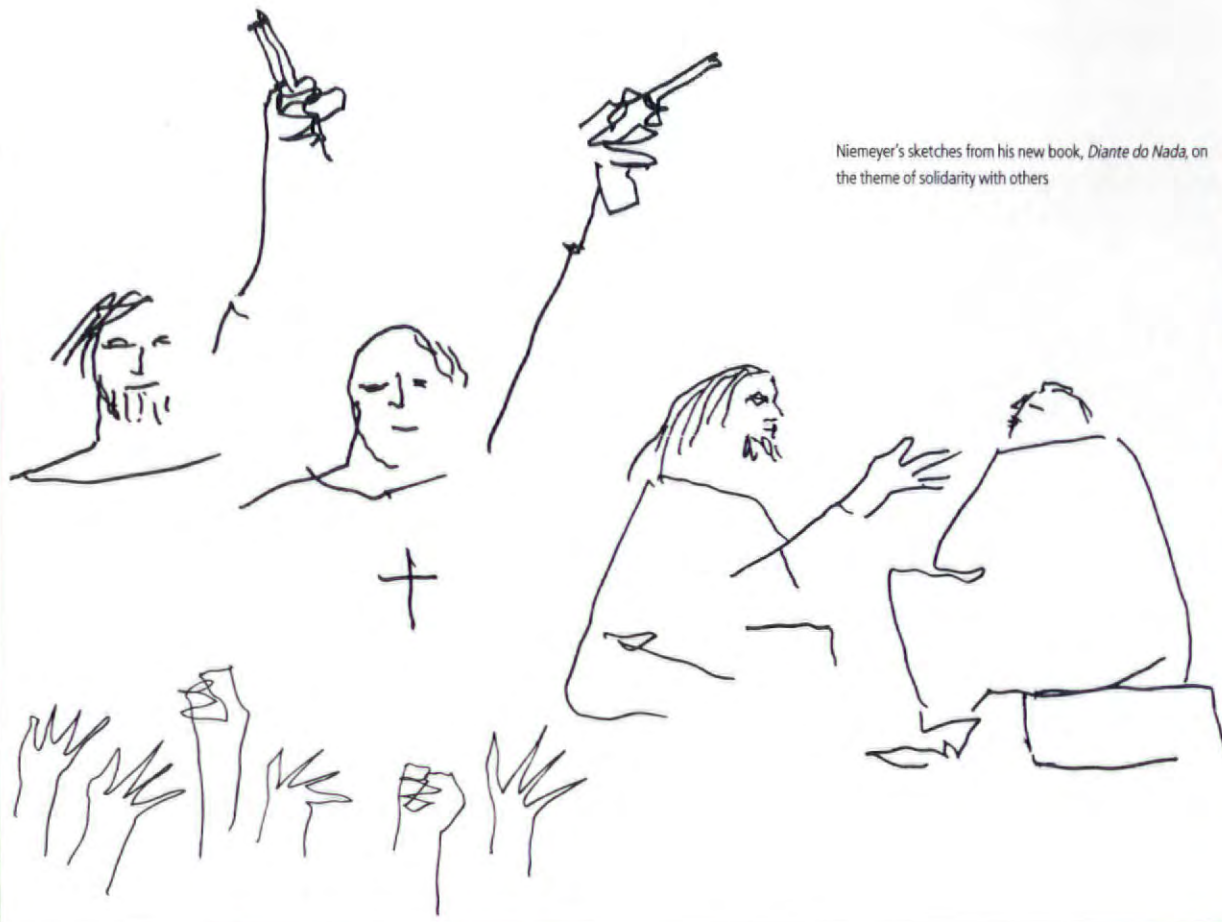
For Ito, it is both his first healthcare facility and his first foreign commission. A spokesman for Toyo Ito & Associates said the practice hopes the project will raise its profile overseas.

Ito is best-known for a series of innovative solutions in tight urban spaces, notably in Tokyo. White U house in Tokyo, the Shimosuwa Municipal Museum, Nagano and

Hotel P in Hokkaido are some of the projects for which Ito gained global critical acclaim during the 1990s. **CN**

Links

<http://www.google.netscape.com/netscape?query=toyo+ito>
<http://www.thetake.com/take.html/42ndst.html>
<http://www.rahul.net/arctour/a057.html>



Niemeyer's sketches from his new book, *Diante do Nada*, on the theme of solidarity with others

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Oscar Niemeyer does the write thing... ... and Brasilia gets recorded on CD as "hard-step jungle"

BRAZIL

Oscar Niemeyer has written his first novel at the age of 92. A story of political struggle, *Diante do Nada* (Confronting the Void) is dedicated, in Niemeyer's words, "to the thousands of young people who have converted me into a myth, to show them that, though it may be interesting to become an architect, a doctor or a journalist, the most important thing in life, given that life is so short, is to live it in solidarity with others, fighting for a more just society."

The story revolves around a dreamlike romance between its protagonists. It is illustrated with drawings by Niemeyer.

Meanwhile, in New York, Caipirinha Productions has told WA that it has plans to set Oscar Niemeyer's 1950s masterpiece, the city of Brasilia, to music. The New York record label hopes that *Brasilia*, by German musician Panacea (described by Caipirinha as a purveyor of hard-step jungle) will be the fourth volume in its "Architettura" Series. The series of single-artist CDs features electronic musicians setting a landmark architectural project to music. The three volumes to date feature musical interpretations of Nicholas Grimshaw's Waterloo Terminal, London; Toyo Ito's Tower of Winds, Yokohama and Itsuko Hasegawa's Museum of Fruit. If all

goes to plan, *Brasilia* will be available by early spring.



To order a copy of *Diante do Nada* contact Editora Revan, Av Paulo de Frontin, 163 Rio Comprido, 20260-010 Rio de Janeiro, Brazil
Tel: +55 21 502 7495. Fax: +55 21 273 6873
<http://www.revan.com.br/>

For further details on Caipirinha Production's "Architettura" series contact Caipirinha Productions, 510 La Guardia Place, Suite 5, New York NY 10012.
Tel: +1 212 766 1450. Fax: +1 212 964 4075
<http://www.caipirinha.com>

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THIS
MONTH

Colonialism isn't dead: four French Overseas Territories will benefit from European architectural solutions, via the European competition.

page 26

Governor's Island is the last spot of unbuilt land in New York City. Not surprisingly, architects are clamouring to get their hands on it.

page 28

Does Kansai airport really need its planned second runway? And will Piano get a chance to design it?

EUROPE

New contracts

AUSTRIA/GERMANY

Zaha Hadid has had a busy month. The London-based architect has won a competition to design a US\$10.4 million Olympic ski-jump in Innsbruck for the Austrian Ski Federation. The design, which includes a 48-metre high tower from which skiers will make 120-metre long jumps, will go on site this year. Local architects **Peter Lorenz** and **Henke & Schreieck** of Vienna were placed second and third respectively. Hadid has also won her fourth project in Germany: the Science Centre in Wolfsburg, a US\$25 million interactive public complex. Hadid was selected ahead of 26 other invited architects, including **Coop Himmelb(l)au**, **Dominique Perrault** and **Enric Miralles**. Due for completion in 2004, the Wolfsburg Science Centre is the architect's largest project in Germany to date.

SPAIN

David Chipperfield Architects has been appointed to design a housing development in Madrid. The low-cost housing scheme, funded by the Spanish government, requires the London-based architect to incorporate 160 apartments into a 16,200-square-metre building. The project will start on site in December.

SWEDEN

Pawson Williams Architects (PWA) has beaten an international field, including **Richard Rogers Partnership** and **Ralph Erskine**, to a major commission in Stockholm. The 130-metre-long, mixed-use scheme in the heart of the city will form a new edge to the Sergels Torg public square, home to the Stockholm Kulturhuset (culture centre), introduce a large component of residential accommodation, and establish new civic and cultural uses. It will also include a new street-level metro entrance.

Getting European in the tropics

Globalisation reaches the Caribbean, in the form of European



Clockwise, from top: European schemes for La Réunion, Guadeloupe (special mention), Guadeloupe (winner), and Martinique

FRANCE

The results of the latest European ideas competition have introduced European architectural concepts to parts of the world not often associated with cutting-edge design.

Under the title "Ways of Life and Tropical Architecture" architects under 45 from all affiliated European countries were asked to propose solutions to specific urban problems confronting four French Overseas Territories: Guadeloupe, French Guiana, Martinique and Réunion.

The Montreuil-based organising committee met in January to award four first prizes (of US\$9,700) and four special mentions (of US\$3,230) from the total of 260 entries.

• **Martinique:** 89 entries were received for the challenge of modernising a suburb of Le Vaudin. First prize went to French architects Courarie-Delage/Sarano/Vollenweider. A special mention was awarded to Couvert/Terver, also of France.

• **Guadeloupe:** Of the 39 proposals for the integration of a freeway into the fabric of Cour-Charneau Les Abymes, German collective Visser/Damrau/Harms/Kusserow came out on top. French/

Swedish collaboration Corbari/Grepe picked up a special mention.

• **French Guiana:** Wissounig of Austria was judged to have developed the best proposal for the densification of Mont-Baduel in Cayenne. Of the remaining 48 entries, a special mention went to French team Robain/Heaume/Chatelet.

• **La Réunion** had 83 entries, of which another French collective, Brion/Piro/Delgado, was judged to have come up with the most realistic means of "enhancing a housing estate" on the coast at Ravine Blanche in Saint-Pierre. A special mention went to Spain team Ravine Blanche in Saint-Pierre.

Prizes will be awarded in May at the Institut Français d'Architecture in Paris, at the opening of the exhibition of all prize-winning projects. The four winning schemes will be exhibited during June in their respective Territory.

For further information about European, and forthcoming competitions:

Tel: +33 1 55 86 95 55

Fax: +33 1 42 87 59 95

E-mail: e_pandom@club-internet.fr

Web: <http://www-european.gamsau.archi.fr>

End in sight to union city blues

BELGIUM

The European Union Council of Ministers has finally agreed to adopt the new home of its secretariat, the Justus Lipsius building in Brussels. Designed by Belgian architect CDJ, the building's projected cost of US\$316 million over-ran by US\$1.2 million, following a series of teething troubles.

The council has now agreed to pay the additional money required to the Belgian government, whose public buildings agency has been responsible for overseeing construction. It has also agreed to take on ownership of the building from the Belgian state, as soon as the kingdom has obtained some outstanding planning and environmental permits.

The Council of Ministers is the most power-

ful EU institution. It represents the EU's member states and has the right of veto over most EU legislation. It holds many of its meetings in the building.

Since the building opened in 1995 it has suffered from a catalogue of setbacks, such as difficulties with the waste disposal systems for the staff restaurant kitchen, and security problems including faulty fire alerts. As a result, the transfer of ownership of the building has been delayed, while discussions have been held between the council and Belgium over who should pay for the remedial works.

The building is in the Quartier Leopold, home of the headquarters of the European Commission and the Brussels chamber of the European Parliament.



EUROPE

Prouvé positive

50 years on landmark pavilion still draws the crowds

FRANCE

Jean Prouvé's aluminium pavilion first drew the crowds in 1954 at the centenary celebration of the industrialised production of aluminium by Henri Sainte-Claire-Deville. Half a century later it's doing it again, opposite Architecture Studio's new Hall 7 at the Paris-Nord Villepinte trade exhibition centre north of France's capital.

The collapsible construction of columns, tiled roof – in extruded and 3-millimetre sheet aluminium respectively – and girders composed of three sections of V-shaped folded aluminium has had its ups and downs. Following its manufacture in 1954, disassembly, and reassembly in 1956 in Lille, it was folded up and shelved in 1994. Five years later Architecture Studio was called upon by the Société Immobilière du Palais des Congrès (SIPAC) to carry out studies when the Paris Chamber of Commerce acquired the pavilion. Missing parts and an insufficient budget, however, means that it is only half its original length, 76 metres rather than 152 metres.

Opposite the classic French monument is Architecture Studio's Hall 7, a 30,000-square-metre glass and oxidised copper box, which the French team has given a sensuous twist, with rolling wave-like forms on the facade.

Unlike the 1.3 metre column spacing in Prouvé's pavilion, Architecture Studio used 15 "megagirders" across the 85-metre-wide exhibition area. This both fulfills the brief's demand for an open space

free of visible support, and is strong enough for 200-kilogramme weights to be suspended from the ceiling at 3-metre intervals. The space can be divided into three with moveable partitions.

According to head architect Jean-François Bonne, the material and formal choices arose from a desire to inject "a little imagination and give it versatility" as well as "to break from the aesthetic of the existing buildings [of prefabricated concrete]".

Below: Hall 7, by Architecture Studio, at Paris-Nord Villepinte



Save the Brancusis, rescue the town

ROMANIA

A triumvirate of Constantin Brancusi sculptures in a coal-mining region of southern Romania is to receive a makeover by Christidis Lauster Radu Architects (CLRA). The New York practice is a consultant to the World Monument Fund.

The "Endless Column" (right), "Gate of the Kiss" and "Table of Silence" were Brancusi's 1937 tribute to the Romanian victims of the First World War. Under Nicolae Ceausescu (in power 1968-1989), the communist

authorities attempted to take down one of the three sculptures, the brass-clad "Endless Column", but succeeded only in damaging the shaft of the 32.5-metre high copper column, resulting in water damage.

Since the sculptures' construction, Tirgu Jiu has been a Mecca for Brancusi aficionados, but was not really on the tourist trail. With the decline of the local coal mining industry, tourism may be Tirgu Jiu's best chance of rebuilding itself.

Mihai Radu, the Romania-

born project architect, explains: "The preservation of the sculptures is of primary importance. But I realised that just restoring the monuments without providing for their maintenance would be a largely wasted effort."

With funding from the Romanian Ministry of Culture, the World Bank and the World Monuments Fund, Radu began work on a preliminary urban planning study for the whole town last year. The restoration of the sculptures will be complete by September.

AM



In brief

FRANCE

Changing the law

Paris will have new civil law courts by the year 2006. The Tribunal de Grande Instance (County Court) is to be transferred from the l'Île de la Cité to either the 13th or 15th arrondissement, near the Gare d'Austerlitz. The 100,000-square-metre operation will cost US\$320 million, including site acquisition, but not including rehabilitation of the existing facilities for the remaining courts. The government is choosing consultants to evaluate alternative sites, and prepare the brief for a competition.

IRELAND

Dublin takes the initiative

The proposed transformation of a 30-hectare district of Dublin's Docklands into a high-density, mixed-use commercial district has been given the go-ahead.

The Dublin Docklands

Development Authority has accepted a design framework by London firm Urban Initiatives for the district between the River Liffey and the Grand Canal Docks. Individual landowners will appoint their own design teams.

ITALY

When in Rome

An international shortlist of eight has been announced for the design of an extension to the National Gallery of Modern Art in Rome. The project also involves the rearrangement and restoration of the existing National Gallery of Modern Art, which comprises two buildings – one Neo-Classical by Cesare Bazzani and a 1950s extension by rationalist architect, Luigi Cosenza. The list includes: Dominique Perrault (Paris); David Chipperfield Architects (London); Massimo Carnassi (Florence); Joao Luis Carillo de Grassa (Lisbon) and Felix Claus & Kees Kaan (Amsterdam). The winner will be announced next month.

THE AMERICAS

New contracts

COLOMBIA

US firm **VOA Associates** has won three new contracts in South America. Firstly, in Colombia, the multi-disciplinary practice has designed the 7,500-square-metre, US\$15 million Compensar Family Entertainment Center in Bogota, which will be completed this year. Secondly, VOA has also provided concept planning services for one of the largest tourist resorts in Brazil. The final contract is a feasibility study for a two-hectare entertainment centre in the Chilean coastal community of Vina del Mar.

USA

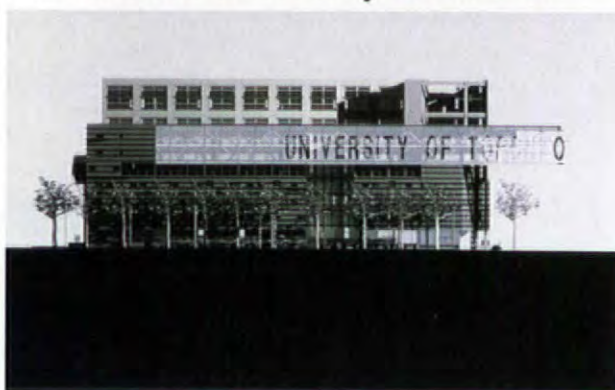
Scheduled to break ground this spring – one block west of the site where **Skidmore, Owings & Merrill's** US\$66 million, 26,000-square-metre Harlem USA complex nears completion – is **Davis Brody Bond's** hotel, office and retail complex on West 125th Street. The first phase of the new US\$85 million 28,700-square-metre Harlem Center, developed by Forest City Ratne and the Abyssinian Development Corporation, will be a retail component. The office building and 150-room hotel will follow.

USA

Tod Williams Billie Tsien and Associates' American Museum of Folk Art has broken ground in New York. The US\$20 million, 2,800-square-metre eight-storey building will expand the museum's exhibition space and establish a permanent home for the study and appreciation of folk art at the heart of the Midtown cultural district. At 45 West 53rd Street, the new structure (the first from-the-ground-up art museum to be built in New York City since Marcel Breuer's Whitney Museum in 1966) is rising adjacent to the expanding Museum of Modern Art and across the street from the American Craft Museum.

Morphosis spells it out

in Toronto university extension



CANADA

The latest building by Thom Mayne's Morphosis, an addition to the University of Toronto, has made its mark on the city, even before its opening.

The dominant feature of the 15,000-square-metre graduate residence, apart from its unusual bunker-like appearance, is a two-storey steel "O" projecting over a busy transport intersection. The "O" completes the university's spelled-out name. The preceding letters, of the same size, are glazed and fixed to the facade. The "O" hovers 27 metres over the street at the end of a truss-like cornice, prompting anxiety among some residents about the possibility of it being blown off in high winds. The university has commissioned an engineering study to allay their fears.

Los Angeles practice Morphosis designed the building in collaboration with Toronto firm Stephen Teeple. The commission was won in a university-organised international design competition.

The residence rooms are grouped around a central courtyard, reflective pool and terrace, ground floor lobby and some

retail space. A main student common room also overlooks the courtyard. Stephen Teeple says the courtyard "will define a great outdoor space for students and create a dynamic street line, with important animation of its public spaces".

The cladding of layers of perforated corrugated aluminium siding on top of black pre-cast ribbed concrete panels and aluminium windows could be interpreted as forbidding or fortress-like, but the university is satisfied that it will enhance its bold architectural style developed over the past five years of intensive campus expansion.

The design, Teeple continues, represents a "solution of really tough programmatic requirements of getting 451 rooms on that site, with a lot of small increments". The building is not large but is made more visually arresting by the way it is angled away from the intersection and slopes from 10 storeys high, to seven and four storeys.

The US\$18.5 million residence was supposed to have been completed at the end of last year but shortages of window frames have delayed its opening until later this spring. **AV**

Resurrecting Graves

Washington Monument scaffold may be preserved

USA

The temporary structure designed by Michael Graves to protect the Washington Monument during its renovation may be preserved.

When Graves designed the aluminium scaffolding and masonry-patterned sheathing that has clad the Washington Monument for the past year he couldn't have realised that he would trump the sacred monument he was commissioned to preserve. But the 59-kilometre-long scaffolding has become an icon like the obelisk it was erected to protect. Fans at "keepitcovered.com" launched a campaign to keep the cladding in place permanently.

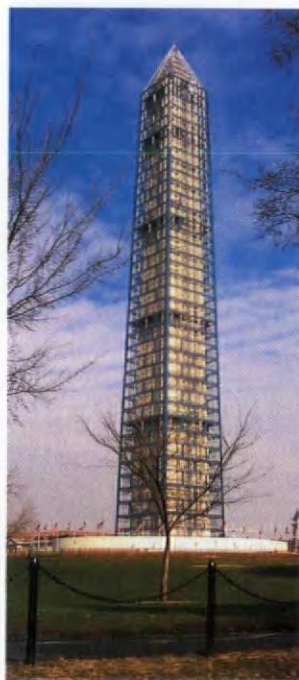
Now dismantled after workers successfully cleaned the face, repaired its masonry and installed updated elevators, the structure is currently the object of a bidding war as art connoisseurs seek

to reinstall it as a sculpture. The current high bid is over US\$1 million, with the leading proposal proffered by Target Stores.

Target was a major corporate sponsor in the renovation project, and Graves himself has designed a line of housewares from spatulas to garden furniture for the store. If their proposal is accepted they will reinstall the structure at half-scale in a park adjacent to the Minneapolis Institute of Arts, in the same city as the Target HQ.

"The Eiffel Tower was a temporary structure," Graves told the *Washington Post*. "My scaffolding is sort of like the Eiffel Tower now."

The US National Park Service rented the structure for US\$1 million from manufacturer and owner Universal Builders Supply for the duration of the year-long project. **ES**



THE AMERICAS

Island of opportunity

Architects line up at New York's Governor's Island

USA

Governor's Island, the last remaining area of sizeable real estate left in New York City, is to be developed. The decision signals the start of a building bonanza. Signature architects are lining up for a chance to build on virgin sites in the self-proclaimed "world capital of architecture".

New York City and state officials have already announced that the 70-hectare former Coast Guard base, half a kilometre off Manhattan's southern tip, will house a conference centre, a

hotel, retail outlets, private apartments, public parkland, a sports complex and a branch of at least one major museum.

The Guggenheim Museum has expressed interest in installing a sculpture garden, and state and city planners have approached the Smithsonian Institution to gauge its interest in opening a branch on the island. No architects have been named.

The question of how to develop Governor's Island has been a source of disagreement between the mayor and the

governor since 1997, when President Clinton promised to sell it to the city for US\$1, provided that the city and the state could agree on a use for it that benefits the public. It is now up to Congress to decide whether to adopt the city and state's plan as federal legislation.

The biggest commercial component of the plan calls for the construction of a hotel, spa and conference centre. The project would be undertaken by private developers, who would be required to renovate and use a

large building at the centre of the island that was once a military garrison. The plan calls for other commercial development, as well, including apartments, stores, restaurants and other small retail businesses to be opened within existing buildings with historic landmark status on the northern section of the island with broad views of lower Manhattan.

Web: the Regional Plan Association:
<http://www.rpa.org>

In brief

USA

The art of the new

The Neue Galerie New York (Museum for German and Austrian Art) is nearing completion at 1048 Fifth Avenue in New York's "Museum Mile". Annabelle Selldorf, principal of Selldorf Architects LLC, is the architect of the renovated space. The original 1914 structure was by Carrere & Hastings, also the architect of New York's Public Library. The five-storey renovation will house a museum, gallery space, bookshop and café. The Neue Galerie (<http://www.neuegalerie.org>) will open in the autumn. Selldorf was born in Cologne, Germany, and moved to New York in 1980.

USA

Green tax breaks?

Governor George Pataki has proposed a US\$25 million tax credit programme to create demand for environmentally beneficial technologies and materials in construction. To qualify for the credits, which would only apply to buildings of over 1,850 square metres, the architect would have to certify that construction plans met standards like using recycled materials or non-polluting air-conditioning systems. The first structure to take advantage of the programme could be a 25-storey, 33,700-square-metre residential tower proposed for Manhattan's Battery Park City, which will have "high environmental standards that put New York State and Battery Park City solidly in the green," says Pataki.

US still rules the roost ... but ignore China at your peril

A new report reveals that the US construction market is still the world's largest, by a significant margin. However, its projected growth rate over the five-year period to 2003 is 8.3 per cent lower than the Chinese market. Although third in the list, China is worth less than half of the American market. But the gap is closing.

As predicted by WA at the end of last year, South Korea has been the quickest of the recession-affected South-East Asian economies to bounce back (see WA82 pages 130-133), with a projected growth to 2003 of 12.3 per cent.

In Europe, a decade after reunification, Germany is showing no sign of slowing up. In terms of scale alone, Germany is the only European market anywhere near the top three – the US, Japan and China.

The world's 10 largest construction markets

Country	1999 (US\$ billion)	1999-2003 growth rate (per cent)
1 US	725.5	1.7
2 Japan	677.1	2.3
3 China	340.8	10
4 Germany	315.7	6.3
5 France	161	6.5
6 UK	143.3	1.9
7 Italy	129.8	8.4
8 Spain	92.4	8.4
9 South Korea	71.5	12.3
10 Canada	71.4	4.6

Source: Standard & Poor's DRI and FW Dodge.



Calatrava encapsulated

USA

Spanish architect Santiago Calatrava has won a competition for the design of the New York Times millennium time capsule. The sculpted stainless steel vessel contains 1.5 cubic metres of space, weighs two tonnes and cost US\$60,000 to make. It will remain sealed for the next 1,000 years, at New York's Museum of Natural History.

Since the beginning of the year, visitors to the museum have been asked to suggest what should go in the capsule. Already on the list is a CD of street noises and popular songs, a T-shirt emblazoned with the colours of the Brazilian national soccer team, a box of Viagra, a condom, and hair samples from the New York Times editors.

Museum of Natural History <http://www.amnh.org>

USA

NBBJ to KK in LA

Rick Keating and Bonnie Khang have left NBBJ, the world's third-largest practice (see WA82) to form a new partnership, Keating/Khang. They will be joined in partnership by two other NBBJ alumni, Joseph O'Neil and Hao Ko. The new practice operates from Los Angeles.

ASIA

Two-part Osaka saga

Will Kansai see a Piano encore? Or no performance at all?

When is an architect not an architect?

JAPAN

Although opened only five and a half years ago, operating at a massive loss and sinking into its clay under soil, Renzo Piano's Kansai International Airport is set to be doubled in size.

A satellite terminal is being planned to supplement the original attention-getting building. A decision as to whether Piano will get the chance to add to his own building will be taken at the end of May.

Meanwhile, citizens' groups are questioning the wisdom of spending an estimated US\$15 billion on expanding the airport when it is operating at a loss. Originally, Kansai International Airport Co (KIAC) expected the airport to be in the black by the end of 1999 and to have paid off all debts by 2017. Now profitability isn't expected until 2014 and it will take until 2021 to pay off the first-phase debts. What's



Kansai International Airport. Does it need another runway? The present one is sinking into its reclaimed island, and is operating at a loss

more, traffic has not reached original projections, and several other airports are planned for the surrounding area.

Kansai, which serves the greater Osaka area, was built in Osaka Bay on a 500-hectare man-made island, both because of a lack of space and so it could operate all night without disturbing neighbours. To build a

second, slightly longer runway will need a new 545-hectare island.

Reclamation work started last summer. KIAC – the joint public-private airport operator – awarded the facilities masterplan contract to a consortium comprising Paul Andreu's Aéroports De Paris, Nikken Sekkei and Japan Airport

Consultants. All three firms were involved in planning the original airport facilities and were technically partners with Renzo Piano Building Workshop for the design of the terminal building. A KIAC spokesperson says the masterplan will be complete by the end of May. A decision on whether to commission the design to Piano, hold another competition, or take other alternatives will be made after that. The second runway is set to open in 2007.

Kansai Airport's backers have countered criticism by saying that they are optimistic traffic will pick up once the economy recovers. They also claim that a larger airport is a key factor in Osaka's hopes of hosting the 2008 Olympics.

Web: <http://www.kansai-airport.or.jp/index-e.html>
<http://www.rpwf.org/>

AUSTRALIA

Who should be allowed to use the title "architect", and who should practise architecture? These are questions being considered by the Australian Productivity Commission (APC) as part of a review of the legislation governing Australia's 11,400 architects.

The APC is really deciding whether protection of title is in the public interest, or anti-competitive. The title "architect" is protected in about 65 countries. In some, the practice is also protected, and in a small number the practice, but not the title, is protected. In Australia, only the title is protected.

The Building Designers Association of Australia claims that 75 per cent of residential work is by non-architects, and that many of its members have skills and qualifications equivalent to those of "architects".

President of the New South Wales chapter of the Royal Australian Institute of Architects, Graham Jahn, counters that in that case they should become architects; that competition is fierce as architects undercut each other to win jobs; and that anyway, low fees often lead to reduced services, which cost more in the long term.

The APC will present its full recommendation in August. **AS**

Web sites:

Australian Productivity Commission: <http://www.pc.gov.au/index.html>
Royal Australian Institute of Architects: <http://www.raia.com.au/home.htm>
The Building Designers of Australia: <http://www.bdaa.com.au>

Andreu unveils stadium Casablanca

Is the 80,000-seat complex Africa's bid to host soccer World Cup?

MOROCCO

Paul Andreu's Aéroports de Paris has unveiled its design for Casablanca Grand Stadium, won in competition at the end of last year (see W480 page 30).

The elliptical stadium has been designed to sit in a naturally sloping site, 15 kilometres outside Casablanca. An embankment ring of trees and vegetation will protect the complex from the elements and limit its visual impact. Initially, six 50-metre masts will

function as decorative elements, although they have been designed to support a protective roof, in the longer term.

King Mohammed VI laid the foundation stone at the end of last year, and construction of the 80,000-seat complex will start in the autumn. It is due to open by the end of 2002.

The stadium has been commissioned to boost Morocco's bid to host the 2006 soccer World Cup. The Federation Internationale de Football



Casablanca Grand Stadium: of all the stadiums in all the world, could this host the World Cup.

Association (FIFA) has made no secret of the fact that it wants to award the World Cup to an African nation for the first time. All FIFA is waiting for is an African nation with the infra-

structure and organisational acumen required.

Although South Africa is regarded as one of the three favourites to host the 2006 event – along with Britain and Germany – no other African nation is regarded as a genuine contender. The Moroccan government hopes that Casablanca Grand Stadium will change that.

Andreu won the competition for the stadium in association with Mohammed Fikri Benabdallah. **AM**

The patron of Indiana**From Peter Ahrends, London, UK**

I was delighted to read that the town of Columbus, Indiana, may be on the way to winning US modern era Historic Landmark status (WA83 page 31). This must largely be down to the commitment of Irwin J Millar who not only presided over Cummins Engine Co for many years with great success but who exercised his dedication to great modern architecture with skill, influence and energy.

In the mid-1970s we [Ahrends, Burton, Koralek] had the privilege to work with him and his close colleagues in Columbus and Shotts in Scotland. His searching mind and unusual commitment to the social and aesthetic dimensions of architecture created an extraordinary ambience within which we were able constructively to develop a set of ideas that came to be built as the

Cummins engine plant at Shotts.

The respect for modern architecture and design that he engendered within the management at Cummins demonstrated the unquestionable importance of the role of a strong client in the process of making good architecture. And yet when he was interviewed with Richard Rogers and myself in the early 1980s, discussing the role of the client in relation to the buildings that our two practices had completed for Cummins, he dismissed the word "patron" seemingly because it suggested overtones that were less than democratic.

ABK_LONDON@compuserve.com

Fashion statement**From Alexandru Taranu, Toronto, Canada**

I've just read WA's December – January issue [WA82]. The concept of a "business magazine for the

international architect" is very interesting – and I hope you follow it through. The apparent lack of ideological bias, the variety of articles – ranging from the world's top 300 largest firms to Andres Duany's review of Michael Sorkin's "Wiggle" – is refreshing in a world where most architectural magazines publish the same projects by the same names, narrowing their views to what be called "high fashion architecture".

There is a whole other world out there, and there are thousands of architects who don't try to be "eccentric, mediagenic, slanted, mad" as your "Paper Weight" article put it.

I hope you will keep this course, and continue to offer a worldwide presentation of contemporary architecture, even if some of it doesn't fit in today's architectural critique's narrow focus. More than trend-setting landmarks, our cities need a lot of

well-crafted buildings that would not be out of fashion after a year of two, and would create streets and public spaces for public use and enjoyment.

I wish you good luck in your attempt to be a different kind of architectural magazine – as we have enough of the same kind – although I think you should have a presence on the web.

ataranu@bigroup.com

World Architecture will be launching its website in July – further details nearer the time.

Erratum

The table on the defence sector on page 148 of the WA300 world survey (WA82) should have listed BDP International's earnings in the sector as US\$2.80 million. World Architecture apologises for the typographical error.

HANOVER EXPO 2000

What is the only architectural event in the world this year to feature new buildings by Jean Nouvel, Peter Zumthor, Alvaro Siza, Shigeru Ban and Cruz + Ortiz? That's right, it's Expo 2000. The 22nd global Exposition runs from 1 June to the end of October on a huge, 160-hectare site in Hanover. The organisers expect over 40 million visitors in its five-month run, making it one of the largest Expos ever. Next month, WA introduces the main themes, and three young architects on the verge of going global: Spain's Cruz + Ortiz, former Young Japanese Architect of the Year, Shigeru Ban and Dutch collective MVRDV.

CITY FOCUS – FRANKFURT

We all know that Frankfurt-am-Main is the only European city with a high-rise skyline of any significance, hence its nickname, Mainhattan. And you'll read in this issue (Sector Analysis pages 74-87) that Frankfurt has aspirations to be the "Gateway to Europe", but there's more to the city than corporate cathedrals. WA gets under the skin of Frankfurt, meeting the main players and reviewing latest landmarks in the reinvention of Central Europe's financial hub.

SECTOR ANALYSIS – REFURBISHMENT

More architects earn their living from interiors and refurbishment than new-build. It's easy enough to work out why: as building stock increases, particularly in the major cities, fewer sites are available for development. So as the western world moves into an ever more service-orientated culture, new life is breathed into industrial icons and government buildings as they are transformed into art complexes and fashionable eateries. Redundant schools and churches often follow suit. More often than not the existing building is listed. In this report WA shows you how to negotiate the heritage minefield. Plus project reviews from London and New York, to Sydney and Hong Kong, including David Chipperfield's London showroom for Vitra, and Conran/Hardy Holzmann Pfeiffer's mixed use development in Manhattan.

TECHNICAL – ROOFING MATERIALS AND FABRIC ARCHITECTURE

WA looks at the technical achievements of the Millennium Dome's architects, and asks the design community whether a grander membrane structure can ever be built. Also a round-up of the best of the rest in roofing products.



Top: Albert Speer und Partner's Europa Viertel masterplan, Frankfurt

Bottom: David Chipperfield Architects' Vitra Showroom, London, UK

Richard Bryant/Arcaid

Analysis No chance

No German architect has completed a building in Britain for over 50 years. In an era of European integration and global co-operation, this imbalance represents a glaring rift in the brotherhood of nations. Adam Mornement reports.



"It's only a matter of time before Britain is sued," says Stefan Behnisch. "It ignores Europe and European laws." Behnisch, son of the better-known Günther, is the only German architect in living memory to have come anywhere close to completing a building in the UK. Unfortunately, plans to build the Bristol Harbourside Centre for Performing Arts were scrapped at the end of last year, and Behnisch isn't happy.

Behnisch, Behnisch & Partner of Stuttgart won the competition to design the mixed-use arts complex in 1996. Although an anonymous competition, the choice of a German architect was widely applauded. It was another example of the UK's new National Lottery-funded era of architectural openness. After all, Daniel Libeskind, Arata Isozaki, Herzog & de Meuron, Frank Gehry, Jean Nouvel, Erick van Egeraat, Niels

Torp and Enric Miralles all get work in the UK these days.

The Bristol scheme fell through because the Arts Council, the body charged with handing out Lottery funds to worthy arts schemes, had miscalculated its 1997 budget. The US\$96 million it had awarded to the Harbourside Centre was withdrawn. It was a crippling blow.

Clearly, the Harbourside Centre was a victim of bureaucratic bungling rather than xenophobic intent – 77 projects were culled in the Arts Council's cost-cutting drive. But it did mean that a shameful fact about Anglo-German relations was perpetuated. To all intents and purposes, Britain has been a closed shop to German architects for decades. Conversely, in the last ten years alone, Richard Rogers, Norman Foster, William Alsop, Zaha Hadid, Nicholas Grimshaw, David Chipperfield and

Michael Wilford, to name a few, have all completed major projects in Germany. Why should that be?

Absence

Over to Behnisch: "I was a little sore after they killed the Harbourside Centre [he threatened to sue the Arts Council]. They had a money problem. They were looking for reasons to slaughter projects. But what really makes me angry is that Britain ignores Europe."

Behnisch believes that Britain flouts European Law law 92/50/EEC by not advertising all its architectural competitions in all member states, and that this is the reason German architects do not get work in the UK. Whether or not this is true, it doesn't explain their total absence, or the presence of so many architects from other nations. Could the answer lie deeper in the two nation's psyches?

After the Second World War, the process of rebuilding Germany required a new architectural language, and an overtly democratic means of dividing the work. "[From 1945] we lost all our nationalism, for a very good reason," says Behnisch – stepping uncomfortably close to the emotional bedrock of the matter. "We established a system which said that all public projects had to go through competition. The British system is all about networks. It's a, 'we'll meet on the golf course' mentality. I don't want to judge this system, but I hate it," he continues.

Perhaps, in the era of post-war reconstruction, the Germans were too successful at re-branding themselves? Laurence Bain, partner in the firm of Michael Wilford & Partners, a British practice well established in Germany, sees it another way: "I don't think the Germans went too far,



Left and above: Zaha Hadid's Vitra Fire Station (1994), Weil-am-Rhein. It took a German client to give British architecture's wild child the chance to complete a building

they were just very rational. They saw the future being Europe" – a concept the British are still struggling with. But Bain does acknowledge that Foster and Partners' remodelling of the Reichstag, for example, is a contemporary extension of Germany's post-war image overhaul.

Michael Wilford and Partners (formerly Stirling and Wilford, until James Stirling's death in 1992) has had an office in Germany since 1975. "We were invited to compete in competitions for art galleries in Dusseldorf, Cologne and Stuttgart," says Wilford. "The clients had looked outside Germany for architects with appropriate skills. We've been there ever since."

Self-perception

As an architect with a balanced knowledge of both the UK and Germany – MW&P's 60 staff are

divided equally between its Stuttgart and London offices – what does Wilford think are the reasons for the architectural one-way traffic? "It's a question a lot of people ask. There is a theory, possibly a dangerous over-generalisation, that we [British architects] have looseness, flair and freedom in comparison with the very rigid technical training that German architects get. We are more prepared to challenge the rules."

Not surprisingly Behnisch disagrees: "British architects are not more artistic. Look at Foster's Reichstag, he's much more technical than German architects."

Conversely, there is evidence to suggest that German clients are more receptive to architectural innovation than their British counterparts. Ten years ago Zaha Hadid couldn't find a client to believe in her. Abrasive and unconventional, Hadid

was just too much of a shock to the British system. It took a German client to take the plunge and give her the chance to realise a building. Rolf Fehlbaum commissioned the Vitra Fire Station at Weil-am-Rhein in 1988; it opened six years later. Hadid won her fourth, and largest German commission to date, in January. The US\$25 million Wolfsburg Science Centre will complete in 2004 – it was won through invited competition.

Although Hadid's is an extreme example, it does seem to be the case that Germans have a greater respect for and awareness of challenging architecture than the British. "I think

that architects are held in far higher esteem in Germany than they are in England," says Wilford. "The whole tradition of building in Germany survived late 20th century commercial pressures. Generally the quality of the work is much higher and

far better," he continues.

Perhaps Germans are simply less insular and predictable than the British? David Chipperfield, a British architect with nine projects either complete or ongoing in Germany, is

on a shortlist of seven to design a chancellery for the German embassy in Tokyo – only three of the seven architects are German. It is hard to imagine the British entrusting the projection of its socio-political

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RIBA-affiliated practices with offices in Germany.

Source: Royal Institute of British Architects, London, UK



values overseas to a foreign architect – it has never happened before.

British insularity extends to language skills. It is a broad truth that people born into English-speaking environments are slow to learn other languages. "I'm ashamed that I can't speak German, after working in Germany for 25 years," says Wilford. "It's humiliating. It's a handicap. That's one-way traffic as well." Bain, a German speaker, adds: "For the European Union to work, people will have to be able to communicate with each other."

Isn't it obvious?

Perhaps we're looking too hard for reasons? The German construction market is far larger than the British: a report published in the US, by Standard & Poor's DRI/FW Dodge, states that in 1999 Germany had the world's fourth largest market (worth

US\$315.7 billion). The UK came in sixth (US\$143.3 billion). With this in mind, doesn't it make sense for there to be a greater flow from the UK to Germany, rather than vice versa?

Another possibility is that, at the moment, there are more British architects with international reputations than Germans. It might be a superficial means of determining which architects get which projects, but success breeds success. It is not a German architect who has built the world's largest tensile structure (Richard Rogers), or reinvented the Hong Kong skyline (Norman Foster). The three highest-profile German practices are, arguably, Von Gerkan, Marg und Partner, Ingenhoven Overdiek und Partner and Behnisch, Behnisch & Partner: not the type of names you see very often on competition shortlists outside Germany. No-

one doubts that they could bring a good job in on time and on budget, but they don't have the reputations to attract investment to a project. Behnisch's allegation that British competitions are run illegally may well hold some water, but it is other, outside, influences that are having a greater effect on British architecture.

Last year, for example, Foster and Partners won the developer-led competition to design a new headquarters for the soon-to-be-elected Mayor of London. The competition was only open to two rival sets of developers because the City of London did not have a suitable site to put forward for a straight

architectural competition. So two practices – Alsop & Störmer and Foster and Partners – became key elements of the developer's "packages", which incorporated commercial development plans for the areas around the two sites and the chance

to offset public funds in one of those hazy public/private funding arrangements. A spokesperson for the client, the government Department of the Environment, Transport and the Regions, said that she was aware that the competition hadn't been formally advertised through the correct European channels, but that the need to find a site was of much greater concern to the DETR.

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German Association of Architects' members with an office in the UK.

Source: Bund Deutscher Architekten, Berlin, Germany



Facing page: Michael Wilford and Partners won the Royal Institute of British Architects' Stirling Prize for the Stuttgart Music School. Wilford has had an office in Germany since 1975

Left: Foster and Partners' Commerzbank, Frankfurt, Europe's tallest building, is one of a multitude of Foster projects in Germany

Below: The Sto HQ by Michael Wilford and Partners. The second phase of the masterplan is currently on site



The spokesperson also sought to justify the DETR's actions on the grounds that, "it was the sort of thing [Sir John] Egan was promoting". This is a reference to the 1997 government-funded report into the UK construction industry, which stated that if architects are to have a future, they must become integrated into design and construction teams. The report pointed to the US manufacturing industries, and the structure of the huge US architecture and engineering practices, as the template to learn from. Maybe Germany is so mired in EU bureaucracy that it has forgotten to look to see what is going on in countries beyond Europe?

Another possible reason why British architects, or at least architects with bases in London, get work in Germany is because London is perceived to be fashionable. It carries investor-pleasing kudos for architects

to have offices in London, as Malaysian Ken Yeang has found. Yeang, who is seeking to expand into Europe, has already been promised an office project in Cologne. But instead of opening an office in Germany, he is looking to London. "The UK would give me a better base to market for work in the UK, Europe and the US. Germany is a difficult country in which to make an office work because of the provincial nature of its professional firms. For instance, a German firm based in Stuttgart gets anxieties about doing work in other cities because of respect for local feelings and politics. They also have a huge reverence for the capabilities of large US firms, because they feel inferior to them."

It is also worth noting that in past eras German architects have won a disproportionate amount of work in the UK. When Prince Albert, a

German, married Britain's 19th century matriarch, Queen Victoria, he was very influential in bringing the German style and German architects to England. London's Victoria & Albert Museum is just one of Albert's architectural legacies – no doubt he'd have approved of Daniel Libeskind (Berlin-based, albeit as a US national) designing the V&A extension.

Since 1945 Germany and the UK have taken very different paths. The UK looks to the US for influence and support; Germany is the dominant European economic superpower. UK architects are Europeans, but American in spirit, and are cashing-in by filling that middle ground. They are able to offer corporate solutions with an identity, unlike the mass of US three-letter firms which Yeang believes intimidate the Germans.

In conclusion, could it be that there is just not enough work in the UK to

satisfy the ambition of a disproportionately large number of gifted British architects? And Germany, a country programmed to share work democratically, currently has an unusually large amount of work to get through. It's a cyclical pattern, and it won't be long before the situation changes again.

Meanwhile, over in Stuttgart, Stefan Behnisch has turned his attention to Belfast, where he has been invited to compete for an office complex on the banks of the River Lagan. A result is expected soon. It would almost be a relief if he won it.

New British Architecture in Germany by Michael Jenner (*Prestel*) will be published in the autumn – with text in English and German.

European Economic Community
Web: <http://europa.eu.int/index.htm>

Analysis

Corporate culture

This year, to give more people a slice of the action, nine cities have been awarded the title of European City of Culture. Politicians like culture because of its proven benefits in the global economy. But is the corporate corruption of culture to blame for fresh divisions in Europe's urban fabric? Jonathan Jones reports.

Today it's hard to make sense of Norbert Elias's introduction to his post-war book *The History of Manners* in which he unfavourably contrasted the German cult of *Kultur* with the French and British idea of civilization. *Kultur*, he claimed, implies a cold and inhuman over-valuation of works of art, whereas civilization means a desire to improve and regulate every aspect of human conduct. The defining image of Elias's argument is of an orchestra being forced to play Mozart at Auschwitz.

We are all Germans now and *Kultur* is our common culture. Since the end of the 1960s it has become totally unacceptable to praise "European civilization" with its connotations of class, privilege and

Beethoven and Brahms, was all the continent had to protect it from feeling like the colonial subjects it had recently ruled. Culture was what Europe had to offer Americans in exchange for the Marshall Plan. As the western half of the continent became more secure and affluent so this idea of culture became more institutionalised.

The European Community's European City of Culture scheme was conceived out of a desire to trade culture off against wealth. When Greece joined the EC it was manifestly one of the poorest countries in the community; it is no coincidence that it was a Greek minister of culture, the ex-actress Melina Mercouri, who proposed in 1984 that every year one city from across

Culture: Avignon, Bergen, Bologna, Brussels, Helsinki, Krakow, Prague, Reykjavik, and Santiago de Compostela.

These cities, and the ones lined up behind them – not only is the scheme continuing but from 2005 will be renamed Capital of Culture – are desperate to get in on the famed "Glasgow Effect". The post-modern shift from industrial to service and software economies means that every city wants to redefine itself as a soft space, a playground for the middle classes who might be drawn to base themselves in a city as much by "quality of life" as anything material. Culture is what European cities desperately want to be recognised for nowadays. It was Glasgow in 1990 which really made a glam-

"European culture' is a universal currency, to which everyone aspires. It is a phenomenon that guarantees tourism and kudos on the international stage."

imperialism. But "European culture" is a universal currency, to which everyone aspires, and which guarantees tourism and kudos on the international stage.

Curiously, the cult of European culture originated at the moment when European cities were utterly flattened and *Kultur*, a memory of

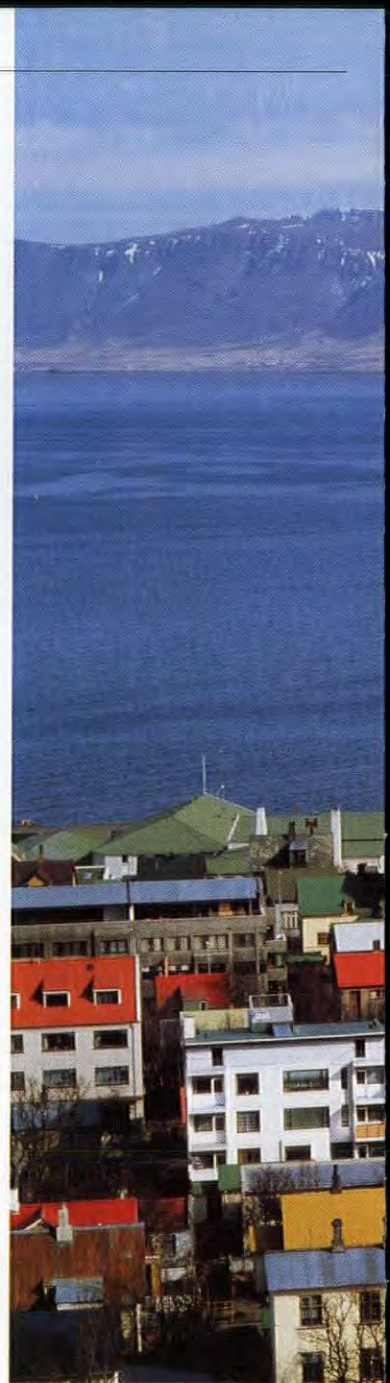
Europe should be appointed European City of Culture.

Since the EC introduced the European City of Culture – appointing Athens as the first city in 1985 – applications have escalated to the extent that this year, as a bizarre solution to the backlog, there are no less than nine European Cities of

orous success of the European City of Culture and used it to draw attention to a wealth of architectural heritage that had been disparaged or ignored. Charles Rennie Mackintosh joined Barcelona's Antoni Gaudi as an early-Modern architectural star who became the icon of an entire city as Glasgow repositioned itself in

the global cultural economy.

Of course, buildings like the Glasgow School of Art were already there and all the title did was frame them. The same goes for Barcelona – a city which had already leapt into Europe's cultural A-team years before it staged the Olympics. In fact, all this institutional recognition of cities – City of Culture, Olympic City, Expo City – are merely attempts to formalise a more informal and unpredictable process. Our idea of city life has been revolutionised since the 1970s. The Modernist perception of the city as a place of alienation between classes and individuals has dissolved even as the flight of the affluent into the suburbs has continued. Today cities are as divided and economically alienated as ever, yet the post-industrial economy creates a second tier, almost a





Reykjavik, one of nine European Cities of Culture for 2000. Does a Scandinavian fishing port really have global cultural currency? The EC would like to think so

virtual city on top of the real one. This virtual city – the city of coffee bars, galleries and shopping malls – has its own life that scarcely intersects with that of the city's poor and underpaid essential workers.

This is the city the European City of Culture scheme celebrates, and it's the face that every city aspiring to a place in a global economy – where being a nice place to live (or at least commute to) matters – wants to present to the world. Yet as the European City of Culture scheme expands into less affluent parts of Europe, and definitions of what can be recognised as culture become ever more ambitious, this fictional urbanism becomes terribly strained.

You could feel the strain in Weimar, last year's European City of Culture. Weimar was the original

home of the Bauhaus after the First World War, as well as the city in which Goethe was a government minister. The centre of this small city nestling in archetypal German woods is all Classical buildings and expansive squares. However, Weimar proved very bad at mythifying itself in the Glasgow mould. It had a serious cultural programme for the year with copious concerts and theatre performances, but where was the coffee house circuit, where was the glamour? The place is quiet, provincial, its real history too pressing for it to invent a new one.

Weimar used to be in the German Democratic Republic, and the most dramatic event of its year as City of Culture was a row about the treatment of the DDR's cultural history. The centrepiece of the year was a huge art exhibition, "Aufstieg und

Fall der Moderne", in three parts – housed in the same dingy East German public building complex – which examined art under Hitler and the DDR. There were protests that the socialist realist art of East Germany – part of a living history for Weimar's inhabitants – was being treated as exactly equivalent to the art collection of Adolf Hitler displayed alongside it.

Perhaps Weimar, with the site of the Büchenwald death camp in its immediate environs, was not the ideal European City of Culture. But only because it has not yet learned how to falsify itself. If the confusions at the heart of the City of Culture scheme prove anything, it's that Europe should be giving less credence to *Kultur* and instead try to create a more civilised social fabric for all its people.

DOWNLOAD SOME CULTURE

Avignon, France

<http://www.avignon.aconet.fr/art-culture-fm.htm>

Bergen, Norway

<http://www.bergen2000.no/english.htm>

Bologna, Italy

<http://www.bologna2000.it/graphic/index.html>

Brussels, Belgium

<http://www.brussels2000.org>

Helsinki, Finland

<http://www.infopiste.fi/finnair/cul/city2000.html>

Krakow, Poland

http://www.krakow2000.pl/emk_a.html

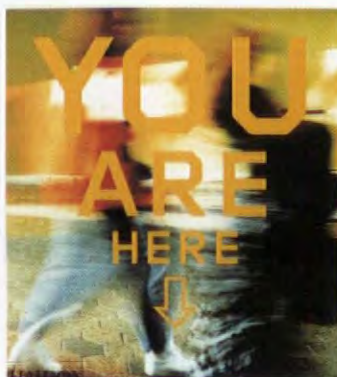
Prague, Czech Republic

<http://www.praha-emk2000.cz/english/index.htm>

Reykjavik, Iceland

<http://www.reykjavik2000.is>

Books



You Are Here – The Jerde Partnership International.

Edited by Frances Anderton.
Phaidon Press Limited, London, UK.
240pp. Illustrated colour throughout. £45 US\$70 (hardcover)

"The history of architecture has been the evolution of objects – the gothic object becoming the romanesque object, the pre-industrialist object becoming the modernist and so-forth. Our work simply has nothing to do with objects, we are the designers of simulated experience."

Jon Jerde

Store wars

Jon Jerde's designs have either revolutionised the urban experience or cheapened architecture as a creative form, depending on who you listen to. He talked to Dan Fox about his new monograph.

Jon Jerde is not in London to promote his book. He's here to lecture – and he's particularly excited about speaking at the London School of Economics. Which figures. But there is more to Jerde than the common perception of an arch-capitalist intent on dragging architecture across the coals of mass consumerism, burning away its autonomy as an art form. After all, this is a man who studied architecture with Gehry, hung out with Truffaut and quotes Timothy Leary.

You don't see many architectural monographs in bookshop windows on London's Charing Cross Road – but this one is. But then you don't see many architects featured over a double-page spread in *Newsweek*, *Womens' Wear Daily*, *Computerworld*, or *Airbrush Action*, all of which have run features on him in the past.

Jerde puts the crossover appeal of the book down to "catchy packaging and people's fascination with shopping" – those familiar with his architecture may notice an analogy there.

You Are Here tells the story of the Jerde phenomenon through four guest essayists, with Jerde's richly illustrated write-ups of 25 built and

unbuilt projects run concurrently, anchoring the narrative.

Of Horton Plaza, the groundbreaking 1985 supermall where Jerde was first let loose with his long-incubated ideas about public interaction, community and place-making, he says: "They asked me to save San Diego. The retail was incidental – the bottom 20 feet of any urban centre is retail. We wanted to maximise the human experiential quality. And people came."

If Horton Plaza was the beginning, the logical conclusion may well be Canal City Hakata, a massive-scale, an eclectic mixed-use district woven into Fukuoka, Japan: "Great cities take hundreds of years to edit themselves. The challenge in the design of large scale, short time-frame places is to allow guided sequential layering of individuals to inform the final collage. No body else is really doing it, but I can't understand why. They're short-changing cities."

Of the guest essayists, Frances Anderton is unconditionally enthusiastic; Norman M Klein explores Jerde's references – an intriguing cocktail ranging from *Blade Runner* to the American Indian notion of "Gaia", or global consciousness; and

Margaret Crawford, formerly of Sci-Arc and one-time critic of Jerde, gives a grounded appraisal of the work and the critical climate in which it evolved, respectfully acknowledging the "rigid formulas which govern a mall's profitability".

A critic once called Jerde "the George Lucas of architecture", drawing a comparison between the two West coast entrepreneurs' ability to draw on an unstructured palette of populist imagery to create mass market products of ostensible social value, unprecedented commercial value, and dubious artistic value. (No Darth Mall jokes please.)

You Are Here makes no attempt to meet the critics head on, and Jerde makes no apologies. He concerns himself with social quality, economy and logistics – but not art. "The history of architecture has been the evolution of objects – the gothic object becoming the romanesque object, the pre-industrialist object becoming the modernist and so-forth. Our work just has nothing to do with objects, we are the designers of simulated experience."

Dan Fox is reporter on WA and edits the Books section



The essential selection

Aldo Van Eyck – Works. Edited by Vincent Ligtelijn. Birkhauser, Basle, Switzerland. 312 pp, 215 colour and 400 b/w illustrations. US\$65 DM128 (hardcover)

By Dan Cruickshank

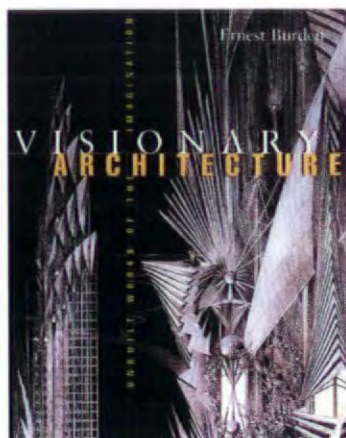
This book was produced in close collaboration with van Eyck – the layout is even based on his idea – and was compiled and partly written by an architect who studied under him. Consequently, we cannot expect an objective view of the man and his work and we do not get one. It is part meticulous analysis and respectful exploration of van Eyck's work and part catalogue. Vincent Ligtelijn provides an introduction to the book, an introduction to the work of van Eyck and a "closer consideration of the built work", Joseph

Rkywert provides a preface, Francis Strauven discusses van Eyck in the context of the city, and Henk Engel writes of "words and things" in van Eyck's work. In addition there are reprints of articles by Peter Smithson, Herman Hertzberger and van Eyck's own article about his "Otterlo Circles" – a text which Ligtelijn describes as a "manifesto for the timeless expression of architecture".

The essays succeed in capturing the complexity and richness of van Eyck's character and his poetic vision of architecture, which insists that in a successful work of architec-

ture function, beauty and association all have to co-exist. Van Eyck spoke of the relationship between these mutually important qualities as "reciprocity" and expressed this belief in buildings, teachings and words: "...house is city and city is house... a city is not a city unless it is also a huge house – a house is a house only if it is a tiny city."

The essays also reveal the degree to which van Eyck was committed to drawing and to the physical process of making buildings, and how depressed he was by the mechanistic commercial architecture pro-



Not happy

Visionary Architecture – Unbuilt Works of the Imagination. Ernest Burden. McGraw Hill, New York, US. 50 colour and 210 b/w illustrations. US\$49.95 £35 (hardcover)

By Michael Webb

Coming soon to a remainder table near you is this incoherent, cheaply produced, overpriced farrago of poorly reproduced images, with a single page of text, entitled "Chapter One: Precedents and Architectural Visions 1-2000." It would take rare intelligence to compress 2,000 years of architectural fantasy into a page, and Burden falls laughably short.

There's a shocking lack of aesthetic judgment. The few significant architects including Frank Lloyd Wright, Bruce Goff, and Archigram are far outnumbered by obscure illustrators, and the sketchy notes in back fail to explain who these people are or why they've been chosen. There is no

mention of Boullée or the German Expressionists, of Le Corbusier or the Metabolists, and but a single example of Russian Constructivism. Burden's organic bias is glaring.

The blurb mentions prehistory, but there is no representation of the Tower of Babel (the grand-daddy of visionary structures) nor anything pre-Roman. We jump from Pompeii to Piranesi to 19th-century romantics and on to futuristic cities, with no sense of logic or development. The predictable images from *Metropolis* and *Blade Runner* are featured, but there is no attempt to root these cinematic dystopias in the social and economic turmoil of Weimar Germany or of urban decay in American cities.

The only possible value of this production would be to provoke a better qualified author to team up with a more responsible publisher and a good graphic designer to create a book worthy of the title. In every age, visionary architects have tried to push beyond the known and the feasible. But, as Ernst Gombrich noted in *Art and Illusion*, the unknown is always expressed in terms of the familiar, which is why visions of the future date so rapidly. That could be the theme of another illustrated essay; indeed, the subject matter an entire shelf of books. But not this one.

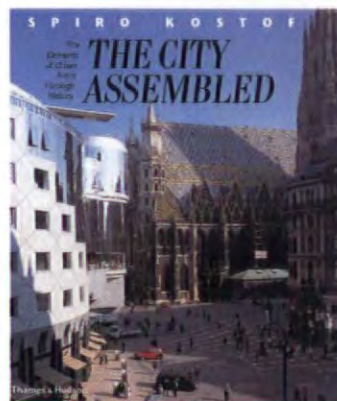
Michael Webb is editor of the San Francisco-based "Architecture and Design" series

duced by "team working" practices in which talented architects are encouraged to become businessmen and escape the drudgery (but to van Eyck the creative delight) of the drawing board. The essays also stress his passion for seeking inspiration and solace in the powerful artistic output of simple societies (mostly in Africa) and his love of historic buildings and traditional cities. But for van Eyck the inspiration of the past, or of heroes like Palladio, was not expressed by imitating their forms or details (as in much of Post-Modern architecture he abhorred

with its clip-on Classical details) but in responding to their spirit.

Valuable as the essays are towards an understanding of van Eyck, it is the collection of projects – from 1944 to 1999 and filling more than 200 well-illustrated pages – which makes this book not only fascinating but essential reading for all architects.

Dan Cruickshank is a London-based architectural historian, editor of *Sir Bannister Fletcher's A History of Architecture*, and a prolific writer on 18th century architecture.



All change

The City Assembled – The Elements of Urban Form Through History, by Spiro Kostof. Thames & Hudson, London. 320pp. 346 illustrations, 40 colour and 300 b/w illustrations. £18.95 US\$30

By Clair Enlow

Architectural historian Spiro Kostof died in Berkeley in 1991, a time of rapid change in the US and around the globe. Yet his last book, *The City Assembled*, published posthumously with the help of Greg Castillo, could not be more timely.

We live in a new age of fascination with the city, an intense attraction that sometimes takes on erotic dimensions. Even as middle class suburbanites can increasingly choose to live in electronic cocoons, there are signs that they are migrating back into the city. There is a sense of discovery that this is how they wanted to live all along – in a community they can negotiate with their bodies, a place that becomes a stage for daily public life, where strangers and neighbours meet on the street and nurture their sublimated longing for unpredictable and highly charged events.

But the last century has cost cities much of their social – as well as their physical – substance. The fabric of some great cities has been destroyed by war and many more have been radically changed by rebuilding and urban renewal. They have been insulted by Modernism and abandoned by the middle class in their automobiles. Some have become alienating in scale, full of large and small pockets of dead

space caught within an iron grid of rushing traffic. But the alarms of environmentalists and urban planners are now being heard, and there are signs that the momentum is slowing and we are turning back.

By deeply probing the question of how cities came to be, and mixing the historic and physical dimensions, Kostof has helped to make the connection between language, form and substance in city building.

Three of the five divisions of the book address the most pressing concerns of planners and city makers: city edges, public places and streets. While each subject is addressed primarily through typology and form, each is presented as an evolving part of history, a shaper as well as an expression of a society. The last chapter, which was only partially complete at the time of Kostof's death, treats the cycles of destruction and rebuilding from fires, natural disasters, war and urban renewal. There are many examples from classical, European and Arab traditions, and discussions of development in the US. He recalls landmark books in each subject area, naming and commenting on previous works. The book is an assemblage which, like cities themselves, ultimately resists formal logic.

As he did in *A History of Architecture* and more recently in *The City Shaped*, Kostof has placed the subject of architecture and urban design in broad historic contexts so that the city can be considered in all its aspects – as a seat of political and economic power, a mixer and organizer of peoples, and a site of ancient symbolic significance. Like any design client, the city has memories of the past, deeply ingrained habits, and dreams and desires for the future. The "city assembled" that emerges in Kostof's book is not a place in history that can be preserved or a lifestyle that can be consumed, but a thing that must be lived in – and made – by many.

Clair Enlow is a Seattle-based writer and architecture critic, and formerly architecture editor at the Seattle Times.

Events

Lectures, congresses and conferences

Bulgaria

The Ninth International Academy of Architecture World Triennial

Attendees expected between 22 and 26 May in Sofia include Frank Gehry, Ken Yeang and Renzo Piano. Contact the secretariat at 35 Oborichte Str, 1504 Sofia. Tel: +359 2 943 4950 Fax: +359 2 943 4959

Malaysia

Asia Pacific Structural Engineering & Construction Conference

Themed "The Construction Industry – The Challenges Ahead" and held in conjunction with building trade show Malbex. 13-15 September, the Palace of the Golden Horses, Kuala Lumpur. Contact ASPEC 2000 Secretariat, Faculty of Civil Engineering, Universiti Teknologi Malaysia, 81310 UTM Skudai, Johor Bahru, Johor. Tel: +60 7 55 76 160 Fax: +60 7 55 66 157 e-mail: aspec2000@fka.utm.my Web: www.fka.utm.my/events/ASPEC2000



Trinity St Sergius Monastery, in painted wood, part of the CCA collection

CANADA: EXHIBITION

En Chantier: The collections of the CCA 1989-1999

Focus for activities marking the tenth anniversary of the Canadian Centre for Architecture. Runs until 30 April. Contact the CCA at 1920 rue Baille, Montreal, Quebec H3H 2S6. Tel: +1 514 939 7000 Fax: +1 514 939 7020

The Netherlands

The UTECH 2000 Conference – Polyurethanes in Construction

Current issues in construction and the use of polyurethane-based materials under the microscope. 28 to 30 March, The Hague. Contact Crain Communications, New Garden House, 78 Hatton Garden, London EC1N 8LD, UK. Tel: +44 20 7457 1407 Fax: +44 20 7457 1440 e-mail: dreed@crain.demon.co.uk Web: www.crain.co.uk

Spain

Super Cities

World Development Federation conference looking at development strategies for cities. 2 to 5 May, the Palacio Municipal de Congressos, Madrid. Contact the World Development Federation, 35 Technology Parkway, Norcross, GA 30092, US. Tel: 00 1 770 446 6996 Fax: 00 1 770 263 8825 e-mail: tamela.coval@conway.com Web: www.sitenet.com

United Arab Emirates

World Organisation of Building Officials Congress and Exhibition

Entitled "Building Towards the Third Millennium", it will address global issues of building technology, codes, building control, services, health and safety. 26 to 29 March. Contact IBC Gulf Conferences, Suite 213, Moh'd Al Makhawi Building, PO Box 15078, Dubai. Tel: +971 4 369992 Fax: +971 4 360116 e-mail: ibcgulf@emirates.net.sa

US

World Development Federation Global Super Projects Conference

Based on the World Development Federation's World Zoning Board survey, which prioritises major global infrastructure programmes, and with the theme of 'Exploring Opportunities in New Global Systems'. 21 to 24 May, Atlanta. Contact the World Development Federation, 35 Technology Parkway, Norcross, GA 30092.

Tel: 00 1 770 446 6996

Fax: 00 1 770 263 8825

e-mail: tamela.coval@conway.com

Web: www.sitenet.com

Architecture and design competitions

Canada

International Ideas Competition

The Royal Architectural Institute of Canada is sponsoring an open competition calling for a three-block area in central Ottawa, facing the Canadian parliament buildings. First prize is US\$25,000, submissions by 17 April. Contact the RAIC, 55 Murray Street, Suite 330, Ottawa, Ontario K1N 5M3. Tel: +1 613 241 3600 Fax: +1 613 241 5750 e-mail: competition@raic.org Web: www.raic.org/competition

Italy

Imagineering

DuPont Engineering Polymers is backing this industrial design competition for architecture and design students and young professionals. Registration by 31 March. Contact ADI – Imagineering Design Award, via Bramante 29, 20154 Milano. Tel: +39 0233 100 241 Fax: +39 0233 100 878

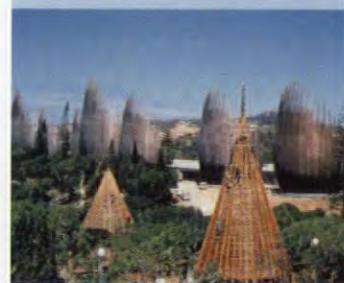
Second International Prize for Sacred Architecture

Nominations are now being accepted for the second award of the Frate Sole Foundation, of US\$165,000, for projects which broke ground after 4 October 1990. Closing date for applications 31 May 2000. Contact Fondazione Frate Sole, 27100 Pavia, Via Alboino 7. Tel: +39 0382 21900 Fax: +39 0382 21900

Switzerland

The Aga Kahn Award for Architecture

Triennial competition for projects, completed between 1988 and 2000, in a Muslim society or designed for Muslims in other societies. Entries must be inspired by Islamic architectural heritage. Contact The Aga Kahn



FRANCE: EXHIBITION

Renzo Piano – Un Regard Construit

Roughly translatable as "The Complete View", the exhibition encompasses Piano's entire 30-year career, from early schematic designs in the 1960s to his latterday masterwork, the Tjibaou Cultural Centre (above) and the soon-to-be-completed Chiesa Padre Pio church in southern Italy (below). Twenty realised projects and ten unbuilt works never previously exhibited will be on offer. The exhibition will be held in the newly refurbished Centre Pompidou – the crowning glory of Piano's portfolio – and he oversaw the design of the floor himself. A fascinating combination, particularly in the light of Pompidou co-designer Richard Rogers' recent reaction to the remodelling (see WA83 pages 34-37).

Until 27 March. Centre Pompidou, Place Beaubourg, Paris, France. Tel: +33 1 44 78 49 87 Fax: +33 1 44 78 13 02 e-mail: etoubiana@cnac-gp.fr Web: www.centrepompidou.fr



Award for Architecture 1999-2001,
PO Box 2049, 1211 Geneva 2.
Tel: +41 22 9009 7200
Fax: +41 22 909 7292
e-mail: akaa@atge.automail.org
Web: www.akaa98.org

UK

Dalsouple 100% Rubber Design Competition

Open to design professionals and students who use rubber in their work. Prize US\$1600, registration deadline 31 March. Contact Dalsouple Direct, PO Box 140, Bridwater TA5 1HT.
Tel: +44 (0)1984 667233
Fax: +44 (0)1984 667366
e-mail: info@dalsouple.com
Web: www.dalsouple.com

US

DuPont Benedictus Awards

Awards programme recognising built work incorporating laminated glass. Projects must have been completed in or after 1995. Submission deadline 6 March. Contact the American Institute of Architects, 1735 New York Avenue NW, Washington DC 20006.
Tel: 00 1 202 626 7446
Fax: 00 1 202 626 7425
e-mail: vierras@aiaemail.aia.org

Exhibitions

Germany

Embassies and Representations of the German Lander in Berlin

Exhibition of the best of the new government buildings in Berlin. Until 1 April at the Deutsches Architektur Zentrum, Kopenicker Strasse 48/49, D-10179 Berlin.
Tel: 00 49 30 27 87 34 0
Fax: 00 49 30 27 87 34 90
e-mail: daz@daz.de
Web: www.daz.de

The Netherlands

The Function of the Form – Van den Broek and Bakema Architecture and Design

Work from the evergreen Rotterdam firm from as far afield as Japan and Saudi Arabia, as well as The



Boarding arm satellite building of Kuala Lumpur International Airport, by Kisho Kurokawa

UK: TRADE SHOW

Passenger Terminal Expo 2000

Trade show and conference with international remit. In Cannes from 20-22 March. Contact Exhibitions Division, UK & International Press, Abinger House, Church Street, Dorking, Surrey PH4 1DF, UK.
Tel: +44 1306 743 744
Fax: +44 1306 877 411,
e-mail: expo@ukintpress.com
Web: www.ukintpress.com

Netherlands. Until 24 April at the Netherlands Architecture Institute, Museumpark 25, 3015CB Rotterdam.
Tel: +31 10 440 1200
Fax: +31 10 436 6975
e-mail: info@nai.nl

Italy

Architecture Sector of the Venice Biennale – Citta: Less Aesthetics, More Ethics

Massimiliano Fuksas' June exhibition will comprise commended entries from the "The City: The Third Millennium" competition. Contact La Biennale di Venezia, Dipartimento Attivita Espositive, Settore Architettura Concorso "Citta: terzo millennio", Ca' Giustinian, San Marco 1394/a, 30124 Venice.
Tel: +39 04 1522 6514
Fax: +39 04 15210038
e-mail: concorso@labiennale.com
Web: www.labiennale.org

US

Bilbao: Transformation of a City

Bilbao has reinvented itself, from declining industrial port to cos-

mopolitan showcase for European culture, without the impetus of an Expo, Olympics or City of Culture title. This exhibition tells the story. 7 April to 16 July, the Art Institute of Chicago, 111 South Michigan Avenue, Chicago, Illinois 60603-6110.
Tel: +1 312 443 3600
Fax: +1 312 443 0849

Reimagining the Suburbs: Smart Growth and Choices for Change

The concept of smart growth seeks to identify common ground where architects, developers, environmentalists, public officials, citizens and financiers can all find ways to accommodate suburban development. Until March 26, the National Building Museum, 401 F Street NW, Washington DC 20001.
Tel: +1 202 272 2448
Fax: +1 202 272 2564

The Pritzker Architecture Prize 1979-1999

Retrospective of the work of past winners. Until March 26 at the Carnegie

Museum of Art, 4400 Forbes Avenue, Pittsburgh, PA 15213-4080.
Tel: +1 412 622 3131
Fax: +1 412 622 3112

Trade shows

Brazil

Construa 2000

Construction show to welcome European developers to the Mercosur market. 5 to 8 October, Sao Paulo. Contact Exponor Brasil, Av Angelica 2466 – Coni 154, Edificio Angelica Tade Centre 01228-200 Sao Paulo.
Tel: +55 11 3151 6444
Fax: +55 11 315 16444
e-mail: xponor.com.br
Web: www.exponor.com.br

France

MIPIM 2000

Annual international property market jolly on the French Riviera. 8 to 11 March. Contact Reed Midem Organisation, BP 572, 11 rue du Colonel Pierre Avia, 75726 Paris Cedex 15.
Tel: +33 1 41 90 45 20
Fax: +33 1 41 90 45 30

PRC

ISH China

The International fair for Sanitation, Heating and Air-Conditioning will be held at the China International Exhibition Centre in Beijing from 12 to 15 September. Contact Messe Frankfurt (HK), 1808 China Resources Building, 26 Harbour Road, Wanchai, Hong Kong.
Tel: 00 852 2802 7728
Fax: 00 852 2598 8771
e-mail: technical@hongkong.messe-frankfurt

UK

Interbuild 2000

Construction industry "supershow" – the UK's biggest. 21 to 25 May, NEC, Birmingham. Contact Interbuild 2000, 151 Rosebery Avenue, London EC1R 4GB.
Tel: +44 20 7505 6895
Fax: 44 20 7505 6667
e-mail: deniss@construct.emap.co.uk



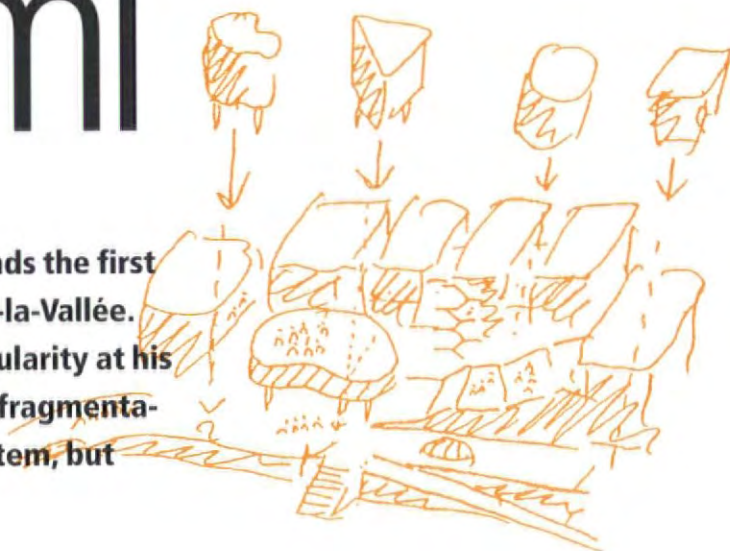
This page: Present entrance (secondary entrance when complete) on the east elevation, showing the sawtooth roof **Facing page:** right of the entrance is the lacquered folded steel of the administration and research block and, on the left, the workshop and lecture room block

Building study



So Tschumi

Between Paris and Disneyland, on a still deserted site, stands the first phase of Bernard Tschumi's École d'Architecture de Marne-la-Vallée. His trademark industrial aesthetic – which found such popularity at his Parc de la Villette in Paris – is here enhanced with ideas of fragmentation and his insistence that a building is never a closed system, but should be left open. Robert Such reports.





Above: An array of footbridges connects the galleries to the central amphitheatre standing over the exhibition space

School is out for Christmas. The security guard trips the alarm, then shuts the door behind me. I'm in. Inside Bernard Tschumi's brand spanking new US\$13 million École d'Architecture de Marne-la-Vallée. The Franco-Swiss architect's latest building stands isolated on a stretch of road near Cité Descartes, a 1980s suburban new town out in the sticks between Paris and the satellite, Disneyland, east of the capital.

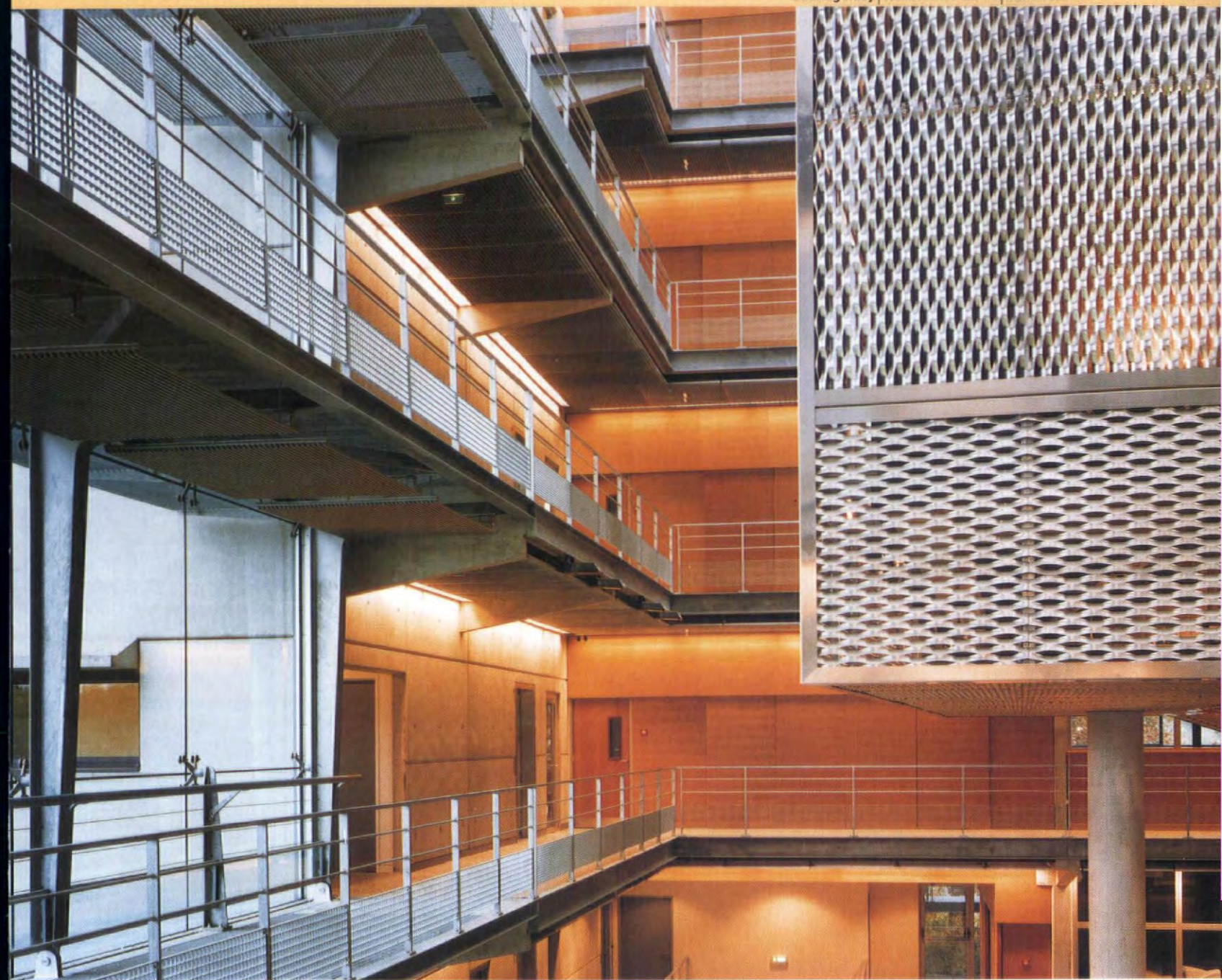
A 15-minute approach on foot from the station passes Dominique Perrault's outstanding edifice for engineering, technology and management higher education (Group ESIEE): an arc chopped out of the shallow facade that slopes away from the roundabout of concentric waves of cracked basalt around a sculpture representing the earth's axis.

Further down the road is Chaix and Morel's less impressive École Nationale des Ponts et Chaussées (the National Civil Engineering School). Including the giant restaurant complex

opposite, and the University of Marne-la-Vallée, the site constitutes about only 30 per cent of a developing campus. It is a lonely place, but Tschumi points out, "it doesn't have critical mass yet, but will when everything is built".

On first sight his design appears more open than the neighbouring monoliths, with different elevations and surrounded by tracts of land, fringed by woodland. So what role did context play? After all, Tschumi had immense freedom of expression here, without straying outside the brief.

"The building is really done from the inside out, as with almost all of them I do. I start from the inside and then it starts through the making of that very large space [which] becomes the focus of all activities," he explains. This very large space – or "forum" – sits 3.5 metres above ground, to accommodate the car park beneath, and is topped by a glass and steel sawtooth roof, the glazed rake facing north to avoid a greenhouse effect.



Above: Galleries and the 90- and 13- seat theatre box of the central amphitheatre. The wave-like pattern and seams in the steel of the box were dictated by the structural behaviour of the metal

Eventually, for this is only phase one, users will enter via an existing south side flight of steps, which presently take visitors up to a temporary glass wall. Remembering that work is only half complete is essential in order to make sense of some of the otherwise strange external and internal logic.

Readily discernible, however, is that the facilities for administration and research, and the media library, are distanced from the nuts and bolts of teaching by the enormous forum, which serves as exhibition space, cafeteria and reception. For Tschumi, this 25 x 90 metre area is "unprogrammed", as it can be appropriated for whatever use the client has in mind. (The clients this time are the ministry of culture, which is managing French architectural education for the moment – it tends to jump back and forth between the ministry of culture and the ministry of education – and the public authorities of Marne-la-Vallée.)

Dominating the void is a box-like envelope on eight pilotis, which houses two lecture theatres – one 90-seat and one 130-seat – divided by a moveable partition. The top terrace of beech parquet is again "unprogrammed".

Seams dividing up the expanded stainless steel skin do not reflect internal distribution but resulted from the fact that it was preferable to go with, instead of against, the "wave pattern" when cutting, putting technical considerations at the heart of its design. "I never work with aesthetic reasons [except when choosing the type of wood]," Tschumi points out.

Galleries of galvanised steel grillwork surround the forum on three sides, the cool tones counterpointed by the warm glow of perforated beech wood panelling. Seminar and jury/pin-up rooms alternate with the workshops, which extend over two levels; the main deck, mezzanine and central column all in the same ubiquitous light-coloured concrete. ▶



Above: Galleries surround the forum. The workshops and seminar/jury/pin-up rooms are panelled in perforated beech wood. To the right of the picture is the temporary facade

In terms of textures and materials, Tschumi has included transparent and translucent glass – frosted and smooth, channelled or plain – and smooth plaster renderings. Chairs, lighting and all-beech furniture were conceived by him. Metals are milled, polished, or lacquered. Diamond-patterned, lacquered, folded steel wraps completely around the four-storey volume on the south-west corner, going indoors and outdoors, playing with notions of autonomy and inclusion.

Long, inclined stairways link the different levels. That their orientation seems wrong with respect to the present access only adds to the feeling of a poorly assembled puzzle – but only if we forget that it is awaiting completion – which continues on the outside where the dialogue between elements is disjointed. "It's never a closed system... You never contain it. You always leave gaps, interstices. It's never about

synthesis. It's always about certain fractures. So that the fractures are generally all intentional. It's not like Norman Foster who will always try to close the system. I always try to leave it open," he says.

This idea of fragmentation also makes itself felt through what Tschumi refers to as architectural "side-effects". A surprising example stems from engineering and legal requirements: four large muscular girders above the "forum" support the concertinaed roof, falling short of crossing the entire space, thus leaving a gap; while down under the staircases a series of posts and wires, which look like suspended "legs", form a barrier to people walking into the low edge.

Combine these elements and the central amphitheatre resembles a creature that rose up on its own concrete limbs, lifting the steps that lead to the ground floor in the process, flexing and expanding, while simultaneously rupturing the

Key to ground floor plan

- 1** Seminar and jury/pin-up room
- 2** Workshop
- 3** Perforated beech panelling
- 4** Ground-floor exhibition space (below theatre)
- 5** Future glassed-in open-air patio
- 6** Future 400-seat amphitheatre
- 7** Future material experimentation lab with workshops above library
- 8** Future secondary entrance (present main entrance)
- 9** 90- and 130-seat lecture theatres, accessed from first and ground floor
- 10** Link bridge
- 11** Media library, and sub-level one

Client

Ministry of Culture

Architect

Bernard Tschumi

Facade consultant

Hugh Dutton

Structural consultant

RFR

Mechanical, electricity, plumbing

Louis Choulet

Acoustics consultant

CIAL

Site works

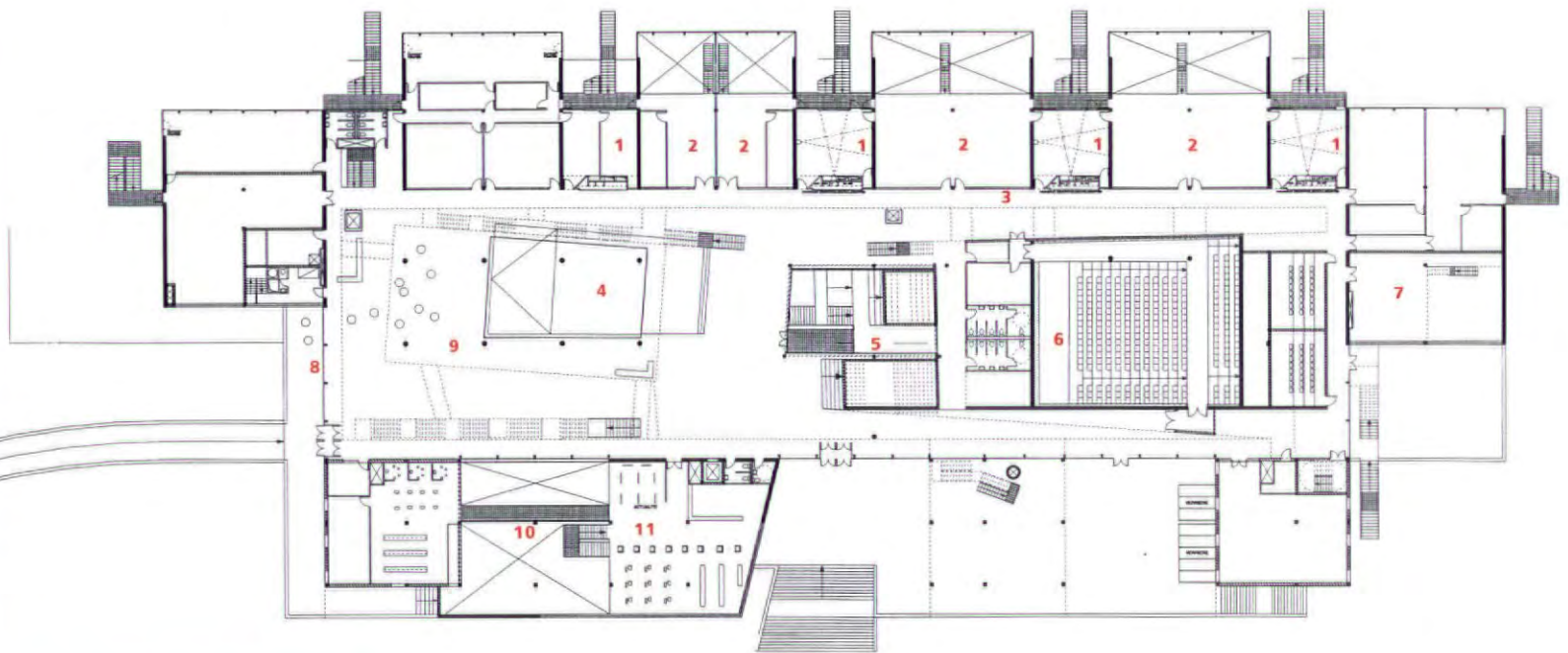
Setec TPI

Landscape architect

Ursula Kurz

External works contractor

Valenton Travaux Matériaux

**Ground floor plan of final building**

overall structure. In spite, or perhaps because of, this fracturing, the integrity of the building has been healed, the old integrated into the new. Tschumi is "comfortable" with this reading: it neatly ties into his original thought that the project began from within.

As the architect most widely known for the extraordinary 1985 Parc de la Villette in the 19th arrondissement of Paris, which as an industrial landscape of activity breaks from the parks of relaxation of the 18th and 19th century, Tschumi has once again returned to industry and dynamism. "I don't mind industrial. I've always liked industrial," he says. "Our project starts from the following thesis: there are building-generators of events. They are often condensers of the city; as much through their programmes as through their spatial potential they accelerate a cultural or social transformation that is already in progress."

Phase two of the architecture school has still to be given the go-ahead. When this happens, it will effectively double in size and student capacity, from 500 to 1200. Plans are for a glassed-in open-air chamber that will give access to sub-level one. People will be able to congregate here out of the wind, in relative silence, and beneath the sky. Also on the drawing board is a 400-seat auditorium and material experimentation laboratory.

And how does Bernard Tschumi feel about his school, about being a silent professor, and the next generation of young architects? "Winston Churchill said that we form buildings and buildings form us... I studied in an amazing Neo-Classical [one], unbelievably beautiful, by Gottfried Semper [1803-79] and I don't know if it had any effect on me, except that the spaces were astonishing – but it was Neo-Classical... which is the furthest away from what I do," he concludes.

City focus – Berlin

CONFIDENCE BUILDING

Ulf Meyer reports from Berlin now that the majority of Potsdamer Platz is completed. Has Germany's new capital fulfilled its potential? And in Bonn, Dr Ursula Kleefisch-Jobst assesses the new identity of the city since it was forced to abdicate its capital status.



H G Esch

Foster and Partners' Reichstag cupola has given a new identity to Berlin

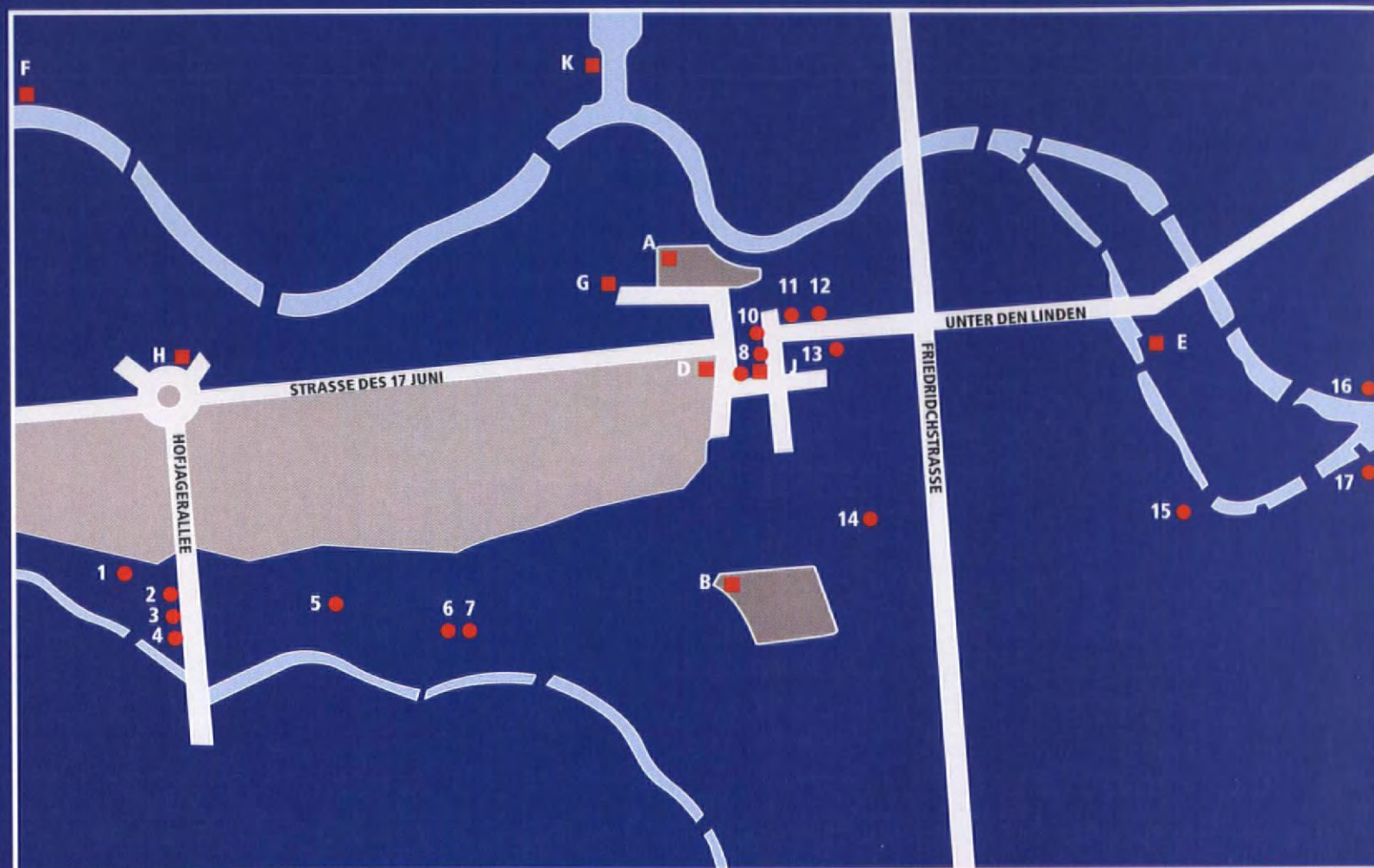
Towards the end of the 1990s Germany's shiny new capital witnessed an unprecedented influx of investment. With it came a rash of high-profile architecture, ranging from infrastructure and urban planning to government buildings and cultural institutions. For better or worse, architects from overseas have left their mark on the city. At the beginning of the 21st century the time has come to assess whether Berlin's building boom is the greatest missed opportunity in 20th century architecture and town planning, or will Berlin forever be regarded as a bite size distillation of signature architecture at the end of the second millennium?

The capital's metamorphosis has been greeted with both enthusiasm and scepticism, within Germany and abroad. As the largest city in Europe's biggest country, its rebuilding offered intriguing potential. After 40 years of stagnation and division, there was a huge demand for modernisation of the capital. Since the investment and building programmes of the last decade, Berlin has risen to the economic level of cities such as

Milan, Rome and Madrid, though it will probably never make it into the premier league of western European capitals.

The local administration and some city architects tried to establish a regime of urban and architectural design for the development of the inner city around the leitmotiv of "Berlin as a city of stone". But the height limits and restrictive language of stone cladding resulted in a disappointing uniformity in the commercial buildings around Friedrichstraße. The schemes are well built, but uninspiring. Social Democrat politician Hans Stimmann (who trained as an architect) and architect Josef-Paul Kleihues were the leading forces behind the reconstruction. Kleihues' contribution dates back to the city's international building exhibition of the 1980s. This huge renovation scheme involved names including Peter Eisenman, Rem Koolhaas, Zaha Hadid and Herman Hertzberger. The boom of the 1990s is not the first time international stars have been wheeled in.

From an urban point of view Berlin has fallen short of making the most of the once-in-a-lifetime opportunity



CITY FACTFILE provided by Hanscomb

General: Berlin, capital of the re-united Germany, is about 180 kilometres south of the Baltic Sea, and 889 square kilometres, the largest city in Germany. It was divided after the Second World War and the erection of the Berlin Wall in 1961 became symbolic of a divided Germany and the Cold War. The Berlin Wall came down in 1989 and Germany was re-united in 1990.

Population: About 3.5 million

Consumer price index: 1991=100

1997	118.6
1998	119.7
1999 (est)	120.9

Exchange Rates:

DM per US\$

1997	1.792
1998	1.677
1999	1.949

TRAVEL INFORMATION

Time difference: Berlin is one hour ahead of Greenwich Mean Time and six hours ahead of Eastern Standard Time (EST).

Currency: Deutsche Mark (DM) has 100 pfennige.

Business hours:

Government	09:00-12:30, 02:00-17:00, Monday - Friday
Banks	09:00-18:00, Monday - Friday
Business	09:00-18:00, Monday - Friday

Airports: Berlin has three airports, Tegel, Schönefeld and Tempelhof.

Dialling codes: The country code for Germany is 49. Berlin's city code is 30.

Key landmarks

- A The Reichstag
- B Potsdamer Platz
- C Jewish Museum (off map)
- D Brandenburg Gate
- E Foreign Office
- F Interior ministry
- G Kanzleramt
- H Bundespräsidialamt
- J Hotel Adlon
- K Hamburger bahnhof

Key embassies

- 1 Spain
- 2 The Nordic Embassies (Iceland, Sweden, Norway, Denmark, Finland)
- 3 Mexico
- 4 Malaysia
- 5 Japan
- 6 India
- 7 Austria
- 8 US
- 9 UK
- 10 France
- 11 Hungary
- 12 Poland
- 13 Russia
- 14 Czech Republic
- 15 Morocco
- 16 Netherlands
- 17 Brazil



presented by unification. In the main, those responsible for the repair of the urban fabric have paid lip service to progressive avant-garde ideas and technological innovation. The pressure was on to produce volume; from residential blocks to commercial schemes. Until well into the 1990s social housing was the main source of employment in a city with no competitive business infrastructure, but when it became clear that the city was not going to experience the predicted population surge attention turned back to commercial projects. Today, the thrilling boom of the 1990s has abated, foreign architects are starting to go home and Berlin's architects are having to face the realities of actively seeking work.

Striking a balance

Berlin was traditionally a polycentric city, and with the fall of the wall competition between the major commercial, shopping and entertainment centres was renewed. With the majority of real estate investments pouring into the centre of East Berlin, the old West around Ku'damm was in danger of decline. It fought back with a series of large-scale office and shopping

venues – at odds with the small-scale charm of the boulevards of the area – such as Murphy Jahn's Neues Kranzler Eck, Christoph Maeckler's Zoofenster, and gmp's Neues Kudamm-Eck. In contrast, the Stilwerk by Novotny und Maehner (see page 53) – a big, brand new furniture and design department store – respects the city fabric and has been instantly popular.

The vast commercial urban development at Potsdamer Platz created a third centre, with Murphy Jahn's Sony Centre, based on entertainment, with dozens of movie theatres, a casino and a musical theatre (see page 62-66). Rather than competing by throwing up tall buildings, the centre of the former East Berlin has become a hip spot for media companies, advertising agencies and art galleries. Among the new media headquarters are the elegant ARD-building by Ortner & Ortner, the ZDF-studio in the Zollernhof by Thomas Baumann, the new SAT 1 studio by Hoffman/Uellendahl, PRO 7-HQ by Bothe Richter Teherani and the new Bundespresseamt by KSP. New downtown department stores include Dussmann, Nouvel's Galeries Lafayette and Niketown, which have flourished alongside the regional shopping malls in almost every outer borough of Berlin.



Above: Potsdamer Platz before development and, below, as it is today



Left: Richard Rogers Partnership's three-block scheme – one of residential, on the left of the picture, and two of offices – represents some of the practice's finest work, unlike some of the other buildings by well-known stars at Potsdamer Platz



Key to plan

- | | |
|---------------------------|---------------------------------------|
| 1 Philharmonie | A Renzo Piano, Christopher Kohlbecker |
| 2 Neue Staatsbibliothek | B Jose Rafael Moneo |
| 3 Neue Potsdamer Strasse | C Lauber & Wohn |
| 4 Alte Potsdamer Strasse | D Hans Kollhoff |
| 5 Potsdamer Platz Arkaden | E Richard Rogers |
| 6 Potsdamer Platz | F Arata Isozaki |
| 7 Linkstrasse | |

Potsdamer Platz: the vital statistics

Something big needed to happen to reinstate the commercial centre of Berlin after unification. That something has materialised in the shape of Europe's largest commercial construction site, now almost complete, at Potsdamer Platz. Berlin will not challenge Frankfurt as Germany's financial capital, and looks likely to dominate in the cultural arena instead, but the Potsdamer project has gone a long way to breathing life into the no-man's land that lay between East and West Berlin between the Second World War and unification in 1990.

DaimlerChrysler is the largest stakeholder on the site, and has been responsible for commissioning the designers of the centre-piece. Officially known as Debis city, the heart of Potsdamer Platz has involved a list of names which reads like a *Who's Who* of contemporary architecture. However, many of these names have been attacked for producing below-par designs on the site. The criticism, which can't be ignored, is that too much has happened, too fast. The individual schemes, and the masterplan as a whole, have not been allowed to develop organically, and the inevitable result is a centre suffused with a toy-town (some even say ghostly) atmosphere. However some, such as London-based Richard Rogers Partnership, have come up trumps, as shown here. Debis city comprises 55,000 square metres of offices, housing and retail, plus a 350-room hotel and a complex of cinemas and theatres.

The masterplan also includes a public park, a major rail and underground station, a combined heat and power plant and a telecoms centre. The second major element of this plan has been developed by Sony, in association with developers Tishman Speyer from the US and Kajima of Japan. The lion's share of this scheme has been designed by Helmut Jahn, of MurphyJahn in Chicago (see pages 62-66).

The new seat of power

The biggest single influence on the new shape of Berlin has been the relocation of most major government facilities. Ministries, party headquarters and foundations, MPs' housing, interest groups and institutions and new embassies (see sector analysis in WA83, pages 74-83) have caused huge demand for new buildings and renovations all over the city. Happily, these government projects have produced some of the most notable design of recent years.

The first built symbol of the city's new role was Foster and Partner's new cupola on his redeveloped Reichstag. It received almost universal critical acclaim (see WA75 page 30-31) and instantly became a major attraction for both tourists and Berliners alike. The abstracted concrete forms of the Kanzleramt, the office of the Chancellor, by Berlin architect Axel Schultes, which is nearing completion, is on track to become an equally important landmark.

Most ministries – those for finance, justice, defence, family and education – moved into existing buildings. Some were extended significantly, such as the ministry for traffic and

Nicola Turner



construction by Max Dudler and the foreign office by Mueller/Reimann (see page 67). The only new-build ministry is the ministry for the interior, built by Berlin architects Kuehn, Bergander and Bley on the banks of the river Spree.

Most other buildings were designed by architects from out of town, such as the Bundespräsidialamt, the office of the official head of state by Gruber Kleine Kraheburg from Frankfurt. Stefan Braunfels from Munich designed the Lobe and Luders-Houses – huge office buildings for members of parliament. All 16 German states have huge *Landesvertretungen* (representational offices of the federal states in the capital), some of which are even bigger than the major embassies.

Modernisation of infrastructure

Before the collapse of the wall even the western half of Berlin was a transport nightmare. A major overhaul of all aspects of infrastructure – roads, railway lines, subways and airports – has started, alongside the construction of hotels and sports facilities to cater to the growing numbers of visitors and business travellers.

Although Berlin already had three international airports, none had sufficient capacity to service intercontinental air traffic. A major new airport scheduled for Schoenefeld has been delayed by a corruption scandal so is not expected to be completed until 2007. In the meantime, Tegel Airport has been extended, and another extension is in the pipeline, even though Tegel is supposed to get closed down as soon as the new hub is working. Tempelhof Airport is also threatened by the new airport, but its inner-city location, making it good for small business jets and regional airlines, will probably keep it open for some time.

With Berlin's recent connection to the European high-speed rail network most stations will be redeveloped. The Ostbahnhof station is under major redevelopment (by Becker Gewers Kuehn and Kuehn), and several other stations already show how stations can become vibrant retail centres. New stations serving the north and south of the city, at Papestraße (by Max Dudler) and Gesundbrunnen (Hentschel Oestreich), are under way. Spandau is the only new station already completed, by the same architect, gmp, which is designing the new main railway station, Lehrter Stadtbahnhof, in the city centre.



Far left: Detail of copper shutters which separate the embassies of the Nordic countries complex from the surrounding district. Masterplan by Berger and Parkkinen
Centre, top: Bremische Landesvertretung by Léon + Wohlhage
Centre, bottom: the President's Office by Martin Huber and Helmut Klein – Kraenburg is one of the many government buildings which has benefitted from an extension **Near left:** Daniel Libeskind's Jewish Museum has become as much an architectural symbol of Berlin as Foster's Reichstag

The new Messe (tradefair ground) is by Oswald Matthias Ungers, and is accompanied by new hotels such as the Adlon, Schweizerhof, Hyatt, Estrel, artotel and Four Seasons. Although the application to become host for this year's Olympics failed, new sports facilities were built, including Dominique Perrault's Velodrome and Olympic pool (see pages 70-73). This scheme is already being enjoyed and the redeveloped Olympic Stadium will no doubt be used for the soccer championship in 2006.

Market watch

The 1990s real estate market in Berlin was the hottest in Europe. Now, according to a study by Jones Lang Lasalle, it seems to have fallen behind western Germany's major cities. The five biggest cities in terms of office space were Berlin, Düsseldorf, Frankfurt, Hamburg and Munich, with Munich having biggest sales with 670,000 square metres, followed by Frankfurt and Berlin. A decrease in the availability of big parcels of rented floorspace in Berlin and Frankfurt lowered the average deal to below 1,000 square metres. The boom inspired by Berlin's renewed capital status is slowing down, but it still carries prestige. ▶

"There are few cities that in the last 20 years were so eager to get good architecture like Berlin. When you consider the great volume of construction, the city was very lucky indeed. Only cities like Shanghai had a similar momentum, but there a brutal cultural loss is taking place. In China the cities get destroyed as one high-rise is uglier than the next." Josef Paul Kleihues, influential Berlin architect

Daniel Libeskind does not support Kleihues' view. Instead he argues that a great opportunity has been missed. Berlin has produced only "neo-conservative reconstruction and a widespread lack of courage".

Boomtown Bonn: From a sleepy government retreat to a modern service centre.

By Ursula Kleefisch-Jobst



When the German Bundestag voted (on 20 July 1991) to move the government from Bonn to Berlin in 1999, the idyllically located Rhine city was hit by a widespread sense of doom and gloom. The forecast was that the enormous job losses would turn the city, with traditionally little industry or productive trades, into a desert.

But the change has not turned out to be that radical, with Bonn remaining a major centre in the day-to-day political life of the republic. The Berlin/Bonn Act of April 1994 governs the division of labour between the federal capital Berlin and the federal city of Bonn. The Rhine city is still home to the headquarters of seven ministries, and 22 federal organisations which have moved there. And the Rhinelanders, ever open to the outside world, have been exposed to a certain amount of international flair ever since Bonn became the first UN city in Germany in June 1996. In the future, some 400 employees will work in the UN offices. What with the new subsidiary of radio station "Deutsche Welle", hoped to create about 1,500 new jobs, only 14,000 new jobs will have to be found to replace the 22,500 jobs lost with the government move.

In 1994 the city government started to promote the skills of the city, focusing on two new key areas: science and research, and data/ telecommunications. Of crucial importance to the plans to expand "Tele-Bonn" was ensuring that the two organisations, Telekom and Post, had their headquarters in the city. Together with their subsidiaries, they act as magnets for new service companies and play a major part in the structural change.

Preservation instinct

Telekom wants to embark on expansion of its general headquarters this year, and for the purpose has bought the Konrad-Adenauer-Haus, party headquarters of the CDU, and the adjoining land of the British Embassy. The party HQ, a 1950s purpose-built construction, will be kept for its political importance; maybe preserved under glass like a museum piece, as the Düsseldorf-based architect, Petzinka Pink und Partner, would like to do.

Fourteen five-storey office blocks are planned next to the old party headquarters as part of a small Telekom City, to be linked to the organisation's headquarters on the other side of the street by a glazed bridge.

Post, on the other hand, will be flying high with a 162-metre skyscraper by Helmut Jahn of Murphy/Jahn (left). The project has been the focus of a bitter battle for the last two years, over the suitability of the site. The objection is that the building would obstruct the views of Gronau from the former government quarter. Gronau is a landscape of grassland and meadows with a spectacular view of the Siebengebirge hills and the Petersberg Hotel on the far bank of the Rhine. However, both Post and the city authorities regard a skyscraper as the one genuine symbol of a forward-looking company and a 21st-century city.

Another project on the horizon is to build over the "Bonn hole", an entrance to the underground tram station, which appeared in the early 1970s in front of the Bonn central railway station. All attempts to build over it for the last 30 years have foundered due to the lack of a potential investor. A project developer has now been found who is willing to invest US\$1.6 million, and architect RKW Rhode Kellermann Wawrowsky has put forward plans for four different, low-rise buildings opposite the historic railway building to provide the city with a new urgently needed boundary.

Ten years after the reunification of Germany, the lights have not gone out in Bonn: unemployment figures are among the lowest in the republic, office space is in short supply and the price of houses and luxury apartments has not rocketed. The US\$1.5 billion injected into the region by the authorities has already paid off.



Top: Stilwerk design department store by Novotny und Maehner, with Studio & Partners of Milan, has proved an instant hit with Berliners, as has, **above,** the Kleihues' Hamburger Bahnhof refurbishment as a museum

Historical perspective

While Berlin may be traditionally weak in white collar business, it has led in culture. The Deconstructivist metal facade of the Jewish Museum by Daniel Libeskind has caught the most public attention in Berlin, overshadowing other museums such as the conservative Gemäldegalerie (by Hilmer/Sattler), the remodelled train station of the Hamburger Bahnhof (by Kleihues) and the small Berlin Guggenheim (by Benedict Tonn). The new Museum for Traffic and Technology by Wolff und Pitz, complete with a protruding model aircraft, and the German History Museum by I M Pei, which promises some of the elegance of the architect's Louvre pyramid in Paris, will be completed soon.

After a dramatic and depressing century of conflict, the transformation of Berlin has been a success. Once the city has fully regained its self-confidence it shows every chance of being great once more.

GENERAL CONSTRUCTION INFORMATION provided by Hanscomb

Construction outlook: Berlin remains one of Europe's largest construction projects, although many of the major projects are now complete. It is estimated that during the 1990s construction spending exceeded US\$120 billion.

The relocation of the German government from Bonn to Berlin is complete. The government's move is drawing in its wake many broadcasting and television, telecommunications and software companies, concentrated around the government quarter in Spreebogen.

Apart from spaces of under 500 square metres, which is in high demand, there is an oversupply of office space, which is expected to continue due to the high volume of new space being constructed. There is also an overabundance of retail space – to such an extent that several large shopping centres projects have been put on hold. However, the Potsdamer Platz area continues to draw large numbers of people and the imminent completion of the Sony Center's entertainment attractions will only increase numbers.

Many large infrastructure projects are still under way, foremost the conversion of the Lehrter Bahnhof into Berlin's central railway station.

Rates of inflation: In 1999 it was about 0.2 per cent and it is expected to be about 1 per cent in 2000.

Procurement of construction: The Verdingungsordnung fuer Bauleistungen (VOB) sets out a standard form of contract between owner and contractor. Its use is voluntary in private projects, but recommended and generally followed. Use of VOB for public sector projects is mandatory.

The traditional method of design and construction involves retaining an architect/engineer. The architect may lead a team of specialists or may have all skills in house. Selection is often by competition. The A/E prepares the design. Most private sector jobs are fast-tracked, with the owner holding the construction contracts. The A/E frequently acts as construction manager with the owner's assistance.

The use of bills of quantities and remeasurement for public sector projects is mandatory. BQs are prepared by the A/E and issued with the drawings and specifications.

Bonds and insurance: Performance bonds are quite common, but are rarely for the full contract amount.

Design professions: The architecture and engineering professions are regulated. Fee structures are set forth in the Honorarordnung fuer Architekten und Ingenieure (HOAI). Pressure from the EC to widen competitiveness in service sectors is leading towards fee competition. In general, design fees are high in Germany compared with other European countries, but often include additional services, such as construction management.

Contractors: Most small contractors operate within a Lnder (state), but larger contractors generally operate nationally. There are several very large German contractors who operate worldwide. German owners and A/Es often "nominate" subcontractors and suppliers, although it can lead to all the usual problems associated with nomination.

Construction materials and methods: Material, labour and equipment are readily available. The highly competitive market means immense downward pressure on prices, with a resulting extensive use of labour from other countries, in particular Poland, the Czech Republic, Ireland and Portugal.

Miscellaneous: For foreign companies investing in Berlin, there are generous subsidies available from the Berlin Senate, as well as a highly skilled and productive workforce.

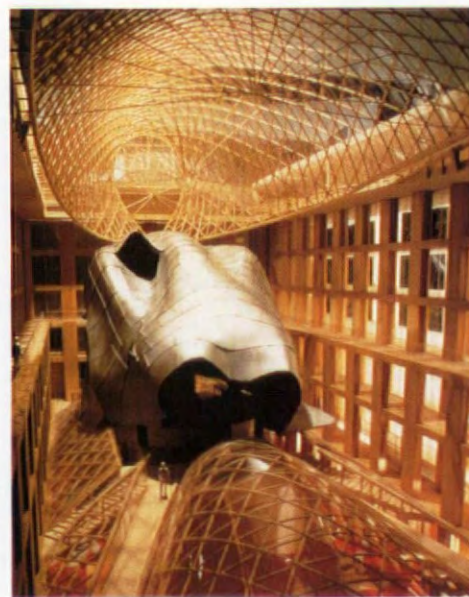
Approximate construction costs (January 2000):

	DM/square metre
Office, mid-rise, A/C, shell and core	1,900
Office, tenant fit-out	1,000
Manufacturing facility	1,600
Warehouse, high-bay	1,100
Hotel, five-star	4,000
Parking garage, above grade	750
Apartments, average quality	2,200



Fish out of water

Most commentators feel that whatever the success of Berlin's building boom it has, on the whole, failed to produce the best architecture from the stars. With one exception. At the DG Bank on Pariser Platz, Frank Gehry has designed one of his least characteristic buildings, but he considers it to be "one of the best things I've ever done". Layla Dawson has to agree. Photographs by Christian Richters.

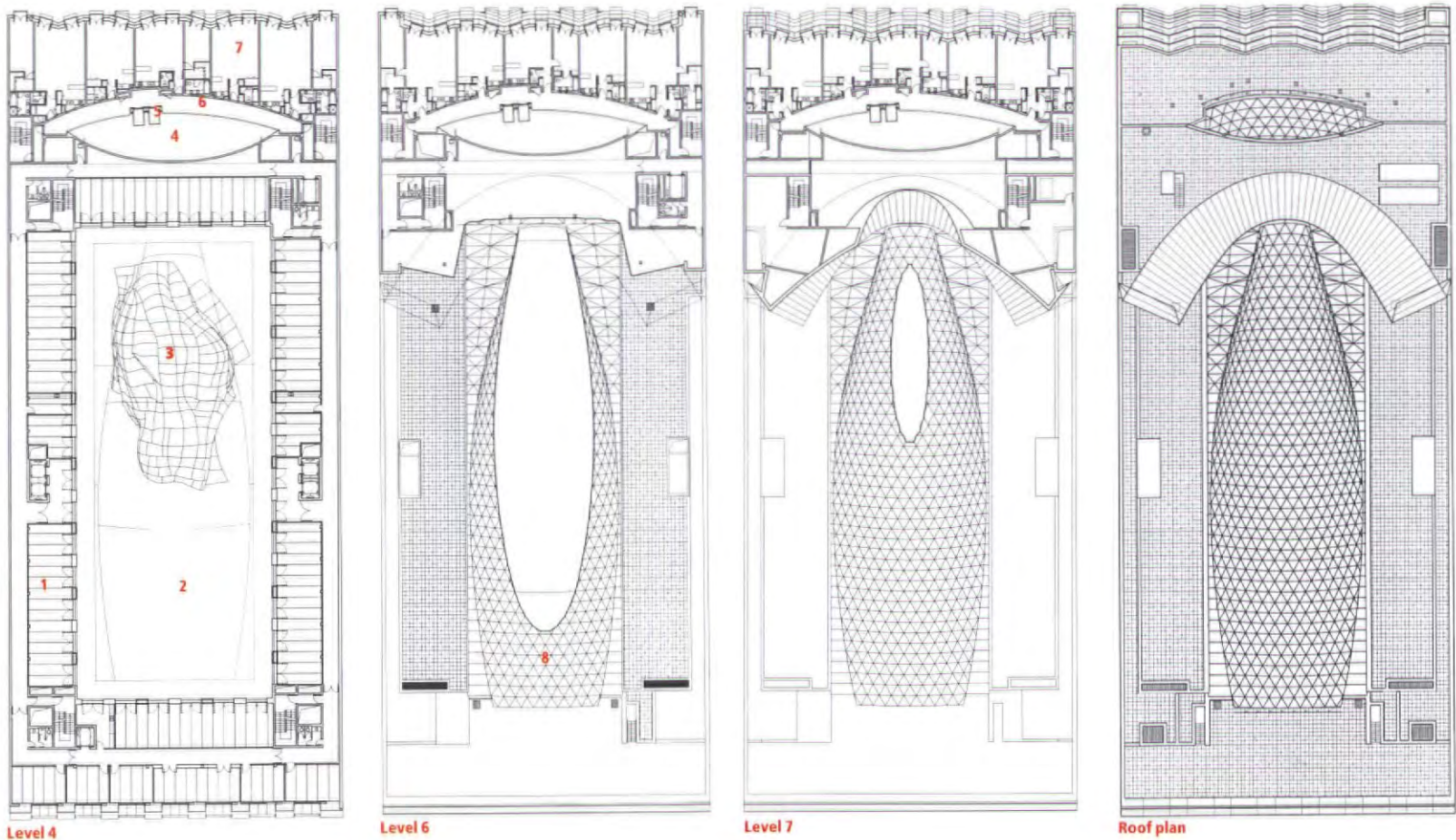




Above left: Pariser Platz entrance to the DG building. The exterior combines the conservative and modern elements of style deemed appropriate by the client.
Left: Model to show how the interior will look once the bulbous debating chamber is fully clad.
This page: A 1,126-square-metre glass "fish" covers the conference facilities below. The atrium's skylight roof has a double-curved triangulated space-frame structure.



Detail of six-storey Pariser Platz elevation clad, like the residential elevation, in natural limestone. The huge square windows are set into the thick walls at an angle



Key to plans

- 1 Bank offices
- 2 Office atrium
- 3 Debating chamber
- 4 Housing atrium
- 5 Lifts to apartments
- 6 650-square-metre glass curtain hung from atrium roof
- 7 Apartments
- 8 Glazed roof

Is Frank Gehry obsessed by fish? "It's a long story, and no, it's not about my grandmother's fish in the bathtub!" He puts to rest the much quoted anecdote about playing with the carp his grandmother bought for making gefilte fish. Was Gehry's nickname not Fish? "There was a very anti-Semitic community in Ontario where I grew up. I was the only Jewish kid in elementary school. We used to have fights. I used to beat them up and they used to beat me up." So the name was not meant kindly.

On 28 February 2000, in the star sign Pisces, Gehry celebrated his 71st birthday. He is still playing with amorphous structures, some of which strongly resemble fish. "I struggled with Modernism, because I didn't like the faceless buildings, but when my colleagues started Post-Modernism, I said, if you're going to go backwards why not all the way back! Fish appeared 300 million years before man. I was making a joke, out of anger, but I became obsessed with sketching fish, doodling fish. My fish lamps now fetch up to US\$200,000, if you can find one."

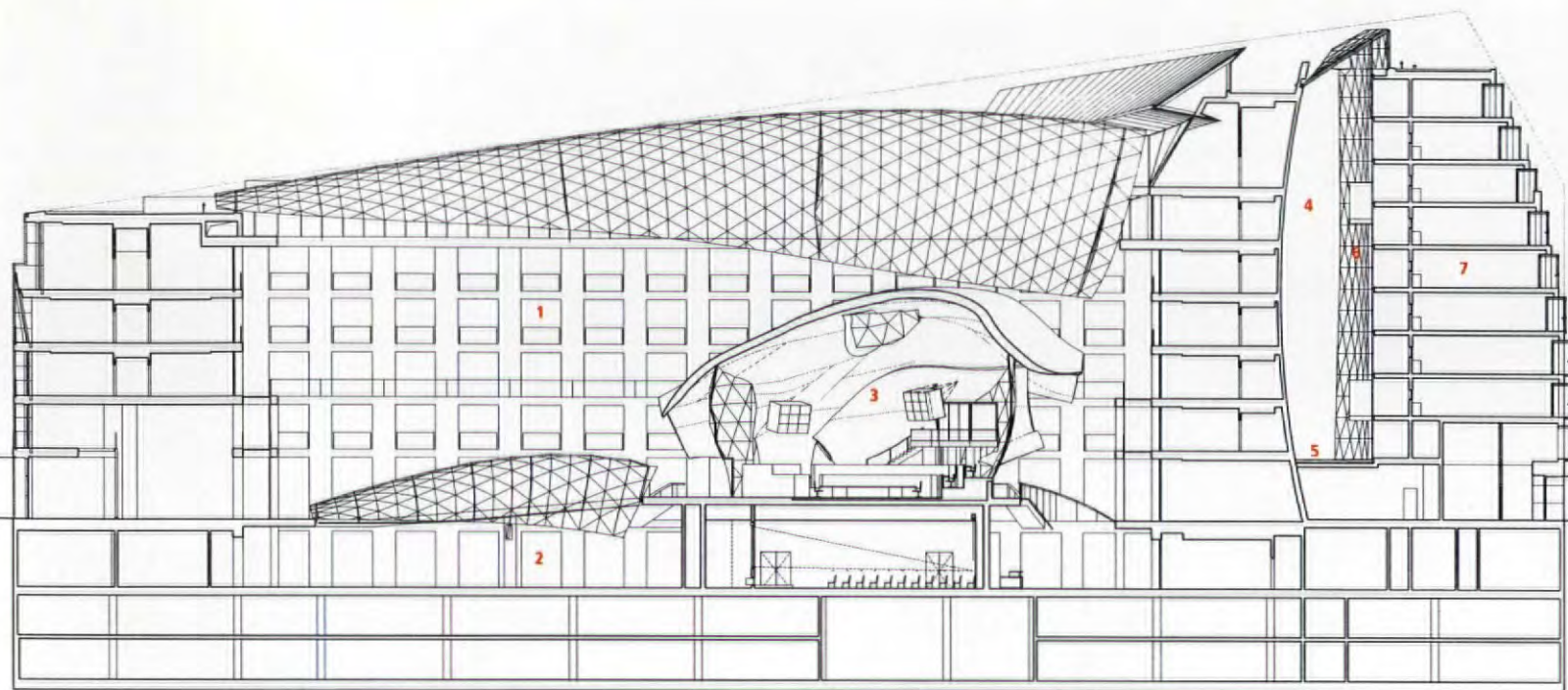
Biomorphic forms have broken out in all his projects; from his 1992 54-metre-long metal sculpture over a Barcelona shopping mall, to his recently beached Moby Dick in Bilbao. Even when not fish, the forms are more like creatures caught in freeze-frame than inanimate architecture; Vitra's Basel HQ and Weil am Rhein Museum, Goldstein social housing in Frankfurt, Düsseldorf's Neue Zollhof offices, Bad Oeynhausen's Energy Forum, or Ginger and Fred in Prague. Now, at Pariser Platz 3, he has trapped a giant fish in the DG Bank's Berlin headquarters.

"I've always been intrigued by the sense of movement in

sculpture, as in the Shiva dancing figures or the Elgin marbles, where you can feel the pressure against the stone of the warriors shields. I've been trying to achieve that movement in inert material, as well as trying to make a painterly building, which I haven't yet succeeded in doing." For Gehry, fish forms, coupling the fluidity of aquatic bodies with metal or glass, are perfect for reinforcing the dynamic of movement.

In 1995, while Gehry's competition entry for Berlin's Museum Island was still being considered, the DG Bank invited him, along with six other international architects, to submit a design for its Berlin headquarters. The site on Pariser Platz, sandwiched between Gunter Behnisch's Academy of Arts and Moore Ruble Yudell's American Embassy, was to include financial offices, apartments for sale, and semi-autonomous conference facilities for let. Gehry did not win the museum competition, despite the curators' preference for his solution, but his DG Bank design won unanimous approval.

"Gehry's entry stood out for combining conservative and modern elements and connecting people through an architectural event, which created an image with which the bank could identify," says Erhard Effenberger, DG Immobilien project manager. The 4,240-square-metre site, between Pariser Platz and Behrens Strasse, encloses in one block three separate functions: the DG Bank offices, the conference centre with access from Pariser Platz, and 30 owner-occupier apartments with an entrance on Behrens Strasse. In accordance with Berlin's strict regulations on facades, heights and set backs, both elevations – rising to six storeys on the office side and nine on the residential



Key to section

- 1 Bank offices
- 2 Conference room
- 3 Debating chamber
- 4 Housing atrium
- 5 Pool
- 6 Glass curtain
- 7 Apartments

side – are clad in limestone. Gehry's subversive details, however, distinguish his building from those of many others who have obediently bowed to Berlin's straitjacket. Internally the residential and business sides are separated by a lozenge-shaped atrium with rooflights. The "housing-facade", a 650-square-metre glass curtain, hangs from the atrium roof. Made up of triangular panes of armour-plated white glass, invisibly clamped together and supported on a stainless steel network, it falls over ten storeys into a pool. Two glazed lifts provide the viewing platforms for a non-stop performance of light and reflections.

For passers-by on Pariser Platz the swelling wave of glass over the sunken 500-person-capacity conference hall, and the amorphous form of the steel-plated debating chamber for 100 within the inner sanctum, is spectacular architecture and draws them in for a closer look. "Symmetrical domes or barrel-vault structures for the office atrium, skylight roof and conference areas would have been easier," says Thorsten Helbig, from Schlaich Bergermann und Partner, one of the structural engineers on the project, "but we went through a step by step development process with Gehry's models, and the result is unique".

Within the office atrium, the 1,126-square-metre glass floor over the conference facilities in turn supports hanging sculptural chandeliers below. This is impressive enough, but the atrium's skylight roof is even more complex. The triangulated space frame structure is double curved. Solid stainless steel rods, 60- x 40-millimetre in cross section, form six pointed stars screwed into joint nodes. Roof geometry dictates that rods meet at different angles so, for precision, these nodal connections

were cut from 70mm-thick stainless steel plate by computer programmed milling machines. The roof decking is made up of 1,500 triangular insulated white glazing panes, bedded on neoprene gaskets and laid on the space frame. At each corner plate clamps fix the glazing against the effect of wind suction.

Below, open corridors around the atrium knit together individual offices. Sight lines criss-cross the atrium void. Warm red-oak veneered walls and columns, and atmospheric lighting cocoon both the building's users and the sleeping fish in its casket. One thinks of dinosaur skeletons displayed in nineteenth century museum halls.

Did the original design change much during development? Gehry says not, but admits, "we were going to hang a boardroom up in the clouds. It was going to be like the hull of a ship. But the client thought it would make the bank look too precarious."

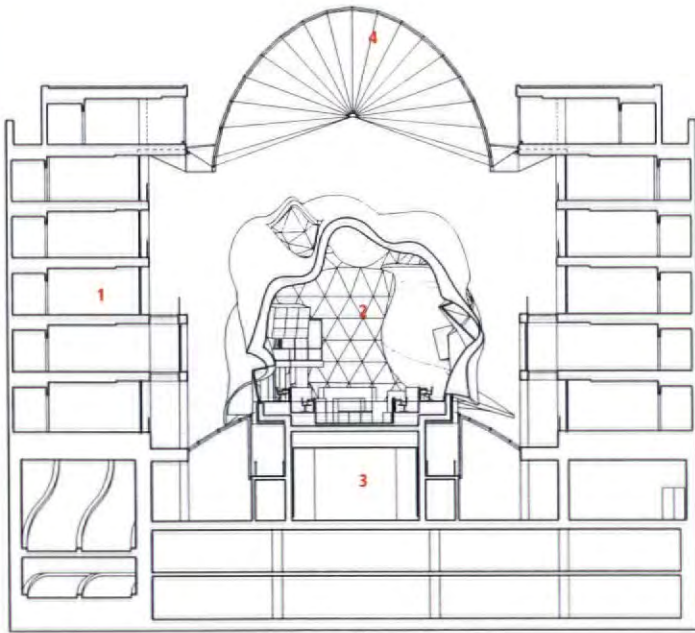
Architecture for Gehry is a hands-on craft. Like a sculptor shaping clay he prepares his designs through models. Computer technology has only broadened his financially practical possibilities. The brushed stainless steel plates cladding the asymmetrically bulbous debating chamber – manufactured by a Swedish boat builder, in another relationship to marine forms – is formed of plates, each unique in all three dimensions and butt jointed with exacting tolerances. On the underside of the steel carcass, perforated timber strips flow in streams across the soffit, like fish shoals in strong currents. Under this animated ceiling the audience, cosseted as eggs, sit in tiers looking down on to an elliptical sunken floor. A speaker's pulpit is wired up to two black box media screens



Right, top: Public circulation space looking down on the glass roof
Far right: office corridor **Near right:** the conference room nearing completion

The zigzag elevation of the Behrens Strasse apartments. Double fenestration and glazed wintergardens provide good sound insulation

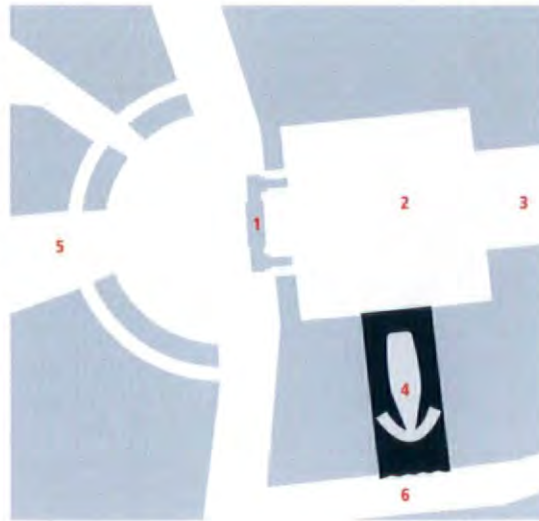


**Key to section**

- 1 Bank offices
- 2 Debating chamber
- 3 Conference room below
- 4 Glazed roof

Key to site plan

- 1 Brandenburg Gate
- 2 Pariser Platz
- 3 Unter Den Linden
- 4 DG Bank
- 5 17 Juni Strasse
- 6 Behrens Strasse

**Client****DG Immobilien Management, Hines**

Executive architect

Planungs AG Neufert Nuttmann Graf

Structural engineer

Ingenieur Büro Muller Marl and**Schlaich Bergemann und Partner,**
Stuttgart

Mechanical and electrical engineer

Brandi Ingenieure

Facade consultant

Planungsbüro fair**Ingenieurleistungen**

Lighting consultant

AG Licht, Wilfried Kramb

Lift consultant

Jappsen & Stangier Berlin

Acoustics consultant

Audio Consulting Munich

which hang brooding over the room. A simultaneous translators' soundproofed pod is cantilevered from the side.

From the entrance foyer two ramps lead into the debating chamber, over the transparent membrane of the conference hall roof. Below, catering, cloakroom and service areas are grouped around the assembly hall. Planned autonomy allows the conference facilities to be operated as a separate profit centre.

The Pariser Platz elevation has huge, square windows, set into the thick walls at an angle. Tilting out over the formal gardens below, they are symmetrically and regimentally punctured into the stonework. Despite Berlin's strict planners Gehry managed to have some fun: "I got bigger windows and then I played with the glass." The windows, of heavy steel frame and plate glass, slide silently into the wall at the touch of a button revealing a glass balustraded balcony with panoramic views between Brandenburg Gate and Adlon Hotel. "I was concerned with the relationship to the Brandenburg Gate. The German architects have made flimsy stage set buildings that trivialise it. Our building will be the only one there in scale. I think it's one of the best things I've ever done."

White walls, the smooth styling of unbroken lines, lighting washes augmented by standard lamps, and thick, heavy, timber doors with milky glazing, produce a concentrated, almost monastic environment. Invisible building services are the 21st century's equivalent of butlers and maids: from personal card key access, unobtrusive under floor electronic networks, alarms and video protection of property in the underground garage, to human doormen and a polished

chromium controlling reception counter, it all whispers serious financial quality.

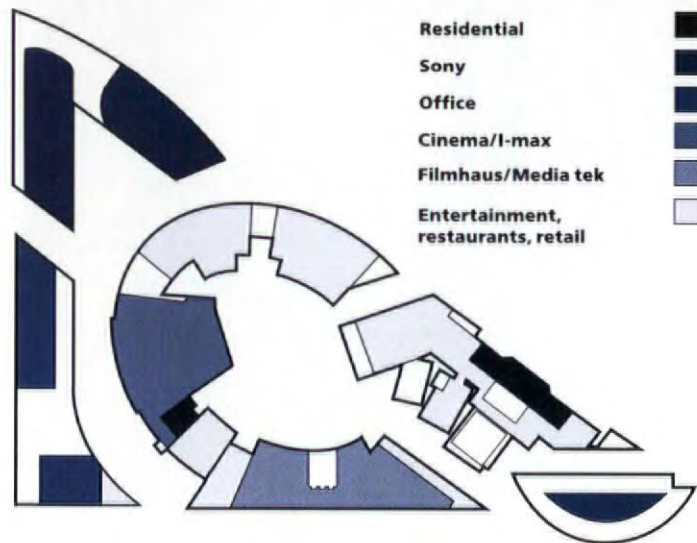
On Behrens Strasse 30 apartments, from the 57-square-metre studio flats to 144-square-metre maisonettes, have all been sold, although no names appear on the entrance intercom. Discretion and lack of publicity are highly prized. Berlin dictates that developments should include 20 per cent housing but, at half a million DM (US\$275,000) for a live-in-cupboard, the majority are pied-a-terres. Second bedrooms are labelled "Kinder" (children) but it is unlikely that there will be many. Overlooking what eventually will be the Memorial for the Murdered Jews of Europe every French balcony-style window, set in the zigzagging modulated elevation, offers a different angle of view. The building provides mechanical ventilation, floor heating, and cooling in summer. Stainless steel ironmongery and designer fittings, built-in aluminium blinds, red oak floors and concrete party walls carry through the insulated luxury feel.

The DG Bank was completed within four years at a cost of 250 million DM (US\$1,400,000), including site and fees. Neighbours have not been so lucky. The Academy of Arts, after going through a tough planning scrutiny, is now awaiting finance, and discussions about anti-demonstration security zones are holding up the US embassy. On the blank party wall where the embassy should stand a billboard for EXPO 2000 announces "You are now leaving the present", in English, Russian, French and German. For the moment, the DG Bank stands in glorious isolation between two empty sites. It may remain for some time the only beacon for the future on Pariser Platz.

Architect
Murphy/Jahn
 Reviewed by
Duane Phillips

Sony Centre

Architecture for the masses



At long last visitors to Potsdamer Platz have more to look at than the models and videos presented at the info box. The European HQ of the Sony Corporation opened in January, and the interior fit-out and exterior landscaping of the rest of the Potsdamer complex has begun.

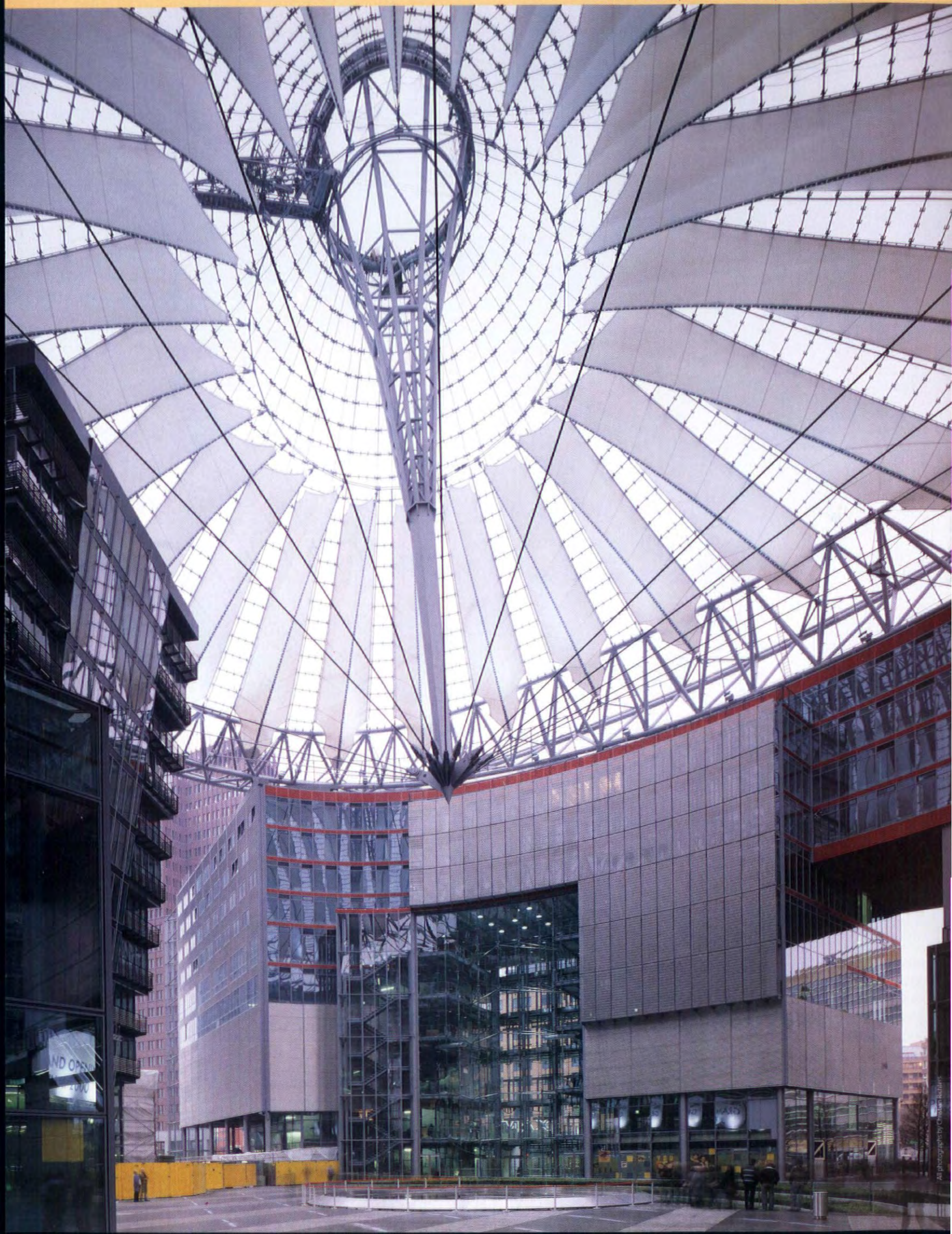
Sony Centre comprises, depending on how you count, seven buildings linked by several levels of underground entertainment and technical accommodation. At the centre of the triangular site architect Helmut Jahn of Chicago firm Murphy/Jahn has created an elliptical "forum" covered by a gigantic tensile structure which hovers over the roof of the 11-storey office block.

The first impression is of colour: grey structure and green glass, contrasting with the mix of earthy colours and materials of the buildings nearby by Piano, Rogers and Isozaki. Helmut Jahn's version of 20th century corporate architecture spreads over the entire complex, without exception or deviation. The only real difference between the individual buildings is their glazing details and fixings. The detailing of the exterior cladding is exquisite (the only thing to be found not properly fitted was one rubber gasket on a corner) and, as far as can be seen, the ground floor interior lighting and mechanical systems are creatively integrated with the architecture.

The second impression is of massive security. A construction site more difficult to penetrate and photograph is hard to imagine, with constant requests for identification. "Borrowing" a hard hat from the many that lie around made infiltration easier, as did mud-splattered shoes. ▶

The 26-storey semi-circular office tower which, along with the high-rises by Kollhoff and Piano, represents a gateway to "West Berlin" **Right:** The tensile canopy over the elliptical forum is based on the geometry of the bicycle wheel. It is so strong that at one point a crane was resting on it.







Above: The wedge-shaped complex in the final stages of construction. The contrast with Kollhoff's brick tower is stark **Right:** Detail of Sony office block showing the meticulous glass detailing which heightens the effect of transparency and layering

Once inside, the true scale of the complex can be appreciated. There is no play of light and shadows, no solid versus void. The perfectly smooth glass facades only serve to increase the sense of scale one approaching the forum. The canopy of the forum – whose scale is for the masses, not the individual – is superbly, but simply, engineered, based on the geometry of a bicycle wheel, and is so strong that until recently a large construction crane rested on it.

Entertainment is the crucial element in the concept of Sony. The HQ not only houses its offices, but also areas where technology and products can be demonstrated live to the public: the forum, adjoining cinemas, a "mediathek" (a TV and radio library and museum) and "cinemathek" (for the world of film). Just opened to the public are an IMAX cinema and the "Music Box", an interactive entertainment centre and museum.

Another component of entertainment is dining, for which Sony Centre includes a unique fragment of Berlin's history: the Grandhotel Esplanade. Once one of the finest hotels in Berlin, it suffered considerable damage during the Second World War,

and even more during the building of the wall next to it in 1961. Amazingly, several beautifully decorated rooms including the famous "Kaisersaal" managed to survive. These rooms were moved 75 metres into their current position (Sony's plan does not respect the historical street pattern) via air pressure on a grid of steel beams raised above a concrete track. They will be restored along with a portion of the remaining facade and used as a restaurant as well as for special events and receptions.

The new buildings to the right and left of the historical structures support the four-storey bridge of office accommodation which spans, but doesn't touch, the remains. A huge exterior truss hangs from the roof, expressing the tremendous loads involved.

At the apex of the site, a 26-storey semi-circular office tower fronts what is the amorphous area of the actual Potsdamer Platz, contrasting strongly in concept and execution with Kollhoff's brick homage to early American high-rises across the street. Again, the precision of the glazing elements, including ►





Left, top: The scale is best appreciated from the inside. So too is the range of colour, including Jahn's trademark red **Left, below:** The success of Jahn's "open, covered or closed spaces, which provide urban linkages and spatial and human experiences" can only be judged over the next decade

Owner

Bellevuestrasse Development

First Real Estate

Development manager

TishmanSpeyer Properties

Architect

Murphy/Jahn

Landscape architect

Peter Walker and Partners

Structural engineers

BGS Ingenieursocietät, Ove Arup & Partners

Special structures

Werner Sobek Ingenieure

Mechanical engineers

Jaros Baum & Bolles, Ingenieurgesellschaft Höpfner



the glass stabilising fins, is remarkable.

The Potsdamer Platz presents an amazing perspective of three high-rises – by Piano, Kollhoff, and Jahn – which act as the new gateway to "West Berlin", but how do the three contribute to urban design? The Sony Centre, in urban design terms, is a fortress turned in on itself. It does not "invite" the visitor into it, instead giving only glimpses of a special urban space through tall canyon walls of cold green glass. This is mainly due to the fact that the Neue Potsdamer Strasse is one of the main west-to-east traffic arteries in Berlin, and will shortly become even busier. With heavy lorries making up a major component of the traffic, it is an unpleasant street to visit and experience.

This, however, is true of the entire Potsdamer Platz development. The attempt to recreate the street life of a mix of offices, shops, and housing has failed. Even on a work day the streets are deserted; only at lunch time, evenings, and weekends is there any sign of life. However, it is really only in another 15 years' time that the success or failure of the entire area can be judged, for work has yet to begin in the Leipziger Platz to the east or on the vacant grounds to the north.

In this context, the Sony Centre makes no attempt at creating the human scale, unlike its neighbours, but is completely honest in its architectural expression, also unlike its neighbours. It makes no attempt to recreate the old urban block structure, instead – with its new public arena for the masses, and nothing for the individual – it attempts to foresee the new Berlin.

Architect

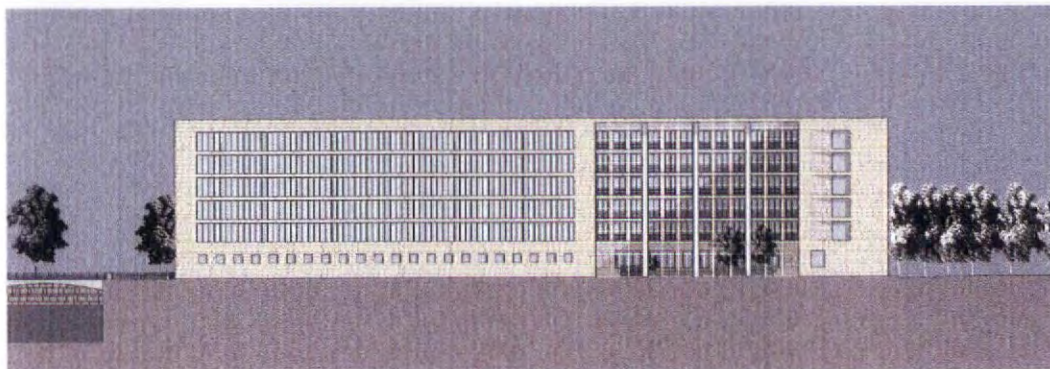
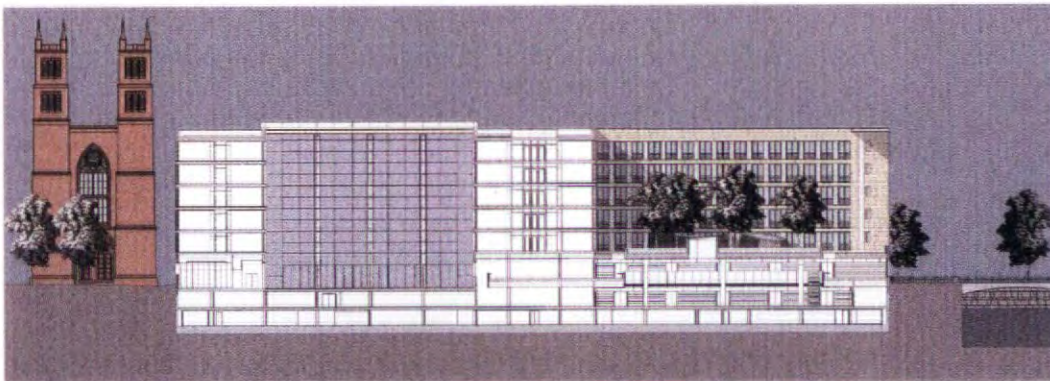
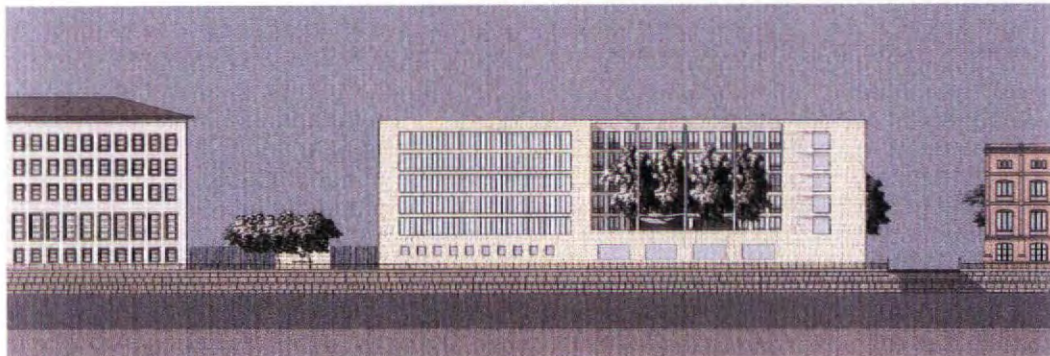
Mueller/Reimann Architects

Reviewed by

Ulf Meyer

Foreign affairs

Extension to the new German foreign office



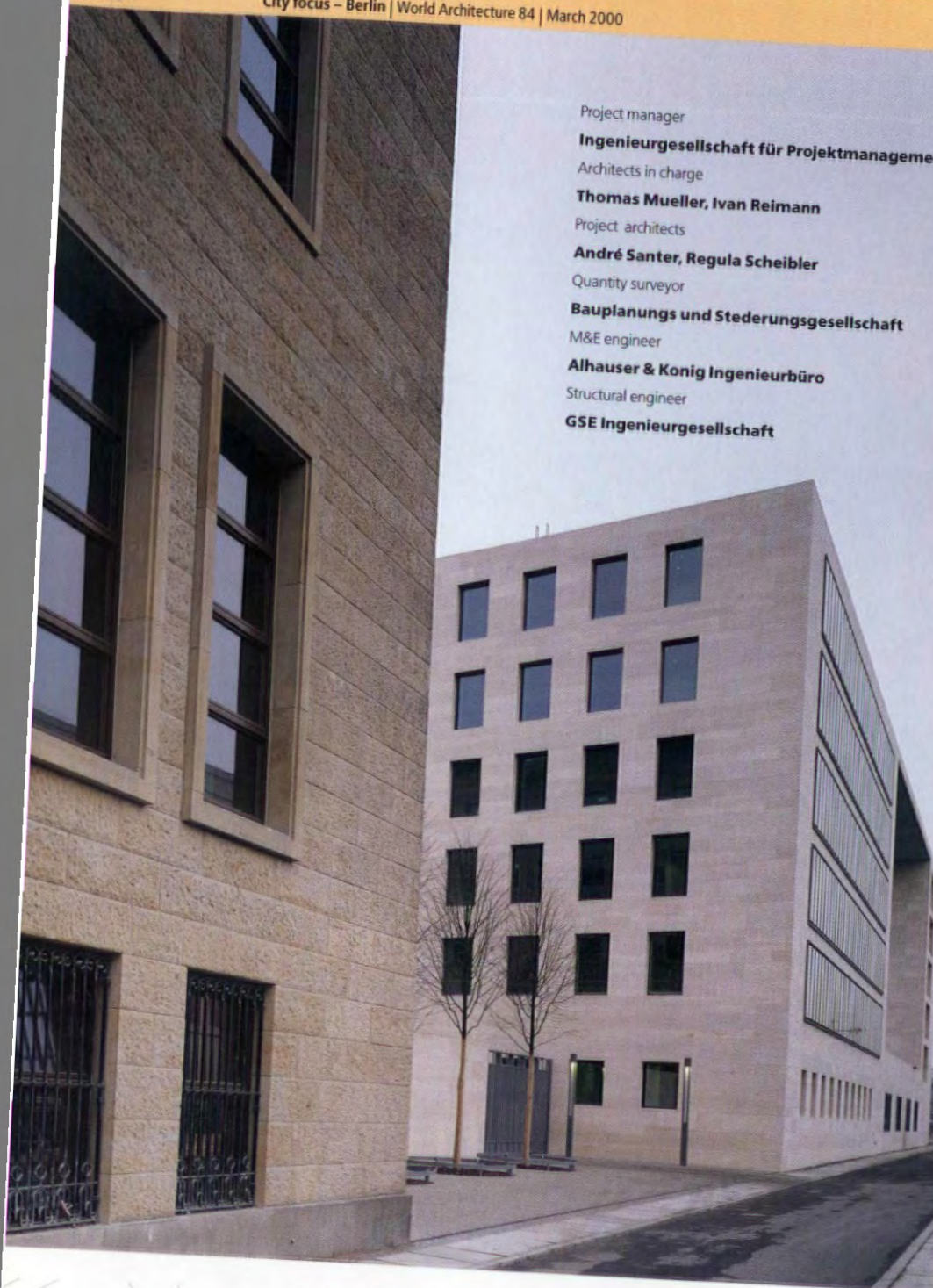
From top: Section showing, from left, original Reichsbank building, politicians' court, and library; elevation from Unterwasserstrasse; longitudinal section showing library and main entrance; elevation from Werderstrasse

In Bonn, government ministries were housed in office blocks in suburban surroundings; in Berlin they will be in the thick of the city centre. They will be housed in existing buildings, since the plan to tear down the existing buildings and start from scratch was scrapped, to save both time and money.

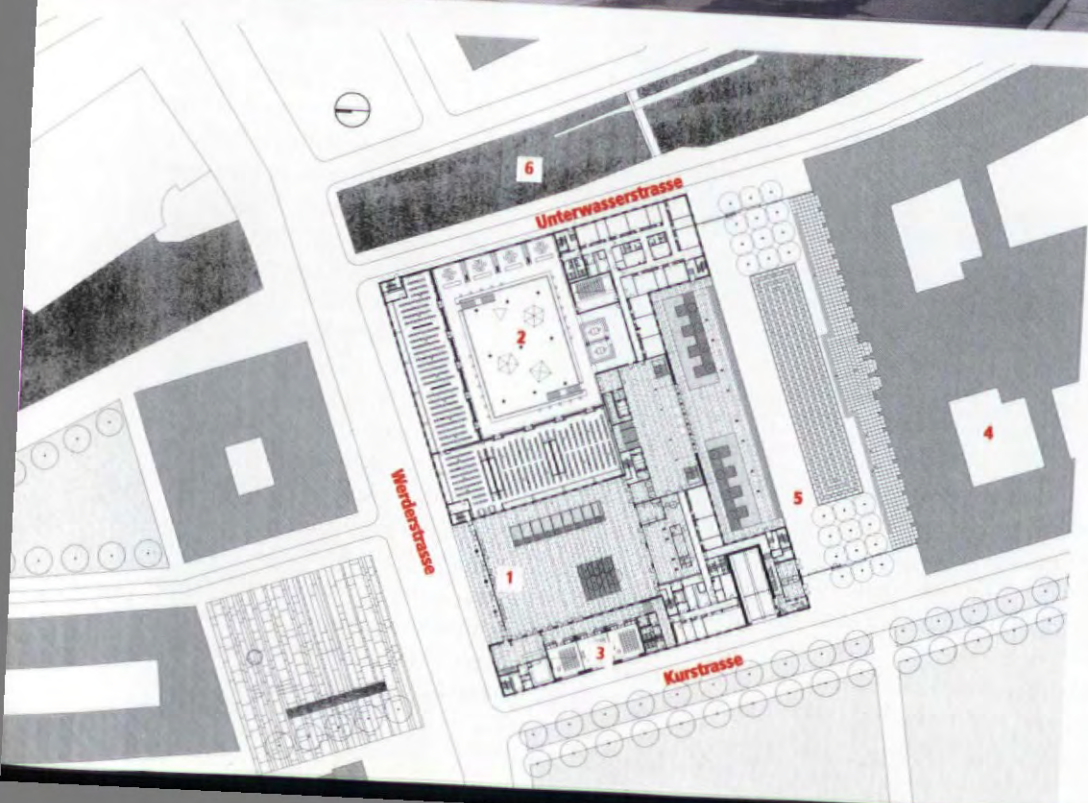
In 1994, it was decided that one such ministry, the foreign office, would move into the old Reichsbank (national bank), behind its sinister, monotone facade. The bank building would have been too small for all the staff, so an extension was planned for the space vacated by the neighbouring former foreign ministry of East Germany – torn down in an exception to the re-use policy. The design question was how to deal with the building's history. The Reichsbank, a Neo-Classical, early Nazi-era building from the 1930s, had been occupied by the socialist party of East Germany. The foreign office is the first democratic institution in the building. The government wanted to both play down the remains of the Nazi architecture, and show relaxed self-confidence about dealing with the past.

In 1996, a competition for the extension was announced. Sensitive treatment was required,

Project manager
Ingenieurgesellschaft für Projektmanagement
 Architects in charge
Thomas Mueller, Ivan Reimann
 Project architects
André Santer, Regula Scheibler
 Quantity surveyor
Bauplanungs und Stederungsgesellschaft
 M&E engineer
Alhauser & König Ingenieurbüro
 Structural engineer
GSE Ingenieurgesellschaft



Above left and above: courtyards engage the building with the public realm. The new foreign office building is much more visually accessible than the original Reichsbank, far left



Key to ground floor plan

- 1** Public space and main entrance
- 2** Library, reading room
- 3** Visitor centre
- 4** Old Reichsbank building
- 5** Court between old and new, only for politicians' use
- 6** Spree River



as the German foreign minister wanted to be able to welcome political guests from all over the world into the building. Berlin architects Thomas Mueller and Ivan Reimann won the commission, but only after Swiss architect's Max Dudler's competition-winning scheme was rejected. Dudler proposed two cubes which opponents to the scheme felt far from "mirroring the democratic spirit", as requested in the brief, looked like a secret service headquarters.

The politicians favoured local architect Mueller/Reimann's idea of one building with courts that open up onto the surrounding streets. The design – at the heart of the historic centre of Berlin across the front of the old Reichsbank – breaks up the vast volume of the axial, monumental Reichsbank into smaller parts via three deep cuts forming closed and

open courts that interact with the urban fabric of the neighbourhood and as part of the public realm. The majority of the foreign office is in the historic building, with further administration accommodation in the extension, which will house a third of the ministry's workforce.

Mueller/Reimann, in its first realised competition win, has provided a new combination of open and closed parts of the building. The three-sided courtyards help provide natural ventilation and lighting, and give every single room, even in the heart of the building, contact with the city.

The biggest courtyard forms the main entrance through a glazed urban loggia with plants and water. It is a truly public space, with the security zone starting behind, giving tourists, guests of the visitor centre and

passers-by access into the sensitive building. Politicians alight from their cars on the rear side, in the formal court, or "Ehrenhof" (court of honour) opposite the old building, exclusively reserved for guests of the state. The third court, the "Gartencourt" by the Spree river opens above the library, and is for the staff. A gallery provides a quiet place for reading, while public events are held in the centre of the courtyard. The facades are clad in light Travertine marble, with French windows forming horizontal bands/strips; inside timber finished provide a warm glow. Below ground, a tunnel links the extension with the Reichsbank.

The building cost around US\$920,000 for 20,000 square metres of useable floor area. The renovation of the Reichsbank by Hans Kollhoff will be completed this spring.



All photographs: ADACP, George Fessy

Architect

Dominique Perrault

Reviewed by

Hans Wolfgang Hoffmann

Above: A spiral staircase delivers swimmers to the shallow pools to the right of the public swimming pool. The muted colours and timber roof contrast sharply with the bright blue of the Olympic pool, **right**, with its exposed roof. The grassed ramp can be glimpsed through the glazing.

Inner strength

Swimming pool and velodrome

Dominique Perrault's two new sporting arenas include the biggest pool in Germany and cost US\$130,000,000, yet almost nothing of them is visible above the ground. The architect's design for the velodrome and swimming pool complex was the result of a competition win in 1992. The velodrome was completed in May 1997 and has already been published extensively. Yet few outside Berlin have yet had the chance to see inside the swimming pool, finished in November last year.

The 120 x 80 metre pool, and the 142-metre diameter velodrome rise just one metre out of a grove of apple trees, the steel mesh cladding glinting like two silver seas; the ultimate fulfilment of this French master's preoccupation with blending solitary objects into the landscape. The sinking of the arenas 17 metres into the ground also makes environmental, as well as aesthetic sense. But it does not answer the question of why

Berlin, which for years has built according to presence, context, and urbanism, entrusted the commission to the one person who holds the antithesis of these beliefs. The city is almost bankrupt and many argue that it can ill afford such a demonstration of will and power.

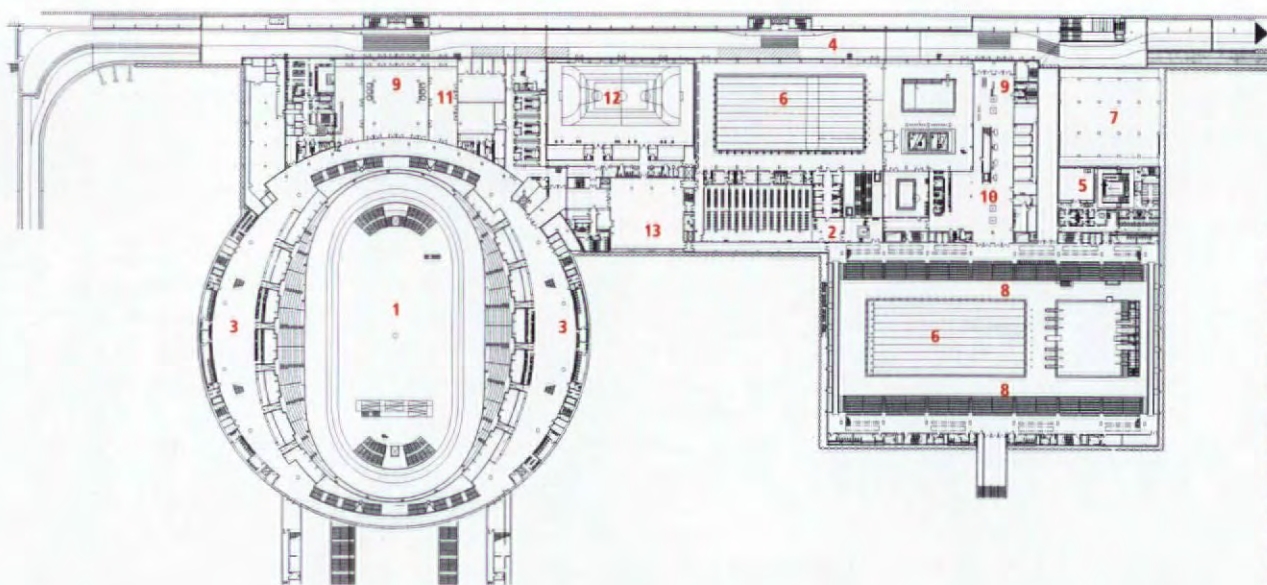
The answer lies in the capital's bid to host the 2000 Olympic Games. Perrault's competition design was praised for its distance from the 1936 games, and the associated fascist architecture perceived to be Berlin's biggest burden. Additionally, the city wished to score points through speed of construction, which had begun before the International Olympic Committee's decision in 1993 to award the games to Sydney. Had Berlin been awarded the honour of hosting the games the Perrault scheme would, indeed, have met the construction deadline.

So, what has Perrault achieved with his anti-architecture, where the absence of built form counts more than presence?





Above: The rectangular pool and circular velodrome are sunk into the landscape, and clad in glittering steel mesh



Key to plan

- 1 Arena
- 2 Changing room
- 3 Foyer
- 4 Service road
- 5 Athletes room
- 6 Pool
- 7 Garage
- 8 Stand
- 9 Reception
- 10 Restaurant
- 11 VIP
- 12 Triple sports hall
- 13 Multi purpose room



Above: Even at roof level the only view out is of the grassy ramp

Client

OSB Sportstättenbauten

Associate architects

Reichert, Pranschke, Maluche; Schmidt-Schickentanz und Partner

Landscape architect

Landschaft Planen & Bauen

Project architect (velodrome)

Wolfgang Keuthage

Project architect (swimming pool)

Hella Rolles

Structural engineer

Ove Arup & Partners

Roof construction

Krupp Stahlbau

Steelemesh cladding

Gebr. Kuffrath

Interestingly, the exterior fabric of the buildings, which is where he appears to have lavished most attention, is the least of his achievements. One feature worth noting are the ramps, which lead from ground level to the subterranean entrances of the arenas, and from where the city slowly disappears and a new life unfolds. The poetry of the 450 apple trees beneath which the arenas will shelter is primarily of aesthetic importance, since the apples will not be eaten, as Berlin law forbids their sale. As a result, the complex has been viewed by many Berliners as little more than an impressive work of land art.

Architectural success occurs precisely where one least expects it – in the arenas themselves. The interior of the velodrome had to be column-free: the resulting 112 metre diameter hanging roof used the same volume of steel as the Eiffel Tower. Its depth swelled to 4 metres, deep enough to accommodate all the electrical and mechanical services. Yet the roof is so dull that the 10,000 spectators hardly raise their eyes.

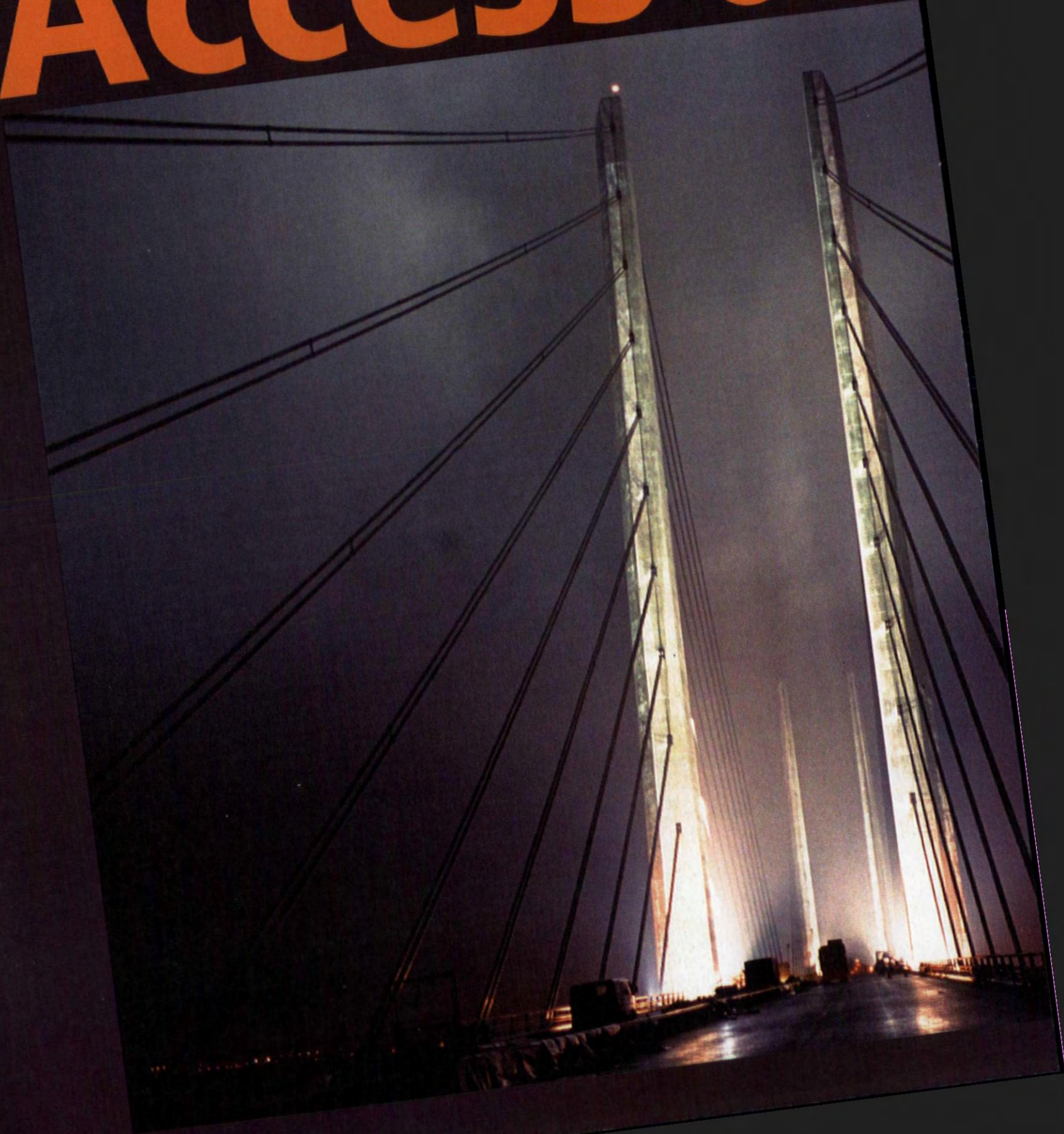
The rest of the interior has the aesthetics of unfinished

construction. Only occasionally do orange doors or timber wall cladding break up the asphalt floors and exposed concrete walls. This lack of visual stimulation means that the spectator concentrates thoroughly on the actual event, hence the success of the interior. Never before has the sweat and tears of a six-day bicycle race, such as that which opened the velodrome, been more intensely experienced.

The quality materials in the swimming stadium simply enhance the effect of its minimalism. Everything under the dark industrial roof, from the marble floors to the tiled walls, is white. Only the water radiates blue, intensifying the visual effect so much that swimmers must actually believe they're going faster than they are.

This performance-enhancing architecture is, however, only experienced by athletes. The general public is consigned to a separate pool sited along the circulation spine, where they can compare themselves to the thoroughbreds bursting out of their starting boxes next door.

Access all



areas



The combined forces of globalisation and the information age herald the biggest sea-change in man's perception of space since the invention of air travel a century ago. Whether for reasons of geography or politics, the hubs of the 21st century have already been chosen. All that remains is for them to be built. Overleaf Martin Pawley introduces the era of the transport super-hub.

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More than an airport: Michael Mackay reveals the regional impact of the most advanced of the 21st century super-hubs.

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Gateway to Europe?: Dr Ursula Kleefisch-Jobst marvels at the integrated transport vision which may yet support Frankfurt's bid for European supremacy.

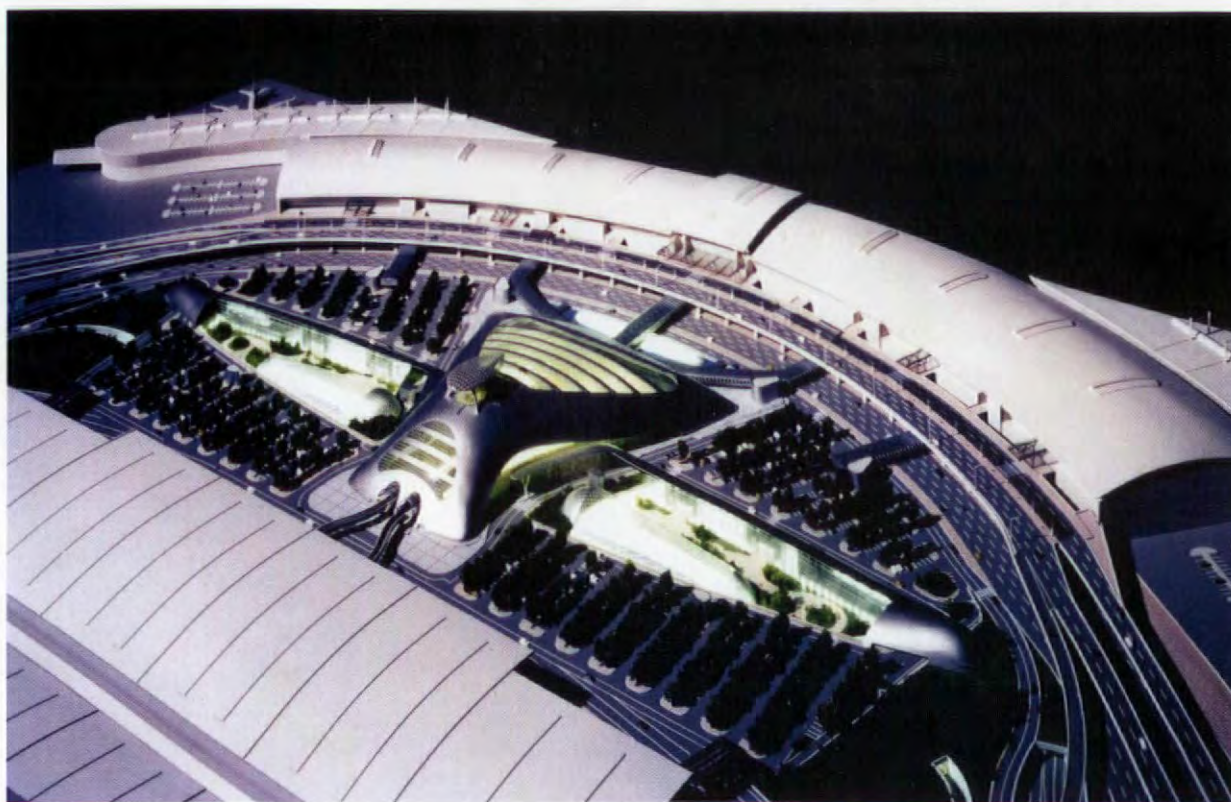
84 **Arnhem, the Netherlands**

In a quiet corner of eastern Holland, Ben van Berkel and Cecil Balmond are reinventing the architecture of the transport interchange. Adam Mornement reports.

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Where does the world's dominant superpower fit into the network of global interchanges? Tom Wiggins of Hanscomb reports. Plus, after the handover of the canal, is Panama in the right place at the right time?

The completion, last year, of the Great Belt Link has created a new international zone, comprising Denmark, Sweden and Germany (see also pages 82-83)



It is said that half the population of the world lives within four hours flying time of Hong Kong, a claim that, if true, makes the Special Administrative Region potentially the greatest transport hub of all. With Hong Kong at one end of the great urban zone developing between the mouth of the Pearl River and the city of Guangzhou to the North West, the resulting hinterland is served by a dozen container ports and seven airports – one of them, Hong Kong International, already the largest in the world.

Clearly hubs do not only serve, they grow. In this case to a potential population of some 20 million. But this will take time, and history shows us that the tide of enterprise floats some hubs more readily than others. One hundred years ago the Brazilian rubber capital of Manaus was a world city with wide boulevards and grand public buildings. Within a generation it had collapsed into provincial obscurity following the invention of synthetic rubber. More severe, but less permanent, has been the 20th century fate of Tokyo and Berlin, both hubs of empire until the first was firestormed and the second became a battleground before being subjected to a half century of partition.

Today's Tokyo and Berlin have of course left their terrible eras behind them, but just as technological change and total war can wipe out the prosperity of cities and paralyse whole countries, so can they lead to the rise of new centres. Hong Kong, for example, was a tiny colonial possession on the edge of the Asian land mass for much of the 20th century until the Pax Americana in the Pacific enabled it to grow into the wealthiest and most modern city in South-East Asia. The same can be said of Taiwan. No more than the impoverished offshore refuge of a

beaten army at mid-century, it is now the world's second largest supplier of computer equipment and the busiest *entrepôt* port in South-East Asia.

Tales of economic turnarounds of this order feature large in the history of hubs to the present day. Seattle, once a dismal outpost of the North Western lumber industry, first became a strategic air hub for the Pacific region, then a centre for advanced technology and genetic engineering and (bizarrely) the marketing of coffee. In a similar way the cluster of small towns around San Francisco Bay remixed themselves in the 1960s to emerge under the legendary name of Silicon Valley.

Because human events remain stubbornly unpredictable, the rise and fall of hubs is mostly unplanned and unco-ordinated. But not always. From the birth of the European Union its administrative capital Brussels has never ceased to attract investment and population, new architecture and modern infrastructure. The same is true of Strasbourg, its French counterpart. By the late 1980s the expansion of the EU (and the dogged consistency of its planning policies) had carried similar benefits elsewhere; to Ireland, Spain and Portugal, where new airports, road and rail infrastructure, as well as cultural buildings, revolutionised local economies and redrew the commercial map of Europe. By the early 1990s the completion of the Channel Tunnel connecting the railway systems of the UK and continental Europe had performed the same service for London, Lille, Paris and other connected cities.

This decade the completion of the rail and road bridges linking Denmark and Sweden, and the 18-kilometre fixed link between the two halves of Denmark feeding the existing



"Tales of economic turnarounds feature large in the history of hubs. Seattle, once a dismal outpost of the North Western lumber industry, first became a strategic air hub for the Pacific region, then a centre for advanced technology and (bizarrely) the marketing of coffee."

connections with the German/Danish peninsula, will continue this dramatic reconstruction, leaving the hub structure of the continent poised to expand into Eastern Europe, perhaps as far as the Bosphorus and beyond. Further ahead still lies the prospect of the bridge across the Straits of Messina in the Mediterranean, and the possible revival of the 60-year-old dream of dams across the Straits of Gibraltar, Tunis and Messina that would divide the Mediterranean in two and create massive reserves of clean hydro-electric power.

Apart from geopolitical projects of this scale, technological changes are the most likely drivers of the future hub creation. Ships that outgrow their harbours, airports that outgrow



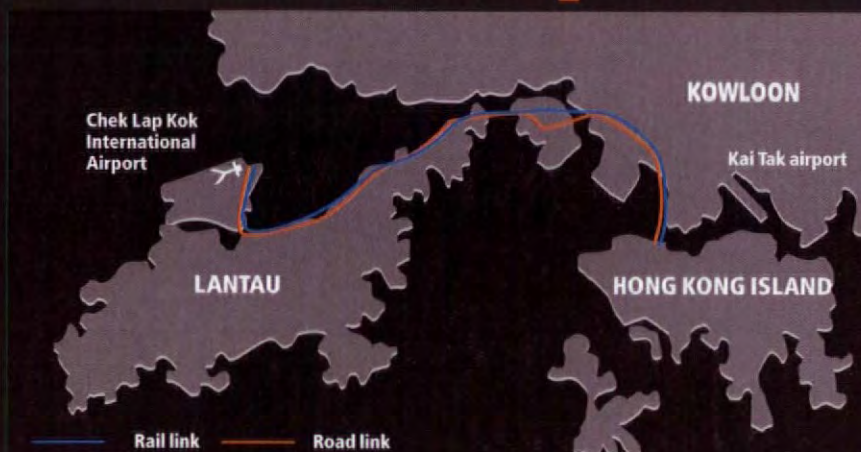
Facing page: Incheon International Airport, Seoul, South Korea. Designed by Terry Farrell & Partners, Incheon will integrate three rail systems, a bus and coach station and one of the world's largest airports when it completes next year. **Above left:** What's to be done with the Straits of Gibraltar? Build a tunnel, to connect mainland Europe to Africa for the first time in five million years, or construct a dam, to produce massive reservoirs of hydro electric power? **Above:** Rem Koolhaas' 'Eurallille'. Ten years ago Lille was a forgotten town in the French industrial north. The Channel Tunnel has turned it into a crucial international interchange

their open space, traffic that becomes so paralysed that businesses relocate to avoid it, happen all the time. The transfer of control to Panama of the Panama Canal was made possible, at least in part, by the growing number of 300 metre megaships too large to use the canal, which started the search for a new deep water terminal on the American Atlantic seaboard.

London, once a great European port, was unable to adjust its ancient infrastructure to containerisation as Rotterdam did. In the 1960s cargo ships withdrew from London to Tilbury leaving 13 square kilometres of dereliction behind it. Against all expectations, after an interval of barely 20 years, this deserted area has been repopulated, garnered an airport, two railways, and numerous roads, and is becoming the new financial services centre of London. At the same time Frankfurt, London's smaller rival in financial services, is bidding to become its successor as Europe's premier air transport hub – which, ironically, it briefly was in the golden age of the airship when the Graf Zeppelin and the Hindenburg flew passengers from Frankfurt as far afield as Brazil and the US.

Although new for Copenhagen to be more convenient for shopping and flying than Stockholm for most of southern Sweden, and exciting for Germans to drive north to the Arctic Circle and Swedes south to the Mediterranean – without using a single ferry or making a tiresome detour to the east – in effect no new national economic hub will have been created, rather a zone will have come into existence that is neither Germany, Denmark nor Sweden, but all of them. And this lack of a nationalistic emphasis may be the most important feature of the hubs of the future.

Chek Lap Kok: More than an airport



Chek Lap Kok was never intended as a project in isolation. But it's only now that the region is beginning to realise the full implications of accommodating the world's largest airport.
By Michael Mackay



Foster and Partners' Chek Lap Kok airport has been the catalyst for the development of an amazing string of residential and industrial developments along the land route between Lantau Island and Hong Kong. The whole area is within four hours flying time of a quarter of the world's population

There is no question that Chek Lap Kok, Hong Kong's new Foster and Partners-designed international airport, has had a profound effect on the whole of China's Special Administrative Region. Soulless but functional, the building is one of a new breed of airports, being both on a greenfield site (like Denver International Airport and Kansai) and a self-sufficient destination for both passengers and cargo. But perhaps its single defining feature is that it is the fulcrum of a new wave of development within Hong Kong and (eventually) beyond.

"It's meant to form the basis of Hong Kong's urban transport and logistical development because we're opening up north Lantau and the Western New Territories with new road and rail links," says an official at the Airport Authority, which, as well as the land links, is planning to build a marine cargo port and a convention/exhibition centre, although concrete details about both remain hazy.

Hong Kong's airport was never a project in isolation. It is one of ten projects in the Airport Core Programme, which was about both developing the infrastructure of the airport and of linking it to urban Hong Kong. The changes that have followed are both profound and diverse. The most obvious effect has been that industries which support and rely on the airport – such as freight forwarders, logistics, import-export – have moved across town with, for example, both Hong Kong's airlines, Cathay Pacific and Dragonair, consolidating their operations on site.

Lantau Island, next to the reclaimed island of the airport, is to be developed as Disney's third theme park (see WA82 page 60), which the government hopes will perk up the SAR's lagging tourist industry.

These moves will have a profound effect at an economic level, but the effect on the physical appearance of Hong Kong will be no less dramatic. Closing down the old airport at Kai Tak meant that height restrictions of 60



Kowloon Station 3, by Terry Farrell & Partners



Roof detail and shelters of Kowloon Station 8

metres on buildings on the Kowloon Peninsula, the traditional incoming flight path, could be dispensed with. The Kowloon skyline is already beginning to alter as new buildings sprout up. It is here that Terry Farrell & Partners' Kowloon Station – at 173,500 square metres, one of the largest stations of any type in the world – has been built. If all goes to plan, a 90-storey tower housing retail, offices and a hotel will go up above it.

Kai Tak itself is currently waiting redevelopment into what will be a largely residential zone for some quarter of a million people. Its interim uses involve recreational space and an international concert venue for Celine Dion – proof that development is neither perfect nor seamless.

Massive scale, but barely coherent development, is also dominating life on the other side of the harbour, which does at least have the advantage of having one dominant client, the Mass Transit Railway Corporation (MTRC). Already on site is Hong Kong Island's new transport interchange which, linked to Chek Lap Kok by high-speed rail link, will offer easy access to the local underground system, and Hong Kong's extensive network of ferries, buses and taxis.

Much of Hong Kong's redevelopment will be on reclaimed land – like Chek Lap Kok itself – prompting some to become concerned about the long-term environmental consequences. Unfortunately it looks increasingly like a juggernaut that cannot be stopped – even the recent recession failed to make a significant dent in reclamation plans.

Underpinning all this development is transport. Dr Ted Pryor, a strategic planning advisor to the Hong Kong government for the past 34 years, says: "[It's all about] facilitating people's accessibility, taking pressure off the

central business district and moving people to where rents are lower." The New Territories, Hong Kong's last-remaining non-urban area, will in time become accessible to business and residents via a new railway line from the Yen Chow Street MTR which will open up the North West New Territories, the area within an arc of the airport. Transport hubs will allow businesses to try-out, while people can move freely and conveniently.

One company planning to take full advantage of this, and consequently will have an impact on a good many Hong Kong people, is the MTRC. Not content to confining itself to running a subway network it is becoming an active player in the local property market. "We are actually building new communities along the airport expressway," says an MTRC spokeswoman, who said the organisation has lots of partnerships with a variety of property developers.

These communities, she says, are a long-term development of residential, commercial and hotel space, with

"Chek Lap Kok is meant to form the basis of Hong Kong's urban transport and logistical development because we're opening up north Lantau and the Western New Territories with new road and rail links"

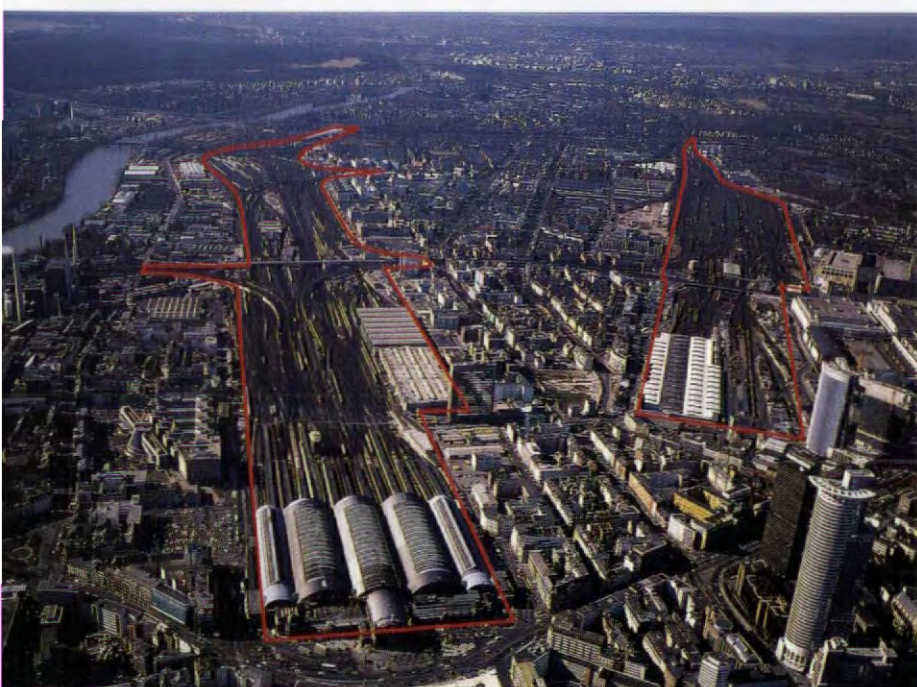
no plans to include industry. Not surprising really – most of Hong Kong's industry is relocating across the border to rapidly urbanising China which is undergoing its own urbanisation process.

Frankfurt: Gateway to Europe?



Last year Frankfurt revealed plans to reinvent itself as Europe's premiere high-rise city. This year, the home of the European Bank announced plans to become the Gateway to Europe. Can anything stop the rise of Frankfurt?

By Dr Ursula Kleefisch-Jobst



In April 1999, Frankfurt launched an aggressive bid to eclipse London as Europe's financial hub, using tall buildings as its weapon. Frankfurt's city planners revealed 18 possible sites for global multi-nationals to build their European headquarters (WA75 pages 20-21). However, although mighty effective as a statement of intent, large-scale building projects don't make cities accessible, and without accessibility a city will fail – remember Brasilia? The solution goes by the name of "Frankfurt 21".

Frankfurt is increasingly referred to as the "gateway to Europe". More than half of all passengers arriving at Frankfurt airport are transit passengers, en route to destinations in the European Union, and the numbers are growing. So right on time, just before the turn of the century, the airport feeding the Main area became the first German airport to get its own AIRail Terminal, linking into the high-speed network of the German railway system.

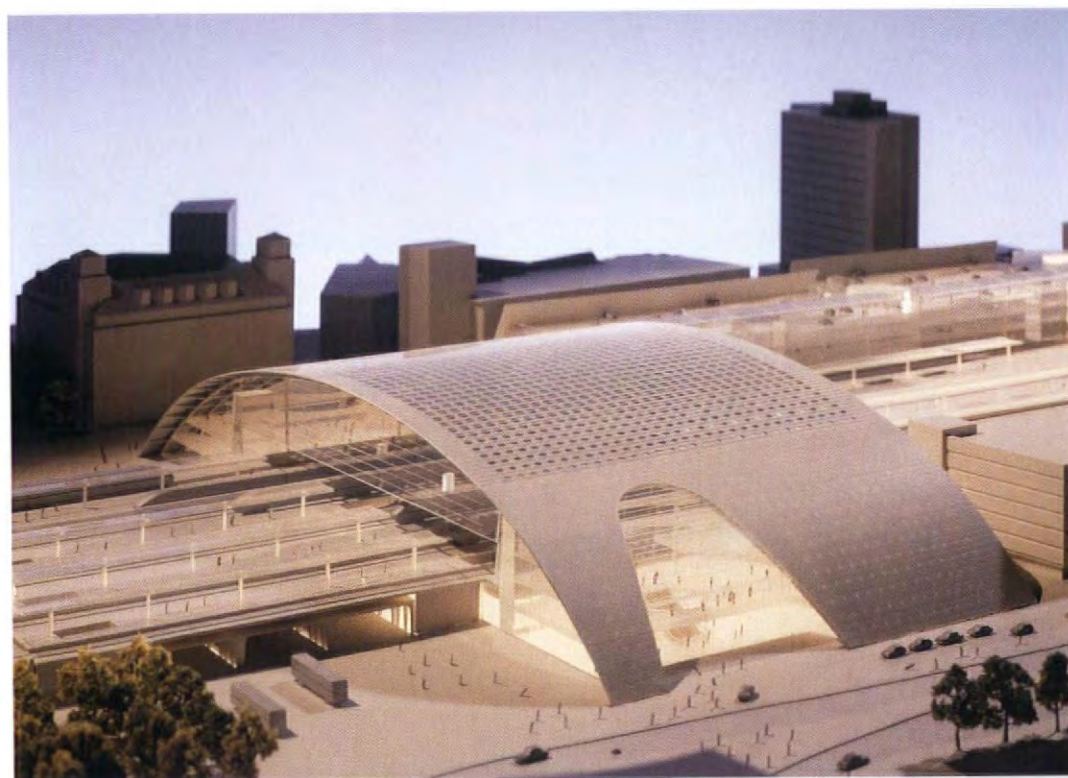
This means new stations, not only on the new rail networks, but also for the inner city railway stations, especially as Frankfurt station is a terminus. The city has therefore involved Deutsche Bahn in "Frankfurt 21". Tunnels are planned underneath the central railway station from 2010, so that the high-speed trains can be routed underneath the city at higher frequencies. As part of the plans, the freight station between the central railway station and the tradefair ground has already been cleared. This has freed up an inner city area of 70.8 hectares, which will be expanded by a further 67.5 hectares once the track system alongside the main station has been cleared. In 1996, von Gerkan, Marg und Partner developed a masterplan for the entire site. For the first time since the station was built, at the end of the 19th century, it will once again be possible to link the northern parts of the city with the southern area along the banks of the Main. Seen against the future building plans for Frankfurt, Potsdamer Platz in Berlin looks like small fry.



Left, above: Von Gerkan, Marg und Partner has developed a masterplan for Frankfurt's revamped railway district. A 70.8-hectare area (left of photo) has already been cleared. This area will double in due course (right)

Left: It'll make Potsdamer Platz look like small fry: the removal of 19th century railway land will link Frankfurt's north-south access for the first time in nearly 150 years

The main feature of the new city centre to be built on the land released by the railway station is a huge park surrounded by dense construction. There are plans to build a cluster of high-rise buildings next to the historic



Left, top and bottom: Ingenhoven Overdiek und Partner has designed new high-speed stations for Stuttgart (top) and Düsseldorf. The striking architectural schemes will link direct to Frankfurt, Berlin and other German cities, creating one of the world's most sophisticated rail networks

railway station, with a 380-metre-high Millennium Tower as its gateway. This will form the gateway to the new "European quarter" on the site of the former freight depot. There are plans for a green belt here too, in the form of a 2-kilometre boulevard that will form the backbone of the city quarter. Albert Speer und Partner (AS&P) has developed a distinctive framework plan which the city authorities and Deutsche Bahn, owner of the site, have approved as the basis for all future planning.

Albert Speer's plan, which beat his rival in the race, Helmut Jahn, takes account of two major factors: it incorporates the much-needed extra surface area for the Fair site and integrates the projected Urban Entertainment Centre, already awarded to ABB Scheid & Partner in an international tender.

Since the mid-1990s, Frankfurt Airport has witnessed a major expansion drive with the addition of a new terminal by JSK Architekten, and Cargo City Süd by Peter

Kaufmann and Pieter van der Meer. In the long term, Flughafen is hoping for a new take-off and landing runway. Political lobbies are currently being sounded out for their views on these expansion plans.

The restructuring work inside satellites A and B at the old Terminal 1 is now almost complete. Satellite B was re-designed by FAAG and AS&P as a new transit area for internal European flights. Jo Franzke and Christoph Mäckler have been working on plans to re-design satellite A as the new Lufthansa Terminal. JSK is extending satellite A by adding a new building, which follows the model of the new terminal in structure, forming an architectural clasp around the airport. The one thing common to all these new buildings is the dominance of glass, steel, aluminium and variations of grey tones. As a whole, it conjures an image of a well-oiled machine.

Transparency is also a feature of the new AIRail Terminal designed by Bothe Richter Teherani (BRT

Architekten) with its glass dome and sweeping view from platform level to the autobahn built on a slightly higher level. Resting on V-shaped telescopic supports is a mighty platform covering the entire surface area of the station, which also provides the foundation for future building work above. JSK is working on plans for this phase.

The new passenger bridge linking the ICE station across the autobahn with Terminal 1, designed by Braun & Schlockermann, Menzel+Moosbrugger, has a futuristic air about it. Built on slender concrete supports, the structure seems to soar over the motorway with an elliptical, metallic appearance reminiscent of aircraft.

Airport, railway and banks are pushing with all their might to drive the Main metropolis to new heights. It remains to be seen whether the inhabitants of the city also aspire to these heights or whether they would prefer to remain on terra firma.

Denmark/ Sweden: the Great Belt Link

- Among the many ferry routes that have linked the 400 Danish islands for centuries, by far the most important is between Funen and Zealand, home to Copenhagen, the Danish capital. Storms have frequently disrupted ferry services across this route.

- On 12 June 1986 the Danish Parliament approved the construction of a fixed link, the Great Belt, between Funen and Zealand. Twelve years later, H M Queen Margrethe II of Denmark inaugurated what had then become the largest engineering project in the history of Denmark – the Great Belt Fixed Link.

- The link comprises the 6.8-kilometre-East Bridge between Zealand and the small island of Sprogø; a 6,611-metre-long combined rail and road between Sprogø and Funen, and an 8,000-metre-long immersed rail tunnel between Zealand and Sprogø.

- The East Bridge, is a motorway. Nearly 2.7 kilometres of its total length is in the form of a suspension bridge, with the world's longest central span – 1,624 metres.

- At 254 metres above sea level, the East Bridge's two pylons are the highest points in Denmark.

- The massive land reclamation project involved in the construction of the links has increased the size of Sprogø island four-fold.

- The rail section of the Great Belt Link was completed four years ahead of the road section, which was officially opened in June 1998. Danish State Railways began running freight trains over the link in April 1997.

- The Øresund link has effectively created a single conurbation comprising Copenhagen and Malmö, Sweden's third largest city. The two cities have established more formal links, allowing them to market their services in a unified way.

- Linking the tunnel and western approach bridge is the artificial island of Peberholm, covering an area of 1.3 square kilometres, and created out of material dredged from the sea.

- Weather and terrorists permitting, the Great Belt is open 24 hours a day, 365 days a year. As the bridge runs east-west and the predominant wind direction in Denmark is from the west, even strong winds are only expected to affect traffic for a few hours a year.

- Links

<http://www.railway-technology.com/projects/denmark/index.html>

http://www.storebaelt.dk/usr/storebaelt/sbf.nsf/uk.default/The_Bridge

http://www.copenhagenpictures.dk/grt_blt.html

<http://www.bentley.com/news/98q3/danish.htm>





The East Bridge section of the Great Belt Link is also the world's second longest suspension bridge. At 254 metres, its tallest pylons are the highest points in Denmark.

Holland: People distributor

North Sea Island

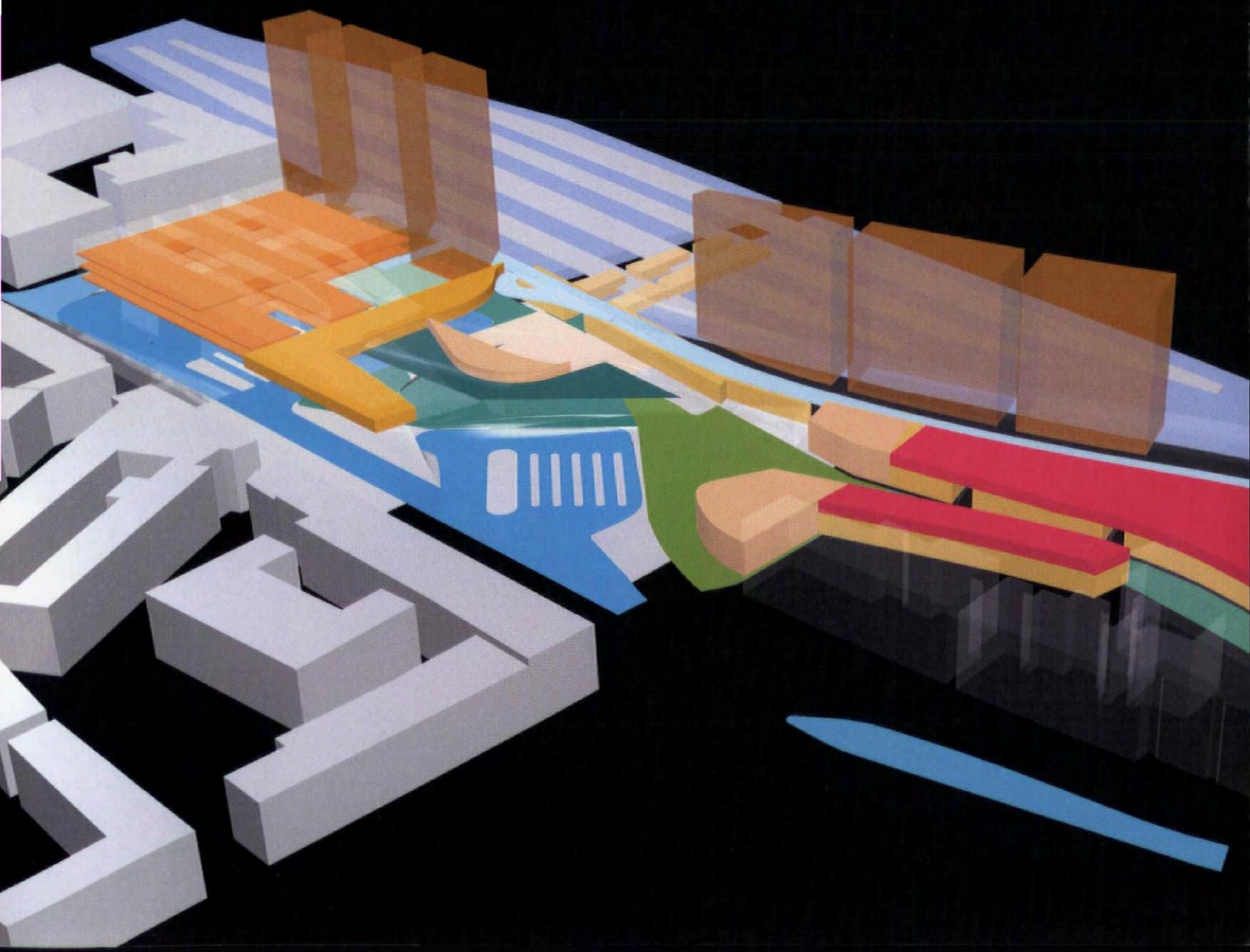
Amsterdam

Rotterdam

Arnhem

Nijmegen

If plans to create a new multimodal land interchange, and a 4,000-hectare, off-shore airport come to fruition, the Netherlands may eventually become one huge transport interchange. So what have Ben van Berkel and Rem Koolhaas got to do with it? by Adam Mornement



Arnhem interchange

Transport interchanges. Boring, aren't they? Air-conditioned concrete boxes with adequate signage is about the best you can hope for, isn't it? Well, what may have been true once is not the way of the future. In seven years, Arnhem, a small town on the Dutch/German border, will play host to an international transport hub designed by Ben van Berkel's UN Studio and Cecil Balmond of Ove Arup & Partners.

Freek Loos, project architect with UN Studio, describes how the glamorous pairing came about. "[In 1996] we were asked by the City of Arnhem to review an existing transport masterplan by a local architect, which was based around a conventional series of horizontal volumes." But rather than accept that a concrete box was the only solution, UN Studio analysed how the 65,000 people who travel through Arnhem every day actually use the various forms of transport – local railway, inter-city railway, buses, trolley buses, bicycles and walking. "Studies of usage led to a coherent architectural vision. We tried to integrate them on one level, and it soon became clear that it couldn't be done. In Holland, Arnhem is very unusual – it's not flat. So we used the landscape to create an artificial urban ramp."

UN Studio had got that far on its own. Ben van Berkel invited Arups to get involved in 1997. "He wanted one integrated team to create one integrated interchange, based around flow, orientation, construction, installation and light," continues Loos.

In design terms, the result is a sinuous interplay of three "transport layers". Areas for the lesser-used modes of transport are used as buffer zones to break up the high-density areas. There is also space for four office towers on the top. The two key features, the design elements that will define the building and make it operate as intended, are known as "collectors". In the shape of Vs they function as exits, entrances and lobbies, emerging at the logical junctions of buffer zones. "It's a system. This building distributes people," says Loos.

Without a doubt, the Arnhem interchange is the biggest thing ever to have happened to the town, and its implications will spread beyond the town boundaries. The interchange is actually to the south of Arnhem, on a site approximately 10 kilometres from the town of Nijmegen. The two towns straddle the Rhine, giving the interchange long-term river access to the North Sea. "This is very much part of phase II. The first phase deals exclusively with the Arnhem rail interchange," continues Loos. Phase II won't be complete until 2020, by which time a 10-kilometre-long metropolis may have begun to emerge between Arnhem and Nijmegen.

Although a public-private funding mechanism is behind the Arnhem US\$485 million interchange, politically Arnhem and Nijmegen are seen as a single entity. "The plan is for the area to take a step up," says Loos.

When the second phase is complete, it could render Rotterdam and Amsterdam as relatively peripheral cities, off the beaten track of the North-South European super-highway.

The North Sea Project

It will be 2003 before we know whether Rem Koolhaas will get to design the North Sea Project, Europe's largest airport. A meeting on 17 December last year failed to approve the idea of creating a 4,000-hectare man-made island off the coast of The Netherlands.

Aside from the sheer scale and cost, the reason that the project failed to get approval on this occasion is instructive. "The more we looked into it, the more it became clear that the airport could only be a possibility if we thought in terms of Europe," says Joop Krul, project director at the Schiphol Group. Put simply, for a new airport to succeed in the 21st century, planners have to think in terms of a transport hub's positioning in terms of a continent, not a country.

Amsterdam's Schiphol airport, already one of the largest in Europe, is extremely congested. There is no more space to develop – at least not on the scale required for it to be competitive in the long term. So the appeal of an off-shore island, where noise pollution and other environmental restrictions are non-issues, is immense. Needless to say, however, an island does create other problems.

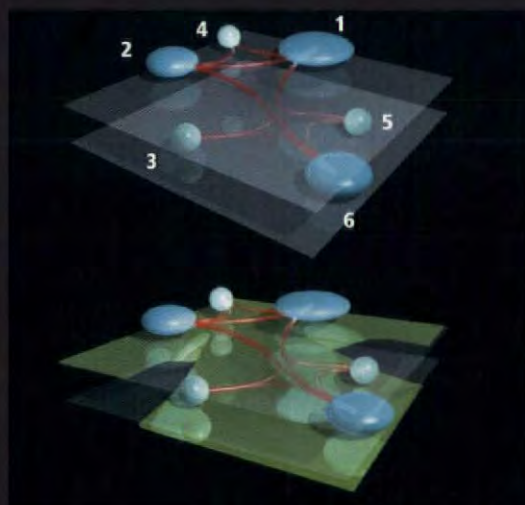
"We thought about an island 10-15 kilometres off-shore, but there were too many birds native to the region [which would get in the way of low-flying air traffic]". The other possibility was an island much further out to sea. "The problem there is that if an island is any more than 12 miles off shore, it is in international waters."

There is also the problem of transporting people from the mainland to the island. If the decision is taken to build only runways on the island and maintain the terminal buildings at the existing Schiphol airport, a tunnel could be built between the two. The catch with the tunnel is that trains are the only means of transport permitted to use them, for safety reasons. An immense bridge would need to be constructed to get cars and buses there.

"Air transport is still growing at five per cent per year worldwide," says Krul. "We see no reason to believe that this trend will stop. But the aviation industry, at the moment, is not very profitable. We estimate that the airlines which will use the airport would only be able to contribute 25 per cent of the total cost [US\$19.4 billion]."

Why was Koolhaas the right person for the job? "You might say that, in the Netherlands, he has the most futuristic vision. He can think on this scale," explains Krul. "The proposed island will cover an area of 4,000 hectares, and have an annual capacity of 60 million passengers. Koolhaas is firmly behind the idea of an artificial island. He sees it as an opportunity to create a whole new metropolis. He also put forward some practical funding solutions: he wanted to develop the present airport and to use the revenue it produces to help fund the creation of the island," continues Krul.

Whatever the outcome of the on-going feasibility study, it is clear that Europe desperately needs airports capable of coping with the future growth of air traffic. Whether the North Sea Project becomes a reality or not, the alternative is going to have to be just as dramatic.



Above: Arnhem Interchange.

- 1 Train
- 2 Regional bus
- 3 Car Park
- 4 Taxi
- 5 Bikes
- 6 Trolley

The design of the Arnhem interchange is based on the behaviour patterns of the 65,000 people who travel through the town each day. Each coloured buffer zone, left, corresponds to a mode of transport



Space race



Halving transatlantic journey times will be just the beginning of the supersonic revolution if NASA gets its sums right.

- In 1971 US Congress abandoned the Supersonic Transport Program. Projected market penetration was restricted by national regulations and international laws on sonic boom noise pollution and toxic emissions.
- But commerce always finds a way: research into bypassing the ecological constraints was reinstated in 1989 on the back of forecasts that the world aviation market was to increase by a factor of six between 1995 and 2015. The studies concluded that there is a potential market for 1,000 supersonic planes.
- The supersonic planes currently in development will use current airports and run on jet fuel. They are expected to be buildable by 2010.
- Noise and pollution concerns will confine planes to flying and landing over water. This could rule out many existing airports and established flightpaths.
- A likely outcome is that long-haul flights will increase in frequency but concentrated on strategic destinations which cater for supersonic planes.
- Supersonic liners will be used for high-capacity mid-range routes and mid-capacity long-range routes.
- The UK and France-developed Concorde, the only supersonic passenger plane in the world, is unsuitable for wider commercial use. Although popular, it is expensive and ecologically unsound. New-generation supersonic liners will be considerably faster.
- Passenger capacities will generally be lower, providing more market flexibility. Because each plane will be able to make a greater number of journeys, smaller fleets will be viable, which will compensate airlines for lower fare revenue on individual runs.
- The planes will fly in the stratosphere at up to 21,000 metres – effectively in inner-space. The shells will be far more resistant to radiation than those of conventional jets, yet passengers will be exposed to less radiation because they will spend less time in the air.
- Flight times could be reduced dramatically at a ticket price increase of just 20 per cent.

	Supersonic jet	Conventional liner
London – New York	8 hrs	3 hrs 40 mins
Hong-Kong – Frankfurt	14 hrs	6 hrs
Los Angeles – Sydney	12 hrs	5 hrs
Cape Town – Amsterdam	9 hrs	4hrs 30 mins

Route canal surgery

"If that gets built, this place is finished," said Frank Gehry, looking at the development which the Panamanian government had commissioned to mark the handover of the Panama Canal from US control. That was back in 1998.

The series of tourist attractions and commercial developments never did get built. The vast tracts of land vacated by 300,000 US marines and the prime and virgin rain forest are showing no sign of change. But it won't stay that way for long.

Now that the US can no longer manipulate the canal for its own financial and political ends, will a truly independent Panama make maximum use of the Panama Canal? The canal's position as aquatic gateway between the West and the East, and Panama's location in the middle of the two American continents, means that the country is a global transport interchange just waiting to happen. The canal already contributes over US\$100 million a year to Panama's state coffers. What could an integrated air, rail and road hub bring in?

Carlos Anguizola, of the Autoridad de la Region Interoceanica (Interoceanic Region Authority), Panama's chief planning authority, certainly thinks so. Speaking to WA he says: "Important projects will take place in this decade: the construction of a new bridge across the canal, and the development of the former US Howard Air Force Base to create a pivotal global transport hub".

Anguizola also waxes about Gehry's involvement in two urban masterplanning schemes, one each on the Pacific and Caribbean coasts. The Panamanian government has seen what Gehry did for Bilbao, now they want him to do the same for Panama. Gehry's wife, Berta, is

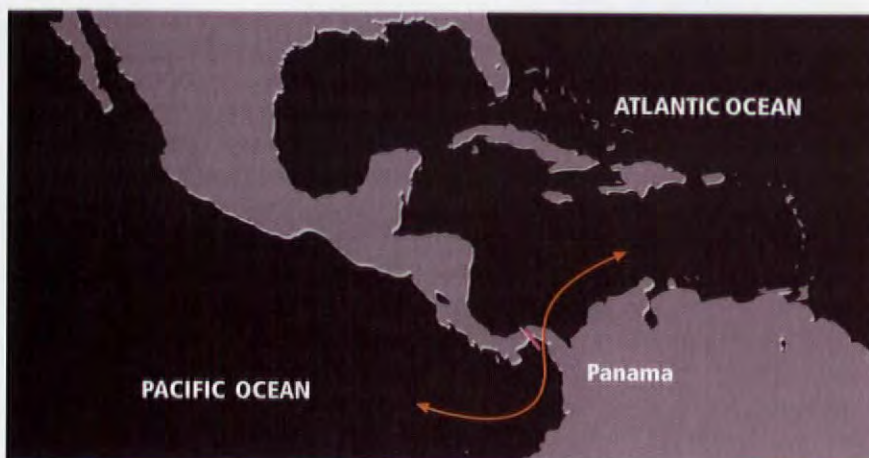
Panamanian, and the government is determined to milk the coincidence for all it's worth. Reports last year suggested that Gehry was reluctant to actually design anything himself, but would be happy to co-ordinate the efforts of a group of young international architects – including Dutchman Ben van Berkel, Greg Lynn of America and Alejandro Zaera-Polo of the UK (WA75 page 24).

The handover has turned Panama into a blank architectural canvas, on to which the Panamanians intend to paint a tourist Nirvana. Anguizola talks of a new aquarium, an international centre for ecological research, a multitude of eco-tourist attractions and a series of hotels on both the Caribbean and Atlantic coasts. Another official agency, the Interoceanic Region Authority, is marketing the abandoned US military bases – which includes a golf course – as tourist villages, retirement homes and other leisure pursuits. Over in Colon, the School of the Americas, where the US trained generations of South American political leaders, is being converted into the Hotel of the Americas, to be run by a Spanish chain.

It will take a long time for foreign investors to be convinced of committing funds to a little-known market, and they'll be closely watching the short-term performance of Panama's government, but Panama is in an enviable position – in every sense of the word

By Adam Mornement

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USA: Making the connection

It may be the world's wealthiest nation, but the USA has never had an integrated transport system.

This is about to change.

By Tom Wiggins of Hanscomb.

In an age where time spent travelling is increasing, the interconnectivity of all transportation modes is of growing importance. As individuals, we look for ways to reduce travel time economically. As a society, environmental protection and efficient resource use are important areas of government policy. Congested roads and pollution have collided to bring personal and societal goals together, recognising the need for better transportation infrastructure and interconnectivity.

Historically, the US has not had a comprehensive, integrated plan for transportation. Systems grew independently, sometimes in competition, forming the nation's transportation network. They have never been fully coordinated. Intermodal transportation would better manage transportation resources and make it easier for users to commute. Multimodal terminals allow the interchange of passengers and goods between different transportation systems.

Reasons cited for this lack of coordination are varied, but two are worth noting.

- Government policy and funding have focused on individual systems. Government agencies, organised by transportation system, often competed rather than co-operate. This focus provided systems with little coordination or connection.
- Fragmentation of jurisdiction causes difficulty in planning, funding and implementing joint transportation terminals. This may be among governments (eg between local jurisdictions, between local and state) or it may be between a private sector system and a public sector system.

The universal connector between all transportation modes in the US is the automobile, and while highways and roads connect us, they are often clogged. Other planned interconnections between transportation systems are rare, but this doesn't mean that there have not been significant investments in multimodal terminals, particularly for local bus and rail commuting.

Interest in interconnecting the disparate passenger systems really began in the 1980s. The passage of the ISTEA merely reflected growing concerns about how the US plans and funds transportation. ISTEA provided a means to improve passenger intermodalism, which was continued through the Transportation Act for the 21st century (T21). An ISTEA transportation study recognised that "intermodal connectors" were inadequate.

Systems funded and managed separately often do not offer ready interconnection points, so these must be funded and constructed. Interconnections require a terminal where passengers can seamlessly transfer from one system to another.

Only eight US airports are connected by rail, although Dave Casselman of Lea + Elliott says that probably 20-30 airports are looking at connecting to rail. He compares the use of local commuter rail systems for getting to airports in the US with Europe and Asia: Reagan National has the highest use, almost 15 per cent of people arriving at the airport use rail, while airports in cities such as Tokyo, Munich and Oslo have percentages over 30 per cent.

Amtrak, the US national rail system, confirms the increased interest in interconnecting. The North-east Corridor, Amtrak's busiest, has several airports near

rail stations. Baltimore-Washington International is a couple of miles from a station, so a bus shuttle service was created to carry passengers between the two. Newark airport is extending its monorail system to an Amtrak station about a mile from the airport. The Rhode Island Department of Transportation is planning a people mover system to connect the Providence airport with a nearby rail station.

Amtrak's goal is seamless transfers to local rail systems, such as those in Washington DC (Union Station), Baltimore (Penn Station), Chicago (Union Station) and Los Angeles (Union Station).

Rail's resurgence has been important in efforts to reclaim or rebuild downtown passenger rail terminals. Some of the renovated grand old rail stations provide multimodal service such as the Union Stations in Washington DC, Boston, Chicago and New York. Construction or renovation of multimodal terminals has also brought new life into downtown areas.

Many cities demolished their central train stations when train travel dwindled, so new facilities are being planned and built to support multimodal travel. A multimodal facility being planned is for Miami has the potential for linking national rail (Amtrak), regional rail (Tri-Rail), local rail (Metro Rail) and local bus (Metro Bus). The MICMIA (Miami Intermodal Center – Miami International Airport) Connector, an automated people mover, will loop through the terminal to connect to the airport. Rail lines will connect with the seaport for cruise ship connections, and the centre will house consolidated rental car facilities.

Casselmann notes that passenger convenience is the biggest issue and challenge in designing multimodal terminals. If it is convenient and saves time, it will be used. Three essentials in designing these facilities are:

- Passenger flow. It should be easy to move between the transportation modes. An openness that provides clear lines of sight and clarity of flow is the ideal.
- Minimise walk distances. This is a challenge because platforms are often long. Vertical connections can help minimise distances.
- Services. Multimodal facilities should make amenities available so make life easier for the traveller. The airport concession trend applies to multimodal terminals. These high-revenue areas are important to both the traveller and the operator.

"It is the policy of the US to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner." The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The colour of money

Colour is the first thing the human eye sees. Before your visitors register the furniture, the glazed partitions or the exposed ducts, they see the colour of the finishes. And then they make associations. So it pays to be on top of the complexities of colour psychology and fashion, something, as Dan Fox explains, that's getting easier to do.

In China, blue is the colour of the workers, while in the UK it denotes royalty. What's more, blue is both dominating the achingly fashionable restaurants and catwalks of Milan this year, and in New Zealand is the trademark sartorial colour adopted by the teen pop outfit Saphire, a nationally visible paean to low-grade trash culture. Oh, and psychologists will tell you that blue is such a powerful appetite suppressant that they advise dieters to eat from a blue plate. You knew all that already, and that's precisely why you specified a blue interior finish in that Santiago coffee shop for an American boutique? Well you're a rare commodity, and you can put your chequebook away. But the rest of you might want to look into one of the fastest-growing peripheral disciplines in architecture.

Colour consultancy for interior finishes is taking off. Three of the largest organisations in the business, the UK's International Colour Authority, Sweden's Scandinavian Colour Institute and the US Color Association have all recently launched colour forecasts for interior paints and decorative effects, and have all stated their intention to target architects and interior designers. Also, consultants are reaching out from their traditional bases in consumer product design – the number of businesses offering a service to interior designers and architects has doubled in

the US during the last ten years. So what do you get when you buy a colour forecast, or take on a consultant? And will the dollars you spend make sense when it comes to the bottom line?

A colour forecast does not directly dictate usage of particular paints and other finishes – rather it is designed to portray the moods and inspirations behind a scheme, via conceptual montages and designs with whole colour ranges set together. For those requiring more specific instruction, sets of colour chips for each range of colours provide a clear underlying line of suggestion: "If you want to use blue, use this kind of blue; if you're going to use pink, use this pink".

As products, the forecasts are really no more than swatches with extremely high production values, but their authority is beyond question – they are rooted in the methods used by the fashion industry to predict colour trends since before the Second World War.

Let the panel decide

Typically, a panel of professional colourists will sit several times a year to arrive at a palette based on anticipated influences – the economy, the environment, politics, sports, demographics, social issues, technology and cultural events – for the following



Maja Lisa Engelhardt's Roskilde Museum won a Scandinavian Colour Institute award for its use of bold colour to represent eras and highlight the exhibits



Where to find colour forecasters

Although most colour consultants provide forecasting services, for the last word on the mood of the industry it's worth going to the major colour associations – it will probably be cheaper too.

- **International Colour Authority (UK)**

The ICA's forecast for paints and decorative effects is now available, covering contract and designer colours and forecasting 24 months ahead. The ICA's services are traditionally popular in Europe, Japan and China. Forecasts cost US\$595.

Web: www.itbd.co.uk

- **Colour Authority of the United States (US)**

Membership of the respected CAUS entitles you to its interiors colour forecast published 24 months ahead of the season. Members also receive news, basic consultancy and access to the CAUS' extensive seminar programme. Membership costs US\$900 and members can buy additional forecasts for US\$200.

Web: www.colorsassociation.com

- **Colour Marketing Group (US)**

International non-profit organisation whose members must be involved in colour-related design businesses. Satisfying the strict entry criteria gives access to some of the highest-quality research available. CMG forecasts are exclusively produced by members for members – CMG reports are not available to the public. Membership for design professionals costs US\$650.

Web: www.cmg.com

- **Scandinavian Colour Institute (Sweden)**

Publishes the Natural Colour Notation system, a widely recognised method of describing colour numerically. Also produces a wide range of colour research including the paints and decorative effects forecast, which costs US\$595.

Web: www.ncscolour.com



year. Whether colour alone is able to reflect such sophisticated concepts is a question for the academics, but the truth for architects is that the ideas prescribed by the interior finish forecasters will always be in line with other elements of culture that create the notion of a "trend", and as such will be popular.

Will you still love me tomorrow?

But why specify a colour scheme that might be passé in two years' time? A client can't redecorate every time Giorgio Armani comes up with a new set of autumn pastels: designers need to weigh up the future of a project against its immediate impact. But you can have the best of both worlds: optimum use of colour fore-

casting can be seen in those interior designs which seeks to bridge the gap between fashion and building design. Look at London's St Martin's Lane Hotel, designed by Philippe Starck and opened in autumn 1999, trumpeted in the fashion press before the design monthlies got near it. Bold use of colour defines the interior – a lemon yellow paint throughout the lobbies was an acclaimed choice, lending a warm sense of chutzpah to the essentially angular space of a converted 1960s office block. This is an aesthetic dear to many of couture's late 1990s élite.

In the bedrooms, lighting projected onto white walls changes colour from red to yellow to green, and in the Light Bar, painted light wells pepper the ceiling, throw-

ing a coloured glow on to the white and black fit-out below. The effect is one that suggests the themes of the 2000 forecasts, without actually straying from a basically "timeless" palette.

Christian de Ponzamparc's Louis Vuitton Moët Hennessy Tower arrival in New York was similarly announced, via a series of celebrity-studded parties which ensured its introduction to the city through society diaries and gossip columns. A permanent grey-blue theme mirroring the International Colour Authority's "Stucco" forecast runs through both interior and exterior – its comfortable relationship with the urban context ensuring that it will retain its relevance. Margaret Walch of the Colour Association of the United States identifies

Pre-history of art

Roskilde Museum, Denmark. 1999.

What are the ingredients of a successful contemporary museum: astounding geometric form and neglected urban context? Superstar European (or European-sounding) architect? And what about the interior: unique rectilinear matrix of exhibition spaces? And the colour scheme: neutral? Almost certainly.

Not at artist Maja Lisa Engelhardt's Roskilde Museum, recent winner of the Scandinavian Colour Institute's "Best Colour Environment" award. "We wanted to get away from the traditional museum with uniform, neutral light everywhere. We wanted to use colours and light to capture the public's imagination in a different way." Engelhardt's passion for prehistory inspired a bold range of allegoric colour choices, each attempting to create a documentary experience through portraying the historical context in which the exhibits originated.

There is no overarching vision linking the meanings of the different colours used – the design of each room responds to its content and the epoch it represents. Thus, the colours in the prehistory section resemble earth, mould and corn; the rooms dedicated to the Danish "Golden Age" of the bourgeoisie are warm golden-brown, symbolising, says Engelhardt, the well-nourished and opulent; and the modern rooms are uniformly white, in contrast with the brightly coloured exhibits. One of the highlights is a vivid 18th-century green door hanging against a clear red wall, creating, according to co-designer Peter Brandes, "an exquisite totality in the room". The colours are potentially bold enough to completely overpower the spaces, and Engelhardt's understanding of the exhibits is evident in the careful balance she has struck.

The designers insisted that painting contractor Aksel C Christiansen and Son brushed the DuPont paints on to plastered walls, rather than applying them to fibreglass wallpaper with rollers, a practice which they think "kills the colours". Brushes apply paint in a thicker, smoother film, which provides maximum coverage and sheen uniformity. The Louis Poulsen lighting system, crucial to maximising the effect of the colours, highlights the exhibits in high contrast and renders them accurately against the vivid colour backgrounds. The result is that in places the interior looks as much a part of the exhibition experience as the artefacts – an idea very close to recent discourse surrounding the archetypal "contemporary museum".



it as: "The best demonstration of architecture and fashion in a building this year."

Of course, when you buy an interior paint or finish, you are buying a degree of colour expertise. Just as in any other industry, no manufacturer is going to sell a product that isn't fully market-researched. The main players in the finishes business are astute colour selectors, and can be relied upon to be abreast of popular taste. DuPont's new Lustra and Radiance palettes for solid surface Corian are based on organic textures and the latest expert forecasts, as are Nevamar Laminates' 12 new solid colours, which it claims are "completely new". Both manufacturers are concerned with addressing the colour dilemma specific to architects – DuPont's devel-

opers "aim to make their colours last by basing them on philosophies of the modern era rather than fashion". Lucite divides its paint ranges into grades of fashionability, whereas Spetra's Fractalis coatings offer different architectural "streams" depending on the project in question.

Bring in the consultants

Manufacturers can tell you about trends, but they're unlikely to be able to reconcile the permanence of architecture with the vicissitudes of taste. To do that, you need somebody untangle the matrix of cultural and psychological interpretations involved in colour choice and instinctive design sensibility. "Colour consultants

help an architect, who is more likely to be concerned with form and materials, get in touch with colour cycles and colour sources that his client will find of interest," says Margaret Walch. "In this way, they can bring the architect closer to a colour sensibility whether of place, of region or of specific environment." Independent consultant Robert Namett distills the sentiment: "You need to know what you are saying to the occupant and the client when you specify. Reagan's red button wasn't red by accident." Colour forecasting organisations offer individual consultancy services, and increasingly colour specialists can be found among the ranks of interior design consultants (see *Where to find colour consultants* page 90).

Where to find colour consultants



Experts on interior finish colours are not always easy to find, but they are out there. The profession is a mainstay of industrial and consumer product design, and its exponents' approach can be rooted in fashion as much as it can psychology. For local advice and contacts go to one of the many professional bodies wholeheartedly promoting the discipline.

- **Color Matters (US)**
www.colormatters.com
- **International Interior Design Association**
www.iida.com
- **American Society of Interior Designers**
www.asid.org
- **The Association of Danish Designers**
www.design.dk
- **The British Design Initiative**
www.britishdesign.co.uk
- **The Chartered Society of Designers (Hong Kong)**
www.hingenet.com.hk/csd.htm
- **The Design Institute Of Australia**
www.dia.au.org
- **The Institute of Professional Designers (UK)**
www.ipdonline.co.uk
- **Instituto Europeo di Design**
www.ied.it.edu



Rural mural

Gujarat High Court, India. 1999.

The design of justice facilities is at the business end of colour design. Here art and fashion take a back seat to psychology and politics, and where the designers' intuition is rarely enough. Ahmedabad practice Hasmukh C Patel's scheme for the interior of the new Gujarat High Court acknowledges both the emotionally fraught function of the facility and its role as a symbol of civic stability.

The space manages to avoid suggestions of oppressive authority, without deserting the traditional language of the English courtroom. Wooden panelling adorns the walls and benches, and velvet-backed judges chairs sit above austere wooden public seating, but the prevailing themes are natural light, nature and, even, freedom.

The signature feature in this interior is far from a traditional courtroom feature – a 2.3-metre by 11.6-metre acoustic wall, covered by a fabric-finished mural. Designer Aditi Ranjan was commissioned by the architect, and drew the colour plan from the local ecology of this largely rural community. "The natural landscape is visualised directly in the colours derived from vegetation – marigold flowers, food grains and mango groves." The ochres, greens and browns of Gujarat's tropical climate are all there, with the design remaining abstract at the client's request.

The cloth and dyes are easily available industrial products, and the patchwork style reflects the industrial skills of the local community. The project is a refreshing attempt to reach the holy grail of justice architecture – sympathetic colour reconciled with the requisite notions of civic security.

Colour psychology is already established in the justice sector and, even more so, in healthcare, in the tradition of that sector's holistic approach, rooted perhaps in Aalto's "humanist" Modernism. An established palette in hospitals of beige, yellow, white and blue appears to transcend cultural boundaries, for the feelings of calmness and security those colours induces. They are a fixture in both production-line designs by US corporate specialists like NBBJ and DLR Group and one-off "boutique" projects like Nette Hulterg's Uddevalla Hospital in Sweden, as part of its acclaimed maximum-contrast colour design to help the institution's many eye patients.

A healthy glow

Healthcare expert Yacov Rechter of Yacov Rechter-Amnon Architects, one of Israel's largest practices, offers an example, and a suggestion as to why colour psychology is instinctive rather than cultural, through his design approach for the new Poria Hospital, in Tiberias, Israel. "The elements which are not formally part of the main block are painted or faced with two colours, which exist in the interior as well, namely a yellowish beige and a blue. The subject of the connotations of the materials and colours used in the region is rather problematic. We are situated in a mid-eastern, Mediterranean environment, where the scale and char-



Left: A colour forecast will offer more than just a shopping list – abstract images are produced to convey the inspirations behind the scheme. Here the ICA's Stucco, Skin, Foliage and Organic.

acter of traditional architecture can hardly be considered a formal basis for a contemporary, functional building. Those efforts which have been implemented here and there, including the use of local clichés such as turquoise, do not seem to me to be acceptable."

Soft cell

Peter Krasnow, principal at justice specialist KMD, also looks to colour psychology as a matter of course. "Colour does have an effect on people. Look at fast food restaurants – red and yellow are perceived as appetite stimulants. In prison behav-

iour, it thought that certain colours of paint have a relaxing effect on muscle tone. Pink can be used in a room where new arrestees are held temporarily [commonly in US and Canadian "drunk tank" facilities]. If they are held for too long it would have the opposite effect. All our colours are in the pastel ranges. If you are in a space for a long time, strong colours can be oppressive."

But despite the proven positive effects of colour on the quality of the environment, Krasnow's experience of client response to sophisticated colour choice is mixed. "I do encourage clients to deal with colour. But often they want a punitive

environment, so their interest is served with a leaner and meaner style."

The retail and office sectors are thought to be where colour psychology is poised to take hold next. The sophistication of colour in consumer products is generally a long way ahead of the environments in which they are placed, and clients in the office sector are more switched on than ever to the role designers can play in maximising productivity. Under the glare of the bottom line, this largely ignored discipline has the best possible climate in which to showcase the benefits it will afford the 21st century architect.

Race to the finish



To design interiors in 2000 you need to be fluent in a sophisticated language, and a master in infinite dialects across different sectors. But this thriving specifier's market means that your chances are good of finding what you need floating somewhere in this tasty soup of old favourites and new faces.

The palette of the interiors specifier can convey more about design intention than ever before. Each sector of the finishes market is sub-dividing: where once were glass partitions is now a choice between anything from a joint-free version, with its connotations of purity, to a framework of gleaming metal, for a more technically sophisticated appearance. You may have never had it so good, but you've got to watch what you're saying.

Norman Foster did just that when he put together the celebrated Canary Wharf tube station at London's Docklands, which won an

AIA London/UK Chapter Design Award in January. A generation of 20-something London commuters was introduced anew to the joys of exposed concrete, a material until now synonymous with the commonly reviled Brutalist South Bank arts complex. The cavernous interior, with concrete columns and ribcage-style roof and flooded with natural light, is a triumph of spatial planning. There can be no recent project more sharply defined in the public eye by its choice of interior finish. The concrete was provided and contracted by Tarmac Railway Services.

Wire you meshing with me?

Metallic symbols

There are a number of options for fashion-conscious designers hell-bent on making their interiors look like the bridge of the USS Enterprise: ultra-fashionable wire mesh, which has also been used on some world-class exteriors (see *Wire you meshing with me?* box); Jakob's Inox Line, an architectural rope with seemingly endless uses, including high-tensile interior fences and grid patterns; or textured metal elements from companies like Rimex Metals. Rimex's range of textured metal elements is ever-increasing, and their functional benefits are myriad. Texturing gives panels an increased strength-to-weight ratio and surface area, which improves the purchase during foam-filled bonding. Colouring techniques add to its corrosion resistance, and there is even a highly reflective "Super Mirror" version, a rarely marketed but easily produced finish for steel.

Reflectivity can also save you money, via Nippon Electric Glass Company's solar-reflective glass block. It works as a thin wall, allowing natural light in but reflecting back 40 per cent of UV radiation. The active ingredient is a metal oxide interior coating of the type used in most low-e panes of glass, and the benefits will be similar, such as lower air-conditioning costs and less wear on interiors.

For the paint-hearted

Solid surface product Corian is still very much a market leader, with DuPont keeping it at the forefront of the specifier's consciousness by showcasing it on designer products. Ed Plumb's profoundly modern nest of tables, unveiled at the Milan Furniture Fair, is an example of an ideal vehicle to promote Corian's qualities – versatility, ease of maintenance, durability, and the ability to be carved or formed into the most challenging geometries. The new Corian Colour Trends CD-ROM helps the specifier navigate the 72 Corian colours (see page 88), a palette which should satisfy the most adventurous of designers.

Blackfriars Paints has scored a hit with All-in-1, a finish which can be used as a wood dye, woodwash or woodstain, as well as a plaster finish to achieve decorative finishes such as rag-rolling or stippling. Its ten-colour range makes it one of the most versatile products on the market. Equally versatile is the Algalite System, a "polychromatic decorative system meant for highly trained painters". With a kit

comprising acrylic sealer, pigmented water-based basecoat and semi-transparent finish, the highly trained painter can apply the finish to iron, wood and plastics as well as any type of exposed interior wall or plaster. The target sector for the product is contract interiors, as it non-toxic, non-flammable and washable.

Armourcoat's market-leading polished plasters have found another high-end customer in Louis Vuitton, with the interior version being applied to outlets around the world (Christian de Portzamparc's New York HQ is the flagship). The pearlescent glaze on a smooth finish lend space and elegance to the stores.

Ceramic fundamentalism

Technological innovation in ceramics in the last few years has increased its range of applications. Fast-hardening silk-screen printing techniques allow the layering of intricate patterns, and new adhesive backface tiles can be applied to reface tiled walls, reducing installation time and cost. Spain's Ascer group, the industry body responsible for the tile industry, is busy raising the profile of high-quality indigenous ceramics, and can tell you which company supplies what.

Alumasc's new Pendock interior casings, designed to conceal columns, exposed walls and services, are a lightweight alternative to metal. The plywood casings are strong and inexpensive, can be installed without skilled labour, and their one-piece construction eliminates weak spots at joints.

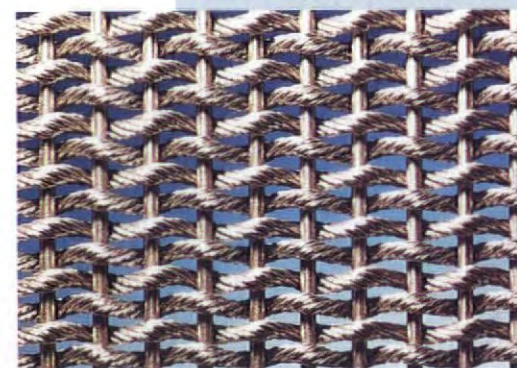
Nordwall le Pareti's latest offering is another way of bringing architectural fashion inside the building. The Luce partitioning system, developed after extensive polling of office space designers, is all-glass and completely free of metal joints. The secret is in glue bonding, softened visually by silk screen strips along the joins. The joins are smooth to touch, and the partitions homogeneous in their appearance and reflection of light. Nordwall has bases in all sorts of far-flung places – for that call centre in Addis Ababa contact the Ethiopian office, and perhaps that boardroom refurb in Santo Domingo could do with the help of the Dominican Republic office.

The latest range of Hawa sliding partition doors – the patch-hung Junior JP interior system – can be locked into several positions with very little evidence of mechanics. Acme Architectural Walls show similar versatility, with a tangible suggestion of permanence and kaleidoscopic array of decorative effects.



Dominique Perrault's Berlin swimming pool and velodrome (pages 70-73), Foster and Partners' Kowloon Station, Jean Nouvel's Lucerne Culture and Congress Centre, Helmut Jahn's Sony Centre (pages 62-66) – all showcases for one of today's most fashionable architectural products. Star architects are switching on to wire mesh, and history tells us that when that happens, the trend soon trickles down through the profession.

Wire weave from companies like GKD (Germany), GCD/City Wire



Cloth, and Cascade Coil (US) are super-versatile. They can be used for partitions, suspended ceilings, drapes, backdrops, and, most spectacularly, sculptural forms (rock group Van Halen played its latest world tour under a stunning mesh canopy which was dismantled and re-assembled 88 times in 124 days).

Officially called "metal fabric", the product comes in an enormous range of patterns and densities, from glistening designer weaves to the precision weaves traditionally supplied as micron-fine filters.

Advertisers' contact directory

The manufacturers advertising in this issue are listed below and will provide you with the latest product information or literature to service your planning requirements. All the relevant contact information is supplied for your convenience. However, if you experience any difficulty in reaching a company please call or fax the WA enquiry service on tel +44 (0)20 7560 4120, or fax +44 (0)20 7560 4026.

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RAL

German Institute for Quality
Assurance
and Certification C.V.
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Scandinavian Colour Institute

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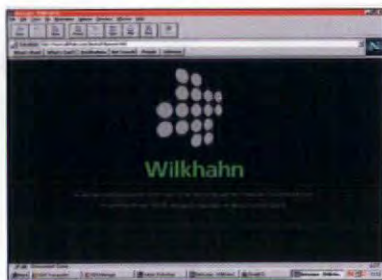


Akzo Nobel

Akzo Nobel Decorative Coatings Ltd. today confirmed its position as one of the industry's leading innovators with the launch of an interactive website and CD ROM for professional specifiers.

Developed for architects, specifiers and interior designers who are seeking the opportunity to create exciting new combinations of colours and patterns, the Colorfacts website and CD ROM enable the user to view and experiment with finishes which can be viewed by colour and by effect in any available combination.

<http://www.colorfacts.co.uk>



Wilkhahn GMBH

Wilkhahn develops design-oriented products and interior concepts for application in the high quality segments of contract furniture and for Airports (eg. Chek Lap Kok, Hong Kong) The German Marketing Prize, the German Ecology Prize and the participation in the world exhibition EXPO 2000, Germany, with the project "The future of work in the tense and exciting interplay of humankind, nature, technology and the market" underline Wilkhahn's endeavour to assume the role of a responsible-minded pioneer, which goes beyond the development of enduring products.

<http://www.wilkhahn.com>



Liquid Plastics

Detailed technical information on Liquid Plastics' extensive range of protective coatings and seamless flooring systems can now be accessed on the internet as the Preston-based company has launched its own website. The easy to navigate website is designed to enable architects and specifiers to instantly obtain specification details on LPL's liquid roofing systems, hygiene control coatings, external wall coatings and both decorative and industrial flooring systems. Containing over 80 pages of information, BBA certificates and literature containing technical drawings can be downloaded in PDF format.

<http://www.liquidplastics.co.uk>

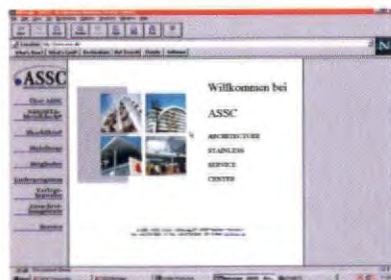


Albrecht Jung

JUNG is one of the leading manufacturers of high quality electrical wiring accessories. The website is showing a summary of available devices/ranges, informs on the company's history, gives information on world wide sales contacts and of course offers down load possibilities for technical EIB instabus data base.

New Feature: Radio control management.

<http://www.jung.de>



ASSC GMBH

Services of the ASSC GmbH. ASSC is a system manufacturer of roof coverings and wall cladding for installations of stainless steel or titanium. Arguments for the NIROSTA/Titanium-Metall Roof System:

- * almost unlimited life expectancy
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ASSC provides advice for architects and planners about stainless steel and titanium material uses. ASSC offers matt, shiny and a "Sharkskin" non-reflective surface.

<http://www.assc.de>



NACO Srl

Naco's presence on the Internet since 1997 provides a general overview on its products which consists of adjustable louvre mechanisms for glass, wood and aluminium windows, as well as for external Sunbreaker Systems. As one of the leading producers of both product types, Naco Srl provides the best solution for air, sun and light control. New products are constantly being developed, such as the adjustable sunbreaker with perforated aluminium blades or custom shaped extruded profiles. For more information call
Tel: +3906 841 5949.
<http://www.naco.it>



Crompton Lighting

Now available from Crompton Lighting is a multimedia CD-ROM showing how the company's Intellect Digital Intelligent lighting system can be used to deliver energy savings while providing a high quality, properly lit working environment.

Intellect Digital luminaires achieve this through their ability to communicate electronically with each other, combined with presence-detection and daylight-linked technology.

Available free to architects, consultants and specifiers.

Tel: 01302 321 541

Fax: 01302 303 220

E-mail: user@crompton-lighting.com



Pilkington's Tiles Group

The Pilkington's Tiles Group website is essential reading for architects and designers, with information on the extensive ranges of architectural and industrial floor and wall tiles.

From Pilkington's stunning Fabbrica Marmi E Graniti recreated marble and granite to architectural wall tiles and Quilgotti Terrazzo, from Woolliscroft industrial tiles to Quilgotti Access Flooring, it is all here, along with links to a number of trade organisations and complementary ceramic industry companies.

<http://www.pilkingtons.com>

RIBA BRIEFING

Sustainability events

- **"Equinox 2000".** Hosted by the RIBA Sustainable Futures Committee, this conference takes place in London on 21 March ("the spring equinox of the new millennium, when night and day are of equal length all over the world"). It will promote the use of integrated renewable and energy efficient technologies via international speakers, such as Amory Lovins, Lucien Kroll and Herman Hertzberger. An exhibition of 20 innovative EU-funded environmental projects will be launched, which will then travel to France, Israel, Holland and Belgium.

- **"London – Living City".** This interactive exhibition (3 April to 8 July) at the RIBA Architecture Gallery will act as a focus for discussions about the future of London. Curated by Urban Futures, its aim is to show how all our actions, from turning on a tap to changing government policy on transport, can have a staggering impact on the global environment. At the core of the exhibition will be a huge topographical model of the city, animated by constantly changing computer generated information about London's past, present and possible future. Around this the building itself will be "wired up" to act as a microcosm of the metabolism of the city, recording the in- and outflows of energy and resources.

- **RIBA Conference.** Scheduled for 7 to 9 July, this major conference with the theme "Cities for the New Millennium" takes place at the Lowry Centre, Salford, and is hosted in association with Cambridge University. It aims to "confront the challenges posed for architecture by new models of urbanism and, conversely, the contributions which architects and other professionals can make".

Institute plans a sustainable future

A series of high-profile events this year will put the RIBA at the heart of a global campaign for sustainability.

Marco Goldschmied, who has pledged to make the issue of sustainability a primary theme of his term as institute president, will lead a programme of initiatives aimed at raising awareness worldwide. "This is a time to accelerate," he said. "There has never been higher public interest in architecture, in urban design, and in the contribution which archi-

tecture can make to sustainability. This is a good time to expand our vision and to ensure it is an exciting year for architecture."

The strategic importance for architects of responsible building design, construction, management and use has already been signalled at the RIBA with the creation of a sustainable futures committee. This is due to produce a mission statement and recommendations to government on sustainability principles "from individual buildings to urban design and

renewal" later this year. It aims to provide regular updates for members via www.riba.net.

As well as specific events planned for 2000 (see panel, left), the RIBA is tackling sustainability in several long-term initiatives. A working group is preparing revisions to the outline syllabus for schools of architecture: the aim is to include sustainability as a mandatory requirement in the curriculum at Parts 1 and 2 in RIBA-validated schools throughout the world.

A RIBA guide to sustain-

ability is planned by the institute's practice department – a significant move, as this will underline the determination of the president and others to respond with practical advice on sustainability for small practices as well as larger firms.

And this year's Housing Design Awards will for the first time include a category for "sustainable design" to encourage the promotion of green specification and energy efficiency as one of the profession's core problem-solving skills.

Taking (and moving) stock

As the RIBA prepares for a major exhibition of work from its internationally-renowned Library, staff and volunteers have embarked on the stocktaking of a lifetime.

With the first phase of a joint venture with the Victoria and Albert Museum now under way – the exhibition at the V&A will promote the Special Collections' new home there – an RIBA team has begun the inventory of its 600,000 drawings.

Library director Ruth Kamen said: "We are planning a huge amount of work on the collections over the next two years. We are creating a computerised inventory of the Drawings Collection that will form the basis for a retrospective conver-

sion of the entire catalogue, transferring every drawing from its present location into new forms of storage, and replacing every shelf-mark."

Under an arrangement struck between the RIBA and the V&A last year, the institute will move most of the material from the Drawings, Manuscripts and Archives Collections into the museum. The £5 million scheme will also create a new gallery, collections store, offices and a separate study room. Greater accessibility will be a key benefit: shared facilities with the V&A will mean that the collection can be open five days a week instead of the traditional three; and a policy of educational out-

reach will allow the collections to be used for the first time by teachers and children.

An exhibition at the museum, drawing together items from both the V&A and RIBA collections, will run from May to September this year. It will explore the history of individual pieces of work and how they were acquired, and bridge the gap between design and reality. "For example, they've got a Voysey clock, we've got the original drawing of that clock," said Kamen. Access to the exhibition will be free to RIBA members: under the terms of the joint venture, all members from January this year have been granted free admission to the V&A.

The Drawings Collection finally closed its doors to the public at the end of December, and the RIBA aims to have most of the material transferred to the V&A by the end of next year. Staff will continue to deal with enquiries by post and other external means; exhibition loans and photography services will also continue. Meanwhile, the Library catalogue is available online at www.riba.net.

- Want to be a volunteer? Help is still needed on a regular basis over the next two years preparing the collections for moving. Even one day a week would be a great help. For an informal chat, telephone Dr Neil Bingham on +44 (0)207 307 3605.

What's on Ribanet

The pitfalls of working from home are discussed by members in *Architectural Practice*.

One sole practitioner is appealing against an attempt to charge business rates on a work room also used for domestic purposes: "3m x 4m, just less than 7.5 per cent of the gross floor area of the house... the woman from the council said she had already got several architects paying business rates on part of their homes".

A Scottish member, like other contributors to the debate, has never been charged business rates for homeworking, "on the basis that such use (up to a certain area) is covered by the Building Regulations". Other advice: "If you have a room purely for business, you have to pay capital gains tax when you sell, so keep it as part of your home with, say, a sofa in it."

Sometimes problems occur with planners: "Even though we only use a single bedroom, they threatened an enforcement notice if we didn't get planning permission, and then tried to get us to tarmac over the whole front garden to form parking for non-existent visitors..."

In *Technology Questions*, there are questions and answers on using chains instead of downpipes, specifying a child safety gate and how to clear 30-year-old drains. PPG 12 revisions are discussed in *Planning & Urban Design*, and in *Legal*, the relative merits of in-house and standard JCT forms.

The latest guidance on bidding for Millennium Commission grants appears in *Community Architecture*, and in *Study of Architecture* – how to get a Masters from Louisiana University via the Internet.

Ribanet is free to members – 2,750 are now online – fax +44 (0)20 7307 3786
e-mail RIBANet@inst.riba.org

A foundation for diversity

Making a career in architecture doesn't necessarily mean becoming an architect, as demonstrated by the wide range of professional options showcased on www.riba.net.

A new Careers in Architecture section of the website has been launched, aimed at stimulating public interest in architectural education. As well as offering potential students a comprehensive guide to UK and international schools of architecture, the RIBA's Practical Training Scheme and routes of entry for both school leavers and mature students, the site includes detailed profiles of successful and influential professionals who trained as architects but went on to forge careers in other fields.

The Careers in Architecture "minisite" has won praise for its liveliness and accessibility. It gives a lay audience the core message that architecture expresses diversity. Not only are there many different forms of architectural prac-

tice, and a growing number of professional specialist services, an architecture degree can also act as a portal to a whole world of vocational choices.

One of the subjects profiled is architect Dickon Robinson, director of development and technical services for the Peabody Trust. After an architectural career which began in the 1970s, Robinson became involved in housing association work, and is today responsible for some of the most innovative development in social housing.

He says: "Not a day goes by when I am not drawing to a greater or lesser extent on what I learned in those days – construction details, the roles of the different professional, contract law, and of course design theory and practice. However, perhaps more important than these are those aspects of architectural training which are about solving problems and anticipating the future within a broad humanistic tradi-

tion... I would recommend it to anyone who is looking for a creative career with the potential to make a lasting impact for the benefit of the wider community."

Architecture schools in the 21st century are likely to attract those who are curious about their surroundings and interested in learning how to improve them, says education project manager Miranda Housden in an introductory note to the minisite. "We are living in a rapidly changing world, and so we need people with the imagination to create the buildings and cities our society needs to keep pace with progress."

Extracts from other profiles:

- "Training in architecture excited my interest in the structure, workings and appearance of towns and cities. It left me very well prepared to move into town planning which has allowed me to play a significant role in the revitalisation of one of the country's major cities." Colin Haylock, town planner, Newcastle.

- "I started as a product designer, became an architect, then returned to product design. The architect is trained not to worry if a job is large or small nor what material it is made from or how complex it is. The product designer is trained to specialise in furniture or ceramics or interiors... this is the key difference and advantage between the architect and the normally trained designer." Alan Tye, product designer, Hertfordshire.

- "A significant percentage of my fellow students made their future elsewhere than in the design of buildings. They were not the weakest students but all seemed to be questioning and intending to leave their chosen fields differently from the way they found them. I have subsequently met surveyors, solicitors, barristers and journalists who have all drawn on an architectural background for their outlook." Matthew Wells, engineer, London.

Your advice counts for the CAS

How could the Clients Advisory Service be improved? Members are being encouraged to have their say as part of a wide-ranging examination of the CAS.

An RIBA management team headed by director of communications Roula Konzotis is charged with preparing a costed business plan for an improved CAS, which is expected to appear later this year. Former head of the CAS Caroline Cole, appointed as a consultant at the end of last year, is also

involved in the strategic review.

Institute director-general Alex Reid said the restructured CAS should focus both on maximising the influence of the RIBA in a number of client sectors and on producing an efficient and cost-effective service for registered practices. Earlier this year, a critical report from the CAS task force was presented to RIBA Council.

"We will of course be taking a close look at how the various services, including the register and

the nomination service, might be improved," said Reid. "There have been some notable achievements in recent years. In particular, the creation of the database of more than 25,000 projects carried out by RIBA Registered Practices has greatly improved the service provided to clients. Clearly, some of the most useful guidance will come from members themselves who have used CAS, and who will have important messages for us on its various strengths and weaknesses.

We welcome all contributions to the debate."

In the meantime, it's business as usual at CAS: Cecilia Bode will head up the Architects Database – which is responsible for the register and the nomination service. Gurinder Purewall will continue to manage the Client Forums, which are becoming increasingly influential voices for both users and designers in a several market sectors, and Harsha Botenne will look after all CAS marketing issues.

A LETTER FROM THE EDITORS

Few are in position to contribute better advice on getting your work published than the editors of the esteemed organs whose pages you aspire to grace. So the WA editorial team has put together a few pointers on how to give yourself the best chance of catching a magazine editor's attention.

Founts of best practice knowledge are never slow to impress upon architects the value of good publici-

ty. There are few who achieve any sort of status without it – it's no coincidence that the press offices of Foster and Partners, Renzo Piano Building Workshop, Helmuth, Obata and Kassabaum and Frank O Gehry and Associates are among the slickest in the business. If you've decided to invest in putting your work before the press, the additional cost of ensuring that your material is among the best that will cross the editor's desk that day is negligible. The (sad)

fact is that on the printed page the perceived quality of the work is entirely dependent on the quality of the presentation.

- Do not assume any prior knowledge from the editors of either your work or the site of your scheme (unless you're Norman Foster and you're re-furbishing the Eiffel Tower).
- Provide a 500-word synopsis/project description.
- Indicate the contact name at your

practice, and the name of the project architect, with relevant contact numbers.

- Label all photographs with a short caption and photographer's credit. If you cannot provide professional-quality prints or transparencies, be sure that you know how any interested journalist will obtain them. It's rare that they'll have the budget to commission photography.
- Label all drawings with a north point (where relevant) and a clear

WHAT DOES E-COMMERCE REALLY MEAN?

Everybody knows that the advent of e-commerce heralds a new dawn for architects. This winter has seen the release of the first wave of solutions – but when the excitement dies down, do you know what you're really going to get when you buy into the digital economy? Dan Fox looks at what's out there so far.

You may have heard by now that e-commerce is going to revolutionise AEC industries. Apparently, the broadband internet connection, which already allows entire projects to be executed online, is now on the cusp of bringing the logical conclusion to the architectural community

– the digital economy. You knew that already didn't you? The first of the cyber-markets is here already – four major new services went online in January alone, and you'll be hearing about them soon. But are you ready to go e-shopping? And what do you actually get when you do?

Not yet

Construction e-commerce services can be broadly divided between design systems which combine procurement with CAD, like bricsnet.com, buzzsaw.com, and Blueline/online, and specialised commercial exchanges like Industry to Industry, Bidcom and Viscomm.

What all of these providers actually offer is a fairly standard model at the moment, a cocktail of news wire services, discussion environments, site webcams and product information libraries. Contrary to what you may have heard, ordering delivery of products, payment, and importing of CAD data online is far from universal at the moment.

The vision of the architect clicking from drawing to selection of products and deciding to use it there and then is a reality, and it's proven that a thorough overhaul to incorporate such methods can save 23 per cent of construction cost and reduce completion times by 15 per cent. But

"For those expecting to be able to drag a model of a window frame from a manufacturer's website to their drawing, and see 600 turn up on site six months later, there's going to be a few years to wait."

WA ARMS THE GLOBAL ARCHITECT

In Atlanta, Georgia, this month a WA co-sponsored conference will endeavour to distill the top-level business development theory for A/E firms.

Do you want the best advice about staying ahead of the game in an industry where you need the business savvy of Donald Trump to get the chance to prove you've got the design skill of Frank Lloyd Wright?

Then maybe you should be looking in the same place that your consultants are looking. "How to Get Ready to Manage Design and Consulting Firms", a conference running from 28 February to March 4 in Atlanta, will offer a blueprint for current and future AEC management issues of rare authority.

Management, marketing, economic and legal topics will be discussed in a series of seminars host-

ed by the industry's top movers. But to be the kind of super-dynamic executive that would need to attend, you're probably very busy, so just in case you can't make it, WA gives you a hint of where you need to be looking, with a few of the conference's themes.

Where in the world are you?

Hosted by WA's editor, Nicola Turner, and Dr Thomas Galloway of Georgia

Tech. Through addresses on the A/E industry in specific international regions, this "Crash course on international design and construction services" will endeavour to show optimum strategies for breaking into markets, crossing cultural and legislative divides, and prevailing trends.

• Human resources: Why it matters

You don't sell widgets, you sell the quality of your professional services, which has everything to do

key and caption. Provide clean copies for publication so that the designer can put in annotations in house style.

- Provide full credit list of all consultants on the job.
- Provide any available cost and product specifications.
- Provide a full suppliers list of products and manufacturers used. This is gold dust to any advertising team – and editors get a warm glow of happiness from helping

out their colleagues in sales.

- Use distinctive packaging when sending speculative material, in order to stand out from the crowd. Don't go over the top though: believe it or not, most editors are as stressed as you are and would probably feel ill at the sight of a psychedelic pop-up book.
- Follow up with a call a week later. Be patient. Do not expect journalists to know what you're referring to immediately!

Editors love

- **Large format transparencies**
- **Professional photography**
- **Reproduction rights taken care of**
- **Digital images on disk**

Editors hate

- **Prints or small slides**
- **Construction photographs, no matter how important the building**
- **Digital images by e-mail**
- **Images already published elsewhere**

for those who were expecting to be able to drag a model of a window frame from a manufacturer's website to their drawing, and see 600 turn up on site six months later, there's going to be a few years to wait.

You can get with this...

Of the design-based services, bric-net.com is one of the newest and a good example of the genre. It offers a comprehensive range of services for a monthly subscription fee.

- **Localised product information:** Online access to building product descriptions, specifications and details. While such information has typically been distributed on

paper, professionals find it more efficient to search by product, keyword or category.

- **e-store:** On-line store where building professionals can purchase software, hardware, equipment and publications. Software products are immediately available for download, providing building professionals immediate access to mission critical software all the time.
- **Architectural design:** DWG file format – plus intelligent building components that can be inserted into designs using a drag-and-drop operation.
- **Structural engineering:** A suite of

products for structural engineering for beams, frames and plate made of wood, steel or concrete.

- **Project collaboration:** Extranet that creates a central place for all designs and documents.
- **Professional forums:** Discussions developed and moderated by professionals from all disciplines within the building industry.

...or you can get with that

Bidcomm, one of the pure e-commerce services, is a true interactive environment tailored to fostering dynamic wheeler-dealing – less of a designer tool, more a businessman's best friend.

- **Pre-planning project leads:** A weekly listing of commercial building project opportunities.
- **Means estimator:** A cost data calculator that estimates a range of preliminary total costs for a new project in a specific geographical area, before the bidding phase.
- **Sourcebook:** A comprehensive directory of architectural firms, which can be used by industry professionals to locate qualified firms for upcoming projects.
- **Spec information:** Proprietary manufacturer product specifications which can be downloaded directly into existing product specifications.

with who you attract, hire, retain and grow. Gensler VP of HR Laurie Dreyer talks about a comprehensive approach to recruiting, making an offer, reward and recognition systems and even "terminations" – which one hopes is not as sinister as it sounds.

- **Mergers and acquisitions: What every principle must know**
Mick Morrissey of Zweig White &

Associates breaks down the forces that are driving M&A activity, explaining how firms can benefit, what is involved, how to find a firm to buy or sell to, structuring and closing deals.

- **Finance management: preparing and managing for profitability in an up and down economy**
Jim Moynihan of Jack Hill looks at optimum methods of cash flow forecasting, capitalisation methods, cost

control, pricing services and collections and payments.

- **Effective management of legal and risk issues: Can it give you a competitive edge?**

Dave H Colling and Gregg E Bundschuh of March Construction Services Group on the rapid changes under way in the legal, insurance and risk management industry. Topics include how to match contract word-

ing to insurance cover, the latest alternative dispute resolution methods, benchmarking your insurance programme, design-build risk issues and the recent professional liability case law.

The WA-sponsored event (see Leader, page 5) is part of the Senior Executive Business Education Series, a programme operated by the Georgia Institute of Technology.

Polemic Euro means tough new regime for French architects

Perhaps the best way to describe the prospects for French architects today is to compare them with those of a person arriving late at a cocktail party who find that the celebrities have already moved on and most of the drink has been drunk. This is a new situation for a country whose architecture has been the envy of Europe. As recently as the mid-1990s the new US\$700 million French National library, by the youthful Dominique Perrault, was zooming towards completion, while its UK counterpart, by an architect of pensionable age with a 15-year head start, was still mired in squabbles about defective wiring and rusty shelves.

For years France has been determinedly modern and proud of its architects, especially the young and adventurous ones. They have been fêted like movie stars and made the subject of travelling exhibitions promoted by the French government. They don't even have to be French. Architects from Germany, the UK, Italy, Denmark, the US and elsewhere have won French competitions and completed major buildings in France.

Behind all this vitality lay the fact that France had — and still has in theory — a better system for bringing big commissions and new talent together than any other country. The UK has always been too insular and conspiratorial. Germany, still absorbed with the enormous cost of reunification, is reluctant to be too daring. The Benelux countries (especially Belgium) are practically a closed shop, and construction in Italy is still paralysed by corruption scandals. Only in France — until the straitjacket of monetary union cast its shadow over the free-spending public sector — did architects enjoy the highest level of state and civic patronage in the Western world. A cradle-to-grave social security system for architects built around a legal requirement that the design of all public

buildings, from village post offices to international airports, must be made the subject of architectural competitions, and that a proportion of those competitions should be restricted to young local architects — leaving the remainder open not only to the 30,000 architects in France, but to the half million architects of the whole European community.

Typical of the system were the former Lyon life and work partners Françoise Hélène Jourda and Gilles Perraudin. They opened their first office the day they graduated and soon won a competition to design a new school of architecture to replace the one they had both studied in. For the next 16 years their careers read like a fairy story: they supported an office of 18 entirely on work won in competition; everything from schools, low-cost housing schemes, metro stations and motorway bridges. Then reality broke through, mostly under the impact of the French government's increasingly severe budget-cutting and debt-trimming in the run up to European Monetary Union. The pair continued to win competitions, notably in Germany where their recently completed naturally ventilated and lit Herne-Sodingen Academy has attracted tremendous critical enthusiasm, but their circumstances became so straitened in the interim that they turned to wine production and eventually their marriage failed.

There is a growing realisation that the strength of the old French architectural system was inextricably linked to the resources of the French public sector. The day his great library was finished, Dominique Perrault told journalists that he had no other work and had never, in his whole career, been employed by any client other than the French government. Since then the Euro has hit hard — no-one really believes that the good old days are coming back, whatever happens.

"Only in France did architects enjoy a cradle-to-grave social security system for architects built around a legal requirement that the design of all public buildings must be made the subject of architectural competitions."

