

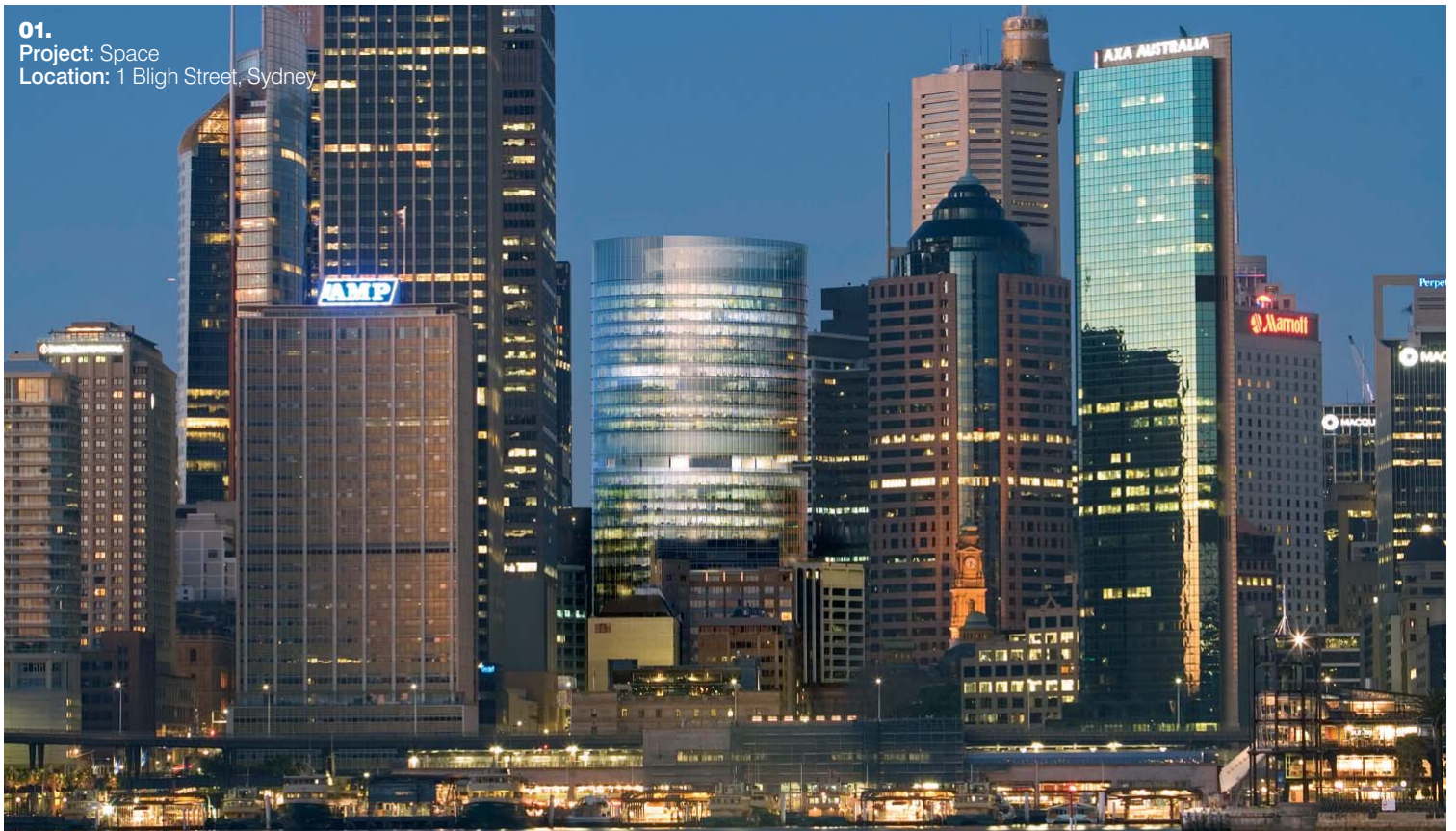


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01.  
Project: Space  
Location: 1 Bligh Street, Sydney



# TOWER SOARS TO SIX STARS

Moderately sized by skyscraper standards, the 29 level 'Space' tower at 1 Bligh Street Sydney, shapes as Australia's most innovative. Architectus and leading European architect Ingenhoven Architekten have teamed to create the winning design for an entirely new generation of Australian high-rise.

The building's dramatic ellipse form and dual glass skin is the forerunner for a new era of smarter, more responsible city-making. 'Space' would become Australia's first 6-star Green Star high-rise. The \$230 million signature tower condenses the best available technologies into its flexible design.

The project's crystal transparency and environmental performance dramatically reduces dependence on artificial lighting and mechanical cooling and heating. Designed for client DB RREEF, one of Australia's largest property group managers, the 42,000m<sup>2</sup> building represents a whole new urban environmental response. Design architect Ray Brown of Architectus Sydney discusses the evolution of a building destined to step lightly but make a huge impression.

## Was there a risk in speculating on a building design of such fundamental difference?

Very definitely. We had to convince the developer that a curved building was the best commercial use of the site and that it was a sound commercial footprint including space planning.

## Was that difficult?

Well it wasn't hard to convince them but we did go to great lengths to explain how it would all work. The elliptical plan is 12% more efficient than a rectangular building in façade to floor area and achieves 93% efficiency in net lettable area.

## Standard right angles are much easier to design and construct than complex elliptical geometry. How confident are you about the 'bang-for-the-buck' you can deliver?

When you analyse the floor-plate it's really a long curved rectangle if you like. The ellipse is not the total shape of the floor-plate or building. The ellipse is filled out with the core and the atrium through the space. The design investigated the most efficient way to construct the building and there is considerable repetition in the floor-plates. Had we opted for a street-hugging podium for instance that would have been very expensive and a low return and so we really stripped the whole back. While there is a certain complexity and costs associated with the shape there are efficiencies and economy in the structure and that repetition.

## Glass-based architecture has obvious attractions and weaknesses. How did you reconcile the perceived problems of low thermal mass, privacy, glare and so on with its phenomenal transparency.

The facade is extremely efficient with a shading co-efficient of .15 which is regarded as very good. Direct sunlight never reaches the floor-plate. The affect of daylight is obvious but it enters as diffused softened and 'cooler' light.

## What were some of the issues that you considered as site-specific solutions?

The building had to resolve the conflicting geometry of the main city grid and the angled grid of Bligh and O'Connell Streets as well as the curve of Bent Street. More importantly on a city scale the building addresses the harbour. It's a very site-specific solution because it has such a wonderful view that faces north/north-west and so it's subject to huge solar gain. The solution of the double skin was about being able to maintain the view for the longest possible time. The operable horizontal blinds when they're down allow vistas, yet they exclude solar loads because of blade angle.

## What are the best things that have come out of doing a sustainable building?

We've been able to pursue innovative and holistic solutions in terms of the energy, sun shading and thermal comfort and ventilation which optimize the indoor environmental quality.

## To what extent do Green buildings rely on like-minded occupants?

An increasing number of tenants want to occupy Green buildings and are interested in continuing this in their fit-out. We are looking forward to working with the successful tenants to further enhance the buildings environmental performance to further advance the building's environmental design. If you are going into



a six star building then you want to have a six star fit-out. The building we're currently doing has the potential to be naturally ventilated, but it is dependent on the fit-out from the tenant.

**What is the next step to improve environmental performance?**

The biggest change has to happen in property grade standards. Premium building standards require a comfort band of 22-24°C and this needs to be discussed. It costs a lot of energy to achieve such a narrow band. A more realistic band would be say, 22-26°C with an emphasis on air quality. This would save a lot of energy if the temperature outside is 35°C.

**What did project partner Christoph Ingenhoven bring to the design?**

Christoph has a lot of experience with building environmental high-rise and double skin facades in particular and so that was very helpful experience to draw on.

**Do you see the design as regional, global, or simply urban?**

I think it really draws on all of those. It certainly has global significance however it's driven by the city context and the urban condition, especially at street level.

**Architectus' proposed law courts in Brisbane, Sydney student accommodation and Melbourne Airport for instance are projects with an astonishing transparency that flows from early modernism. What is the difference between this new modernity and the old stripped back, bare design?**

The difference is technology both in glass and façade systems. It allows architects to do certain things the early modernists couldn't have dreamed of. The lesson is that most glass buildings are simply not appropriate unless you adopt an innovative screening or shading system as efficient as we have on this project.

**Has transparency become something of a house style for Architectus?**

There is a movement towards transparency and design that better reflects a more democratic workplace and flattened hierarchies. This means that we're looking for these types of open, transparent spaces internally and from an external viewpoint.

**Do you have a sense that 'sustainable design' has, on occasions, been hijacked and applied as a band-aid to cover, or perfume to entice, yet not really been integral to many projects?**

That's a fair point. In the past there has been a lot misinformation about what is a Green Building. We're designing within the vocabulary of the ABGR and Green Star ratings now accepted as the industry's rating tools for measuring environmental impacts. It is clearly a genuine, higher performing building we believe worthy of Australia's first 6-star Green Star high-rise.

**What are the most obvious benefits of embracing sustainable design as opposed to merely paying lip service? Does it provide a good discipline?**

There are suddenly whole new parameters that need to be benchmarked. Previously we had aspirations and now they're parameters. We've always aimed to design efficiently and now there is a common language to converse with clients and tenants about environmental performance. Previously it was very difficult to have this sort of discussion.

**What is the strongest single experience that comes from working on this project that you would like to carry through into subsequent projects?**

The environmental performance of the building is the standout factor. The façade development was important because it permits the building to function as a whole entity whereby you can maximise the view while eliminating solar gain. There is a precise science to getting this right. Conceptually we solved the problem but there is an enormous amount of technical analysis required to work up the design. This type of solution requires great technical rigour to translate the brainchild into the fully working project.

**Does that tend to reduce the importance of poetics in building?**

No because the framework and concept of the building is essentially the basis for the poetics.

**In broad energy terms, how does this project compare with a conventional steel reinforced concrete and glass tower of comparable height and floor-space?**

It will cut consumption by more than half that of a standard tower.

**What do you think Sydney will make of this building once it is completed?**

I hope that it is seen as making a contribution to the urban fabric and promoting a better understanding of environmental issues. Hopefully it will be viewed as city's exemplar Green building for the next decade.

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02.  
Project: T2 Terminal Expansion  
Location: Melbourne Airport



# AIRPORT SET TO TAKE OFF

Architectus is leading design on Melbourne Airport's largest ever upgrade. The \$330 million terminal expansion known as T2 includes an additional five aircraft parking bays and 25,000m<sup>2</sup> of new space.

Due for completion over the next 5 years, stage one will be complete in 2010 with construction of a new outbound international passenger security and customs processing zone.

Work begins later this year. An entirely new international passenger precinct will be created by 2011 along with a major redevelopment of existing facilities. The development will add more than 5,000m<sup>2</sup> of new passenger lounge, café, duty free and specialty shop space to T2. The new precinct will feature 10-metre high windows to provide spectacular views across the airfield.

A completely new 7,000m<sup>2</sup> passenger concourse will be added to T2 and include three gates with dual-level aerobridges able to accommodate one super-sized Airbus 380, or two smaller aircraft. This area has been designed to maximize parking space for aircraft and will provide the closest views of runway activity passengers have ever seen.

Ruth Wilson of Architectus Melbourne said the design starting point was to create humane, pleasurable spaces for passengers and staff. She believes travellers will embrace the new look airport once it becomes fully operational.

"Passengers and visitors will pass through a range of varied spaces of distinct character. The new passenger processing area is large, neat, clear and naturally lit while the duty free area we envisage is glowing and white. The main retail hall has a soaring ceiling, glass

feature wall and an unparalleled vista to aircraft. The existing concourse will be re-worked to create a warm and intimate space while the proposed departure and arrival gates will feature un-cluttered, daylight filled areas that overlook docked aircraft.

"Our brief was to create a simple, elegant retail hall of atmospheric proportions that will cater for changing retail fit-outs over time. We concentrated the environmental initiatives to directly benefit occupants. The temperature will always be comfortable, the large spaces have the heating and cooling in the floor slab, there is an abundance of natural light, automated blinds will track sun movement to filter sunlight."

Performance upgrades will be enhanced with space for an additional two A380 baggage carousels. Baggage delivery for outbound flights will improve by 50% – from 3000 bags per hour to 4500 bags per hour by 2012.

Wilson notes that Melbourne's reputation for direct, authentic design will be reinforced by the architecture she describes as "direct, elegant and timeless". The airport's character follows what she describes are the quintessential qualities of her "home town".

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03.

Project: Art Museum and Teaching Facilities

Location: College of Fine Arts (COFA), Oxford Street, Sydney



# MUSEUM GETS MODERN

The influence of Architectus continues to shape the destiny of a number of major projects around Australia and New Zealand with the firm's winning design for the University of New South Wales new art museum and teaching facilities at the College of Fine Arts (COFA).

The proposed \$45 million project will greatly enhance COFA's reputation as a major cultural institution. "The museum precinct and campus will build a vastly improved relationship with the city" says Lindsay Clare, Design Director for Architectus Sydney. COFA is one of Australia's premier art and design schools located in the heart of Paddington on Oxford St, minutes from Sydney's CBD and Central Station.

COFA is a comprehensive art college offering traditional studio practices such as painting, drawing and sculpture alongside art history and art education. As well it provides cutting edge courses in design, time based art and digital media COFA students and staff are at the forefront of international debates shaping the direction of contemporary practice.

The re-development includes a premier UNSW Art Museum capable of receiving major local, national and international exhibitions, replacement of teaching and research buildings and realignment of the campus towards Oxford Street and Greens Road. More than 2,500 full and part time students and teaching staff will benefit along with a predicted sharp increase in public interest.

The upgrade will result in a far more integrated, holistic relationship with campus and street life together with a dynamic 'showcase' street presence. The project is regarded as a re-birth for the museum as the UNSW cultural centrepiece. The design masterstroke will remove two redundant buildings, link the campus to Oxford Street and reveal a central courtyard space as heart of the campus.

New light-filled buildings and upgraded existing buildings that frame the central courtyard will link student and gallery uses to re-energise this important institution and location.

The main pedestrian entry to the school and art museum is directly off the new formed plaza at the intersection of Oxford Street and Greens Road. From the entry foyer of the museum, visitors progress up a generous

7 metre wide stair to the west gallery which connects to the central campus courtyard on the same level. The design creates a series of exhibition, teaching/workshop spaces and administrative areas across four levels on the steeply inclined site.

Architectus defined four key factors to inform the result. These were gallery as landmark, venue, inspiration and connector. "The art museum as a public institution contributes to the experience of the city. The university setting contributes to a collective experience," says Kerry Clare. "It's one that should be pleasurable and rewarding. It should make you want to return time and again."

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04.

Project: Fanshawe Street

Location: Corner Fanshawe and Halsey Streets, Auckland



# TOWN AND COUNTRY OFFICE

Architecture needs to be as future proof as possible which is good reason to seize the opportunity to design and build with tomorrow in mind.

Architectus is involved in a series of commercial projects, some on green field sites, and a number of developments within sight of each other adjacent to Victoria Park on the edge of Auckland's CBD. For differing clients and uses each is fully tailored to its circumstance. The first of these, a medium sized development at 152 Fanshawe Street, has evolved from its environment of urban grit and parkland prospect.

Architectus has drawn together the competing strands of climate, motor-vehicle traffic and a narrow site to convert the challenge into opportunity. Rather than retreat, the project embraces its premier corner location on a busy urban intersection and the adjacent semi-rural parkland, with a cool, measured program. The result is a carefully crafted, prismatic, jewel-box of an office building that facets itself around gritty civic context and a pocket of green tranquillity.

Two varied, but related, facades of high performance glass animated by vertical fins are linked by a smaller angled element that in turn

responds to the busy Fanshawe and Halsey Streets intersection.

The taller of the main facades to the north consists of series of rhythmic vertical concrete fins on its three upper levels. The longer, but lower west elevation engages with Victoria Park opposite. A row of mature London Plane trees that line the parkland provide summer shading to the west face of the building, easing solar loadings and relaxing glazing requirements. Full height glazing on the upper levels use slender, vertical aluminium fins to provide additional shading while at street level the glazed wall cuts back to provide a pedestrian-friendly portico along Halsey Street leading to the foyer.

The two facades are connected and separated by the corner element perched above the busy intersection. High performance double glazed units with neutral tints are used to minimize the need for sun-shading, encouraging both outlook and the display of internal activity, enlivening the urban context.

Southern and eastern facades on the boundaries are punctuated by irregularly placed windows allowing natural light and animating the exterior.

Internally, medium sized floor plates (1300m<sup>2</sup>) and straightforward planning allows for easy subdivision of the floors. Whether a full floor or a smaller tenancy, all benefit from a ceiling height of 3 metres or more and a maximum distance

to external glazing of 11 metres, ensuring generous amounts of natural daylight. The building achieves a very good ratio of 63% space between 0-6 metres from the perimeter and 37% between 6-12 metres. The eastern 'internal' façade opens into a courtyard within the site to protect daylight in the event of adjacent future developments. The courtyard also provides for building servicing, visitor parking and access to the underground car park.

The ground level spaces are fully glazed from floor to ceiling and provide the opportunity for retail uses including cafes or restaurants. The corner glazing is organised to allow the easy addition of a dedicated entry separate from the canopied office entrance.

As well as the shading and high performance glazing, the project's sustainable features include energy efficient T5 light fittings to further reduce energy consumption. The reduced solar loadings, combined with high levels of insulation also reduce mechanical cooling loads which are handled by a VRV multi split air-conditioning system controlled by a building management system (BMS) and low water usage fittings are installed throughout.

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# DESIGN REWARDED



## Queensland Gallery honored with RAI National Award for Public Architecture.

*Jury Citation:* "GoMA differs from most other galleries of art, both traditional and contemporary, in its unusual porosity and openness to its surroundings.

It connects its contemporary art to its contemporary city. This is a significant achievement, particularly in the intense daylight of southern Queensland... The fabric of the city consequently benefits significantly from both the exuberance of this landmark building and its restraint."

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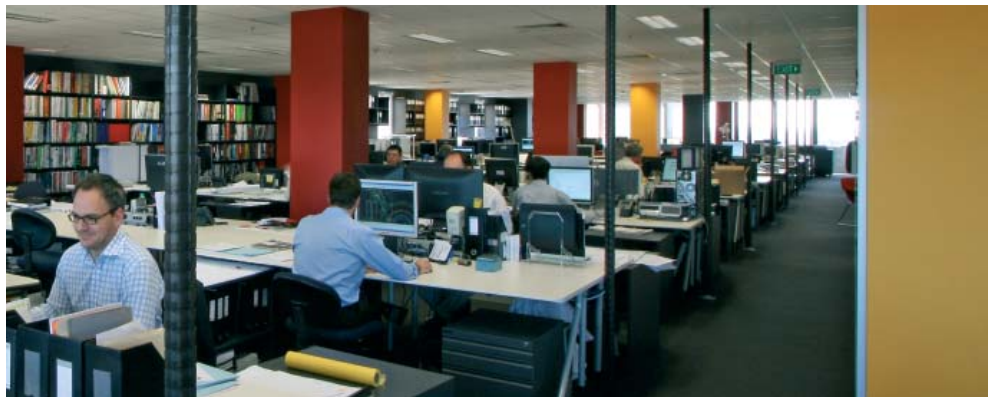
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More awards from the Planning Institute of Australia where Architectus won two of the 10 awards on offer. The first in the "Urban Planning Achievement" category received a commendation for the Marrickville Urban Strategy. The second was in the "Urban Design Plans and Ideas" category with a commendation for work on the Bungarribee residential precinct adjacent to Western Sydney Parklands.

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Architectus also won three awards at the New Zealand Institute of Architects Resene Local Awards for Architecture. 152 Fanshawe Street in the Commercial & Industrial category, Lorne Street in the Urban Design category and the Waitakere Civic Centre in the Community & Cultural category.

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the firm's ideas and commitment to high end design and quality of product.

The floor plan is simple and clear, comprising a spine running north/ south along the eastern side of the office, delineating front and back of house. This eastern zone incorporates reception, meeting rooms, print/ layout areas, and the communal lunch space. Its semi-transparent nature enables glimpses into the open plan work area running along the western side. The classic studio arrangement of the main work space affords a high level of inter-connection between staff.

Despite the total floor space of the new offices being around 100 m2 less than the previous, highly partitioned premises, the improved efficiency in space planning has dramatically increased the potential to accommodate further staff.

This innovative new workplace offers staff a stimulating office environment. "It demonstrates to clients Architectus' capability," says Phillips. The design of the open work area, right down to the detail of the new workstations and IT infrastructure, has been carefully composed to ensure an environment conducive to clear, open communication, collaboration, and sharing of knowledge, as well as a vibrant office ambience. Although the atmosphere is dynamic, there is a strong sense of serenity and cohesion."

Feedback from clients has already been overwhelmingly positive. Clients familiar with Architectus' previous premises have commented on the appeal of the new office which has prompted them to look at the firm in a new light. This is a powerful testimony to the success of the design of the new office.

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# STRATEGIC RELOCATION

In a major relocation exercise, Architectus Melbourne has moved closer to the CBD, to level 7, 250 Victoria Parade, East Melbourne.

The building has recently been refurbished to extend its life, and Architectus Melbourne redesigned the 7th floor fit-out before moving

in, to create an eco-friendly office which will be a tangible testament to the Architectus design ethos. It is an open floor plate, with full height windows extending right across the northern and southern ends, admitting ample light and offering expansive views.

"The decision to lease the space was relatively easy," says Director Mark Wilde. "There were compelling reasons to upgrade", says Wilde. "It wasn't just a matter of having outgrown the old address". The move was a strategic one, with the building being ideally located on the city fringe.

Wilde, who, along with Justin Phillips, was responsible for the design of the new office fit-out, says that the result more accurately reflects

## Interview

# RODD PEREY

Rodd joined the Sydney office in 1988, and recently has driven the change to a Building Information Modelling (BIM) culture where project teams concurrently develop the design with live information feedback from the building model.

As a senior architect he maintains his involvement as a project team leader, chiefly on hotel projects. Working on projects allows him to fully understand the technological requirements. Conversely, understanding the technology allows Architectus to run exemplar projects that establish new techniques for coordination, integration and efficiency.

### What's the best time of day?

I'm a slow starter but a strong finisher. My mind's pretty blank until I arrive at work. I go to bed at 2am and rise at 8am so 9am isn't my best time. I'm not someone to get up in the morning and go for a jog. I do all my best stuff from around 10 o'clock at night. You can achieve a great deal when free of the distractions and no fixed time to finish for the day.

### How would you describe your job in one sentence?

There are really two key parts, so maybe a couple of sentences. I'm involved in design technology and the practical, hands-on architecture role. I'm part of a team rather than the author of a lot of buildings. I'm really interested in the big architectural idea and planning and functioning correctly. Working in a large practice allows me research and development time to build our BIM (Building Information Modelling) programmes.

### What is the most satisfying part of being an architect?

I think producing a built result that is successful on its own terms. As an architect I like to improve the design and documentation process with innovations that can be implemented across future projects. The way we design and document buildings is going through a real revolution. I have been a keynote speaker in Australia, Japan and the US about BIM in a large practice, its implementation, workflow, potential and change to office culture.

### Who or what has been your biggest influence?

My father was an architect in Wagga Wagga. It was small scale but it was very good immersion in the day to day activity of the practice. His family had a background in the Arts and I also have an uncle who is an architect so it has always been a part of the family conversation.

### Did any particular buildings of his influence you most?

The house I grew up in was a very elegant design with views to the north over the Murrumbidgee Valley under wide eaves, and the church he designed in the Wagga suburb of Kooringal.

### How would you describe your early architectural preferences?

Frank Lloyd-Wright, Richard Neutra and Rudolph Schindler are right up there.

I also loved my father's books on subjects such as the Japanese Metabolists.

### Do you enjoy the theory or practice?

Practice...thinking of something and putting it into place.

### What are your main interests outside of architecture?

Music. I love going to gigs. At home I usually play piano and guitar. Usually jazz standards – the 'Great American Songbook', Porter and Gershwin, Arlen, Richard Rodgers etc. I play one or two Chopin pieces (badly) and some Beethoven.

### Are you the glass half empty or glass half full personality?

Definitely half full. I'm naturally an optimist. And easy going. If there's a problem there's a solution.

### When did you realize that architecture was your calling?

When I was about 7 or 8 years old. I was surrounded by rapido-graphs, drawing boards and stuff like that. I'd lie on the floor in front of the television drawing up huge perspectives of buildings that were heavily derivative of projects like Australia Square. I would design huge podiums for say, a hotel at one end and an office tower at the other. I was only young and it was the late '60s and I was influenced by whatever was around.

### Has this fascination with technical design solutions steered you towards producing the CAD modelling that you are now well known for?

My experience has taught me that the best way to draw is to model the project. With all drawings and views being dynamically extracted from the building model the drawings are automatically, coordinated. Changes to the design are automatically updated through the Revit model and to all the derived documents such as specifications, maintenance manuals, room data sheets, structure, services. The possibilities are almost limitless. Special views can be created without disruption to workflow, allowing the firm to exceed client expectations for project deliverables. Revit streamlines documentation processes.

### Are you seeing the benefits of your research already?

With a number of projects now built from Revit models, the benefits are clear: We have seen a huge reduction in site 'requests for information' generated by inconsistencies or ambiguities in the documents. As a project architect, I find it a great time-saver that most on-site issues can be explored and resolved with some quick 3D views or a detail derived from the model. You can't do that with CAD.

At all project stages, designers and project architects are able to view the current status of the project. This integrates the design and technical decisions deeper into the



documentation. Using the Project Navigator, they can look at the plot sheets of the building in 3D and at schedules and area plans. Within the building model they can take measurements, and check, for example, fire and acoustic ratings or material selections.

### What is it about architecture that gives you hope?

I think that architecture is becoming more appreciated. We're seeing architects names being used to market certain properties and there is a recognised value in that for the developer and buyer. And architects are really at the forefront of ESD issues.

### What is the major technological achievement of number 1 Bligh Street?

It's one of the very few projects to use such a complex process of building information modelling from the outset. I don't think there are many other architecture practices up to this speed in terms of pushing computer hardware and software to the limits. It is some of the most technically advanced work of its kind anywhere in the world. I would say we are right out on our own and the others are playing catch up.

### If you weren't an architect what would you have been?

I could have been a lawyer or an economist but I have very broad interests and in the end I think those fields are too narrow and not creative enough.

### What are your three favourite cities?

New York, Paris and, all things considered, Sydney.

### What can't you live without?

Music.

### Are you a minimalist or maximalist?

A maximalist. I always seem to end up being surrounded by lots of objects. While I always appreciate the elegance of simplicity.

### What's the trick to a truly satisfying career?

Discovering what you are good at and doing that.

### If you could invite any three figures from history to dinner, who would you choose?

A cliché I know but Einstein for obvious reasons. John Stuart Mill was a favourite from the philosophy department and Susan Sontag a great writer on art and philosophy. Since they are all dead I might just invite Scarlett Johanssen.

### So what is the best advice you would offer to the architectural aspirant?

To learn your craft and to really understand it.

### What do you believe in?

The power of the mind to solve problems.

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