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Steel Profile sincerely thanks those who have contributed to 100 editions of the magazine between 1981 and 2008.

Kengo Kuma, Allan Lamb, Bill Langman, David Langston-Jones, Norma Latchford, Graeme Law, Gary Leahey, CP Lee, Russell Lee, Leon Lefebvre, Suthisak Lerttriluck, Amanda Levett, Ed Lippmann, Jerrold Lomax, Frank Lowe, Paul Lucas, Rosemary Lucas, David Luck, Stephen Lumb, Carey Lyon, Hamish Lyon, Ian Macdonald, Rod MacDonald, John MacDonald, Bryan Mackenzie, Bill MacMahon, Paul Maguire, Ken Maher, John Mainwaring, Stephen Malone, Guy Maron, Randall Marsh, Alex Matyear, Murray McAllister, David McCready, Laurie McDonald, Rick McEwen, Robert McGauran, Ian McKenna, Noel McKernan, Sir James McNeill, Nigel Merryweather, Andrew Metcalf, Jim Milledge, David Millis, David Ming-Li Lowe, John Mish, Colin Mitchell, Simon Moisey, Ray Moody, Ian Moore, Tim Morgan, Michael Morris, Michael Mulcair, Glenn Murcutt, Ken Murtagh, Paul Mutton, Kazuhiko Namba, David Napier, Patrick Ness, John Neylan, Lawrence Nield, Ed Niles, David Nixon, Greg Noble, Georgie Noble, Ian Norrie, Paul Odden, Mark O'Dwyer, Martin Osolnik, Chris Pannell, Athol Patch, George Paterson, Carl Payne, Finn Pedersen, Roger Pegrum, Ian Perkins, Margaret Petrykowski, Professor Charles Phipps, Caroline Pidcock, Robert Pierce, Les Platt, Philip Pollard, Gabriel Poole, Max Pritchard, Jason Pruszinski, Gray Puksand, Robert Puksand, Professor Neville Quarry, Anthony Radi, Deane Rankin, Mark Ransom, Michael Rayner, Dimity Reed, Joanna Rees, Lloyd Rees, John Reynolds, Alastair Richardson, John Riches, Michael Rigg, Rod Roach, Noel Robinson, Mark Roehrs, Richard Rogers, Andrew Rogerson, Zammi Rohan, Chris Rolfe, Craig Rosevear, Virginia Ross, Bill Ryan, Paul Ryder, Duncan Sanby, Peter Sanders, Peter Sandow, Geoff Sargeant, Ralph Sarich, Mark Sciberras, Dieter Sczesny, Chris Seddon, Lindsay Shimmin, Colin Sichlau, Tony Simmons, Bob Sinclair, Dietmar Slam, John Sofo, Ken Sowerby, Mark Shence, Frank Stanisic, Peter Staughton, Andris Stenders, Colin Still, Georg Straesser, Jacqueline Straesser, Angelo Strano, Peter Stronach, George Stuart, Bob Sturrock, Peter Stutchbury, Dale S



Congratulations BlueScope Steel

Steel Profile has been showcasing benchmark architecture I extend my sincere appreciation on behalf of all members of BlueScope Steel for the profound contribution made to the

Architects, and those interested in architecture, have for n excellent articles and photography which demonstrate the

Steel Profile is an important journal of record for all architect. forward to the next 100 issues with great interest.

mernines

Alec Tzannes National President Royal Australian Institute of Architects

exemplary case studies for an exceptional 100 issues. Royal Australian Institute of Architects (RAIA) to re of architecture through *Steel Profile*.

an 27 years been challenged and informed by its of good design using steel products.

d I'm sure I speak for all when I say that we look



steeprofile

NUMBER 100, APRIL 2008

BLUESCOPE STEEL EDITOR Manu Siitonen **DEPUTY EDITOR** Oliver Peagam CHIEF SUB-EDITOR Richard Garfield **PHOTOGRAPHY** Paul Bradshaw, ART DIRECTOR Natasha Krncevic CORRESPONDENCE EMAIL

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Steel century

influence. Here, then, is a meander down memory lane, a chance to enjoy some of the architectural highlights from the last 99 issues.

012

From Mars

numbers of students studying maths, science and technology by inspiring them with a trip into space. Part fantasy-land, part educational hub, welcome to the extraordinary.

018

Immaculate conception

After its predecessor was lost to arson, this modern-day interpretation of a chapel has risen in its place. Designed for the school and wider community by Forward Brianese + Partners, the chapel sits under Mount Wellington's watchful gaze, a multi-use

026

Masters in excellence

A tertiary institution where kangaroos loll about on lawns outside tutorial rooms? The Chancellery Building is the latest addition to the University of the Sunshine Coast. Delivered by Kerry and

032

Tropical centrepiece

Situated under the flight path into Townsville, the Thuringowa erway Arts Centre and Eager ation to arouse the interest of those coming in to land.



Perfect pitch

What Glenn Murcutt doesn't know about steel-lead architecture Wales, stays faithful to his 'touch the earth lightly' motto, and conscious. Rarely (if ever) bettered, Murcutt's distinctive style

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STEEL CENTURY

In this special 100th edition of *Steel Profile* magazine, founding editor and contributor Peter Hyatt retraces some defining moments in its history – a period in which steel came into its own and "emerged from the wilderness".

Twenty-eight years ago there was a familiar dilemma of deadlines. It was the launch issue of a magazin for architects and engineers.

The first issue was nothing if not diverse. There was a story on an emerging architect, the design of a deep water mini-submarine and a touring exhibition of 14–20th century Chinese art. At least it promised cultural variety. It was an important toe in the water that soon became immersed in architecture.

magazine to showcase Australian architecture and design. BHP Steel, the forerunner to BlueScope Steel, supported the idea and committed to a year's budget. There were some reservations, however. One challenge was to calm certain forces that demanded the magazine spring to life with a suitable title. t was proposed that it be hristened *Surprising Steel* or *Dynamic Steel*. Readers were not to be left in any doubt. fortunately, another view prevailed

While there was pressure to be overt, there was also a sophistication which understood that readers deserved better. This needed to be a legitimate showcase for architects rather than just a product catalogue. What began life as a small fortnightly business press newsletter named *Steel-Link* suddenly morphed into something much larger and more influential. It quickly became clear that despite local architecture being in the doldrums, there was only one direction for it to travel.

Even though Australian architecture was stagnant, there was the portunity to craft a magazine at was driven by something her than the obvious – a forum here we might better connect ith an audience by displaying a enuine altruism and sharing in e problems, solutions and ideas

rculation quickly climbed to 0,000 copies per issue, giving it e biggest industry reach of any guely comparable magazine – cluding those on the newsstand. urveys provided reassurance that e were filling a void. And we ave always aimed to do better.

ince that first issue in March 981, *Steel Profile* has provided distinctive voice for many sustralian architects. The timing vas perfect: the period 1980 to 2000 was easily the most roductive and inventive era of sustralian architecture.



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Architectural steel innovation with BlueScope Steel **number 100, april 2008**













At the outset only a handful of architects were creating work of note. Glenn Murcutt was one and he was the subject of the lead story of our first issue. He was every bit the title of the piece, 'Cat on a Hot Tin Roof' – restless and relentless, he challenged suburban councils at every twist and turn over outdated planning regulations. He was, and remains, passionate about steel.

He led its revival with an approach to consider architecture as part of a much larger, inter-connected natural world. The opening in the lead story of our first issue was his: "Simplicity," says the Sydney architect Glenn Murcutt, "is the art of resolving the given; the known, problems, beautifully." And with that distilled idea *Steel Profile* was on its way.

Far from a household name and working resolutely outside the brick-and-tile square, it was a portent of things to come. For the magazine's tenth anniversary issue in 1991 a panel – including University of Melbourne Professor Peter McIntyre, and author, historian and critic Phillip Drew – awarded Murcutt the highest honour it could (one created especially for the occasion): Architect of the Decade.

It was a forerunner of much broader recognition for him with world architecture's two highest honours – the Alvar Aalto medal ceremony in Helsinki (1992) and the Pritzker Prize at the Campadoglio in Rome (2002). Almost every other world architecture award of note would follow.

In the decade from 1980 to 1990 many others were searching for and discovering ways to pursue an architecture of integrity and vigour. Steel steadily became associated with a conscious search for building that is appropriate to place. *Steel Profile* was there as Philip Cox championed the cause of steel's structural and decorative athleticism with soaring and evocative forms such as the Yulara tourist resort in central Australia (Issue 13, 1985). There were numerous turning points in Australian architecture, and it is difficult to define moments as much as the people who brought about the change. Practitioners such as Melbourne's Peter Elliott, whose McCorkell farmhouse in the Grampians (Issue 23, 1988) and Carlton Pool and Recreational Centre (Issue 31, 1990), revealed an emerging confidence and acceptance of steel as a robust language in its own right.

Others such as Gabriel Poole were no less emphatic in their preference for a material that provided waferlike qualities for his work on the Sunshine Coast – notably during the 1980s and '90s with projects including Noble House (Issue 22, 1987) and Lake Weyba House (Issue 60, 1997).

Also at the pointy end of innovative steel designs came James Grose, who produced his legendary 'praying mantis' residence in Wollongong (Issue 38, 1991). This deservedly won its share of gongs for its elegance, originality and sustainability at a time when daring clients and progressive builders were difficult to find.

Others, including John Mainwaring (Wright Residence, Issue 64, 1998) and Kerry and Lindsay Clare (Student Recreation Centre, University of the Sunshine Coast, Issue 64, 1998), were making similarly large impressions with skilful, environmentally driven answers that dared to challenge the bulky standard issue. By the early 1990s it was apparent that there was no turning back. The momentum for change, diversity and the idea of building with a lighter, more open view of the world had taken hold.

If the 1970s was the decade of design deception, with curtains of mirrored glass as parody of reflected reflection, the '80s celebrated the perfumed embrace of postmodernism and high-camp. It was an era with a largely counterfeit, worthless design currency that led to a craving for form and space that had authenticity; one that actually felt right. A new wave of Australian architecture was filling this need.

In Europe the tide had already swung back to a heroic, uplifting version of machine-age modernism supported by a skilled fabrication industry capable of translating the epic vision using astonishing, crafted detail. Richard Rogers' Lloyds Insurance headquarters in London (Issues 35 & 36, 1991), and Norman Foster's exquisite Hong Kong and Shanghai Bank (Issues 18 & 19, 1989) were two of the century's standout towers. Similarly, London's suitablynamed Future Systems building explored alternative materials, forms and possibilities (Issue 40, 1992).

A small number of Australian architects were well advanced in their investigations based on an expansive, holistic view, rather than glib fashion. Some were searching for and making their personal discoveries. Local architects wrestled with ways to absorb ideas into



- 6. Capita Centre (Harry Seidler), Issue 29
- 7. Metro Nightclub (Biltmoderne), Issue 23
- 8. Carlton Pool and Recreational Centre (Peter Elliott), Issue 31
- 9. Max Pritchard Residence, Issue 39
- 10. Northern Light (Glenn Murcutt), Issue 46
- **11.** Sir Norman Foster interview, Issue 40
- 12. Hong Kong and Shanghai Bank (Foster + Partners), Issues 18 & 19



Architectural steel innovation with BlueScope Steel number 100, april 2008



bespoke responses rather than the transplanted type, and steel was a common denominator in much of this creation. Some commentators and architects such as Neville Gruzman agitated in the columns of *Steel Profile* about the mediocrity of commercial development (Issue 35, 1991).

A relationship between an Australian idiom and steel was once again evident. By the early 1990s steel had acquired an altogether more optimistic, creative status and was no longer regarded simply as 'industrial', 'vernacular' and 'utilitarian'. It had acquired a magical quality, although suburban councils still hadn't quite caught on, preferring the commonplace comfort of brick, concrete and tile.

In 1980, steel structures of any type were virtually non-existent. But the landscape had changed. If steel had been viewed as somehow tainted and 'olde' world, it quickly became obvious that this was no longer the case. This was reflected in the national architecture awards program, where steel-based designs had arrived and continue to dominate across so many categories.

Steel emerged from the wilderness during the 1980s. Architects had a desire to express an expanded vocabulary. Alex Popov, Richard LePlastrier, Gabriel Poole and of course Glenn Murcutt were on a mission to respond to the specifics of place.

Their resolve was for subtraction rather than addition – a major difference between most architects and builders. These architects produced elegant, lighter, climateand site-responsive structures that paid far more regard to the authentic response to place, than to trappings of status and comfort of imitation. Many architects have acknowledged Steel Profile's role in recognising an Australian architecture that spoke of originality and authenticity. This included better information and greater knowledge of the component parts of a building, assembly and the inspiration for better testing of ideas.

Longevity is one thing, quality is another, and this is reflected in the range and diversity of projects featured by *Steel Profile*. In the early years architects who were interviewed rarely made reference to sustainability. It wasn't that they were ignorant of the issue, but rather most of this work was climate- and site-responsive before the topic became a best-seller. *Steel Profile* championed architecture that was calibrated to climate and place.

It also promoted talented young architects throughout the 1980s and '90s and post-2000. Many continued on to become industry

leaders and form award-winning practices – Max Pritchard, Kerry and Lindsay Clare, James Grose, Peter Elliott, Glenn Murcutt, Alec Tzannes, Bud Brannigan, Paul Frischknecht, Wood Marsh and Dale Jones-Evans, John Mainwaring, Ian Moore, Gabriel Poole, Troppo, Peter Stutchbury, Denton Corker Marshall, Ed Lippmann, Sean Godsell and Bark Design to name a few.

Steel Profile also kept a roving eye on international architecture. We travelled to Japan, Asia and North America to bring readers iconoclastic, steel-based designs that were so often spurned by the local and international design press. Largely ignored by an archly conservative local architecture media, the Los Angeles-based Ed Niles used bridge-building technology for the truly spaceage, stainless-steel clad Sidley Residence on Malibu's hilltops (Issue 55, 1996).













No less remarkable was the story of another Los Angeles architect, David Ming-Li Lowe (Issue 49, 1994), whose ingenuity set him on a collision course with regulators who rejected his base-isolator solution for dealing with seismic activity. Employing components as diverse as a steel panelling system developed for commercial refrigeration, translucent fibreglass panelling and tailored industrial components, Ming-Li Lowe created a house that regulators could barely figure out and less readily accept.

Thus prepared, his isolators – devices the size of twin-draw filing cabinets and designed to absorb ground movement – were located at each corner of his house. Ming-Li Lowe barely raised an eyebrow when the rest of the city was shaken by earthquakes in the early '90s. No less satisfying then for him when city officials came knocking to seek his advice on retro-fitting his base isolator design to their own City Hall.

- 13. Wright Residence (John Mainwaring), Issue 64
- 14. Sidley Residence (Ed Niles), Issue 5
- 15. Sean Godsell Residence, Issue 64
- 16. David Ming Li-Lowe Residence, Issue 4
- 17. Student Rec Centre, USC (Kerry and Lindsay Clare), Issue 64
- 18. Dunc Gray Velodrome (Paul Ryder & SJPH), Issue 70
- 19. John Mainwaring Residence, Issue 52



RAZOR BLADE













Other experiences resonate. BlueScope Steel's forerunner and Steel Profile sponsor, BHP Steel, sponsored a visit to Australia by the great British modernists Sir Norman Foster and Richard Rogers (prior to his knighthood) as part of the International Architects series. A press conference was arranged by the RAIA for Rogers, but this proved to be a mystifying flop. Only one member of the architecture, design or general media arrived -Steel Profile - and this resulted in a two-part magazine feature (Issues 35 & 36, 1991).

Lifestyle, sustainability and Euroappliances had yet to make a fully blown appearance at the end of our first decade. And that's no bad thing because, while plenty of junk continued to flow, there was also the stirrings for an architecture that looked beyond air conditioning for its answers.

Just as Australian architecture emerged with a new confidence



and prospects, so *Steel Profile* found its own voice. We struck a balance of observation, interpretation and informed opinion. Conversations with many of these architects revealed patterns about hope, humility and humour.

Steel Profile has nurtured relationships with architects and this has proved to be reciprocal. Every architect featured in the magazine has contributed ideas and energy, qualities that are the lifeblood of great structures and good publishing.

In the December 1994 issue we noted: "Fifty issues later a lot of architecture which might have slipped through the cracks and disappeared without trace has been seen and heard. In the process architects, some working alone and with little support, have acquired a confidence in their own vision and voice."

From its very first issue, the magazine has acquired a steady

rhythm and confidence. It continues to work with an expanding list of architects who see possibilities outside the square. One hundred issues on we keep looking for, and encountering, people who use steel in the most remarkable ways.

By the time of the Sydney Olympics, Australian architecture was already in full stride. The preparation of the '80s and '90s resulted in structures and stadia that radiated confidence and optimism. It is difficult to select winners but Paul Ryder and SJPH's relatively un-sung Dunc Gray Velodrome in Sydney's Bankstown (Issue 70, 2000) was remarkable, even among such a stellar field of steel work.

For the magazine's 60th issue Sydney architect, director of Bligh Voller Nield, and regular *Steel Profile* contributor by way of published work, James Grose, observed: "Of recent times an expression of architecture particular to Australia has emerged, one that



- 20. Wombarra Residence (James Grose), Issue 57
- 21. Olympic Archery Pavilion (Stutchbury and Pape), Issue 66
- 22. Rozak House (Troppo), Issue 78
- 23. Innovation Centre, USC (Bligh Voller Nield), Issue 80
- 24. Lake Weyba Residence (Gabriel and Elizabeth Poole), Issue 60
- 25. Glade House (Stutchbury and Pape), Issue 83
- 26. Bed Supperclub (Orbit Design Studio), Issue 92
- 27. New Challenger TAFE (Cox Howlett + Bailey Woodland), Issue 97

is not stylistic but rather tectonic – the tectonic expression of steel, whether in its taut, stretched profiles, or skeletal structural form. *Steel Profile* is a significant contributor to the marking of architecture in this country."

While it is true that wine writers may revel in the largesse of the complimentary dozen as a token of a wine-maker's appreciation, architectural critique and photography might appear far more sober, at times even tedious. And yet the great art of architecture offers delight without hangover. This is the way it should be as a life of immersion rather than of tentative experience. It's also a way of life for so many of our readers who have discovered steel and generously shared their ideas, energy and confidence throughout our 100 issues.

Peter Hyatt Founding editor/photographer 1981–2001

012

ProjectVictorian Space Science
Education CentreClientVictorian State Government and
Strathmore Secondary CollegeArchitectGregory Burgess ArchitectsBuilderADCO Constructions

FROM MARS

The Victorian Space Science Education Centre (VSSEC) at **Strathmore Secondary** College is only a **30-minute drive from** Melbourne, but in terms of architecture it's a galaxy away from the suburban typology. **Designed by Gregory Burgess Architects,** this building won the 2007 RAIA Victoria **Interior Architecture** and New Public Architecture Awards, and is a drawcard for local, national and international students.

The idea started in 1999 when Michael Pakakis, now director of the centre, took a group of students from Strathmore College to Space Camp in Alabama, USA. The concept then took shape with the assistance of college principal Ken Harbottle and program and finance director Phillip Spencer, who were concerned about a significant drop in the number of students studying mathematics, science and technology.

With the aim of generating a renewed level of interest from students, the VSSEC had to be considerably more than a box of tricks. "The architecture had to be as exciting as the experience of landing on Mars," says Spencer. "We approached the state government, and this was one of three innovation programs that proved successful."

While the experience of space travel was crucial to the brief, so too was the need to create a series of paths through the building to guide students on their scientific journey of discovery. "How the students flow through the building was critical, particularly as groups are usually broken in two – one exploring, the other investigating, and vice versa," says Spencer, who, with his colleagues, had to explain a mission that might have proved impossible for many architects.







At night a conglomerate of angles and finishes – including steel, concrete and glazed bricks – reveal themselves and help define the entrance to the centre.

Architectural steel innovation with BlueScope Steel number 100, april 2008



Centre (left) contains an unexpected star-shaped skylight (above left),









While impressive, the highlight for students is the adrenalin rush of simulating a trip to Mars.

The Mars Briefing Room, with its unusual wall and door, stitchwelded and made of steel, is one of the focal points of this room, and acts as the students' shuttle to space. Referred to as the 'pod', it is fully-lined with steel plates, and features a steel-domed ceiling.

While the excitement of studying science is evident from a visit to VSSEC, so is the pleasure of experiencing great architecture. Burgess has created a multifaceted building. Skylights, as well as walls, have been crafted into unexpected shapes. The steel balustrades and handrails are angled to reflect the geometry of the concrete dome, while triangular-shaped concrete pillars appear to support the structure, each strengthened with steel.

"Concrete exudes a certain stillness, but steel adds a sense of movement and elegance to the finish," says Burgess, who selected many of the interior materials for their un-earthly qualities – polycarbonates for their honeycomb patterns, and vinyl and rubber for their rich colour palette.

While the exposed site, surrounded by traffic, was a major constraint, so too were the soil conditions. "The soil here is extremely poor;







it consists of clay and old land fill," says Burgess, who was keen to design something out of this world. "The design is like the birth of a nebula. It's supposed to have that same energy, directed at giving birth to a new generation of careers in science."

In the words of the RAIA jurors: "The space science centre is a wonderful initiative, and one of those rare projects that captures the imaginations of people of all generations. The architects have designed a project that responds to every aspect of the brief by creating a building that is full of wonder, surprise and above-all, theatre."

Stephen Crafti

Client

Victorian State Government and Strathmore Secondary College

Architect Gregory Burgess Architects

Project team Gregory Burgess (design architect), David Tweedie &

Architect), David Tweedle & Christopher Clinton (project architects), Thomas Kinloch, Andre Konarski, Kate Douglas, Katja Nikolajuk, Sydney Pilcer, Chris Rodda, Ben Josef, Claire Humphreys, Wendy Li, Lajla Mostic, Matt Williams

Builder

ADCO Constructions

Project manager Tony Stone (ADCO Constructions)

Structural consultant PJ Yttrup & Associates

Landscape architects Taylor Cullity Lethlean

Principal steel components

COLORBOND[®] Metallic Steel in SPANDEK[®] profile (wall cladding); COLORBOND[®] steel in the colour Shale Grey[™] (roof cladding)

Size

Ground floor: 907 square metres First floor: 286 square metres

Cost

\$6.4 million (includes expensive technological equipment)

Photography

Paul Bradshaw

018

Project Client Architect Builder

Dominic College Chapel Dominic College Forward Brianese + Partners Cordwell Lane

IMMACULATE CONCEPTION

When real estate agents talk about "harbour glimpses" or "mountain vistas" you know that/ actually means standing on tip-toe and craning your neck... and seeing none of what's promised. At Dominic College Chapel in Glenorchy, Tasmania, you get much more than a glimpse. You get an ever-changing, slowly-drink-it-all-in view of Mount Wellington and all its moods.

The 1270-metre lush green peak lies to the south-east of the chapel, perfectly framed in the chapel's Tasmanian Oak-trimmed steel-framed doors that act like a modern-day stained glass window. History tells us such windows were first used to teach stories from the bible to the illiterate. Here, however, they are teaching the far more literate occupants to look, appreciate and learn again.

Mount Wellington has a protective quality, offering a reassuring presence to the chapel that it won't suffer the same fate as its predecessor and be comprehensively destroyed by arson.

The only item that survived the blaze was the tabernacle on the altar.

Once the shock of the fire had passed, so began the healing and rebuilding process, which involved the school, its students and local community (for which the chapel had been a focal point), insurance assessors, past pupils, Glenorchy City Council... If ever there was a collaborative project, this is it.

Elvio Brianese, director of Tasmanian-based architects Forward Brianese + Partners, was the man charged with coercing and cajoling these different groups. A thankless task, you might think, but one he felt obliged to embrace as a past student at the school.

"During the project I used to joke with Father Papworth, the college rector and former Principal, that he was spending as much time in my office as I once did in his,"

"But when the chapel burnt down, it was like the soul of the school had been removed, and we felt compelled to help out. We empathised with

Site selection was key to this project, not least to make use of the fine views. But the chapel also had to work with the physicality of the multi-levelled site and coexist with existing school buildings. Walking up to the chapel, you can see that this has been successful - its roof line gently mirrors that of the existing dormitory block in a dovelike outline. A symbolic gesture from a symbolic building, perhaps?

The chapel's striking and purposeful entry confirm that this is no ordinary, runmill place of wors

says Brianese.

the situation because Catholic schools don't have a lot of money, so anything that happens comes from monetary donations – there's a lot of community ownership in their buildings."



The proposed multi-functioned nature of the chapel also helped dictate its design. There are four internal scenarios: a small chapel for quiet reflection, tucked into the front corner of the building and delineated by an internal steel-framed door; the main enclosed seating area for 300 students; an intimate external landscaped amphitheatre; and an option to cater for 1000 people when perimeter sliding doors are opened to allow access to the school quadrangle.

With such a wide-ranging brief, Forward Brianese + Partners used a cranked steel-frame design to maximise the internal space by keeping it free of columns. This also enabled the use of a falling-height glazed wall behind the altar to take in the view of the mountain.

Most people's idea of a chapel would be an enclosed space, with a single central thoroughfare, pews either side, and the altar up front. By using this cranked steel frame, however, 12 metres of unsupported spans allowed an unimpeded internal space to evolve.

The community ownership of the chapel during the design stage was also a crucial factor in steel being chosen as the primary construction material. Where the various stakeholders may have envisaged brick, timber and cement sheeting as key materials, the flexibility and durability of steel meant it was the only material that could meet the physical and form-making criteria.

"The chapel needed to be a steel building," says Brianese. "The clear spans, the ability to crank, bend and fold the building in the way we wanted to – there was no other affordable material that could do it."

Forward Brianese + Partners worked in unison with local companies to ensure the framework would do the job. "It was the most complicated project we have undertaken in 30 years because of its unusual shape," admits Phil Hartley of Structural and Metal Fabrications in Hobart.

Scott Cordwell of builders Cordwell Lane agrees: "Each of the 500 sections of steel for the frame had its own individual drawing showing its required length, width, depth and angle. These were then fixed together on site."

This initial steelwork was the most complicated, crucial component because the nature of the building made it so difficult – the twisting and cranking to get the levels right and utilise the angles of the mountain, and the complexity of manipulating the steel.

"An important aspect about steel is that it is a precise material," explains Brianese. "The tolerances you can get down to, the accuracy, the beauty of steelwork as a skeleton – it's almost a pity we had to clad the building."





Using steel meant the external skin of the building could be 'twisted' to mirror the landscape (below); Mount Wellington (opposite) provides a dynamic backdrop to the chapel.



Clad it they did, however, and the result is stunning. The roll-forming was done off-site, the cladding a simple skin of LYSAGHT SPANDEK[®] made from COLORBOND[®] steel in the colour of Shale Grey™, off-set with stained timber panels and glass.

Inside, Tasmanian Oak trim abounds, giving a warm, light and natural feel far beyond the sometimes cold, dark and oppressive interiors of many churches. It is unexpectedly multi-levelled, and user-friendly, which adds another dimension to the general perception of what a church should look like.

As with all public buildings, getting the acoustics right was paramount – it had to work effectively whether it was one person singing or 1000. This was where Forward Brianese + Partners' experience again came to the fore.

"Are restaurants in which you can't hear the person on the other side of the table successful buildings?" asks Brianese.

The chapel coexists happily with the school's original buildings (above), while maximising audience interaction is achieved by sliding back the perimeter doors (below).



"No, of course not; 'funky', maybe, but not successful. The first project I ever worked on was the University of Tasmania's Conservatorium of Music in Hobart, so experience helps dictate how you approach acoustics.

"The cranking form and materials selected for the building enable sound to resonate and to be absorbed where required. The acoustic properties designed are all-encompassing; it suits a single person to a full choir and congregation."

Experience also dictated the path taken with sustainability. To that end, a series of vents at the top end of the building that are opened via steel cables to let air flow through nullify the need for air-conditioning. A void underneath the building is used for storage but also sucks cool air into the building via ground-level vents.

The lightweight cladding made from COLORBOND® steel cools rapidly after the sun goes down, and as it is combined with a layer of thermal wool insulation, it means the chapel remains at a constant temperature, whatever the time of year.

Ecoply and enviroglass with a UV laminate add to the sustainable materials palette, while a polished concrete floor with selected coloured acrylic – a poor cousin of the granites and marbles used in cathedrals – offers a hard-wearing yet dynamic-looking material to cope with all the foot traffic.

"Sustainability has become a fashionable catchphrase – but what does that actually mean?" asks Brianese. "This building lives and breathes, it can be tweaked to maximise a passive environment. Materials were selected carefully to minimise the carbon footprint. This is sustainability without shouting it out."

As with many architectural designs, it's not always the end result that inspires, but the journey that takes you there. Aside from its community-driven design process, what also stands out about Dominic College Chapel is its budget. Just \$900,000, made up from the fire insurance and donations, was all it took to create this building. It's an amazingly frugal sum considering the size, fit-out and three-year timescale of the project.

"In Tasmania projects with large budgets are rare, so we have to be Falling-height windows (above) drink in the views of Mount Wellington; note the double aspect to better utilise light and generate airflow.



into the building; a smaller chapel (below) can be created by moving vast internal doors.









Client

Architect

Design team

Structural engineer Gandy and Roberts

Builder

Steel fabricator Services Tasmanian Building Services

Tasmanian Building Ser Cladding contractor

Principal steel components

1500 square metres

Photography Paul Bradshaw



Project

Architect

Builder

Chancellery Building, University of the Sunshine Coast Kerry and Lindsay Clare, Architectus Sydney Evans Harch

MASTERS IN EXCELLENCE

The University of the Sunshine Coast (USC) may appear an unlikely combination of sublime climate, hedonism and academia, but this campus is proof that it's possible to take great pleasure in learning.



Former Queenslanders Kerry and Lindsay Clare, now of Architectus Sydney, designed one of the USC's first and best buildings, the Student Recreation Centre, in 1997. The Clares' design of the Chancellery Building is a further example of an institution that demonstrates how to get smart.

Universities should be knowledge condensers and dispensers, but many fall well short as exemplars of intelligent planning and design. This failure by example means firsttime visitors to such institutions would do well to demand detailed maps or GPS devices to help them locate the precise wing of the lab, theatre or office that must be found in a hurry. More 'maze' than 'amazing', the typical campus is every bit the magical mystery tour.

There's simply no excuse for the abstraction and confusion that bedevils many tertiary institutions. Too many resemble the shifting, Escher-like perspectives that disorientate undergraduates of Hogwart's School of Witchcraft and Wizardry. If a complex algebraic formula can be easily deciphered and made elegant, so too can university planning and architecture. In this regard simple is often mistaken as simplistic.



The design whispers modernity with its clean, horizontal lines; more organic than sexy, it is a response to light and life.

Albert Einstein was a champion of such simplicity. He noted that it helped him make some order of and to better comprehend chaos. "Any intelligent fool can make things bigger, more complex and more violent. It takes a touch of genius - and a lot of courage - to move in the opposite direction."

The Clares' was one of the first practices to contribute to the campus with the student recreation centre - an interplay of lightweight steel and timber that went from go to whoa in a blistering 18 weeks to provide one of the coolest student meeting points.

The USC signalled its intentions from the outset for a real design difference. When it was envisaged, the intersection of sky and remnant rainforest must have sent tingles down the spines of chancellery staff who imagined a campus less ponderous and maze-like, and much more light-filled and open to the potential of its place.

(below) Steel 'eyelids' help

minimise the sun's impact

inside the building.

A university's architecture can hardly be overstated. It defines a cultural intelligence no less important than any academic claims. The decision to appoint architects fit for the task more than a decade ago was made easier by the fact that one of the best firms was already nearby, as Kerry and Lindsay Clare were at that time based around the corner at Buderim Mountain.

Schooled in modest means and stretched to deliver big value, the student recreation building has been overshadowed by other buildings with more gravitas, but this elegant pavilion remains a particular gem. Its assembly is sophisticated, and yet so simple in section. Its broad, slender steel, wing-like roof planes deal with climatic extremes, while a filleted interior effortlessly draws in breeze and light.

One of the temptations of architecture is to outdo your neighbour. One of the best campus buildings is the internationally recognised library designed by John Mainwaring and Lawrence Nield - coincidentally another steel-clad structure. Rather than produce conflict, the Chancellery exhibits a design calm and restraint and, in the process, achieves a parallel strength.

Epicentre of a burgeoning population at Sippy Downs on the Sunshine Coast, USC student numbers are around 5000 and swelling. The Chancellery completes the main quadrangle plan, although the eastern and western 'ends' remain open for future development. From the main street elevation the building appears as a stretched, silver-skinned box. Fenestration is restrained and confined with a series of steel blades acting as 'eyelids' on the windows to moderate solar gain.

As a consequence, glazing is modest along this elevation which links predominantly to tutorial rooms and academic staff offices. Cladding made from ZINCALUME® steel provides a polished, monochromatic form, edged by lush lawns on the public northern and more private cloister side. The Chancellery's north/south axis follows the bigger

campus plan, and permits the best balance of building volume, daylight and breezeways. One of the more subtle virtues of a ZINCALUME® steel skin that diffuses reflected light is the absence of sun glare, and yet the surface remains lively at all times of the day.

At first glance the Clares' design might be dismissed as too rigorous, disciplined or unimaginative. But this would be a severely simplistic assessment. The truth is that organic relationships in architecture are not axiomatic with sexy, curvilinear forms, and that green is much less a colour than a commitment. Organic can also be a response to light and life – and this building floods with both. It has a strong organisational clarity to its plan and this obviously assists with its real, rather than random, purpose.

There has also been a conscious decision to retain a simple colour and material palette rather than the cliché of 'sub-tropical moderne'. The device of colour and graphic is used extensively as visual stimuli in such places as shopping centres and crèches to suggest happy times. The Chancellery is altogether more thoughtful in this regard, preferring to allow its lofty (but always approachable) volumes, natural materials and daylight to do the talking. There is much less razzle-dazzle than a sense of continuity and connection.

Further evidence of this can be seen in the extensive and direct use of timber, steel and concrete which, when combined, seems to express an appealing patina of the type more associated with the long-established, silvery hue of mature structures. The upper level internal walls, for example, that employ COLORBOND® steel in MINI ORB® profile are part of the lustre walls that re-direct daylight through narrow voids to the building's lower floors.

This understanding of the contrast of materials and their capacity to absorb or re-radiate daylight is a large part of the architecture. Student study and breakout areas,





Architectural steel innovation with BlueScope Steel number 100, april 2008

Airy walkways (top) lead to a centrally-located plaza (above) edged by mezzanine levels, open corridors and admin areas, which allow the entire area to act as a communal space.

for instance, feature the subdued, chocolate tones of stained timber, while circulation areas are emphasised by crisp, light reflective surfaces.

It draws much of its illumination through the rectangular light boxes that line the roof made from COLORBOND® steel on the 'inward' or south plane. These run at right-angles to the building axis and inject sheets of diffused, velvety light deep into the building. Considering the alternatives of cheap plastic skylights, or worse, industrial high-intensity discharge lamps, the effect is almost transcendent.

There is a strong organic relationship where an institution steps quietly rather than stamping its place. The benefit of such a light, open and horizontal hierarchy produces a real fluency between the built and the natural. Internal space fragments and dissolves

as the eye is drawn towards the clerestories and upper internal decks with what parallels the upper branches of a tree.

Institutional buildings are often so rehearsed and prescriptive that there are few opportunities for coincidental, random experience. This cultural obligation of architecture to create wider opportunity is reinforced through an engaging and most appealing amenity. This is illustrated by

the open-plan tutorial rooms that bring student life to an expansive, upper deck. It's a place to cluster and circulate, see and be seen.

Being less tested by temperature oscillations, the south elevation is far more open to the elements and site. The ceremonial loggia and colonnade leads past student union offices denoted by bristling vertical timbers, the huge spatial excavation of the building 'core' and the timber-battened veil that provides glimpsed views from and into the 250-seat lecture theatre.

The sustainable qualities of USC are implicit rather than explicit. They are neither bolted on nor conveyed by brash pronouncements. Such a kindred spirit for place promotes a fraternity between students, and in this unusual instance, creates quite

a magical connection with wildlife. Eastern Grey kangaroos have been a feature of the campus since its opening in 1996.

The effect of Environmentally Sustainable Design (ESD) principles is to contribute to substantially reduced running and maintenance costs. Offices and tutorial spaces use 'mixed mode' cooling and can operate without air conditioning for most of the year. Separate switching for each space eliminates unnecessary energy use. The lecture theatre is cooled by a displacement air system.

The building also allowed the relocation of vice-chancellor, deputy and pro vice-chancellor and council meeting rooms into the mid-level, within the colonnade zone. Here the interior architecture features

a rich timber palette across floors, walls, doors and ceiling. Floorto-ceiling strip lights add to the sophisticated ambience.

With 14 tutorial rooms, 40 academic offices, 600 square metres of student services, lecture theatre, cafe, boardroom and meeting rooms, the project packs plenty of functions and services.

Viewed from the university streetfront, it presents as a gleaming metallic shell. Beyond the bristling louvres, screens and projections, there is the hint of real dynamics. This is a building that springs to life and seizes its Arcadian opportunity of lush green cloister, climate, students and wildlife. In all, it's a work of high distinction.

Peter Hyatt

Project

Chancellery Building, University of the Sunshine Coast, Sippy Downs

Architects

Lindsay and Kerry Clare, Architectus Sydney

Structural engineer Taylor Thomson & Witting

Steel fabricator Qantech

Builder Evans Harch

Principal steel cladding

COLORBOND[®] steel (roof); ZINCALUME® steel in CUSTOM ORB®, MINI ORB® and SPANDEK® profiles (northern elevation); ZINCALUME® steel in MINI ORB® profile (internal cladding)

Floor area

4600 square metres

Cost \$12.5 million

Photography Peter Hyatt

ProjectThuringowa Riverway Arts
Centre and LagoonClientThuringowa City CouncilArchitectTim Morgan,
Cox Rayner ArchitectsBuilderWatpac Australia

TROPICAL CENTREPIECE

The dramatically shaped Thuringowa Riverway Arts Centre and Lagoon appears to emerge like a praying mantis from the landscape it occupies. In 2002, the City of Thuringowa set plans in motion to create a new community hub that would distinguish it from neighbouring Townsville, about 30 minutes' drive to the east. In the first instance, the City conducted a design competition to masterplan four sites across the municipality, which preceded a second design competition for the building of a cultural centre and lagoon in Pioneer Park, fronting the Ross River. Brisbane's Cox Rayner Architects won both projects and Tim Morgan oversaw the project from its inception until completion in June 2006.

"At that time, Thuringowa had no centre – its main commercial activities were concentrated in two shopping centres," Morgan says. "The City wanted to create a statement that was completely different to Townsville, and its vision was driven by sustainability objectives and green initiatives."

Cox Rayner's winning masterplan outlined five goals for the series of projects that extend across four sites along the Ross River. These included: attracting worldwide attention and recognition; achieving environmental, social and economic sustainability; obtaining community acceptance for the new works; facilitating economic development outcomes, including increased employment; and transforming the city's image and amenity.

The site for the cultural centre and lagoon was the second stage to be developed, after tenants in Pioneer Park were relocated to new facilities (also designed by Cox Rayner) on nearby Loam Island. The park still accommodates sporting facilities, including Australian Rules football and cricket clubs, but the riverfront has been totally transformed by the new building.

"We wanted to create a new city centre not by building, but by creating a park where the buildings evolve out of the landscape," Morgan says. "We thought it would be more distinctive to make an iconic landscape from which building form emerged rather than plonking something strange on it."

Under the masterplan, Pioneer Park was divided into eight areas, including sporting, recreational, cultural, commercial and residential, with a new civic spine that has become the main street of Thuringowa.

"By incorporating different precincts, it was possible to transform an area that had formerly been a dustbowl into one with

The architect's 'land art' concept (top) is seen in the seamless transition between built and land forms; Evo Active Centre (above) houses interactive displays on sustainable technologies. many different facets of activity, and to introduce undulations and view-points to make it an active, useable park," Morgan explains.

The showpiece of the revitalised park is undoubtedly the Riverway Arts Centre and Lagoon, which is tailored to occupy a space within a dense forest of indigenous Rain Trees. "The overwhelming character of the park is generated by those Rain Trees. Instead of the building and lagoon competing with them, we decided to let them determine siting and forms of the project.

"We were also able to take advantage of the undulating topography by sinking the lagoon's change rooms into a swale, so that only public spaces appear to be above the landscape."

These considerations led Cox Rayner to extend notions of landscape integration into a wider concept of 'land art' which could govern and unify other buildings to come in the Riverway project. "The land art concept entailed that in each building the designer would look for ways to blur the boundaries between built form and land form. For the Arts Centre and Lagoon there are two major techniques – at one end, rolling the ground plane up over the roof and, at the other, interlocking the lagoons with the arts venues."

The front of the cultural centre opens up so that it can interact with the lagoon, and either section can serve as performance or audience space. Films or presentations can be projected onto screens in the foyer or situated on the decks in the lagoon, with the audience seated inside on traditional-style seating, or alternatively, on seats placed in the water itself, depending on the weather and the event organiser's preference.

"In this way, the recreation facility becomes educational, by introducing the cultural centre into the lagoon, and vice versa, so that leisure and culture become the same thing," Morgan says.

The same flexibility is found inside the cultural centre, where the 'black box' performance space can be configured in traditional thrust theatre-style or theatre in the round, while the retractable seating can be removed for formal dinners, or expanded to fill the space for conference-style events.

The gallery spaces host the City's art collection, which was relocated from the civic centre, and can also accommodate a broad range of art exhibitions in inherently flexible configurations. "We've installed A-grade air conditioning for travelling exhibitions and the walls are constructed in a way that means they can be drilled, painted and resurfaced. There are flexible electrical services, and the floor is off-form concrete so that you can put dirt or sound down if the art demands it," Morgan says. "It's a very flexible space for the exhibition of artwork that responds to the diversity of modern art exhibits."

The building's tenancies are equally adaptable: shared communal facilities such as bathrooms and catering areas encourage cross-fertilisation of ideas and social interaction between the theatre and youth groups that occupy the building.

Meanwhile, the commercially operated restaurant which overlooks

the lagoon also provides catering facilities for events that take place in the cultural centre, negating the need for a second kitchen to serve the building's users.

At the rear of the centre, an outdoor amphitheatre occupies the slope that leads down to the river, with the stage nestled between two Rain Trees and audience seating on the (top and above) The location of the buildings was dictated by the forest of Rain Trees; the centre's steel roof and lagoons were designed to look enticing, specifically for those coming in to land at nearby Townsville airport.

(above) If the exterior is all about dynamic roofscapes and merging built and natural forms, the interior is about effective multi-use space.

grass. This adds yet another option to the centre's range of performance spaces. From this location, visitors gain a sense of the extent to which the building is integrated into the site, as the green roof merges with its steel counterpart.

"The green roof protects the performance practice spaces from heat, and creates the outdoor amphitheatre," Morgan says. "The sculptural form of the combined green and steel roof is the main feature of the building. The building's key concept is about a roof coming out of the ground."

That was very deliberate on the part of the architects, Morgan adds. "The building is on the main flight path into Townsville so we wanted to create a 'roofscape' that was dynamic and free of any services. It was essential to have a completely clear steel roof that would be read as a shape sitting on the ground, with the river and ground surrounding it.

"We wanted people to see the building from the air, wonder what was going on down there, and be curious to visit the place. Sometimes subtlety has a greater impact than making iconic buildings," Morgan explains. "That meant we had to think about the building's appearance from all possible views, including bird's-eye."

As a result, all the services are contained above the entry foyer to keep the roof clear of intrusions.

"We specified Fielders HiKlip® made from COLORBOND® steel because it gave us flexibility to

roll-form sheets to any length, and allowed us to design a gradually sloping roof without expansion joints," Morgan says. "The roof folds down to create the walls that meet the landscape.

"To enable us to do this, we removed all gutters, and instead developed a system where we use a flashing on top of the roof to capture rainwater and transport it to the ground, where it is handled by the landscape.

"In the event of a large downpour - which is the way rain commonly falls in the tropics – water is diverted over large rocky swales into the river."

For projects such as this, where the architects are expected to do more with less, Morgan prefers to devise innovative ways to use standard materials, rather than experimenting with new and possibly unproven building products.

"Shaping landforms is a relatively inexpensive undertaking," says Morgan. "But so too is utilising readily available materials like the roof sheeting. We often get more of a buzz out of inventing new ways of crafting commonplace materials than introducing new, unproven ones."

The success of that approach, and the design, is demonstrated in the community's acceptance of the project, with visitation numbers dramatically exceeding expectations. From a population base of 60,000 in Thuringowa, the precinct attracted 340,000 visitations to the lagoon, and 217 events at the Arts Centre in the first six months of operation.

It has also garnered local, national and international recognition, winning the 2007 RAIA National Award for Urban Design, 2007 Queensland RAIA COLORBOND® Steel Award, and the World Waterfront Centre Urban Design Award for 2007 in Boston.

As Morgan aptly recalls: "Pioneer Park used to be a dustbowl with an AFL oval and a few Besser block buildings, but it's now a hub and centre for Thuringowa."

Rachael Bernstone

Client Thuringowa City Council Architect

Tim Morgan, Cox Rayner Architects

Project managers Resource Coordination Partnership

Landscape architects Gamble McKinnon Green

Quantity surveyors Rider Levett Bucknall

Structural engineer GHD Townsville

Builder Watpac Australia

Steel fabricator Norfab

Principal steel components Fielders HiKlip[®] 630 made from COLORBOND[®] steel in the colour of Ironstone® (roof and wall cladding and flashings)

Building size 4345 square metres

Photography Paul Bradshaw

Project

Architect Builder

Walsh House, Kangaroo Valley, New South Wales Glenn Murcutt Tony Lake Construction

PERFECT PITCH

Despite international fame and reputation, **Glenn Murcutt's** existence is much less the life of rock star than one of monastic simplicity. The residential designs for which he is famous are rigorous, even austere, yet peerless in relationship to place.

Murcutt's drive and self-discipline is reflected in design work notable for its robust delicacy. Burnished into their settings with a jeweller's eye, Murcutt's distilled steel-clad houses in the city and bush have given him international celebrity. Yet for all of this, he is frequently embroiled with suburban councils keen to maintain old habits and the status quo.

His latest project, Walsh House in New South Wales' Kangaroo Valley, is typically anti-status. In an age of the design posture, it is a beguiling example of architecture with a principal aim of tranquillity and serenity. Ironically, the calm resolve of his work can hardly be claimed of his working life.

A new Murcutt project is much like a new David Malouf novel. Peter Sculthorp musical composition or Peter Weir film. His work has such a strong narrative that, despite its usually modest dimensions, it ends up as an epic. When there is a problem, and architecture is really just a sequence of problems requiring solutions, he arrives like the white knight in lightweight, fully operable armour. Corner him in suburbia and he does it all again, generating the most with the least.

There is probably a general perception that architecture is easy now given his unstoppable

success with so many of world architecture's major prizes. One would imagine this should give him the necessary gravitas and design 'credits' and free him of justifying his actions to the planning appeals court. But there is no such 'get out of jail' card for Murcutt to play. In fact, he is about to head back to court once again, and it makes him furious.

"In dealing with the environment you're going to produce a different

sort of building than the one we understand is a box," he says. "Here I am, nearly 72, and still having to fight with authorities."

For an architect who has influenced contemporary architecture around the world, it galls him to explain, defend and justify. "So far 12 out of 13 court disputes have been on my side, so I guess that says something."

It's easy to forget his international recognition. What began with Finland's Alvar Aalto medal in 1992 opened the floodgates, with awards including architecture's answer to the Nobel Prize, The Pritzker, North America's Thomas Jefferson Medal, Richard Neutra Award, and Denmark's Green Pin Award for Architecture and Ecology.

His work has so seeped into the nation's collective design consciousness that when a new project is realised, it no longer has quite the same surprise value. After all, it was only a few decades ago that a steel-clad house was regarded as a down-market move.

But such days are gone. Murcutt could have used guard dogs to keep at bay the stream of highprofile clients who have persisted and demanded his services. Invariably he has resorted to his streamlined, sleek steel shells that alternately gleam and dissolve into their bush settings.

Kangaroo Valley has a mythical, almost utopian ring. It suggests a time of pre-history, certainly well before white settlement, when Aborigines and wildlife coexisted in a fine ecological balance. It is a place that deserves the lightest possible footprint. When Glenn Murcutt works in such a place, the results inevitably realise the possibilities. He teases, coaxes and squeezes the maximum from the circumstance.

"Kangaroo Valley is a very difficult environment because the design discipline has to be self-imposed. The greater the number of constraints there are the easier it is. Here there is a pretty clean slate, and the last thing you want to do is ruin it."

One architect dismissed Murcutt's work by saying: "Anybody can build pretty houses on the hillside." To which Murcutt replied: "I haven't seen that architect build a pretty house in his whole career. Building in the landscape is much more complicated than most people understand."

Walsh House typifies his view of green architecture. "One of the real problems is that you can produce green buildings but you don't necessarily produce green architecture. First and foremost it must be architecture. It can't be some ad hoc, horrible added-extra."

So successful is his architecture that his principles have been absorbed into the local and international vernacular, and widely imitated. The resistance to a bush block villa designed with a floating steel skin, once an anathema to a public groomed on the bluster of brick and tile, has all but evaporated.

Walsh House is every bit the modernist ideal of lightweight steel pavilion atop a grassy knoll. Almost too simple, with its distilled restraint and direct design language, there is the familiar kicked-up roof made from corrugated steel that functions just like a bushman's broad-rimmed hat. Its economy of line, spare composition and ordered materials and form create a taut, fully three-dimensional experience. In a Murcutt design, the composition and scale of elements - from the width of timbers, size of glazing through to external blinds and the now almost trademark steel shell – work together as a complete compositional force.

"When I first used corrugated steel on the Kempsey Farmhouse

(above) Murcutt says that steel allows for a "systematic" way of building; note the trademark design cues of a kicked-up roof and external blinds.

Murcutt (above) as he appeared in Issue 15 of Steel Profile in March 1986. In the following years his designs have been carefully honed and refined.

in 1974, I was able to achieve certain aerodynamic responses by bending and curving steel. That was the first time I really understood how it could transcend the more typical use for sheds and water tanks. By the time I arrived at designing the Bingi House in 1983, I better understood steel's fantastic potential to modify air flow through positive and negative pressure across inner and outer surfaces."

At Walsh House he also uses reverse construction, placing flat sheet and timber boarding on the outside backed by the insulated thermal mass of concrete on the inside to achieve optimum winter warmth and summer cool. "That sclerophyll skin on the outside with mass on the inside is a very logical way to produce buildings in the climate from temperate down to cool-temperate. Even with a little extra weight on the inside, the effect is a house of supreme slenderness.

"I love that bone-like quality of steel; that thin, shell-like aspect provides a really satisfying economy of means. I dislike the lead balloon attitude to building. Many of our houses use steel as shelter to

allow the rest of the house to be fabricated and constructed. The steel frame and cladding becomes a frame of reference for everything else. If the steelwork is accurate you don't get mistakes, but rather a very systematic way of building.

"Architecture in the rural environment has special obligations," he argues. "It isn't just a matter of lifting something that works in one place and putting it somewhere else. You really need to understand the importance of ventilation, collection of water and transfer of light and air. These are all heightened in the rural environment. To produce a suburban building in this sort of place is madness and carries real costs."

"These are ways that I'm able to convey an attitude rather than a way of how to do things," he says, keen to highlight: "The important distinction between thinking in a certain way, rather than doing something a certain way."

Those with the gift make such design appear quite effortless, yet the results speak of a lifetime's observation, experience and learning. Here, in the deep, quiet twilight of Kangaroo Valley is a fashion-resistant wafer of steel and glass. It resonates with the technique and poetics in the best spirit of such a place.

Peter Hyatt

Project Walsh House, Kangaroo Valley, NSW Architect

> Glenn Murcutt Builder

Tony Lake Construction Landscape architect

Sue Barnsley Design Engineer

James Taylor Size

House/car - 170 square metres Veranda - 30 square metres

Photography Anthony Browell

