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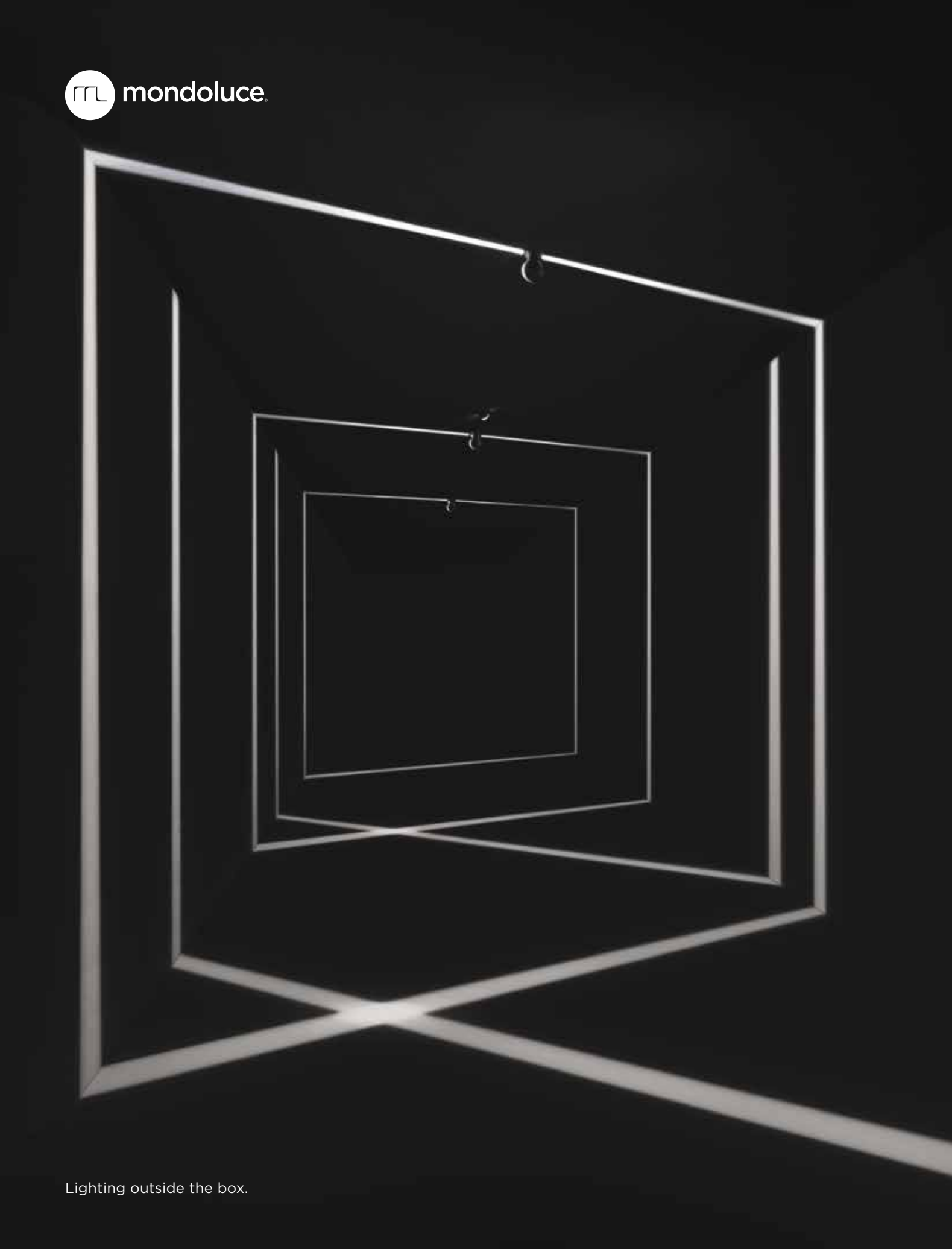

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The Official Journal of the Australian
Institute of Architects: WA Chapter

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editors' message

Fiona Giles and **Robyn Creagh**

Flexibility is a topic that will soon be close to my heart. Robyn has kindly indulged me with the opportunity of an autobiographical editorial: As I write this I am days away from having my first child. I am expecting chaos will come into my previously highly scheduled life, a change that no doubt will be vast and totally consuming. I am lucky to have a fabulous network including an equal partner and supportive employer so I hope to sustain my architecture career in the years that follow, using a new flexible attitude. It has to be possible!

For me achieving flexible practice is to enable commitment to family, combined with the joys of architectural problem solving and providing well designed buildings to the wider community. We are living in a technological world where with good communication this should be possible. For most problems, even those from site, usually the solution can wait a day. But there are still many nay-sayers in the architectural profession. I urge them to consider that flexibility will be how we sustain our profession moving forward.

We know from Parlour's research, the 'half-life' of women in architecture shows that our profession has a problem. The drop off in participation begins in the 30s, an age when people are often taking on family

commitments. Whether it be taking on a caring role or frustrations of being overlooked and unheard, in the interest of sustaining the profession shouldn't we all be working hard to keep talent within architecture?

Family-focussed bias aside, flexibility in practice can benefit non-parents too: igniting a project that has been in the wings for too long, taking more long walks on the beach, or just to shake things up a little – go study and learn something new then come back to the office with renewed vigour! Employers would benefit from this attitude, with happier staff and new ideas.

Alongside flexible practice we can also think about the varied skills architects have – the flexible profession we see in passion projects, side-hustles and private jobs. Architects contribute to their communities in numerous ways, be it supporting students, creating art, research, enquiry and applying design skills in new arenas.

Buildings and places themselves can be flexible by design or through use. In these pages we explore multi-use spaces, designed future repurpose-ability, spaces that make sense in different ways at different times and to different people, we find that flexibility extends even down to material selection.

This issue aims to explore the way the profession can be flexible – whether through different modes of working or our interaction with community and built environment professionals. The stories we've included in this edition hopefully reflect this: a flexible profession and a flexible practice.

Our mission taking over the editorship was to ensure a diversity of voice and content within the magazine. We continue to check on author gender balance. We are also pleased to welcome authors from other disciplines to provide their take on Perth's built environment. As ever, if you have something to say or know someone who would make a great contribution to The Architect please get in touch.

Thanks to our amazing collaborators, the editorial committee and contributors. ■

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PRODUCT OF THE YEAR

SPASA VICTORIA Awards of Excellence 2018 GOLD AWARD
SUSTAINABLE PRODUCT

PRODUCT OF THE YEAR 2018
PRODUCT OF THE YEAR

ONE FOOTPRINT, TWO SOLUTIONS

A HYBRID PANEL THAT SIMULTANEOUSLY PRODUCES ELECTRICITY AND HEATED WATER

Architecture is constantly evolving based on changes to our culture, society and the environment.

Consumers now look for unique and eco-friendly homes, incorporating solar design and efficiency, whilst enjoying the luxuries of life. In a world where space can be a constraint, the ability to consolidate energy generation sources is vital.

Commercial clients also seek new and innovative solutions to reduce the costs of water heating, whilst still utilising the benefits of renewable solar energy to power to their operations.

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wa chapter president's message

Author **Suzanne Hunt**

I'm thrilled to once again welcome you to The Architect, which this time focusses on Flexibility. In the age of digital disruption, it pays to be flexible and adaptable while holding true to the skills and knowledge we as architects draw upon to help tackle some of the most challenging problems of our age, including population growth and climate change resilience.

The importance of design and design-thinking will only increase as our cities and towns grapple with these challenges. Perhaps more than our counterparts in the eastern states, we are used to operating in boom-and-bust economic cycles, and while some architects have been having a difficult time in the recent local downturn, I'm still seeing plenty of innovative and creative proposals and projects emerging, which gives me confidence about the future of our profession.

This year's Awards program – the Institute's major public-facing activity – provided a fantastic showcase, and we turned up our public engagement by holding the awards exhibition at Garden City Shopping Centre for the first time and inserting our first ever paid supplement into The West Australian. These initiatives, along with our regular newspaper columns, are part of our ambition to inform the public that architects and architecture are relevant to their daily lives. We all live in a built environment – whether well-designed or not – and architects are ready, willing and able to take on the significant challenges that lie ahead.

Many of the projects featured in this issue were honoured at our State Awards, and at the national level we were delighted that Highgate Primary School, Cadogan Song School, Optus Stadium and Cottesloe Lobby and Landscape were recognised for their outstanding quality. This year's array of projects is indicative of the innate flexibility of WA architects: More than any other chapter in Australia, our members are called upon to demonstrate innovative and flexible approaches and a willingness to deliver good design, regardless of project location or scale.

I'm also pleased to let you know – if you hadn't heard already – that we've collectively been successful in elevating the standard of design for new medium and high-density housing. After a slight hiccup mid-year, we've been assured by Planning Minister Rita Saffioti's office that the first stage of Design WA – the Apartment Design Policy – is expected to be embedded in our state planning system early in 2019.

It will be followed by the Precinct Design and Medium Density Design Policies, and together these will provide a new benchmark for future development in Perth. Within this framework, architects will be best-placed to demonstrate how creative design-thinking can deliver clever and sustainable solutions.

The Institute will continue to work with government to ensure that architects are represented on the key bodies overseeing these developments, including Infrastructure Western Australia and the Metronet Private Sector Reference Group.

Flexibility is an important goal in our workplaces, too, especially when promoting equity. I am very proud to have started an open and honest conversation in WA about work and career challenges and there is a real commitment from our leaders to ensure the profession is fair and inclusive. We've taken a strong 'zero-tolerance' position around the issues of workplace bullying and harassment, and we must all strive to achieve respectful, happy and healthy working environments.

Finally, we were all saddened at the passing of Kerry Hill AO, Western Australian architecture's most famous export, and a Life Fellow of the Institute, who passed away on 26 August. From his adopted home in Singapore, Kerry offered a unique way of seeing the world, which celebrated cultural influences and traditional craftsmanship. We are lucky to have several of his fine buildings here in Perth – with another major project underway in Fremantle – so that we may enjoy his legacy. Vale. ■


connecting

Chevron Parklands between the lake and Swan River. Image: Peter Bennetts.

parklands for the punters

Author **Tilly Caddy**

Optus Stadium Park: flexible use in a changing city.

When the WA government selected the Burswood site to build the 60,000 capacity Optus Stadium and Stadium Park, they were aware of the significant challenges that lay ahead. The Burswood Peninsula was something of a development backwater, with limited public transport connectivity and challenging environmental conditions including severe contamination. With careful execution from lead consultants HASSELL, the precinct has overcome its challenges to become an example of the way a city can embed flexibility into its planning and project execution and how it can offer a wide range of experiences for its citizens.

Flexibility in a Changing City

The development is uniquely Western Australian. The stadium itself is inspired by North-Western WA rock formations, whilst the parkland in which it sits uniquely and respectfully acknowledges that the location is Whadjuk Boodjar. Workshops were held throughout the design process informing the Whadjuk Working Party on all aspects of the project, enabling opportunities for indigenous representation and interpretation. Hannah Galloway, Landscape Architect and Senior Associate at HASSELL says she believes "the outcomes we see today, would not be as rich and as authentic had we not involved the Whadjuk representatives from day one."

The designers' close collaboration with the Whadjuk Working Party has resulted in the Chevron Parkland becoming a series of individual nature-based play spaces representing the six Noongar Seasons. The precinct includes artworks by ten Aboriginal artists, eight of whom are Whadjuk Noongar.

The Stadium is now a significant City node along the banks of the Swan River, creating activation, environmental reparation and economic development. A recent media release gave a glimpse of the proposed Green Star Belmont Park development by Golden Group. Connecting this with the Stadium, Claisebrook Cove, Point Fraser and Elizabeth Quay parallels could be drawn with Olmsted's Emerald Necklace in Boston,connecting the city via ecology, recreation and transport. I asked Anthony Brookfield, Landscape Architect and Principal at HASSELL for his predictions of Perth embracing riverside living and how the Stadium Precinct has set a precedent:

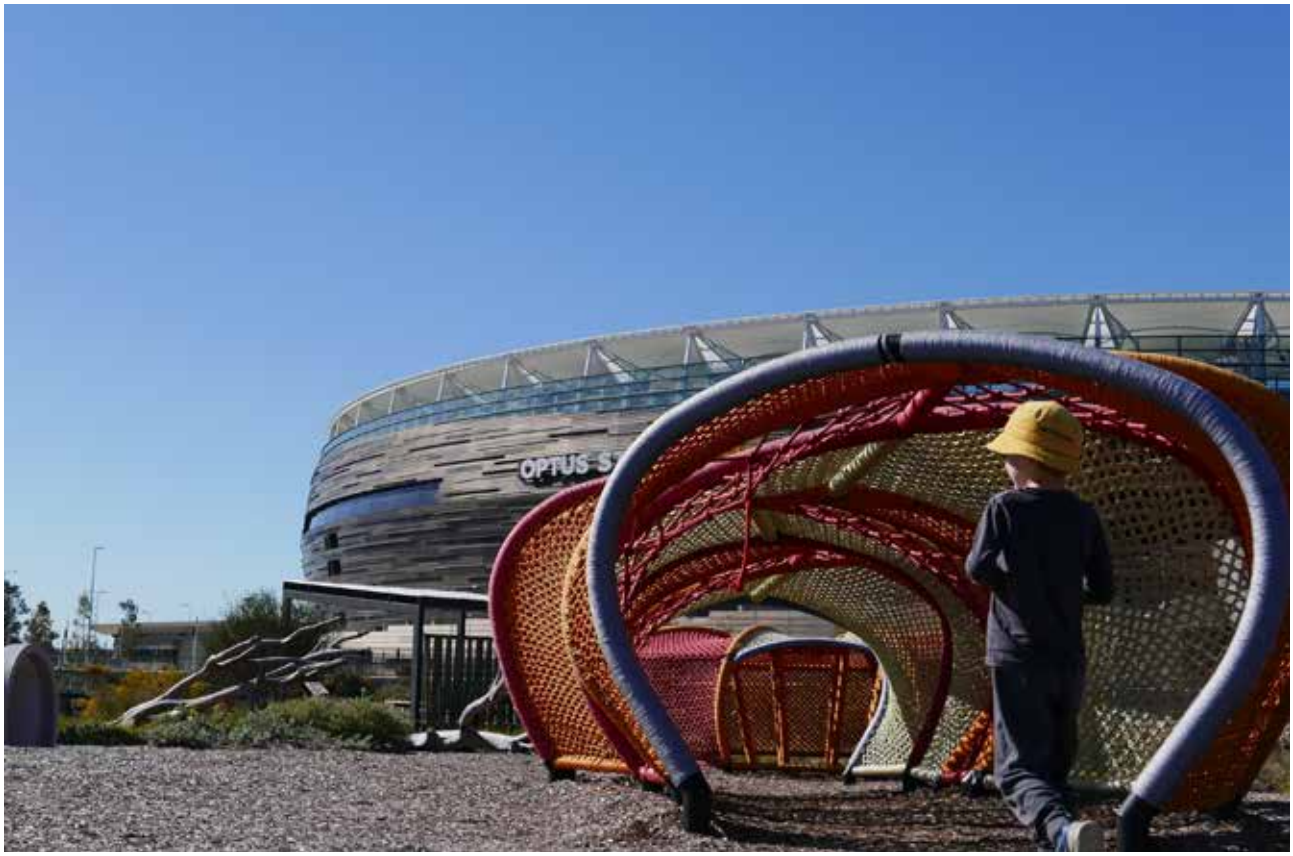
Perth has one of the greatest assets (the river) and one of the best climates a city can have. We have a beautiful established riverside and benefit from little significant industry to ameloriate; this creates opportunity. Government bodies, businesses and, of course the community want to see people moving, working, living and playing in and along the river. There are established riverside attractions such as the Crown entertainment precinct, Claisebrook Cove, Kings Park and Elizabeth Quay, and significant future developments of Belmont Park, Waterbank, and the East Perth Power Station.

All these precincts need to be developed holistically to ensure the river is the linking element driving our city's regeneration. Everything needs to work together, with ferry stops, commerce and design guidelines. One of the good things about the Stadium was the inclusion of a jetty which will form part of this growing larger connection.

Flexibility in Use

The Burswood Peninsula is located on the edge of the Derbarl Yerrigan (Swan River), historically used for camping, fishing and as a meeting ground by the Noongar people. Subsequent site uses included WA's first golf course in 1895, sewage holding ponds and light industrial activities from the 1950s, and a domestic rubbish tip until 1972.

Given the site's history post-1829 the project warranted the development of multiple Environmental Management Plans. Contamination resulted in the entire site being capped with the exception of the lake. Hannah explains that HASSELL worked with Aurora (environmental consultant), the Client (Multiplex and State Government) and the Department of Health to develop effective site strategies. She adds "prior ►



Waabiny Mia, by Noongar artist Sharyn Egan. Image: Tilly Caddy.

Qwandong Towers for the more adventurous. Image: Tilly Caddy.

to ground improvement and settlement mitigation strategies some areas of the site were projected to settle 50% of any build-up profile that was added over a 25-year period."

In order to combat this prediction two different ground stabilisation methods have been employed; one for a large portion of the site, the other for the Stadium itself which sits on pile foundations. This is the most complex site that Hannah has worked on. She says:

As landscape architects we work through site complexities all the time. However, on this project we had so many in the one location. The site is subject to mass settlement, contains contaminated site soils, is next to a very important water body, experiences mass inundation from the river, is subject to sea level rise in the future, has poor infiltration rates for storm water, and so on. The challenge was to ensure these complexities were all resolved in a way that didn't negatively impact the original design intent.

Flexibility in Users

The Optus Stadium Park design is driven by offering a 'fans-first experience'. Generous walkways, clear way-finding and visual interest ensure that up to 60,000 people can move with ease through the precinct. Hannah says she has only heard only good things about people movement on an event day. "After a Glory v Chelsea game a crowd of 60,000 exited smoothly with many back in the City within 12 minutes of leaving their seats. The outcome is great for the Stadium and for transport planners."

What about the majority of the time when the precinct is not occupied by ticket holding punters? Whilst the fans-first experience drove the design brief, the precinct promotes a balance between moving 60,000 people effectively to their seats whilst also being an enjoyable and engaging public open space on non-event days. Perhaps this is thanks to HASSELL's strategic design choices, creating visual interest and engaging visitors in a relaxed setting. This is achieved through changing colour and texture between the WA inspired pavement designs; creating a sense of semi-enclosure with a 400m arbour; and the countless art interventions adorning the arbour, nodal intersections, play opportunities and the Stadium itself.

Having first visited the precinct during an event I was initially sceptical of Perth's willingness to use the site off-peak, especially when the train station is only active during events. On subsequent visits I have been overwhelmed to see the parklands chock-a-block with young families using the playgrounds and transient visitors cycling through or stopping for a coffee at food trucks which activate the promenade. There are multiple playgrounds catering to differing levels of physical, cognitive and social ability, as well as opportunities for kids to play together, working together towards a common goal like cubby making or finding the twelve bronze long necked turtles in the Chevron Parkland. The inclusion of the Yaargan (long neck turtle) artworks and play interventions reiterates Noongar knowledge, creating a link between past and current users and sense of place.

The Stadium Park precinct showcases the flexibility of a changing city, encouraging commerce, active residents and a healthy ecosystem through social engagement, connectedness and a non-didactic approach to education and integration of Noongar culture. It shows flexibility in use resulting from historical conditions, reiterating the lengths and extents we need to go to if contamination is not controlled in Perth in the future. Most of all it shows flexibility for the users through the success of the environment created and the range of experiences offered.

Although accompanied by a generous price tag, the Stadium Precinct is flexible in nature, dealing with existing site histories without detriment to the design. The project isn't only an exemplar for future development along the Swan River but for any site that experiences environmental, transport and isolation issues. ■

Allendale Square by Cameron Chisholm and Nicol. Image: Silvertone Photography.

resourcefulness, endurance, prosperity

Author **Jennie Officer**

Allendale Square: unanticipated prestige.

Allendale Square, designed by Cameron Chisholm and Nicol (CCN) and completed in 1976, recently won the Western Australian Institute of Architects Richard Roach Jewell Award for Enduring Architecture. This award recognises projects that are at least 25 years old and are of outstanding merit and, considered in a contemporary context, remain important as high quality works of architecture.

A commercial office tower with associated plaza, chapel, underground and low rise tenancies, Allendale Square was designed with a clear commercial imperative. CCN's design statement published in Architecture Australia in September 1984, states:

Allendale Square is an economical commercial rentalised building, and is NOT an owner occupied building used for prestige purposes and in this respect the design team have proved that by careful design and consideration, energy conservation aspects can be incorporated in a speculative building without significantly increasing the capital cost, but with the consequent reduction in running and operating cost.

Following the second phase of the mineral and energy boom of the 1970s, Western Australia was assuredly open for business, with rising wages, population growth, widening prosperity and a sense of confidence in the future of the state. In this context, Allendale Square represents an emphatic emblem of local confidence. Designed by WA's oldest architectural firm, built by Multiplex, (then a young company poised to expand beyond WA) and clad in 2376 aluminium units smelted from locally mined bauxite and refined by Alcoa, it was, according to Justin Seward, Project Coordinator and Director of 'homegrown' real estate company, Justin Seward & Co. (later to become Knight Frank) "more than just a magnificent building – its uniqueness stands as a symbol of Perth's century and a half of progress."

In what is a familiar cycle for a State characterised by speculation around business and profit opportunities, the boom and optimism of the period has since been surpassed by the recession of the 1990s, the mega-boom of the 2000s and its subsequent domestic recession.

Allendale Square, however, has proven able to weather the volatility of our resource-reliant economic cycles. It consistently maintains high and stable occupation rates, strongly outperforming the CBD average of 75-80% in recent years. Its wonderful assortment of initial tenants - architects, stock exchange, bank, chapel and pub – has straightened into largely banking and legal tenants.

A building's commercial success over time can be fickle, dependent not only on market forces but running costs, technical systems, aesthetic trends and flexibility in occupation. Flexibility is often key to a building's longevity, and projects that can adapt to meet changing needs are inherently sustainable. Flexibility has, at its core, a temporal factor. While an enduring building may not necessarily be flexible, a flexible building is likely to be enduring.

The office tower typology is an interesting mix of mutable and immutable parts. It's difficult to make major structural changes or adjust the floor plate/core ratios in towers. Urban morphology beyond a development site, as well as movement through it, is often organised by the positioning of towers. Perhaps the key to the success of Allendale Square lies in the careful design of both immutable and mutable parts, for sustainable longevity and likely change respectively.

Refurbishment has taken place over the years, with the most recent to lobby, plaza and arcade levels completed by Christou Architects in 2017. This form of renovation is commonplace in commercial property – lobbies and forecourts change in line with aesthetic trends in place making and corporate identity. Contemporary workplaces are increasingly regarded as activity-based settings, including the whole building extending to its surrounding area and amenities, retail and leisure activity. Recent upgrades and extensions reflect this. ►

Allendale Square by Cameron Chisholm and Nicol. Image: The Australian Institute of Architects' Archive.

Allendale Square by Cameron Chisholm and Nicol. Image: The Australian Institute of Architects' Archive.

In many ways, the design of Allendale Square anticipates this change, siting the slim tower back from and at 45 degrees to, St Georges Terrace which while ensuring key urban connections above and below ground, leaves the wrap-around plaza and lower concourse levels largely unscripted. Low rise buildings hug the western and southern boundaries of the site but the tower, taking up only 25% of the site area, was designed as a building in the round, with its bold expression being able to be viewed from all sides.

This immutable form is remarkably canny. Its unconventional siting, presenting a receding corner rather than a face to Sherwood Court, allowed for additional height to be granted at the design stage. Its slenderness, with smaller floor plates than many A- grade office buildings, belies the idea that contiguous floor plates are the only way to do good business. Its identifiable silhouette allows it to be recognised and remembered. However its most impressive attribute is its environmental design – a simple resolution of its periphery into V-shaped bays, alternating windows facing north and south, and solid panels facing east and west. Such solar responsive design in high rise buildings is both regrettably rare and highly effective, reducing heat loads on the building without excluding natural light and resulting in a considerably reduced load on mechanical services.

The corollary to this arrangement is expansive views to the north and south, with two facades sharing views to the Swan River.

The mutability of the tower lies in its column-free floor plates. This was achieved by a reinforced concrete perimeter structure tied to raft footings (reducing costs of piling) which, together with the central concrete core and floors acting as diaphragms, efficiently met structural design criteria for seismic codes. This is no glass tower – windows take up only 25% of the overall cladding area – and no lettable space is more than 9 metres from a window. Windows are evenly distributed around the chevron bays, ensuring complete flexibility in potential fitout.

Fixed to the concrete frame are perhaps the most recognisable elements of Allendale Square: its aluminium cladding units. In order to use a raft footing, lightweight cladding was required and aluminium was selected. This was the largest aluminium construction task undertaken in Australia at the time. 400 tonnes of clear anodised aluminium was extruded for the project by Alcoa and made into two types of unit, one containing glazing and the other sealed, with double skin and an inventive integral pressure equalisation system.

The aluminium skin, extruded into narrow vertical flutes, is both thermally reflective and impressively shiny. While aluminium has very high embodied energy it is also a highly durable and flexible material. The skin of the building has required no applied finish, and minimal maintenance since the building was completed. Panels were able to be pre-made in a factory and bolted to the frame in a precise manner. All cladding units were installed from within the building without the need for external scaffolding. It is a visually striking, self-cleaning skin that is entirely recyclable.

Flexibility presents a challenge for commercial buildings. Designing a building that accommodates future renovations from the outset seems sensible. Commercial buildings rightly prioritise flexibility within floor plates, but perhaps projects like Allendale Square teach us that this is not the only place to take on flexibility. Accepting that lobbies, plazas and associated amenities are likely to be upgraded, changed and renovated over time, it is important that if they are, the driving organisational and architectural ideas of the project are not lost. Getting the big bits right – siting, environmental design, interface with the city, contextual expression – means they'll likely be right for the life of the building. And they'll likely extend the life of the building. ■

A halo of light filters from above deep in to the undercover outdoor play and learning space. Native plants and trees provide learning opportunity and engagement with the seasons. Image: Peter Bennetts.

iredale pedersen hook's highgate primary school

Author **Beth George**

In visiting the new Highgate Primary School building I was struck by its civic language. If the design of a school could be analogous to the way an adult speaks to a child, there is no condescension here. Aspects of play and colour – so often employed in primary school design – do find expression, but in a performative rather than a material manner. iredale pedersen hook's (IPH) scheme evolved out of the synthesis of two briefs: the Department of Education's planning and design guidelines, and *reggio emilia* student-centric principles, which the staff were dedicated to embracing. Project Director Adrian Iredale identified the incorporation of natural light, tactility of materials, cross ventilation and connections to landscape as foundational qualities that address both briefs. He saw the opportunity for the architecture itself to become an educational tool.

Several aspects of the design are notable for encouraging spatial awareness in both an explicit and a tacit manner. Two are located in the undercover play space that forms the heart of the project. One is a circular inset in the ceiling with a cruciform arrangement of linear lights, running east-west and north-south. Adrian explains "when the kids are sitting here in a circle beneath it, the teacher can establish where north is, and they could do a whole class or series of classes around orientation." What emerges is the prospect of teaching about environment, geography, myths and histories in spatial relation. In Perth, a city strung on crosshairs between two parallel horizons of ocean and scarp, bisected by the river, so often navigated with reference to cardinal points – this seems a poignant prospect.

Another notable feature is a stand of three broad-leaved paperbark trees growing through a circular hole in the suspended slab, with a corresponding opening in the roof overhead that forms a thermal chimney. This allows light, air, and rain inside the school, and provides two different but close encounters with the trees: pre-primary students with the trunks and roots at ground level, and primary schoolers with the canopy. Lessons in nature, weather, and seasonal change are brought inside the building. At the south side of the building an external walkway edges close to a massive fig tree so that twice upstairs we are given the sense of tree-climbing. There is another agenda at work through this enfolding of landscape, which is knowledge of the Noongar calendar. The six seasons find their way into the architecture of the interiors, where each main teaching space refers to a different coloration of flora across the year.

Cultural and historical awareness also impact the design. Adrian reflected that prior to the instatement of the new classrooms, the school did not have a formal entry point. While master planning was not part of their scope of works, IPH ran several scenarios to position the building to the greatest benefit. They settled on the northwest corner, which had contained an underutilised basketball court. This created a space between the new building and one of the grounds' oldest: a George Temple Poole design in brick with a uniquely buttressed limestone base. Now a broad and decisive north-south axis is formed, tying the school to the street at the north end and, via open playing grounds, to the city's skyline at the south. The implication of this corridor is to invite all comers to the school: Highgate is a socially diverse locale with a considerable migrant and refugee population, and there are over 70 nationalities and 43 languages among the school children. Rolling out the red carpet is an appropriate gesture, and invites the possibility for the grounds to be used by the broader community.

Various built reference points underpin the arrangement of the school's major masses and articulations. Placing the entry axis adjacent to the Temple Poole building has reinstated a sense of frontage. Further, the parapet of the new structure is folded down at its corner in order to visually frame the heritage building's gabled roof. The Lincoln Street elevation is distinctly urban and borrows Temple Poole's limestone buttressing in a multifunctional strip. There are two 'shopfront' windows on this elevation with glazed bricks that recall Highgate's original shops. The limestone strip forms headers over these widows, providing shade and articulation. Between them the strip wraps down to ground level and creates a bench for students. ►

An elevated outdoor space cantilevers to the city view. A large stair addresses both the street and school, allowing kids to interact with it. Image: Peter Bennetts.

Corner windows extend the class in to the surround streets creating filtered connections. Image: Peter Bennetts.

The corner tower addresses the street connecting the surrounding city, religious, industrial and tree towers. Image: Peter Bennetts.

Highgate Primary School by IPH. Image: Peter Bennetts.

A tower grows up on the school's most public corner in answer to the distant 1899 Sacred Heart monastery on the hill, which it regards through a window at its top. This fortifies the school's corner and gives it presence on the street. The tower's gold ceiling is visible from the street and illuminated by night. Along the west elevation, windows at different heights provide views from the school's internal spaces toward residential facades of varying age – including some turn of the century terraces and their ornate chimney stacks – and deeper views to Hyde Park beyond. Internal to the school's plan is a covered verandah. At the south end it forms a forked balcony projection. This at once pushes toward the city's skyline and pulls it inside the school. Adrian speaks of a constellation of four 'towers' that the school responds to: Hyde Park's trees to the west, the industrial incinerator to the east, the churches to the north and the corporate high rises of the city to the south. The cardinal points inside are a fulcrum to these external anchors.

While the building interacts strongly with its exterior context, the interior is safe and cultivates community and play. The teaching spaces are kept compact so as to maximise covered outdoor area. In fact, the scheme utilises 'standard pattern' plans in a tight and clever arrangement, leaving a generous reminder of shared space for outdoor teaching, recreation and chance encounter. Strange shapes created through different coloured carpet and paint land all over the teaching spaces: while visually playful, these shapes manifest precise solar alignments. Watching patches of sunlight draw closer and closer to these receptors, the students can engage in the celebration of a solstice or an equinox. In this way, 'play' isn't so much about games as it is about events. In a more literal sense of the word, what is usually a polycarbonate store room to the ground floor can transform into a theatre facing the undercover play area where we began. Once emptied out, the store room's door frames a small stage and the central space becomes a theatre. This box breaks through to the street as well, forming a lantern in the brick elevation.

The effect of the bends, projections and genuflections to the school's context is to create variegation in the external envelope and to give the school the distinct impression of a small city. It is clear that what is being constructed here is a tiny society, and for Adrian, this was IPH's intention from the beginning. "The very first sketch was of a child sitting at a desk with paper and a pencil – that's their world – through to how they relate in the classroom to one another, how the classrooms relate to the greater design, and that in turn to the existing school, and then to the immediate streets, and then the city as well. The uniqueness of this site and of this community is that it is a *city-school*." ■

Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia.

melody in light

Author **Nicholas Putrasia**

Cadogan Song School.

I have been taking photographs of Cathedral Square's architecture and urban design for the past three years. I remembered the first time I took a casual snap of the construction of a cluster of white sculptural columns with pointy Gothic arches – all I knew was its name, 'Cadogan Song School'. Looking for a recurring theme in my photographs, I found that I was attracted to the visual performance of light and shadows through the architectural instruments of the Song School designed by Palassis Architects.

The site is located within the extremely constrained space between The Deanery, St. George's Cathedral, Burt Memorial Hall, and the recently constructed Church House. Before the structure was completed, I could already see the harmonious introduction of the strangely familiar elements from Cathedral Square: the shape of the arches, borrowed from the St George's Cathedral façade; the plain white texture, which relates to *Ascalon* by Marcus Canning and Christian de Vietri, the only other white sculpture within the Square; the patterns of light and shadow which are reminiscent of The Town Hall and The Burt Memorial Hall. I must say that the spires were the unexpected element in the design.

The subterranean interior spaces also carry through the visual language from the external interstitial structure. The pattern of narrow-arch openings on the façade provides an ever-changing chiaroscuro to the rehearsal chamber. Geometry is one of the architect's primary tools for making a statement in space. The Song School combines the somewhat primitive representative forms from the existing architecture with a fascination for clarity and order. The rhythm of contrasting light and shadow is the decorative ornamentation of the structure – defining the movement, sequence and transition between spaces.

I'd like to believe that, like music, each architecture has its own rhythm and that these provide a unique sense of composition, sequence, and wonder. ■

►

Perth Town Hall. Image: Nicholas Putrasia.

Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia. ►

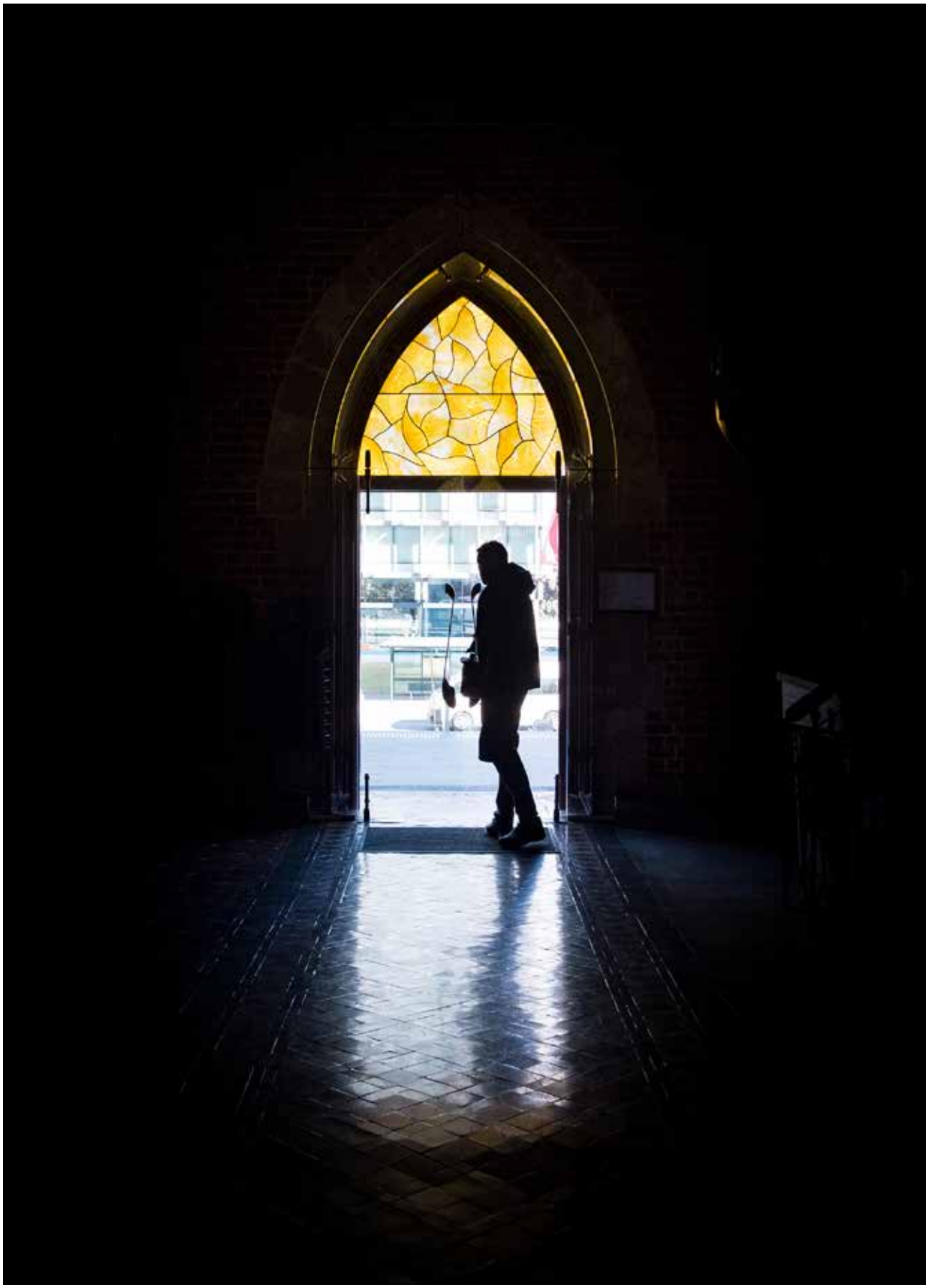
Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia. ►

St George's Cathedral. Image: Nicholas Putrasia.

Burt Memorial Hall. Image: Nicholas Putrasia. ►

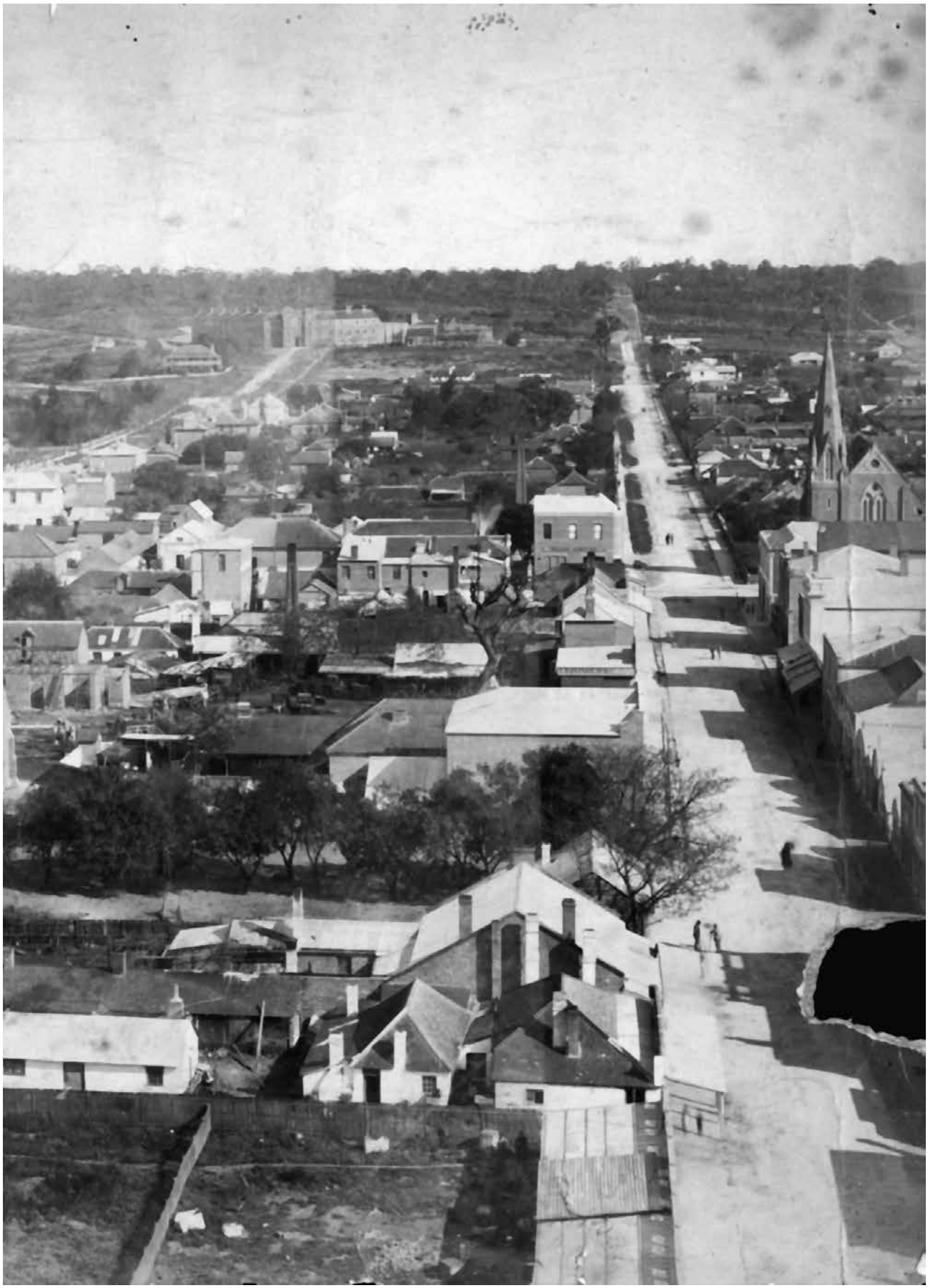
Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia.

Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia. ►



St George's Cathedral. Image: Nicholas Putrasia.

Cadogan Song School by Palassis Architects. Image: Nicholas Putrasia.



Looking west down Hay Street from the Perth Town Hall tower in about 1885.Image: Battye Library 007045D.

hooper's fence: fanny's revenge

Authors **Carly Sims** and **Shane Burke**

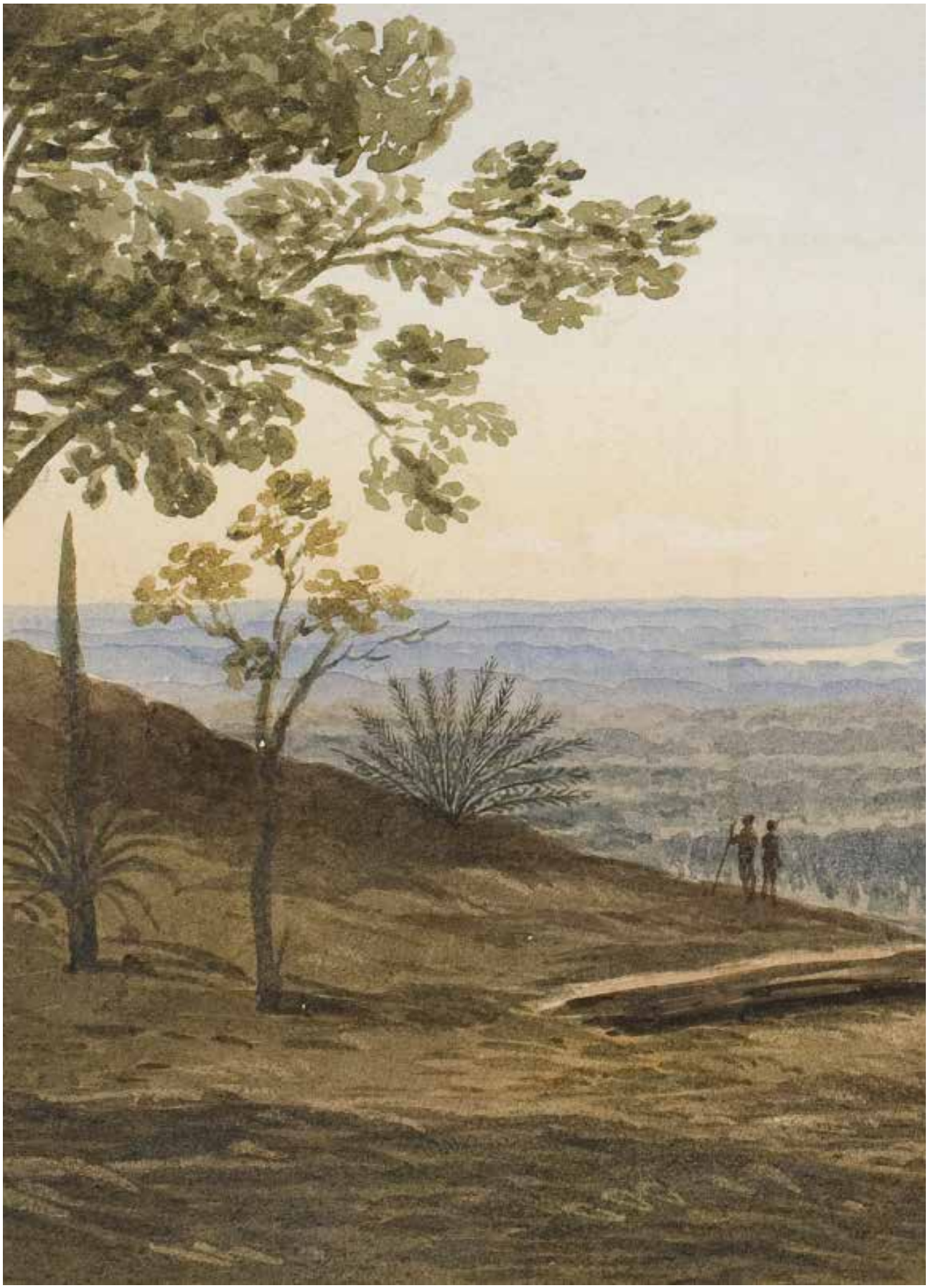
Landscapes are artefacts – the product of human hands. They contain both human–human and human–nature associations,[1] and incorporate both physical and socio-historical attributes organised and placed to serve a purpose – a path, a signpost, a ditch, a church on a hill. While landscapes can form organically, they can also be intentional and even autobiographical,[2] and can serve the purpose of one group controlling the actions of another. However, for landscapes of control to function successfully, the subservient group must recognise and decode the attributes installed in the landscape as artefacts linked to compliance.[3]

During the 19th century in the south-west corner of Australia two cultures – one indigenous and the other imported from Europe – produced a landscape where the incoming British overlaid their landscape onto the millennia-old panorama produced by Noongar activities. The attributes of the new landscape taken from both cultures' beliefs and economic practices were often misunderstood by the two groups but in particular the British, while the behaviour of a few Noongar suggest that a landscape of control installed by the British was recognised but used by the Noongar instead for retaliatory acts.

In 1827, James Stirling and a group of men surveyed the Swan River area. Their reports include physical and behavioural descriptions of the Noongar people they encountered but none of the accounts from the British credited the local people with shaping the scenery. The British were ignorant that the open parklike setting – turned into farming properties after 1829 – was one of the largest landscapes produced by humans and most likely already thousands of years old. The Noongar – with an acute knowledge of the land – used carefully controlled fire to keep vast areas clear of long grass and excess bushland.[4] Called 'firestick farming', the seasonal burning of the Swan Coastal Plain produced fresh grass that facilitated the hunting of grass-eating native animal species like kangaroo and allowed the Noongar to grow edible ground level plants such as yarran. However, the practice also changed the composition of plant species in the area to prefer those that are fire tolerant – *Eucalyptus* and *Banksia* – over fire sensitive species.[6] Today, fire tolerant native plants still dominate the native plant species on the Swan Coastal Plain, despite Noongar not having performed firestick farming for about 150 years. For the British in 1827 the savannah produced by human behaviour spanning thousands of years delivered one of the key attributes that made the area attractive for colonisation.

And so after 1829 the ancient land was impregnated with landscape attributes of English culture – roads and later railways that linked settlements, houses big and small, and fences that demarcated one property from another. The arrival of the British – who rapidly morphed into Western Australians with their own specific landscape tactics like irrigation ditches at Henley Park or the attachment of wide verandahs to already established dwellings[7] – devastated the Noongar. Taking land and introducing deadly diseases reduced the population. Yet some Noongar people asserted the resilience of their culture and rejected the new landscape.

One of these people was Balbuk Yooreel – 'Fanny' as the British christened her – a Noongar woman born in 1840. Questions exist about her place of birth – Heirisson Island or Middle Swan depending on the source consulted[8] – but there is little doubting her ancestry as granddaughter of Yellagonga, the leader of the Noongars who resided in the area of fresh water lakes – Henderson, Kingsford, Irwin, Sutherland, Monger and others – which were rich in resources north of the present city of Perth.[9] The lakes disappeared as part of the new landscape, drained to rid Perth of breeding grounds of the mosquito but also to provide land for gardens and later housing. But for Balbuk Yooreel the erection of structures and the lineal attributes of the new landscape meant little to her movements across her traditional home. She followed the same path from one place to another irrespective of land ownership or physical barrier, climbing fences, walking through front doors and out the rear of peoples' houses.[10] It was not that she was ignorant of the meaning of the new landscape's attributes dealing with personal space or property rights, but for her they represented a call to arms – a 'red rag' to her culture's ►



The British representation of the Swan Coastal Plain. Image: Frederick Garling 1827, The Art Gallery of Western Australia.

spirit as her chronicler Daisy Bates pronounced.[11] This was still *her* land.

Balbuk Yooreel made the journey from Heirisson Island to Lake Kingsford – the site today of the Busport and Perth Arena and once the Perth railway station marshalling yards – but another common destination for her was the spring of fresh water that issued from the base of Mt Eliza near the site of the Narrows Bridge. It was here that her grandfather Yellagonga according to Noongar custom saw the arrival of the British who had rowed up the Swan River to establish a town on a low ridge of sand covered with vegetation and scored with seasonally flowing creeks: his land and the land of his future granddaughter.[12] About 50 years after this event, Balbuk Yooreel's journey to the spring often took her through central Perth between Barrack and William Streets where there existed her nemesis of landscape features, the fence demarcating central Hay Street from the premises of carpenters and builders Hooper and Lee.[13]

Whether the men or company staff had slighted Balbuk Yooreel previously, or that this object of timber in particular was simply the epitome of white culture that brought her to rage, but the fence was not climbed over but instead destroyed time and again. Balbuk Yooreel's wrath against 'Hooper's fence' was legendary.

When assessing a landscape, the historical and cultural backgrounds of all who have contributed its formation are important. Only after appreciating their beliefs, fears, subsistence patterns, economy, and life experiences, can one make sense of the artefact called the landscape. However, this statement applies to the general characteristics of a culture but one often forgets that the traits that flow to the construction of landscapes come from individuals making a society. Furthermore, the scale of the landscape can overwhelm the senses to the extent that one cannot identify all of its attributes and therefore its meaning is compromised, while the same attribute can be interpreted differently by two cultures. In the case of south-west Western Australia an object associated with demarcation for one culture – a fence – was seen as a symbol representing invasion and exclusion. For Balbuk Yooreel its removal was paramount. ■

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10. Bates, 1935
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13. Bates 1935; 'Perth looking west from the town hall tower, 1885', Battye Library BA1116/45, Rica Erickson, *The Bicentennial Dictionary of Western Australians pre-1829-1888*, University of Western Australia Press, Nedlands, 1988, p. 1522.

Image: Harley Loffler.

Image: Harley Loffler.

girls school cinema

Author **Olivia Kate**

Enduring and evanescent.

A fundamental aspect of successful architecture is its ability to adapt to meet the unforeseen requirements of new tenants, trends, or technologies to ensure that it will continue to host civic activity. In the case of East Perth's Old Girls School, the community that now occupies the site has adapted and taken ownership of the place in a way that reflects their spirit, meets their needs, and simultaneously celebrates the history of this art deco relic[1].

From its original function as a school for a quarter century, the building undertook a shift in programme to house a police station until 2015. After three years of vacancy, the heritage-listed building now operates as a cinema, which is just phase one of what is slated to be a full creative precinct. Besides general heritage maintenance, no changes have been made to the original built fabric: the new identity is established through playful furnishings, fleeting social interactions, evanescent lighting and projections on a heavy and orderly backdrop.

Today, in the place of an intimidating headmistress or police chief, you will be greeted by two 4-metre-tall pink polyurethane bunny rabbits from local artist Stormie Mills. From the first step leading to the main entry, the visitor is enticed further by the familiar smell of popcorn. The thick external walls at the double height entry are encrusted with plaques commemorating the heritage value and architectural merit of the site. Through the large double doors, terrazzo flooring and another set of stairs lead to the box office where flashing lights announce the availability of ice-cream and popcorn within.

At the snack bar, tasty treats are served up by local outlets, which establishes a sense of collaboration at the venue and adds a distinct Perth flavour to the experience. In the adjacent space, walls are lined with photographs and articles outlining the history of the place. These describe a timeline from the construction of the "monument to free education" in 1934 to its present occupation.

Off-white lockers line one side of the corridor to the amenities, punctuated by doorways to empty classrooms. The other side hosts rhythmically spaced double-hung windows, offering views to the courtyard beyond. The courtyard is occupied by festive coloured caravans, timber tables and seating arranged around a handful of fire pits. Fairy lights are temporarily tethered to the imposing three storey school building, which by contrast seems eternal.

The cinema proper has taken over the central historic hall, which is inundated with vibrant beanbags and blankets opposite the screen, dutifully lined up where uniformed students would have once stood attentively for assembly. Coloured up-lighting showcases the large windows that run along each side of the hall. The names of notable women ring the room and align with the gridded structure of the impressive high ceiling, imposing a sense of order. Films are projected from pre-existing apertures in the wall, originally utilised for the school's news-reel room. Today they are opportunistically repurposed to accommodate the movie projector.

The frivolous infill contrasts with the somnolence of the architecture that houses it. The new programme gives the original fabric room to breathe and allows visitors the opportunity to appreciate its character. The transient nature of caravans, fairy lights and bean bags serves as a reminder that this current use of the facility is not permanent; it is but another chapter in the old girl's life and by no means the last. But for now, perched on a beanbag beside a heater with a cup of tea and a blanket, visitors can't help but feel welcome and comforted as they contemplate their surroundings in the pre-film hum of anticipation. ■

1. The Girls School Cinema has undergone a striking transformation as part of a creative precinct activation of the eastern Perth city area. The school, originally designed by Albert Earnest (Paddy) Clare, has been recently leased by Australian Development Capital & Warburton Group to ARTRAGE to establish the cinema. Collaboration by NH Architecture, Chaney Architects & RobertsDay in consultation with HeritageWA, the National Trust and City of Perth have developed the plans for precinct, and the cinema is the result of a many hands approach of its community to work within the existing building's fabric.

The Melbourne Hotel by The Buchan Group. Image: Silvertone Photography.

the new melbourne hotel

Author **Janine Symons**

In the 1890s rivers of gold boom money flowed through the streets of Perth, transforming it from a small, colonial town into a booming Victorian city, perfectly captured by J.M. Freeland:

In 1892 Perth had been a primitive frontier town with all the rawness and lack of style of a pioneer settlement. By 1900, it had been dipped boldly into a bucket of pure Victoriana and taken out, dripping plaster and spiked with towers and cupolas in a bewildering variety of shapes, to dry.[1]

One of the many entrepreneurs taking advantage of the heady times was John de Baun, an American mining investor and hotelier, who arrived in Perth after having built hotels on the East Coast and the Goldfields. In 1897 de Baun opened two opulent hotels in booming Perth, both redolent of Victorian gold boom money – the Melbourne Hotel on Milligan (previously Melbourne) Street, and the Palace Hotel on St Georges Terrace.

The Palace, when it opened, was described as "one of the most beautiful and elegant hotels in Australasia". The Melbourne was less flamboyant although no less stylish, and not so well situated, being on the edge of town, but was regarded as an elite residential hotel with a number of permanent residents and a reputation for a good kitchen.

The Melbourne Hotel continued to offer accommodation until the 1970s but became increasingly a pub and live entertainment venue. The Melbourne, like many Perth hotels in the 70s and 80s, offered large, dark, smoky, sticky-carpeted venues to a very healthy live music scene, and inevitably after their decriminalisation in the 80s, skimpy barmaids serving the big drinking crowds the hotel was now catering to.

Time, and the flight of city life (both work and play) to the suburbs had not been kind to the Melbourne, and by the early twenty-first century it was sad and tired, having undergone many substantial alterations and extensions, not all of them sympathetic.

In 2008 a major redevelopment was mooted by new owners, who had also bought land to the west and north of the hotel. The new owners' brief to the Buchan Group was succinct – a hotel and office mixed-use redevelopment that retained the old hotel and used land purchased by the owners to the west. The development would include demolition of a 1990s extension along Hay Street that identically replicated the original hotel externally, a six-storey extension to both street ends, and a 20-storey tower behind. A key decision by Buchan was to minimise interference to the Old Melbourne, particularly structural intrusions.

The proposal was not without its critics, particularly offending those who viewed anything that looked old as being heritage and therefore must be retained (although not at their expense), but was eventually approved, with staged construction commencing in 2015, the staging due to reduced demand and oversupply. The first stage of development is now complete and includes foundations and basement and structural support for Stage 2 built into the project. The Old Melbourne (which was the name I knew the place in those dark, smoky 80s) is presented like a small, bijoux jewel on the corner, with a contemporary addition wrapping behind and around, bookending it on both street fronts. Accommodation is offered in both the new and old buildings and there are refurbished restaurants and bars on the ground floor in the old hotel.

The new build is contemporary – cubic in form, flat in elevation, and clad in black and white Alucobond, with fully glazed street facades to the new build. The box slightly cantilevers over the old hotel where they meet on the street, but is otherwise set back, allowing the old hotel to shine.

The Melbourne has been repainted from a boring and unflattering all-white scheme into subtly luscious cream, gold and bronze, based on its earliest colour scheme. This highlights the ornate Victorian façade and wrought iron verandah balustrade, the black of the new build providing a foil to the gilt hotel. The new building façade subtly responds to the old, continuing important horizontal datums such as parapets and verandahs, interpreting its vertical rhythms in a contemporary manner and printing the verandah balustrade motif on the glazing, but at a much larger scale. ►

The Melbourne Hotel by The Buchan Group. Image: Silvertone Photography.

The Melbourne Hotel by The Buchan Group. Image: Silvertone Photography.

Internally, the new build is set back generously from the original hotel, with a glazed three-storey conservatory between, allowing space for both eating and drinking (at the Hattendo Café) and admiring the connection of two very different architectural styles, partially lit by everchanging light from the roof. The conservatory is the nexus of new and old; the rear of the old Melbourne has been left raw, exposing face brick and layers of paint, the traces of former openings and the resilience of the old structure. The new Melbourne is black and polished with moody strip lighting to the underside of each balcony walkway.

Internally, the corner John de Baun Bar has not decided whether it is a sports bar or a bar in a boutique hotel. It's not that it's bad, but it could be anywhere. 'Nice, but bland' was how drinking companions described it. The Grand Orient, a fine dining Chinese restaurant, is a rather more baroque experience, with an interesting mixing of paint washed walls with an oriental themed mural, and a glorious golden bar. Perhaps unintentionally, it is nonetheless a link back to the Chinese cooks of the hotel's earliest days and is a rather glamorous addition to the city's eateries.

A range of rooms are offered in the original hotel, including 'Heritage Raw', where some walls are literally raw, the traces of the past on display. Original features have been retained and the verandah balustrade motif appears again, this time applied to glass shower screens. The materials and colour palette are contemporary but the rooms are clearly in an old hotel.

The Melbourne Hotel redevelopment ticks many heritage boxes: it demolished fake heritage fabric; continues the ongoing use of the place as a hotel; reads clearly as new, and is set back to allow the hotel to dominate the corner; it takes visual cues from the hotel and reinterprets them; and it leaves layers of the past to speak of what once was.

Recent redevelopments of heritage places in the city have set a very high standard for hospitality venues and have quite literally changed the way people use the city after hours. The Buchan Group have taken the opportunity of the 'inherent authenticity' of developing a heritage hotel, wrestled with the financial constraint of postponing development of the much larger commercial tower and returned life and style, in a contemporary idiom, to the Melbourne Hotel. ■

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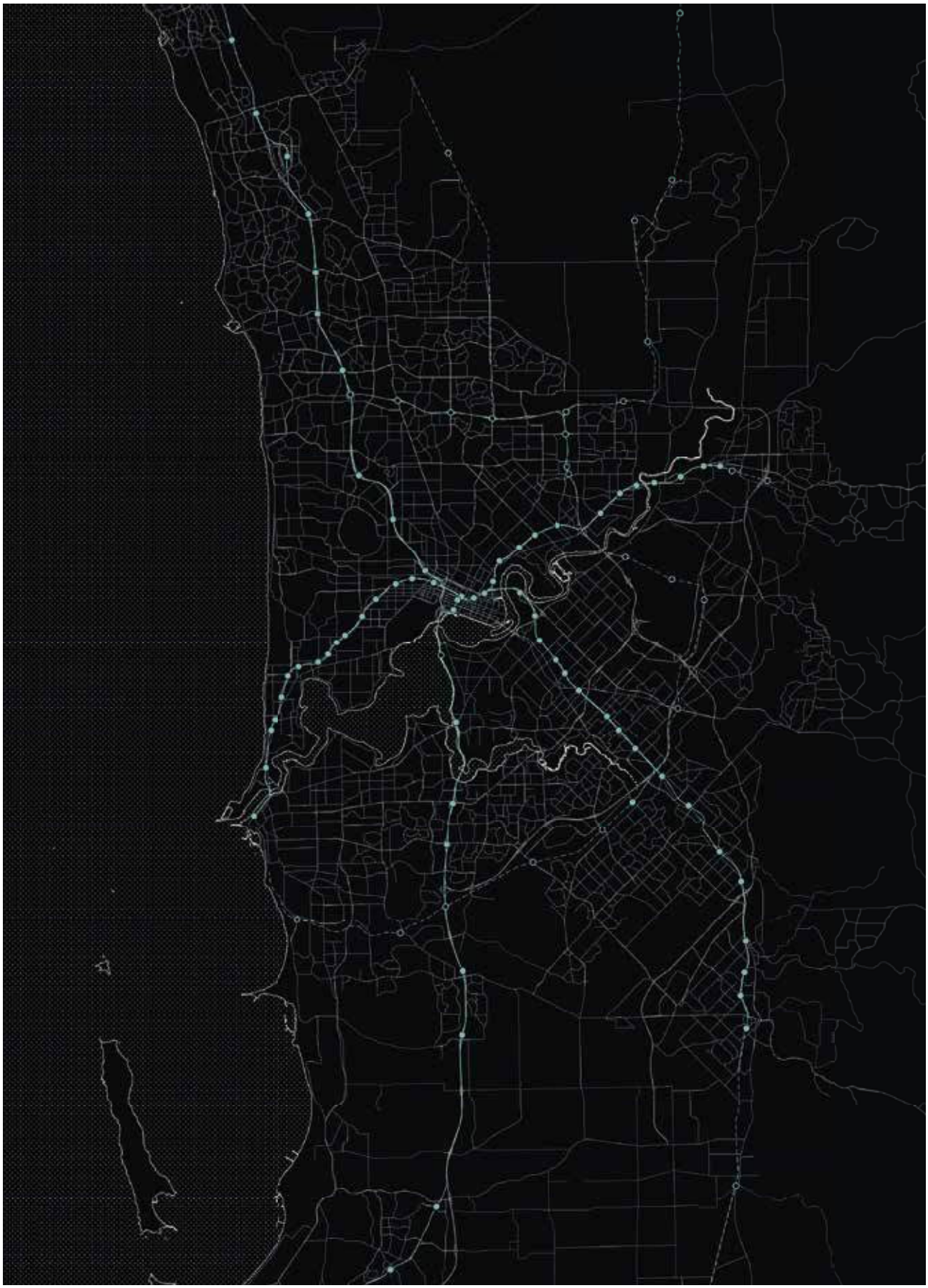

Image: Urbis.

approaching metronet destinations

Author **Tim Greenhill**

We tend to think of structures as being permanent fixtures, designed to last the ages. But should this always be the case? In Western Australia we are undergoing a renaissance of investment into our passenger rail infrastructure through the Metronet program. This program has identified a series of rail expansions, links and loops that will look to serve Perth's growing population into the future. Some of these extensions link to existing suburbs and some are designed to capture future places. The challenge for architects, planners and designers is how to transform both underutilised existing centres and future train stations into places that function for the now but evolve as the surrounding suburbs and population grow.

Some of the nodes have, or will start out their life as, commuter hubs: train stations surrounded by a sea of carparking. Others are, or intend to be, future town centres with all the life and energy one would expect to see in an established town centre. However the disconnect between the reality of what can be sustained in these new town centres and the expected long-term role and function is at the core of the designers' challenge. Structures in place at the start need to be able to adapt and expand to meet demand as the town centre grows and the population arrives but building centres to their final sizing at the outset isn't commercially viable. What form, size and standard should these town centre structures be? How can we instil life and energy and a sense of permanence? What is the built form's role in this and how critical is its adaptability in the evolution of town centres?

Impermanent or adaptable?

The two immediate choices that come to mind to bridge this interim period are constructing impermanent structures or adaptable structures.

Starting with impermanent structures, we can design and construct simple and relatively cheap buildings that have a defined lifetime. These could be transportable pop-ups— simple sheds or tilt-up panel boxes. Assuming these can be constructed in a manner that is easy to put up and take down and, in this age of sustainability, constructed of reusable or recyclable materials, this could serve interim needs and provide a place holder until longer term investment arrives. This can help to activate the space but does it provide the permanence, presence and performance that a town centre needs to thrive?

Alternatively, do we construct more permanent structures that have flexibility built in and can be adapted to a range of uses over time? These could be simple forms with high rooflines for refits as restaurants and lobbies, removable internal walls to enable shopfronts of various sizes or structurally overbuilt to enable expansion of residential uses above. Can we make these affordable and flexible enough to warrant early investment, while attracting tenants that have increasingly specific requirements? What about being efficient enough to actually suit a wide range of uses that engages with the street rather than providing a structure that simply accommodates but doesn't really provide optimal function for any use?

To answer these questions, at Urbis we have been reviewing and taking stock of the build quality of some of the structures in our well-loved town centres such as Cottesloe, Claremont, Leederville and Subiaco, amongst others. More permanent character buildings exist that provide points of interest but these are usually few in number and really serve as accents to the street. Generally, these main streets consist of simple flexible structures that can, and have, fulfilled a multitude of roles over the years. Some have been impermanent and have been removed and replaced with other simple structures. Some have been flexible and the buildings have been adapted to accommodate a range of uses over time.

What was consistent in each of these town centres was clear and easy access to the main street - an active built edge offering numerous points of access, a consistency in shade and shelter of the street through awnings and plantings and an engaging and lively public realm with both civic and retail activities spilling into the street. The research so far indicates that the adaptability or permanence of a building is less important than how well it interfaces with the street. Whilst architecture can't always control the land use within the structure it can ensure that opportunities for activity on the street and consistency in its built edge are provided. If we get these elements right, we have a better chance of recreating successful town centres elsewhere. ■

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We asked people what they thought of their new spaces… and of their architect.

Gary Namestnik

SWIMMER AT SCARBOROUGH BEACH POOL
Architect: Christou

Describe the feeling of being at the pool and using the facilities.

It's the feeling of being open (as it overlooks the ocean) and has generously sized swimming lanes, and everything feels new and shiny. Everything about the design of the building is like a wave, which makes you feel like you're immersed in the ocean.

How successful do you feel the design is in creating spaces for people to experience the expansive coastline?

The building is nestled into the side of the sand dunes with no building blocking the view over the ocean, so yes, it quite literally provides the pool patrons an unobscured space to experience the expansive coastline. The building also has a wrap-around cafe upstairs, (this design reminds me of the Andrew Boy Charlton pool in Sydney) and also provides expansive coastline views for those just visiting.

The pool has been designed to accommodate several uses: lap swimming, water polo, swimming lessons, leisure, and food and beverage. How important do you think flexibility is in the design of space?

As a person who does many different aquatic activities from event swimming to water polo and lifesaving, it is nice to know that a space like the Scarborough pool exists which can be so flexible in the use of its spaces. From the point of view of the City Council it also makes sense to maximise the use of the spaces they already have, and the Scarborough pool does this quite well.

What do you think 'an architect does'?

I think an architect is more than just the designer of a building, or that person who draws the pretty pictures. The architect has to be able to have vision for a plan, and to be able to execute that plan, bringing together many of those design elements that are needed in designing spaces. They also have to be pretty clever to come up with new and inventive solutions as well.

What was the most pleasant surprise of the using the pool?

As a keen swimmer, I find one of the best features of the pool is of course its location, right next to the ocean. Swimming here at sunset is spectacular.

Stephen Ivey

PRINCIPAL OF HIGHGATE PRIMARY SCHOOL
Architect: Iredale Pedersen Hook

Describe the feeling of being in your new space.

I think it's a really lovely feeling: it brings an area of fun, joy and a place of community and learning. It's different, it's quirky and it's Highgate.

How did you meet your architect?

I first met Adrian Iredale and Mary McAree at a meeting where they were going through the plans for the new building and they were talking about the design concepts in a public meeting. So I came part way through the process. From the very first meeting I knew this building would be something really special. They had thought out lots of it, they had responded and listened. The changes they made, even following that initial design meeting, showed they were listening really deeply to their client and trying to make a great school. ►

Stephen Ivey at Primary School by Iredale Pedersen Hook. Image: Rachel Pages-Oliver.

Inside Outside House by Craig Steere Architects. Image: Red Images Fine Photography.

What was unexpected about the process of working with your architect?

Just how friendly we were, how we became friends, and how proud I am of them.

Before you started, what did you think 'an architect does'?

I've always loved architecture where it pushes boundaries and creates something new. I love shows on TV about architecture and I've always enjoyed that. And I worked with a lot of architects in my previous school because we did a new build at that school so I've always found them fascinating people. They have different views of the world and those views come out in the building in the end. But both Mary and Adrian are just gorgeous people, really good to work with.

What was the most pleasant surprise of the outcome?

Just the way the kids and the teachers have embraced it. Oh and the biggest thing is we named it Sandri House after the previous principal who had been here for 17 years. I took her on a personal tour and she didn't know yet. When I showed her the name Sandri House she burst into tears. It was the nicest thing – and she's a tough nut to crack – but she was so proud of that name. But that's really a hard question, I've got so many favourite things. It's really great to win the awards. It's really great to see the community engage with the fun and the joy of that building. But I guess the best thing is just seeing the kids skipping to school every day.

Home Owners

INSIDE OUTSIDE HOUSE
Architect: Craig Steere Architects

Describe the feeling of being in your new space.

We love the fact that, despite our 10m wide site, we never feel a lack of space. For us the creation of the spaces was the most important aspect of the design. The spaces communicate with each other in a manner which pleases our senses and run seamlessly together. A number of the spaces are multifunctional or have shared space, and in so doing actually contribute to the feeling of space in each other. This in turn reduces the feeling of the home being divided up. However, at the same time, as was important for us, the spaces are defined. The blurring of inside and outside is particularly important in creating the feeling of spaciousness.

How did you meet your architect?

In order to choose an architect who suited us, we arranged an interview with three different architects who had designed homes that we had seen externally and which appealed to our aesthetic. We were fortunate to be able to look at and walk through with the owners of a couple of these homes. Our viewing of one of these in particular was very positive and the owners' comments about their experience of the design process and outcome helped confirm our choice of architects.

What was unexpected about the process of working with an architect?

The speed with which design concepts were created was rather unexpected. Our architects were pro-active and original in their thoughts and design. We tried to avoid being prescriptive so as not to stifle their creative talents, so our brief was relatively general and open. Their ultimate design was innovative, yet addressed the important elements of the brief. The architects made considered choices of interesting materials of which we would not have thought. They were always able to explain how their various solutions met our brief and aesthetic. The process was very collaborative.

What did you think 'an architect does'?

We did have some pre-conceived ideas about what an architect does, having worked with three architects previously. Our belief was that an architect would take a clients' brief (including their needs, aesthetic preferences and budget) and then being mindful of these things, create a building solution with design flair, which functions well on the chosen site, incorporates recommended materials appropriate to the design and takes into account the clients' budget.

What was the most pleasant surprise of the outcome?

A pleasant surprise about our house is the way in which our architects were able to bring together the ideas, that we had ourselves and those of their own, into a truly pleasing unified whole. All the ideas seem to belong together. The manner in which our architects handled the slope of the site, creating outdoor areas for both levels of our two level home, and the feeling of spaciousness created by the connection to the outdoor spaces are both concepts we could never have imagined we would appreciate as much as we do. ■


homing

M+C RESIDENCE by Philippa Mowbray Architects. Image: Joel Barbita.

m+c residence

Author **Debra Brown**

Strong versus discreet.

Driving around Devil's Elbow early this morning, high above the river, I was captivated by the beauty of the glimmering water in the morning sun, the remnants of Point Walter like an island breaking the smooth surface. I looked towards the sheer cliffs that form a cove for some of our city's most exclusive abodes, all vying for access to the best views of the Swan. This is one of Perth's most spectacular settings. It is a unique neighbourhood, a special pocket of homes, and the M&C residence by Philippa Mowbray Architects is a standout.

In this context, often the sheer scale of the houses is enough to intimidate visitors and passers-by. It is the skilful duality of this building that is the key to its success. Philippa Mowbray and her team have navigated a 13 metre fall across the site with a calmness and connectivity to the ground that is striking. When many of the neighbours appear perched skyward ready to take flight, this building is settled into its landscaped nest comfortably and securely. The clients requested an "earth connected" house rather than a "sky" house and that goal was achieved with finesse.

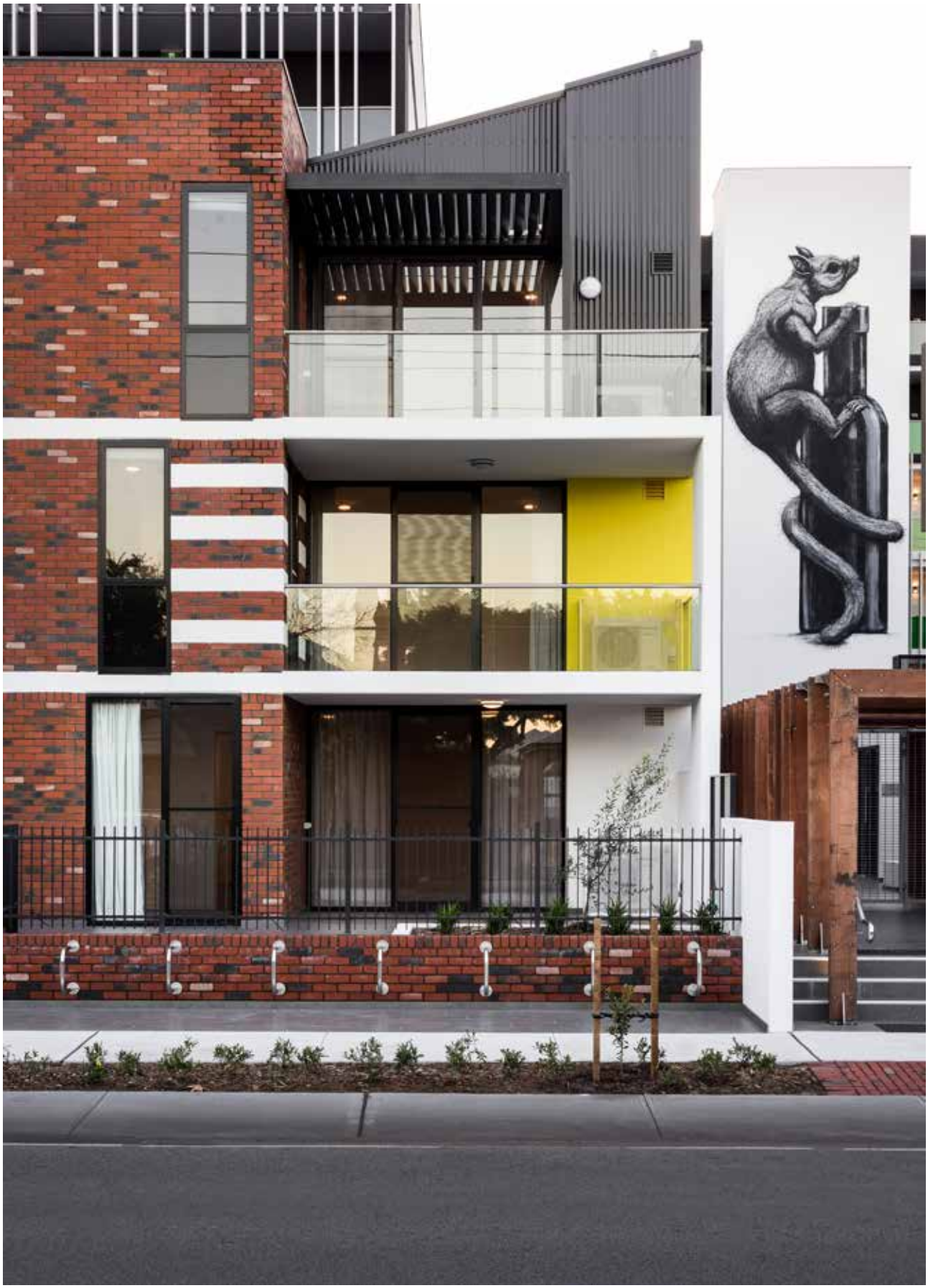
On a battleaxe block, the main visitor and pedestrian entrance is to the west of the house via the narrow leg of the block and the vehicular and family entry to the east. You would expect the most magical moment when visiting this house to involve the spectacular views. But for me, one of the major triumphs of the design is the entry transition sequence that transports you from the street, via a beautifully landscaped walkway, through a gated entry court, guided by the sound of trickling water to the front door. The journey is quiet, calm and discreet and belies the scale and breathtaking views that await beyond. From the moment you begin the journey towards the house from the street, the skilful integration of the architectural language and the landscaping is evident.

Clever planning enables the house to be grounded at each level in spite of the 13 metre cliff-like slope across the site. The main bedroom and living areas are all on one level at the top, with the guest domain on the mid level. A monolithic concrete base at the bottom of the cliff accommodates the garage. All living and bedroom spaces have direct access to external courtyards and terraces. Abundant natural light is drawn into the house from these external spaces which have been carefully landscaped to prevent overlooking from neighbours.

Needless to say, the river views are to die for! Almost every space in the house has access to these views. Carefully crafted screening devices effectively modulate sun, wind and rain. The large living area on the top level opens up to both north and east, turning the house into a balcony seemingly hovering above the water yet still connected to the ground. The architect's project mantra for this building "Strong versus Discreet" is played out on many levels. The strength of the cliff location is emulated in the solidity of the articulated concrete base, offering security and a sense of discretion for the inhabitants. This is contrasted by the lightness of the glazed top level that is set back and floats high above Saunders Street but offers a unique sense of privacy despite its spectacular transparency. Within the house, each space is strongly and beautifully grounded to its own outdoor earth, while also opening out to the river and the sky in an almost fragile and private way… like nobody else is looking.

The detailing and material selection is meticulous and sophisticated. The palette is simple, but strong. The detailing is crafted and finely finished, yet has a robustness that will stand the test of time. It is understated, not ostentatious, like the house itself. The landscaping thoughtfully integrates the house back into the cliff and blurs the delineation between shelter, earth, river and sky.

This project has been skilfully designed. It has overcome the challenges of a difficult site, an expansive client brief and an imposing neighbourhood. It is subtle in its strength. It is delightful in its discretion. We could all aspire to that. ■



The Bottleyard by MJA Studio. Image: Dion Robeson.

the bottleyard

Author **Reece Currey**

A city in miniature.

Flexibility is about choice, the ability to change as needed, and to adapt. Architecture that is flexible allows opportunities for users to choose how to dwell. *The Bottleyard* by MJA Studio provides an array of engaging external living areas, both private and communal. These interconnected spaces are generously scaled, rigorously designed, and showcase the benefits of flexible design.

The Bottleyard was completed mid-2017 in the City of Vincent, adjacent to Robertson Park, a site of richly layered historical significance. MJA Studio's thoughtful approach to scale and form, and sensitive response to the site and its surroundings have resulted in a vibrant and captivating design. The Bottleyard arrives during a critical period in the provision of apartment housing in WA, with the Design WA Apartment Design Policy Draft currently under review. The project contributes a two bedroom plan to the document as an exemplar of quality apartment design. The Bottleyard reveals the possibilities of rigorous and well-considered multi-residential architecture.

MJA Studio have treated the site as a city block with seven buildings separated by vertical voids and horizontal breezeways, enabling light penetration and cross-ventilation for all apartments and common areas. All 125 apartments have two aspects and each is entered via shared external access. This arrangement allows residents to interact, and experience the sun and breeze all the way to their front door. The availability of natural ventilation and light within the apartments, helps to reduce energy consumption throughout. Sustainability credentials are further enhanced by the 260kW of photovoltaic cells on the roofs, ensuring the project will emit 50% less carbon than an equivalent benchmark building over its lifespan.

During the development of the design, community consultation opened up a dialogue with local residents. Prior to MJA's engagement the community had started to galvanize against development on The Bottleyard site in response to a previous proposed development. Concerns over the new project were aired at a community consultation meeting; however when MJA Studio presented their design it was well received by local residents. MJA Studio were awarded additional plot ratio and height by the City of Vincent for fulfilling the criteria of Design Excellence. Any remaining community concerns were addressed when MJA relocated additional discretionary height from Stuart Street to the north-western edge facing Robertson Park in line with community feedback. This engagement prompted members of the local community to embrace and actively advocate for the project in its passage through planning. It's safe to assume that this is a rare occurrence for large scale apartment developments.

The site has a deep history of occupation, both pre- and post-colonisation. During the 20th century it was home to the Perth and Fremantle Bottle Exchange, fragments of which remain as part of the public art commissioned for the project. Untreated timber-framed portals signpost the street entries with cast acrylic fins to the primary entry embedded with shards of broken glass recovered during construction. The fins are the work of light artist James Tapscott, and change hue in reaction to the time of evening by shining in warmer or colder tones.

Coloured glazing is prominently used in the extensive glass balustrades, with tinted light refracting through, splashing onto walkways and walls. Sash windows create a nuanced rhythm to the elevations, coloured bottle-green to bright yellow and orange, adding targeted pops of vibrancy to the facade. MJA Studio have used colour as a wayfinding device for residents and visitors, adding individual identity to each part of the project.

The neighbouring housing is a mixture of styles and scales accrued over time. Nearby Federation-era architecture forms a reference point for the 'blood and bandages' masonry along The Bottleyard's Palmerston & Stuart Street elevations. MJA Studio have integrated ►

The Bottleyard by MJA Studio. Image: Dion Robeson.

references to the materiality, form and scale of the local architecture to form a harmonious relationship with context. Varying setbacks and roof profiles resonate with, rather than imitate, the language of the surrounding housing. The articulation of building envelopes and balconies creates a dynamic rhythm along the facade, providing varying outlooks to the central courtyard and the site surrounds.

Ideally, apartment design is adaptable in order to ensure the needs of an unknown end user are met. The provision of outdoor living spaces on two sides of each of The Bottleyard's apartments allows residents choice in how to dwell through the day and the year. A northern balcony may be favourable for a morning coffee in winter, whilst a southern courtyard catches the sea-breeze for outdoor dining in summer. All units' primary balconies (or terraces) face onto the central courtyard, the surrounding streets or Robertson Park. The pocket of remnant bushland in the park contributes superb natural amenity to apartments along the north-west edge. These apartments look out amongst the treetops which teem with birdlife even on a sunny winter's day.

The majority of apartments are two bedroom, a higher than typical number with one bedroom, and a small portion have three bedrooms. Colour schemes vary between two distinct themes throughout the interiors of the apartments. Interior colour is focussed on the kitchen, with variation in subway wall tile and joinery colours granting further choice to prospective residents. The apartment layouts focus on efficiency and are generous where it makes sense. Floor to ceiling glazing between living areas and primary balconies creates a strong connection between external and internal living spaces. Fenestration onto the internal courtyards is carefully placed to ensure privacy.

The central courtyard contains adaptable spaces for socialisation and relaxation, with built-in seating and edible garden planters scattered throughout. The grander scale of the courtyard is mediated by timber portals. Frames enclose the exterior dining zone, with lighting strung above to further define the space. Artwork by Belgian artist ROA references the site's former use and marsupial inhabitants, enlivening a lift core wall. Meeting rooms in the courtyard are available for residents working from home, an invaluable resource for those looking for flexibility and work-life balance.

The northern and southern internal courts create common spaces for incidental meeting and greeting. Secondary balconies and terraces look out onto these courts, vertically screened with fins to maintain privacy. These fins are planted with creepers at the base to create a living screening over time. Voids running past the front of the fins separate the balcony and walkway, allowing plentiful space for the creepers to grow in the future.

A shared terrace facing onto Stuart Street captures the most spectacular urban view of the site – looking over the CBD from the fourth floor level. This vista is available to all residents, providing additional exterior space to dwell, a vantage point over the surrounding streets and beyond.

The Bottleyard responds to its context with sensitivity, producing a shining example of high quality apartment design. MJA Studio have treated the site as a city block with varied forms and facades, rather than a homogenised mass which aggregates maximum floor area. Spaces between buildings allow for sightlines through the complex and create incidental interaction between residents along these internal 'streets'. The project drives home the importance of maintaining flexibility throughout the design process, and engaging with the concerns of residents. The result is an innovative and thoughtful project which extends the possibilities for future apartment design in Perth. ■

Genesis by Green Fabric. Image: Sebastian Mrugalski.

community-led development

Author **Amanda Hendry**

Offering flexibility in housing.

I saw Eugenie Stockmann present at a UNAAWA (Western Australian Division of the United Nations Association of Australia) speaker night. Her refreshingly honest talk on how community housing can be achieved, addressing the difficult issue of affordability, made her a perfect person from whom to find out more about community-led housing and flexibility in the housing market. The following comes from our conversation about all things 'baugruppen,' eco-villages, build to rent, co-housing, community-orientated and community-led developments. As founder of Green Fabric, Eugenie is pursuing this type of community-led development within a housing cooperative structure, bringing her business background and studies in sustainability to the table with other like-minded professionals. Green Fabric now provides a platform for people and organisations to share ideas and project opportunities, and to connect with a professional network.

As a quick overview, the legal structure of a cooperative is a member-owned enterprise. A familiar example is the grocery store 'co-ops' in country towns, however this structure can be used to provide other services such as housing. All members have an equal say in what the business does and a share in the profits, if applicable. Outcomes are generally driven by a set of values in conjunction with an economic benefit. The cooperative, by its nature, is focused on more than just dividends to members, but rather also includes broader aims of community participation and improvement. The International Cooperative Alliance exists to define and defend the agreed principles of cooperation to meet the combination of economic, social and cultural needs globally.[1]

The catalyst for Green Fabric was a cooperative housing opportunity in the City of Fremantle in 2016,[2] which resulted in a group of property professionals forming a social enterprise to facilitate and promote sustainable community building and living. Green Fabric's role was to develop a governance and finance model delivering perpetual housing affordability for owner occupiers using a cooperative legal structure. A cooperative structure takes time to set up and whilst not ready for the earlier projects it is being used by Green Fabric for an emerging project in Singleton.[3]

Looking to other community-led developments, the One Planet Living sustainability framework, as adopted in White Gum Valley and the Nightingale projects, is explicit in addressing the triple bottom lines of social, environmental and financial sustainability. Green Fabric's experience in building two completed projects in Lathlain and subsequently visiting community-led projects in the Netherlands (Aardehuis in Olst and Lewan in Nijmegen) highlighted the importance of involving future owners and residents in the development process. The benefits are that community-led projects push boundaries that developers wouldn't. The ability to make decisions on design and choice of materials with long-term impact in mind enabled Green Fabric's Siding project in Lathlain to achieve a 9-10 NatHERS star rating for dwellings. I noted that Eugenie's first community-led project, Genesis, which includes her own home, uses straw bale construction for two apartments and two townhouses on the 837m^2 block. When I asked about this material choice, Eugenie commented that of all the challenges in project, the traditional construction methodology of straw bale was not one of them.

It seems that community-led developments are able to take housing innovations that may occur more generally in single residential homes and achieve this at a larger scale with developments comprising grouped and multiple dwellings. These housing developments are adaptable to their members' needs and are not required to meet market generalisations, assumptions, or worse, misconceptions. Residents at the Siding were able to make decisions early regarding the spatial trade-offs of access to dwellings via a communal courtyard and reduced parking to achieve optimal useable communal and green space. In this ►

Genesis by Green Fabric. Image: Sebastian Mrugalski.

Siding by Green Fabric. Image: Daniel Carson.

model, residents have the autonomy to weigh up considerations of capital costs with lifecycle costs and future-proofing for green technology investment. This horizontal decision-making involves all consultants and members as equal collaborators.

Cooperative housing models could make immediate impacts on housing types such as seniors housing to offer diversity and choice. Community living for like-minded individuals has created the SHAC Cooperative in White Gum Valley, which provides affordable housing for artists and creatives.[4]

Whilst the Green Fabric projects are achieving multiple outcomes, Eugenie is honest that true housing affordability in these projects is difficult to achieve. Affordability is commonly defined by "the '30/40 rule' which states that a house is unaffordable if the rent or mortgage is more than 30% of the total household income and the household is in the lowest 40% of the income distribution."[5] Flexibility in housing requires accessibility. Does community-led housing offer flexibility to the market if not all are able to participate? Currently the issue facing community-led developments is the amount of cash (or liquidity) required by would-be occupants for access. In the cooperative structure, membership 'de-risks' projects by taking profit out of the equation. This model has the potential to play a key difference, particularly in the medium and high-density space by delivering housing at cost to future owners and community housing providers.

A concluding remark from WA State Government 2016 paper *Housing Affordability – A study for the Perth metropolitan area*, highlights the challenges for housing affordability. "While 43% of households in Perth are considered very low or low income, only 8% of established dwelling sales between 2013 and 2015 were affordable to these income groups."[6] In Eugenie's role as CEO of Cooperation Housing she sees the ability of these projects to include affordable rent as part of the mixture of home types on offer. On one project, residents were initially sceptical about this idea, however post-occupancy feedback has been positive due to the dynamism of the community and the diversity of residents. Eugenie is advocating for Government to change procurement processes and actively facilitate housing co-operatives, including playing a key role in the funding of these projects provided certain parameters are met.

Next up, Eugenie is travelling to America to attend the 500 Communities program. This program is for entrepreneurs facilitating and building co-housing communities and offers global networking and sharing of ideas. It is exciting to imagine that large scale cooperative housing may change the nature of our cities where questions such as, 'what might suburbia without fences or with shared backyards look like?' are considered and explored in more than theoretical terms. ■

1. International Co-operative Alliance. *What is A Cooperative?* 2018. https://www.ica.coop/en/what-co-operative-0
2. The Co-operative Housing opportunity at Quarry St EOI was released by the City of Fremantle in October 2016. The City advised they would not be proceeding with the project on March 2018.
3. In Western Australia, co-operatives must comply with the requirements of the Co-operatives Act 2009 and be registered with the Consumer Protection division of the Department of Mines, Industry Regulation and Safety. See: Small Business Development Cooperation. *Cooperative*. 2018. https://www.smallbusiness.wa.gov.au/business-advice/business-structure/co-operative
4. Start Some Good. *SHAC Community Hub & Creative Studio*. 2018. https://startsomegood.com/SHAC
5. Government of Western Australia, Housing Authority. *Housing Affordability; a study for the Perth metropolitan area*. 2016. pg 22.
6. Department of Planning. *Planning Provisions for Affordable Housing; discussion paper*. 2013. pg 8.

Hilton Design Competition by Bernard Seeber Architects. Image: Bernard Seeber Architects.

hilton design competition

Author **Andrew Boyne**

In early August 2017, the Western Australian Department of Communities (Housing), in conjunction with the Australian Institute of Architects began advertising for architects to participate in a two-stage design competition exploring new models for public housing. As Perth struggles to accommodate an ever-increasing population without encouraging endless sprawl, the suburb of Hilton has become fertile ground for sub-division and in-fill housing. Hilton is an early post-war garden suburb located 3km from Fremantle, where original lots range in size from 800m^2-1300m^2. The Department of Communities and Housing identified seven of their own sites where in-fill development could accommodate new tenants and the competition focused on the development of those sites. The brief required two dwellings between 60m^2 and 80m^2, each with two bedrooms within one 380m^2 battle-axe site. The design would need to be flexible, so it could be re-arranged and built on the remaining six properties.

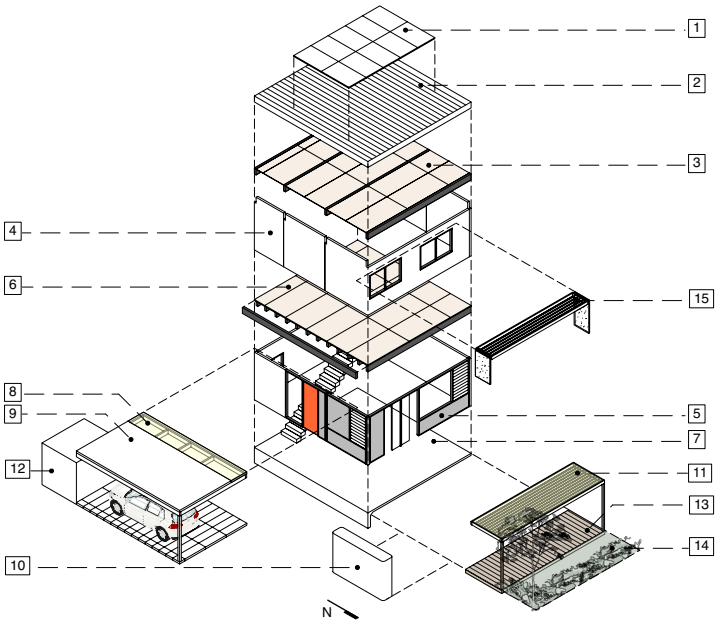
In many ways this was a novel competition. Its small scope and two-stage format made it accessible to many smaller firms and young designers who may not have been able to afford the resources required to participate in larger competitions. It also invited architects into areas of building design where they seldom tread. Public housing, very tight budget residences and suburban battle-axe subdivisions are not the classic playground of architects. The competition invited designers to explore a typology of housing that the vast majority of Western Australians live in.

Even before judges convened, as an opportunity to consider housing of people in Western Australia, the competition could be deemed a huge success. In total, 79 entries were submitted. These entries each explored architectural concepts, construction techniques, density, livability, durability and design in a context which needs more exploration and more participation by architects. Stage 1 of the competition saw the 79 entries narrowed down to four projects; two by Officer Woods Architects, one by David Barr Architects, and one by Bernard Seeber Architects. Stage 2 awarded the entry by Bernard Seeber as the winner, to be developed and built across the seven different sites in Hilton.

In responding to a brief which called for public housing dwellings, each with a budget of $200,000, it could have been easy to be drawn into the trap of designing very hard wearing and utilitarian homes. The winning design by Bernard Seeber Architects; a collaboration between Bernard Seeber, Georgina Willis and Jonathon Strauss resists that temptation and manages to inject a sense of humanity and respect for its occupants that homes of this type seldom exhibit. This was achieved by firmly holding onto a desire to deliver a quality of usability for a quality of life to match homes many times the budget of this project.

Bernard Seeber Architects began by separating the two dwellings of the winning design from each other. This improved sun access and air circulation, but also provided a sense of individuality and independence. Each small home has its own identity, its own distinct outdoor area, its own garden shed, and its own carport. Each home is designed as a clearly independent, functional house, adorned with quality materials and a thoughtful arrangement. This arrangement of individual dwellings is also consistent with the prevailing suburban pattern found throughout the Hilton suburb.

Each site for the competition designs is created in the rear yard of an existing home. Placing new homes in old backyards isolates the occupants from the street and potentially detaches them from the community. To counter this in Bernard Seeber Architects' design, the new houses are separated by semi-permeable screening which provides enough screening to maintain privacy, but also lets occupants become aware of their neighbours. This 'just enough, but not too much' approach is a common thread that runs through all aspects of the design. The driveway is just wide enough so it can be edged with planting, the interior spaces are just big enough to function well, while preserving outdoor areas, and the internal ceilings are just high enough to be pleasant without blowing the budget or resulting in domineering structures. ►

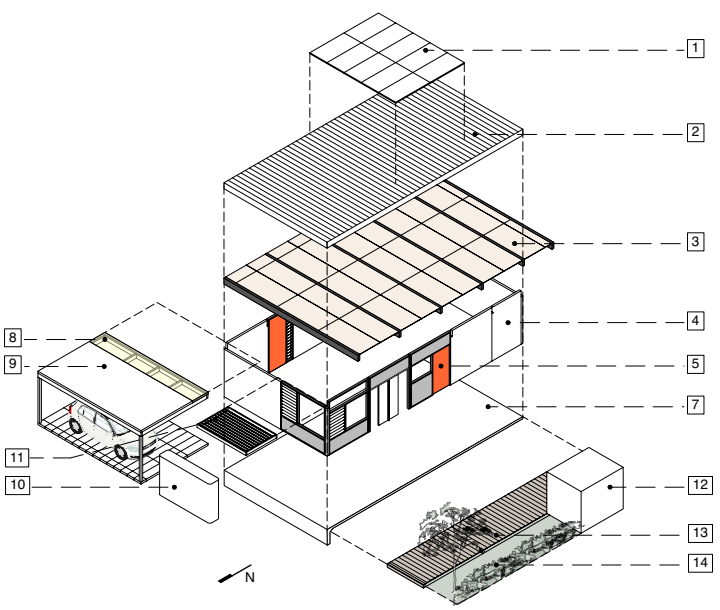


Schedule of Dwelling Components

1 Electrical Services Photovoltaic Cells
2 Profiled Steel Roof Cladding with Timber Framing
3 Timber Framing with Plywood Lining
4 Profiled Steel Wall Cladding with Modular Structural Insulated Wall Panels
5 Modular Joinery Framing with Plywood Panelling & Glazing
6 Timber Framed Floor with Cladding & Lining
7 Concrete Ground Slab
8 Translucent Sheeting
9 Carport/ Flexible Covered Outdoor Area
10 3000L Water Tanks (Optional)
11 Solar Pergola
12 Store
13 Timber Decking
14 Outdoor Living with Indigenous Planting
15 Solar Pergola with Privacy Screening as per R-Codes

JARRAH DWELLING

HDC Axonometric Jarrah Dwelling - Jarrah Dwelling Hilton Design Competition by Bernard Seeber Architects. Image: Bernard Seeber Architects.



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13 Timber Decking
14 Outdoor Living with Indigenous Planting
15 Solar Pergola with Privacy Screening as per R-Codes

MARRI DWELLING

HDC Axonometric Marri Dwelling (002) - Marri Dwelling Hilton Design Competition by Bernard Seeber Architects. Image: Bernard Seeber Architects.

To keep a lid on costs while providing excellent buildings Bernard Seeber Architects were thoughtful in the technical aspects of the design. Their decision to separate the structures allowed flexibility of arrangement on each of the 7 sites, but it also accommodated varied terrain. The units could be individually positioned with differing slab heights if necessary without any need for retaining.

The homes were conceived as timber framed construction. Choosing a traditional trade that is well understood and readily available will likely produce reliable and affordable results. This method of construction is also consistent with the 1940s bungalows in the neighbourhood and offers a nod to the existing character of the streetscape. The new houses are all designed on a 1200mm grid to fit standard sheet sizes and material lengths to minimise cutting and waste. Materials have been chosen that require minimal on-site finishing.

To improve efficiency and simplify the construction of multiple dwellings across numerous sites the architects use repeated details and repeated components. They envisioned a staggered building process where a chain of trades could progress from one site to the next, doing repeated tasks with high efficiency.

Where this project departs from a 'just enough' approach is in the assembly of the buildings. The competition envisions 14 houses built simultaneously across a single suburb. To reduce inconvenience to the community, the architects hope to compress on-site construction times by utilising a panelised prefabricated system. Panelised prefabricated houses make perfect sense. They allow off-site fabrication of easily transportable panels, the panels can be finished on one side, have windows and doors pre-fitted, have all services pre-laid, and can achieve lock-up of a two-storey home within four days. Manufacture of panel houses is commonplace in countries like Estonia and Germany, and produces very high-quality buildings. However, Western Australia's prefabricated industry produces complete transportable modules, and the proposal of the panelised approach is the project's big ambitious leap. Perhaps this could be its greatest contribution to home building in WA. If this project successfully implements a panelised housing system, we will likely see many more examples in the future.

The winning entry is yet to start construction, but the design is already testament to a successful competition process. If we believe that architectural design has value in improving people's lives, and if we believe that value extends beyond producing spectacular photographs, the absence of architects from the vast majority of Western Australian residential construction is conspicuous. The competition held by the Department of Communities and Housing and the Australian Institute of Architects allowed Western Australian designers an opportunity to reconsider their contribution to the broader built environment, and to hopefully hone their residential design skills at the same time.

Bernard Seeber Architects have demonstrated through their winning entry that high quality design, a sensible approach and a splash of innovation can produce very high-quality design outcomes, even when confronted with the most difficult constraints. ■

Nightingale 1 by Breathe Architecture. Image: David Houston.

architect led housing

Authors **David Houston** and **Margarita Simpson**

Frank Lloyd Wright once said that a home of moderate cost was the most difficult problem facing architects in his time. We believe that the same can be said of the present. The news is awash with the lack of diverse housing options that are distinct from the traditional detached house, and the high-rise apartments offered by developers. The engagement of architects in mid-rise infill development is necessary to ensure the quality of homes as our city grows.

After graduating in 2017, David Houston was awarded the Architects Board Prize. He proposed to investigate the housing models of Nightingale and Baugruppen to understand how they work and how to implement them in Perth. So within a week we were on our way to Melbourne to investigate Nightingale, the model developed by Breathe Architecture. The flagship project; Nightingale 1 is based on a replicable, triple-bottom-line model of environmental, financial and social sustainability.

These principles are carried through to Nightingale Village, a unique project where seven like-minded architects are able to collaborate at a precinct-wide scale. Thanks to Nightingale Housing we were able to secure meetings with all seven. Our conversations revolved around remarkably similar interpretations of the brief whilst maintaining their individual design identity. Shared spaces in each design were uniquely expressed in the forms of rooftop gardens, functional circulation spaces and communal facilities. Shared spaces are continued throughout the precinct, where the ongoing collaboration between the architects has resulted in a public mews between buildings, shared light wells, and connections between rooftop gardens.

As an architect-led development, Nightingale is not constrained by the speculative constraints of the housing market and instead responds to the needs of its residents. Through frequent information and feedback sessions residents are invited to participate in the design process. This deliberative design process forms strong bonds of community amongst residents and creates a shared sense of ownership of the building.

Nightingale 1 opens its doors for weekly public tours; Breathe Architecture sees this as the ultimate education opportunity for potential purchasers, fellow architects, regulatory planning bodies and traditional developers to learn about the Nightingale Model. We toured Nightingale 1 with a large group of curious individuals wanting to get a glimpse into the potential of living in medium density housing. The strong sense of community was evident almost instantly when our attention was drawn to the community notice board that described a 'winter warmer' rooftop dinner alongside a flyer for 'Organic Garlic Available Now!' Our tour guide asked the group to avoid excessive noise so as not to awaken a sleeping baby, a common consideration from all residents at that time of day, just small examples of how the community works within the building.

A rawness of design was apparent in many details throughout both the building's common areas and inside the apartments. Exposed services, brass tapware, recycled timber floorboards and refurbished radiators are just some features that not only save on initial up-front costs, but also reduce ongoing maintenance costs. These savings ensured that sufficient funds can be dedicated towards other valuable aspects of design.

Sustainability is a vital aspect of the Nightingale model: with double glazed windows the building doesn't include any mechanical air conditioning systems. Stepping into the apartment we were surprised by the cosy temperature inside, a welcome change from the chilly 8ºC Melbourne winter. The sun was streaming in through north-facing windows which are sensibly shaded by deciduous vines in the summer months. Although each apartment has a generous private balcony, the real 'backyard' is the communal rooftop garden that provides residents with a shared laundry, veggie gardens, beehives, and sweeping views of Melbourne.

For us, having never known any family or friends that have used an architect or lived in an architect designed home, the lack of architectural engagement is a major issue within the profession. Nightingale 1 highlights the value of architect-driven housing where people, not profits are the focus. Through this example it is evident that the involvement of architects is essential to the future of housing in Australia. ■

David and Margarita will next travel to Europe to study other housing examples. You can follow the project's progress at buildgruppe.com.au.

Karakatta Cemetery Perth. Image: Benjamin Juckes.

a dead industry?

Authors **Benjamin Juckes** and **Domenic Trimboli**

We have a housing problem. It has become expensive, inflexible and there's simply not enough of it. You have probably heard this all before. This time however we are not talking about the type of housing you are used to.

Our metropolitan cemeteries have become a dormant typology. Once placed politely at the edge of our City, and perhaps our minds, they now need our attention. Intense urbanisation along with unprecedented population growth has left our cemeteries overcrowded and confused about their urban identity. The recent decision to allow a new mixed-use development over a portion of the East Perth Cemeteries site is a reflection of these pressures and they are also being felt interstate. Suffocated by surrounding suburbs, most of Melbourne's inner-city cemeteries are near capacity. In 2017 the New South Wales government predicted Sydney will have a severe shortage of graves by 2036, a date which will arrive even sooner for the city's northern and southern regions.

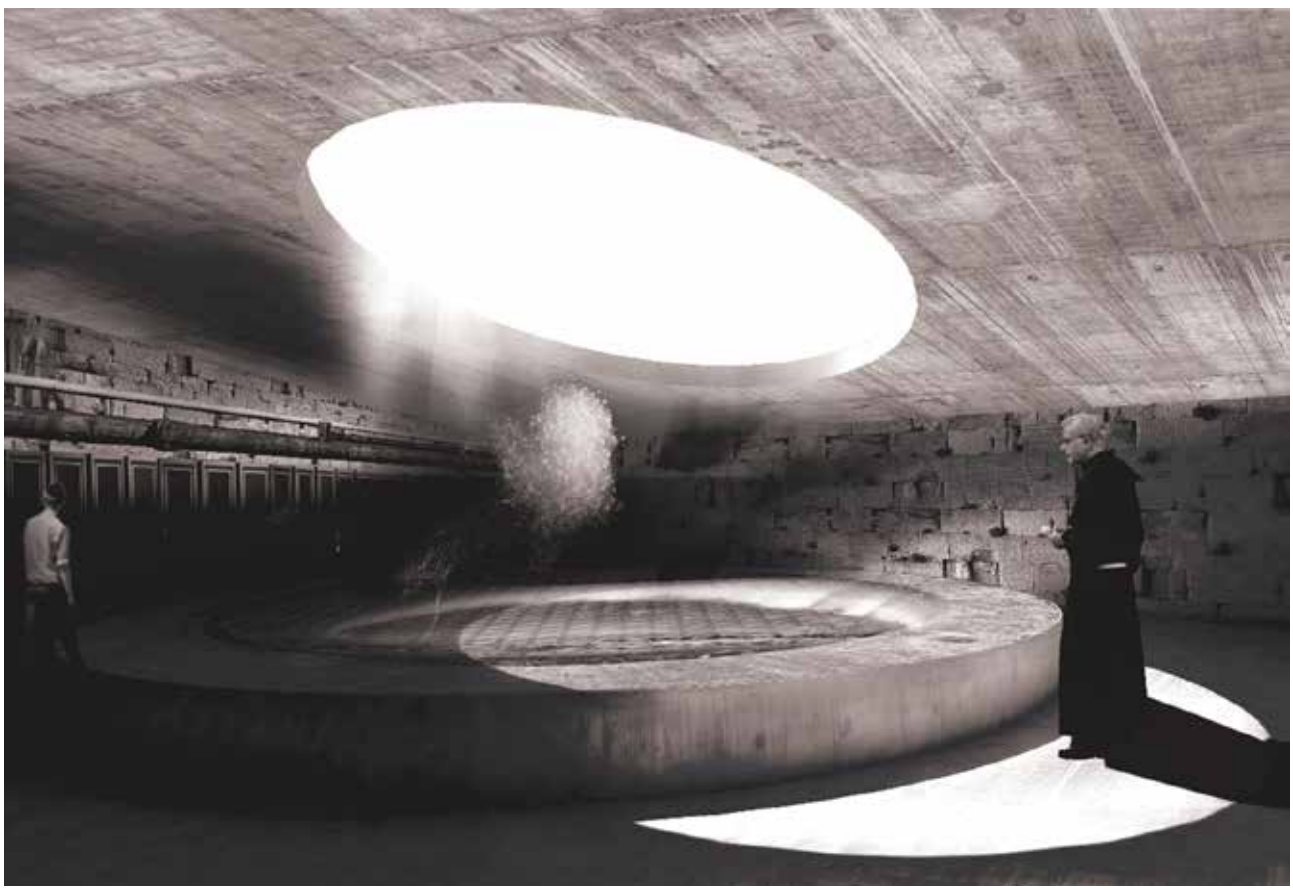
Unlike most interstate counterparts, where plots can be purchased in perpetuity, Perth plots are generally limited to 25-year renewal intervals. In theory at least this should allow space to be constantly available for generations to come. However even with cremations at an all-time high, population growth will always be greater than the limited space allocated for burials in our urban areas. This translates to hiking costs of interment as well as visual clutter amongst areas that were once peaceful places to rest. It is therefore safe to say cemeteries need a course correction. That means a course that responds to our urban, societal and cultural needs, not only to eliminate the infrastructure burden but also to enhance and build on the purpose of cemeteries.

In relation to cemeteries, 'housing' in its traditional sense can take on an entirely new meaning. After what seems like a lifetime in the 'cloud' we need to consider ways to accommodate the data of the dead. Whether you are buying concert tickets, posting a photo on social media or digitally monitoring your training, every moment spent online results in an amassing of data, a continuous flow of information, about you and your life. We could let that data remain in a server somewhere or we could reclaim it – try to keep it 'alive'. By consolidating the physical realm with the digital, the challenges and architectural possibilities of how we house our departed broaden considerably.

Without diminishing its important religious and cultural value, funerary architecture can be understood via its dual functions as a place of memory and one of 'practical' storage. To achieve these objectives we have historically utilised the mediums of graves, urns and tombstones. Perhaps like the old library model they are now an antiquated way of archiving information. However adding our 'alive' data to these receptacles can enhance the role of memory in funerary culture. After all, today we often rely more on our phones to remember than on our actual memories. Funerary architecture should become a place not only for family and friends to remember but a collective history that will effectively keep on living – a history that is mobile and shimmering. At first this vision might simply take the form of a biography assembled from social media accounts and other public forums. But as we get more sophisticated and accustomed to new ways of remembering, it is possible to imagine interactive navigation of events and periods from a life, leveraging an ability to collapse and expand timelines in order to explore, reflect and even to take a history lesson.

Utilising our data in this way suggests the idea of a 'Decentralised Cemetery'. This new decentralised model could be accessible from anywhere. Or it could take the form of satellite locations of digital memory sprinkled throughout a city: places to step away to in order to be reacquainted with the past. These satellite cemeteries might benefit from developments in how data is manifested: through a proprietary process known as "*DataScaping*" it is now possible to encode data into physical form. Much like a vinyl record we can 3D print our chosen memories into informational topographies or data sculpture parks. This makes exploration of family trees and heritage easy, accessible and interactive – ►

Speculative project for Jindowie Cemetery, North of Perth WA by Benjamin Juckes, Master of Architecture Thesis ('*A Funerary Paradigm*') The University of Western Australia, 2013. Image: Benjamin Juckes.



Speculative project for Jindowie Cemetery, North of Perth WA by Benjamin Juckes, Master of Architecture Thesis ('*A Funerary Paradigm*') The University of Western Australia, 2013. Image: Benjamin Juckes.

even architectural. Our digital lives therefore have a value extending beyond just memory: they could become part of the urban fabric.

What such ideas begin to demonstrate is that cemetery design actually has immense potential to be easily integrated into other public infrastructure as well as any number of cultural and social institutions. We could even donate our data sets for scientific research – like an organ donation or an anatomical bequest. Improvements in data encryption, especially with the development of blockchain technology, bring us much closer to making this a secure and reliable process. Data can therefore be reliably used to improve population health holistically, leveraging big data to identify trends across medical, financial and geographical records with cross references to our consumer habits, education and daily exercise statistics.

If there is something socially confronting about this it might be that such an architecture (a social as much as a physical one by now) compels us to put aside our reluctance to discuss death and to actively engage with any newfound possibilities regarding it. If anything we live in a society that through everyday advertising, print and social media, self-help books and the like promotes the iconography of ideas such as staying young and combating signs of ageing. For social philosopher Roman Krznaric however, the idea of death being a social taboo is a relatively modern phenomenon that is not at all representative of historical tradition.

Not all that long ago, funerals were large processions; people spent their last days in their homes surrounded by loved ones and cremations were a rarity. Today, death is much more discreet, even clinical in acknowledgement. Funerary structures, if there are any, are relatively standardised and services run to a tight schedule from a relatively common template. So what? Well, it is precisely the lack of visual symbols of death's memorial, whether they are *momento mori* or overshadowed cemetery precincts, that Krznaric argues has been detrimental to our wellbeing as a society. The compartmentalisation of death has effectively denied dying its purposeful place amongst the living: that is to serve as a reminder of our own mortality and to live our lives to the fullest as a result.

In hindsight, the concept of a cemetery as a permanent infrastructure solution to our temporary existence was never going to be sustainable. A much better end point then is to create something that is flexible enough not to be tethered to one physical place: a cemetery that can grow and adapt with a city and society. Inevitably then for Perth's future funerary paradigm that leaves little choice but to engage with disruptive technologies, data sets and new hybrids of architectural typology. This will benefit not only the way we manage memorials from a design infrastructure point of view but also the way we actually engage with death and its associated architecture. Ultimately this new cemetery paradigm will not only reinforce the past but become part of the present as well. Old cemeteries may also gain a new lease on life because they can be utilised in new ways. This raises larger questions about grieving, perhaps allowing us to face the reality of death a little more than we currently do, so that what seems confronting now, might instead prove remarkably liberating. ■


practicing

Staple Store. Image: Claire Hart.

stacked

Jaime Mayger speaks with **Dirima Cuthbert** and **Loren Holmes**

A practice of architectural thinking.

There are unique and under-recognised applications for architecture outside the traditional mode of practice, combining architectural thinking with alternative skills, experiences or industries. Here at the edges of the definition of architecture – within it, outside it or at the cusp of it – we can find a large proportion of talented architecture graduates who have found homes for their skills in unexpected places, surfacing in graphic design, anthropology, industrial design, furniture making, research, art, project management and place-making, just to name a few. Architectural thinking is a valuable export and these alternative modes of practice are a missed opportunity.

The above list of professions has come out of a project to find and connect with expatriates of the traditional modes of architecture (contact stacked.perth@gmail.com to get involved). The project aims to place value on the architectural training of people not currently focused on building buildings. What began as a personal journey soon revealed itself to be a common experience. There are many reasons – both positive and negative – for the decision to find an alternative application for architectural skills. Some are familiar subjects to the profession, including work-life balance, gender and pay. Others are less familiar or more personal, such as perceptions, expectation and creative expression.

Below, Dirima Cuthbert and Loren Holmes grapple with the breadth, place and value of architecture in their own journeys in and around the profession. Dirima combines her qualifications in anthropology and architecture to help better understand what designed objects mean to us and how they shape our culture; and Loren's experience in multiple fields and professions, including architecture, have culminated in a particular knack for design, strategy and communications at To & Fro Studio.

If not 'Architect,' what do you call yourselves?

Dirima Cuthbert (DC): I used to call myself an anthropologist, but it didn't fully acknowledge my interest in design. I look for the cultural values inherent within designed objects. Design has always been implicit in what I do, so now I call myself a design anthropologist.

Loren Holmes (LH): I usually use the term designer now, as a cover-all. Or, design communications specialist. If I need to get more detail across, I sometimes layer it up – 'I come from an architectural background, I'm a design and communications specialist, I use words and images to make nice things and share good ideas.' But the element that links the things I do is the design. So, designer captures that well.

DC: It's a frustrating question for many people though. I used to be envious of my husband because he can simply say, 'I'm an Archaeologist'. But then people assume Egypt or Ancient Greece when in fact he works in Australia with Australian indigenous culture. Difficulties arise for many people in naming what they do, even when their profession fits neatly into a field.

What has your journey been like, toward what you are now?

LH: In a way, you could say that I've been 'side-stepping' for a while – all as a result of my natural affinity for visual and verbal communications. Within project teams, I always leaned away from the traditional 'architectural' roles and towards the creation of whatever wasn't a building. In London I joined the communications team at a large architecture firm. This really confirmed for me that I get a kick out of using design to deliver clear messages, whatever the medium.

DC: Because architecture was my second degree it was always going to be anthropological – it was never a question of changing course, just a question of how I was going to encompass both going forward. When ►

Teaching: UWA Exhibition 2018 Third Year Studio taught by Sarah May and Loren Holmes. Image: Loren Holmes.

I inherited a store from friends it had to be relevant within my design and anthropology interests. The bumpiest part has been trying to massage it all into a career that makes sense for me and I think that's one of the challenges for anyone who has multi-disciplinary interests. We can all do a little bit of this and a little bit of that but how do you make it continue vertically rather than horizontally? I can keep all my learning separate and be at a low level – as an anthropologist, as an architect, as a shop owner – or I can try to stack them up, bringing all those pillars into order.

How has architecture - or the study of architecture - returned to what you're doing now?

DC: I've never stopped teaching the history and theory of architecture. So, that has stayed consistent. In fact, it has been incredibly relevant for my store – understanding how people live and how design can help us live better. In this way, Architecture is just a humanist approach. These skills all help me better understand what designed objects mean to us and how they shape our culture.

LH: I'd say I haven't needed it to return – the base concepts of architecture have been essential in each step of my career so far. My business partner and co-director at To & Fro Studio, Rosie Halsmith, has a background in landscape architecture so we're both all about using a rigorous design process to solve problems for our clients. This is definitely something that was instilled in us during our studies.

DC: Architecture offers things in ways you wouldn't think. An architect or designer can cut across culture, gender or age to find meaning in ways that other disciplines can't.

LH: …and across scales too. Architecture taught me the value of approaching a problem broadly, then applying, testing and clarifying it across scales. This ability to understand application and iteration in both broad and specific senses is a useful tool for the work I do now.

DC: You're right. Architecture's general understanding of people and behaviour – how we occupy spaces for example – can lead to deep insights that are quite unique.

You've both suggested that this miscellaneous realm of architecture that you work within should be framed positively…

DC: Absolutely! It's got a lot to offer. There have always been people building amazing buildings who aren't architects. Equally, we've always had architects doing amazing work other than building buildings. I've never really considered what I do to be outside – or for that matter inside – architecture.

LH: I think there's a real opportunity for this to be communicated and understood right from the beginning. At a tertiary level, for example, I think there's room for a conversation about design qualifications as a gateway to so many professions and possibilities beyond being an Architect.

DC: Especially in those first three years which make such a great introduction to design and can really take you anywhere. There are so many good opportunities that can come with that degree and building buildings is just one of them. ■

Shane Winter at work in Penhale & Winter's Berlin office. Image (cropped): Andreas Bohlender.

flexible practice

The Architect in conversation with **Shane Winter**

Shane, you are over there in Berlin, and Drew Penhale is here in Perth. How does that work?

Our projects are primarily based in Western Australia so our practice works in a way that is physically removed from me here in Berlin. It requires a lot of nurturing to maintain connections and dialogues with each other, clients, consultants, contractors and suppliers. To do that Drew and I generally set specific times of day that work around our family lives – sleep times, and drop off times for our children – because we are fathers of young kids. This adds another level of complexity to our situation but also frees up some opportunities as well.

It's been a journey to find a way to enable this mode of practice to happen. We remain connected through a cloud-based platform so any work that we do goes up to the cloud and we can see it almost immediately. We can talk over ideas on our screens, we can print things off and talk about specific aspects of our design. We're fully in the loop in that sense we're constantly connected through the cloud and a combination of online conferencing, email, messaging and phone calls.

I still consider my practice with Drew to be a studio-based practice even though we're working from our home offices and we're thousands of kilometres away from one another. I feel like this entity exists as a space for sharing ideas with one another. One of the advantages of being apart is the ability to look critically at something when it's presented to you. You're able to gauge something fresh, or anew. You can look at it carefully, you can interrogate it, you can have this whole process of analysis and reflection. And then some refinement can come out of that.

Is there a parallel between the way you practice, and teaching architecture online?

I bring that up with my students, that in many ways the method in which I practice is similar to the way that they are studying. It's remote, it's removed, but it's totally connected at the same time. Particularly with the first year students, we're trying to foster the idea of an online studio culture. There is a support network around students who are working by themselves in the form of the online platforms they are using. These platforms are emulating as best they can the physical space of an architecture studio.

Do you feel like yours is a typical practice, even though it is distributed on either side of the world?

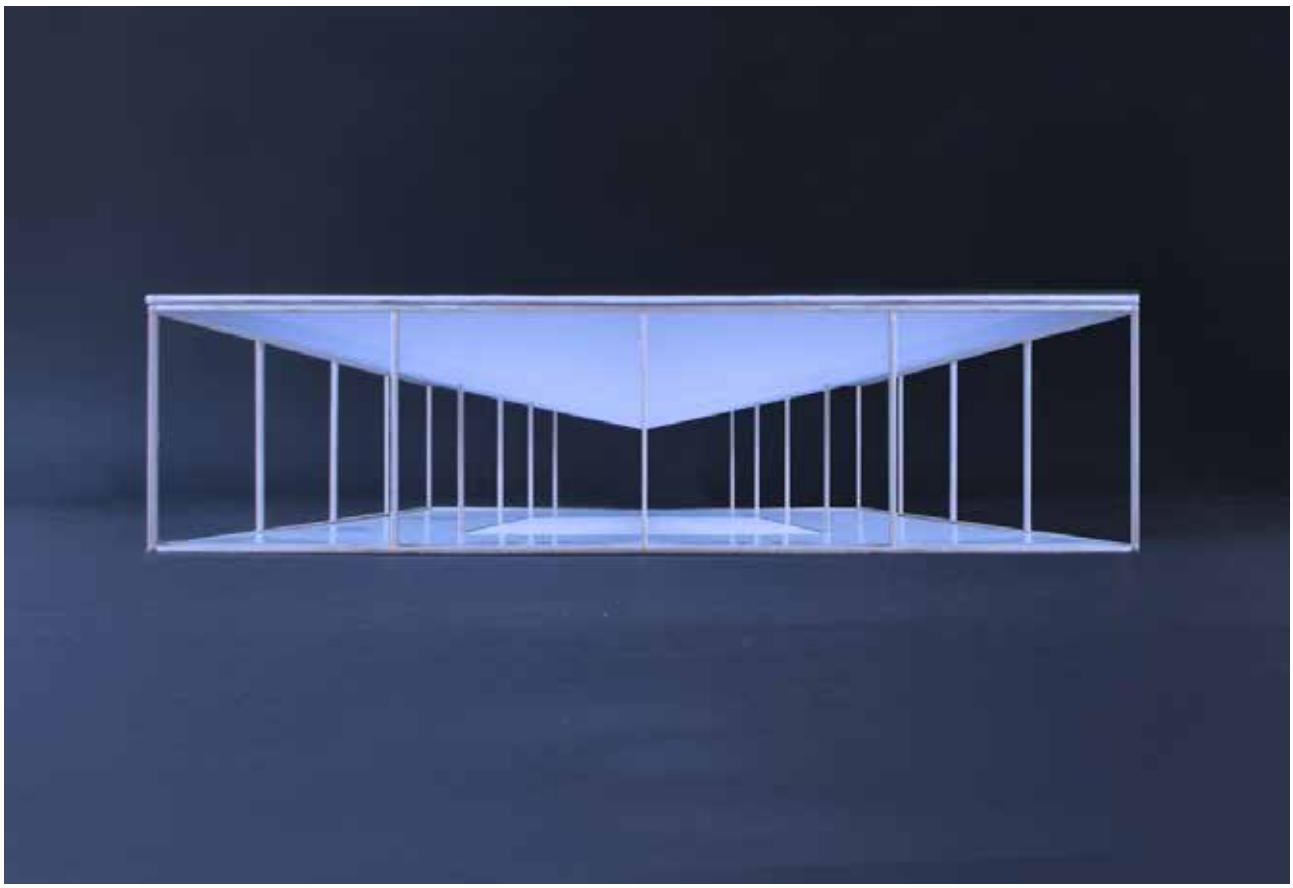
It is a-typical, but becoming more common. When I first came here to Berlin, in 2009, I worked for Roger Bundschuh. Three quarters of the work I did for him was based in China. I had daily communication with the people on the ground in Beijing: information was going out at the end of our day, and then when I got to the office the next morning there would be information in my inbox. I think it is becoming more common. Distances are becoming less of an issue. But at the same time, I also recognise the need for physical connections with people within specific locations.

You are both parents of small children too. Does work life balance or blur?

Both Drew and I work from home offices, so the separation from work and family life is non-existent. I get up and I turn on the computer straight away. It's not an extremely healthy model. I would say that I'm pretty much dedicated full time to the business whether that's through ongoing projects or through competition work or updating the web presence.

With both Drew and I being parents and work-at-home dads, we really need to be flexible with one another and respectful that we are both engaged parents. It's a balance. We want to be engaged with our kids, and give them the time that they need, and we need to maintain our family lives but we also need to maintain the business as well. Of course it can be quite stressful at times. But I think respect is a really important aspect. We acknowledge each other's position and we support each other with respect. I know that ►

Steps (Samson Street Addition) by Penhale & Winter. Image: Penhale & Winter.



Columns & Inverted Roof (NGV Garden Room) by Penhale & Winter. Image: Penhale & Winter.

Drew is completely present with his boy. And I would like to think that I am the same also, more so maybe, with my young son now than with my daughter when she was the same age.

I think the difference is that I'm working from home this time while my wife is on parental leave. So he might wander in during the day as I'm working and sit in my lap for a while or I might take a moment to have a play with him on the carpet in the living room. And that's very a-typical I think: the presence of our families in our work lives. It can be distracting and completely frustrating at times but I'm also very aware that my boy is going to be this age only for this small amount of time and I want to be there and experience it.

Anything else you want to say about flexibility and your practice?

I think flexibility is about balancing the three aspects of our lives. For Drew and myself as the partnership there's the practice responsibilities, teaching responsibilities, (Drew on campus and me online); there's also the parenthood and family thing. So I think flexibility for us is based around balancing these three aspects.

I think transparency is a huge thing for us, we have to be open and honest in our communication. Whether that's keeping track of hours that we work, or our frequent conversations with each other. That's what makes our practice work: the constant connection. That relationship is something that we do need to constantly nurture. It's the same as if we were sitting opposite each other at a desk, we need to treat it in a similar manner so that while we might be removed from one another we still maintain dialogue and discussion.

When I think about our practice, I feel like there needs to be this balance between the more analytical, pragmatic side of architecture alongside a more emotional response to it. In terms of both teaching and practice, I like students and us to develop dry hardline drawings (to interrogate architecture through plans, sections and axos), and then through this other aspect that inserts the feeling as well. Drawings or models start to pick up the material feeling or atmospheric qualities. That conversation is really important in our practice: not just working out the pragmatics, but how is feeling carried in each project.

That's flexibility right there – the grappling with all these aspects. You can't reduce it down to one or the other of the hard pragmatics or the messy relationships. They have to exist with one another. ■

Image: Courtesy of UDLA.

wadjemup

Tod Jones interviews **Greg Grabasch**

What are the key processes that have shaped the landscape of Rottnest Island?

Wadjemup was a very powerful place in a lot of peoples' stories. It was separated from the mainland 7000 years ago, and as soon as you actually understand how recent that is you can see how it still holds strong memory for Aboriginal people from all over the state.
It's not long ago in the conception of Aboriginal people that this place was separated. The Noongar associate Fremantle, or Walyalup, with crying: looking across toward Wadjemup and seeing what is gone.

For some Noongar people it is a place the spirits of ancestors pass through on their journey. I speak to a lot of Aboriginal people in the north and when down here they often go to Fremantle. It seems like Wadjemup is the endpoint, or focus, of many story lines.

After colonisation, Wadjemup became a prison, a place of incarceration, and as a prison island it also had different periods. At first it was set up in a more ethical manner, where the mob could move around and fish and do what they needed to do. Then a strong man came along, Henry Vincent, and turned it into a hell hole. They were the bad years. Terrible things happened then, and that's when colonisation was moving further north and pulling people down to Rottnest in chains. The third period began with the prison closing and the island reopening as a resort. There were still Aboriginal prisoners who became servants for peoples' holidays. There are holiday pictures with Aboriginal servants in the background.

What work is UDLA doing on Rottnest Island?

We have been asked to look at the burial ground. Since 1984 it has been discovered that there were at least 400 people buried there. We have been asked to see if we can get a state consensus on how we respectfully treat this place. We are running a very open ended process, and we are right at the start of it.

How widespread are the Aboriginal connections to Rottnest Island?

There are the stories I mentioned and the colonial connections are still to be realised. We (European Invaders) did an amazing job of documenting the colonisation of Western Australia. White people in authority took lists, and were sticklers for the rules. Most Western Australians do not really have an understanding of what the trauma of colonisation has meant to the Aboriginal groups which have been broken up. When the great warriors and lawmen were taken, the groups were pulled apart because of what happened at Wadjemup. The process for the burial ground is a part of truth-telling and healing these wrongs.

Are there ways or models from other places that you think could help people think about how to engage in healing after trauma like this?

There is a Hawaiian Indigenous person who is telling us about an island off Hawaii that was used for incarceration. She calls it 'islands of violence and healing', and she makes a very strong connection to Wadjemup. There is Robben Island in South Africa and places like Glencree in Ireland, a place of violence that has been set up by the Irish for healing and peace-building for people involved in violent conflict. They have incredibly good programs for processes of healing and building peace.

What is the process that UDLA is following to consult with custodians?

We are careful to be sure the process is Aboriginal led. It has some great Wadjuk Noongar advisors Karen Jacobs and Gordon Cole, and they are directing the project and setting its priorities and consultation processes. UDLA is facilitating the process. We are trying to build knowledge and build upon knowledge so it is directed. This is moving towards truth-telling and healing.

There are six or seven places that we will go back to twice for workshops with the same people, in groups of 30 to 40. We are travelling around WA as much as we can with our funds and talking to elders. We like to do three workshops with each group, but only have the funds for two.

The first workshop is to understand the context, and the opportunities around the burial ground. The second workshop presents options that build on those opportunities and the stories that people have offered, which is when people get excited because all of the stories and things people talk about begin to fold into a way forward. The third workshop would set out the way forward.

Even if people don't get their first option, they understand how we got there because there is a strong inclusive and shared process. We share peoples' thoughts with one another, towards a preferred way for everyone. ■

Still from THE ZONE. Image: Stefan Gosatti.

bodies in space

Olivia Chetkovich speaks with **Jonathan Lake** and **Raewyn Hill**

Form, function and light in dance and architecture.

In September 2017, I was lucky enough to attend Perth-based contemporary dance company Co3's powerful performance of THE ZONE at the State Theatre Centre, where they have residence. A response to the Christchurch earthquake, and the way communities come together to re-build, THE ZONE explores themes of stress, trauma, support and repair. Artistic Director and choreographer Raewyn Hill collaborated with Japanese architect Satoshi Okada for the design of the compelling set, which the dancers seeped in and out of, ricocheted off and dynamically embodied throughout the performance.

Architect Jonathan Lake from HASSELL helped broker this interdisciplinary, international collaboration. He and Raewyn Hill provide their thoughts on what working flexibly means for them in bringing together the design processes of architecture and dance.

Jonathan Lake - Architect

How did you come to be involved with Co3 for THE ZONE and what was your role?

I met with Raewyn Hill about four years ago through a good friend of mine, Margrete Chaney, who is a founding board member of Co3. Margrete knew I have always loved contemporary dance for its purity and richness of ideas when it comes to form, space and movement. To me, contemporary dance uses form, space, material and light to influence bodies in space in the way I'd love architecture to. The relationship started around simple discussions about what opportunities there might be to work together; to see if there were any intersections or overlaps between contemporary dance and architecture.

What was the process to realise the show in terms of the collaboration between the choreographer and the architect (and yourself)?

My role was very minor really and probably focused chiefly on helping bridge the communication of ideas between dance and architecture. There are similarities, in that both are founded on the exploration of ideas in space, however the method of communication and exploration are quite different. The communication of architecture is not something that is bound by cultural barriers such as language. My role was to help, through modelling in Rhino, communicate the concepts produced by Satoshi Okada. I was also able to help distil a typical architectural design proposition into something that could be constructed within the theatrical environment. Constructability issues are different in theatre and therefore require an alternative approach to delivery. For example, the design needed to be prefabricated so that it could be constructed for rehearsals. Then it needed to be easily demountable so it could be transported and assembled in the performance venue. This attitude is quite different from the architectural ambition of permanence and durability.

How would you define the flexibility in this collaborative process?

In principle I think it's more accurately described as a transdisciplinary process. Creative practitioners such as choreographers have a much more integrated outcome than in architecture. To create performance pieces, all the members of the works need to be in the same room at the same time to create the work. The choreographers work with the performers, musicians and lighting and set designers to create the work. The process requires all members to work and develop ideas together.

In what way do you think flexibility is most valuable?

I think there is great value in adapting our creative processes to be much more transdisciplinary. We're all familiar with the notion of disruption which is so popular. However, the future of the built environment is going to be much more driven by a multitude of inputs from increasingly diverse backgrounds. ►

Rehearsal of THE ZONE. Image: Michael Maclean.

The sooner we can embrace the opportunities of more integrated creative processes, the better. If we can do this then there is the potential to create much more experientially driven outcomes that could move people in a manner similar to that of contemporary dance.

I understand you are working on another collaborative project with Co3. What is this work and does flexibility play a role again?

It is very early days, but a super exciting opportunity for next year. We still have a long way to go but the exciting part is that it will be work set over the duration of a few weeks. It will be a piece in which the boundary of what is the performance piece is not so clear, bringing performer, viewer, space and sound into one place. It will not be set in a theatre with a static arrangement of seating and stage.

Raewyn and I have also been working on having her input into works that we are creating at HASSELL. We have invited her to participate in our internal design review of projects with the hope of exploring more broadly the creative opportunities in our work. This is something I am really excited about.

Raewyn Hill – Choreographer

Throughout the collaborative process, in what way did you find you had to work most flexibly? What was the effect?

The creation of dance by its very nature is a collaborative process and for me, teamwork, communication, inclusivity and flexibility are the keys to any production. The creation of THE ZONE was no different, we had just included a new discipline in the conversation. It was the first time I had worked with an architect, however at our very core I believe we seek the same outcomes: to move bodies through space, where function, form and light allow us to create emotional responses to environments. I have always thought of architects as choreographers, and after discussions with Jonathan and Satoshi I was struck by how similar our creative processes were. I was so curious to see the transference of these conversations as we challenged ourselves to create a solid but impermanent structure.

Probably where the most flexibility came in was on a functional level, around measurements and the use of materials. We had to build the structure in the studio first as I needed to create the work on the set and the dancers needed to build physical strength.

To ensure that the dancers could physically move on and through the walls, we compromised on the size of the gaps in the walls and the height of the walls – 5cm can make or break a dancer as they fall head first into the performance space! ■

• • •

THE ZONE was nominated for Outstanding Performance by a Company and Raewyn Hill was nominated for Outstanding Achievement in Choreography (THE ZONE) for the Australian Dance Awards.

New Cosmati patterned floors are designed to complement and enhance the existing design. Image: Debra Mitchell.

st francis xavier cathedral precinct

Author **John Taylor**

Conservation and enhancement.

Completed in November 2017, the conservation and enhancement of the St Francis Xavier Cathedral Precinct has been part of a rather lengthy journey. I first came across the inspiring work of the priest-architect John Hawes in the 1960s when visiting his cathedral at Geraldton, en route with family to Shark Bay. The awe-inspiring volume and the use of interior colour remained in my memory, as did my surprise at the impressive beauty of this iconic place in WA's Mid-West Region.

My study of the man and his work became a consuming passion. Many long drives within WA, and three round-the-world research trips investigated first hand the complete works of Hawes. Gradually I assembled increasing amounts of information on this fascinating and important architect.[1]

During my early Hawes research enquiries I met a very kind and welcoming fellow named Justin Bianchini, who was to become Geraldton's longest serving bishop and my good friend. I began to gently point out to Justin that the Geraldton cathedral needed work, and that the John Hawes story was part of a much bigger picture. Bishop Justin patiently weathered my badgering about the value of Monsignor Hawes' legacy, and by 2011 the Diocese was finally in a position to embark on the arduous fund-raising required to allow the cathedral works to proceed.

There were of course many practicalities that needed to be addressed in the planning stages to ensure that the cathedral remained a vibrant and working place. We were faced with bringing the cathedral up to current Building Code requirements. So we gradually planned activities that would result in significant restoration works to the somewhat deteriorated fabric of the cathedral, but would also provide enhancements to the overall site so that they would both benefit the broader community and assist with the upkeep of the grounds.

Contemporary Context

The design process for integrating the Monsignor Hawes Heritage Centre and the Mid West Garden within the overall Cathedral site involved examining a number of different potential schemes. It was important to understand how the place worked within the context of Geraldton – its acknowledgement of the adjoining Nagle College whose teachers, students and parents traversed the site every day, and of the overall precinct with the adjoining park, theatre and council offices.

Understanding the broader and then very local micro-climate was critical. Conscious of both the hot dusty inland winds and the thumping salt-laden sea-breezes at Geraldton, the orientation of the Heritage Centre and the position of the sunken garden take advantage of the level changes across the site. The Heritage Centre is deferential to the principal facades of the cathedral and the Heritage Centre also enhances the axial views to the elevated cathedral, with its crowning zinc dome.

The cathedral precinct is a shared central space in Geraldton, where the Church is encouraging interaction with its community. Inviting the community to share the space is also a means of evangelisation, encouraging community understanding of the message of faith. We were careful to add interest and details to the precinct at every opportunity to ensure that as people move through the gardens, buildings and spaces they discover new points of interest. By this process, and with interpretation aids, viewers are encouraged to seek further understanding of the place. And of course the development of the Heritage Centre was a great opportunity to relay a superb story, and encourage interaction with both visitors and the local community alike. ►

The site falls considerably from the cathedral in the east, across the Monsignor Hawes Heritage Centre and toward the Mid West Garden at the west end. Image: Debra Mitchell.

Polished concrete labyrinth in front of the cathedral – symbolic of pilgrimage. Image: Debra Mitchell.

Historical Context

Understanding Monsignor Hawes' original intentions for the cathedral was important. We have been able to add many of the things he wished for – such as the clocks, first drawn in Rome in 1913. Other finishes that Fr Hawes wished to use on the cathedral included a zinc dome, and tiled roofs but these had by necessity been omitted within the austerity of the 1930s. With the new works, the originally conceived aesthetics have been realised.

It has been illuminating to work with the intricacies of liturgical symbolism, designing both functional and appropriate artworks to enhance the cathedral precinct, including the playful labyrinth. John Hawes' eclectic and Cosmati-inspired design of spiral motif flooring within the sanctuary of the cathedral had fascinated me for many years. So when on holiday in Europe I recorded examples of the fabulous Cosmati family's mosaic work. My wife calls these visits ABC tours, that is 'another bloody church'. With the poor quality of the existing concrete floor outside the sanctuary and the need to find ways to reticulate new electrical and audiovisual services throughout the cathedral, I gradually evolved the concept of floor box channels to distribute new services, and new Cosmati patterned floors to complement and enhance the existing design. We were fortunate to find talented local craftsmen willing and able to put the ideas into practice.

Researching the availability and colours of local granites and limestone, we modelled a new Four Evangelists water feature in front of the Cathedral. The design of the new baptistery features a font that also incorporates local stone. The immersion pool has a glass mosaic lining with a scallop shell as the symbol for baptism, and the colours symbolically move from the darkness to the light as one traverses the pool. Niches in the column behind were developed to display holy oils associated with the baptistry.

Another of the interesting 'added-understanding' stories in this project was finding the 1921 grave of the original Bishop, William Kelly. Even though it had been concreted over with works under the dome in the 1930s, following research for the Conservation Plan I was reasonably sure where it was located. With added input from Fr Robert Cross, a trained archaeologist, we were able to design a new tomb and place a glass floor to reveal its brick vault and also to highlight under glass a 1920s copper effigy of Bishop Kelly by the renowned sculptor Pietro Porcelli, a fabulous Hawes-designed artwork that had previously been hidden away.

To ensure the early paint schemes were fully understood we undertook a paint scrape investigation and report in the very early days of the documentation and also brought a specialist art painter from Perth to assist with restoring the original Hawes colouring and the pre-Vatican II Latin lettering in the Cathedral. For appropriate specialist expertise, the stained glass windows were all brought back to Perth for restoration, and we commissioned two new ones that have been placed in the cathedral. But the majority of the builder expertise, artisans and tradespersons involved in the works were Geraldton-based enterprises, reflecting an Arts and Crafts approach beloved by John Hawes. ■

1. In 2000 I published the book *Between Devotion and Design*, appropriately named to express Hawes' two great vocations, then a master's thesis written in England and titled Sui Generis focused on the development of his unique design style.

Discussing the Centre's design with the team. Image: Corey Mathieson.

humanitarian practice

Author **Kate Woodman**

Volunteering as a citizen architect.

There is nothing like a long train journey for reflection, and so 22 hours on an Indian sleeper feels like a fitting time to reflect on my short time volunteering in Cambodia in June this year. The month-long experience left me reassured about the valuable role architects can play in a humanitarian setting and optimistic about the ability of our profession to advocate for buildings that are sustainable, empowering and just.

Working with a lead design team whose ongoing involvement is integral to building local relationships and understanding local culture, international development projects can benefit from the expertise of short term volunteers to complete discrete, often technical, tasks. Within these parameters, the breadth of the architect's skill set means there are many such opportunities to be of service.

Skills unique to architects such as the ability to quickly understand design intent have many pragmatic applications that can enhance project value, from communicating the design to finding appropriate material substitutions. Workshopping, prototyping and producing representations of buildings can be inclusive, collaborative processes that expand the reach of a single project, optimising its impact.

Since 2014 Green Shoots, a London based NGO with a focus on economic empowerment and capability building, has been partnering with Cambodian NGO, CIDO to support teachers and students to establish sustainable and chemical free vegetable gardens on their school grounds. Their program is now becoming vocational, aiming to encourage young people aged 16-25 who are no longer attending school to go into viable careers in agriculture. The proposed Agri-Tech Training Centre, designed by a London based team at Squire and Partners in collaboration with architecture collective SAWA, will be located in the small village of Trabek, 4 km outside the township of Samrong and is planned to open in 2019. The skills learnt there will assist students to secure a livelihood and strengthen the rural economy. Across the course of the project, a number of volunteers have helped on the ground with professional expertise ranging from management to engineering.

The first stage of the Centre is a Main Hall building and low-tech subsidiary buildings which will be sited amongst existing vegetation in accordance with permaculture principles. Elevated by nearly a metre to address the risk of flooding, the Main Hall design is a simple and cost effective steel structure, clad in crafted bamboo screens and patterned, unfired earth block walls. A store and office separate a verandah reception from two flexible classrooms at the rear. Consistent with the Centre's aim to innovate and prototype sustainable agricultural techniques, the project is an opportunity to develop resources and skills in building techniques that are new to the region such as treating bamboo and producing unfired earth blocks. This will enable future use of these cost effective and sustainable materials across the neighbouring communities.

When my partner and I became involved in the project, the preferred contractor had been selected but the final details and contract sum negotiations were still underway. Our presence was an opportunity to finalise the contract details and plan for a fast paced construction period beginning in August. Our first meeting with the contractor revealed that some elements of the build had been misunderstood, and some design liberties had been taken in the costing. Over a number of meetings we went through the proposal step by step, detail by detail, to identify any areas for cost savings and to ensure that the expectations of the build were clearly articulated. We sourced local material and labour rates, refining project budgets and finding substitutions where specified materials were not readily available. Taking advantage of our presence, CIDO organised a stakeholder meeting with the local municipal government ►

and village chiefs. It was a very formal event and representing Green Shoots in this dialogue was an unexpected but rewarding experience.

All of this work was supported by our Cambodian colleagues at CIDO who generously helped us navigate local systems and customs. With limited shared language, we connected with the team by showing interest in their agricultural projects and by jointly completing hands-on work on site. In our first few days we built a test wall using prototype earth blocks with varied ratios of cement stabiliser. As a team we spent a day identifying valuable vegetation and preparing the site for clearing. Then we set out the proposed building locations, taking into account the trees, sun and workflow. Conversations during these physical tasks provided an opportunity to develop our colleagues' understanding of the scheme, to incorporate their input and address any concerns.

A workshop approach, that allows the process to uncover direction, runs through the veins of this project. Government representatives, local village chiefs, youth leaders and children have been involved in briefing, design and construction workshops. The mindset is that the project will be made better by capitalising on the energy, creativity and passion of a broad range of perspectives. In London the project has been shared in a number of lunchtime CPD sessions and social events. Patterns for the bamboo screens were prototyped over Friday evening drinks and a physical model of the proposed design has recently been included in the Royal Academy Summer Exhibition. These initiatives have expanded the reach of the project, enveloping it in an enthusiastic and engaged global community.

This connected audience provides a platform for the architects to advocate for a humanist approach to the built environment. SAWA describes the opportunity to "broaden peoples awareness of the environmental challenges we all face as citizens of this earth" as being a key motivator in engaging volunteers. This approach is, of course, also very beneficial when it comes to fundraising. As seen in the Nightingale projects throughout Australia, architects can leverage their communication skills and social media platforms to contribute to project financing with credibility and integrity. For the Agri-Tech Centre, the involvement of a large firm with resources such as model makers, rendering artists and VR capability has enabled the production of beautiful and alluring visualisations to support face-to-face fundraising.

That long Indian train ride took me to Chandigarh, a city imprinted with the modernist international style, where I finished writing this piece. What is compelling in Le Corbusier's work is the seriousness with which he took the architect's role in advocacy and his belief in architecture as a force for change. Like so many of the hats once worn by architects, these convictions have increasingly become the specialty of the 'humanitarian' or 'citizen' architect.[1] More than anything, my experience reinforced the many ways that the architectural cohort can use skills developed through mainstream practice to contribute to, and advocate for, important and beneficial development projects. ■

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If you would like to find out more about the project and follow its progress please visit www.greenshootsfoundation.org or @sawa_architecture on instagram.

1. See for example the 'Citizen Architect' chapter, in '*Down Detour Road: An Architect in Search of Practice*', authored by Eric J. Cesal.