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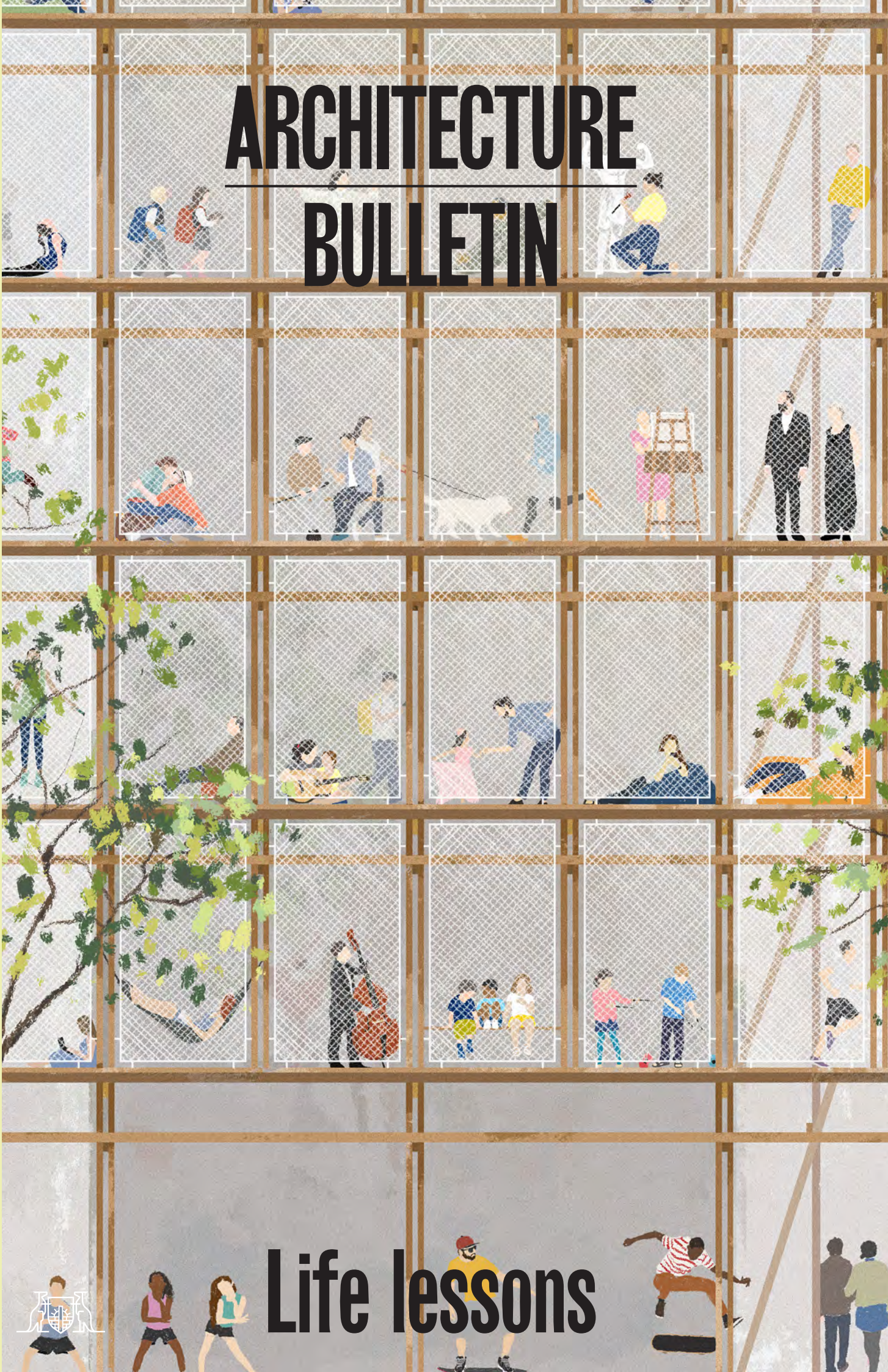


Life lessons

LIFE LESSONS – ARCHITECTURAL EDUCATION FROM TERTIARY TO ONGOING LEARNING

DEDICATED TO JACK MUNDEY, 1929–2020

Jack of Spades / King of Activists – the Jack Mundey tea towel was originally designed in 2002 by Meredith Walker for the Historic Houses Trust of NSW (Sydney Living Museums). A modified design (above) was printed in 2017 for the Save Our Sirius campaign Courtesy: saveoursirius.org

This edition of *Architecture Bulletin* delves into various aspects of architectural education from tertiary through to professional registration and ongoing learning. The dialogue between education, regulation and professional practice continues to be a critical point of discussion in the industry, as does the relationship between education and current quality issues in the construction industry. Cultural issues such as studio culture and inclusivity are also touched upon.

Interspersed also are personal reflections from the industry on past student work and experiences that resonated with the theme of 'life lessons'. We encouraged contributions that shared work that offered a continuing lesson rather than a showcase of best or final work, though there is some of that as well.

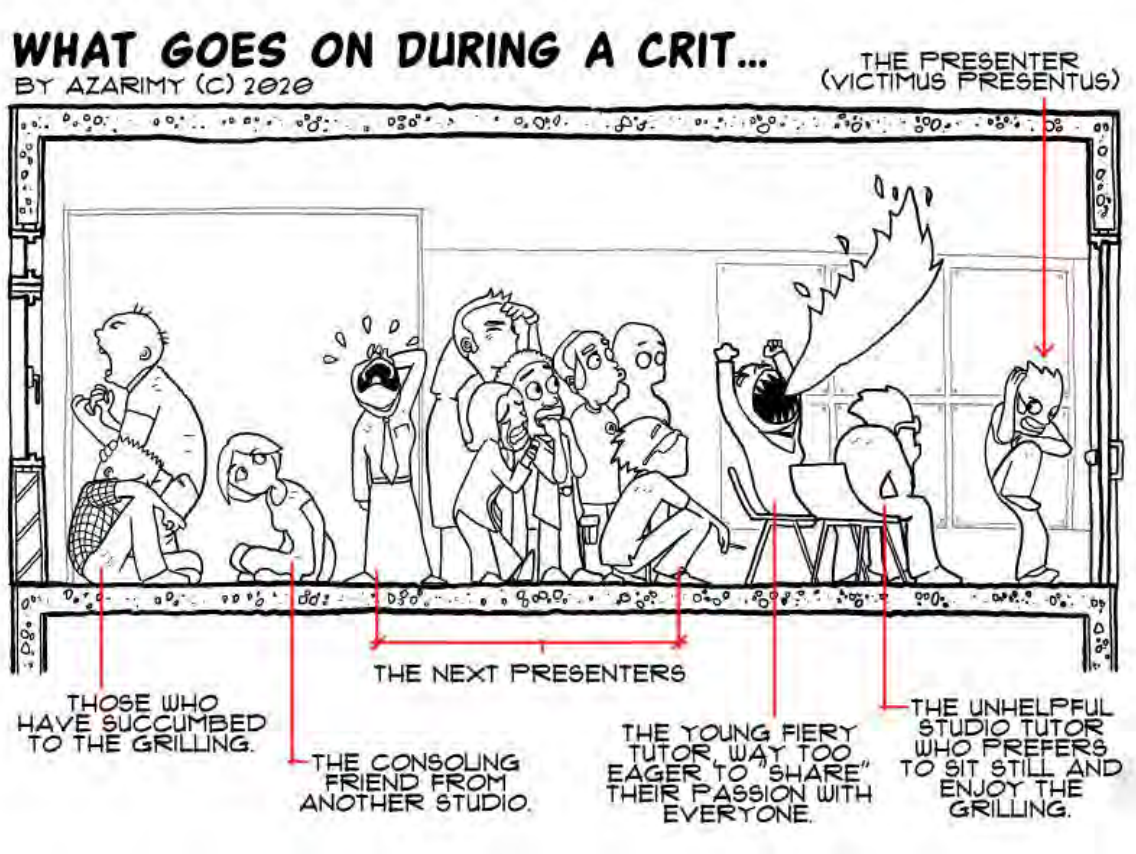
We hope this issue provides insight into student projects of the past and their educational and practical value, as well as contributing to the discussion around various issues in the industry and reflecting on the related educational frameworks.

– NSW Chapter Editorial Committee

Life lessons

Critiquing a culture of critical criticism

Hugo Chan



Courtesy Azari Mat Yasir (Universiti Teknologi, Malaysia), 2020

'O gentle lady, do not put me to 't;
For I am nothing if not critical.'
Iago in Act II, Scene I, *Othello*, William Shakespeare

What is the purpose of the studio design crit? The weekly pin-up. The design charette. The interim submission. The final presentation. The vast bulk of student design studio is delivered both to peers, educators and invited professionals over the course of their education through a system of visual and oral presentations, with the aim of allowing students to synthesise, articulate and defend their ideas in a persuasive manner. General consensus within the architectural profession seems to suggest that these charettes form the fundamental basis of practice, predicated upon an industry dependent upon communication via the spoken and the visual, and delivered to clients, stakeholders, consultants and builders alike.

Yet, under this *modus operandi* of critique-based education, architecture students have increasingly been found to suffer from higher-than-average levels of stress, anxiety and pressure. In the first major study conducted by *Architect's Journal*, it was found that 52% of 450 UK-based architecture school students surveyed in 2016 expressed concern about their mental health and 26% were receiving or had received counselling or mental health support. The RIBA 2018 Student Mental Health Survey reinforced these statistics, interviewing over 1200 students and finding that 33% were currently facing a mental health issue. The Architects Benevolent Society extended this research, finding in architectural education that issues included: anxiety 81% (other disciplines: 55%), panic attacks 88% (other disciplines: 38%) and feelings of worthlessness 78% (other disciplines: 15%). Although merely a small section of the overall student population, these recent statistics present a worrying cross section of the poor levels of mental health in architectural education, compared with other disciplines at large.

Although mental health issues may arise from a vast array of conditions – environmental, emotional, cultural, or physical – anecdotal evidence suggests that at least one factor can be centred around the manner in which criticism is delivered to students. While there are no extensive long-term statistics specific to Australian architecture schools, one only needs to turn ears toward the conversations in our university corridors to discover that something may be seriously amiss. The pride of who completed the most all-nighters, of how litres of coffee and energy drink were consumed and the post-presentation joy described only as 'survival' are all symptoms of existing education paradigms doing little more than preparing architectural graduates for a lifetime of masochistic pleasure derived from pain, suffering and humiliation.

It is perhaps concerning that some of us have forgotten the true meaning of critique, derived from its Greek origins of *kritike* or 'faculty of judgement to discern value'. Instead, meaningful analysis and commentary have sometimes been replaced with a rhetoric of negativity designed to belittle (not support), to deride (not encourage) and to harm (rather than to help). Disguised as 'honesty' or 'feedback', words which seem to cover all manner of sin, there has been a regrettable prevalence of criticism directed at students in presentations which is merely critical without any apparent benefit to their education. Calling out students in the face of their peers as a deliberate act of humiliation and shaming is neither valuable, nor likely to encourage better work in the future. In such situations, such behaviour by some of our esteemed 'professionals' begs the question: Are you here as a critic to bolster your ego or to contribute to architectural education?

Part of the responsibility for creating a more positive attitude towards the design process begins with the guest critics who provide invaluable external insight, taking on board a vital role within the design studio learning process. The Architect's Mental Wellbeing Forum Toolkit provides a starting point to aid both employees and staff to promote a well balanced and healthy working environment. Extending this into education, alongside a series of conversations with leading clinical psychologists, professional leadership consultants and architects, the five pillars of critique below have been developed below and provide a preliminary starting point in demonstrating how the words we choose and the manner in which critics approach charettes can be shifted towards providing a better, more equitable and less anxious learning environment for students.

COURTESY, NOT ARROGANCE

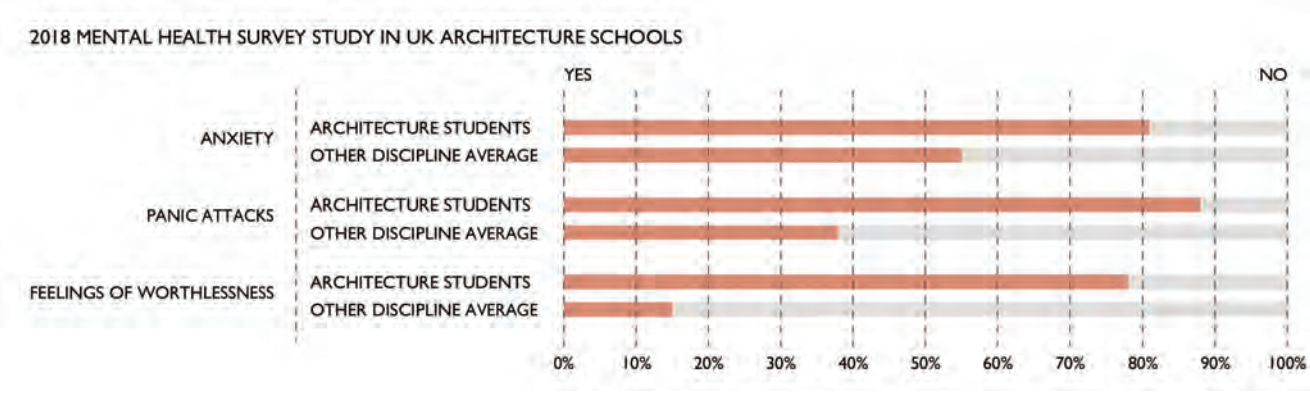
Simple acts of civility before and after your critique provides positive reinforcement, and calms students after what was likely a stressful rush, giving them the necessary breather after their presentation. An attitude of courtesy shows your respect for their effort and work, as well as your respect for them as a person.
DO START: 'Thank you for your presentation, I know that it can make one nervous to present in front of a professional audience …'
DON'T START: 'Clearly you have not put in the effort expected …'

OPTIMISM, NOT PESSIMISM

The language we use to communicate informs the perspective of our critique. An optimistic tone which seeks to identify the positive aspects of a project reinforces student confidence and makes them more receptive to critical aspects of an evaluation. Ultimately, the goal of the critic is to encourage more meaningful development of a project and establish areas for improvement.
DO SAY: 'I think the key strengths of your project are …'
DON'T SAY: 'Well, this is shit isn't it?'

EQUITY, NOT SUPERIORITY

Students are already aware that you, the critic, are more experienced – a factor which for them may be both intimidating and a source of fear during presentations. If the role of the critic is to be seen as mentor and educator successfully, there should be no need to reinforce your position of experience as a form of superiority. Rather, the critic's experience should be framed as valuable and educational lessons that can inform and help further shape



2018 statistics obtained from the Architects Benevolent Society and the UK National Union of Students Diagram: Hugo Chan

the development of a student's work.
DO SAY: 'As a future practitioner, I think it will be important for you to also consider …'
DON'T SAY: 'As I'm more experienced than you, here's what you should do to improve …'

SPECIFICITY, NOT GENERALITY

Avoiding vague or broad-brush statements aids in a student's understanding of how they can improve. Specific suggestions in aspects of the work helps a student identify the strengths of their projects as well as components which may require more refinement.
DO SAY: 'Overall, these are the three things I think you should consider developing further …'
DON'T SAY: 'Well, this project needs work …'

INQUISITIVENESS, NOT INDIFFERENCE

Ever pressed for time and under the anxiety and stress of presentations, students may miss out on articulating aspects of their design during their presentations. The role of the critic should be seen with an inquisitive mind, framing questions which will encourage students to further elaborate and explain their ideas, rather than to merely attend the charette passively passing judgement.
DO SAY: 'This is an interesting aspect; can you explain your approach further?'
DON'T SAY: 'Thank you, next.'

Detractors against this shift in attitude might argue that students should learn to 'toughen up', and that the realities of dealing with tradesmen, clients, community objectors and other parties will often lead to animosity and less than polite discourse. This is true – civility can sometimes be the exception, not the rule. In spite of this, we must remember that the role of the education environment is not to provide a flashpoint at presentation time for student anxiety to implode but should be thought of as a carefully orchestrated environment in which student pressures are managed to strike balance between constructive criticism alongside the techniques of coping with the realities of industry.

To find fault is easy. To challenge students to do better is difficult. This challenge is ultimately our first priority as architectural practitioners and educators. The pursuit of excellence should not be at the expense of an education and industry reliant upon overworked, stressed and anxious individuals but should be founded upon a platform of productive dialogue and meaningful progress. The proactive action of architects behaving courteously and optimistically within studio environments is therefore a key step which will inevitably shape the future of our wider industry, shifting us towards more inclusive and healthier workplace environments.

Hugo Chan is architect and associate, practice management at Cracknell & Lonergan Architects as well as architect and director of his own research-based practice, Studio HC.

The writer extends his thanks to Dr Katharine Hodgkinson (Headway Health), Dr Lisa Juckes (Wesley Hospital, Ashfield), Charles Chong, Stephen Evans, Robyn Jones, Miranda Hall, Felipe Torres-Lynch, Jessica Watson and Azari Mat Yasir for their invaluable contributions to this article.

The Architects' Mental Wellbeing Forum Toolkit can be accessed via amwf.co.uk/resources. The Headspace youth work and study program is dedicated to reducing mental health issues for people aged 15–25. You can speak to them online at headspace.org.au or over the phone via 1800 810 794. If you are experiencing anxiety, stress or a personal crisis, help is always available. No one needs to face their problems alone. Speak to someone at Lifeline (13 11 14) or Beyond Blue (1300 22 4636).

Design Seminar 4

David Tickle

Dear David

Thank your for your submission, which gave me dispepsia.

I enjoyed your Dodgy Bros tour through SIM city (which technically is a *politeuma*, a city within a city). Rem Koolhaas' eulogy of New York has a specificity which may not so easily translate to Sydney, unless the Manhättanisation of the world is seen to be a virtue. The "invented" (or is it meant to be 'inverted') history from Peddle Thump seems to really be dredging the historicising bilge: you risk missing that fragment can also be ready negatively as "ruin", which while it has a history in architecture is not necessarily to be sought in this context. At the heart of your theorising is nineteenth century notions of "associationalism." The problem with the "processes" number is the artefactual nature of the architectural enterprise: in the end a formal entity is made and interpreted as such. The notion of celebrating the "television image" and the "process of continual self-erasure" is at heart nihilistic, and so unworthy of serious consideration, a sentiment that Michel Foucault, the high priest of suspicion and self-erasure, came to embrace at the end of his life. In the end, what you are speaking for in your report is the praise of kitsch, and what's more, kitsch as the touchstone of the real. You promote architecture as a species of advertising. Is such a conservative undertaking, which masks the violence underlying much of contemporary corporate culture, your chosen aspiration?

Quote: "The idea here is to take a very "Pay TV' approach." Unquote.

I don't think I have read anything so vapid in a long time!

Grade:	From submission:	65
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	Total Grade:	72 Cr

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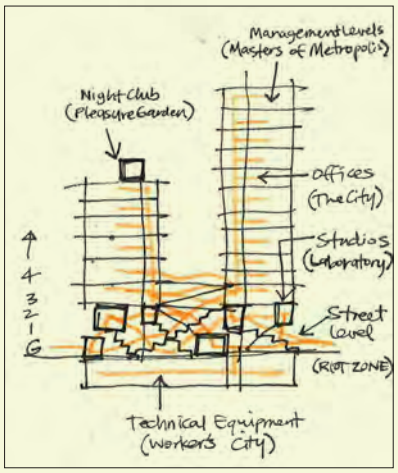


World Square: the bigger picture 1997

For our graduation studio project, we were given a quarter of the World Square site (then under construction) and a brief that included a recital hall, boutique hotel and public plaza. A group of us revolted and decided that what the site really deserved was a Pay TV studio, pay-by-the-hour Love Hotel and spaces to get mugged in. George Street was different back then!

My accompanying design statement was a mess of references to architectural theory, design trends and pop culture – the whole scheme was structured around scenes from the film *Metropolis*, while attempting to comment on the hectic commercialism of pre-Olympics Sydney. It reflected where I was at the time: struggling to understand myself, my education, my place in the profession.

I can laugh at my tutor's comments now – and probably did at the time. But I can also see how I haven't changed that much. I like challenging a brief and thinking about the bigger picture of a project. I've just dispensed with the bullshitting.

David Tickle
Principal, Hassell, Sydney
NSW Chapter Councillor, Australian Institute of Architects
Master of Urban Design, University of Sydney, 2006
Bachelor of Architecture, UNSW, 1997

Culture and Language in Design Education: the CALIDE project

Maria Roberts interview by Sahibajot Kaur

Photo: Shutterstock / Courtesy of the author

Sahibajot Kaur speaks to Maria Roberts, postgraduate researcher at the University of Newcastle's School of Architecture, on the role of culture and language in design education, three years after being interviewed by Maria as a 'domestic student' subject of the CALIDE research project. CALIDE's 'Good practice guides' were published in 2019 and are available for educators and students at calide.org.

Sahibajot Kaur: **What is the CALIDE project, and how did you get involved?**
Maria Roberts: CALIDE (Culture and Language in Design Education) was a project funded by the Department of Education and Training that looked at the linguistic and cultural barriers experienced by architecture students in design education, and in particular, students from countries in Asia. I was the project manager, and the project leaders – Professor Ning Gu, Professor Michael Ostwald and Dr Ju Hyun Lee – initiated the project, essentially to investigate the axiom that design is a universal language. There was already evidence to suggest that design is a deeply cultural activity, and this led to the study of culture and language in design education more broadly through interviews with students and academics, and more specifically through a design cognition experiment. I interviewed a number of students for the project and analysed the interviews with students and academics.

What interests you most, in the role that culture and language play in design education, and how would you describe the relationship between culture, language and design?
There is so much to be gained by working with the diverse cohorts of students we have now – working with people from other disciplines and cultural backgrounds has really opened my eyes. What interests me the most is the potential of interculturality as a pedagogical approach.

Interculturality is not 'inclusivity', but *reciprocal respect* – a different paradigm. As a pedagogical term, interculturality is a theory and process that mandates that we recognise the experiences and insights that the diversity

'There are over 35% international students enrolled in Australian architecture programs (Australian Institute of Architects, 2015). When figures for allied fields (interior architecture, urban design and industrial design) are included, the creative disciplines are seen to be responsible for the education of a large percentage of international students.' [1]

of students brings to design thinking. For example, from this perspective, we not only acknowledge that a student who comes from Africa or Asia has a wealth of experience from which we all can benefit, but we draw upon this experience, together with the 'Australian way' of doing things, to develop design propositions. I think that learning from other cultures need not put our own culture at risk but rather has the potential to grow our knowledge and problem-solving abilities.

How can we make changes like these in design education and thinking? In the CALIDE project we developed 'good practice guides' and principles for good teaching that suggest practical and potential steps forward, and we put them on our website – calide.org – for students and academics to access.

How would you describe the importance of projects such as CALIDE in the development of architectural and design education in Australia?

Despite having an English-speaking background, I had a lot of confronting experiences in my architectural education – and a lot of the time, for me, this was due to being pushed around by men. I think it's important to note that due to its very nature, the architecture school can be a fairly confronting space for everyone, regardless of cultural and linguistic differences. The CALIDE project has shown that the experience for many architecture students could have been better, and that so many of them (both domestic and international students) found it challenging to adjust to the cultural expectations of an Australian architecture education.

It's not hard to see how the addition of cultural and language differences can heighten the challenge, and as this project shows, given our diverse student demographics, there are ways in which we can offer a better experience, not only to international students, but to all students.

Do misconceptions exist around the role of culture and language in design education?

The major misconception that became apparent was that international students are to blame for their poor experiences, low attendance, etc, when, in reality, what emerged was evidence that there is a whole cluster of things beyond their control that impacts them, and that all these things are operating in concert. These things include the various attitudes of tutors toward them; people talking to one another disruptively while they're presenting their work; not knowing what is to be shown on their presentation panels because the expectations have not been made clear; all the unwritten rules that are assumed knowledge in different architecture schools; no real induction or guide specific to them when they start university in Australia; and, a lack of mentorship or programs to assist international students to adjust. These are factors that, in many ways, are common to the international student experience across the university, as other studies have shown, but in architecture and design they manifest in particular ways.

What, would you say, were the key findings of the CALIDE project?

We talked to three groups of people – academics, international students and domestic students in architecture programs at four Australian universities across three states. The students were all at masters level, and they all took part in a cognitive experiment as well.

The experiment that the students took part in showed that there were differences in design processes and design focuses between the student groups, whereas the interviews highlighted differences and similarities of experience between international and domestic students, and between students and academics, such as the existence of cultural differences and their impact on learning. For students, the single most frequent observation was that their architecture programs are really very challenging across a number of dimensions, and they get

'Interculturality is not "inclusivity", but reciprocal respect – a different paradigm. As a pedagogical term, interculturality is a theory and process that mandates that we recognise the experiences and insights that the diversity of students brings to design thinking.'

more challenging with each year. This is intensified by cultural and linguistic differences. For academics, it was the fact that they needed strategies a lot of the time to manage cultural and linguistic barriers in the studio and classroom.

Were there any findings that took you by surprise?
I was taken aback by how little interaction there seems to be between international and domestic students, and at the overwhelmingly large number of international students who were really challenged by the experience of design education in Australia.

During my time as a student of architecture in Sydney, many of my peers were international students. I noticed that often, language was a barrier for them in communicating otherwise great project ideas – especially in crit situations (constituting so much of architectural design education). What do you find are the main challenges faced by international students of architecture and design, and how well do you think Australian universities are currently working to ease these?
We had lots of students tell us that their crits were disasters. After all, the main challenge that both international and domestic students described was the difficulty they had in acquiring the professional language of architecture, with its many new terminologies, drawing types and more. It also emerged that students were rarely taught the skills for verbal presentation.

Some academics told us that they understood that students were having difficulties with crits and described their ideas for dealing with this – things such as putting students into small groups in which they would practice their presentations with one another, having round robins with quick presentations and other strategies – but they were in the minority. As one student described it, there tends to be a 'sink or swim' attitude towards student crits.

Indifference is another challenge that faces many international students, and it may be the most significant challenge, because it concerns indifference to their specific circumstances – which include social isolation and incomprehension – and is why so many students have disappointing or challenging experiences as international students in architecture education in Australia.

What are some practical changes design academics can make to their teaching, to allow for intercultural learning spaces?
These are outlined in CALIDE's 'Good practice guide for academics', which proposes a framework for good teaching with suggestions for what good teaching might look like in practice. This includes:

– greater use of intercultural methodologies, such as using a variety of communication modes to support student comprehension and strategies to encourage the sharing of perspectives in the studio – perhaps also provided in the form of a guide or training to tutors with a focus on hosting equitable discussions and feedback sessions
– starting tutorials with 'ice-breakers', to encourage interaction between all students and set a tone of comfort and friendliness
– in discussing problem solving and design, asking international students how things are done (for example, how materials are used and how things are built) in the part of the world they come from
– holding group discussions which allow and encourage all students to share their points of view and specifically asking international students for their perspective
– appointing tutors from diverse linguistic and cultural backgrounds
– acknowledging the cultural and linguistic challenges that international students face and implementing strategies to assist students, such as providing mentorship
– offering social opportunities to students and helping students to get to know one another, including across cultures.

To view the CALIDE project's 'Good practice guides' for academics, international students and domestic students, and to find out more about the project, visit calide.org.

Maria Roberts is a PhD student at the School of Architecture and Built Environment at the University of Newcastle and her research is supported by an Australian government Research Training Program scholarship. Her research interest is in the historical and theoretical relationships between architecture and landscape, and her current research looks at the Australian landscape in the Enlightenment world.

Sahibajot Kaur is a graduate of architecture at FJMT studio in Sydney. She is an alumnus of the University of Sydney and the University of Newcastle, having completed her Master of Architecture in 2018 as Newcastle Graduate of the Year; she was also the winner of the Architectural Communications Award in the NSW Chapter's 2019 Student Awards.

NOTE
1. Quoted from page one of 'Developing pedagogical solutions to linguistic and cultural barriers in design education supporting Asian architecture students'. Report authors: Professor Ning Gu, Professor Michael Ostwald, Dr JuHyun Lee, Maria Roberts (Canberra: Australian Government Department of Education and Training, 2019). Digital access: nla.gov.au/nla.obj-1271071645/view

Reframe

No need to reinvent the wheel, they say,
Handing me texts on my very first day.
What worked then will surely work today.
You will learn their tricks and apply them in new ways.

Understand, examine, reproduce and learn,
Before you jump to take your turn.
The stakes you built have already been burnt;
Don't waste your grit – to the books you must return.

People grow and times change,
But the principles at heart remain the same.
Learn now, how to play the game.
We do not create – we simply reframe.

Now, don't get confused –
It is the thinking that is reused –
Not the object in which it is infused.
Plagiarism is strictly refused.

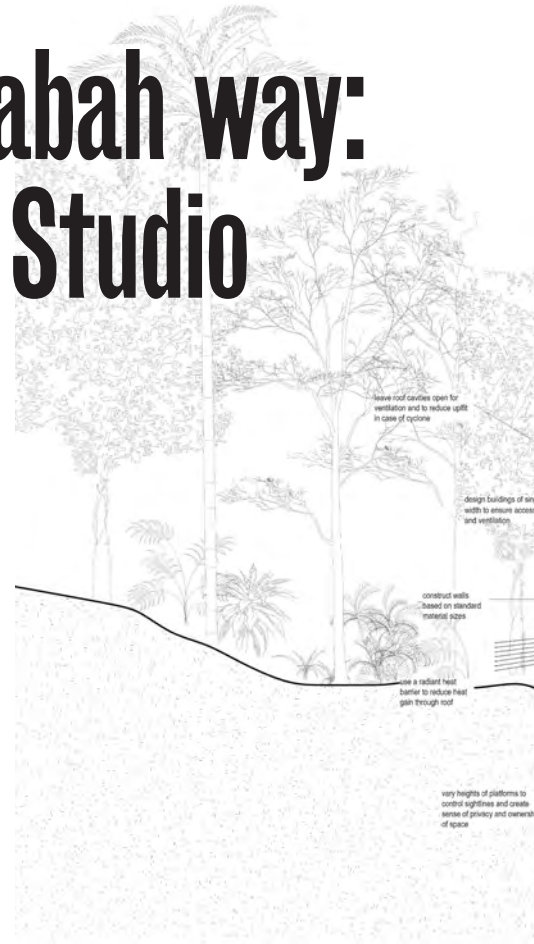
Also do not fall prey to anachronism –
The most common of which, is metachronism.
Chronological error leads to displacement and descent.
But hopefully, that's what learning from history actually prevents.

Sahibajot Kaur
Designer, FJMT
Bachelor of Design in Architecture, University of Sydney, 2015
Master of Architecture, University of Newcastle, 2018

Aligning with the Yarrabah way: Burri Gummin Housing Studio

Michael Mossman and Anna Ewald-Rice

Burri Gummin Housing Studio students in Yarrahbah, Queensland, 2019
Photo: Annie Burgess



Burri gummin is a Gungganyji term that translates to 'one fire'. It is the name of an ongoing design studio established in collaboration with the Yarrabah Aboriginal community. Sited on Gungganyji Country in Far North Queensland, the Burri Gummin Housing Studio aims to develop appropriate and sustainable housing designs for the Yarrabah community in response to the ongoing housing crisis, reimagining the one-size-fits-all approach to housing for Indigenous peoples. Concurrently, students are asked to reflect upon their own stories, overlaying these on an immersive 'on Country' cultural experience.

Tutored by ourselves – Michael Mossman and Anna Ewald-Rice – the design studio is part of a second-year unit of study coordinated by Michael Muir, titled 'Let every voice be heard', a course within the Bachelor of Design Architecture degree at the University of Sydney. In its third iteration since 2016, the studio facilitates relationships with the Yarrabah community, strengthened through a shared commitment to continue these important conversations and learning experiences. With this in mind, our pedagogical approach privileges Indigenous methodologies by engaging with the scholarship of Linda Tuhiwai Smith and understanding differences between cultures through exploration of one's own identity. This situates the student within a space to deconstruct perceptions of culture relative to their own cultural understandings of self and through experiential learning on Country.

Yarrabah is a 45-minute drive south-east of Cairns and positioned in a picturesque valley with ocean to the north, south and east, and lush rainforested mountains to the west. Yarrabah is contextualised by connections with Country and traditional culture, its history as a mission and self-governing community, and its current day presence as an Aboriginal Shire Council.

The studio is framed around students developing intergenerational housing options, a cultural strategy and masterplan in the heart of community that aligns with the 'Yarrabah way': facilitating the self-determination of the local community in their housing choices.

We ask students to draw their own lines of enquiry and engage with multiple layers of research. This includes looking into broader Indigenous issues of identity, agency, scholarship, Country, culture, storytelling and performance. In this project it is intended that the architecture is both specific to the users and the wider community, so that the community can come to feel it to be their own. Designing for self-determination and an architecture of possibility informs strategies around building materials, construction techniques, staged implementation, use of local skilled and unskilled labour, and training opportunities.

The studio methodology encourages each student to explore their personal journey in relation to their own social positions and apply this knowledge to community specific issues. Understanding differences and commonalities means unpacking the qualitative spatial connections between story, comfort and environment. Foregrounding concepts of narrative, self and engagement are explored in iterative studio workshops to identify intersections of student personal beings with community-specific ways. We subsequently presented this workshop series, titled

Burri Gummin Housing Studio: section by Tatiana Skwarko

'Narrative, self and engagement: an immersive t(r)opical experience', at the 2019 Association of Collegiate Schools of Architecture Fall Conference at Stanford University. Themed *Less talk / more action: conscious shifts in architectural education*, the conference aimed to investigate the evolving pedagogy and curriculum that is responsive to the real-time needs of students, the profession and society, and how this can shape architectural futures.

This studio facilitates unique on-site student engagement with the local Yarrabah community: sharing stories with the elder women, cracking coconuts for lunch on the beach, being welcomed by and yarning with the many friendly residents. These experiences help students to reframe their understanding of reciprocal cultural exchange and community needs while facilitating the emergence of innovative and authentic dialogue.

The opportunities of the visit and subsequent dialogue result in design concepts, masterplanning possibilities and an understanding that architecture is a key factor for community health and wellbeing. Students develop fundamental skillsets that recognised the importance of Country, culture, community needs and aspirations. Second year student, Tatiana Skwarko provided her thoughts on the studio:

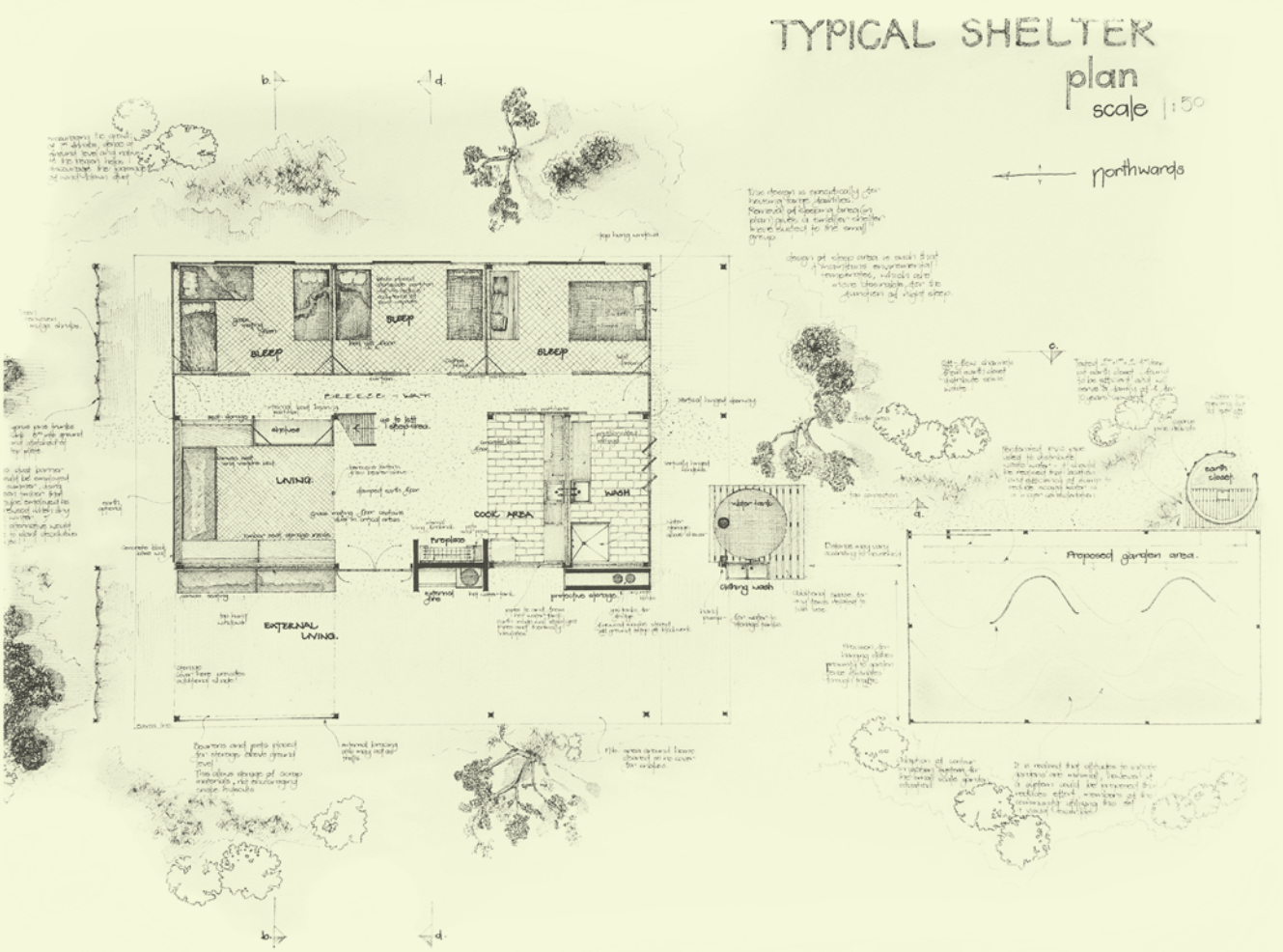
> 'At architecture school, most of what we do is very conceptually driven. We generally create gravity defying projects with unlimited budgets and resources, for clients that don't exist. Yarrabah was the opposite of that. We had the chance to work with real families, and we got to visit the community we were designing for. We were able to immerse ourselves in the stories of Yarrabah's people, their long histories, their culture and connection to land, and also their day to day lives. It shone a light on some of the real challenges that architecture can engage with and resolve right on our own doorstop. For me, it really reaffirmed the power that we can have on the built environment and the very real impact that what we are learning can have on people's lives.'

We hope that this studio continues into the future as it strives to inspire students and staff to embrace the generosity and spirit of Indigenous communities such as Yarrabah, engage with a uniquely memorable architectural education experience and provide possibilities and ideas back to community.

Michael Mossman is a tutor, lecturer and PhD candidate at the University of Sydney School of Architecture, Design and Planning, as well as co-chair of the Institute's NSW Reconciliation Working Group.

Anna Ewald-Rice is a tutor at the University of Sydney School of Architecture, Design and Planning, a Byera Hadley Scholar, and an architecture graduate and researcher at Hayball Architects.

The University of Sydney School of Architecture, Design and Planning studio expresses its gratitude to the King Jabaan Vincent Schreiber, Yarrabah Aboriginal Shire Council, the Yarrabah Leadership Form, Queensland Health and community members for their goodwill and assistance. This engagement will continue in 2020.



Western elevation

Wilcannia project for first people 1978

Architectural education is changing, moving towards 'diversity' across all genres; simply Jack/Jill of all trades, master of none. This broadens skillset to the detriment of philosophy.

The project for first people at Wilcannia, NSW was supervised by remarkable teachers: one an architect of Sydney School origins, Gordon Appleby; the other a brilliant environmental systems architect, Ted Harkness. They guided my thinkings in parallel with making architecture.

Fellow student Bob Oliver and myself arrived at Mallee Reserve mid-year 1978. We had a stationwagon full of tools and a simplistic innocence. The elders met and prioritised three projects – a fire place for old Billy, a new door for his neighbour and a cooking place for Aunty Mary. We used found objects and completed the work in six weeks while living with the people.

The cooking place was walls of two skins of iron wired together, earth between and shutters to the north to manage heat. The roof was two skins of iron battened together, ventilated cavity, free spanning 12 feet.

Final designs recognised realities, with the architecture a product of people, place and situation – the thinking clear. One was introduced to the practice of architecture adjacent to the philosophy of an architect: logical originality.

Peter Stutchbury
Principal, Peter Stutchbury Architects, Newport
Bachelor of Science (Architecture), University of Newcastle, 1976
Bachelor of Architecture (Hons), University of Newcastle, 1979
Convocation Medal, University of Newcastle, 2004
Life Fellow 2011, Gold Medal 2015, Australian Institute of Architects
RIBA International Fellow, 2016
Conjoint Professor (1999–2011), Practice Professor (2011–2019), University of Newcastle

It's not about the house: recollections on architectural education from 1974

Michael Muir talks with Jason Dibbs

A prototype in self-sufficient housing by student designer-builders: Autonomous House (1974–79) at the University of Sydney Photos: Tone Wheeler

I met with Michael Muir in his eclectically congested office in the Wilkinson Building to discuss the Autonomous House project. Muir first studied architecture at the University of Sydney in the 1970s and, in recent years, has become a permanent fixture of the school and an integral part of its organisational memory.

The Autonomous House is now part of the folklore of the Sydney School; in recent years, its mythology has left many a student wondering whether they've drawn the short straw; if it will ever again be possible to create a student-led project with the same freedom and spirit of experimentation as Muir and his fellow students in the 1970s. Times have changed. The Autonomous House was set against a backdrop of enormous international upheaval; this climate has been eloquently captured by Lee Stickells in his contribution to *Sydney School*. He writes of the growth of student activism, protests and strikes, and cites the 1973 Aquarius Festival as a powerful catalyst. Stickells describes the Autonomous House as:

> 'a bricolage of alternative technologies … part of a wave of similar experiments around the world. Designed and constructed by architecture students using recycled and donated materials, it employed passive solar strategies, including a Trombe wall built from beer bottles, and ambitiously aimed to generate its own power, harvest and heat its own water, produce its own food supply, and recycle all of its waste (although biogas production was thwarted by the local council's refusal to allow pigs on campus).'[1]

Reflecting on the political climate at that time, Muir says that they were 'trying to catch the breeze from England and America', tapping into the then growing countercultural fascination with alternative technologies. But, he adds, they were also looking to things that 'had been standard practice in the bush for decades: windmills, septic, water storage'.

Muir was a second-year student when plans for the Autonomous House project emerged. The stages of the project were intended to align with the three terms that

'The doing was much more important than the object we created … our failures were just as important as our successes.'

Architecture students discovering the beauty of post and beam construction – all appropriate health and safety gear used / Lunch meeting Photos: Tone Wheeler

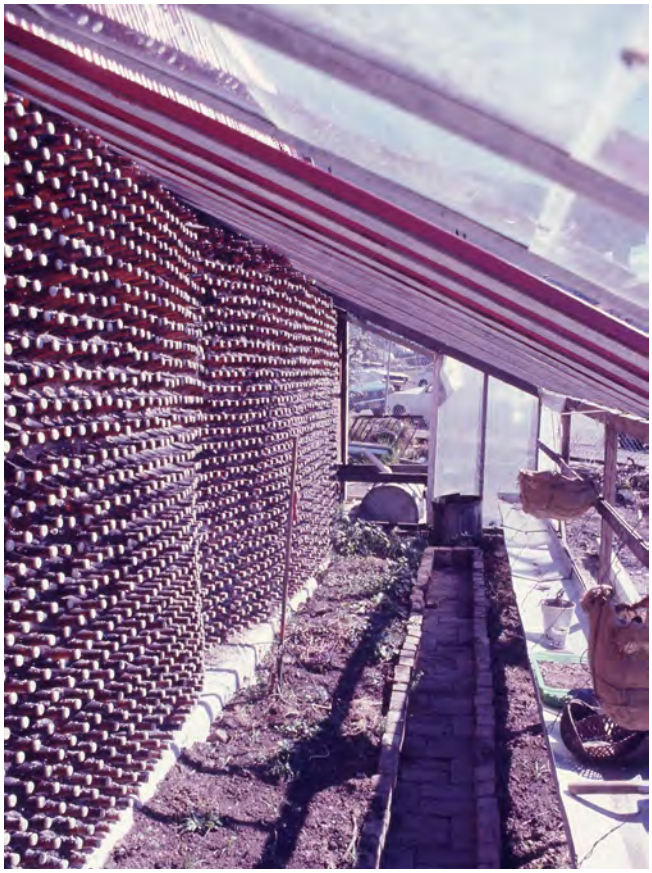
then comprised the academic year, becoming an assessable component of Muir and his fellow students' undergraduate degree. These students included Tone Wheeler (who was then in the graduate degree), Peter Black, Stephen Stokes, Dan McNamara, Jane Dillon, Julia Dwyer, Linda Nassau, Made Wijaya (born Michael White), Jeremy Cook, Jim Gately, Muir and others.

The revered Sydney architect, planner and political activist, Col James, a long-term faculty member, was the instigator, inspiration and unstoppable force behind the project sited on university-owned land behind the Wilkinson Building.

Of course with such bold ambitions for the project, things were unlikely to go according to plan … and they didn't. The more than optimistic timetable to complete the construction phase in the four weeks of the August holidays proved wildly inadequate. A core group of students 'basically stopped going to Uni in the third term and just kept building … It was a period where the inmates sort of took over the asylum.'

Some of the other academics also supported the project. Roger Pegrum allowed students to receive credit towards their technology subjects for work on the Autonomous House. The university also provided some building materials and turned a blind eye to students pilfering roof iron from derelict sheds on the Darlington-side of campus.

After spending the latter half of 1974 on its construction, by the Christmas holidays the students had the roof up, the Trombe recycled bottle-wall erected, and the water tank in place. For many of the students, it had become a life changing experience, but when assessment time rolled around at the end of that year, the students were told that it was impossible to assess each student's contribution. Muir says that he and the other students literally 'sat inside the structure they'd built' while their work was assessed and found lacking. The students were told some 'real design' work would need to be submitted to validate the learning experience. While a compromise was eventually reached, the 'assessment process' was an



Positioning the water tank – Rob Clarke, Jeremy Cook, Peter Black and Stephen Stokes
A lot of beer bottles – a unique approach to thermal mass
A thousand flowers blooming
Utopian Fair at the Autonomous House, 27–28 May 1978
Photos: Tone Wheeler

unfortunate glimpse of the fixed view of education that the project sought to challenge.

Over subsequent years the Autonomous House would undergo constant development and renovation and would become a rent-free home to a group of students as well as hosting a series of alternative energy fairs that highlighted the growing interest in sustainability, wind and solar energy and all things 'alternative'. Finally, the university tired of the experiment and the Autonomouse House was dismantled around the end of 1978.

When I ask Muir about whether a project like the Autonomous House could be conceivable today, he is dismissive. He reflects that 'universities are not always necessarily the most free places … when freedom raises its head, there's often a lot of resistance'. One of his concerns is that universities, 'are more conservative now than back then'. He laments the pressures that make it increasingly difficult for universities to foster the free-thinking and experimentation that made the Autonomous House project possible. Back then 'we gave young people the opportunity to figure things out for themselves and we just don't do that anymore', he says. 'The doing was much more important than the object we created … it's not about the house … our failures were just as important as our successes. Even the people that didn't really do that much work on it, they probably had the opportunity to figure out that maybe that type of architecture wasn't for them.'

For Muir, the real problem with the Autonomous House is that we're still talking about it today, instead of the other student-led experiments that should have followed. 'It's been 45 years and we're still dinking on about it', he complains. The Autonomous House could have been the start of something, of an ongoing tradition of architectural and pedagogical experimentation but, instead, sadly it seems to have marked both the beginning and the end.

Michael Muir is director, Bachelor of Design in Architecture at the University of Sydney.

Jason Anthony Dibbs is an associate lecturer at the University of Sydney's School of Architecture, Design and Planning. His work focuses on architectural education and aesthetics.

Thank you to Tone Wheeler for providing the photographs that accompany this article and Lee Stickells for allowing us to include an excerpt from 'Pig education' in *Sydney School: Formative Moments in Architecture, Design and Planning at the University of Sydney.*

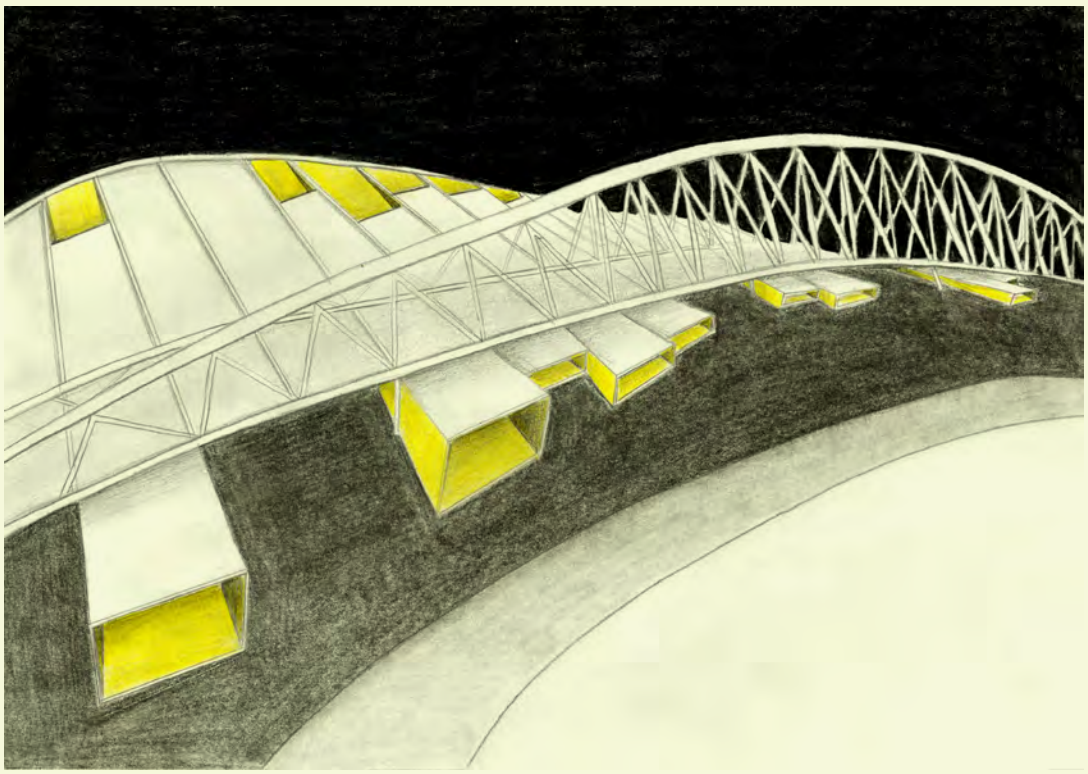
NOTE
1. Lee Stickells, 'Pig education' in *Sydney School: Formative Moments in Architecture, Design and Planning at the University of Sydney*, Melbourne: Uro Publications, 2018, p. 138.

Homebush Evocations 2010

This student project proposed a series of interventions that engaged with the languishing post-Olympics landscape to offer possible future conditions and a distinctive new typology for the Homebush site. *Homebush Evocations* emerged from a systematic analysis of the local context at grid points arrayed uniformly across the site. From this, a unique form was generated at each grid location that evoked the existing context and contemplated how it could be transformed. Each form was created by stitching new architectural elements into the existing landforms and built elements.

Underlying themes of regeneration, adaptation and revealing new potentials of a site, speak to the idea of connection to place that I continue to draw upon in my architectural practice and while tutoring part time. I also reflect on the support I had in the studio environment which allowed my imagination to wander and open up distinctive ideas while at the same time forging a strong conceptual foundation. The process of combining systematic site analysis and instinctive hand-drawn responses is a means of balancing rigour and intuition, all of which I still use to develop my architectural experience within the realities of the commercial built environment.

Natalie Minasian
Senior Architect, JPW, Sydney
Master of Architecture, University of Sydney, 2010



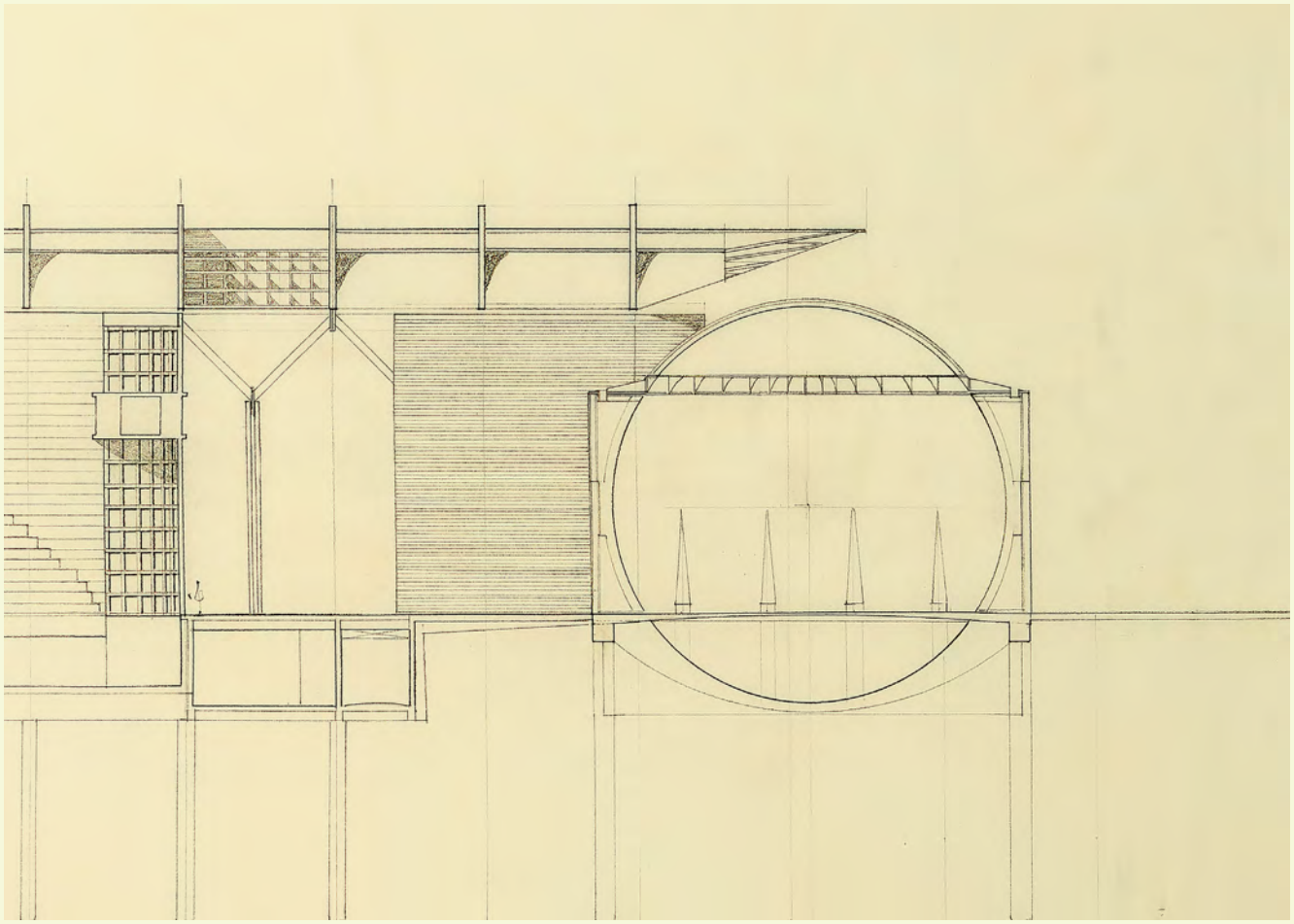
Reforest 2007

Reforest was a finalist in the 2007 2G Competition for Venice Lagoon Park, juried by Anne Lacaton, Iñaki Ábalos, Francesco Careri, James Corner, Philippe Rahm and Mónica Gili. The submission was prepared in collaboration with Lucy Humphrey in the year after we had graduated with architecture degrees from the University of Sydney. I had studied the constructed history of Venice, in particular the Giardini della Biennale, for my final honours thesis in 2006 and the 2G competition was a chance to expand on this research.

Reforest was a first attempt at thinking broadly across urban, architectural and landscape conditions to uncover unforeseen opportunities, whereby a new built intervention might have a transformative and compelling effect upon its surrounds. In practice and in teaching today, I continue to consider the possibilities for architecture with these same preoccupations. Below is an extract from the submission:

> Venice is built on a sunken forest. Its unstable foundations are perpetually strained under the weight of the rich mass above, its buildings lean and lurch towards the water. It faces the inevitability of gravity, decay and tides that conspire to draw the city below the muddy surface of the lagoon. As the city continues to flood, we look for a solution that neither resists nor accepts this fate. Realising Venice's inevitable decline is the key to envisioning its future. We propose to return to the beginnings of the city, when a dense forest was transported and driven into the ground to make the first foundations. Like a mirror of the hidden landscape below, a new forest of poles can be planted among the sinking walls, canals and plazas. These will be the foundations for Venice's continual evolution. An architectural 'reforesting' that offers the chance to inhabit the old structures in a new way. Venice need not become extinct when the tides begin to spill into the marbled interiors. This is the moment to create a revitalised landscape and find new ways of exploring Venice's beauty. Venice will survive by being reforested.

Toby Breakspear
Director, Breakspear Architects, Sydney
Bachelor of Architecture, University of Sydney, 2006



TO COMPETE IS TO DARE.

« WITH OUT DARING.
THERE IS NO BEAUTY »
DELACROIX

Competition Pool Building 1990

The project reminds me of how important it is to adhere to those values and standards in which one believes. This project represented a FAIL mark for the design and yet Ted Alexander, my tutor, had mentioned to me that it was one of the most beautiful projects a student had created in his memory. (Ted had not offered it the end grade – this was left to a more senior permanent staff member.)

The life lesson for me is that while grades and accolades are important in the awareness of one's own worth against others, what is more important is a deeper self-awareness; one which develops to embody an inner confidence despite all external factors.

One also needs to be aware of those that offer the grade and the ephemeral nature of these people in one's life. Most jurors, grade-markers and critics become irrelevant with time.

Angelo Candalepas LFRAIA
Director, Angelo Candalepas and Associates, Sydney
Bachelor of Architecture (Hons), UTS, 1992

Students at Longford Academy learn about the conservation of traditional building materials at the farm precinct at Brickendon in Tasmania, 2019. This building is clad with a rarely surviving 5-inch pitch corrugated iron called Scotch iron, which mainly came from Scotland in the 1850s
Photo: Anthony Mitchell

Learning architectural heritage

Jennifer Preston

University of Sydney students from the Master of Heritage Conservation course inspect the woolshed on Booberoi Station near Euabalong in western NSW, 2019 Photo: Cameron Logan

As an architect who works with heritage buildings, most of my education in the heritage field has come from experience on the job. I wondered how do other architects working with heritage come to do so and what was their experience in learning the skills they need to undertake this work? I contacted architects working with heritage buildings, both in conservation and adaptive reuse who had graduated between 1969 and 2000 and who had attended a range of institutions. While most had studied some architectural history as a core subject in their undergraduate architecture course, few had studied traditional building methods and fabric or how to conserve and maintain it. For those who had some exposure to architectural heritage, this was generally in elective subjects or by their choice of a dissertation topic.

Most responding architects did not initially set out to do heritage work but came to it through a love of old buildings and the unique challenges they can present. The belief that the built environment as part of our cultural values should be treated with respect is strong among many architects and they also believe that the reuse of old buildings is a valuable part of making a more sustainable world. Working on interesting heritage projects and with other architects who were experienced and passionate about heritage buildings influenced many to develop their own interest in the field. They acquired specialist skills on the job, learning from those they worked for.

Formal education in building conservation in Australia began in the 1970s. In her thesis, *Best of Intentions: The Historical Development of Education in Architectural Conservation*, Jacqueline Goddard notes that conservation topics were offered in architecture at the University of Sydney from 1974 with a specific conservation course commencing in 1980. A part-time postgraduate degree in building conservation at the University of New South Wales began in 1980 and was discontinued in 1997.[1]

Today at the University of Sydney, the Master of Heritage Conservation sits within the School of Architecture, Design and Planning and aims to develop skills in 'assessment, interpretation, management, formulation of policy and documentation of culturally significant places including buildings, sites and cultural landscapes'.[2] The teaching program includes real-life projects as part of their strategy to teach the techniques, approaches and methodologies necessary for a heritage consultant. An example of this is the recording and condition assessment project that students undertook in 2019 on a woolshed on Booberoi Station in western New South Wales.

At ANU's College of Arts and Social Sciences, a graduate course in the physical conservation of historic heritage places is offered by the School of Archaeology and Anthropology and aims to develop skills in 'the physical conservation and management of historic places with a focus on historic structures'.[3] While practical aspects such as identification, documentation and analysis of traditional building materials and practices are undertaken, the course at ANU also endeavours to develop ethical and reflective practice, a functioning knowledge of current heritage policy and frameworks, and strategies for monitoring and maintaining historic built fabric.

Courses like the Master of Heritage Conservation at the University of Sydney and the Physical Conservation of Historic Heritage Places at ANU, are a significant commitment and many practicing architects may not have the time required. For those seeking shorter and more focused education several seasonal schools are provided by the Longford Academy in Tasmania. Longford began operating 10 years ago providing both hands-on training in building conservation as well as practical assistance to the conservation of the world heritage listed estates, Woolmers and Brickendon. The Academy's summer school in building conservation is designed for architects and others who are involved in specifying works to heritage buildings and comprises theory classes and site visits. The seven day intensive course focuses on the traditional fabric of buildings, how they weather and decay, and how best to conserve them. A further short course on practical building conservation is held in autumn with specialist masterclasses held in spring that focus on particular indepth aspects of building conservation such as lime mortars and plasters, and traditional and decorative finishes.

While most architects currently involved with heritage buildings in New South Wales did not learn about heritage conservation in their undergraduate degrees, passion, dedication and the occasional unexpected chance has led to learning on the job for most of us. Others have learnt from postgraduate courses set up from 1980, which continue to provide strong formal education in heritage conservation covering an understanding of heritage policy and planning as well as knowledge of the fabric of traditional historic structures and how they can be conserved. While it would be desirable to provide an introduction to heritage conservation in undergraduate architecture degrees, there are now several options for those seeking further knowledge in this area following graduation.

Dr Jennifer Preston is the chair of the NSW Chapter heritage committee.

NOTES

1. Jacqueline Goddard, *Best of Intentions: The Historical Development of Education in Architectural Conservation* (PhD thesis), School of Architecture, Design and Planning, University of Sydney, 2019, 210–215
2. https://sydney.edu.au/courses/pc/master-of-heritage-conservation.html
3. https://programsanscourses.anu.edu.au/course/humn8022

Deadly Centre 2019

In the first semester of my Master of Architecture course, I was selected for a studio focused on designing facilities that bring pride back into Indigenous community-controlled services. The project involved designing a health or arts centre for the Aboriginal community in Ceduna, South Australia. Given my interest in urban design, I took on both clients and created a precinct masterplan. The Aboriginal community has historically been pushed to the fringes of Ceduna, so the *Deadly Centre* concept creates a home in the centre of town with a landscaped park that runs along the north of the site and weaves through a series of pavilions, emphasising connection to Country. The park gives back much needed amenities and opens up opportunities to embed the Aboriginal community's stories and history into the landscaping and art.

The process taught me the importance of getting to know the future users, right from the early stages of design. I learnt how important it is to spend time with the community you're designing for, to really understand their needs and give them a strong role in the design process. I learnt first hand that this process isn't always simple. Ceduna was traditionally a meeting place of four different language groups, so there were many conflicting ideas and tension between the different groups. The challenge was how to design something that would create union in the community, rather than further strain. Working through this gave me a new lens on design thinking. I'm applying it as an architectural undergraduate at ClarkeHopkinsClarke, advocating for incorporating research about the Indigenous heritage of new sites and finding ways to recognise that in project design. I'll build on these lessons learnt throughout my career.

Afterword: When the studio returned to Ceduna to present our designs, the Ceduna Aboriginal Corporation showed great interest in my concept and initiated a partnership with myself and ClarkeHopkinsClarke to move forward with the project. The project team will be developing the designs for the arts, language and visitors centres on the proposed site.

Olivia Goodliffe
Architectural Undergraduate (retail & mixed-use sector), ClarkeHopkinsClarke Architects, Melbourne/Sydney
Candidate for a Master of Architecture, University of Melbourne, 2021
Bachelor of Environments, University of Melbourne, 2017

VISITORS CENTRE FROM MAIN STREET

ROCK HOLE INSPIRED AMPHITHEATRE, MOUNDING & ARTISTS WORKSHOP

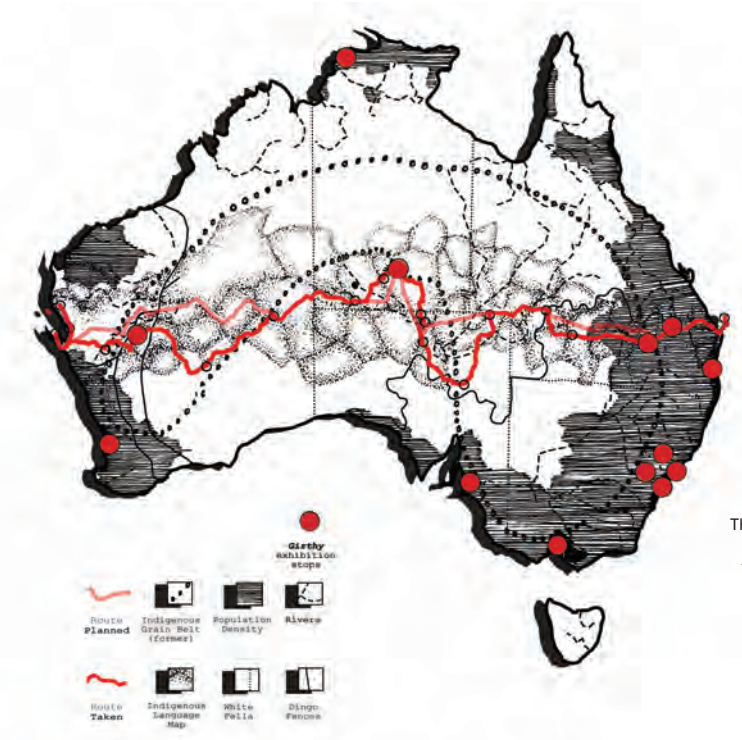
LIBRARY AND HEALTH CENTRE ENTRANCE

HEALTH CENTRE STAFF OFFICE INTERNAL COURTYARD

STAFF BREAKOUT & EXERCISE GARDEN

Lessons from NCU: Not City University

Bobbie Bayley and Owen Kelly



The Grand Section – a mobile research project by Bobbie Bayley and Owen Kelly – was a bicycle odyssey across Australia's grand section along the 25th parallel south. They travelled from Fraser Island to Dorre Island off Western Australia (around 6900 km) to better understand the relationship of our country to architecture

The broader Australia is largely unknown. The fringe, in which 85% of Australians inhabit, is only a part of the broader whole. A typical Australian myth pervades: girt by sea, girth by desert. Yet the reality of Australia is much more diverse than this.

As our climate and living trends change, the fringe is creeping further from the ground plane into the sky and from the edges to our red centre. In the built environment we have a responsibility to go beyond the safe and institutionalised. To fully understand the reality of our own country it is crucial that we begin to explore the entirety of Australia and its respective habitations, something very hard to do inside a university building. This was what the Grand Section aimed to understand.

The Grand Section was undertaken over 10 months in 2017 by both of us as architecture students, continuing a 50-year-old lineage of Australian architectural rites of passage. It was a journey by pushbike that drew a line through Uluru, the spiritual heart of the country, as the road map. Its goal was slowness; increasing an understanding of the context our inhabited fringe exists in. Refuge was taken in the landscape, the living footprint restricted to 5.5 m^2 for our two bikes and tent. Immersive and subservient to the elements, the journey forced direct interaction and understanding of the ever-changing environment. One-week stays at the 19 towns across the continent were opportunities for research and documentation to learn about how place influences habitation. This analysis of Australian architecture was then presented back to the community for immediate localised feedback.*

What follows on the next two pages is an idea informed from the Grand Section journey, which highlighted for us how the land underpins life in Australia. Since this is an idea difficult to learn in a detached classroom, we propose the regional areas of this country provide a 'not city university' – a place of study that is currently underused.

Bobbie Bayley (from Wonnarua country) studied in architecture in Australia, the United States, Germany, Peru and Denmark; she is a MADE scholar, Byera Hadley recipient and has worked in Nepal and regional and urban Australia. She now works in private practice and at Healthabitat while completing a masters at Not City University (NCU).

Owen Kelly (from Gandangara and Darug country) has a MArch from UoN and NCU; he has worked in Nepal and urban/regional Australia tutoring and designing and making buildings, installations and furniture. He continues his own practice while maintaining involvement with Healthabitat.

* See the findings at thegrandsection.com and sign up for our forthcoming book. See also a video of our recent talk for other lessons learnt at 'Deerubbin 2020 – The Grand Section' on YouTube.

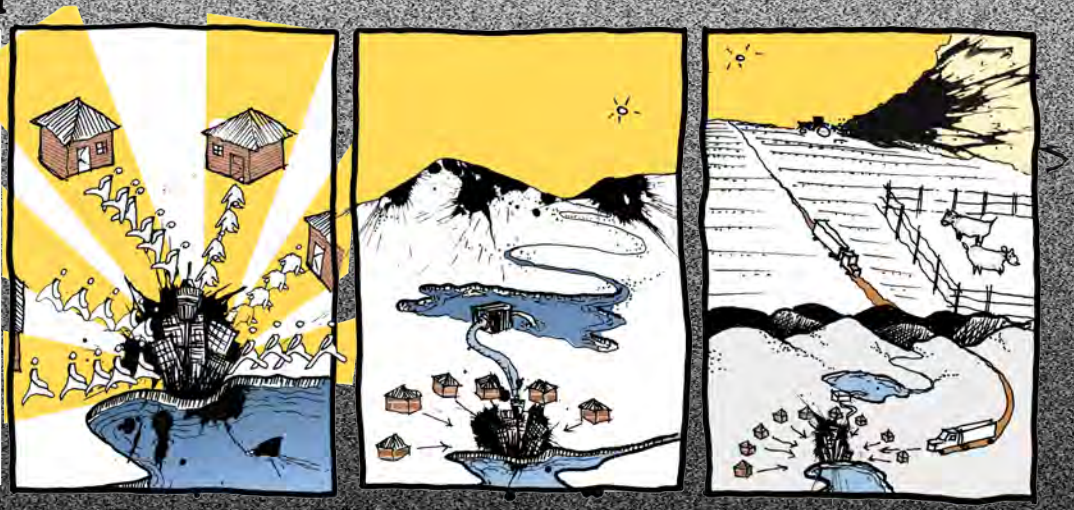
"...the health of the cities depends on the health of rural areas...the precondition of all economic life, takes place in the countryside...To restore a proper balance between city and rural life is perhaps the greatest task in front of modern man"
-Small is Beautiful, E.F. Schumacher

The city is a hungry beast...

That sucks people in from around its sizable girth...

It slurps water from our rivers and lakes...

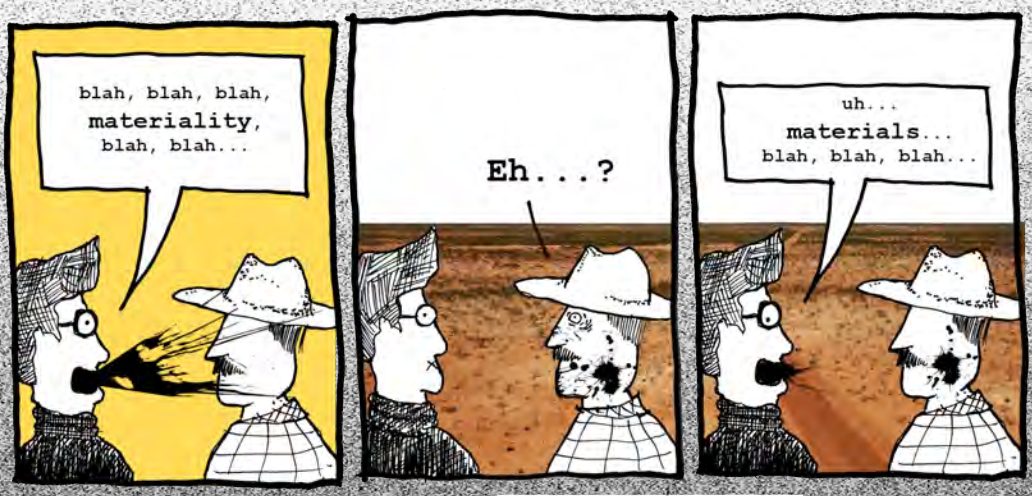
...and gobbles food from somewhere further inland...



where 85% of the population lives. Where our experience of the country is based

Learning to design in and for a city we didn't understand the context a city exists in...

The 'not city' has a lot to teach us.



Getting outside of the city, we realised that sometimes no one gives a fuck about architecture. Sometimes it is not the only answer.

Actual conversation we had

At university we learnt about the broader world sitting inside a building. However the stuff that makes up the world is dirt, water and growing things. Luckily we have a lot of that in Australia.

What if we saw the country as opportunity to learn. To think of knowledge as spread across the country rather than in select coastal temples. The knowledge is already out there - we just need the drive to go and find it.

Architects have incredible skills in creative and critical thinking. It is the 'not city' where our changing world is going to be hardest hit and where creative solutions will be most needed.

© Bobbie Bayley and Owen Kelly, 2020

Reflections on my education in architecture

Kristin Utz

The author today (second from right) with colleagues including recent graduates

I attended the University of Sydney 30 years ago, back when we lugged A1 portfolios around, drew with pens and wore army surplus rather than activewear. Looking back at that relatively short period in my life, I feel grateful and appreciative for my rich and multifaceted education. Learning to be good communicators, both visually and aurally, was a key component of the degree. Communications was a multisensory experience that included dissecting fish, life drawing and communing with nature. Fast forward to 2020: everyone draws on a laptop, there is no library in the building and 3D printers and laser cutters are used to make models – step aside, boomers. The profession is moving away from traditional practice, towards a more diverse, collaborative and multidisciplinary approach – and architectural education reflects this shift.

Over the last eight years, I have reconnected with life on campus, returning as a tutor and as the chair of the alumni association for the School of Architecture, Design and Planning at the University of Sydney. This has allowed me to connect with students, work with academics and university staff, engage with industry and meet many graduates who are contributing in their chosen fields, which include industries that didn't exist 30 years ago – sustainability, 3D visualisation, FX, UX design, product design and analytics. Career paths are no longer straight but often diverge in direction. A more integrative and agile approach to education has led to universities offering a much broader range of degrees, a dizzying array of opportunities for overseas study and increasing flexibility to defer or change courses.

While much has changed, the grounding principles of problem solving have not. We were taught to ignore preconceptions, research historic precedent, understand local climate, landscape and the environment culturally and scientifically, and to formulate a concept. This is otherwise known as 'creative thinking' – a highly sought-after skill in the workplace.

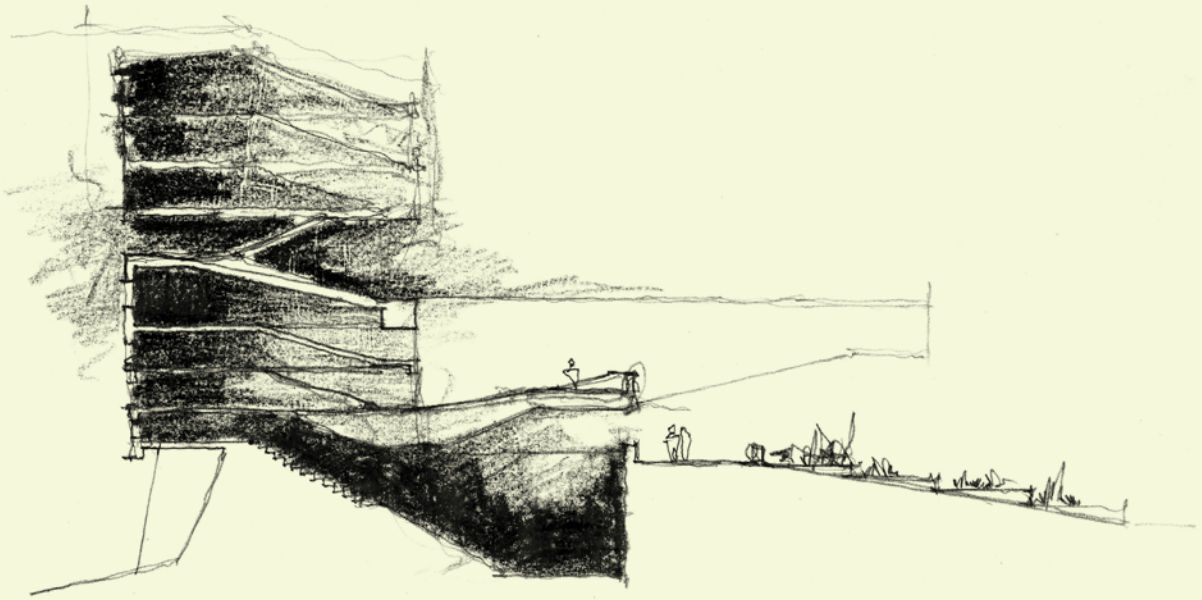
Drawing, painting and sculpture at the Tin Sheds have now been replaced by the DMaF Lab, where students jostle for bookings to produce sophisticated models and projects exploring the myriad possibilities for new materials and technology. I am amazed by how students are able to embrace new technology with ease and skill.

There was always healthy discourse among students and tutors. End-of-term crits were often gruelling and it was here that we learnt to fail as well as succeed. From these (sometimes bruising) experiences, we learnt resilience. Now, the combative approach of old has been replaced with a more supportive and caring learning environment that encourages diversity and supports a wider range of interests and talents. We are moving away from the culture of the 'heroic architect' toward a more environmentally aware, inclusive and socially responsible model of practice.

During the 80s there was a more even ratio of men to women studying architecture than previous decades, and a woman's ability and aspiration were never questioned. It was postgraduation that the rather bumpy road to equality became obvious and more difficult to navigate. This is changing with increasing numbers of women leading in our universities and professional bodies, but it continues to require action and further innovation to embrace diversity and take the profession forward.

I feel optimistic about the future of education in architecture. I have seen the passion and commitment of academic staff to the learning outcomes of students and in collaborating with the profession and other disciplines. It is vital that value is placed not only on offering quality in education but also in ensuring there are opportunities beyond university. In a time where tertiary education is no longer free, universities have a responsibility to help in the transition between education and career. The profession should be equally invested in collaborating to make this happen.

Kristin Utz is a director at Utz Sanby Architects. She graduated with a Bachelor of Architecture (Hons 1) from the University of Sydney.



Climatic trauma projects 2011

Three of the four semesters of the Master of Architecture program at the University of Sydney had particular focuses on climatic trauma. It seems particularly relevant right now; one project looked at the town of Swansea at the mouth of Lake Macquarie which with current predictions of sea level rise is facing regular inundation.

The project looked at defensive strategies as well as a staged retreat, sacrificing the ultimately indefensible headland back to the ocean and re-establishing Swansea on higher ground. In a similar vein, a second design unit looked at housing types in areas affected by the Victorian (Black Saturday) bushfires in 2008/2009, exploring how we might re-engage with the landscape and human habitation in areas that have been destroyed and may well again face worsening bushfire seasons.

The projects for me highlighted that, as the impacts of climate change begin to manifest more noticeably, perhaps our solutions need to look more widely for techniques and methods of defense. Both projects were a chance to explore more radical solutions to a problem that feels like it's becoming less academic and more present. It was also a point of transition in working between hand sketching – gestural, intuitive working – and translating these into precise, controlled, digital experiments. This continues to be a part of my design process: oscillating between media and developing a project through multiple approaches simultaneously.

Andrew Daly
Director, Supercontext Architecture Studio, Sydney
Master of Architecture (Hons), University of Sydney, 2011
Bachelor of Design in Architecture (Hons & University Medal), University of Sydney, 2009

Architecture design as research

Melika Aljukic

Melika Aljukic at her AA Design Research Lab postgraduate exhibition in 2013 at the Architectural Association in London

Since the Renaissance, the practise of apprenticeship in architecture has been combined with the theoretical treatise process of formation of the distinct disciplinary and professional territory of architecture. On this basis, formal education was first institutionalised in France with the founding of the Académie Royale d'Architecture in 1671. At the end of the 19th century, academic teaching was adopted in England and America. The first school of architecture in Australia was established in 1918 and is now everywhere the primary mode of professional training. The architectural autonomy, as exploration and transformation of its own language, began to surface in the modern period. The autonomy appeared as a classification of the qualities of architectural form in an increasingly specialised profession. The first acknowledgement of autonomy in architecture begins with Emil Kaufmann's writing, which imports the idea of autonomy from the arts, emphasising the individuality and self-expression. Kaufmann's conception of architectural autonomy relies primarily on Immanuel Kant's idea of the freedom of the human will as the supreme principle of ethics. Kaufman's architectural autonomy is metaphorical, based on geometry, the autonomy of the urban villa from its environment, the freedom from necessity and architectural precedent. In *Von Ledoux bis Le Corbusier* (1933), Kaufmann credits the autonomy of architecture to Claude-Nicolas Ledoux and Le Corbusier's architectural system. In his analysis, initial modernist rationalisation starts with Ledoux principles that break away from the aesthetic principles of building proportion, order, harmony and symmetry into separate volumes according to function and geometry. The autonomous approach to volume and material decomposition in the Baroque creates new possibilities for vertical circulation and design in the architectural section. Similarly, Le Corbusier is credited for creativity and compositional and formal introduction of new architectural elements. This concept, Kaufmann argues, is an originator of modernism through geometric rationalisation of the plan. Kaufmann situates the start of Modernity at the end of the 18th century, and he considers that the idea of autonomy had significant influence in the United States, in particular, with ideas of pure geometry referenced, for example, in Philip Johnson's *Glass House* in New Canaan. Architectural geometry is a fundamental tool for generating autonomous architecture. The development of geometry and social system provided the difference in the expression of form, from which different debates on the language of autonomy have been established in architecture.

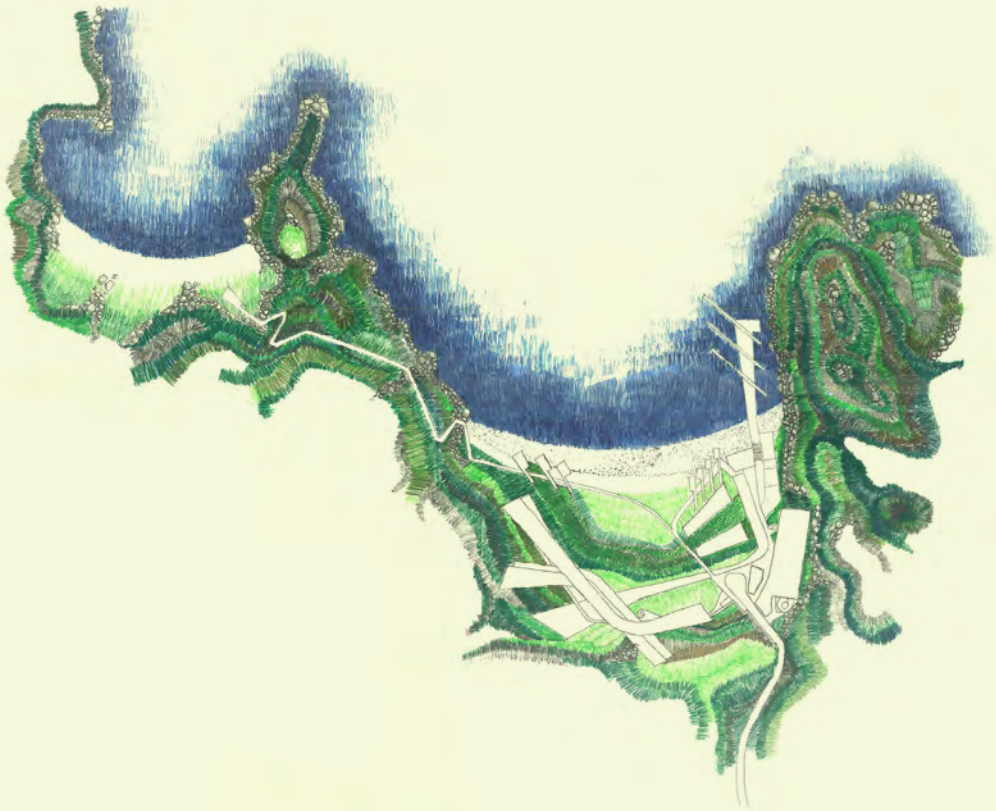
Pursuing architecture design as a form of research raises new concepts of space that question the needs and demands of contemporary society through various formal experiments that are proliferating today. In the 1990s, the digital revolution in architecture, powered by new technology, introduced new digital design operations which characterised digital architecture design with non-uniform rational basis spline (NURBS) surfaces and operations like lofting that allowed smooth and continuous forms and surfaces. This new software capability integrated the algorithmic generation of continuous functions based on the Gottfried Wilhelm Leibniz's mathematics of continuity. The aesthetic prominence of the fold concept was closely associated with Gilles Deleuze theory in *The Fold: Leibniz and the Baroque* (1988). The book embodies the research by Leibniz on science and mathematics as a way to unfold the world at the end of the 20th century. The architectural theory, influenced by the Deleuzian concepts during the

Melika Aljukic as part of the AADRL (2011–13) assembling the end-of-year postgraduate exhibition at the Architectural Association in London Photo: Architectural Association

1990s, departs from the deconstructivist, fragmented and conflicting formal systems to develop smooth transformation involving the intensive integration of differences with a continuous yet heterogeneous system. Folding was the first architectural digital style. Greg Lynn, as the prominent protagonist of the theory on folding in architecture, influenced the design teaching at Columbia University, by introducing a paperless studio in 1994/1995 that promoted digital architecture. The Columbia University in 1996 became equipped with the new Silicon Graphics machines capable of running the visual simulation software Alias/Wavefront (Maya since 1998) that had been developed for the animation industry. In parallel, digital architecture approach was developed at the Architectural Association by Jeff Kipnis, which morphed into the Digital Research Lab (AADRL) in 1996 under direction of Brett Steele and Patrik Schumacher. Investigation of the new architectural principles through digital style manifested in the postgraduate architectural education as well as a professional architectural practice. The zeitgeist of the digital information revolution was captured by Frank Gehry in 1997 for the Guggenheim Museum in Bilbao. The project is the realisation of the first free-form surface in architecture on a scale similar to those of the Industrial Revolution.

From 2001, non-standard architecture integrates algorithms for digital and computational operations enabling the serial production of non-identical parts. This evolution is traced through the novel interpretations of geometric lineage which culminated in two seminal exhibitions; *Latent Utopias* at Landesmuseum Joanneum in Graz in 2002 and *Architectures Non-Standard* at the Centre Pompidou in 2003. Zaha Hadid and Patrik Schumacher described *Latent Utopias* projects as radically new concepts of space that question the needs of contemporary society. Exhibited projects by the Architectural Association Design Research Lab emerged from the various formal experiments in the digital media. The architecture of claimed geometric and volumetric invention challenged the Euclidean basis of architectural form by mass-produced series of objects and economies of scale. Introduction of new generative computational methodologies and tolls like GenerativeComponents for Bentley in 2003 expanded the parametric modelling allowing the proliferation and adaptive differentiation of complex components. The new scripting platforms, like Grasshopper visual programming language, integrate tools that generate architectural geometry with engineering logics and physical simulation for form-finding and optimisation processes as a part of the design process. From 2012, the second turn of non-standard architecture progressively implements the algorithmic protocol in the form of the parametric data model for design and fabrication of parametric non-standard components into architectural academia and profession. Design research groups develop custom tools within the design process that are integral for the design itself. My AADRL project from this second turn of non-standard architecture epoch is characterised by novel methods of form-finding, material selection and construction methods that use parametric data models and robotics. Continuing architecture design as a form of research, my investigation pertains to the specific topological agenda in response to environment within which projects are developed.

Melika Aljukic is the principal of architecture and urban design practice Melika Aljukic Architects. She is a member of the Australian Institute of Architects NSW Chapter's editorial committee and heritage committee. Melika graduated from the UNSW with Bachelor of Architecture First Class Honours and holds a Master in Architecture (Architecture and Urbanism) from the Architectural Association. She is currently a PhD (Architecture) candidate at the University of Sydney and sessional academic at UNSW.



Killing Time 2009

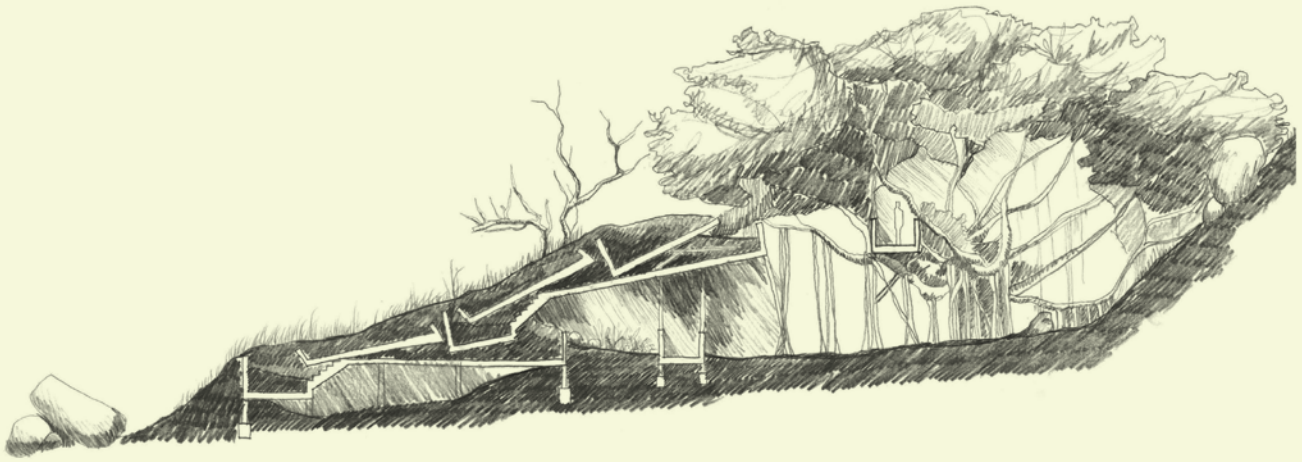
Killing Time developed over the course of 2009 and began as research for intentional ruination and questioned whether we design the ruin. The brief proposed the development of a hotel and residential community on the site of a hotel destroyed by a cyclone. Could this project decay into a future architecture or landscape by design?

On reflection, the project was the culmination of lessons from teaching staff I encountered during studies at Deakin, QUT and Griffith universities. Each conversation with a mentor offered ways of thinking and approaching a design challenge, but ultimately I needed to decide if I'd apply their advice or stand by my approach.

In fourth year I made a decision to avoid 3D documentation and pursue hand drawing. One mentor warned me to 'not become good at things you don't want to do'. During the crit for *Killing Time* one of the visiting tutors told me that my project 'would be more convincing if it was 3D-modelled'.

Ten years on, hand drawing still forms a critical part of my design process – so I guess you could say I took that feedback as a comment.

Phillip Nielsen
Design Director, Regional Design Service, Corowa
Bachelor of Architecture, Deakin University, 2011



Abattoir for the oblivious 2009

This student project was selected to represent the prominent curricula upheld in both the undergraduate and post-graduate programs within the School of Architecture at the University of Newcastle. These curricula are articulated by encouraging students to explore a rich theoretical foundation while demanding a poetic understanding of construction and sustainability. The binding of these often disparate themes thus becomes a vehicle for students to not only explore critical social, economic and ethical ideas but to also represent them tectonically. That is, radically hypothetical projects are complimented or enhanced by a sense of artistic buildability and reality.

The value of this style of education is perhaps obvious, however, as a practicing architect the process of combining a specific theoretical understanding with a regard for construction as a poetic opportunity is deeply ingrained in my work. The most logical point of departure is that in practice my ideas now stem primarily from an understanding of my clients and their sites. The fabric of the building is always intrinsically linked to the idea.

Lachlan Seegers
Director, Lachlan Seegers Architect, Sydney
Master of Architecture (Hons Class 1), University of Newcastle, 2009
Sessional Academic (USyd, UNSW, UTS and UoN)

Valuing professional development

Kerwin Datu

CLT and Passivhaus construction techniques, two of areas of innovation that architects could be investing their CPD hours into. Project: CLT Passivhaus by Betti & Knut Architecture
Photo: Joseph Moser

It is always disappointing to hear architects express their resentment towards continuing professional development (CPD) requirements. It is even more frustrating to hear architects ask how the CPD activities they undertake can 'get accredited', since this is a sign of just how much confusion exists in the profession about CPD and how much potential is wasted as a result.

It should be understood that the NSW Architects Registration Board CPD policy makes architects 'responsible for self-determining which CPD activities they undertake based on what they consider appropriate … Architects should be guided … by their own assessment of … the quality of the activity'. It is therefore superfluous for an architect to seek for an activity to 'get accredited' by some third party; the entity who validates the activity is the architect themselves using their own professional judgement. It is also the architect who determines whether the activity is considered formal according to the policy.

Any architect who is cynical about CPD is probably drawing from experience of low-quality, so-called 'accredited' activities from which they know they derive no benefit. But the correct course of action is to shun such activities and focus on real professional development opportunities. It is not to participate in low-quality activities, claim them in one's activity record and then resent CPD in general.

NO MORE FREE LUNCHES

Speaking of low-quality activities, suppliers and manufacturers should be banned from providing CPD, and the words 'product suppliers' struck from the list of potential CPD providers in the Architects Registration Board's policy. The whole notion is fatally structurally flawed. The conflict of interest between teaching architects construction principles and bending architects' implementation of those principles towards their products is intrinsic and insurmountable.

The core of professional training is to teach architects how to make decisions in the interests of the client and the public. Dozens of decisions in sequence are required to reach the selection of a suitable product. The role of the manufacturer is to maximise the impression that those decisions lead to their product as often as possible. The way they create this impression is by selectively focusing on those later decision points that lead to the selection of their product, and by excluding the vast majority of decision points that do not, particularly the earlier, high-level decision points that demand the full range of an architect's experience, training and foresight.

Learning anything about construction in this narrow, backwards way is antithetical to the learning an architect requires. Architects need to know the whole terrain across which decision points are encountered and choices made, not just one or two destinations within that vast terrain.

This is not to discount the genuine expertise and thoughtfulness with which some manufacturers' representatives construct their presentations. But ironically, architects would learn more if we spent that time engaging in a genuinely expert and thoughtful conversation with suppliers and manufacturers about their products without any CPD window dressing, instead of pretending that flimsy questionnaires and strained 'learning outcomes' are furthering anyone's professional development.

'Any architect who is cynical about CPD is probably drawing from experience of low-quality, so-called 'accredited' activities from which they know they derive no benefit. But the correct course of action is to shun such activities and focus on real professional development opportunities.'

TEACH EACH OTHER

We're all missing a really easy trick here. One category of formal CPD available to us is 'activities relating to the preparation and delivery of CPD activities'. All we need to do is spend five hours identifying something meaningful from our own expertise that we can teach our colleagues for at least one hour or organising for experts in other fields to come into our offices to teach us.

To ensure that it is formal learning, we should also clearly articulate the learning outcomes and map them to the National Standard of Competency for Architects (eg 5.4 Evaluation of construction systems), and deliver it in a style that provides either a real structured assessment task or significant interaction with participants (the latter being easily achieved through a small seminar format). Do this and we will have created five points of formal CPD for ourselves and one point of formal CPD for everyone else in the room. Just being the person who organises such events for the company will be an easy five points for many architects.

A FORCE FOR INNOVATION

NSW contains 4,724 practising architects who spend 94,480 hours per year on CPD activities. That is a massive potential investment in the future of our profession. We should be using this time budget to make CPD a force for innovation and engagement.

There are so many ways that construction is evolving in response to fundamental challenges, from BIM and supply chain management, to engineered timber and advances in materials science, to new research and business models transforming workplaces, education and housing. And there are so many ways that architects could contribute to wider policy efforts reshaping our economy and society, in response to the construction industry crisis, bushfire reconstruction, the pandemic, climate change, inequality … the list goes on.

Imagine how dynamic our profession would be if we spent those thousands of hours developing ways to seek out knowledge from all of these fields, bringing together experts from across construction and research, sharing our hard-won expertise with one another, or deploying it in policy environments, instead of wasting them nodding politely around the lunchroom table.

Kerwin Datu is a practising architect as well as a qualified urban and economic geographer. He is also chair of the NSW Chapter's editorial committee.

CHAPTER

Note: The Australian Institute of Architects is actively represented on all coloured panels (committees / pillars)

National Architecture

AACA : Architects Accreditation Council of Australia

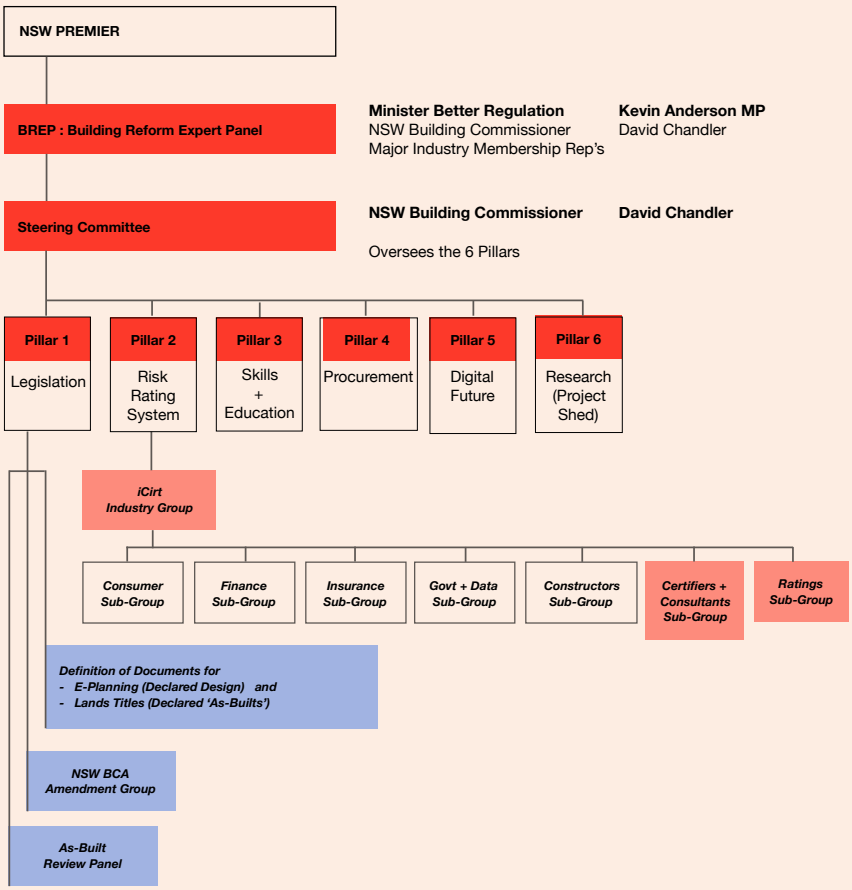
Review of the National Competency Standards

NSW Architecture

NSW ARB: NSW Architects Registration Board

Review of the NSW Architects Act

NSW Government



The current advocacy involvement for the NSW Chapter with the NSW government construction industry reform, as well as the AACA review of the National Competency Standards and the NSW Architects Registration Board review of the NSW *Architects Act 2003*

IN THIS Life lessons issue of *Architecture Bulletin*, many thoughts come to note: architectural education, regulation, professional experiences and the 'actualities' of construction. It is with this in mind that I include a diagram of the current advocacy involvement for the Institute with the NSW government construction industry reform, as well as the AACA review of the National Competency Standards and the NSW Architects Registration Board review of the NSW *Architects Act 2003*. There is a lot happening that will impact dramatically on the future of our profession.

The NSW government review, led by the NSW building commissioner David Chandler is in the first 12 months of a five-year plan. Now is the crucial development phase, and we are pleased to say your Institute is at the forefront of these discussions. The theme for next issue of the *Bulletin* will be on construction where this involvement will be explained further.

Until then, take care and keep safe.

Kathlyn Loseby
NSW Chapter President

POURING OVER Bobbie Bayley and Owen Kelly's intrepid Grand Section project (pages 23–25) and revisiting the legendary Autonomous House (pages 14–16) is a joyful reminder of the best of architecture school: the passion and high-wired creativity that fuels a project; the escalated inspiration of forging a great collaborative partnership; the firm camaraderie formed deep in the trenches of sleepless studenthood; and the jubilation of recovery from inevitable, myriad crises of confidence, technology and model breakage.

The intensity of architectural education remains unchanged, but much else about it is transformed – some for better, some for worse and some just for different. For example, Indigenous cultural literacy is beginning to be brought more accessibly into the curriculum through programs such as Michael Mossman and Anna Ewald-Rice's design studio (pages 10–11). Meanwhile practical construction knowledge and documentation skills previously acquired through apprenticeship-like early career employment experience now typically go unlearnt. More neutrally, students' work is of course predominantly done digitally now rather than manually.

Another important change is towards a more positive, constructive design crit culture. Hugo Chan's piece (pages 2–4) is in part a harrowing reminder of the design crit – that anxiety-inducing appearance before peers, tutors and guest critics where students are required to present and defend the work that has cost them a run of sleepless nights and possibly the last dollars they'll have for a fortnight. But it is also an indicator of this shift.

For those working in universities, it won't (or shouldn't) come as news that crits are not conducted as brutal psychological challenges to cure students of the belief they might have produced a project worthy to be called architecture. But for many whose involvement may only consist of rare campus visits as a guest critic, Chan's article is an important read, highlighting how to help rather than punish students through clear, constructive responses and questions that elicit the often impressive knowledge and ideas students sometimes struggle to communicate.

The deeper lesson here though is for how the profession engages with the world outside architecture. The critical thrust of design culture is a powerful thing. It drives growth as designers and better design outcomes; architects understand this and deeply value and respect it accordingly. But in the rarified environment of the profession it is easy to forget that it is just that: a culture, and not a terribly universal one at that. In other contexts it can come off as harsh – and worse. It follows that this is not the game to bring to matters outside the studio if we hope to gain friends and influence, particularly in the case of advocacy for the profession.

For governments and many of the organisations the Institute interacts with (and the Institute itself for that matter), working towards achieving what can realistically be done best in the given parameters means a good compromise is the ideal, not the compromise of an ideal. This represents a fundamental difference from design culture. Secondly, their people often aren't initiates into that practice of critique which is water off an architect's back; it can feel ouchy.

By remembering to recognise and commend those positive elements of a given piece of work – be it a student project, a masterplan or a government policy – and by tempering our criticism with a constant emphasis on constructive responses, we will get a whole lot more cut through. We will extract better outcomes. And we may even make a few friends on the way.

Kate Concannon
NSW State Manager

Advocacy in extraordinary times

IT IS HARD TO believe that when we went to print in the last issue of *Architecture Bulletin* Covid-19 was barely on the radar. Back then our advocacy focus was on influencing the policy outcomes for the Design and Practitioners Bill 2019, and the NSW Upper House is now scheduled to resume debate on the Bill later in the year.

With astonishing speed the Institute and the NSW Chapter president Kathlyn Loseby have pivoted to address the issues that the health crisis brings to our industry and the broader community. The focus of our Covid-19-related advocacy, in collaboration with the Department of Planning Industry and Environment (DPIE) and other industry bodies, is two pronged. First, we are working to support our members and the industry in the short term to adapt to new ways of operating and to maintain business, and second, we are pursuing action to ensure the long-term snapback of practices and the construction industry.

The Institute congratulates the NSW state government for their prompt response to the challenges faced by the construction industry and their recognition of the industry's importance for the economy and employment.

Minister for planning and public spaces Rob Stokes said, 'The construction and development sectors, which make up almost 10% of NSW's economy, will be vital in keeping people in jobs and keeping investment flowing over the coming weeks and months'.

Kathlyn Loseby meets with and receives regular updates from the DPIE and other key bodies. Through these channels the Institute has supported and influenced some key changes in the government response, outlined in the following summary.

PLANNING CRITERIA

Public benefit is one of DPIE's three essential criteria for identifying and progressing projects to be fast-tracked for economic recovery, along with jobs and timing. In addition to public benefit and jobs, planning approvals will consider whether the decision can be made quickly and if the project can start within six months. The Institute has called for a range of state-making infrastructure initiatives for immediate impact and positive legacy including: making space for cycling and walking, pedestrianised main streets in every local government area, local community construction projects for improved facilities and public domain, and sustainable infrastructure for educational and public buildings.

FAST-TRACKING APPROVALS

DPIE, NSW Land and Environment Court (LEC) and local government authorities have been directed to fast-track approvals already in the system and nearing completion. This is critical to supporting the ongoing health of businesses as well as the delivery of important projects, while maintaining emphasis on the importance of achieving quality outcomes. To support this, the Institute has established direct lines of communication with DPIE, LEC and local government to alert these bodies to approvals that are not progressing. Members can submit specific examples to the Institute at formpl.us/form/1045716038. We then forward this information to the relevant body for action and continue to advocate on behalf of our members.

EXTENDED HOURS FOR CONSTRUCTION

On 2 April 2020, Mr Stokes announced extended construction hours to support the industry during the Covid-19 crisis. Construction sites can now operate on weekends and public holidays. 'The move allows workers to abide by social distancing rules while keeping construction projects progressing by allowing building work to be spread across more days of the week', said Mr Stokes.

JOBS BOOST THROUGH FAST-TRACKED PLANNING SYSTEM

The NSW government will cut red tape and fast-track planning processes to keep people in jobs and the construction industry moving throughout the Covid-19 crisis.

The Planning System Acceleration Program will:

– Create opportunities for more than 30 000 construction jobs in the next six months
– Fast-track assessments of state significant developments, rezoning and development applications (DAs), with more decisions to be made by the minister if required
– Support councils and planning panels to fast-track local and regionally significant DAs
– Introduce a 'one-stop shop' for industry to progress projects that may be 'stuck in the system'

– Clear the current backlog of cases stuck in the LEC with additional acting commissioners, and
– Invest $70 million to co-fund vital new community infrastructure in north-western Sydney including roads, drainage and public parks to unlock plans for the construction of thousands of new houses.

PHYSICAL COPIES OF PLANNING DOCUMENTS NO LONGER REQUIRED

The newly introduced Covid-19 Legislation Amendment (Emergency Measures) Bill 2020 removed the requirement for planning decision makers including councils to display physical copies of some documents.
– These documents will now be available online via the NSW Planning Portal and local council websites
– Digital documents include development applications, planning proposals, environmental impact statements on exhibition, registers of development consents, complying development certificates and construction certificates
– Current exhibition periods will be unaffected, and documentation that is required to be made physically available will be made available online for the duration of exhibition periods.

CHANGES TO ENVIRONMENTAL PLANNING AND ASSESSMENT

The Covid-19 Legislation Amendment (Emergency Measures) Bill 2020 also made changes to the *Environmental Planning and Assessment Act 1979*. The changes allow the minister for planning and public spaces to make an order for development to be carried out without the normal planning approval in order to protect the health, safety and welfare of the public during the Covid-19 pandemic.

Things are moving very quickly so we recommend that you keep up to date by visiting the NSW government page planning.nsw.gov.au/policy-and-legislation/covid19-response in addition to the Institute's Covid-19 response site architecture.com.au/about/national-covid-19-response.

PEDESTRIANISATION AND STREETS AS SHARED SPACES PROGRAM

The NSW government will introduce three trial pedestrianisation programs – one in each of the Greater Sydney's cities – alongside a new $15 million Streets as Shared Spaces program that will fund council projects to provide more space for communities to safely walk, cycle and exercise.

Wishing you and yours to stay safe and in good health.

Wilma Walsh is the NSW Chapter's communication officer.

Architectural employment during Covid–19

Working from home: the family dining table has become the principal place of work for many architects Photo: Kristina Sahlesström

FOR MANY – if not the majority – of the EmAGN demographic, Covid-19 is the most significant global event that we have experienced in our careers to date. The bushfire crisis earlier this year, the global financial crisis of 2008 and the ongoing climate emergency have all had catastrophic impacts, but none have matched the rapid pace, uncertainty and pervasiveness of the current global pandemic. No one is unaffected.

So far, the most immediate impact of the pandemic has been on the way we work. Even the most proactive of practice managers, clients and contractors have at times been forced to create policies with less than 24 hours notice. The employment changes we have observed as being most common include working from home, staff redundancies, salary reductions and reductions in working hours.

Emerging architects and graduates are always vulnerable in these circumstances. If you are confused about your employment rights, we encourage you to read your employment contract and the Architects Award as a first step.

EmAGN NSW interviewed Fiona Martin, architectural HR and management consultant, with questions from our demographic. Watch the interview 'Architectural employment during Covid-19' on the EmAGN YouTube channel at: tiny.cc/fixrmz.

Chloe Rayfield is EmAGN NSW co-chair and senior architect at TKD Architects.

Flexible working at Crone

Crone, as a member of the architect's Male Champions of Change, have an 'all roles flex' policy to maximise flexible working arrangements. Responding to recent world events, this was a good foundation to make us more resilient and inclusive as a working team. More info: malechampionsofchange.com/groups/architects

New leadership appointments at NBRS

With good expectation that we will find new opportunities within these challenging days, NBRS has welcomed 2020 with new leadership appointments across our design studios: Ian Gibson as studio principal wellness, and new associates Alice Steedman, Alison Huynh, Carmit Harnik Saar, Katie Hurst, James Kim and Maria Orellana Romero. Congratulations.

Topping out in the courtyard is a first for Mirvac

The topping out of Pavilions, designed by BVN and Mirvac Design, was a physically distanced celebration with Mirvac managing director Susan Lloyd-Hurwitz and NSW treasurer Dominic Perrottet (pictured) planting a tree in the courtyard rather than the 35th floor.

Lessons learnt on site: the key to construction quality

Snezana Mitrovski on site

THE OFTEN unsung hero in the delivery of a quality building – that is true to the concept architect's vision and is at the same time buildable – is the project architect. It takes years of experience to acquire the skillset that is required of a good project architect, one who can appreciate the big picture while also delighting in the detailed documentation that eliminates risk. And critically, one who understands construction.

Construction quality has taken a hit in the past few years, its failings well documented in the Shergold Weir report into building quality. It is at the juncture between design and construction that a well-rounded project architect has a critical role to play in ensuring the integrity and quality of a building.

Mirvac Design is an architectural practice where its architects have frequent exposure to construction sites where they can learn on the job, discussing design with those who must build it and ingesting some of the wisdom of builders with decades of experience. The model, in which there is full integration between design, development and construction, has allowed Mirvac Design to deliver sustainable solutions designed for longevity and resilience.

And it highly values project architects such as Snezana Mitrovski, a Mirvac Design senior associate who has been pivotal in the delivery of outstanding buildings such as Era at Pacific Place Chatswood, which won the Property Council's Best Residential Award, and Pavilions at Sydney Olympic Park, which will be completed in mid-2020.

Snezana, has led a team of 15 architects working on Pavilions for more than three years, producing literally thousands of detailed drawings. The critical difference is that at every step of the way Mirvac Construction has been involved and external consultants with specialist expertise, such as engineers, have been part of the process. Weekly on-site meetings between Snezana and the construction team have included junior architects for whom she is a mentor, and it is this handing down of knowledge to the next generation that is her gift to the future of our built environment.

There are few architects with a level of construction knowledge to equal Snezana. She commands enormous respect on site because she has mastered the essence of architecture, the meeting of art and technology. And she has listened and learnt from builders, respecting their expertise and the exquisite logic that is hardwired into those with a talent for construction. The tension that frequently exists between design and construction is absent because each respects the expertise of the other.

The construction knowledge that is critical to producing detailed drawings where there is nothing left to guesswork, or 'gut feeling', is what every builder wants. A building that can be built as designed and stay standing for years to come. Design development and detailed documentation is meticulous work, requiring a thorough knowledge of building standards and the codes, the performance of materials in different environments and an insight into construction techniques.

It takes years to become a truly good architect. And it takes many truly good architects to produce architecture with an enduring quality, where the design of every detail has been meticulously considered and, above all, is structurally sound.

Diana Sarcasmo is the general manager of design at Mirvac.

Remembering Jack Mundey 1929–2020

MY CONNECTION with Jack Mundey began when he and I were speakers at a public meeting during the early days of the 1970s campaign to save The Rocks from redevelopment. I spoke for the growing cohort of architects and planners who were disturbed about the state government's drastic redevelopment intentions for this historic area. Over many years we became close friends, and later he agreed for me to write a book about his career since 1951, when he arrived in Sydney as a young man. *The House That Jack Built: Jack Mundey, Green Bans Hero* was the result of that agreement.

The Rocks campaign overlapped another environmental battle in which 13 women residents of Sydney's Hunters Hill worked to save a remnant pocket of virgin riverside bushland known as Kelly's Bush. Developer AV Jennings wanted density, but the Battlers for Kelly's Bush had other ideas: they wanted open space. The Battlers won, thanks largely to their success in persuading Jack Mundey and his Builders' Labourers Federation (BLF) to intervene. He was no gambler, but he certainly played an ace card when at an inspirational moment he coined the phrase 'green ban' to mark his union's decision to support the Battlers. The result was that the project was abandoned and AV Jennings walked away. The people of Sydney gained an unspoiled piece of riverside bushland, and the conservation movement worldwide saw the first ever green ban.

The Kelly's Bush green ban was shortly followed by many more in Sydney and elsewhere as powerful developers, supported by a pro-development state government, threatened other sites of potential cultural or heritage significance. It was a time when developers were enjoying a dream run. Council approvals were easy to obtain and planning laws were primitive if non-existent. There were no legal means of protecting heritage sites, Aboriginal relics or places of environmental significance.

As an ardent Communist and conservationist, Mundey frequently found himself in battle mode with some of the biggest guns in the development industry. The Master Builders' Federation led the charge, dubbing him Public Enemy No. 1 and describing the green bans as 'political tools to create anarchy'. The BLF was using 'textbook Communist tactics' to achieve 'sociopolitical objectives' and more.

Down in The Rocks, a heavy dose of vitriol came from Owen Magee, executive director of the newly appointed Sydney Cove Redevelopment Authority, who saw Mundey and his union colleagues as 'thugs … screaming rioters, power-mad conspirators intent on rule by violence'.

But Jack Mundey knew instinctively that among people at the grassroots his support was growing rapidly. Resident action groups were springing up nationwide. The National Trust was revitalised. Increasing numbers of architects, planners, landscape architects and other professional groups began to realise that what the BLF was really doing was seeking to protect a set of civic values, which for too long had been ignored by officialdom.

Jack Mundey AO received the 2017 NSW President's Prize not for the buildings he designed, commissioned or built – but for those he has saved
Source: saveoursirius.org

By the mid-1970s Jack Mundey had triggered a city-wide (perhaps even nationwide) rethink about how urban society was managing its environmental resources – especially its stock of treasured heritage assets. And then came legislative reforms on an unprecedented scale. Before the green bans, not a single state government had laws requiring the listing of heritage sites or the protection of such sites from the bulldozer. Preparation of local plans was a soft option for local councils. Until the 1972–75 Whitlam era in Canberra, there was nothing at Commonwealth level to protect the 'national estate' or to allow for the federal government to play a part in managing the nation's cities. Yet within two decades after the first green ban, every state and territory had established fresh planning statutes, created heritage advisory bodies and lists of heritage items, and identified environmental management as a priority for local councils. At the federal level a similar set of reforms gradually came into force, some of which gave Australia a voice on the international environmental stage for the first time.

Apart from a four-year stint in the 1980s as an alderman sitting on the Sydney City Council, Jack Mundey was never directly involved in legislative reform or officialdom. As my book reveals, he was not an ambitious person and it is doubtful if he ever had a career plan. Yet the record clearly shows that his achievements, in so many fields and over more than half a century, contributed to major reforms in law, planning policy and practice, and especially in heritage conservation. History will determine whether he was a primary instigator of these reforms. But for me, as a long-standing friend and close observer of his comings and goings in the conservation field, Australians had a formidable and popular champion who was in the right place at the right time to pull the triggers of change.

Vale Jack Mundey.

James Colman is an architect, planner, part-time university lecturer and author of *The House that Jack Built: Jack Mundey, Green Bans Hero* (NewSouth Press, 2016).

Tribute continues overleaf

Commemorative image by Chips Mackinolty
Courtesy Unions NSW

'There was a big battle that lasted for about a week. Sir Robert's army captured many of the workers and the peasants and took them to the dungeons, but at the end of the week it was very clear to Sir Robert and Sir Paul that even though they had managed to pull down a few old buildings, they would never be able to build new ones there. The workers had decided that in place of the old buildings there would be a park – forever.' – *The Builder's Labourer*, 1973

Wolloomooloo Residents Action Group poster by Margaret Grafton, 1973
Courtesy Unions NSW

JACK MUNDEY has left an indelible stamp on Sydney, its culture and its public space. Few in the city's history have had such an impact. Sydneysiders are eternally grateful that he and his comrades in the Builders' Labourers Federation saved many of our most important public places from destruction – Centennial Park, The Rocks, Kelly's Bush, Victoria Street, Woolloomooloo and its wharf, parts of Glebe – the list is extensive.

Open and diverse, the public life of Sydney harbours radicals. Painted as society's enemy by the corrupt Askin NSW government, the Packer and Murdoch press, speculators and their retinue, Jack was the people's friend and sometime hero, joking with police as they arrested him, engendering respect and support from those who heard him speak in his various roles. He led the Communist Party of Australia, Builders' Labourers, Australian Conservation Foundation and the Historic Houses Trust of NSW; served as a City of Sydney councillor; was the centre of circles at drinks at the Teachers Club, at the table in Diethnes restaurant, at protests and sit-ins, of residents' action groups; a guest at the United Nations ...

Jack always acted at the request of the people, he consulted widely and was impervious to the entrees of the elite. He quit his various offices after two terms, to avoid complacency and forge the renewal of the organisations.

Ahead of his time, he was a founder of the international Green movement. His influence spurred the making of the New South Wales Heritage Act and put consultation at the centre of the *Environmental Planning and Assessment Act*. He championed the rights of Indigenous people, of women, of homosexuals, of all those who were oppressed by society. Jack was an internationalist, welcoming Nelson Mandela and Desmond Tutu to Sydney, corresponding with founding German Greens leader Petra Kelly and many others.

He was magnetic, energetic, generous and wise. In his presence, particularly when we were young*, we knew that he was mentoring us, demonstrating the subtle arts of leadership, influence and thought. With sharp wit he would expose the rent seekers with truth, with a calm dignity he would disarm the egotists, removing their smug pride with ease. His debate was intellectual and delivered with common language that everyone grasped. He was considerate and kind, but in private he drew wicked pen pictures of his opponents, exposing their weaknesses and foibles.

What do we do now that this great champion for a better society is gone? We take up the fight – ensuring everyone, particularly the most vulnerable, has the right to the city, the right to be heard, the right to have a home, the right to inherit a sustainable earth.

Peter John Cantrill and Philip Thalis

Peter John Cantrill is urban design programme manager at the City of Sydney (the opinions expressed are his own and not those of the City of Sydney). Philip Thalis is the founding director of Hill Thalis Architecture + Urban Projects and a councillor at City of Sydney. Cantrill and Thalis co-authored *Public Sydney: drawing the city* (Historic Houses Trust of New South Wales and UNSW Built Environment, 2013).

* We first met Jack Mundey in 1985, when he was a City of Sydney alderman, and together with others we launched the Sydney Citizens Against the Proposed Monorail (SCAPM).

SYDNEY'S BUILT and natural environment would look vastly different without Jack Mundey and his union's green bans. Kellys Bush, The Rocks, Sirius, and so many other places we love and cherish today would simply not exist if not for Jack.

Jack was a giant of Sydney. He knew the value of society, culture and the environment and fought hard to help Sydney keep its soul. But perhaps Jack's legacy is his greatest achievement. Not only for what he kept, which is extraordinary in and of itself, but for the effect he had on others; the effect he had on people like me. He taught us that democracy is not a passive thing, but an active engagement. That democracy is all of ours; we own it, and we need to participate in it if we want a different outcome.

The fight to save Sirius was successful, and, I believe, only because of the path Jack forged before us and the spirit he instilled in others to believe in the struggle even when the struggle was tough. And when in the trenches in our fight to Save Our Sirius he was there with us.

On a personal note, as the son of a shoppie and a family of old Balmain factory union members: when sharing a beer after the Sirius rally, Jack moved close and touched his heart then mine, and said, 'Our two hearts beat as one, comrade'. I had tears in my eyes. So would have my dear old Dad. I'll never forget it. Rest in peace, Jack.

Shaun Carter is chair of the Save Our Sirius Foundation and former NSW Chapter president.

THERE ARE PEOPLE who walk the stages of our political and cultural life, perhaps reluctantly, and who seem to live not one but several lives. They pour themselves into each of them and achieve what the rest of us struggle to build in one.

So it was with Jack Mundey, and there must still be so many stories to share and to record, from the BLF to the HHT. A lot has been written about the former, not so much about the latter. Jack's inspired appointment as the chair of the Historic Houses Trust of NSW followed that of another titan of the left, Jack Ferguson, whose initiatives gave us Susannah Place, that magical survivor and now testament to The Rocks as it was.

In the Historic Houses Trust as he had done elsewhere, Jack Mundey brought people together – people of disparate class, politics and views, maybe uncomfortable at first but alike in their regard and concern for our shared environmental heritage. In the outreach programs of the HHT, he won over those who had read about him in the days of the green bans, perhaps with apprehension, and seen the media coverage but had not met him.

Throughout the Trust's 'Bush Lives, Bush Futures' program, in the kitchens of pastoral dynasties in the New England and in the local halls in the Western Division, Jack's warmth, experience of life and his passion for people simply shone through. His insights into the need for all of us to care for the diversity of our environmental heritage built some unlikely bridges of concern for places that we should not lose. Places we love for all our different reasons.

To know Jack was a privilege, and to marvel at his unswerving commitment to the betterment of our society and of how and where we live. That we should all try to question, to reset, the wonky ethical compass and the ideological divides of our society, will be his legacy.

Bob Moore is a conservation architect and a Chapter heritage committee member.

THE BUILDER'S LABOURER Page Twenty-five

There was a big battle that lasted for about a week. Sir Robert's army captured many of the workers and the peasants and took them to the dungeons, but at the end of the week it was very clear to Sir Robert and Sir Paul that even though they had managed to pull down a few old buildings, they would never be able to build new ones there. The workers had decided that in place of the old buildings there would be a park — forever.

And Sir Robert and Sir Paul knew that though there had been only three or four thousand workers and peasants in this battle, in the next one there would be fifteen or twenty thousand.

So Sir Robert and Sir Paul went back to their castles and the workers stayed in their homes.

A page from *The Builder's Labourer*, 1973 Courtesy Unions NSW

HOW OFTEN do we celebrate an individual who truly cared about Australia's – and in particular Sydney's – long-term wellbeing? Earlier generations gave us the old age pension, universal education, public housing and affordable health services. Jack Mundey was at the forefront of the movement to protect our built and natural environment.

Growing up in rural North Queensland, his youth was influenced by his mother's early death and an escape from the constraints of a Catholic education. Aged 19 he came to Sydney and found employment as a metalworker and builder's labourer. Gradually he became involved in the union movement.

It is difficult for us today to picture the acutely 'them and us' society of c. 1950 when there were very few openings for the ordinary citizen while control rested firmly with the Anglo-centric Australian establishment. The Communist Party provided a much clearer vision of how the 'commonwealth' should be shared, and its ideals inspired Jack's commitment to a 'fair go' for the community interests of ordinary people.

Whether it be built heritage at The Rocks, the natural environment at Hunters Hill or the Centennial Park landscape, Jack and his Builders' Labourers Federation became a real force to reckoned with as their green bans stopped rabid developers and complicit authorities in their tracks. It is understood that his actions inspired the Green Party movement in Germany and Green groups worldwide.

Later on, the NSW government enticed Jack the public hero to become chair of the Historic Houses Trust, perhaps the most important heritage influencer of the late 1990s.

It is not an exaggeration to say that Sydney needs a similarly effective public advocate right now to counter the excesses of dubious public expenditure on stadium rebuilds and the Powerhouse relocation, all with needless heritage impacts.

Howard Tanner AM LFRAIA was a former vice-president of the Chapter. Jack Mundey and he were both closely associated with the Historic Houses Trust of NSW.

NSW Student Architecture Awards 2020

EVERY YEAR the NSW Student Architecture Awards recognise the very best of student work completed in the previous year at the four accredited schools of architecture in the state. This year the 2020 entries delivered on that promise, representing excellence in student architecture and providing inspiration to keep on learning and refining skills. The Institute's awards program is one of the most rigorous and prestigious in the industry and simply being shortlisted provides graduates and undergraduates with the recognition for design excellence that can be a stepping stone to an outstanding career.

Following the recent bushfires and floods the jury were inspired by the students' approach to environment, regeneration and rejuvenation with many entries responding to those unique Australian challenges.

The NSW Graduate Medal for a design project carried out in the final year of the Master of Architecture degree was awarded to Jincheng Jiang of the University of New South Wales for the project *A Place To Share Our Hands*; he also won the Student Choice Award with over 1000 votes. 'This thoughtful project resonated in its approach to the problem of connecting people from diverse backgrounds living in high density cities, where language barriers can exist, exacerbating the feeling of isolation', said jury chair Michael Wiener of Mirvac Design. 'The jury was impressed by the well refined architectural expression of the buildings and urban spaces that enhanced human connection and belonging in our cities beyond language alone.'

The NSW Undergraduate Medal for a design project carried out in the final year of the undergraduate degree was awarded to Patrick Green of the University of Newcastle for the project *Shucks: Oyster Remediation Plant*. NSW Chapter president Kathlyn Loseby said: 'Shucks presents an ambitious vision as 'the world's first oyster remediation plant' to transform Newcastle from a languishing coal port to a future Port of Service. Thoughtful planning of a sequence of natural processes in the spawning, nurturing and harvesting of oysters underpins the ecological services, demonstrating accountability with respect to the environmental footprint of the proposition.'

Awarded to *Stitches* by Grace McLean of the University of Newcastle, the Architectural Communication Award acknowledges excellence in architectural communication and celebrates the power of well-presented architectural design. Responding to the challenge of inefficiencies in waste and stormwater treatment, the video presentation provided a compelling narrative of ecological systems, using evocative imagery and strategic sequences. It also used design as advocacy to draw attention to the utilisation and remediation of water in domestic living.

The Architectural Technologies Award, which recognises excellence in innovation for the integration of technology, structure and/or construction, was awarded to Dana Marjan of the University of Technology Sydney for the project *Or, Any, If, May: A Text of Two Cities*. The work challenged the expectation that technologies must always be considered and presented as drawings of systems and physical matter, such as models. Instead it used video to reconsider the agency of legislation and policy in shaping our cities.

In addition, commendations were awarded to: graduates Tom Byard of the University of Newcastle for *Kulaluk* and Janani Premchand of the University of Newcastle for *Beneath, Beyond*; and to undergraduates Jenny K Lin of the University of New South Wales for *Re-Framing Sofala* and Qing Yan of the University of Newcastle for *Next Goal*.

Antoine Portier and David Cadena from the University of Sydney were announced as the inaugural winners of the Brian Patrick Keirnan Prize for their project *Immersion*. The project explored the reimagining, reinventing and reinterpreting of the Overseas Passenger Terminal at Circular Quay. Located opposite from the terminal, the high platform and grand stairs of the Sydney Opera House were designed with influence from Mayan pyramids, aiming to 'free and raise buildings and people above everyday life'. The project extends this narrative with an inverted monumental gesture – a playful counterpoint to a site seeming to call for an iconic object.

Christopher Zietsch, Brady Ainsworth and Joseph Gonzalez from the University of Newcastle received the Brian Patrick Keirnan commendation for *Carrington Living With Water*. The project presents a future in which we not only learn to adapt to the realities of climate change, but in which we learn to thrive.

The Institute also announced the winners of the Rafik Azam Travel Bursary. Annie Murphy from the University of Newcastle and Samuel Jones of the University of New South Wales will travel to Bangladesh to study under architect Rafik Azam and his team and visit local projects by renowned architects such as Louis Kahn, Paul Rudolf and Mazharul Islam.

The Institute thanks our partners for their continued support of this important program, including our medal partners Mirvac Design and Bates Smart, university prizes partners Crone Architects, FJMT and Jacobs and patron Lahznimmo architects. And a special thanks to all our jury members and the academic and administration staff of the University of Newcastle, the University of New South Wales, the University of Sydney and the University of Technology Sydney. We look forward to welcoming Western Sydney University's new school of architecture to the program in 2021.

Wilma Walsh is the NSW Chapter's communication officer.

1. MEETING WITH OTHER INDIVIDUALS

2. MISUNDERSTAND LANGUAGE

3. FEAR, DISCONNECT AND THEN STOP

4. INVISIBLE BARRIER IS GENERATED

5. INDIVIDUAL IDENTITY FADE AWAY

6. INDIVIDUAL IDENTITY BECOME INVISIBLE

7. AWAY FROM OTHERS

8. ISOLATION, NO MORE CONNECTION

9. LOST AND LONELY

The NSW Graduate Medal was awarded to Jincheng Jiang of the University of New South Wales for his project *A Place To Share Our Hands* (pictured above). The project also won the Student Choice Award with over 1000 votes

Judging in progress

2020 NSW Student Architecture Awards jury

Michael Wiener (Jury Chair), Mirvac Design
Dr Angelique Edmonds, University of South Australia
Jonathon Claridge, Bates Smart
Kathlyn Loseby FRAIA, NSW Chapter President
Laura Cockburn, Conrad Gargett
Tiffany Liew, Co-chair of the NSW Emerging Architects + Graduates Network

WINNERS AND COMMENDATIONS

NSW Graduate Medal and Student Choice Award
A Place To Share Our Hands | Jincheng Jiang | University of New South Wales

NSW Graduate – Commendations
Kulaluk | Tom Byard | University of Newcastle
Beneath, Beyond | Janani Premchand | University of Newcastle

NSW Undergraduate Medal
Shucks: Oyster Remediation Plant | Patrick Green | University of Newcastle

NSW Undergraduate – Commendations
Re-Framing Sofala | Jenny K Lin | University of New South Wales
Next Goal | Qing Yan | University of Newcastle

NSW Architectural Communication Award
Stitches | Grace McLean | University of Newcastle

NSW Architectural Technologies Award
Or, Any, If, May: A Text of Two Cities | Dana Marjan | University of Technology Sydney

Brian Patrick Keirnan Prize
Immersion | Antoine Portier and David Cadena | University of Sydney

Brian Patrick Keirnan Prize – Commendation
Carrington Living With Water | Christopher Zietsch, Brady Ainsworth and Joseph Gonzalez | University of Newcastle

Rafiq Azam Travel Bursary recipients
Annie Murphy, University of Newcastle
Samuel Jones, University of New South Wales

NSW UNIVERSITY PRIZES

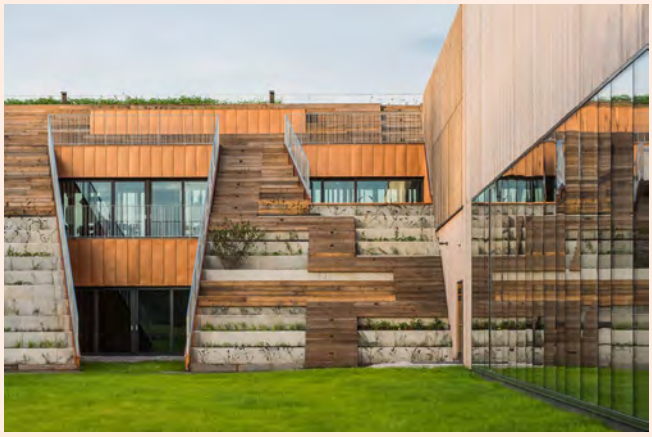
University of New South Wales
Natalie Ho – Graduate of the Year (Bachelor's program)
Jincheng Jiang – Graduate of the Year (Master's program)
Nailah Masagos Zulkifli – History & Theory Prize
Natalie Ho – Construction & Practice Prize

University of Newcastle
Jye Whyte – Graduate of the Year (Bachelor's program)
Tom Byard – Graduate of the Year (Master's program)
Emilie Winter – History & Theory Prize
Annie Murphy – Construction & Practice Prize

University of Sydney
Rachel Liang – Graduate of the Year (Bachelor's program)
Xiaoxi Tan – Graduate of the Year (Master's program)
Alvin Hui – History & Theory Prize
Jake Boydell – Construction & Practice Prize

University of Technology Sydney
Ho Kyeong Kim – Graduate of the Year (Bachelor's program)
Grace Louise Dwyer – Graduate of the Year (Master's program)
Sarah Choo – History & Theory Prize
Farah Rehman – Construction & Practice Prize

Defensible Schools: investigating alternative methods of achieving a secure environment in schools



Akademeia High School in Warsaw by Medusa Group
Photos: Juliusz Sokołowski – instagram.com/juliusz.k.sokolowski

WHEN NEW SCHOOLS were built in the 60s and 70s to accommodate children from the baby boom, educational facility planners didn't have to consider safety as much as they do today. Faced with the perception that society is becoming increasingly disordered, by posing high-security metal fences we are creating schools as privatised public spaces that insulate children from being involved with people. As a result, the new generation of children is very unskilled in human relationships because so much of what needs to be learnt cannot be learnt only within the family or school context. They need to observe and learn about the varieties of human relatedness – about the nuances of social relationships, such as how people who know each other relate and how people relate when they do not know each other but share a neighbourhood, a street or a public place.

The vision of a civilian city that is walled off and fenced with 'no trespassing' signs not only looks ugly but surreal. While reducing the long-term maintenance and ensuring security for students is vital, this shouldn't lead to creating a prison-like environment. In recent years, the primary consideration in the planning and design of both public and private school were making security fences without any connection to the site context and surroundings. Unfortunately, this method of securing the school is not the ultimate answer as often it:

– disconnects the students from the outside world
– isolates schools from the surrounding communities
– has no connection with the urban setting
– has visual distraction problems
– creates an imposing or negative impression of the school
– only controls the access of people who follow the rules (burglars will scale the fences).

Designing community facilities and infrastructure based on fear and isolation is not the best way to prevent crime. The architect and the city planner Oscar Newman argued that by using passive security, crime could to some extent be designed out. Passive security design is the prevention of crime by discouraging crime through environmental design (also known as CPTED). School security can be addressed actively or passively. Active security is based on proposing security systems, while passive security is based on program design, building configuration and community participation. While no one has invented a foolproof school design that eliminates all security concerns, facility planners can implement passive security measures to avoid potential trouble. Metal fences are not the only option for providing safety and avoiding vandalism in the context of school and public buildings. School security should be based on passive concepts with applied active strategies when necessary. The idea of opening up the school is also helpful in crowded cities and suburbs to share space. There is a vital need for a learning environment design that increases the social contact rather than reduce or eliminate a neighbourhood where the community knows each other and the intruders are visible. Passive security design will allow the community and children to use their surrounding environment with a strong sense of attachment and belonging while adding a layer of privacy, security and protection. These types of security measures are also mostly product-less and are changing the climate of safety in the community by introducing a physical environment that has a positive influence on human behaviour.

Funded by the Institute's David Lindner Prize, my *Defensible Schools* research proposal explored the characteristics of a safe school and potential passive security design options for replacing the standardised approach for securing school boundaries. It aimed to:

– help architects and designers to demonstrate alternative ways to secure the schools
– help the community and future generations in connecting to their surrounding environment
– introduce more discerning safety measures into school design by finding an alternative, more sustainable and pedagogical security around the school without creating a prison-like environment
– act as an important reminder to avoid creating a fortress society
– contribute to the ongoing discourse on fencing schools as public domains and their impact on the urban fabric of Australian cities
– propose that school grounds be usable during after-school hours
– explore ideas that make intruders feel a sense of anxiety and discomfort in a space they do not belong and, without physical force, remove themselves from the secure environment.

Based on the literature review of crime prevention and the psychology of designing environments, we can begin to understand how designers and planners could play a role in creating not only a safer school environment but a place to raise citizens of the future, promote participation, facilitate critical thinking and ultimately create settings where the community and children can experience a better public realm. The findings suggest that no individual typology can be introduced. Even if protective measures do not cause fear, they should never be applied uncritically. Each school represents a unique mix of histories, cultures, attitudes and expectations, physical and social realities, protective factors and risk that need to be considered within their own case. American architect-criminologist Randy Atlas suggests five key principles for planning safe and secure schools:

1. planning and policies
2. physical environment – building organisation, point of entry, interior space, system and equipment and community context
3. site design (landscape, exterior pedestrian routes, vehicular routes)
4. materiality
5. maintenance policy.

These methods target the reduction of preventive measures to dramatically decrease the crime opportunities and finding specific solutions that are adaptive to its environment with flexibility for the user and changes in climate. *Defensible Schools* combined the above suggestion with the key principles of CPTED design strategies, including territoriality, surveillance and access control, as well as some design strategies that can be applied considering the site-specific requirements.

Security features, while vital and necessary, should be as invisible as possible and incorporated into the school from early design stages. Creating a safe school is the responsibility of the entire community. However, overdesigning and creating a prison-like environment will have a negative impact on the student and the community. Through thoughtful design and smart management of the built environment, we can provide a safe and liveable school. It may sound easier to create standalone facilities that operate independently, but in the current economic climate and environmental emergency, this is difficult to achieve. The most effective solutions are likely to balance the needs of the community and the effective operation of the school, with a flexible and adaptable design that gives a form of scale, identity, variation and fantasy. To do so, all interested parties – students, parents, teachers, and community members – need to be involved early in the process to achieve an effective teaching and learning environment that embraces the community: a community in the school and the school in the community. The more the building design connects with the users and the environment, the better the relationship created between the inhabitants and the territory will be.

Overall, the research is not suggesting to eliminate the use of fences around the school boundary. In some cases, it may make sense to protect special natural habitats, schools and similar places. The primary goal is to have a well coordinated boundary for schools that is considerate of its surrounding and the community's need to provide an inspiring and healthy environment that promotes learning. Failing to do so puts children's education, emotional development and pro-social behaviour at risk.

The British architectural professor Taner Oc provides a related parenting policy example. He reminds us that some parents might lock cupboards or drawers to prevent their children from access to cash or chocolate (opportunity reduction); others prefer to form their children from early age in a way that means they would not steal, even if the opportunity is available. An important responsibility of any society is the induction of its young people into adult life in such a way that their behaviour will be mature. It seems unrealistic to fence children off from society and expect to have competent citizens in the future.

Defensible Schools embraces the idea that effective facility planning with connection to the community by outlining local context will create an improved, secure design – more so than high-security fences. The report's recommendations aim to make a school a more desirable place while creating a sense of identity within the school community. The research is optimistic for a future where public, Catholic and private schools alongside local communities can all share libraries and sports fields in a more efficient way.

View the full report at: bit.ly/2ALoJ7n

Jamileh Jahangiri is a registered senior architect at Cox and sessional academic. She was the recipient of the 2018 David Lindner Prize.

Abbie Galvin
NSW Government Architect

Photo: Alexander Mayes

Monica Edwards speaks to Abbie Galvin in her new role at the Government Architect NSW (GANSW).

MONICA EDWARDS: Your design portfolio is consistently delightful, spanning work across all sectors and scales. To mark this shift in your career path, can you identify what delivered this consistency?

ABBIE GALVIN: I think you've always got to have the approach that every project matters. There are never the ones that are second cousins to the glamorous ones. I have a natural interest in large-scale projects with a leaning towards those that others might not be as interested in but that well and truly deserve someone's love and attention.

The other vital part of delivering consistency is great teams. Architecture is not a solo endeavour and it's important to build strong and supportive teams where everyone has a vested interest in the project and does their best work in return.

I also believe our ability to communicate with our clients and speak in a language that they understand is important here. We are there to achieve the best outcome possible – for the client, for the project, for the community and the public realm. When a client understands [the ideas behind] a project they get behind it. Often, I think the most unsuccessful projects are when clients are not invested in them; when they're not loved. Client advocacy is so critical.

Have you ever had a situation where client advocacy was questionable and how did you bring it around?

I've worked on projects with no design advocacy at all, where the desired outcome was cost and program driven. The quality of a building and how it impacts the public realm, how it delivers value and joy for the people that inhabit it and the legacy that it leaves – there have been many instances where these considerations don't form part of a brief. Gaining support for good design outcomes can sometimes feel like going into battle, but you need to be tenacious because you can make incremental adjustments and small steps forward.

We know that design adds value and that value is long term, however, we have to get cleverer at communicating what that value is to those that don't understand design and its impacts. Of course there are many amazing clients who do see this and are interested in the legacy that they leave.

Your portfolio often embraces daily life with climate and a sense of place. Is there anything in the making of buildings and spaces that you want to touch on?

This is certainly a lesson that you go through as a young architect – that design does move beyond the object. As architects, we walk away from a building leaving it to those who inhabit it – whether it's a house, a training college, a hospital. Putting those people at the forefront of our decision making is really important. We need to consider how we make spaces humane through scale, texture, material, light and volume, and how we connect them to their place and context.

The other part of this question hints at leadership. You have a reputation for being an exemplary leader. Tell me about that.

I think something that has been really important for me to understand is that we're not all good at everything and we shouldn't have to be. When you acknowledge that and understand what you can contribute and where you need assistance, it can make a big impact on how a team works together. Just because I'm asking for help from my team members doesn't mean that I'm not an effective leader. What it shows is that I understand that I don't have all the answers and I value the support, advice and counsel from others. If you can authentically demonstrate that you value everyone's contribution and use that to shape and guide the direction for a project, it forms the genesis of a strong and supportive team.

You joined a medium-sized practice, Bligh Voller, in the mid-90s. It was then a practice of around 15 people. By 2004, at the age of 34, you were made a principal of BVN, at that stage a practice of around 80. In 2019, BVN was awarded the Best in Practice Prize and it is now one of the largest practices in Australia with a team of 300. Alongside your partners, you played a pivotal role in the growth of a business and development of a progressive workplace culture. To cut to the chase, it sounds like a dream job. Given this, what lured you away from this position to a new career path in the public sector?

Well, the opportunity was a surprise for me in many ways. I've had a blessed time really: fantastic partners, great projects, a healthy and happy family, and no cause for real regret in any decisions I have (or haven't made). However, when this opportunity arose, I felt like I would have cause for regret if I didn't give it a go and push myself outside of my comfort zone. I was very clear about what I thought my skills were: I'm not a policy writer, I haven't had 20 years in government understanding public systems and mechanisms. That was accepted, which gave me confidence. I've been involved in big, complex projects for a long time and I see this as another big, complex project. Over the years, I've

seen many important moments in the process where architects have not had the ability to contribute to major decisions. I am interested in how I can help affect those decisions to try and get better built environment outcomes.

One recent example was a large public hospital I visited in Singapore. It was the most remarkable facility. Virtually every space was naturally ventilated, corridors were open, landscape was abundant, even on roofs, there was wonderful natural light and aspect – it was just beautiful. I found myself looking at it and realising its success was not so much in the architecture – which was an amazing achievement – but the process that enabled that. Clearly, there was someone taking a risk to embark on such a project. Our public hospitals are hermetically sealed boxes, tightly managing infection control, security and safety. Who set the vision? Who took and managed the risk? Who established its sustainable aspirations? What battles did they encounter or what policies did they have to change? Because by the time the architect was appointed, many key decisions were already made. I realise that we have a really talented profession but that profession needs help and support from its clients to deliver the best architecture possible.

You are often quoted saying 'the more I learnt the less I knew'. Today, you're halfway through Week 8 of your new role as Government Architect in NSW and I am sure that this saying rings true more than ever. There is a lot to be said about what fresh eyes see. What can you see today that may shape your tenure in this role?

It's very easy to come into an environment with fresh eyes and think 'Why do they do it like this? There's a better way'. But I have found it useful to sit tight and look at the way things work for a while. I don't want to stop a freshness of approach, but at the same time, there needs to be respect for the systems in place and allow those to reveal themselves.

The collaborative nature of what we do is vital. Our reach is not just within our own department but within multiple agencies of government, so building as many connections as possible will be central to this new role.

You recently spoke of the success of GANSW since the transition in 2016, particularly the inclusion of design into the *Environmental Planning & Assessment Act*. This saw two new objects to the Act, namely, to promote good design and amenity and to provide sustainable management of built and cultural heritage, including Aboriginal cultural heritage. This led to *Better Placed*, which is an integrated design policy for the built environment in NSW and sees discussions of design at every level of government, shaping the way it advocates for and facilitates quality design. Given this win, what will GANSW do next to support the government to be a great client?

The transition of the office from one that provided strategic services to government rather than one that delivered projects was a pretty major shift, and an incredibly significant one, as the need for architectural advocacy and an architectural voice within government became more important than delivering buildings. We have a wonderful wealth of talent in architectural practice, so the government no longer needs to design per se, but it does need to set standards and benchmarks via policy, guides and codes and the need to be a great client. It needs to show leadership at every level of decision making and commissioning of the built environment.

The GANSW team is working across a whole range of significant projects including a number of major precincts within the Sydney region. However, the particularly exciting project for us is the development a new Design and Place SEPP (State Environmental Planning Policy) the minister for planning and public spaces has asked GANSW to lead. It is an extraordinary opportunity to help shape policy that will embed design and place in the formation of our built environment.

It will be interesting to see how you apply your experience and skills to the task of writing policy.

Well that's the thing! There are extraordinarily talented people in government who provide advice in writing policy and have great skills in that area. As a practitioner, I can provide knowledge from the other side of policy – that is, what it means to implement a policy and how to use it. We can lead the process by looking at the new SEPP from both sides, establishing the priorities and then testing the implementation. It will be a remarkable opportunity.

How will you prioritise everything that GANSW will have to do?

As an architect, we have to identify priorities on every single project, make sure that they are really well founded and check in on them regularly. You'll never have all the money or all the time or all the right circumstances, so how can you do your best with what you've got? So one of my first tasks was to work with the team to establish our key priorities.

They include promoting an integrated approach to urban design, where place and climate sit at the very centre of decisions, rather than coming in at the end once the transport and infrastructure and economic overlays have been done.

It involves helping make government a 'smart client' by developing capability and tools to embed design leadership in government. This includes how briefs are developed, how projects and design teams are procured and how design evaluation criteria is present at all the gates in the process.

It is about guiding us all how to begin the process of caring for and designing with Country, which is about improving the health and wellbeing of Country led by Aboriginal cultural values.

It involves design assurance, which includes strengthening and broadening the reach of the state design review process for all state significant projects.

And importantly it is about providing environmental stewardship through design. We will be working to develop strategies and ideally policies about built environment targets and performance. They will need to range from urban planning decisions about density and sprawl, transport, connectivity and resource use through to a specific focus on buildings, their performance and their materials.

So at GANSW, through advocacy and policy, we want government agencies to value and prioritise good design. We want to bring people into the tent with us or, even better, be in the tent with them. Through the process of building shared priorities we can make a real difference to our built environment.

Abbie Galvin is the 24th NSW Government Architect and the recipient of the NSW Chapter's 2019 Marion Mahony Griffin Prize for women in architecture, recognising her inspirational contribution to the profession.

Provoke

Bushfire devastation threatens garden city ideal

THE TERRIBLE LOSS of around 2400 homes in the recent devastating bushfires in eastern Australia raises a big question about the mix of country and city promoted by the Garden City movement. Ebenezer Howard founded the Garden City Association in 1899 after publishing his book *To-morrow: A Peaceful Path to Real Reform* (retitled *Garden Cities of To-morrow* in the second edition of 1902). His concept to combine the best elements of nature with the best elements of urbanity flowed on to influence designs of the low-density garden suburbs that dominate Australian cities today. On 28 August 1911, The *Sydney Morning Herald* published an article supporting this approach for Australia: 'The Garden City movement has as its essential foundation a desire to establish inhabitants of towns and suburbs in wholesome and beautiful surroundings … it will be well for Australia if the garden city idea be similarly expressed upon ourselves.'

In 1912 the first fully planned garden suburb of Daceyville opened in south-east Sydney with landscaping supervised by the Botanic Gardens director, JH Maiden. Walter Burley Griffin and Marion Mahony planned the garden suburb of Castlecrag from 1919, expanding on their ideas for the 'bush capital' of Canberra. From here on the low-rise cottage with gardens and landscape became the ideal for family homes. The dream of living in beautiful surroundings led to cottages in bushland on Sydney's north shore and in villages along the NSW coastline from the south to north coast. A quick look at the Institute's awards shows many beautiful low-rise houses built in bush settings.

But this ideal balance of nature and the home must come under threat following the massive impact of the recent bushfires. New planning rules are likely to require separation of homes from nature, contradicting Frank Lloyd Wright's organic architectural vision of integration.

I have a holiday house at Kangaroo Valley which was threatened by the massive Currawan bushfire that covered 300 000 hectares. Luckily the fire veered away from our area, but the scurry by local house-owners to suddenly write detailed fire plans and load cars to evacuate houses that never before were fire-threatened demonstrates real fears of future destruction. More than three dozen houses were burned down on the bushland fringe of our pastured valley. A key concern of many people was about the closeness of trees and shrubs, which begs the question: Should we clear all landscape within a certain distance of our houses?

An architect friend who lost his house in a South Coast forest glade has said he will build another fireproof house cut into the hill. His reaction suggests that 'touching the earth lightly' is being replaced with a new approach. As thousands of homes are rebuilt, many with support from Institute members through the excellent Architects Assist program, it seems highly likely that the ideals of the Garden City movement will be modified.

Kangaroo Valley house destroyed by bushfire
Photo: Chris Johnson

Could it be that even the detached house becomes less attractive as people look for a more urban way to live that is well away from the threat of bushfires? The current swing to apartment living (with 30% of Sydney residents recorded as flat-dwellers in the 2016 census) could escalate dramatically. But then the more recent arrival of the coronavirus may encourage people to be against urban density which is where many Australian cases have occurred and to prefer the more open spaces of suburban living.

In the lead up to the 2019 election, community concerns were raised about the extent of new development across Sydney. After the election the government announced a policy of more trees, more landscape and more parks across Sydney, partly in response to community concerns about the extent of development in Sydney. So a new version of the garden city may be emerging within the more urban areas of Sydney.

There is another interesting trend in linking landscape and buildings: demonstrated by the green walls of Jean Nouvel's Central Park One tower in Sydney and some of WOHA's amazing buildings in Singapore. In these examples building and landscape are integrated in a vertical, urban manner rather than a horizontal, suburban manner. We are also seeing an increase in green roofs as a technique to help mitigate the heat island effect, caused by heat-absorbing buildings and roads and resulting in hotter cities.

We now have a dilemma in the planning of Australian cities with the bushfires making fringe suburbs less attractive but the more recent impact of the coronavirus, which has focussed on denser urban areas, encouraging people to prefer a lower density suburban approach to living. Either way the two big interventions of 2020, bushfires and the coronavirus, will have a flow-on effect back into how and where we live.

Chris Johnson is a former NSW Government Architect and former CEO of the Urban Taskforce Australia.

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Australian Institute of Architects

READERS' RESPONSES

CONGRATULATIONS ON the Climate crisis issue (Vol 76 No 4) of *Architecture Bulletin*. Hector Abrahams Architects (HAA) is now a net zero emissions practice. We're pleased to announce that we have implemented several actions to reduce our footprint and are now a carbon neutral practice. With the assistance of Dr Ben Slee, our sustainability expert and member of the Institute's national Climate Action and Sustainability Taskforce, an audit of HAA carbon emissions only took ten days and everyone in the office contributed ideas. We realised it's actually not too hard for an office in the city to be carbon neutral.

Hector Abrahams, Principal, HAA

I HAVE VISITED [a recent award-winning public building] on two occasions: the first on a hot January afternoon, the second on a warm November morning. Sadly, my impressions differ from the glowing assessments and the serene published photographs.

In the Sydney climate, sunshading, shelter from occasional torrential rain and the creation of useable outdoor areas are the hallmarks of sensible design. Assessments of microclimate, prevailing winds and integration with landscaping are other important factors. Basing a design concept with large areas of clear glazing at the centre of a plaza totally devoid of shade is unlikely to be a successful outcome – especially in our hot summer months but also on wet winter days. This precedence given to a simplistic, minimal aesthetic over providing a design that responds to climate and place is never likely to be a sustainable solution.

The project continues to receive acclaim. I suspect the international commendations come from assessors who have seen the photos but not been to the site on summer mornings or afternoons. Like everything else in our contemporary culture, architecture suffers from the myth transcending reality with hype and marketing reigning supreme – a sign value system in this electronic age.

A more constructive approach to my observations would be a post-occupancy evaluation, say five years from its completion date, to see if the expectations have been realised and the community activity objectives have been met. No doubt after such an interval the proponents of the scheme will have moved onto bigger and better things, and a dispassionate evaluation can take place.

Andrew Andersons AO

PARTING WORDS

SADLY, THIS IS my last issue as editor of *Architecture Bulletin*. It has been a pleasure working with the editorial committee over the last four years – this journal is not possible without their input. I thank them, including past chairs Andrew Nimmo and David Tickle, and current chair Kerwin Datu, for their dedication. Thank you also to managing editors Joshua Morrin (past) and Kate Concannon (current) and other Chapter staff for their support. Last, my heartfelt gratitude to all the contributors – including guest editors, associate contributors and working group – who have generously given their time and expertise to further knowledge and reflect on architecture in New South Wales – and may they continue to do so. Long live the *Bulletin*.

Ricardo Felipe, Editor

COVID-19 HAS DELIVERED some unexpected blessings, but the financial pinch has been smarting; pay cuts and redundancies have hit the industry and the Institute along with it. It is with huge and heavy hearts that we farewell Ricardo Felipe who, for four years, has brought a fine design eye and a passion for architectural discourse to *Architecture Bulletin*. Ric will be missed by the members with whom he has collaborated and by our Chapter team who have been so fortunate to call him our colleague and our friend. Going forward the *Bulletin* will be produced by the national team, but its editorial content and direction remain firmly in the hands of the NSW Chapter, for whom the publication uniquely speaks.

Kate Concannon, State Manager, NSW

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FRONT COVER / LIFE LESSON – NATALIE HO Making Urban: Nothing Matters 2019

Making Urban: Nothing Matters was a UNSW third year studio led by the inspirational duo Panovscott,* who provided me with knowledge and insight into urban architecture. The design brief for an urban public space with a school advocated for me the importance of public place and the values of city dwellers. As a class, we did extensive research and drawings of public spaces in Sydney and case studies of schools around the world as a way of understanding what would be suitable for this project. The brief was 'nothing matters', which emphasised the beautiful idea that the space which 'serves no demanding purpose is what really matters'. Maybe our cities need more of this: a place of 'nothingness' that allows for an assortment of activities to occur – however, whatever and whenever people desire. *Making Urban* is about a platform for people to collectively define the nature of public space by their own actions, creating architecture that is activated by habitation and recreation.

Natalie Ho
Bachelor of Architectural Studies
University of New South Wales, 2019
Graduate of the Year / Construction & Practice Prize – UNSW University Prize winner in the NSW Student Architecture Awards 2020

* alongside Jennifer McMaster, David Ostinga and Mitchell Thompson

Life lessons