

**CONCRETE:
ART DESIGN ARCHITECTURE
EDUCATION RESOURCE**

Jam
Factory



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SECTION 1 BACKGROUND BRIEFING

1.1 About this exhibition

CONCRETE: ART DESIGN ARCHITECTURE presents 21 exciting concrete projects ranging from jewellery to skateparks, hotel furniture, public sculptures, mosques and commemorative paving plaques. All 21 artists designers and architects were selected for their innovative technical skills and creative talents. These works show how they have explored concrete's versatility by pushing its technical boundaries to achieve groundbreaking buildings, artworks and design outcomes.

This exhibition presents a selection of show-works (models, videos, drawings) from the 21 projects, grouped under particular themes - *Light and Shadow*, *Identity*, *Urbanity*, *Monumentality*, *Mimicry* and *Technology*. However each project could equally be considered in each of these themes.

Objects made from concrete contain the deep geological history of the material used, as well as skills and technologies involved in its production. Through the range of works presented, the exhibition CONCRETE: ART DESIGN ARCHITECTURE draws similarities between their creative processes, problem-solving and design thinking across the various disciplines and provides a mere snapshot of this material's potential and value¹

JamFactory's official exhibition catalogue includes historical and career information, images of works by all contributors and insightful essays on the impact that concrete has had on contemporary Australian art, design and architecture.

The accompanying education resource focusses on a selected group of 9 artists, designers and architects who work with concrete as their preferred medium, and who represent the creative fields of art, design and architecture. The contributors are grouped into different themes for curriculum purposes, under Art, Design and Architecture.

¹ Based on Margaret Hancock Davis's Introductory Essay from the CONCRETE: ART DESIGN ARCHITECTURE catalogue.

1.2 CONCRETE: a quick history

***bold** words are explained further in a Glossary of terms below.

3000 BC

Concrete has a long and glorious history as a building material. Recent scientific research has linked the use of concrete, in one of its varied forms, to early Egyptian buildings approximately 3000 years ago. Later pyramid constructions at Giza from 2560 BC, that used concrete together with large stone blocks, remain as evidence of concrete's durability,

At the same time the Chinese were using a cement-like material to bind bamboo together to construct boats. They also used cementitious (adhesive) material in the periodic building of the Great Wall, from 700 BC. These examples demonstrate the amazing fact of concrete's durability as these structures are still standing despite minimal restorative work.

200 BC

Ancient Romans are often credited with being masters in making and building with their types of concrete. Two different types of concrete were created by the Romans before their Empire eventually demised in 476 AD when their knowledge of concrete-making was lost.

However their achievements are still with us today and can be admired in buildings like Rome's Colosseum and its extraordinary domed Pantheon, both built in the first century AD. The Pantheon still boasts of having the largest unreinforced concrete dome in the world.

The Romans devised two different types of concrete mortar; one was a simple mixture of slaked lime and river sand mixed with water. Their second concrete mortar used a volcanic sand called pozzolan, a type of silica processed by extreme volcanic heat. Builders took nearly fourteen hundred years to re-discover this secret and now apply extreme heat to calcium to create **hydraulic** cement.

1600s

Experimentation by various Europeans since the seventeenth century resulted in gradually rediscovering how limestone and sand form a binding material when heated together, which hardens on drying with the appearance of stone.

In 1796 Englishman James Parker patented a natural hydraulic cement called Parker or Roman cement which he made by heating impure limestone containing clay. Within ten years Louis Vicat in France prepared artificial hydraulic lime by mixing measured quantities of limestone and clay.

Patenting Portland Cement by Joseph Aspdin in England in 1824 gave cement a name which is still used as a particular recipe for cement today. Aspdin took the Portland name as the colour of his product as it resembled the natural stone quarried on the Isle of Portland off the British coast.

1800s

The innovation of reinforcing concrete with steel rods was introduced by a Frenchman, Joseph Monier at the Paris Exposition of 1867 but his idea was quickly superseded by his countryman, Francois Hennebique, who patented a complete reinforcement construction system.

During the nineteenth century concrete gained popularity as a cheaper building material (than stone or bricks joined by cement) and the incorporation of steel reinforcement rods added greater strength. An emerging application of concrete was the development of concrete blocks, first patented by William Ranger of Brighton, England in 1832, only ten years after Portland Cement's introduction.

1900s

The first 16 storey skyscraper using re-inforced concrete was America's Ingalls Building, constructed in 1904 in Cincinnati, Ohio. Still standing, its construction was a leap of confidence by the architects and builders using the revolutionary new product of reinforced concrete.

In 1936 two major dams in the US, the Hoover and Grand Coulee were built with concrete. Designed by Marcel Breuer, a world renown **modernist** architect and designer at that time, whose philosophy had been honed through Germany's famous Bauhaus School, they were the biggest dams in the world. The huge cubic volume of concrete used to construct the larger dam, the Grand Coulee, was so much that, if laid as a footpath 122 cm wide and approximately 10 cm deep, could make a path twice around the equator. On completion it was the largest concrete construction in the world.

Many of the twentieth century's iconic architectural structures owe their existence to the strength and flexibility of reinforced concrete. Architect Frank Lloyd Wright's house 'Falling water' was built in 1939 and relied on steel reinforced concrete to enabled him to cantilever different levels of the building to 'hang' over a running stream and falls.

Closer to home the sail-like structures of Australia's Sydney Opera House were made from giant **precast** reinforced concrete ribs. Designed by Danish architect Jorn Utzon in 1958 and engineered by Ove Arup, The Opera House was such a revolutionary structure it took 14 years to build.

Earlier in 1904 another step in the development of cement blocks occurred in America when father and son, Herman and Jesse Monier, who had already invented a cement block making machine, began making hollow core blocks. This made the blocks lighter, easier to handle and cheaper to transport. This clever innovation heralded the beginning of the Breeze Block revolution which was adopted by architects and engineers across the world.

Breeze Blocks have a simple geometry and endless possibilities for design combinations. They became an essential part of the aesthetics of Modernist architects. In Australia Perth Architect Iwan Iwanoff followed Modernist trends in the 1960s and 1970s, building houses of pared back construction of hollow concrete blocks, thus reducing the total amount of concrete needed.

2000s

The 2010 Burj Khalifa skyscraper in Dubai took six years to complete and is currently the tallest concrete structure in the world, reaching 8298 metres above the ground.

Further experimentation continues with this important, almost irreplaceable material, with the addition of fibre glass reinforcing, a multitude of colourants and finishes to allow concrete into the interior of our buildings as feature walls or furniture.

The next great challenge for **contemporary** concrete is to achieve a less damaging ecological footprint on the Earth. **NB:** See *Sustainability and Concrete* in the Further Research section of this resource. A cost cutting 20th century development of **precast slabs** or tilt ups almost eliminates the need for on-site handwork by concrete workers and shortens the build time for large constructions.

1.3 Why I like Concrete: extracts from catalogue essays

Contributing writers for this catalogue explore the impact of concrete on them personally and professionally and on social and industrial history. Their observations below offer the audience a range of insights about concrete as a creative medium.

Concrete paradoxes by Penny CRASWELL

Penny Craswell is a writer and editor specialising in design and architecture, and a communications consultant working with a range of design studios, including Koichi Takada Architects, M Moser, Bijl Architecture and Frost Collective. A former editor of *Artichoke* magazine, Craswell is Contributing Editor of *AR* and *Mezzanine* magazines, writes for *Frame*, *Mark* and *Azure* magazines internationally and is the founder of *The Design Writer* blog. She is currently completing a Master of Design (Research) at UNSW Australia.

Concrete has long been linked with progress. It has a stark finality to it. When we say something is “set in concrete”, we mean it is fixed and unchanging. When we “concrete over” something, we remove everything else in its path, including any signs of nature. The history of the 20th century can be written in concrete - in the role it has played in architecture and art, in how it has shaped our buildings, roads and bridges, and how it has been linked with both far left and far right politics. Both loved and hated, concrete is an essential part of Modernism and Brutalism for architects, and a key material for Minimalist artists. More recently, it has become the subject of contemporary artists and designers seeking to unpack - and in many cases reject - its symbolism. Concrete’s future is uncertain, although an attempt to make it more environmentally sustainable is no doubt part of how it will continue to dominate, especially in the creation of our cities.

CONCRETE Catalogue Introduction: Margaret HANCOCK-DAVIS

Margaret Hancock Davis, curator and writer, is Senior Curator at JamFactory. In addition to her curatorial practice, Margaret writes text for exhibition catalogues and magazines. Her qualifications include a Graduate Diploma of Art History, Graduate Diploma of Art Administration and a Bachelor of Art and Applied Design.

Concrete has conviction, strength and directness, but it has plasticity, too, which makes the possibilities for shape-making almost endless. It is hardly surprising, then, that in the hands of talented architects with the courage to fail, the incontrovertible fusion of concrete’s plasticity and brute force can be turned into architecture of lyric beauty, intensity and timelessness.

Joe Rollo, 'Plastic Fantastic' in *Concrete Poetry: concrete architecture in Australia*, 2004

I have read it more than once, and it still is a such an overwhelming idea: concrete is the most-used man-made material in the world today, second only to water as the most-consumed substance on the planet. Can that be true? It is such a staggering thought. In the truth of this fact, I cannot help but wonder - is it concrete’s incredible ubiquity that renders its importance and necessity almost mute, or, inversely, could it be asked: are we even able to imagine a world without concrete?

Margaret Hancock Davies

Concrete blocks: Sam MARSHALL

Sam Marshall has been a practicing architect for 34 years and director of his own firm Architect Marshall for 26 years. Sustainability has been an integral part of his practice, an idea instilled in him at an early age by his practical engineering father. Marshall’s firm has won many awards and the most recent for their warehouse conversion in Darlinghurst, Sydney. He has been lecturing in design at Sydney Universities for three decades and currently teaches design in the Masters of Architecture at UNSW.

Having obsessions can be dangerous; they can take over your whole life. Breeze Blocks is one of mine. I cannot get enough of them.

Pinning down exactly where Breeze Blocks originated is not easy. Their precedents - patterned screens that provide privacy, security, light filtration and air ventilation - mainly occur in hot climates. Mashrabiya, prevalent in Egypt, and the muxarabi of Moorish/Arabic countries were thin hand-made stone or timber screens. In China, ceramics - often glazed - were used to make modular blocks, performing similar functions.

What, then, attracts me to Breeze Blocks? As an architect, the beauty of mathematics - especially geometry - fascinates me. About 20 years ago I started noticing the prevalence of Breeze Blocks and their multitude of patterns. I also liked the way they were, in their time, a piece of the optimism of Modernism in the post-war world that the everyday person could have. I serendipitously started photographing them with the intent of an exhibition or book, as almost nothing had been written on what had now fallen from popularity. I also recognised their future potential.

Monochrome Memory by Leigh ROBB

Leigh Robb is currently Curator of Contemporary Art at the Art Gallery of South Australia and has served in a large number of curatorial roles both in Australia and overseas over the last 25 years. She completed her Bachelor of Arts in Art History and Psychology at the University of Queensland and her Masters in Art History in London. She is an adjunct lecturer at the University of Adelaide.

Although concrete was first invented by the Romans, it was forgotten for centuries until the process of making it as a building material was rediscovered in the late 1800s.'

The art of concrete, however, and the employment of it was not embraced by artists to any great extent until the 1960s, making it thoroughly modern - a material of the future, a register of the new. It is so recent an artistic discovery that it almost has no past, lacking in both history and locality. It is transnational and transitional; it originates from - and is used - everywhere. This lack of specificity is part of its attraction for artists, freeing them of the constraints of traditional sculptural expectations whilst being universal in its origins. This essay will discuss a selection of contemporary artists and the properties of concrete which have drawn them to this material as an artistic medium. It will unpack why concrete functions strategically as a catalyst or pivot point in certain artists’ practices.

Concrete pours like plaster but sets like marble. It can be cast but not generally carved. With great fidelity it will reproduce the texture of its mould or form-work. If using a free-form wooden armature, it will faithfully replicate the natural grain. If poured into a plastic mould, it will transfer and retain the synthetic sheen and shine of its container. These markings are testament to the fabrication process and the forces required to restrain the form until it sets, until it conforms. This lithic imposter has the solidity of stone, the weight of bronze, the mimetic potential of plaster (without the porosity) and the malleability of clay (without the fragility). Leigh Robb

'Adrian Forty, "The Metaphysics of Concrete", Lecture, University College London, 28 February 2012.



Left and above: CONCRETE: ART DESIGN ARCHITECTURE installation at JamFactory, Adelaide. Photos: Rhiannon Slatter.



1.4 GENERAL GLOSSARY of concrete terms

NB More specific GLOSSARIES appear throughout the text.

Aggregates: small stones like gravel, or broken terracotta & old bricks (hardened because they have been fired), or other materials in small bits are added to cement to increase its strength. Cement with aggregates is called concrete.

Cast: liquid concrete poured into a mould to harden, in a particular shape. On site casting occurs at the building site, pre-casting occurs off site and these (usually large) pieces are transported to the build site from a casting factory.

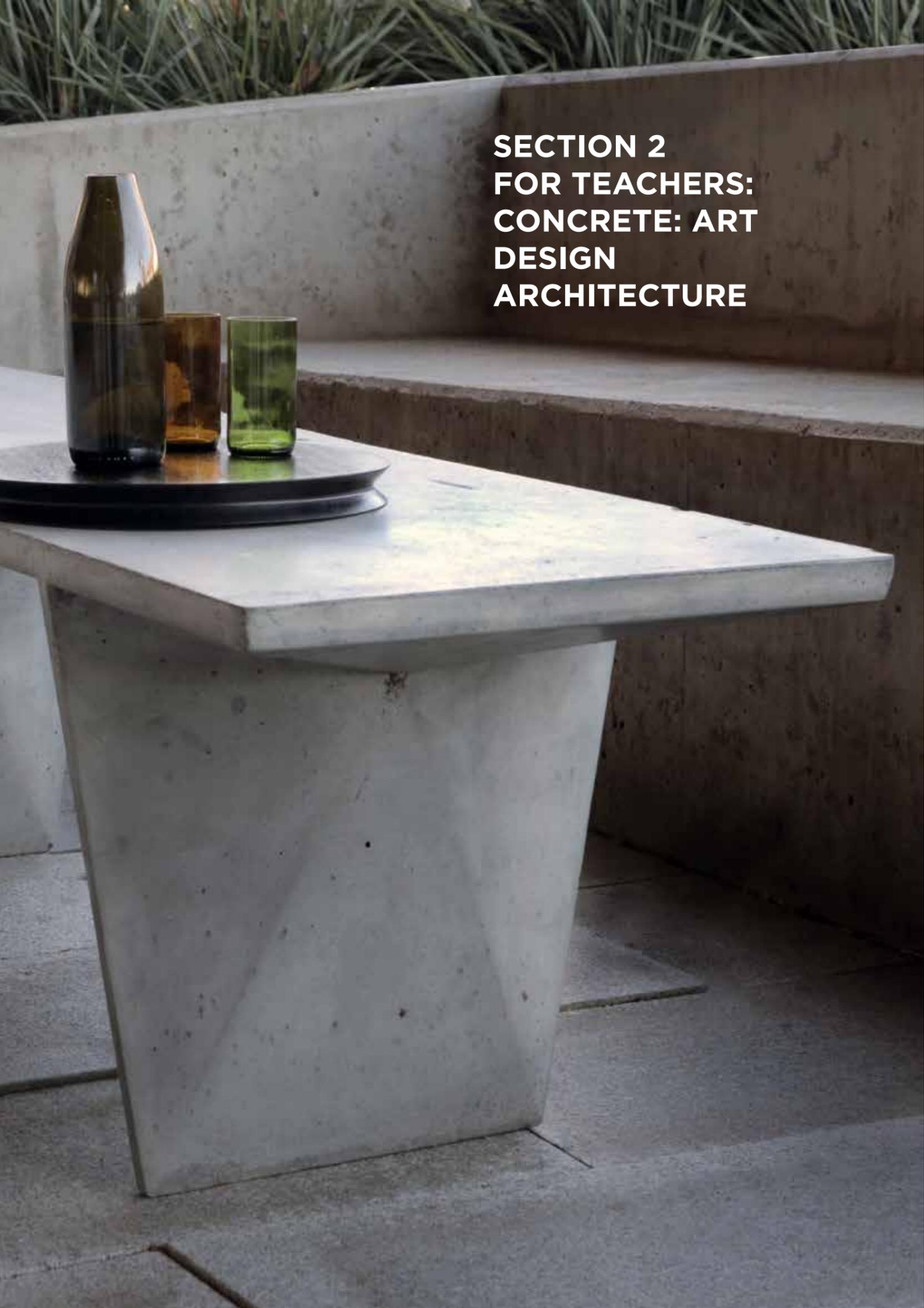
Cement: any substance applied in a soft form for sticking things together. Cement used in building is made of strong **mortar**, a mix of **quicklime**, **sand** and clay, then when mixed with water is applied as a paste, which hardens into a stone-like consistency for binding stones or bricks together to form forming floors, walls and roofs. Other ingredients are often added for different purposes. The innovation of Portland Cement in 1824 led to great building developments in the 19th century and has revolutionised contemporary building practices.

Concrete: mortar-cement mixed with **aggregate**, sand and water in a recipe of fixed proportions. Various forms of concrete have been used for over 2000 years. The ancient Romans were innovative builders with and discovered that concrete would set imperviously with sea water- examples survive today.

Mortar: mixture of lime powder (baked and crushed, limestone) sand and water for joining stones or bricks.

Precast: structural forms made in a mould away from the build site before being transported to the site. Tilt- slabs - also known as tilt-ups are made in concrete-casting factories away from the build site, where whole wall-slabs can be poured horizontally by machinery. This building method is now common and results in minimal handwork in the building process.

Quicklime: burnt or baked limestone that contains, one of three main ingredients in mortar.



SECTION 2 FOR TEACHERS: CONCRETE: ART DESIGN ARCHITECTURE

2.1 This Education Resource provides

- activities for preparation, during and after student visits to the exhibition.
- nine selected works are grouped into *Art: Personal Identity, Design: Funky Forms and Architecture: Oases of Faith*.
- statements by the nine selected contributors.
- perspectives by other writers: a range of ideas and information about these works
- connections to Curriculum Frameworks, through back at school research tasks. Called **Questions and Research** these tasks follow each of the three area groupings.
- Further Research is the closing section for students to explore the topic of concrete.

2.2 Visiting the exhibition with students:

For a successful group visit to CONCRETE: ART DESIGN ARCHITECTURE teachers are advised to

- inquire if bookings are required to guarantee scheduled entry to the exhibition

Pre-visit: before visiting the exhibition

- Background Briefing informs students about the exhibition origins and content
- Visit the JamFactory website
- This Education Resource, **CONCRETE: ART DESIGN ARCHITECTURE** is available from the JamFactory website
- Visit other websites of selected **CONCRETE: ART DESIGN ARCHITECTURE** contributors.

On arrival: for a guided session with a gallery guide, your group will be met and welcomed by a member of the venue staff.

Visiting the exhibition with a class group on a self guided tour,

- Smaller viewing groups are advised. Identify manageable groups before entering the exhibition space.
- While still outside the exhibition space focus and task your class groups on arrival. This is the best time to distribute prepared activity sheets or the attached **Getting started: the whole exhibition activities, included in this Education Resource**.
- Before groups disperse remind your students of gallery protocols such as;

avoid touching any work, support stands or cabinets

be aware of other visitors in the space, by speaking quietly with each other and moving calmly (walking not running)

- Encourage students to consider how individual works sit within curriculum frameworks. Students will need to spend appropriate time to immerse themselves in selected design works, with a viewing time of at least 10 minutes per chosen piece.
- Involve students in responding, both as individuals and in group analysis and discussion. Scribing is optional and will be useful for on-site reporting and post visit research.
- Students will benefit from seeing this **CONCRETE: ART DESIGN ARCHITECTURE** Education Resource before visiting the exhibition to assist their understanding.
- Follow up activities: refer to **Guiding Questions and Research** that follow each of our three area groupings. Back at school follow up activities can include sharing information and analyses from responses that were
 - gathered on-site
 - recorded individually for sharing responses with others
 - discovered through research tasks

SECTION 3 FOR STUDENTS: GETTING STARTED THE WHOLE EXHIBITION

Activities for student consideration of the exhibition as a whole

These tasks encourage and support student engagement with the exhibition and can be undertaken in any order and are suitable for individual or small group work.

Some tasks are designed to report findings and discuss works with others. Although scribing is not necessary for these activities, it could assist any on-going post exhibition work back at school.

Task 1 Consider

- You will prefer particular works. Consider if you are interested in their appearance or their subject matter, or perhaps the technique or the way the subject is interpreted?
- Find particular works in this exhibition that make some kind of social or political comment and discuss the issues explored.
- Which works raise more questions than other works? What kinds of questions does your selected work raise? Compare and discuss your findings with others.

Task 2 First & last impressions

- How did you react when you first entered the exhibition and looked around?
- Which particular work are you most curious about for another look? Describe what attracted you to the work?
- Which work will you find hard to forget? Describe why you are drawn to it.
- Which work challenges you most, or that you find hard to understand? Look at it again before you leave and consider why this is so.
- Before leaving check the exhibition one more time to see if there is an idea in a work that you would like to extend or explore when you get back to school.

Task 3 Easy or difficult?

- Explain why you consider some works would be easier or the hardest to make.
- Describe why you think some works depend on complex team work more than others.

Task 4 Response to the exhibition as a whole

- Make notes for writing a review of the exhibition from your own perspective. Find links or relationships that you see between the works.
- Choose one area group in this Education Resource and suggest more works from the exhibition which you consider could be included in that area.
- Are there other themes you would apply to groups of works in this exhibition?
- Compare two or more works which appear to be exploring similar ideas in different ways?

Task 5 Analysis and response to individual works

Choose a work that you are attracted to and consider the following questions

- Can you describe to someone else your reasons for your choice. Identify the works visual qualities that appeal to you.
- How could the idea or concept have been expressed in a different way?
- What might this work be saying about concrete, or about design, art or architecture?
- Has this work given you an idea for something you could make as part of your art studies?

A black and white photograph of a wooden surface, possibly a table or desk, with a prominent diagonal shadow running from the top right towards the bottom left. The wood grain is clearly visible, showing concentric growth rings. There are four circular holes, two on the left and two on the right, arranged in a rectangular pattern. The lighting is dramatic, highlighting the texture of the wood and the sharp edge of the shadow.

THEME 1.

ART: PERSONAL IDENTITY:

3 ARTISTS: ABDULLAH, COPE,
RICHARDSON



PERSONAL IDENTITY ART

All three artists featured in this theme are highly motivated by personal experiences based on their cultural origins or social and political issues that impact on their lives.

Abdul-Rahman Abdullah: *DAVID*, sculpture

Megan Cope: *RE FORMATION part 3, DUBBAGULLEE* sculpture

Elvis Richardson: *ELVIS RICHARDSON*, digital drawing

ABDUL-RAHMAN ABDULLAH

Abdul-Rahman Abdullah is an Australian born Muslim who took up his artistic direction late after already having an establishing career as a highly skilled model maker. It was personal issues in his private life, particularly relating to his faith that prompted his move towards art. He needed to find a way to express the feelings which he had carried since his late childhood.

Above: Abdul-Rahman Abdullah, *David*, 2018. Photo: Abdul-Rahman Abdullah.
Previous page: Baldasso Cortese Architects, *Tarrawarra Abbey*, (detail) 2016. Photo: Peter Clarke, Latitude.

The work: DAVID

What we see

Abdullah used concrete as his medium for this monumental portrait bust of his friend David as he felt the density of this stone-like material captured some of the strength and uncompromising nature needed by a professional boxer. His friend had been fighting in the ring for 25 years and now owns the boxing gym where Abdullah did his Qantas Award residency. Abdullah has captured all the evidence of David's violent past in his angular features and the boxers trademark broken nose.

The masculinity of this portrait bust is subtly countered by the delicacy of the gold chain around *David's* neck.

David is placed on a plinth to be at eye level looking into the face of the viewer as he would face off his opponent before their fight. Captured staring into the face of his future combatant David, known as '*The Iceman*' in the ring, adopted this steely eyed technique, used by all boxers to break down their opponent's confidence.

The Artist

Born in 1977 in Port Kembla NSW Abdul-Rahman now lives and works in Perth, Western Australia. Primarily a sculptor and installation artist, he is motivated by people and experiences from his own personal history and identity as a Muslim living in Australia. He grew up in a family with a seventh generation Australian father (who converted to Islam) and a Malay mother.

On leaving school Abdullah was involved in a range of creative careers as an illustrator, designer and model maker before enrolling in an art course at university level. Graduating from Curtin University with a Bachelor of Fine Arts in 2012, followed by an Art and Design Masters' degree at UNSW (University of New South Wales) in 2015-17 finally Abdullah felt comfortable calling himself an artist.

"The idea of having a different set of values, identity and beliefs to nearly everybody around me was just part of my existence growing up and it took a while before that sense of difference really became apparent."

www.antidote.org.au/artists/abdul-rahman-abdullah

From this sense of 'being different' as he grew older Abdullah used the term 'outsider' to describe this feeling. As his career developed his artworks ask his audience to have empathy for "the outsider" and to develop understanding and tolerance when confronting difference. When asked the question

"If you could change one thing about the world today, what would it be?" He replied "Give everyone a little dose of empathy"

www.antidote.org.au/artists/abdul-rahman-abdullah

Abdullah explores many positive aspects and challenges of identity through his courageous art which he hopes will deconstruct social stereotypes and cliches.

Context for the work

Abdullah won the Qantas Foundation Encouragement of Australian Contemporary Art Award in late 2013 which allowed him to take up an artist residency in 2014 at the local Gloveworx Boxing Gym. With his mentor, artist Richard Lewer, who at times was also his sparring partner, he developed new works centred around his experiences at the gym.

Abdul-Rahman Abdullah was no stranger to the environment of a boxing gym as his younger brother was a trained boxer in an earlier career before also committing himself to a full time artistic career as a painter and photographer. Abdul-Rahman acknowledges the support of his brother, Abdul Abdullah, who helped him successfully complete his residency project at the Gloveworx Boxing Gym.

Before becoming a full-time artist Abdul-Rahman Abdullah developed his model making skill by crafting natural forms from a variety of materials. He adopted this skill to create very life-like humans and animals for other art works like *“Wednesday’s Child”* and *“In the name”* where realism of the forms has been at times quite confronting for viewers.

In his sculpture *David* Abdul-Rahman Abdullah combines two important aspects of his family’s life; boxing and creating art. It was in the environment of a local boxing gym that Abdullah was inspired to make concrete sculptures of the fighting men and their equipment used to harden their bodies and minds to face physical punishment in the ring. *David* pays homage to the men who engage in this masculine sport and acknowledges one of Australia’s national sporting cultures. David was a professional boxer for 25 years and a member of Abdullah’s extended family.

Methods and materials

Abdullah created a bust portrait of his friend’s head using modelling clay, which was allowed to harden. A mould was then made from the original clay bust of David’s head. Abdullah poured fluid concrete into the mould and allowed it to harden, thus recording the clay details of his portrait sculpture. His friend’s mental strength and muscular head and shoulders show along with the detailed gold chain worn by David around his neck. Later Abdullah highlighted the cast chain with gold enamel paint.

Artist’s statement

Abdullah is driven by his responsibility to capture and record the truth about what he sees in the world around him as stated in his own words

“Some projects remind me how big the world outside of art really is and it’s so important to reflect the reality of that world in the work we do.”

As part of his Qantas Award residency he wanted to experience first hand what it was like to fight in the ring before he produced his suite of artworks , one of the pieces was his portrait bust *David*.

“The impact of being hit is like two forces coming together. You see stars and taste metal in your nose; it’s a very strange sensation, not pleasant at all. As long as you’re fit enough, it becomes a mind game; an exhausting out-of-body mind game that feels mostly like throwing up.”

www.antidote.org.au/artists/abdul-rashman-abdullah

¹Margaret Hancock Davis Interview with Abdul-Rahman Abdullah, JamFactory CONCRETE: ART DESIGN ARCHITECTURE exhibition Catalogue 2019

Other perspectives

“While his own experiences as a Muslim Australian of mixed ethnicity provide a starting point, Abdullah negotiates shared understandings of individual identity, new mythologies and marginalised outlooks in a multicultural context. Living and working in rural Western Australia, Abdullah provides a unique perspective across intersecting and disparate communities.”

<http://abdulrahmanabdullah.com/home.html>

“Whether it is the sweat of the boxing gym or a stack of books found in his father’s garage, everyday things from Abdullah’s local environments abound. In his hands these mundane objects and sites become invested with the potency of stories yet to come.”

Margaret Hancock Davis, interview with Abdul-Rahman Abdullah, JamFactory CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue 2019

ART QUESTIONS: Abdul-Rahman Abdullah

1 CULTURAL

Describe how Abdullah’s culture has influenced his artwork.

2 PERSONAL/SUBJECTIVE

Select and explain aspects of Abdullah’s personal life that have contributed to his current artworks.

3 FORMAL/STRUCTURAL

Research the range of materials this artist has used in his artistic career and evaluate the suitability of the material choice for his *David* sculpture.

4 CONTEMPORARY/POSTMODERN

Describe the advantages of Abdullah’s choice of a construction material like concrete for his sculpture instead of working with more traditional materials like wood or stone.

Links to begin your research

www.antidote.org.au/artists/abdul-rashman-abdullah

<http://abdulrahmanabdullah.com/home.html> ,

<http://abdulrahmanabdullah.com/section/393483-Qantas-Award.html>

Video: <http://sculptureatbathers.com/artist/abdul-rahman-abdullah/>, 5 minutes

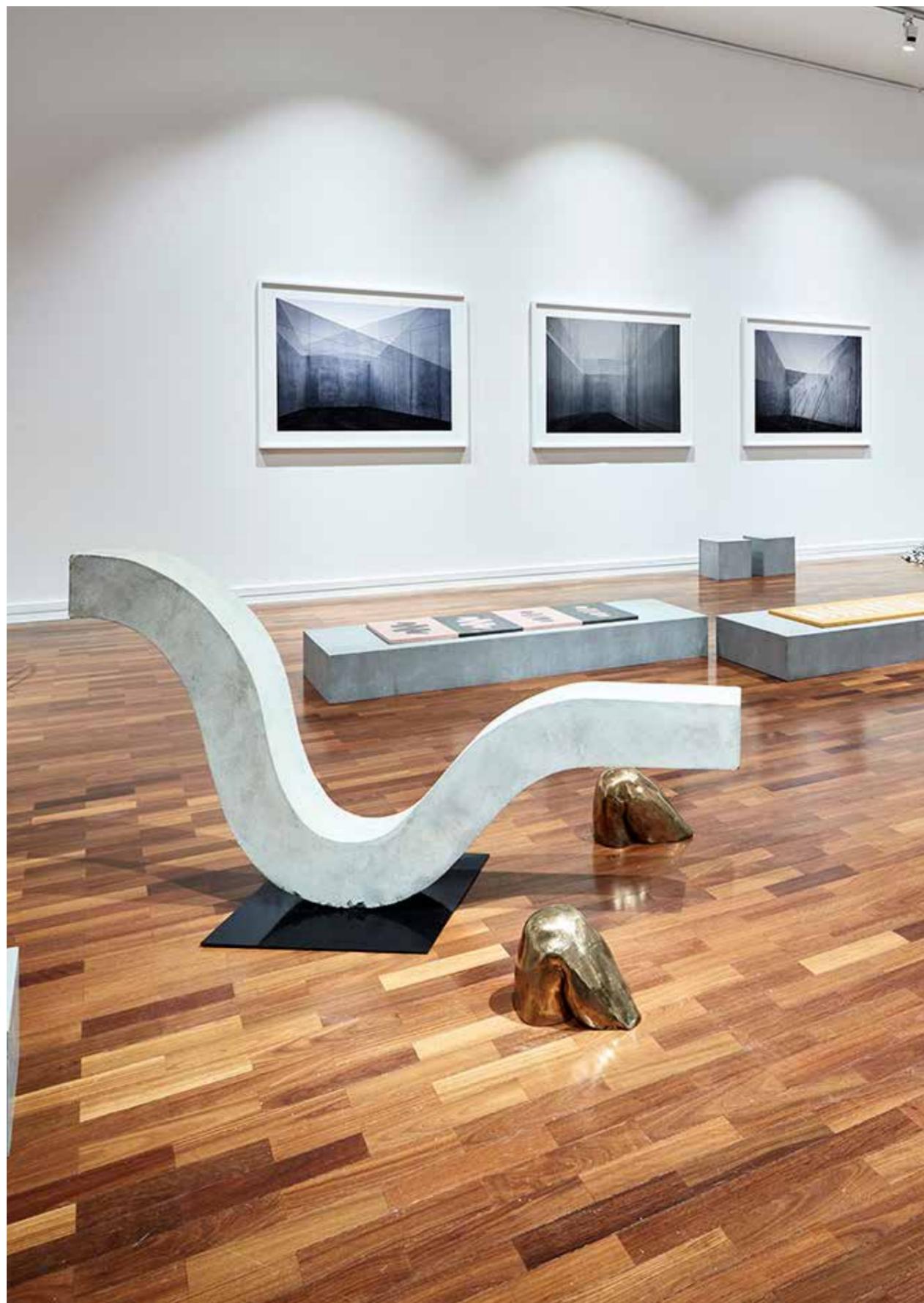
Sources:

Australia Art Monthly April 2015 Number 278, *Lover, fighter* by Robert Cook, pages 25-31

CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue, JamFactory, 2019



Above: Abdul-Rahman Abdullah, Hand building and sculpting *David*. Photo: Abdul-Rahman Abdullah.



Above: CONCRETE: ART DESIGN ARCHITECTURE installation, JamFactory Adelaide. Photo: Rhiannon Slatter.



Megan COPE

Megan Cope is an Indigenous artist whose cultural origins are the basis of her artworks. Cope has investigated the historical colonial treatments of Australia's First People and the injustices which are often overlooked and perpetuated by the white population.

The work: RE FORMATION PART 3 (DUBBAGULLEE)

What we see

Megan Cope's '**midden**' for this exhibition is not made of natural shells but perfectly crafted cast shells made of concrete and **ilmenite**. It is a smaller example of Cope's original 2017 installation called *RE FORMATION part 3 (Dubbagullee)* and it still conveys her original concept of destruction and loss.

The Artist

Born in 1982 Brisbane, Cope is from the Quandamooka region of North Stradbroke Island in South East Queensland. She now works out of Melbourne but is a regular visitor to family on North Stradbroke Island. Cope is an installation artist, video maker and painter who creates her artworks in or around specific indigenous sites. She examines and **debunks** colonial misinformation about indigenous peoples and exposes methods used by colonists to acquire her people's traditional and sacred places.

Context for the work

As an Indigenous woman Megan Cope wants to tell truth her artworks. The core of her practice is to reveal the constant and unashamed acts by colonial administrators of ignoring all signs of **pre-colonial** Aboriginal settlements. Her art alludes to the systematic destruction of sites which were of social and economic importance to local indigenous populations. Another aspect that concerns her is the fact that existing Aboriginal place names are never acknowledged. The ignoring of existing site names by early settlers was another part in the process of removing all signs of original ownership of their newly acquired land.

Above: Megan Cope, RE FORMATION part 3 (Dubbagullee), 2017. Photo: Felicity Jenkins

Throughout the Sydney Harbour region there once existed extensive shell mounds (middens), hard waste from important locally sourced foods, built up through continuous habitation by indigenous people who originally occupied the area for thousands of years. One such midden was located at Dubbagullee, the Gadigal name for the peninsula now known as Bennelong Point. Today this site is the home of the Sydney Opera House.

In her 2017 installation *FORMATION part 3 (Dubbagullee)* Cope recreated destroyed middens which once existed on that site. The destruction of this sacred site by white settlers was to collect the mound of seafood shells for burning to create lime powder (**quicklime**). This essential component of cement was used in the construction of many of Sydney's famous landmark colonial buildings. In this 2017 exhibition Cope's 12,000 hand-made concrete shells are mounded on a bed of fine black ilmenite, to 'return' the lost midden back to its original form and setting.

In a more recent version Cope mounded her concrete shells on a bed of **copper slag**, a bi-product of copper extraction. In this way Cope places the blame on mining companies as being responsible for the decimation of many Indigenous sacred sites. In making such a vast number of shells Cope was aided by individuals who, like herself, mourn the loss of their important Indigenous sites at the hands of early colonial settlers. A great irony for Cope is that the Sydney Opera House is constructed of forms reminiscent of the shells that once were an important part of that site.

Methods and materials

To make the many hundreds of shells needed to recreate her 'midden' installation, Cope hand-cast her shells by pouring concrete into moulds cast from real shells. Once the concrete had set her 'fake' shells were removed from their moulds now much heavier replicas of the original natural specimens.



Above: Megan Cope, RE FORMATION part 3 (Dubbagullee), 2017. Photo: Felicity Jenkins. Megan Cope. Photo: Dominique Eliot.

Artist's statements

"In the arts there is this assumption that Aboriginal people are getting all this attention and more funding than what's available for non indigenous artists. I guess Aboriginal people need to always have a conversation about who we are and where we're going and what's important to us, what kind of works we are going to make and constantly challenge the colonial framework."

<http://www.smh.com.au/entertainment/art-and-design/artist-mrgan-cope-takes-a-fresh>

*"I'm not limited to particular forms or material. In lots of ways I'm a **conceptual artist** and the things that are paramount to or at the forefront of my practice are issues relating to identity, history, politics and, in particular, Aboriginal people's **disposition** in Australia. For me it's more important that the material most accurately **articulates** the point of what I am trying to address or discuss in the work."*

<http://artguide.com.au/megan-cope>

Other perspectives

"Cope thinks of middens as a form of 'Aboriginal architecture'. They are man-made structures that trace a record of occupation and culture over many centuries, debunking the colonial claim that Australia was Terra nullius or unoccupied territory."

<http://thisisnofantast.com/exhibition/the-national-new-australian-art/>

*"Megan Cope has a diverse practice that investigates issues relating to identity, the environment and mapping practices... and through her art, explores **decolonising** methodologies which have become a primary concern in her work."*

<http://www.metroarts.com.au/artist/megan-cope/>

Glossary

Articulates: to speak in clear, distinct messages or speech.

Conceptual artist: an artist who creates artworks where the idea (concept) behind the work is more important than the finished art object.

Copper slag: a bi-product or residue left after the smelting of copper ore

Debunks: exposing the falseness or hollowness of an (idea or belief)

Decolonising: withdrawing from(a colony) leaving it independent.

Dispossession: to deprive someone of property, land or possessions, to eject.

Ilmenite: a black titanium-iron oxide mineral found in igneous rocks and mineral sands.

Midden: a heap of ashes, dung or refuse often associated with past human occupation.

Pre-colonial: before the beginning of English colonial rule in Australia, ie before 1778.

ART QUESTIONS: Megan Cope

1 CULTURAL

Identify and describe cross-cultural influences in Cope's art works.

2 PERSONAL/SUBJECTIVE

Explain some of Cope's life experiences that impacted on her developing career. Use specific art work as examples to support your information.

3 FORMAL/STRUCTURAL

Describe how and why Cope used industrial materials and concrete, to recreate ancient ritual sites.

4 CONTEMPORARY/POSTMODERN

Describe how Cope comments on contemporary issues through her artworks.

Links and sources to begin your research

<http://thisisnofantast.com/exhibition/the-national-new-australian-art/>

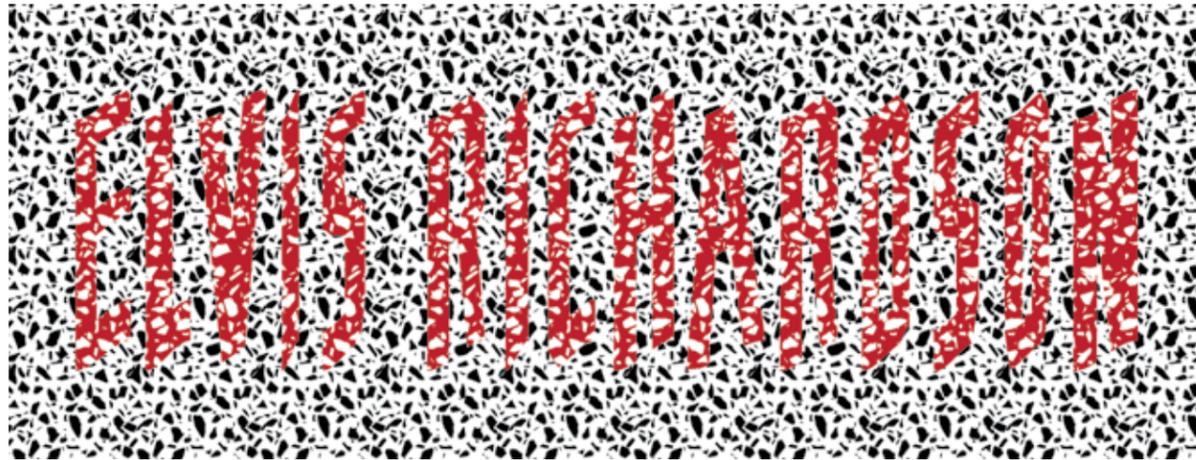
<http://artguide.com.au/megan-cope>

<http://www.smh.com.au/entertainment/art-and-design/artist-mrgan-cope-takes-a-fresh>

<http://runaway.org.au/invisible-agency-an-interview-with-megan-cope/>

Source:

CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue, JamFactory, 2019



Elvis RICHARDSON

Elvis Richardson's personal commitment is to achieve greater equality for women artists, particularly in the highly competitive local and international art worlds. Her art works explore this theme by commenting on how women artists struggle to be recognised.

The work: ELVIS RICHARDSON

What we see

Richardson's digital image mimics Los Angeles footpath **plaques** from a popular practice of commemorating famous movie stars on Hollywood Boulevard's *Walk of Fame*. Names and sometimes hand prints of celebrities are recorded in terrazzo and brass, uniformly designed as a soft pink five-pointed star set into a square pavement plaque made in dark grey.

In her plaque Richardson created an image of her own name as a commemorative plaque, as if she too might gain star status as an artist. However, Richardson's plaque is more visually confronting with her choice of colours and style of lettering. Her background is white concrete imbedded with black stones, while her name is in red letter-shapes flecked with black stones. Fine brass lines separate her colours which adds a linear detail in yellow. Although Terrazzo is full of potential for artists, it is more usually a floor finish, cast insitu.

The artist

Born in Sydney in 1965 and now living in Melbourne, Elvis Richardson is well qualified to comment on society through her art practice. She first gained a BFA (Bachelor of Fine Art) from College of Fine Arts, University of NSW IN 1992 and went on to complete a Master of Arts in 1996. Travelling to

Columbia University in New York, USA, she achieved a Master of Fine Arts in 2002.

In addition to working as an artist and academic Richardson writes the blog *The CoUNTess Report*. Initially she was funded to collate and write the *Countess Report* in 2014, which examined gender inequality in Australia's contemporary art scene at the time. By continuing with CoUNTess Report since then, Richardson now presents compiled and collated data about **gender inequality** in the Arts as an online resource.

Context for the work

Elvis Richardson lives and works in a social context she believes is unfair to women artists. Her art works address this situation by highlighting how uncelebrated women artists are in this society. In her *Trophy Art* series Richardson combined a diversity of found materials in strange assemblages to make her feminist statements. Her *Elvis Richardson* plaque, partly inspired by collected media and historic publicity material around Hollywood stars, connects directly to her larger theme of Trophy Art.

Richardson applies a detective-like approach to her collecting for her artwork by foraging for old photographs and mass media images along with old slides from op-shops, eBay and other recycling sources. Her interest in detective stories began at an early age when she started reading famous stories about detectives like Sherlock Holmes, Poirot and Miss Marple.

The items collected are often determined by issues occurring in her own life. They provide clues into unknown people's lives that inspire her own stories, which are later transformed into works of art. Richardson's adult life has been focussed on analysing social concerns such as inequalities experienced by women and girls. She explores career strategies used by artists for creating success and star-status for themselves.

Methods and materials

Richardson casts her terrazzo slabs in a mould. To achieve her detailed coloured surfaces she employs an old technique by which small multi-coloured stones (aggregate) are imbedded into the fresh surface of coloured concrete.

Richardson explores terrazzo's principle characteristic and technique of highlighting the two elements of concrete: **aggregate** and **cement**. Although mixed together (as with grey concrete), terrazzo uses coloured aggregate (chips of coloured glass or marble, or coloured pebbles) mixed with a coloured cement. A coloured aggregate can contrast with its background concrete. For her work *Elvis Richardson* Richardson chose black stones set in white cement for the background to the words of her name made of red concrete, with black chips.

Terrazzo features both the cement and its aggregate as colour opportunities. Most traditional concrete does not feature the aggregate. By jiggling the mix as it sits in a mould, terrazzo's aggregate is deliberately brought to the surface to show against the background colour. When it is set Richardson grinds and polishes her surface to brighten the colour differences; it is this richness that characterises terrazzo. Divider strips often made of brass are used to separate different colours from each other to prevent colours bleeding.

Terrazzo's highly coloured and polished surfaces have a jewel-like quality which is a favourite finish for Richardson; she has used terrazzo continuously throughout her career.

Artist statement

As a child Richardson was fascinated with a library book called *Unsolved Crimes of Violence in Australia*.

'I kept this book out of the library for years, when I was about eleven', she says. 'It had the Beaumont children (an unsolved disappearance of three Adelaide children in 1966), all these sorts of things'.

Being adopted I sort of melded these stories together in my mind. When I was growing up I knew other people who were adopted and of course you had the Stolen Generation and that culture of removing people...it was about women as well, you know? It switched on a thing when I was young about what it was to be a woman, what could happen to you."

<http://artguide.com.au/elvisrichardson>

Other perspectives

*'In the studio, Richardson moves fluidly between collecting, assembling and crafting. Trophies, both found and made anew, are a recurrent object in her work. Richardson's Trophy Art series utilises a range of strategies including melting down and **replating** found trophies to draw out bodily references. The pristine, electroplated exterior of the trophy dissolves and comes to resemble tired, collapsing flesh. Richardson began casting concrete **plinths** for found trophies until the concrete took over. Her work called 'a tough exterior threatened by an unstable footing' involved creating colourful terrazzo trophies that teetered on too-small stands. The nuances of success and failure in personal and sporting arenas come to the fore—all pomp and ceremony, these **anthropomorphised** awards stand proud with the potential to topple.*

*Terrazzo is the most fabulous form of concrete. Known for its durability, pastel colours and bright stone aggregate, it is **synonymous** with the Hollywood Walk of Fame. With its historic roots in Egyptian and Italian building practices, terrazzo gained favour in Australian domestic architecture from the 1920s to 1950s and many brightly coloured bathrooms in the Australian suburbs still stand as a sparkling reminder of that period. Terrazzo elevates the everyday suburban experience towards Hollywood glamour. In Richardson's hands, it speaks materially to identity, recognition and fame within the visual art industry.*

*Elvis Richardson doesn't claim a signature style; she moves from one project to the next with restless intelligence. If her works begin to line up in a tidy sequential narrative, her instinct for nonconformity forces her to rebel. Resistance also takes the form of **feminist activism**: The CoUNTess—a regal form of Elvis—keeps watch over the visual arts industry by tallying up its gender representation. Like her studio works, The CoUNTess Report involves the act of collecting, questioning who is identified as an artist, and examining the mechanics of recognition.*

Margaret Hancock Davis, CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue, JamFactory 2019

Glossary

Anthropomorphised: a no-human object given human qualities, made human.

Cast in-situ, on-site: concrete poured into a mould or formwork in its final position.

Feminist activism: the struggle by women to achieve social and financial equality with men.

Gender equality: a society in which access to rights and opportunities is unaffected by gender.

Plaque: an ornamental tablet typically of metal, porcelain or wood fixed to a footpath or wall, in commemoration of a person or event.

Plating: fine covering of one metal with another more expensive (silver plating, gold plating) or more robust.

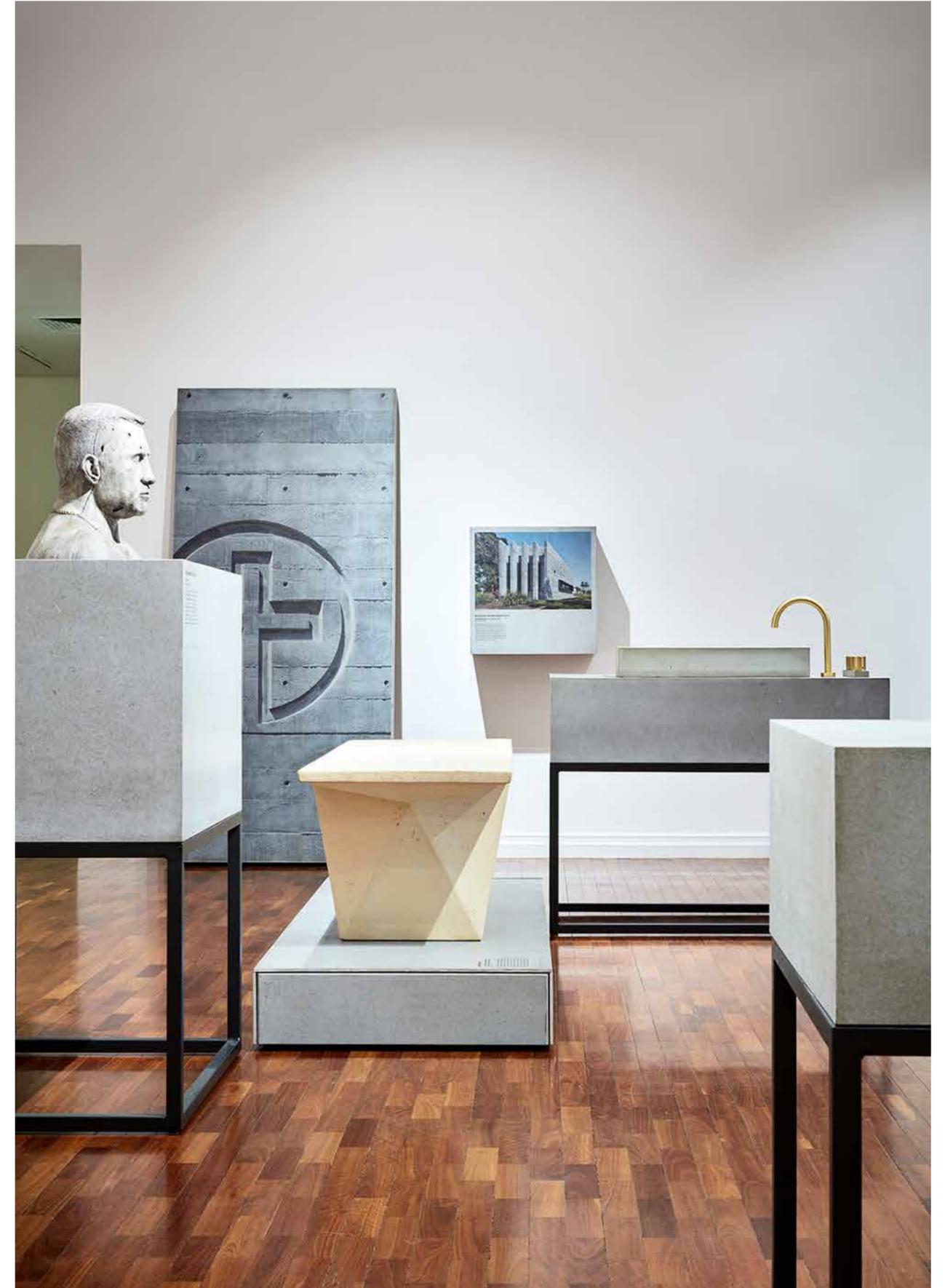
Plinth: a heavy base supporting a statue or vase.

Re-plating: a second or subsequent instance of plating, specifically from the same electrolytic solution.

Stolen Generations: generations of Aboriginal people forcibly removed from their families as children between the 1900s and 1960s, as an act of 'assimilation'. They were taken to other parts of the country and fostered to non-indigenous foster families, or housed in government and church institutions for training as servants for European Australian households.

Synonymous: similar to, having the same meaning as another word or phrase in the same language.

Terrazzo: polished coloured cement and concrete floor surface, made with coloured chips of marble or granite embedded into the wet freshly laid surface, then cut and polished when set.



Above: CONCRETE: ART DESIGN ARCHITECTURE installation, JamFactory Adelaide. Photo: Rhiannon Slatter.



THEME 2.
DESIGN: FUNKY FORMS:
3 ARTISTS: CHEB, CONVIC
ADAM GOODRUM

FUNKY FORMS

CHEB: Deb Jones and Christine Cholewa, Cheb Concrete Product
CONVIC: Margaret River Youth Precinct Skatepark
Adam Goodrum: Concrete bench

CHEB: Deb JONES and Christine CHOLEWA

Deb Jones and Christine Cholewa have built a design business for themselves based on their realisation that working collaboratively was more fulfilling than only working in their own private practice. Both designers welcome a challenge and are willing to learn about new techniques and materials to achieve their goals.

The work: CHEB CONCRETE PRODUCT

What we see

CHEB'S collection of concrete tableware at first appears simple and bland as the raw base material has no embellishments. Objects appear unfinished with every detail of their casting mould evident on their exterior surface. The varying cylindrical proportions of the plates, candle holders and tall vases are contrasted by the more angular objects in the collection, maybe for holding cutlery or serviettes. This tableware would be ideal for outdoor use and keeping the table cloth firmly in place on the table.

The Designers

Deb Jones was born in 1963 in Parkes New South Wales, Christine Cholewa was born in 1979 in Toronto, Canada. They now live in Adelaide, South Australia.

Both designers have a history in glassblowing with each completing studies in glass at different university art schools. The two-year Associate Training Program at the JamFactory attracted both designers to Adelaide at different stages in their careers, to engage in the program. Jones arrived in 1993 from Canberra and Cholewa in 2004 from Canada. Both artists were also members of JamFactory's Glass Studio management team.

Jones and Cholewa met while working at Blue Pony Studios in Stepney, an artists' co-operative which encouraged and supported local artists by providing studio space and a retail shop to sell artworks. While at Blue Pony they worked closely together from 2007 to 2011. In 2013 although still maintaining independent practices they decided to work collaboratively on larger urban design and public art projects. They engage skilled artisans to support them on their bigger projects. Working alongside the steel fabricators and concrete workers Jones and Cholewa not only helped but enjoyed learning skills from these practitioners.

Context for the work

Both designers are keen to explore the possibilities of the vast range of materials they use to create their public art, urban design and product design projects. During their careers CHEB have created projects from steel, bronze, timber, glass, stone and concrete.

CHEB's tableware is made from concrete include bowls, dishes, candle-holders and vases, with a raw finish; no polishing finishes their pieces. The only post-casting process they use is rubbing the leather hard concrete items across the concrete floor in their workshop to level the base.

Methods and materials

The tableware was cast using a general-purpose industrial panel grout using a blend of **Portland cement**, high grade very fine **aggregates** and additives. The fine quality of this concrete mix is ideal for hand finishing jobs like filling small holes or gaps in concrete construction work to get a high grade finish. CHEB use only readily available materials such as cardboard and ducting tape to make their moulds for casting. They are quite at ease with their tableware bearing the surface characteristics of the materials used in their construction. The unique surfaces are only achieved due to the type of concrete used which is known for its ability to record every detail of its casting mould.



Designer's statement

The designers describe their end products as 'rough, fast, not too precious, not over thought.'
Margaret Hancock Davis CONCRETE: ART DESIGN ARCHITECTURE exhibition catalogue JamFactory 2019

Other perspectives

"Cholewa and Jones both have a history in developing and producing hand-made products for retail sale and domestic use. Their evolving interest in and experiences with concrete through their public art projects have led to more recent experiments with casting concrete to create small-scale functional and sculptural pieces to add to CHEB'S existing product line, which include pieces in glass, ceramic, timber and fabric.

Margaret Hancock Davis CONCRETE: ART DESIGN ARCHITECTURE exhibition catalogue JamFactory 2019

"On a smaller scale, but just as ambitious, is a new range of tableware featuring glasses, plates and centrepieces that will be launched in October 2018 and can be found at chebart.com. This creative duo is unstoppable and their enthusiasm for collaboration is infectious. They agree that their power comes from working together, making CHEB highly productive. As a creative team they support each other, have life work balance and most importantly trust each other 100 percent."

<http://www.adelaidereview.com.au>

DESIGN QUESTIONS: Deb JONES and Christine CHOLEWA

1 CULTURAL

How is culture revealed in CHEB's handcrafted concrete objects?

After researching some cultural influences on these two designers, prepare an evaluation of how successfully their pieces reflect the place and times they were made in. Research their work beyond the exhibition to increase your understanding,

2 PERSONAL/SUBJECTIVE

Research the personal backgrounds of CHEB designers and describe how their personal careers and values contribute to their design work.

3 FORMAL/STRUCTURAL

Describe the properties of concrete that attracted CHEB to this material for their tableware.

4 CONTEMPORARY/POSTMODERN

Explain why concrete tableware might be acceptable as a part of modern day living.

Links to begin your research

<http://www.chebart.com/new-page/> CHEB contact page.

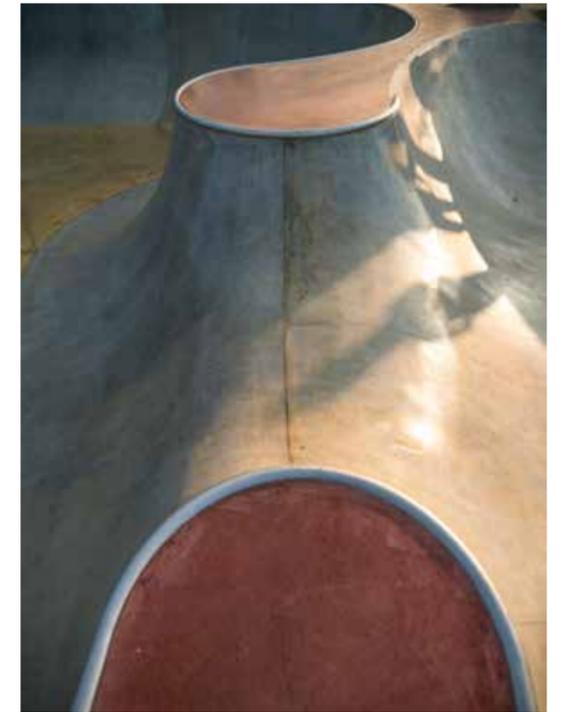
<http://www.chebart.com/projects-1/> description of Adelaide City Council project

<http://www.adelaidereview.com.au> Julianne Pierce talking to CHEB founders about their practice

Source:

CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue, JamFactory, 2019

Above: CHEB, *CHEB Concrete product*, 2018. Photo: Craig Arnold.



Above: CONVIC, *Margaret River Youth Precinct*, 2018. Photos: Sky Pixels.

CONVIC

CONVIC is a leading Landscape Architecture and Landscape Design company based in Melbourne.

This video was filmed in CONVIC's revolutionary skate park at Margaret River, a seaside wine and surf community, south of Perth in Western Australia.

The work: MARGARET RIVER YOUTH PRECINCT SKATEPARK

What we see

Built to support a youthful skateboarding population 20 years ago in 1999, Margaret River's concrete park is a mini landscape of brightly coloured hills and bowls, ramps and troughs that offer physical challenges and recreation for all skill levels. Wrapped around the skate-spaces are islands of shade greenery and curl-roofed shelters, shaped to echo the nearby famous surf breaks along the Indian Ocean coastline.

CONVIC colour their skate surfaces to increase their visual appeal; Margaret River's enticing skate surfaces are in various reds, yellows and blues adding a joyful quality for its young skaters. Colour and sculptural forms are now regular features in CONVIC's designs, along with boldly grand dimensions for various park forms. Margaret River's

'... skate area includes a 3.1m deep international-standard competition-level bowl and a 250m long pump track (a progressive structure using an up-and-down 'pumping' motion to propel a bicycle or skateboard forward without pedalling or pushing) encircling the sports area which itself includes climbing, bouldering and parkour facilities.'

Lara Merrington, JamFactory CONCRETE Exhibition Catalogue essay

CONVIC were invited back recently to revamp and update their original design for the Youth Precinct expansion, to enlarge the-park as a magnet for skaters and the general public. Margaret River's enlightened council understands that by supporting and legitimising their youth culture local community life has benefitted. The whole park is now 6,100m² of recreational space catering for families and visitors of all generations.

The Designers

Brisbane boys Simon Oxenham and his friend the late Cameron Melville met as teenage skaters in a backyard half-pipe in the 1980s. Dissatisfied with skating options in their home town they spent their teen years designing and building wooden ramps to challenge their skate skills.

After years designing collaboratively through trial and error experiments they remained committed to creating skate parks, with Melville training as a skate-park engineer and Oxenham maturing into a competitive vert skater. This perfect combination of specialist skills and understanding of the sport launched their careers as skate park designers and builders. Their company CONVIC was formed to take on their first major commission in 1998 in Margaret River, south of Perth in Western Australia. CONVIC is now widely admired and sought after for exciting ideas.

While many of CONVIC's Australian parks are close to beach and surfing communities, a standout difference is their Onslow Skate Space in Western Australia's Pilbara region, which is very inland and celebrates the town's Indigenous culture and the region's iron rich red landscape.

CONVIC has expanded into two design offices in Melbourne and Dubai with over 700 projects completed. Over 21 are in Australia, with CONVIC parks in almost every state. CONVIC are now considered global experts in skate park design and construction, earning commissions from many of the world's greatest cities to create new and active 21st century community spaces. Giant international commissions have been built in Dubai, New Zealand, Singapore and Shanghai, China.

Awards for CONVIC's projects have been coming thick and fast since 2007, only 9 years after their first project and include Guinness Book of Record entries for 2004 and 20014. Recognition of excellence has come from both international and local design bodies. Recently in 2018 they won the esteemed Iconic Innovative Architecture Award from a German jury of designers, also the Australian Institute of Landscape Designers (AILD) Award and the National Excellence in Building and Construction from Australia's Master Builders Association.

Context for the work

Asked to do the 20th anniversary renewal of MRYP park in 2018, CONVIC was given an opportunity to update and expand their original 1998 concrete park with new ideas. Twenty years after their first big park the world of skateparks has grown and changed enormously. The MRYP park was given BMX tracks, bbq and picnic facilities, performance and spectator areas and more landscaped zones and shaded seating.

CONVIC's talent was recognised 20 years ago by the enlightened Augusta Shire south of Perth, Western Australia, which led to their first large commission at Margaret River. Twenty years later, Skateparks now add social diversity to city and town environments while providing recreation spaces for young skaters' social and physical benefits.

Skatepark designers are often briefed to provide even broader solutions for surrounding urban environments, as part of skate park concepts. These can include repurposing a defunct industrial site, installing a skate park within a much needed public park for the whole community, or perhaps as a refocus area to draw in street skaters away from illegal street-spots, to save on repairing damage to city furniture.

Many cities are making art and sculpture skate-able by allowing more legal skate spots to be combined with other city landscape art projects. As in Margaret River skate spots can be set in picturesque destinations for both skaters and non-skaters, as an activity magnet attracting people to their area.

Methods and materials

Technical advances have lifted skate boarding from a practice hobby for waveless surfers in the mid 20th century to a contemporary global sport and youth culture.

The shift from metal wheels to urethane in the 1970s allowed better traction, speed and new tricks. In turn, ramps and bowls got bigger, rolling concrete hills (or 'snake runs') were built, skate competitions evolved, and skate parks were in demand.

Lara Merrington, JamFactory CONCRETE Exhibition Catalogue

CONVIC is famous for specialised concrete techniques that achieve seamless curves and smooth transitions. Technical experiments by Oxenham and Melville led them to an innovative technique of spraying free-form concrete onto the ground. Their revolutionary technique stretches the usual limits of concrete, and enables CONVIC to install huge areas of fine, smooth, and free-form coloured concrete.

After shaping the ground into troughs and hills, bowls and pipes with diggers and shovel work, concrete foundation layers are built in (or onto) the ground with reinforcing mesh. This foundation must set properly before the final surface is sprayed on.

This final layer of coloured cement is then painstakingly shaped and **burnished** by hand to obtain a smooth skate surface that is long lasting & with a lustrous finish. A protective sealant is applied to keep it from weathering. Bowl edges and rails are usually of stainless steel. CONVIC regards their cementing process as more environmentally sound and less expensive than transporting pre-cast sections onto the site.

CONVIC insists on working with the local client community to understand their particular needs in a skate park. A distinguishing feature of CONVIC is their insistence that each project has a sculptural environment connecting with local people. CONVIC design teams pay great attention to **aesthetics** by including significant local motifs and natural colours that echo natural environments and reflect local histories.

Margaret River is a rural area with a strong surf culture so young people are a large part of the community. Wave-like shelters at the MRYP and park connect with the nearby ocean and its local surfing culture, while their Pilbara park in Onslow, northern WA, features sculpted mounds like termite hills and red orange colouring reflecting the iron rich landscape.

CONVIC staff control the whole design and building process. Their staff are mostly skaters and surfers themselves. Instead of hiring in contract supervisors they oversee projects from initial consultations with community and client councils, through the creative design process, to on-site construction and finally to the inaugural activation of their new sites.

Designer's statements

CONVIC Design Manager Jason Geralis said he was excited to return to the birthplace of the company and the site of our first skate park. "The Margaret River Skate Park was the catalyst for the growth of youth facilities across the state.

"There has been an evolution of modern youth and skate culture across Australia since then, but even now the Margaret River Skate Park remains relevant and still represents the unique skate identity of the region.

"CONVIC are proud to have contributed to this legacy and even more proud that we will now contribute to this important next phase in the development of the youth space upon its 20 year anniversary."

Shire Report <https://yoursay.amrshire.wa.gov.au/margaret-river-youth-precinct? Page=2>

Oxenham says *'making parks aesthetically pleasing reduces community angst. They don't just have to be grey blobs'*. K.Bradstreet,"The Business of Building: Australia's Convic Skate Parks", June, 2012, <https://www.adventuresportsnetwork.com/transworldbusiness/thebusinessofbuildingaustraliasconvicskateparks>

Other perspectives

When you receive project briefs like "It has to be the biggest, best and most innovative" you know you are at the top of your game. Building the world's largest skate park—13,700 square metres with 5000 cubic metres of concrete—for the SMP Skatepark in Shanghai, Melbourne-based multi-award-winning company CONVIC was up for the \$25-million challenge, and exceeded expectations.

Lara Merrington, JamFactory CONCRETE Exhibition catalogue

Describing CONVIC's latest brief for the world's largest skatepark for the city of Shanghai, China, Lara Merrington reveals CONVIC's stellar credibility in Landscape Architecture and skate park design.



Above: CONVIC, Margaret River Youth Precinct, 2018. Photo: Sky Pixels.

QUESTIONS: CONVIC

1 CULTURAL

Explain any cultural influences that were crucial influences on the two young skaters who built up CONVIC.

Describe the cultural movement that has resulted in global phenomenon of giant skate/entertainment parks.

2 PERSONAL/SUBJECTIVE

Describe how personal interests and concerns drove Simon Oxenham and Cameron Melville to become designers.

Describe how CONVIC connected several of their skate parks to the specific locations and landscape they are set in.

3 FORMAL/STRUCTURAL

Research and explain CONVIC's innovations that enable their concrete skate surfaces to be smooth and curved.

4 CONTEMPORARY/POST MODERN

CONVIC include stylistic and narrative elements in to their concrete park environments. Select a recent commission to evaluate in its contemporary context.

CONVIC links to begin your research

The biggest and best skatepark designer started in Margaret River - ABC
www.abc.net.au/local/stories/2012/11/20/3637222.htm

<https://convic.com/about-us/>

Shire Report: <https://yoursay.amrshire.wa.gov.au/margaret-river-youth-precinct? page=2>
(This Shire website tracks local community involvement (see Community Engagement Summary) and the practical stages of setting up a test site for the 3 metre deep bowl).

K.Bradstreet,"The Business of Building: Australia's Convic Skate Parks', June, 2012,
[https:// www.adventuresportsnetwork.com/transworldbusiness/thebusinessofbuildingaustralias-convicskateparks](https://www.adventuresportsnetwork.com/transworldbusiness/thebusinessofbuildingaustralias-convicskateparks)

DESIGN GLOSSARY

Aesthetics: in accordance with principles of good form, accepted standards of beauty in appearance.

Burnish: polish by rubbing, often employing a burnishing tool, depending on the material to be polished; metals and ceramics are more often burnished than concrete.



Above - Clockwise: Adam Goodrum, Detail of the angular fin like leg of the *Concrete Bench*, 2014. Photo: Joshua Ayett;
Adam Goodrum, *Concrete Benches for Ovolo Nishi (formerly Hotel Hotel)*, Canberra, 2014. Photo: Joshua Ayett.
Adam Goodrum in studio. Photo: Simon Whitebread

Adam GOODRUM

Adam Goodrum's fascination with building 'things' started at an early age in the family's back shed making objects to support his surfing lifestyle. Currently recognised internationally as one of Australia's leading Industrial designers Goodrum often acknowledges the role played by his early love of making objects and the importance of those foundations to his personal design philosophy.

The work: CONCRETE BENCH

What we see

Goodrum has created a large concrete slab which sits on two finely sculpted fin-like legs whose delicate angular edges provide a contrast to the solid qualities of the bench top. He has applied no finish to the raw concrete surface making it serviceable for its placement in an outdoor environment in Canberra City centre. The knee high bench is placed to complement nearby concrete seats which together provide an all weather outdoor **utilitarian** facility for the general public.

The Designer

Adam Goodrum was born 1972 in Sydney and grew up in Perth. While at school he combined his love of art and maths to fulfil another of his passions, making of objects. His younger years were spent in the back shed with his father or friends making roof racks or other surfboard accessories. As a fan of Lego he was challenged by its flexibility which allowed him to create his ideas. The simplicity of Lego's construction and bright colours, Goodrum acknowledges, were an important starting point for his creative mind. Leaving school Goodrum had planned to do a Visual Arts course. However he changed his mind when he was introduced to the possibilities of industrial design as a career path. To follow this new direction he enrolled at the University of Technology (UTS) in Sydney where in 1993 he graduated with a Bachelor of Industrial Design.

Although Goodrum basically works as a one-man business he does **collaborate** on projects with various groups of highly skilled professions who can provide the expertise he needs at the time. He has won many awards which have been important in establishing his reputation locally and internationally. They include the Bombay Sapphire Design Award in 2004 for his *Eve chair* and more recently in 2005 the prestigious Rigg Design Award for his flat pack folding houses installation called *Unfolding*. In Australia he has contributed furniture designs to leading furniture firms including Tait, Cult and Dessein. His international clients include Capellini, Alessi, Norman Copenhagen, Veuve Clicquot and Wallpaper. In addition to his business Goodrum is also in demand to share his knowledge by giving lectures in an Industrial Design course at UTS.

Context for the work

When the Molonglo Group of developers were planning Hotel Hotel (now renamed Ovolo Nishi) in the New Acton cultural precinct of Canberra they commissioned some local designers to contribute to the project. **Lou Weis** of **Broached Commissions**, was approached to help with design elements of the hotel for which Goodrum made his contribution. Goodrum has a working history with Broached Commissions so they researched and reflected on their final choice of decorative style collaboratively. **Walter Burley** and **Marion Mahoney Griffin**, the founding architects of Canberra, were selected as a basis for their single edition pieces for the hotel and its surroundings.

In addition to the concrete bench on display in the exhibition Goodrum designed a selection of pieces for Hotel Hotel such as outdoor concrete tables, wooden furniture for the bar area and glass pendant lights.

Methods and materials

Goodrum used precisely constructed aluminium moulds for casting his Griffin inspired concrete benches, now scattered around the environment surrounding the Ovolo Nishi hotel. He chose concrete, not only because it was cost efficient, but its finish complemented the urban environment in which the benches were placed. Concrete is hard wearing in an all-weather setting.

Designer's statements

*"The Griffins were a strange blend of **modernist** and **spiritualist** and this can be clearly seen in the suburb they co-created; their one true Australian Utopia, Castlecrag, on Sydney's lower North Shore. Some of the decorative fin-like rock formations at the front of some of the residences inspired the concrete bench."*

JamFactory CONCRETE: ART DESIGN ARCHITECTURE, Exhibition wall caption

"Every job is different, you've got to respond in a different manner,"he says, describing projects "where you've really got to think commercially... and keep production costs down."This is in contrast to his Broached Commissions work, for instance, which is "quite academic and high-end design."

www.indesignlive.com/the-peeps/indesign-luminary-adam-goodrum

Other perspectives

"As one of Australia's leading industrial designers, Adam Goodrum is world renown for his design innovation and distinct Australian aesthetic. Focusing on furniture, product and interior design, Goodrum delivers progressively original, intelligent and award winning collections, highly regarded for commercial and retail applications."

<http://madebytait.com.au>

Glossary

Collaborate: working cooperatively on an activity or project.

Modernist: art (and craft) movement established in 1919 with the opening of the Bauhaus school of design in Germany. A Bauhaus philosophy, 'form follows function', decided that the appearance of an object should be governed by its purpose, or function. Functionality, mass production and use of modern materials were important influences in modernism.

Spiritualist: of a spiritual nature, pure of heart, godliness, a belief that all humanity is spiritually linked.

Utilitarian: designing to make something that is useful and practical rather than decorated to be attractive.

Walter Burley and **Marion Mahoney Griffin:** Walter was a town planner who collaborated with his wife Marion, an experienced architect with excellent architectural drawing skills. In 1912 they won the competition to create the design of Australia's new federal capital city, Canberra. They arrived in Australia in 1913 but left the project in 1921 after many issues and disputes about the implementation of their original concept. They stayed in Australia for another 30 years contributing many contemporary buildings and planned environments into Australia's architectural landscape, particularly Castlecrag in Sydney. The Griffins were two of the first Modernist architects to work in Australia.

Lou Weis of Broached Commissions:

"Broached is a research driven design studio. We start with a context such as the Colonial Period, and work with scholars and curatorial experts in that context to develop a design response that connects our past to our present condition."

www.meltingbutter.com/the-curators-broached-commissions-lou-weis-on-rethinking-australias-cultural-aesthetic/

DESIGN QUESTIONS: Adam Goodrum

1 CULTURAL

Describe any Australian qualities visible in Goodrum's design work.

2 PERSONAL/SUBJECTIVE

What personal values influence this designer-maker?

Research the developing career of Australian designer Adam Goodrum and describe how aspects of his personal background and values have impacted on his design work.

3 FORMAL/STRUCTURAL

Explain why Goodrum chose concrete for his bench.

4 CONTEMPORARY/POSTMODERN

Taking into account concrete's long history as a building material, explore developments that have transformed this material into the foremost construction material of contemporary times.

Describe which aspects of Goodrum's furniture designs make him an important contributor to contemporary trends in interior design.

Links to begin your research and sources

<http://thedesignfiles.net/2016/09/adam-goodrum-interview-with-Adam-Goodrum>

<http://thedesignfiles.net/2015/04/hotel-hotel-and-the-nishi-building-Goodrum-and-Broached-Commissions>

<http://www.indesignlive.com/home-slides/the-rigg-design-prize-Goodrum's-latest-award>

<http://www.indesignlive.com/the-peeps/indesign-luminary-adam-goodrum-review-of-Goodrum's-career-path>

Source:

CONCRETE: ART DESIGN ARCHITECTURE Exhibition wall caption, JamFactory, 2019

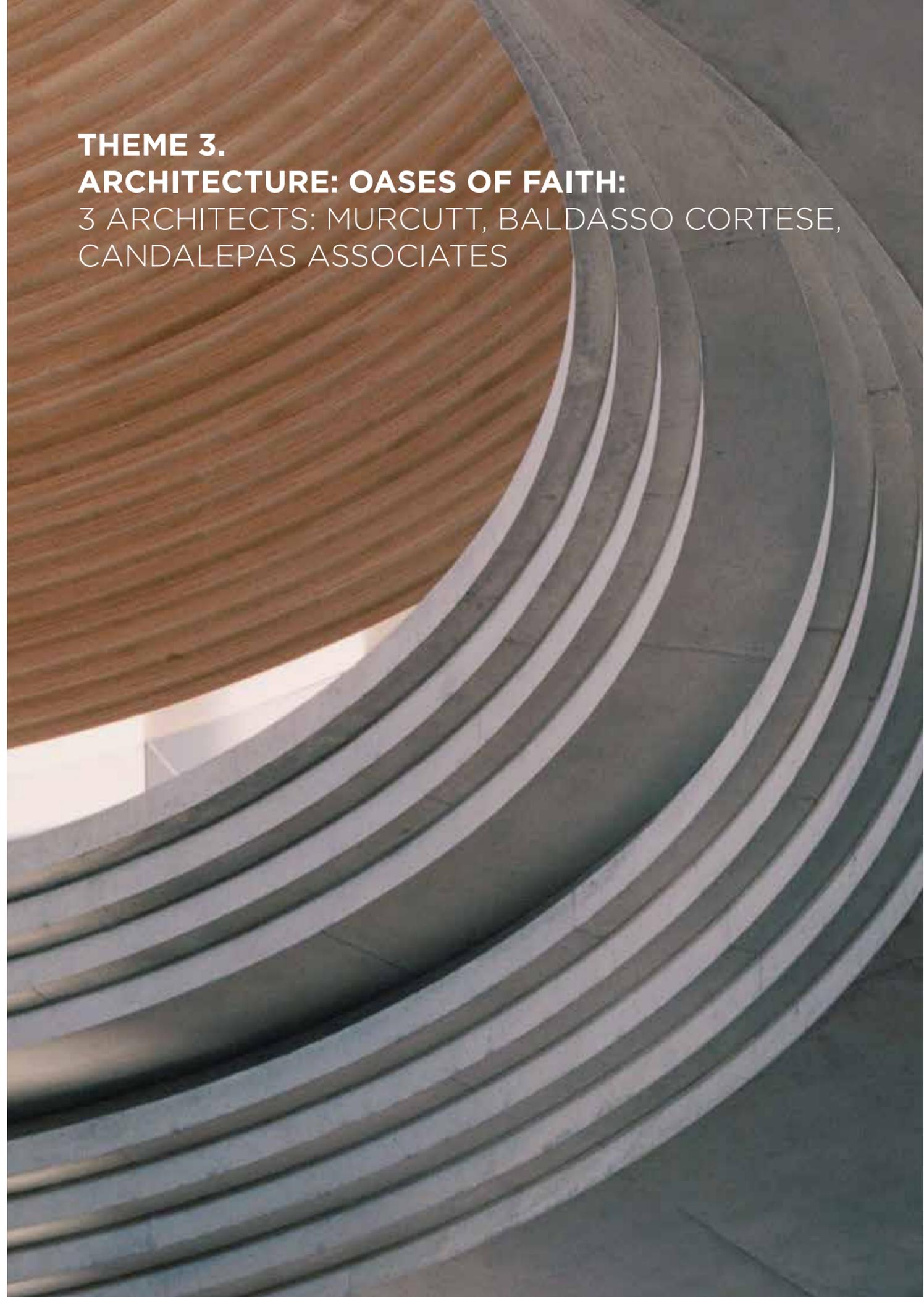


Above: Adam Goodrum, Detail of the angular fin like leg of the *Concrete Bench*, 2014. Photo: Joshua Ayett.
Right: Candalepas Associates, *Punchbowl Mosque*, 2018 Concrete ring to timber dome and oculus. Photo: Rory Gardiner

THEME 3.

ARCHITECTURE: OASES OF FAITH:

3 ARCHITECTS: MURCUTT, BALDASSO CORTESE,
CANDALEPAS ASSOCIATES



OASES OF FAITH

bold terms appear in the Architecture Glossary at the end of Oases of Faith section.

Glenn Murcutt & Hakan Elevli: *The Australian Islamic Centre*, Melbourne Victoria 2017
Baldasso Cortese Architects: *Tarrawarra Abbey*, Tarrawarra, Victoria 2017
Angelo Candalepas and Associates: *Punchbowl Mosque*, Sydney New South Wales 2018

Oases of Faith explores the use of concrete in three contemporary faith buildings for religious communities; *The Australian Islamic Centre* in Melbourne, *Punchbowl Mosque* in Sydney and Victoria's *Tarrawarra Abbey*. Concrete was preferred by these three architects for its economy and versatility including

- load-bearing strength
- wide diversity of possible surface finishes
- capacity to be cast into difficult shapes (see *Punchbowl Mosque*)
- sustainability for its economy calculated over the total years of use
- reliable durability, lasting for decades
- fire-resistance

Glenn Murcutt

The work: The Australian Islamic Centre



Above: Glenn Murcutt, *The Australian Islamic Centre*, 2016 Newport, Victoria. Photos: Anthony Browell

What we see

The Australian Islamic Centre is **contemporary** rather than designed in a traditional **Arabic** or **Ottoman** style. Glenn Murcutt's discussions with his client community revealed they wanted a mosque relevant to their current lives; more open and transparent, an accessible building for all visitors both Muslim and non-Muslim. Their new mosque is a white two-storey concrete building set well back from the street. Across an open **entrance court** we can see through plate-glass doors into a light filled interior.

Murcutt replaced some traditional mosque features with contemporary Australian versions. The open entrance court replaces a traditional walled courtyard for secluding worshippers from the outside world. A **minaret** tower for the **muezzin's** calls to prayer, deemed unnecessary as worshippers now have personal time-keepers reminding them of prayers, is replaced by a grand wall. It shelters the open entrance court and holds high a **crescent moon** symbol identifying the building as Islamic. The wall is triangular like a 2D peaked mountain, with the gold sculpture held aloft at its pinnacle acting as a landmark on the street.

Instead of a **dome** traditionally representing the Heavens, Murcutt brings daylight into the main prayer hall through an array of golden roof-**lanterns**, like a high band of **castellations** above the **facade**. They 'crown' the building, their hand-painted gold surfaces gleaming in the sun.

Murcutt had to retain several mosque traditions; female and male worshippers have separate entrances to their own washing areas and prayer spaces, both entering from the public entrance court. A grand enclosed staircase to one side is how women ascend to their upstairs prayer room, while male worshippers enter at ground level. A **minbar** and **mihrab** remain features of the downstairs prayer room.

The Architect

Glenn Murcutt is Australia's best known architect and although he used concrete for Newport, he normally specialises in **sustainable** lightweight buildings. His design philosophy of 'treading lightly on the earth' is widely admired as minimising environmental impacts of his buildings. According to *Architecture Week* magazine (17 April 2002),

'Murcutt selects materials that have consumed as little energy as possible in their manufacture, and will consume as little as possible in the operation of the house (building).'

<http://www.nma.gov.au/defining-moments/resources/glenn-murcutt>

Murcutt used concrete for Newport instead of lightweight materials, because of its other eco-benefits. (See section below titled **Is Concrete Sustainable?**)

Australia's most awarded architect, Glenn Murcutt has won every major Australian architecture award and in 2002 was Australia's first winner of the world-famous **Pritzker Architecture Prize**. The world's most prestigious international architecture award, the Pritzker is awarded by a jury of internationally esteemed architects who celebrated Murcutt's intellectual rigour over his life's work. They praised his disciplined application of his design philosophy and his vast body of work.

Glenn Murcutt took on Australian **modernist** thinking as a young person. He understood the benefits of lightweight buildings from his early childhood spent in a remote valley in eastern tropical Papua New Guinea. There, his father Arthur, a gold miner, had built a lightweight family house using local and found materials.

'... the family home built by his father...had a roof of lightweight, corrugated iron and was perched on long stilts to keep out water and animals. His time in New Guinea taught Murcutt what he calls, 'the architecture of the essential'.

<http://www.nma.gov.au/defining-moments/resources/glenn-murcutt>

Following their move to Manly in Sydney, Glenn watched his father's work as a joiner, designer and builder of clients' houses. Glenn's interest in the **contemporary** (in the 1950s and 60s) international modernist style of architecture grew by seeing overseas trends in Arthur's architecture magazines. As a young man Murcutt studied architecture part-time at Sydney's Technical College before starting with a firm called Anchor Mortlock Murray and Woolley (AMMW) in 1962.

Murcutt was part of a push at AMMW to develop an Australian response to the International Modernist style he had admired in his father's magazines. A 'Sydney School' of architecture grew amongst the firm's young architects, independently creating a local Australian style for local conditions. Sydney School architects pioneered the use of unadorned materials left in their untreated state if possible, like naturally occurring colours of unpainted corrugated iron sheeting, raw galvanised surfaces and natural wood finishes.

Murcutt left AMMW in 1969 to work alone which he has done mostly ever since:

This independence (of working solo) to experiment has contributed greatly to the development of Murcutt's distinctive style. However, in the few larger projects he takes on, the Newport Mosque in Melbourne for example, he often works with younger architects.'

<http://www.nma.gov.au/defining-moments/resources/glenn-murcutt>

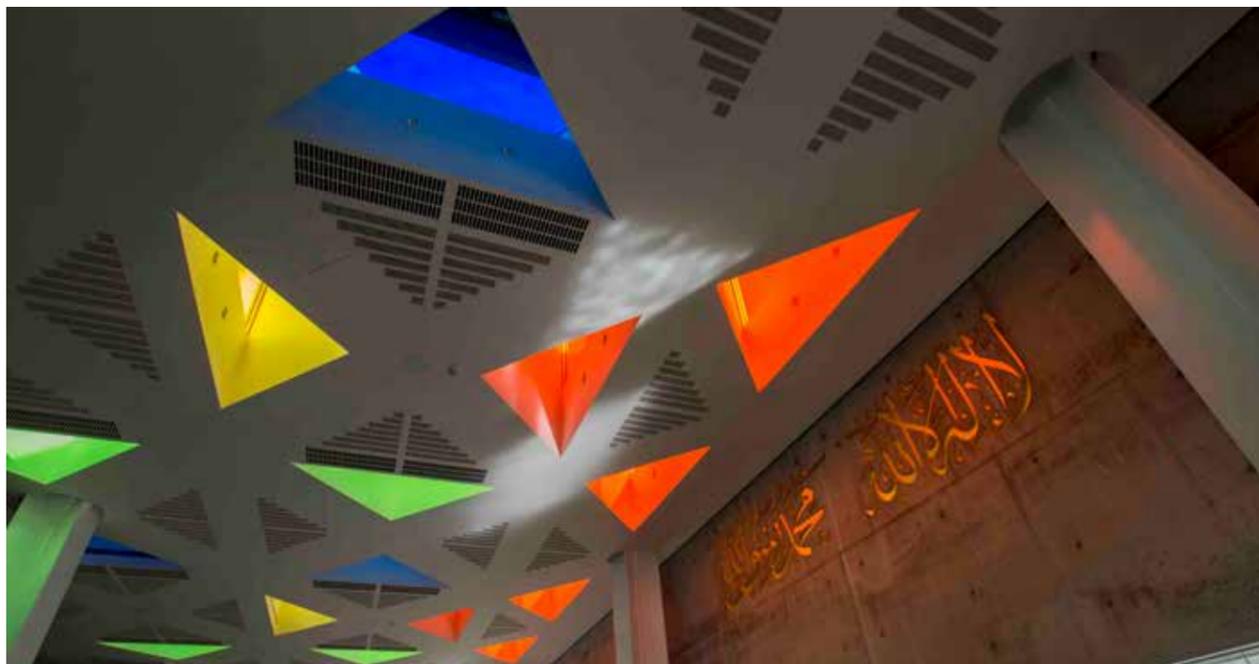
The Newport project introduced him to Hakan Elveli, a young Muslim architect luckily from the same Newport Community in Melbourne. Hakan Elveli became Newport's man-on-the-ground in Melbourne connecting Sydney-based Murcutt with Newport's long complex build.

Murcutt's **signature style** refers to local **vernacular** buildings. Frequently travelling overseas he examines traditional vernacular houses and villages, looking at their sustainable qualities from adapting to local environments. In Europe and America he saw simple, locally relevant buildings built by owner-builders on farms and in small settlements. Local vernacular influences seen in Newport's appearance include its relatively low scale in a residential community of single storey suburban houses.

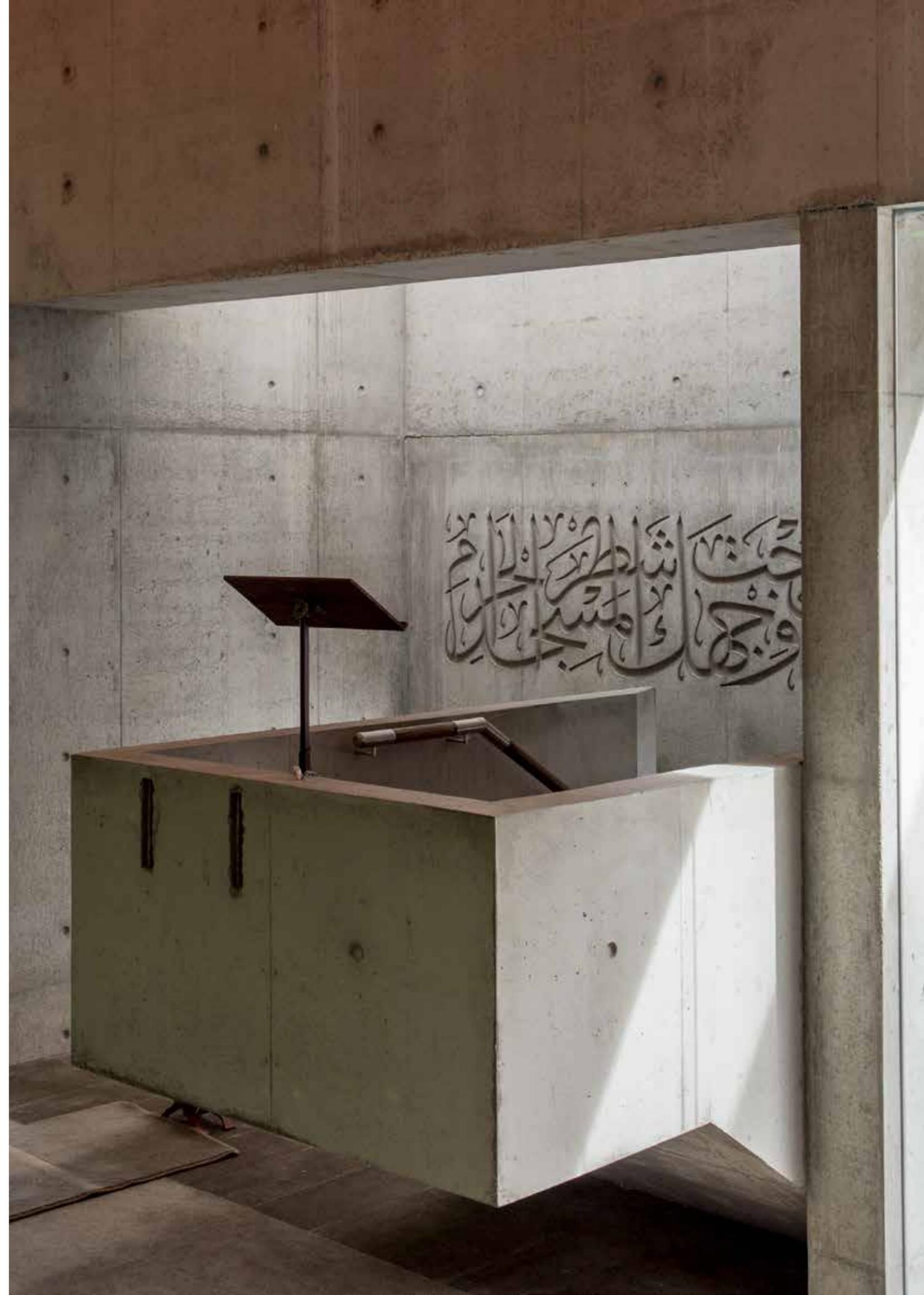
Newport mosque pre-occupied Glenn Murcutt at a tragic time of his life following the untimely death of his beloved son Nick, also an architect, in 2011.

Context for the design

Newport's Islamic community is aware of Islam's struggle with its public image in this country. Hoping to change those perceptions through architecture they wanted an inviting and open building, more transparent and inclusive than traditional mosques. Newport's Mosque is stage one of a three-stage development called the Australian Islamic Centre, which will eventually have public spaces and a library, a restaurant and cafe and several meeting teaching spaces.



Above: Glenn Murcutt, *The Australian Islamic Centre*, 2016 Newport, Victoria. Photos: Anthony Browell
Right: Glenn Murcutt, *The Australian Islamic Centre*, 2016 Mihrab (prayer niche). Photo: Anthony Browell



Methods and Materials

Murcutt believes building processes should be visible in the finished result. Murcutt wanted marks made by **the timber formwork** to show as wood grains and join marks on the mosque's surfaces. This technique has several names including **timber-boarded** concrete. Murcutt controls the final look of his cast surfaces by designing particular formwork with strong wood textures and noticeable joints.

Murcutt believes constructing and shaping concrete by **casting in-situ** is more **sustainable** than bringing in **pre-cast** slabs. In Newport this philosophy led to casting his concrete on site (insitu) rather than elsewhere and transported in.

Murcutt used a limited range of materials in the mosque for greater cohesion of design. While concrete is the main material for construction and most interior finishes, blue glass walls and clear windows provide day light. Wood, metal and coloured light add contrast and patterning, while gold and water are symbolic materials traditionally part of Islamic mosques.

Gold is an exception for Murcutt's design philosophy as it is not a construction material. Gold in Islam embodies the yellow colour of sunrise and Paradise, meaning the Future. Murcutt added gold to a few key locations in the mosque: the gold crescent-moon at the highest point of the entrance wall pinnacle and in giant gold wall-texts, made with **embossed calligraphy**, on several interior walls.

Gold texts from the Koran appear on several significant walls as on the **minbar** wall. The words were cast in-situ as inverse or **sunken relief** (like **intaglio**). To cast the words, special formwork was fitted in the shapes of reversed text words to protrude into the wall mould space, before being filled with concrete. When set and the formwork removed, the text was revealed as shallow indentations in a curving sweep of Arabic script. Now clearly visible as indented gold words, they have been hand-gilded with gold leaf.

Water, like gold, is present in all mosques and appears throughout Newport as a symbolic element, connecting this new building with its long Islamic history. Muslims regard water as a gift to all people equally, like air and light, that links each worshipper to wisdom and purity. Water is honoured in the Islamic tradition of water-gardens where running water and still-water pools reflect the sky (the Heavens) while living water plants represent life. Running water is provided in separate areas for men and women to wash away any impure thoughts or actions before prayer.

Ponds feature in Newport, planted with lilies and reeds to remind worshippers of the natural world's greater dimensions than themselves. One outdoor pond is seen through glass behind the **qibla wall** and **minbar** to be visible from inside the prayer hall. Like an enclosed water garden, this pond is open to the sky and effected by storms and rain while worshippers are at prayer.

As a **modernist** designer Murcutt restricts his colour palette to the natural colours of his building materials. White (light-grey) is the mosque's dominant colour from its concrete construction seen throughout the interior. Pale blue is the tint-colour of plate-glass walls which are patterned with triangles echoing **tessellated** tile and mosaics often seen in traditional Islamic mosques. Murcutt also made a triangle pattern in the Prayer Room ceiling with coloured light from this roof lanterns

Light is not usually regarded as a 'material'. However Murcutt has used colour and light for the mosque's most dramatic patterning. For the triangular pattern seen in the high prayer room ceiling Murcutt devised a complex infrastructure of roof-lanterns and light-well holes in the roof. He cast concrete in formwork to make an array of 56 **lanterns** (like triangular sheds), in which two sides of each lantern were cast onto the roof **slab**. A large clear window makes the third side of each lantern. Light feeds down from the windows through large triangular 'holes' (like light-wells) in the deep roof/ceiling slab and into the prayer room.

Although this light appears to be coloured, the colour comes from light illuminating the brightly coloured sides of each light-well. These coloured light wells are coloured voids in the ceiling, each painted in one of four symbolic colours which glow as vibrant day light and direct sunlight streams in.

Islam attaches meaning to the colours yellow, green, blue and red. Murcutt's coloured triangles are in these four colours and are arranged in the ceiling according to their meaning. This ceiling replaces a traditional **dome** normally representing the Vault of Heaven and painted with a blue sky with yellow stars.

Murcutt's lanterns are arranged to correspond with the pattern in the ceiling below, and face in one of the four cardinal directions, making the ceiling pattern relevant to the meaning of the colours.

- Yellow represents Paradise, the concept of Future. The yellow light-wells are lit by east facing lanterns as they catch the first light of day. The rising sun shines directly into east facing lantern-windows, making yellow triangles in the prayer room ceiling. These all face east.
 - Green represents the natural world: light coming through north facing lanterns then down into green light-boxes makes green triangles inside all facing north.
 - Blue is for the Heavens; these lanterns face south to catch constant day light without direct sun. Blue triangles face south on the ceiling below.
 - Red light represents strength and human endeavours: it comes from west-facing lanterns catching the setting sun. Red ceiling triangles all face west.
- During the day the quality of light brightens and softens as the sun moves across the sky.

The Lanterns appear gold from the street; textured gold patterning, hand-painted by the Mosque's community, covers their concrete sides. Up on the roof they appear as tall boxes or turrets, set close together in rows filling the flat roof space. Each one is over 2 metres tall, with space to walk between them. Hand-painting adding an organic hand-crafted element to their surfaces, in a textile-like chequered pattern.

Air is ventilated through Murcutt's light-well/lantern structures. He designed a passive air-circulation system with the lanterns as flues, venting rising warm air up through the light wells to escape outside through slat-vents above the glass windows. In this way the lanterns serve the purpose of 'sucking' out the warm air from inside, to be automatically replaced by cooler air coming in to the building at ground level.



Above: Glenn Murcutt, *The Australian Islamic Centre*, 2016. Photo: Anthony Browell

Architect's statements

'As a one-man office, I have been able to experiment with wind patterns, materials, light, climate, spaces and the characteristics of the site'.

<http://www.nma.gov.au/defining-moments/resources/glenn-murcutt>

Murcutt on the positive effects architecture can offer society; *'Im putting forward the idea that, in a society that is anti-Islam, we can produce some work that actually can bring Islam back into our community to become an addition to our culture'* Glenn Murcutt, speaking to Pritzker laureates (past prizewinners) at the United Nations in New York, 2016.

On being asked to design Newport's mosque by the Community:

'Of course I was excited by the possibility, but working outside one's city and experience of designing a mosque, for a sole practitioner, had its special difficulties. Knowing how difficult it is to achieve the level of architecture that makes a new project worthwhile, excitement can easily be overtaken by nervousness. I wanted to work with an architect from an Islamic background, in equal collaboration. Hakan Elevli was suggested, a meeting took place and he joined the project'.

Ewan McEoin Published courtesy of NGV, Melbourne

<https://www.ngv.vic.gov.au/essay/the-australian-islamic-centre-in-newport-melbourne/>

He (Murcutt) became the lead designer, aided by Elevli, a Turkish migrant who grew up in a Collingwood housing commission flat. Murcutt had the design thinking, Elevli the experience with mosques and documentation skills. Murcutt says not being Muslim helped him. "One does not have to be of a faith to design a religious building. In fact, it's probably better to know little about a building type prior to developing a solution – greater possibilities and freedom, I would think."

By Michael Bleby, Australian Financial Review Magazine, June 23, 2016 <https://www.afr.com>

'50% of the Mosque's walls are visible concrete, with glass forming the other 50%'

***Vimeo: The Newport Mosque-Glenn Murcutt and Hakan Elevli** Images and Glenn Murcutt and Hakan Elveli speaking about Newport.

Other perspectives

Ewan McEoin, curator of Murcutt's recent exhibition at the National Gallery of Victoria (NGV) described Newport Mosque in his exhibition catalogue as ...

"A large east-facing ground-floor courtyard and undercover verandah form the mosque's entrance zone, including different access points for men and women. The expansive verandah offers a generous gathering space reminiscent of traditional mosque sahn courtyard) and provides additional space for large congregations, such as those that gather during Eid prayer.

To the south, the courtyard and verandah are bordered by a slender water pond and shielded on one side by the expansive minaret wall. Beyond the verandah, glass doors open directly onto the double-height volume of the main prayer hall. A clear line of the sight is maintained from outside the mosque right through the prayer hall to the main mihrab, qibla wall and water gardens."

by Ewan McEoin,

www.ngv.vic.gov.au/essay/the-australian-islamic-centre-in-newport-melbourne

Jorge Silvetti, an admired Argentinian architect, one of the jurors for the 2002 Pritzker Prize, commented that

'The architecture of Glenn Murcutt surprises first, and engages immediately after, because of its absolute clarity and precise simplicity – a type of clarity that soon proves to be neither simplistic nor complacent, but inspiringly dense, energizing and optimistic. His architecture is crisp, marked and impregnated by the unique landscape and by the light that defines the fabulous, far away and gigantic mass of land that is his home, Australia.'

<http://www.nma.gov.au/defining-moments/resources/glenn-murcutt>

ARCHITECTURE QUESTIONS: Glenn Murcutt

1 CULTURAL

Explain how Glenn Murcutt addresses Islamic cultural traditions in Newport Mosque.

2 PERSONAL/SUBJECTIVE

Research and evaluate how Glenn Murcutt's design philosophy of 'treading lightly on the earth' connects with his concrete mosque in Newport.

Explore the origins of Murcutt's signature style and his attitudes towards materials being left 'to speak for themselves'. Describe evidence of this aesthetic style throughout the Newport Mosque.

3 CONTEMPORARY/ POST MODERN

Newport Mosque is considered to be a contemporary mosque. Describe how Glenn Murcutt provided design solutions to the contemporary concerns and perspectives of his client community.

4 FORMAL/STRUCTURAL

Describe how Glenn Murcutt achieved the forms of this mosque. Include the front wall sheltering his open courtyard and to the pattern of ceiling holes in the ground floor prayer room.

Explore how Murcutt made triangular 'holes' in the prayer room ceiling to function as light wells. Make a scale model of one of Murcutt's lanterns to show their dual functions as light-wells and air ducts.

Links to begin your research

Images & interview (Glenn Murcutt and Hakan Elveli) about Newport:

<https://www.architecture.com/knowledge-and-resources/knowledge>.

Vimeo: The Newport Mosque - Glenn Murcutt and Hakan Elevli

Murcutt's 'extraordinary enlightenment': Australian Islamic Centre ...

<https://architectureau.com/.../murcutts-extraordinary-enlightenment-australian-islamic>

Ewan McEoin, www.ngv.vic.gov.au/essay/the-australian-islamic-centre-in-newport-melbourne

Sources for Islamic Architecture:

Introduction to mosques: <https://www.khanacademy.org/humanities/art-islam/beginners-guide-islamic-art/a/introduction-to-mosque-architecture>

Masjid or Musallah? - Ummah.com - Muslim Forum

<https://www.ummah.com/forum/.../293763-masjid-or-musallah-an-excellent-read>

Water in Islam: <https://www.ecomena.org/water-islam>

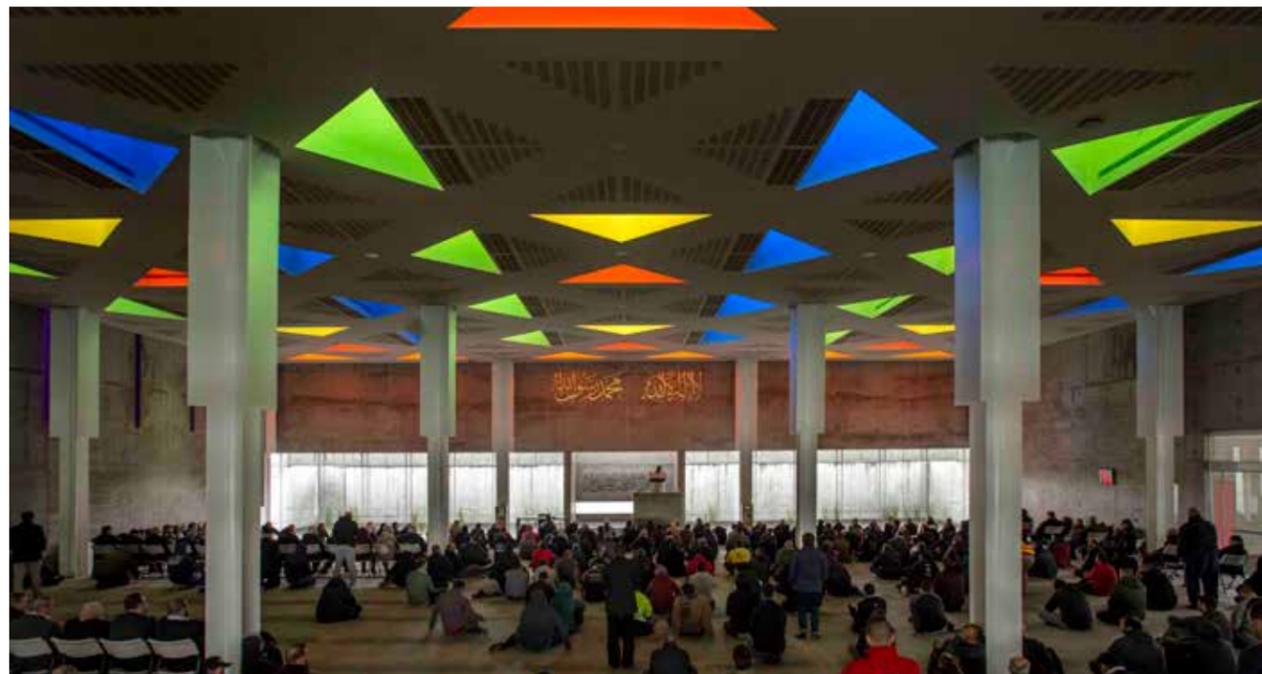
Patterns in Islamic art:

<https://classroom.synonym.com/what-do-patterns-mean-in-islamic-architecture-12087246.html>

Gold in Islam: <https://www.philamuseum.org/exhibitions/735.html>

Further examples of CONCRETE ARCHITECTURE and ARCHITECTS

- * Canberra bus stops, 477 in total, designed 1974 by Clem Cummings, Canberra, Australia (Australian Brutalist)
- * Barbican Centre 1981, by Chamberlin Powell and Bon, London, UK (Brutalist)
- * Church of Light, Tadao Ando, Japan, completed 1999 (International Style)
- * High Court of Australia, by Colin Madigan, Canberra, Australia (Aus Brutalist)
- * Indigo Slam Building, by Smart Design Studio, Sydney, Australia 2016 (Contemporary)
- * MAXXI: Museum of XXI Century Arts Rome, Italy (completed 2009) by Zaha Hadid (award winning female Iranian architect) features curved walls
- * National Gallery of Australia, by Colin Madigan Canberra, Australia (Aus Brutalist)
- * Sagrada Familia Cathedral, by Antonio Gaudi, 1920s - 2018 Barcelona Spain (modern Gothic)
- * Serpentine Pavilion, by Frida Escobedo, 2018, Hyde Park, London UK (Contemporary)
- * Sirius Building, The Rocks, Sydney, by Tao Gofers, 1978 -79 (for NSW Housing Commission) Australia (Aus Brutalist)



Above: Glenn Murcutt, The Australian Islamic Centre, 2016 Triangular Lanterns. Photo: Anthony Browell

OASES OF FAITH

Baldasso Cortese Architects: Tarrawarra Abbey



A fire resistant concrete bunker-residence has been added to an existing monastery site of wooden buildings. The new bunker has work rooms, a gymnasium, a tailors' room, kitchen and bathrooms. Tarrawarra Abbey is a monastery home for 16 Cistercian (a Catholic order) monks set on 400 hectares of grazing land at Yarra Glen in Victoria's Yarra Valley, 60 kilometres north-east of Melbourne. Monasteries are secluded self-sufficient residential quarters for religious communities, often including food gardens, work places for income-generating activities and spaces for study, guests and worship.

'Based in medieval traditions the order is known as "the working monks" because they live off agrarian and hand-crafting activities. At Tarrawarra the monks make and market Eucharistic bread, run a beef herd, grow their own vegetables and sew their own habits.'

Article from Domain, by Jenny Brown, August 3, 2018 'Holy Smokescreen: The creation of a robust bunker for 16 agrarian monks'

<https://www.domain.com.au/news/holy-smokescreen-the-creation-of-a-robust-bunker-for-16-agrarian-monks-20180803-h13bm1-756384/>

What we see

Shaped rather like a snake's head in plan, Tarrawarra's concrete bunker is a versatile fireproof residence with work and recreation spaces. At the 'head' a solid concrete building which is an above-ground recreation room, looks out to the rural landscape. Curving away behind it are several more rooms, increasingly enclosed by a sloping **turf roof**. This roof begins at the recreation room's highest point, sloping down into the soil behind workrooms, covering them all, creating a cool, damp and organic surface for extra fire resistance. Rear rooms were cut into the sloping site to make semi-underground spaces for extra fire protection.

Above: Baldasso Cortese Architects, Tarrawarra Abbey, 2016. Photo: Peter Clarke, Latitude.

The high recreation room looks out through tall (4.5 m) floor-to-ceiling windows which flood the space with daylight. These windows are sheltered on the outside by a series of dramatic concrete blades projecting vertically out from the wall. While shielding the windows from direct summer sun or the heat of fires, these blades make a grand architectural statement for this modest monastery.

Timber-boarded concrete was **cast in-situ** to make this room's robust exterior walls. Timber boarding makes pronounced surface imperfections which is the most obvious feature of the new Abbey's appearance. These intentionally created textures and patterns occur when concrete is poured into **formwork** constructed of timber boards, especially chosen for their board-width (rather than made of smooth sheets of ply wood) and their deliberately made rough texture.

This timber board texture softens the distinctive grey concrete so that, when combined with the sloped green roof, the bunker will merge into its surroundings to look increasingly part of its larger landscape.

The architects

Melbourne architectural practice Baldasso Cortese is a team of 57 people and is the professional life of founding architects Anthony Baldasso and Steven Cortese, who established it in 1987 as a two-man business. Their success lies in their strong design skills honed through a collaborative partnership over 31 years; they have expanded to an office in Christchurch, New Zealand.

Baldasso Cortese's design priority is to create sustainable built-environments and working collaboratively with their clients. In preference to working for the corporate world they prefer working with community groups, with the care and life-style sectors and the education sector. Tarrawarra's commission for a small monastery appealed to their community thinking.

Baldasso Cortese's **signature style** explores qualities in their structural materials and devises interesting lighting in large airy spaces. Their philosophy insists that structural materials like steel, glass, wood and concrete are celebrated as key elements in the finished appearance of their work.

A major inspiration for Baldasso Cortese is the iconic **modernist** Brazilian architect, **Oscar Niemeyer** (1907 – 2012) one of the 20's architectural stars. Concrete is attractive to Baldasso and Cortese because of its **plasticity**, its quality of being malleable into any form, which allows the construction of any shaped building form, large or small (see Canberra's **Brutalist** bus-stops).

Baldasso Cortese's folio of Melbourne projects include central city redevelopments, as at 276 Flinders Street Melbourne; community health services like the Rumbalara Health Services Clinic in Mooroopna, Victoria; community schools like St Mary of the Cross Primary School and community projects like the Tarrawarra Abbey.



Above and right: Baldasso Cortese Architects, *Tarrawarra Abbey*, 2016. Photo: Peter Clarke, Latitude.

Context for the work

Since taking over this picturesque property on the Yarra River in 1954, the community makes use of religious and farm buildings to support their **sustainable** way of life. A precious weatherboard church and all original work buildings are made of timber weatherboards cut from nearby forests making this little farm settlement extremely vulnerable to fire.

Having luckily escaped tragic Black Saturday bush fires nearby in 2009, the monks wanted a fire-resistant and low-energy-consuming residential bunker: concrete was the obvious choice of material. The brief had to provide for the community's long term survival in an emergency. Because Tarrawarra's monks are self-sufficient farmers and graziers, bakers and tailors who often host visitors staying for religious retreats they required fire resistant accommodation and assembly areas for residents and visitors.

Professional work rooms inside the bunker allow tailoring and baking work to continue, supplying monastic garments and Eucharist bread around Australia. Health facilities with a gym and bathrooms provide for fitness regimes and physical care to continue should there be an emergency.

Methods and Materials

Fireproofing the bunker required several strategies. Concrete itself is a primary fire-retardant and taking advantage of the site's gentle slope by half-burying some of the bunker under a turf roof, making it almost invisible from its southern view, are clever solutions.

To connect the bunker with its surrounding timber environment exterior walls were timber textured during the casting process, by **timber boarded formwork**. From their understanding of creative formwork, Baldasso Cortese softened the bunker's concrete bulk with horizontal bands and wood texture on its concrete surface. Design Director Steve Cortese explains 'It was important this building have a handcrafted appearance as a genuine response to its rural context'.

Yarra Valley's local **vernacular** style of wooden plank farm buildings is mimicked by the bunker's timber-boarded surface. Rather than looking out of place, chunky, grey and smooth the bunker now visually unifies the site by linking with the timber character of the monks' rural settlement. The texture will encourage weathering mosses and dust to fill the texture with **'patina'** in a short time.

Several motifs of a Cistercian-cross are embossed on two external walls to identify the Abbey. Noticeable by their smooth **rebated** outlines they were cast as **inverted relief** during the concrete pour. The building's thermal performance is assisted by double glazed windows as well as the **turf roof** and thick walls. Other materials in the Abbey are local materials with simple easy-to-maintain finishes;



The idea of embedding the building into the hill came from another Australian firm called ASPECT Studios. A landscape architecture firm, ASPECT also suggested Tarrawarra's green roof be built with an irrigation system that could be turned on during danger times to wet the planted roof.

Source: www.domain.com.au/news/holy-smokescreen-the-creation-of-a-robust-bunker

Tarrawarra's sloping roof-meadow of local grasses and flowering plants also helps the bulky concrete bunker fit into its rural context by almost hiding the bunker from its south view.

Sustainability features of Tarrawarra 's bunker are embodied in its intended longevity and fire proofing design. As well as being fire resistant, concrete's thermal mass enables temperature control during the day by regulating ambient temperatures to a comfortable level for most of the year.

Reduced energy consumed from the grid (by being self generated) for heating and cooling the new building is also achieved by insulating against temperature loss or gain by several strategies: the thick concrete walls; by building directly onto the ground; by cladding the rooms under a thick turf roof and by setting the new rooms partially underground.

Concrete can be a sustainable material under certain conditions (please see the SUSTAINABILITY section for more information).

Architects' statements

'While enhancing the overall aesthetic and requiring minimal maintenance, the green roof comprises a series of layers above the concrete roof deck, including waterproofing membrane, root protection layer, drainage layer, filter layer, growing media, irrigation, ballast and selected grasses & plants.'

'Catering for both recreational activities and workshop duties, the building is a contemporary facility which will complement the monk's lifestyle of simplicity and order in this uniquely Australian setting.'

<https://www.archdaily.com/788954/tarrawarra-abbey-baldasso-cortese-architects>

'The interiors respond to the uniquely rural setting, using natural materials including polished concrete floors and spotted gum timber linings.' Architects Statement:

<https://www.archdaily.com/788954/tarrawarra-abbey-baldasso-cortese-architects>

The architects described their insulation techniques:

'Utilising the inherent protective qualities and thermal mass of in-situ concrete external walls, the design compliments the existing timber buildings on the site and provides a more robust sanctuary. Designed as a fire shelter, the contemporary design cuts into the gentle slope of the site and is topped with a planted green roof.'

<https://www.archdaily.com/788954/tarrawarra-abbey-baldasso-cortese-architects>

Other perspectives

'So inside a robust bunker they asked for a tailor shop, a secure archive store, a fitness area, a disabled bathroom and a multi-purpose room.'

'Reflecting these requirements and the community's character - without being institutional about it, Cortese gave them a rather elegant and mainly above-ground, "free flowing, handcrafted shelter that responds to the landscape".'

Article from Domain, by JENNY BROWN, August 3, 2018 'Holy Smokescreen: The creation of a robust bunker for 16 agrarian monks' <https://www.domain.com.au/news/holy-smokescreen-the-creation-of-a-robust-bunker-for-16-agrarian-monks-20180803-h13bm1-756384/>

ARCHITECTURE QUESTIONS: Baldasso Cortese Architects

1 CULTURAL

Describe several cultural (monastic) aspects required by the monks in their brief for Baldasso Cortese.

2 PERSONAL/SUBJECTIVE

Evaluate the visual relationship Tarrawarra's new concrete building has with its context of vernacular wooden farm buildings and the surrounding context.

3 CONTEMPORARY/ POST MODERN

Explore any influences from Oscar Niemeyer that show in Tarrawarra Monastery's new building.

4 FORMAL /STRUCTURAL

How does the cast surface of Tarrawarra's new building connect with both International Modernism (Brutalism) and contemporary form-work and timber-boarding techniques?

Explain why Baldasso Cortese chose timber-boarding for Tarrawarra's in-situ cast concrete.

Links to begin your research

<https://www.archdaily.com/788954/tarrawarra-abbey-baldasso-cortese-architects>

www.domain.com.au/news/holy-smokescreen-the-creation-of-a-robust-bunker

Landscape Architects, Urban Design Studio

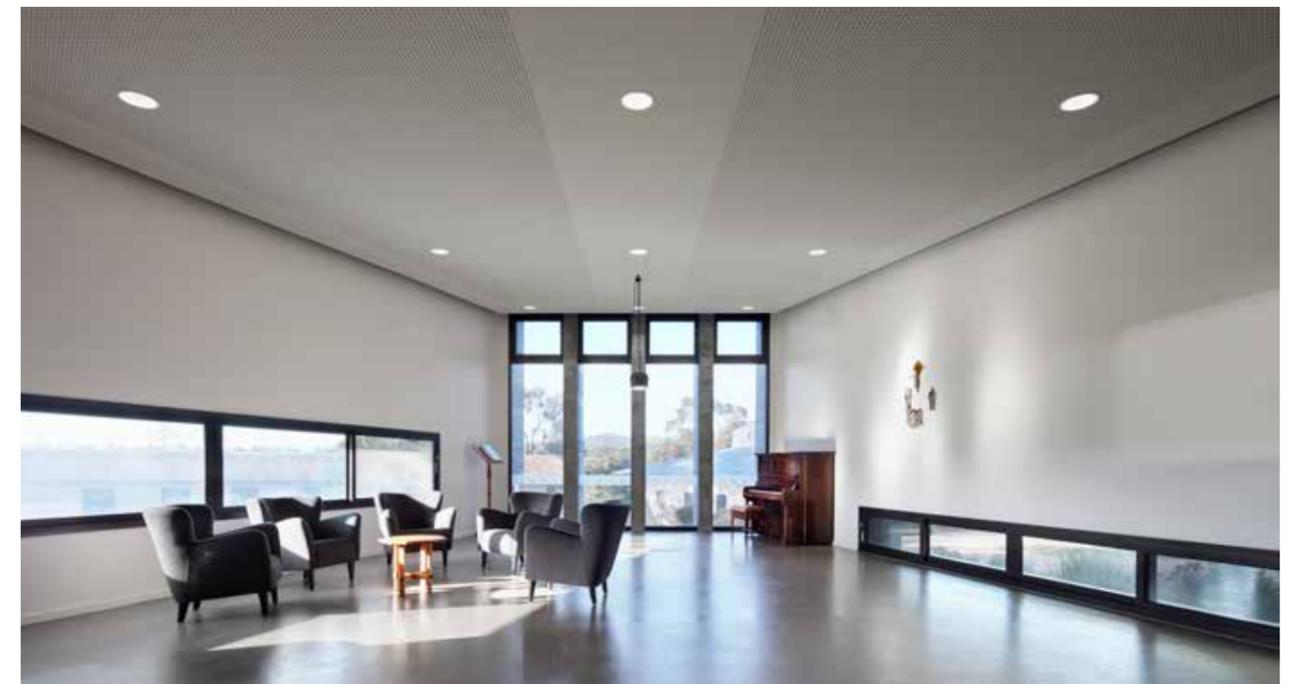
ASPECT Studios Australia, <https://www.aspect-studios.com/au/>

Oscar Niemeyer | The Pritzker Architecture Prize

<https://www.pritzkerprize.com/biography-oscar-niemeyer>

Timber boarding: https://youtu.be/688MeG_RKRM

JamFactory CONCRETE: ART DESIGN ARCHITECTURE Exhibition Catalogue



OASES OF FAITH

Angelo Candalepas

NB Bold terms appear in an architecture glossary at the end of the architecture section.



This mosque is on a quiet residential street in Sydney's south west, a culturally diverse area where 35% of the population identify as Muslim. Following years of patient struggle seeking permission to build their Australian Islamic Mission, Punchbowl's Muslim community was eventually able to commission an architect in 2008. Then in 2018, after ten more years of building work this mosque opened to launch their centre. The whole centre provides a moral focus for worship and social meetings, with its **masjid**, courtyards and a primary school all serviced by an underground carpark.

Surprisingly the community chose a Greek Orthodox architect, Candalepas and his Associates, to design their **mosque**. Despite having early doubts about working for a different religious group than his own, Angelo Candalepas was encouraged to accept their faith in him by his own mentor. He immediately embraced the cross-cultural exchange with his client community, patiently working collaboratively over the next ten years to satisfy their requirements.

What we see

Using concrete, timber and glass Candalepas made a **béton brut** finish of smooth raw concrete throughout the mosque.

Although it is not a traditional looking mosque it retains traditional mosque features. Replacing a **minaret** a solid tower flanks the entrance court and carries the only symbol of Islam seen in this mosque complex, a **crescent moon** and **star** motif, high up on its wall. From the entrance court we go through a low and sheltered doorway which opens surprisingly into a vast expansive and joyous **domed** interior.

Images: <https://architectureau.com/articles/a-99-domed-mosque-opens-for-sydney-architecture-festival/>

Candalepas created an exciting feature, the **murqanas**, a traditional Islamic device of stepped mini-arches that support the dome as it rises high above the prayer room. Candalepas made his murqanas as a fascinating sculptural ceiling that wraps round two adjoining walls, just below the dome. Dark dramatic shadows caused by the murqanas contrast with 102 tiny points of bright day-light shining through like stars, one for each segment, recalling a more ancient form of traditional star-domes.

These 102 glittering pin-pricks of light shine through from the sky outside, adding a heavenly brilliance. This expanse of 'stars' reminds the congregation of their Islamic faith-concept of Allah being the Heavens above, historically represented by stars painted or tiled inside traditional domes. Inside each of 99 of the mini-domes a name of Allah was written in gold by a visiting calligraphy expert, each bearing one of Allah's ninety-nine names. <https://architectureau.com>

The Architect

Angelo Candalepas is a founding director of his firm Candalepas Associates. Now gaining many awards for their Sydney work, his practice is attracting commissions from various faith groups. In the same week he was offered the Punchbowl Mosque commission Candalepas gained three other faith projects, all of which he accepted; a synagogue extension, a church for the Antioch Gospel Church and a rest home to be built by his own faith, the Greek Orthodox Church. As an inclusive designer preferring to work with a diversity of faith clients, he understands their specific faith requirements and belief-themes they might have in common.

This innovative and contemporary Punchbowl Mosque is attracting architecture awards, including the Sir John Sulman Medal in 2017 and last year in 2018 the Australian Institute of Architects (AIA) awarded Candalepas their prestigious National Award for Public Architecture.

Context for the work

Although the brief required Candalepas to include essential features of a traditional mosque he gave them a **contemporary** form, replacing traditional Arabic domes and minarets with modern versions. As the AIA jury noticed he referenced architectural history in this project, including Roman (the Pantheon) and Arabic works.

The mosque posed a unique challenge – to respect the sacred traditions of the Islamic faith as described by the qiblah wall facing Mecca and the minbar (like a pulpit), rising high to address worshippers and observe the planning guidelines and height restrictions of the red brick and tile suburb. The result is one in which the traditional wedding cake mosque with its high minarets and dome sitting on top of a cube has been reinvented.

Linda Morris, SMH, 27 August 2017 <https://www.smh.com.au/entertainment/sydney-architecture-festival-unveils-the-citys-newest-mosque-20170818-qxyyu6.html>

Candalepas created a shorter version of a minaret, believing the height once needed for projecting a muezzin's call across a wide distance is no longer necessary.

The mosque's minaret has been adapted so that worshippers imagine the importance of the call to prayer "without having a pole upon which they climb because today we have the ability to create an augmentation of voice without necessarily screaming it from a post," Mr Candalepas said.

Linda Morris, SMH <https://www.smh.com.au/entertainment/sydney-architecture-festival-unveils-the-citys-newest-mosque-20170818-qxyyu6.html>

Methods and Materials

Concrete is the mosque's dominant material and is visible in **béton brut** finish softened with light to create dramatic spaces. This building is typical of Angelo Candalepas's **signature style** in which he employs light in unconventional ways to highlight his raw materials like timber, concrete and glass. Candalepas's murqanas forced him to experiment with new techniques of building **formwork** for the **casting** process.

Inspired by **star**-covered domes in traditional Arabic mosques, Candalepas cleverly included a contemporary 'star' covered ceiling. He devised a way of casting a tiny 20mm piercing at the centre of each concave segment of the murqanas. Having given himself a very difficult task of shaping liquid concrete into a mass of 102 concave segments, each with a 20 mm piercing, he miraculously managed a one-pour casting into very complex formwork.

Timber was reserved for two significant features: the womens' prayer mezzanine (above the men's prayer hall) is screened with beautifully polished vertical timber slats, allowing them to look down on the mens' prayer space. Below. Additionally a superbly finished timber lining inside the dome adds rich warm organic colour to the apex of the prayer room interior.

Architect's statements

'Approached by Punchbowl's Sunni community a decade ago to design a place of worship, architect Angelo Candalepas thought, "how strange, a mosque." Mr Candalepas is of the Greek Orthodox faith and his whole family are involved in church activities. "I found it complicated and difficult to imagine myself working on a mosque to be honest." Linda Morris, SMH (Sydney Morning Herald)

"There is going to be a series of intense lights through the little skylights that exist in every single one of these half domes and there will be 102 stars," Mr Candalepas said. "It will be beautiful, don't you think?"

<https://www.smh.com.au/entertainment/sydney-architecture-festival-unveils-the-citys-newest-mosque-20170818-gxyyu6.html>



Linda Cheng interviewed Angelo Candalepas:

Candalepas designed a mezzanine floor for the womens' area, which includes them in the huge prayer space of the mosque;

"That has been designed such that the women are right at the centre of the dome so they're, in a way, placed in a more powerful position than the men who are below them," Candalepas said.

Describing the stars he put into every half dome of the murqanas, Candalepas explained their origin;

"The Muslims imported the knowledge from their navigational science into their buildings to describe the night sky," Candalepas explained: "We've placed that idea within the entire building. Very small she-bolts that hold the concrete together are also skylights such that the building can be lit from the outside [like] a series of stars in the concrete."

'Below the "stars," the building will be inscribed with the 99 names of god in gold Islamic calligraphy. This text on the building is, as Candalepas said, akin to "people putting tattoos all over their bodies." "That's the last touch that will make the building extremely traditional, which I'm very much looking forward to."

Interview with Linda Cheng September 2017 <https://architectureau.com>

Other perspectives

Made predominately of concrete, the mosque includes a minaret structure at its entrance. Traditionally, the minaret is a tower attached to mosques and serves as a visual focal point and a call to prayer. As Candalepas says, in many Middle Eastern countries where mosques serve a large population, minarets can result in tall, oppressive structures. The minaret of the Punchbowl mosque, by contrast, is designed to break down its scale. Its partially open screens create a delicate facade and a welcoming entrance. Inside, the mosque is topped with a stepped dome that also incorporates a series of skylights.

The mosque contains a single, "all inclusive" space with a mezzanine floor for the women's gallery. Adjacent to the dome, the ceiling features 99 dome-shaped relief carvings, each with a small opening to the sky.

Linda Cheng, September 2017 <https://architectureau.com>

Punchbowl Mosque by Candalepas Associates won the 2018 Public Architecture: National Award from the Australian Institute of Architects. The Jury citation explains why Candalepas was the award winner;

Punchbowl Mosque is a sublime essay in the potency of in situ concrete. The mosque is singularly defined by its intimate but simultaneously dramatic prayer room with a floating array of corbelled bisected hemispherical domes. Although to be completed in stages, the project already has a presence.

The dome array, which was also created in one pour, culminates in a floating central oculus of radial and stepped concrete, then timber, that hovers on its own glow of light. As in most spiritual spaces, the gaze is continually drawn to the heavens above.

*The **corbelling** and the contingent play of perspective in some moments echo the relieving arches of the Pantheon while also emulating the light quality experienced in much larger and older mosques. The use of hemisphere domes as a motif or texture also references the architectural history of the dome as a structural technology. Cascading domes conjure up another time and place and it is this ploy of redefining timelessness that makes this project profoundly clever as it responds to the challenge of connecting a contemporary piece of architecture to the architectural history of a religion. Words: 2018 National Architecture Awards Jury*

<https://architectureau.com/awards>

Left: Angelo Candalepas in his office. Photo: Brett Boardman

ARCHITECTURE QUESTIONS: Caldalepas and Associates Punchbowl Mosque

1 CULTURAL

Describe which traditional Islamic features Candalepas included in this contemporary building.

Investigate several contemporary Islamic mosques in Australia, Asia and the Middle East. Discover how they manifest traditional mosque features.

2 PERSONAL/SUBJECTIVE

After looking at a range of sources describe your views on the sustainability of concrete. Back up your opinions about which conditions make concrete unsustainable or a sustainable building material.

3 FORMAL/STRUCTURAL

How did Candalepas make the murqanas? Discover and describe in your own words how he managed to cast the entire murqanas wall in just one pour.

Investigate and present an account of innovations devised by Angelo Candalepas for the building of Punchbowl Mosque.

Account for several crucial innovations in the development of concrete that have changed how it is used in public buildings from Roman times to 20 Century Modernism.

4 CONTEMPORARY/ POST MODERN

Angelo Candalepas regards this mosque as being traditional. Describe how it could also be contemporary.

Brutalism and Modernism were 20th century intellectual developments that coincided with, and were directed by, developments in the technology and use of concrete following wartime economic constraints. Study several architects from each design philosophy to reach your own conclusions about their design strengths and style innovations. Illustrate your opinions with descriptive examples.

Evaluate whether raw concrete, called **béton brut** by **Brutalist** architects of the 1960s, is an historic or contemporary technique.

Links to begin your research

Interview about choice of concrete; Architectural Insights with Angelo Candalepas
<https://youtu.be/rTHFTDEiTn8> :

ABC Broadcast: The Aussie mosque that broke the mould - The Spirit of Things-ABC...
<https://www.abc.net.au/radionational/programs/spiritofthings/...mosque/9768130>

Muqarnas: Construction and Reconstruction | SpringerLink
https://link.springer.com/chapter/10.1007/978-3-319-00137-1_47

Vimeo: A mosque for the future: The story of Punchbowl Mosque
www.thepointmagazine.com.au

Sydney Morning Herald Architecture writer Linda Morris, SMH, 27 August 2017
<https://www.smh.com.au/entertainment/sydney-architecture-festival-unveils-the-citys-newest-mosque-20170818-gxyyu6.html>

ARCHITECTURE GLOSSARY: OASES of FAITH

* words marked with an asterisk could be Further Research topics

* **NB** A GENERAL GLOSSARY of concrete terms is section 1.4 at the beginning of this resource.

Aesthetic: set of principles of beauty; a combination of visual elements contributing to the particular look or appearance of a work.

* **Béton brut:** French term meaning **raw** concrete; concrete surface intentionally left unfinished or roughly-finished after casting, to remain exposed visually often deliberately showing imprinted surface of the formwork. Béton brut is the source of the term **brutalism**.

* **Brutalism:** concrete based architectural style of 1950s and 1960s, characterised by its raw or exposed concrete surfaces, called **béton brut** in French. Brutalism succeeded the philosophy and the architectural forms of early **Modernism**. The term was coined from its French component of *béton brut* and the style of elegant chunky concrete buildings by French architect Le Corbusier in his 1950s work in Chandigarh, India.

Calligraphy: beautiful handwriting with hand tools like pens or brushes. Cultural styles derive from differences of script, implements and media (inks or paint).

Castellations: in the shape of battlements, parapets alternating with indentations, as on the top of a castle.

Corbelling: brick or masonry courses each built protruding out above the one below in a series of corbels, as support for a larger horizontal beam or lintel or dome above.

Crescent: crescent moon (new moon) often seen enclosing a **star**, regarded by many as the symbol of Islam. Many Muslims resist any symbol for Islam. Prior to invasion by Osman 1st leading his army of Muslim Turks in 1453, the ancient city of Constantinople (now Istanbul) had used the crescent moon as its city motif. Osman appropriated the motif as his own for his Ottoman dynasty and later Empire.

Dome: a circular vault of even curvature, usually erected on a circular base, sometimes on a square base. In cross section it can be segmental (of a circle) semi-circular, pointed or bulbous. In Islamic architecture domes represent Heaven. Their internal surfaces are often painted with a pattern of stars on a blue sky.

"The dome is, of course, a cosmic symbol in every religious tradition; and symbolically, in Islam the dome represents the vault of heaven in the same way as the garden prefigures Paradise,"

Source: James Dickie, "Allah and Eternity: Mosques, Madrasas and Tombs." Jan 11, 2014

Embossed: carved or moulded in sunken or inverse relief (ie image is below the surface).

Entrance court: (in a mosque) a space for preparing to enter the mosque prayer rooms. Often enclosed by walls in Arabic style mosques. Might contain water for washing.

Facade: principal face of a building, towards a street or an open space.

Formwork: temporary shaping moulds usually of braced wood or metal, making a hollow volume into which wet concrete (or mud or other fluid building materials) is poured to harden into shape. When **formwork** is removed the cast material will have taken on the texture of the formwork material imprinted on its surface, providing an opportunity for deliberate creativity in surface treatments and patterns. See **timber-boarding**.

Lantern (roof): a many sided (polygonal) turret with windows allowing daylight to filter downwards to illuminate an interior space, often at the top of domes. See Ely Cathedral, UK and St Paul's Cathedral, London UK.

In-situ: on the site, in the situation. Re: concrete usually refers to casting on-site rather than transporting pre-cast concrete pieces onto the site from a place of manufacture.

Intaglio: incised design, carved or cast into the background surface, not protruding from it

Masjid: see **mosque**.

Mihrab: a semi-circular niche in the **qibla wall**, often decorated with elaborate calligraphic verses, and indicating the direction towards Mecca worshippers face during prayer.

Minaret: tall slender tower or turret within a mosque compound, with one or more projecting balconies encircling the shaft from which the muezzin calls the congregation to prayer. See The Great Mosque, Damascus, from the early c8.

Minbar: staircase and the raised platform it leads to, like a pulpit, often near the mihrab for the Mosque's Imam to speak from.

Modernism: late c19 and early c 20 cultural philosophy, leading to a style of Art and Architecture. Modernism arose out of social changes brought about by c19 industrialisation of Western European societies, in which traditional styles and building traditions were overthrown and replaced with 'modern' ideas considered more relevant to the times. Moving away from hand-worked materials, decoration and traditional spaces, modernism is now associated with a practical and analytical approach to building, focussed on function and efficiency.

Disastrous wars in the early c20 changed the affordability of older building modes. Enabled by c19 & c20 mass-production of new materials like steel, modern concrete, insulation, sheet-metal and sheet glass, modernism encouraged a tougher, rational & more economical use of these materials so our buildings show these. Modernist architects began experimenting with building structures and eliminating unnecessary ornament with this new thinking and economics.

Monolithic: a large single piece of stone or single material, plain, unembellished.

Mosque: called a '*masjid*' in Arabic (mosque is an English term) a Muslim place for congregational worship. The earliest masjid or prototype was built at Medina (Saudi Arabia) by Mohammed in 622 AD. It was a simple square prayer building enclosed by surrounding walls of brick and stone and partly roofed, so some of the enclosure made an open courtyard, now considered essential in traditional mosques. Mosque format had evolved by the end of c7 AD. Essential features include prayer halls (one for men, one for women), a **mihrab** which marks the direction of Mecca where worshippers must face towards during prayer; the **minbar** and areas for washing before entering a prayer room. See The Great Mosque of Mecca, The Dome of The Rock in Jerusalem, Blue Mosque, Istanbul.

* **Murqanas:** a 3D system of small arches or mini-domes sitting on top of each other as a support structure; repetitive concave mini domes built into the corners of a square base to supports a round dome above; built in horizontal layers, each layer projecting beyond the layer below as rise up to the dome base. Traditionally a mosque murqanas is highly decorated with coloured mosaic in geometric patterns. Shadows cast into the hollows increases the visual interest of this engineering device.

* **Niemeyer, Oscar (1907 - 2012)** Brazilian Master designer, worked in the International architectural **modernist** style employing **raw cast** concrete on a grand scale. Niemeyer was also a **Pritzker Prize** winner. Niemeyer's concrete mastery can be seen in many large projects in Brazil, including the country's controversial designed-from-scratch capital city of Brasilia.

* **Ottoman:** dynasty and empire of Muslim Turkish ruling family Osman (or Ottoman), who ruled parts of Asia Minor including present day Turkey, for 600 years from c14 to early c20.

Patina: incrustation, softened alteration of a surface by accumulation of matter and wear over time.



Above: Candelapas Associates, *Punchbowl Mosque*, 2018. photo: Rory Gardiner.

Patterns in Islamic art: take three main forms; curving vines (like vegetation) often called arabesques; calligraphic verses, usually from the Koran, in the form of Arabic script; a range of geometric shapes representing abstract faith concepts. Patterns encourage the faithful to reflect on impermanence (of the physical world) and the higher and unifying nature of God, Allah.

Plasticity: the capacity to be moulded; poured into a mould when soft before hardening into shape.

Polished: concrete (mostly floors) smoothed with a rotary grinding machine before finishing with a protective clear sealant for a shiny surface.

Pre-cast slabs: also known as tilt-ups, made in a concrete casting factories away from the build site; whole wall-slabs can be poured horizontally by machinery.

* **Pritzker Prize:** greatest international architecture prize, awarded annually to honour a living architect.

Qibla: a wall which worshippers face as they pray, ensuring they are facing towards the Kaaba in Mecca. Often contains the **mihrab**.

Raw: surface of concrete as cast in formwork; bare, unrefined, rough, uncoated, unpainted.

Rebate: rectangular groove or notch cut into a surface.

Relief: a carved or cast design stands out from, or is sunken into, a background surface eg Egyptian tomb and temple carvings.

Signature style: style or look that identifies a designer architect or artist; style they are best known for.

Slab: large flat expanse of cast concrete, made for floors, ceilings or walls, usually reinforced.

Sunken relief: inverse, incised, intaglio relief; the image is sunk below the level of the surrounding surface; contained within a sharply incised contour line that frames it with a powerful line of shadow.

* **Star:** in Islam the star is a manifestation of God (Allah). Stars are often represented as a pointed geometric shape in tessellated tile patterns.

Surface treatments: **Béton brut, raw,** rough, bare, unpainted, bush hammered, **polished.**

Tessellated: geometric patterns derived from small cubes of glass or stone (tesserae) in mosaics; geometric glazed tiles embedded into wet cement on walls and floors.

* **Timber-boarding:** derived from (timber) formwork for casting concrete into, the timber selected is deliberately chosen and assembled to create increasingly manipulated textured and patterned surfaces to the cast concrete.

Turf roof: A sod roof, or turf roof, is a traditional Scandinavian type of green roof covered with sod (of earth) on top of several layers of birch bark on gently sloping wooden roof boards. Until the late 19th century, it was the most common roof on rural log houses in Norway and large parts of the rest of Scandinavia.

Vernacular: (architecture) concerned with ordinary buildings, usually built by owners (non-professionals) from local, easily available materials for utilitarian uses; eg houses, sheds, farm buildings. Vernacular building occurs in most continents and societies and is often good at addressing local climatic conditions.

SOURCES

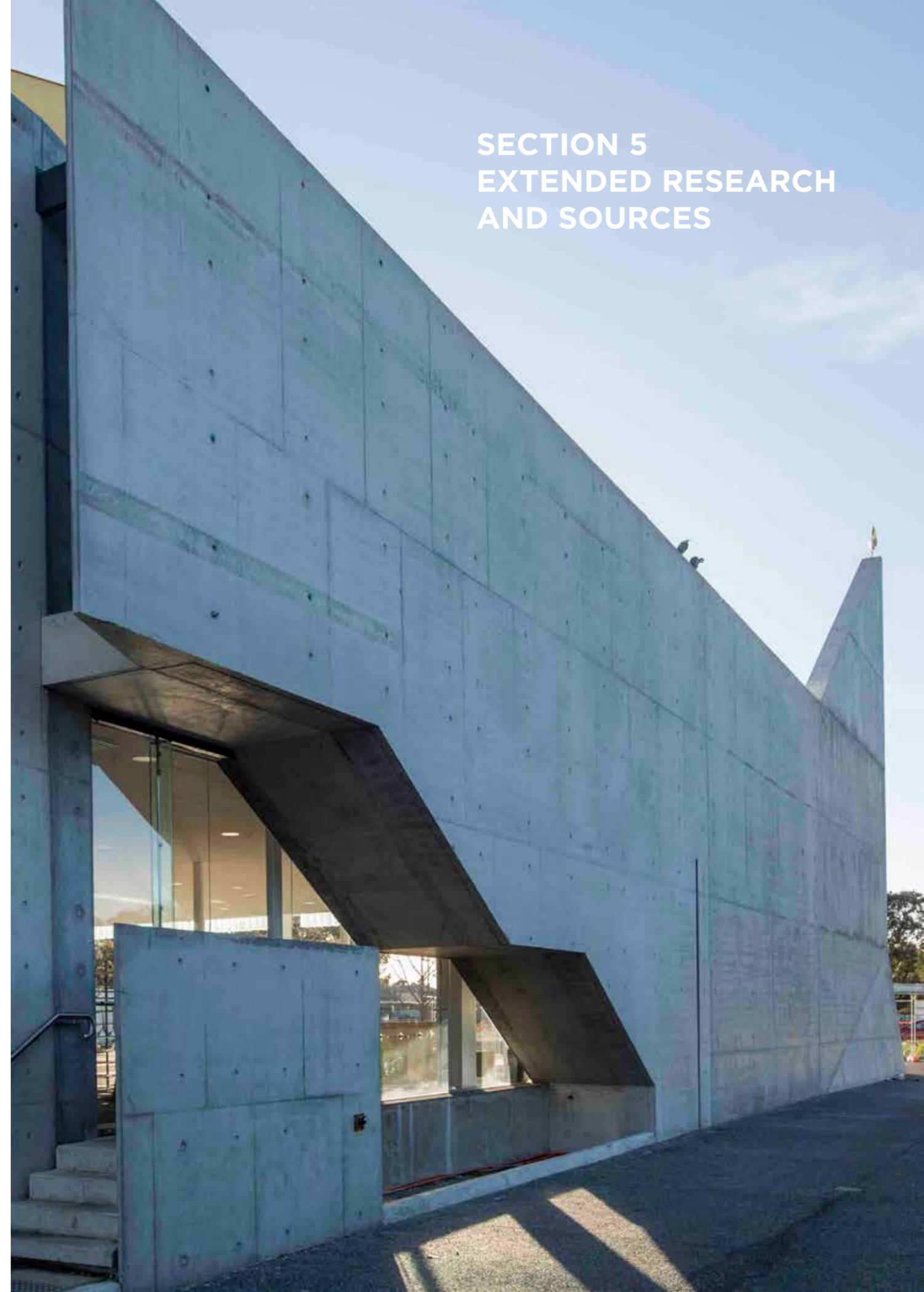
The Penguin Dictionary of Architecture, by Fleming, Honour & Pevsner, pub Penguin

The Concise Oxford Dictionary, pub Oxford at Clarendon Press

The Penguin Dictionary of Symbols, Chevalier and Gheerbrandt, pub Penguin Group 1996

On-line searches identified in the text

SECTION 5 EXTENDED RESEARCH AND SOURCES



Links and Sources

ABC iView Streets of your town, 2 part series by Tim Ross looking at Modernism in suburban architecture in Australia

<http://www.auburn.edu/academic/architecture/bsc/classes/bsc314/timeline/timeline.htm> - historical timeline of concrete

Cement Concrete and Aggregates Australia (CCAA) Industry articles on sustainable concrete: <https://www.ccaa.com.au/> NB: go to PUBLICATIONS for How Concrete is Made and other documents.

<http://watershedmaterials.com/blog/2015/3/31/geopolymer-concrete-egyptian-pyramids-and-a-new-way-forward-for-sustainable-masonry> - a different view on the history of concrete

IS CONCRETE SUSTAINABLE

For and against

A product can be considered sustainable if the demands (of resources, energy and environmental safety) for its manufacture are balanced by the length of time it remains in use. 'Single use' is a new term that is becoming more relevant to concrete, despite its original values of durability and strength.

Many architects, designers and concrete makers argue that concrete is a sustainable building material. Glen Murcutt, an Australian architect who practices 'touching the ground lightly' (see this exhibition) believes concrete is only sustainable when concrete structures are allowed to remain in use for a very long time.

Murcutt argues (see Newport Mosque in this exhibition) that the longer the life of a concrete building or object, the more sustainable it becomes, because the resources and energy used in making and building with it have proportionately less drain on the planet the longer the object remains being used and not destroyed.

Other contemporary architects, scientists and environmentalists believe concrete is far too extravagant in its consumption of energy and resources, and damaging with its atmospheric pollution during its manufacture, to be considered sustainable.

High emissions of greenhouse gasses and polluting chemicals result from the contemporary manufacture of modern cements and concretes. These emissions would have been less damaging in previous eras, before Portland Cement and other modern chemical developments which have made concrete the versatile material of today.

A 'high-turnover' phenomenon when new concrete is frequently replacing demolished concrete while the original is still useful, is a current practice of the international contemporary building culture. Replacing concrete structures 'too early' wastes the original concrete. Demolition of concrete buildings before their use-by date makes that concrete un-sustainable. Concrete buildings demolished by war or by developers 'too soon' after they were built (perhaps 70-100 years later), as is a common practice in our times, makes the original concrete extremely unsustainable because of the expense in making it.

When demolished concrete is not reused or recycled its original 'cost' to the planet is wasted and not recouped through long term benefits. However many architects, builders and designers argue that concrete is difficult to recycle without the use of additional energy and resources being consumed to make it re-usable. Often recently demolished concrete just goes to landfill, thereby ruining any sustainability it might have had if it had been used for a longer period.

Ancient concretes and cements often remained functional for hundreds or thousands of years, not destroyed before their sustainability point had been reached. For example many ancient Roman buildings, (the Pantheon in Rome) made with bricks and cement, or of concrete (with aggregate of crushed fired bricks), are still in existence today, several thousand years after they were built.

In such cases the initial 'expense' to the planet, as in fuel-hungry manufacturing of baked lime and baked bricks, along with the effort mining limestone and transport energy, have been 'repaid' with long-term use.

How is concrete 'expensive' for the planet?

Portland cement has been an ingredient of contemporary concrete since the 1820s,. It consumes a lot of energy to manufacture and is made of lime, chemicals and powdered clays. Many heating and grinding processes are employed to make today's cements and concretes.

***Portland cement** is the most common type of cement in general use around the world as a basic ingredient of concrete, mortar, stucco, and non-specialty grout. It was developed from other types of hydraulic lime in England in the mid 19th century, and usually originates from limestone. It is a fine powder, produced by heating limestone and clay minerals in a kiln to form clinker, then grinding the clinker and adding 2 to 3 percent of gypsum. Several types of Portland cement are available. The most common, called ordinary Portland cement (OPC), is grey, but white Portland cement is also available. Its name is derived from its similarity (in appearance) to Portland stone which was quarried on the Isle of Portland in Dorset, England. It was named by Joseph Aspdin who obtained a patent for it in 1824.*

source: Wikipedia

Portland Cement is regarded as damaging to the atmosphere, from the emissions released in its manufacture and transport. It is a dangerous material to breathe in and manufacturing plants are not welcomed anywhere, especially in urban areas. Many cement factories and concrete plants are near ports in highly populated cities.

*Portland cement is caustic, so it can cause chemical burns. The powder can cause irritation or, with severe exposure, lung cancer, and can contain some hazardous components, such as crystalline silica and hexavalent chromium. Environmental concerns are the high energy consumption required to mine, manufacture, and transport the cement, and the related air pollution, including the release of greenhouse gases (e.g., carbon dioxide), dioxin, NOx, SO2, and particulates. **The production of Portland cement contributes to about 10% of world carbon dioxide emission.** To meet the rising global population, the International Energy Agency estimated that the cement production is set to increase between 12 to 23% by 2050. There are several ongoing researches targeting a suitable replacement of Portland cement by Supplementary Cementitious Materials.[5]*

The low cost and widespread availability of the limestone, shales, and other naturally-occurring materials used in Portland cement make it one of the lowest-cost materials widely used over the last century.

Source: Wikipedia

Concrete produced from Portland cement is one of the world's most versatile construction materials.

Sustainability Supporters

Supporters of cement and concrete's sustainability often come from the manufacturing and building industries, from architects, designers and builders.

However successful sustainability depends as much on how concrete is employed and destroyed by the wider building industry.

Concrete's successful sustainability is affected by building requirements in design briefs put together by clients and by building codes controlled by Councils and Governments. An example might be a Government as a client committing to long term use of a new concrete building, or the long term use of a concrete bench in a park.

Building laws and regulations can be useful legal 'tools' for controlling the environmental impact of making and using concrete.

In their trade document 'What makes Concrete a sustainable building material?' The Concrete Network (see link below) presents convincing positive information about concrete.

A number of concrete's positive aspects are explained including resource efficiency, concrete's very desirable durability and thermal mass (benefits for energy retention and insulation), stormwater retention (a new development in concrete's ability to be pervious to stop stormwater runoff) and the possibility of minimal waste. The article explores problems that exist in manufacturing concrete.

New developments

Many innovative developments are focussed on reducing concrete's environmental footprint. Concrete sustainability is the goal of this university project and its zero waste angle might be a huge leap forward:

'Scientists work out how to grow bricks from human urine — and the best news is they get better with age'

The "bio-brick" is made by mixing sand with a bacteria that produces urase — an enzyme that breaks down the urea in urine while at the same time producing calcium carbonate.

When mixed, the result is a brick that is on-par with limestone bricks. But what's different is that the bio-bricks' strength can be scaled up and down depending on how long the bacteria is allowed to grow.

"The longer you allow the little bacteria to make the cement, the stronger the product is going to be. We can optimise that process," lead research supervisor Dyllon Randall said in an explainer released by the University of Cape Town.

This university project is "a win for sustainability" in more ways than one:

The bulk of bricks made worldwide still come from a rudimentary process where kilns are fired at 1,400 degrees Celsius, producing copious amounts of carbon dioxide.

This (bio-brick) process, however, produces zero waste, as the by-products are nitrogen and potassium — elements that are used within commercial fertilisers.

"What we do last is take the remaining liquid product from the bio-brick process and make a second fertiliser," Dr Randall said.

Source: www.abc.net

These urine bricks could possibly replace concrete bricks which have become a major form of concrete building material. They can be extremely strong, as their strength *'can be scaled up or down depending on how long the bacteria are allowed to grow'*.

Fungi Concrete is another line of research from America tackling what is known as 'concrete cancer', a problem of crumbling concrete often around rusting reinforcing mesh of poor quality. Researchers are exploring how self-healing fungi concrete could provide sustainable solution to crumbling infrastructure.

Hempcrete is a further research direction being undertaken to increase the organic components of concrete.

Eco-cement is an Australian product incorporates reactive magnesia to absorb CO₂.

Graphene concrete uses nano-engineering technology to make the concrete twice as strong while reducing CO₂ emissions.

Unless Concrete is made in more sustainable ways and our use of it takes better advantage advantage of its durability, we are in danger of using it frivolously, without due regard for the cost to the planet's atmosphere through the warming impact of making its components. Is it true that other building materials can be more sustainable?

Links: Sustainability

Concrete Network: <https://www.concretenetwork.com>

Concrete Sustainability Council: www.concretesustainabilitycouncil.org

What is this Concrete Sustainability Council (CSC) responsible for ? https://www.youtube.com/watch?v=yP9_h1o6MfA

Concrete and Sustainability – GreenSpec: www.greenspec.co.uk

Scientists work out how to grow bricks from human urine — and the best news is they get better with age !

Urine bricks from University researchers:

<https://www.abc.net.au/news/2018-10-26/cape-town-university-researchers-make-bricks-from-urine/10432766>

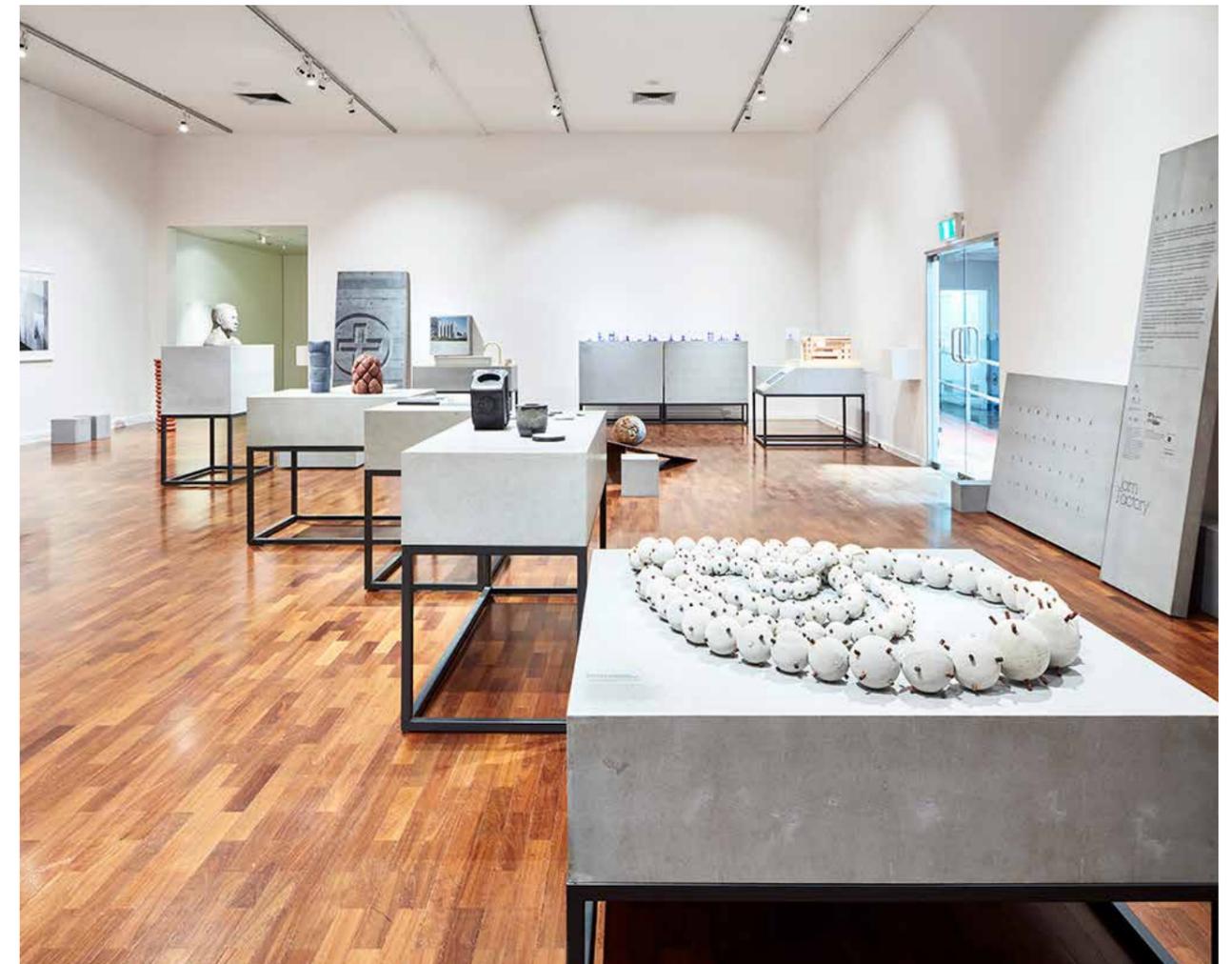
Fungus and concrete: <https://www.sciencedaily.com/releases/2018/01/180117152511.htm> 'New concept offers low-cost, pollution-free and sustainable approach to fixing concrete'

Hempcrete: Australian product www.hempcrete.com.au/ The Australian Hempcrete Technologists

Activities

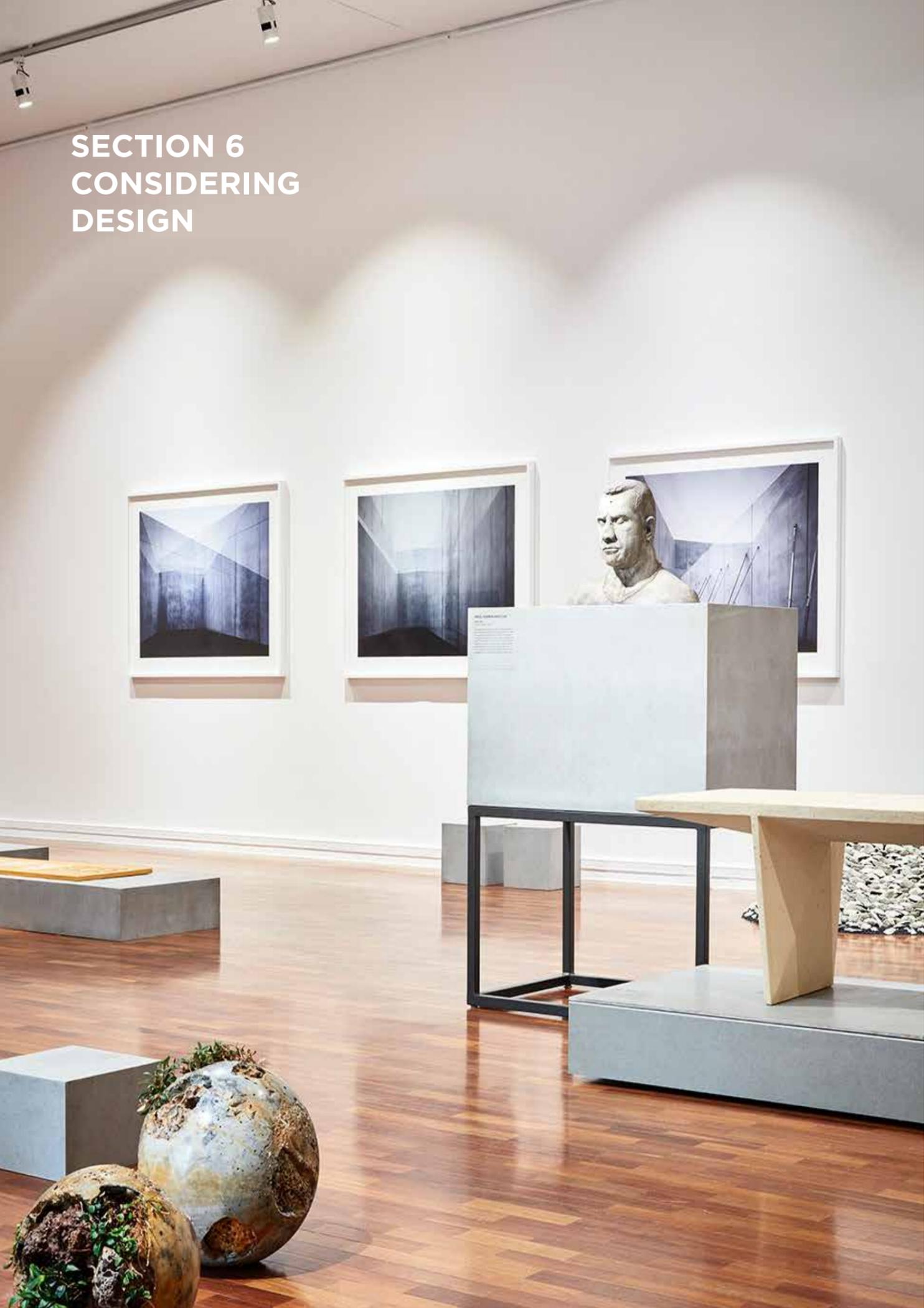
Plan a class debate or prepare a report discussing sustainability issues concerning concrete.

To commence your search for evidence and different points of view exploring searches of key phrases Concrete and Sustainability, Concrete and Un-sustainability, Developments in Sustainable Concrete.



Above: CONCRETE: ART DESIGN ARCHITECTURE installation at JamFactory, Adelaide. Photo: Rhiannon Slatter.

SECTION 6 CONSIDERING DESIGN



CONSIDERING DESIGN

6. 1. JamFactory :What Is It?

Adelaide's present JamFactory was designed to rehouse the original Jam Factory workshops that were established by the State Government in the 1970s, in an old jam factory in Payneham, Adelaide in South Australia.

Now established in purpose built accommodation in the city, JamFactory has matured into a nationally admired centre for excellence in design and workshop manufacture, as envisioned by South Australian Premier, Don Dunstan, over forty years ago.

JamFactory now comprises four major training workshops, plus rentable studio spaces for tenants and sophisticated retail and gallery spaces. Each workshop focuses on exploring its core material, either clay (ceramics), glass, metal or wood. Workshops design and manufacture individually commissioned works and products for retail sale. Supervised by a Consultant Designer each workshop trains several associates who are graduate trainees of tertiary courses. Encouraged to develop their own practices, their individual works are often sold in the JamFactory retail outlet.

The Context: how the Jam Factory Workshops started

Over sixty years ago, during the 1950s and 1960s, a perception emerged in Australia that craft and design had an important role to play in the cultural and economic life of the Australian nation.

By 1971 a Federal Government initiative, called the National Committee of Enquiry into the Crafts, published findings that led to the creation of The Australia Council in 1973. The Australia Council, through its various boards, began developing policies that created and supported opportunities for craftspeople. This development coincided with trends within South Australia in the late 1960s and the early 1970s, for establishing design and craft education to support artisan industries emerging around the state.

Locally several factors led to the growth of craft and design, including an increasing number of Adelaide galleries exhibiting fine craft and design, the influence of South Australian School of Art lecturers such as Alex Leckie, Margaret Douglas, Helen Macintosh and Milton Moon and the professional development opportunities created by the newly formed Australia Council Crafts Board. By the beginning of the 1970s increasing support was growing within the South Australian art/craft/design community, and in government, for a programme or organization that would become the focus and key support agency for craft/design education and industry.

In 1972, the South Australian Premier Don Dunstan, through the Premier's Department, commissioned a comprehensive study of 'design and craft industries in South Australia'. The reporting committee recommended (amongst other initiatives) that a government initiated 'Craft Authority' be created to establish a craft and design training workshop in Adelaide.

The Craft Authority opened the Jam Factory retail shop and factory in 1974 in the old Mumzone Factory on Payneham Road, St Peters. The site was originally a food processing and distribution facility for the South Australian Fruitgrowers Cooperative Society Ltd, trading as Mumzone Products Ltd. The first four workshops focused on glass, leather, jewellery and textiles. They were run by leading international and national craftspeople who designed products and trained apprentices who made work for sale. The current JamFactory workshops work in glass, metal, wood and clay.

6. 2 Design: Making A Mark By John Neylon

Contemporary design. Where to start or finish? Web, computer game, software, graphic, architectural, urban or landscape design? Or design as aligned with the arts such as theatre, fashion, interior, furniture or ceramics? And is this 'design' the noun (a designed something) or the verb (designing something)? The modern era has found multiple uses for this one simple word. But its origins still hold the key to its essential meaning. The Latin word 'designare' described the act of 'marking out'. Signifying something. Making a sign. In the modern era this idea of design as something distinctive,

as the product of creative thought, which impacts on the way we 'use' the world, persists. It's a privileged word in our society. So it should be. It has important work to do.

The modern design era of the first part of the 20th century thought it held all the answers with its enthusiasm for the machine aesthetic and the Utopian promises of mass production. But the second half of the century saw design subsumed into the wider contexts of pop culture and mass consumerism. This was a context in which fashion and popular taste, driven by advertising, 'celebrity designers' and iconic labels overran the idea that 'good design' was something made only by product 'designers' for people who could afford it. Enter the world of 'designer-clothing', designer-furniture' and 'designer-food'. With the 'designer-store' IKEA signifying membership of a global club, the democratization of design-for-living, looks complete. With the aid of on-line catalogues and computer graphics simulations you too can be an interior designer.

So where does that leave young artists who work hard to qualify and practice as designers and the agencies like universities, TAFE colleges and craft and design centres who support them? The answer lies in the market place and in community and individual life. The world, communities and individuals want 'designare'. They want that sign, that signature object and the experience that goes with it because it spells 'special'. Mass production has gone part of the way to satisfying that need. An easily affordable retro-light fitting can brighten up that corner in your life. But market place demand continues to demonstrate a different level of need; for designed-mediated experiences that significantly enhance daily life. This enhancement may take the form of offering beauty, compelling thought, confirming values, triggering emotions, exciting imagination, amusing, making a distinctive statement, carrying a message or simply offering brilliant functionality. Enter the artist/designer.

Anyone who has attempted to mend a piece of furniture let alone design and construct one from the bench top up; or wrestled with a lump of clay trying to turn it into a bowl appreciates the level of skill involved in making well-crafted objects that people will pay good money for. And if the market place also wants a high level of creativity to go with the fine crafting then the bar is that much higher. Creative, skilled designers deliver on this. But where do they come from and how do they develop skills in not only crafting materials but also being innovative and being successful professionals?

These are questions that JamFactory, through its diverse programs and Associates Program in particular, continues to address.'
Extract from John Neylon, catalogue essay 'Making a mark', for Design Now, a Country Arts SA touring exhibition 2008 - 2009.

DESIGN: Framing questions

1. It is often claimed that good design will 'enhance daily life'. What do you think this expression means? Do you know of any examples?

2. Reality TV shows promote the idea that anyone can be a designer and that the only thing that matters is catching the judges' eyes. Do you believe that 'you too can be a designer' - without any formal training?

5.3 Extended research: Design resources

The following sites have been selected on the basis of offering research strategies, theoretical frameworks, wider context and current information about contemporary design and craft.

http://www.craftaustralia.org.au/research/about_the_research_centre

Craft Australia's Research Centre has an e-journal craft + design enquiry. This is an excellent resource for researching current issues and theoretical frameworks.

<http://www.dhub.org>

This Powerhouse Museum site incorporates news, articles and events covering a wide spectrum of design: fashion, interior and furniture, craft, graphic design and digital media, architecture and landscape.

www.powerhousemuseum.com

Powerhouse Museum, Sydney

Recommend sections: Education: SCAMPER Design Activity (activity-based strategies for generating design solutions)

<http://www.vam.ac.uk/content/articles/p/powerofmaking/>

This Victoria and Albert Museum link gives access to video interviews and texts related to an exhibition Power of Making (2011). Within the videos artists and designers give insights into their practices and the nature of the design process. A highly recommended resource

<http://jump.dexigner.com/directory/7244>

The Design Museum, London, is the world's leading museum of 20th and 21st century design, architecture and fashion. This site offers extensive education (interactive and pdf research downloads for teachers and students)

<http://jump.dexigner.com/directory/7248>

Smithsonian Cooper-Hewitt, National Design Museum
Recommend sections: Explore Design. Learn

<http://www.vam.ac.uk/page/e/education-centre/>

Victoria and Albert Museum, London

Recommend sections: Learning, Architecture

<http://jump.dexigner.com/directory/8815>

The Design Exchange (DX) is Canada's design centre and museum with a mission to promote the value of design.

Recommend sections: Education: Resources

<http://www.design-museum.de/de/informationen.html>

Vitra Design Museum, Weil am Rhein, Germany

Recommend sections: 100 Masterpieces (history of modern design as seen through 100 chairs)

<http://jump.dexigner.com/directory/7893>

Museum of Arts and Design, New York

Recommend sections: Learn/Teacher Resource Materials. Within this section is a module 'What is Design' which introduces key terminology and concepts related to exploring aspects of contemporary design.

<http://jump.dexigner.com/directory/18860>

Bauhaus Museum, Berlin.

This site gives an introduction to the history, philosophy and collections of the Bauhaus

<http://designthinkingforeducators.com>

A 'tool kit' style site with video clips of educators talking about their understanding of design and design processes. Useful as PD resource.

<http://www.designcouncil.org.uk/about-design/What-design-is-and-why-it-matters/>

What is design? This feature on the UK Design Council website offers some useful perspectives. This site is also a good directory to sites which addresses ideas linked to sustainable design, meeting social needs through design and innovation.

<http://vimeo.com/5820010>

'What is design?' An UK Design Council animation introducing concepts and terminology linked to an understanding of contemporary design.

<http://startupsthisishowdesignworks.com>

This site explores the turbo-charged environment of international corporate design while asking straightforward questions about the nature and purpose of design in a modern world.

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EDUCATION RESOURCE AUTHORS

ANNE KEAST, MUSEUM EDUCATION CONSULTANT, CONTENT WRITER

LUCY MACDONALD, MUSEUM EDUCATION CONSULTANT, CONTENT WRITER

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