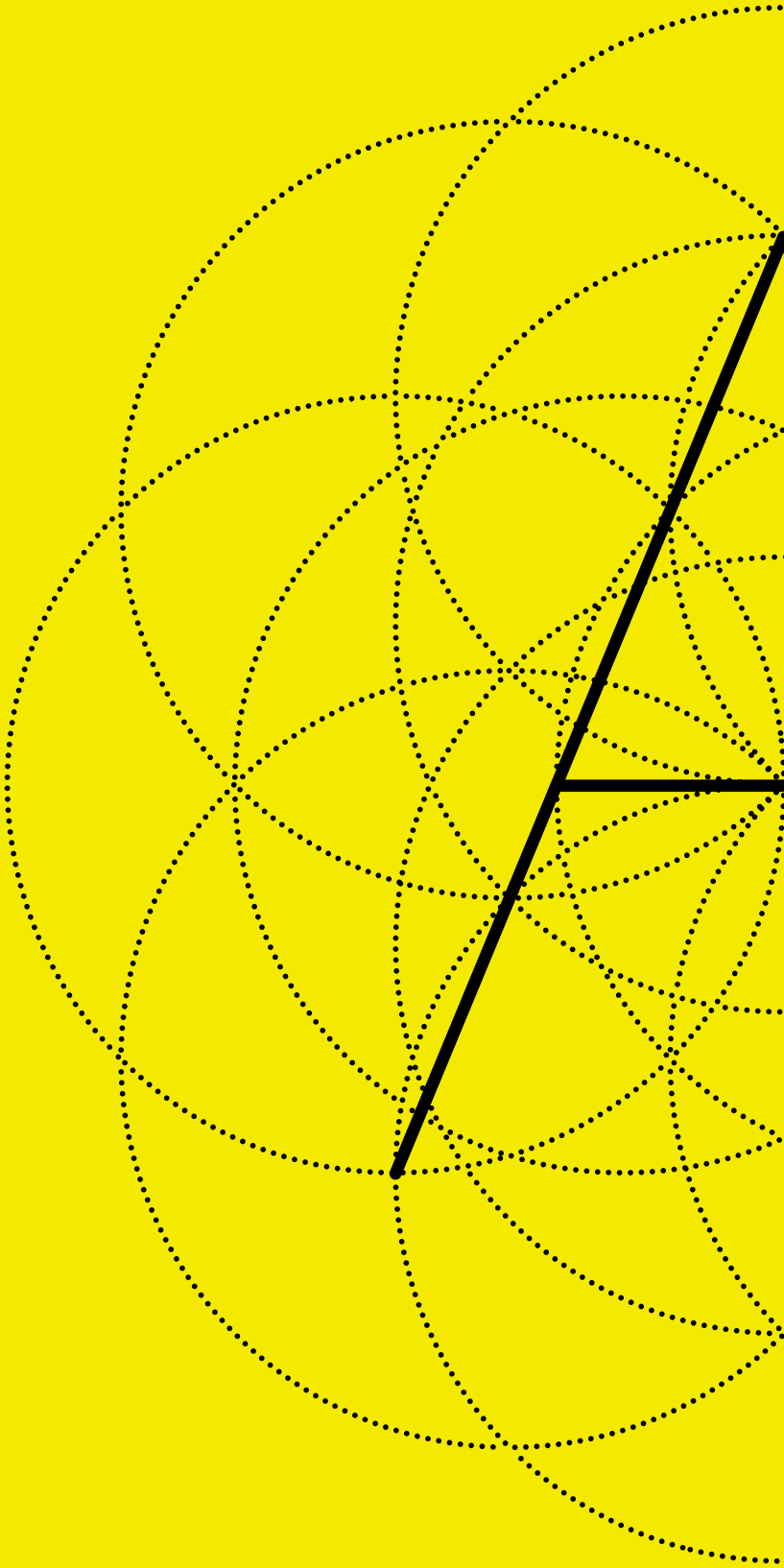




AUSTRALIAN CENTRE
DESIGNED
FOR CRAFT AND



visions and experiments that help us figure out, make sense of and feel at home in our modern world. ▀

Aaron Betsky

Education Kit

ABUNDANT

models from the Australian Pavilion
11th International Architecture Exhibition



ABUNDANT

models from the Australian Pavilion 11th International Architecture Exhibition

Teachers Notes

Abundant Australia showcases the exciting potential of Australia’s architects, and was first seen in the Australian Pavilion as part of 11th International Architecture Exhibition in Venice, Italy in 2008.

More than 180 Australian practices created over 300 interpretative models in response to the exhibition’s theme of the ‘Out There: Architecture Beyond Building’. The Architecture Biennale was curated by Aaron Betsky, and in his words would present ‘visions and experiments that help us figure out, make sense of and feel at home in our modern world.’

The Australian showing of Abundant at Object Gallery takes 100 of these models in a reinstallation of the original garden of architectural ‘sculpture’ that was organised by the Australian Institute of Architects.

The exhibition not only documents the work of Australian architects at the forefront of contemporary practice, but it also offers an opportunity to see fine craftsmanship and design innovation. The models are beautiful, striking and provocative objects in their own right.


The Abundant Australia on-line education kit endeavours to introduce secondary school students to the work of ten contemporary Australian architectural practices. It focuses on their inspiration and processes and the way models help to communicate their ideas. The education kit also directs students and teachers to other works by the same practice, works by other architects and examples of buildings from the past.

Object hopes that this education kit will motivate students and teachers to explore and acknowledge the importance of architectural ideas to the way we live now and in the future.

Featured Architects

- Sean Godsell Architects
- Enter Architects
- Studio 505
- Casey Brown Architecture
- Scale Architecture
- BKK Architects
- Stutchbury and Pape
- Environa
- Bligh Voller Neild
- Allen Jack and Cottier

Throughout the kit you will find references to symbols, they refer to;



Enquire
Investigate/research before you visit



Experience
The exhibition through questions and activities



Extend
Your knowledge by further research, making, creating and designing.



Education kit developed and written by Annette Mauer, Learning Coordinator, Object: Australian Centre for Craft and Design. Design: Kyle Walker



The creation of this education kit was made possible through the generous support of the John T Reid Charitable Trusts.

Sean Godsell Architects

Future Shack
Design Team: Sean Godsell

Future Shack is a mass produced relocatable house for emergency and relief housing. The house is made from a recycled shipping container. An umbrella like roof that can be stored inside the container when not in use, provides shade and keeps the house from getting too hot. The legs that telescope from the bottom of the container allow the structure to be placed in many different locations and on uneven ground if necessary.

This house can be used in many different situations – to shelter people after natural disasters, for those living in remote areas or for those displaced from their homes or living in poverty.

Future Shack, *Park Bench House* and *Bus Shelter House* are 3 prototypes that form a series that aim to provide housing for the homeless. They demonstrate that architects can play a vital role in helping communities address the needs of disadvantaged members. These projects help to define the 'house' in its most fundamental form 'shelter'.

Right: Exterior and interior shots of the built *Future Shack*

Below: *Bus Shelter House*

Photographer: Sean Godsell Architects



In *Bus Shelter House* the advertising display board is modified to act as a dispenser of blankets, food and water. As well it acts as a small gallery space where art can be promoted. The shelter has the potential to be solar powered.

Sean Godsell Architects (Cont')



Park Bench House provides basic shelter by converting seats that are used in the day to a shelter at night

‘ [Good clients are those] who have the vision and the courage to commit to an idea and enable an architect to pursue that idea to its ultimate degree, which is the built form. ’

Sean Godsell

Sean Godsell believes that a humane city should provide the homeless with basic shelter by building it into the city’s infrastructure – park benches, bus shelters, tram stops etc.

Go to the following website and read the interview between Sean Godsell and his clients Earl Carter and Wanda Tucker.

http://www.abc.net.au/architecture/ep_trn1.htm#trn_god2

What does this interview reveal about the relationship between client and architect? Consider the tensions that can arise. How would you select an architect for a project?

Would you leave everything to the architect? What input should the client have?

What makes Sean Godsell’s model unique in this exhibition?

Sketch the model and annotate its most important features.

What is the model made from?

Sean Godsell believes architects have an important role to provide shelter ‘for fellow human beings in need.’

Why is it important for architects to consider the homeless and those suffering misfortune?

Research the work of *Architects Without Borders*, *Emergency Architects Australia* and *Architecture for Humanity*. What are their aims and current projects?

Read: *Design Like you Give a Dam: Architectural Responses to Humanitarian Crisis*, Thames and Hudson

Enter Architects

Redfern Housing Prototype

Patrick Keane, Harry Sonella, Austin Atherton, Henry Beresford

The *Redfern Housing Prototype* model concentrates on the surface of the house by working with loops and continuous surfaces. The house gains its strength through its form but uses as few materials as possible. The module comes in split level so there are a great variety of spaces inside but does not take up much land. This house forms part of a larger project called *Cluster Housing*.



This housing concept is aimed at creating affordable and environmentally friendly housing for the people of Redfern. The houses are constructed from plywood panels and curved metal profiles that are easily transported. One of the main intentions of the design is to allow the air to flow freely through the house and to make sure the heat radiated from the surfaces is expelled.

Photographer: Byron Keane
Modelmaker: Tom Spalding, Envizage Australia

Buzz Words

Prototype: first of its kind, sample or example

Split level: the floor level of one part of the house is about half a storey above the floor level of an adjoining part



Visit Enter Architects website and look at their projects.

<http://www.enterny.com/>

On the profile page is a summary of their philosophy. 'In the 21st century design processes have become non linear, multithreaded and inspired by a host of disparate sources.' What does this statement mean and how might it affect the approach architects and designers take? Can you relate it to the way you design?

Read the remainder of the statement and discuss the ideas raised.



What is the model seeking to convey? What benefits does the continuous surface provide? How does this model differ from more conventional models of houses in this exhibition?

Buildings, like sculptures, are composed of both mass and space. Comment on the relationship between areas of mass and space in this model. Can you relate this model to any modern sculptures you have seen?

How will this housing project benefit the community?



Find examples of buildings that are very light and encompass large areas of space.

On their website Enter Architects talk about imagined environments. Why would architects design 'imagined environments'?

Research some architects interested in designing for the future. Le Corbusier and Sant Elia worked in the early 20th century. Zaha Hadid is a contemporary architect worth looking at.

Go to the following website and read about the *Future City Exhibition*.

www.barbican.org.uk/artgallery/event-detail.asp?ID=4230

Find out about the Mobius loop. How does it relate to this model?

Studio 505

New Holland Folly
 Dylan Brady, Dik Jarman, Dirk Zimmermann

The *New Holland Folly* is a present from Australia to the port city of Rotterdam.

The folly is a glasshouse containing exported seedlings of native Australian flora to be used in a housing development. The design was inspired by Australia's corrugated iron, the Victorian cast iron lace work often found on the balconies of terrace houses and the unique Australian flora.

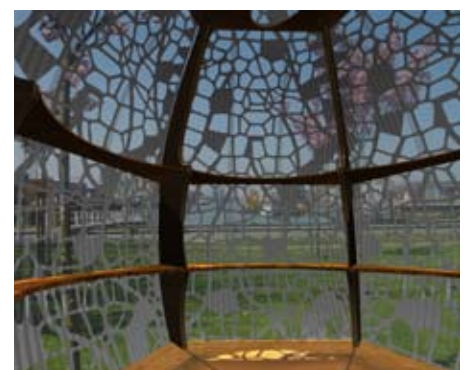


How do models help in your architectural practice and how does the example in Abundant reflect the ideas that are important to you?

Models form one of the key aspects of our internal design review, interrogation and iteration. We create models at all stages of the project—some to explore particular aspects of detail design, some to inspire directions and connections that have been inconceivable in drawn and written form. Models are produced within computers, by hand, from card, by computer laser cutting and chemical photo-etching technologies at all scales and in lots of materials. The trickiest thing with models is working out how to store and show them all!

The *New Holland Folly* model was a key stage in testing the project. We had detailed the project to be cut by computer, and flat packed to Holland. We needed to cut the pieces and assemble them to ensure that

all aspects had been thoroughly reviewed. Then it was simply a question of scale. The ribs were first assembled and looked at in reality on the model, giving us vast and intriguing insight into how the project might be lit, and experienced in reality. It triggered a series of mini projects in the studio to do with lighting and other projects, based purely on our human response to holding and moving around a beautiful object.



Above Left: Australian flora helped inspire *New Holland Folly*

Right: 3D images of *Folly* Interior and exterior
 Photographer/Modelmaker: Studio 505

Studio 505 (Cont')

What is rewarding about being an architect in Australia today and what makes it difficult?

Rewarding: To have people and clients approach us with praise, respect and hope, and to have them feel the same way on completion of a project.

Difficult: to manage and nurture the practice of architecture to enable creative challenges to be addressed, hopes to be realised, and cash flow to be met.

If there was just one thing that students could take away from this exhibition what do you think it should be?

Other than their favourite model, I would hope that visitors leave with the Confidence of Uncertainty.

The understanding that there is no single 'right way'. And that architecture is ultimately human.

Photographer/Modelmaker: Studio 505



Buzz Words

Folly: An ornamental building or structure with no practical purpose. Follies were particularly popular in the 18th and early 19th centuries when they formed part of Picturesque landscape or gardens.



Visit the Studio 505 website:
<http://www.studio505.com.au/>

Look at *The Travelling Seed Pavillion*. This design is a transportable seating and information installation for the Millennium Seed Project based on the complex geometry and shape of a seed pod and seeds of *Flindersia Australis*.

Look at the *Royal Domain Tower-Art facade Melbourne* and the *Australian Pavilion facade 2005*. Consider the use of pattern and texture in the work of Studio 505. How is it used in an architectural context?



Why is this project titled the *New Holland Folly*?

In what ways does the folly draw upon the connection between the old and new worlds?

What material is the model constructed from and how do you think it was made?

Sketch the *New Holland Folly* and then create your own variations.



Visit the Studio 505 website and create a presentation that reveals how many of their projects express this practice's interest in nature, culture and history.

Investigate the Millennium Seed Project at <http://www.kew.org/msbp/index.htm>

Draw a selection of seed pods and design your own structure for the Millennium Seed Project.

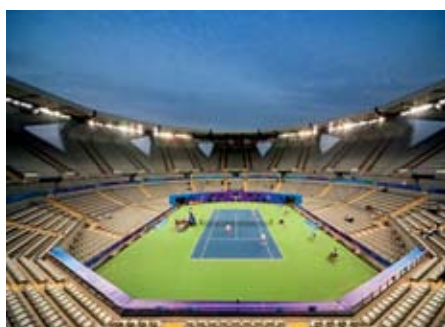
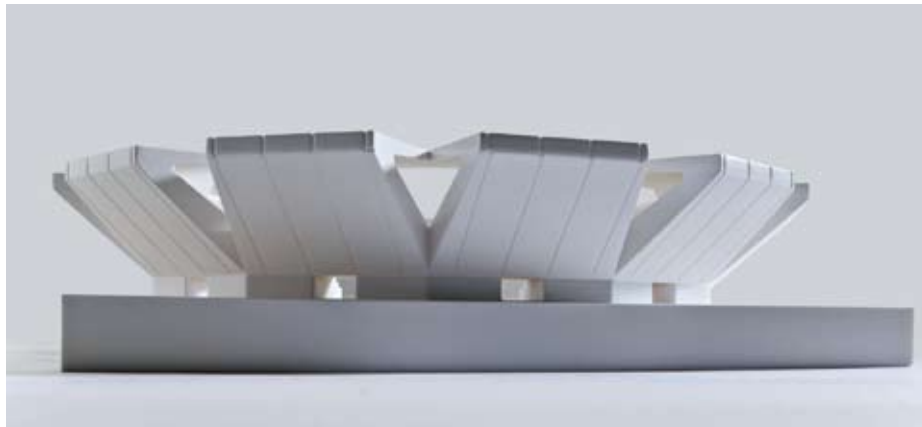
Architects have often used natural forms as an inspiration for their designs. Look at the work of Nervi and Enric Miralles.

Bligh Voller Neild

2008 Beijing Green Tennis Centre
 Andrew Cortese, Lawrence Neild, Glenn Scott, Ross Seymour, Zeng Fang, Hamish Watt, Namaste Burrell

The *Beijing Centre Court* is made up of twelve independent segments of tiered seating. It is an open bowl: perforations or openings at the corners allow viewing in and out and induce cooling air movements that provide comfort to spectators. The twelve segments emerge from large platform which contains the facilities for the players and officials and media. The roof is created from the segments folded inward creating a series of bold cantilevers that shades two thirds of the spectators. The platform separates the movement and circulation of the public and those involved in the competition. The *Centre Court* also uses air from below the platform to cool the players and spectators in the lower seats.

Photographer: Phillip Hayson
 Modelmaker: Porter Models



Bligh Voller Neild is a large architectural firm with offices in a number of Australian cities. What are the benefits and drawbacks in engaging or working in such a large practice? Look at their projects and compare them to the projects by Peter Stutchbury or Studio 505.

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

Porters is a large model making firm. Go to their website and investigate what they do, the techniques and materials they use and the services they provide.

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

Visit The BVN website and read about the *Sydney International Tennis Centre*. Write a review for a sporting magazine that compares and contrasts the tennis stadiums in Beijing and in Sydney.

Create a powerpoint presentation on either modern or ancient sports stadiums. Reflect on the tradition and innovation that exist in this area of architecture.

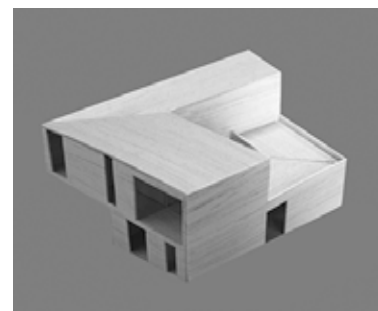
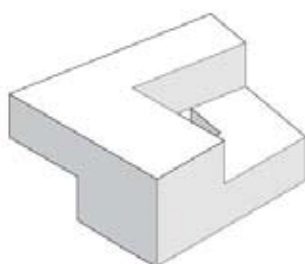
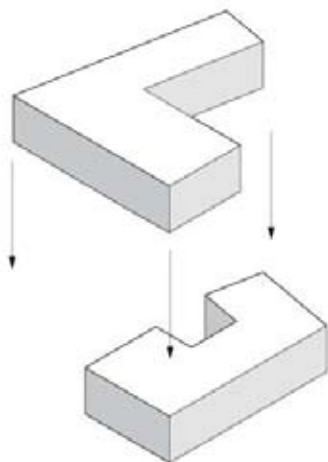
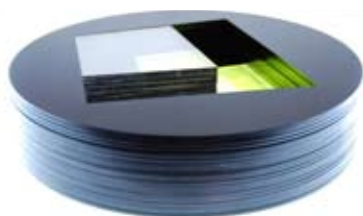
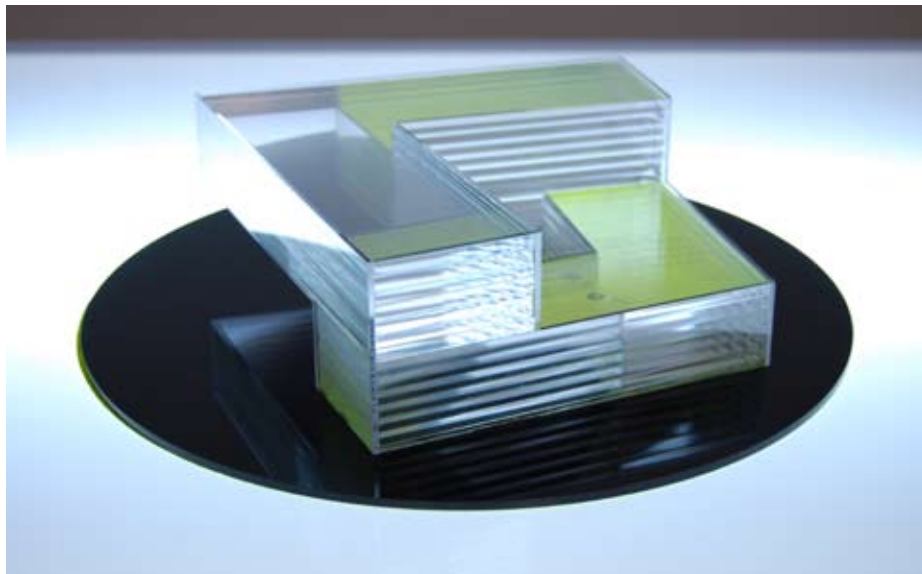
Sketch the model and try to indicate the airflow that would occur.


Scale Architecture

Simultaneous Contrast 1+2
Matthew Chan

These are two models for a study of solids and voids/positive and negative. It is part of an ongoing investigation into the 'context-less' courtyard-house, that is a design that must create its own internal context. Both models play on the relationship between positive and negative space. Mass surrounds internal space therefore allowing views internally and externally.


Photographer: Matthew Chan





Visit Scale Architecture website:
<http://scalearchitecture.com/>

The profile describes this practice as 'a collaborative design studio for architecture, research and urbanism.' Collaboration is an all important element in every architectural practice. Read on to find out who this practice collaborates with. What other groups and individuals would collaborate with architects?




Sketch the models indicating positive and negative areas. Consider the ratios between them.

What materials have been used to make these models?

What is meant by a 'context-less' courtyard?

Create an environment for these models/houses taking into account the spaces inside and around the outside of the buildings.



Look at the *Elysium House* diagrams and describe the process that Matthew Chan has used to create the final design . Using a similar process create your own design for a 2 storey house with an internal courtyard.

What are the benefits of having an internal courtyard?

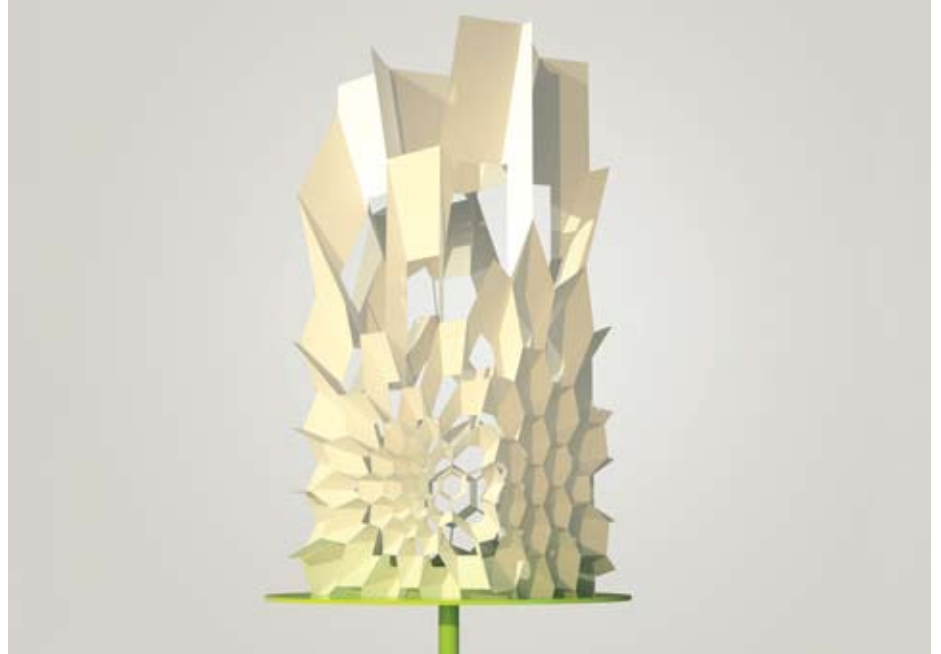
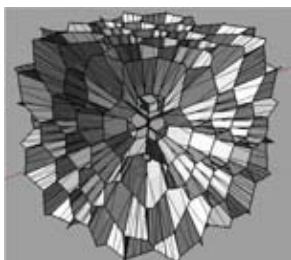
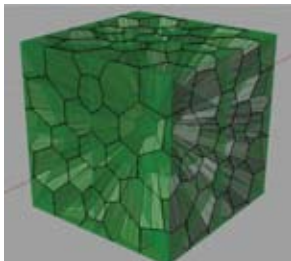
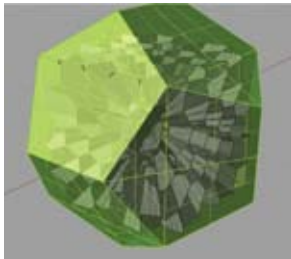
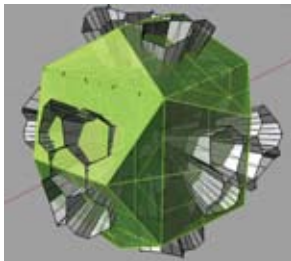
Investigate the use of courtyards from ancient to modern times in a variety of cultures. What were they used for?

http://www.ancientgreece.co.uk/dailylife/challenge/cha_set.html

This model forms part of continuing research on the reinterpretation of Buckminster Fuller's Geodesic Dome. The focus of the investigations is how complex geometry can define simple space.

The resulting parametric model is produced via a cadcam router [cutting tool] The resulting structure is dynamic and flexible offering endless possibilities for the ways which we can experience space.

Imagemaker: BKK Architects
Modelmaker: Marnie Morieson, Christian Froelich, Rory Hyde



How do models help in your architectural practice and how does the example in Abundant reflect the ideas that are important to you?

The model BKK Architects prepared for the 2008 Venice Biennale was purely speculative; it was undertaken as part of our office's ongoing research and did not involve a client. These types of models typically start as "thought experiments". They respond to open questions about space, form, construction or assembly, and are intended as a testing ground, free from the usual constraints of architecture. "The Abundant Sky" explores ideas of mid 20th century architect and inventor Richard Buckminster Fuller through the medium of parametric, or rule-based design. A digital model was initially created by projecting an eccentrically placed geodesic sphere onto a bounding box. The resulting

network of planes was unravelled to create laser cut templates that formed the basis for the physical model.

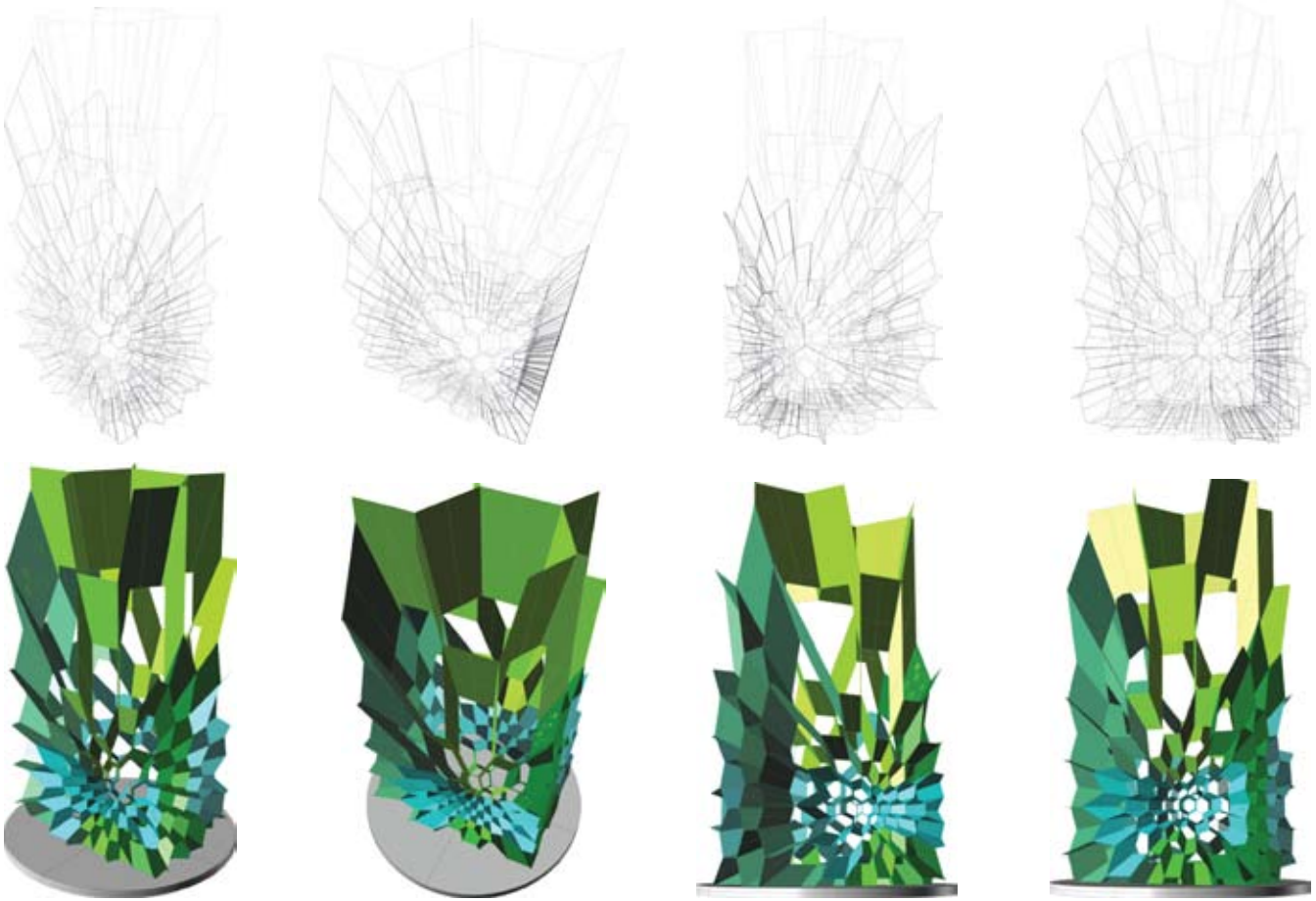
What is rewarding about being an architect in Australia today and what makes it difficult?

Architectural practice has many rewards, chief amongst these is watching a project come out of the ground alongside a satisfied client. The difficulties include navigating the maze of constantly changing regulations and codes and the high risk nature of the work.

If there was just one thing that students could take away from this exhibition what do you think it should be?

Students should take away the joy of discovery through making.

BKK Architects (Cont')



Buzz Words

Router: sophisticated computer controlled cutting tool

CADCAM: computer aided design computer aided manufacture

Dynamic: concerned with energy and motion

Parametric models use the computer to design objects by modelling their components with real-world behaviours and attributes. It maintains consistent relationships between elements as the model is manipulated. For example, in a parametric building modeller, if the pitch of the roof is changed, the walls automatically follow the revised roof line.



Research the architect Buckminster Fuller and his geodesic domes.

BKK Architects refer to 'thought experiments'. Create a model that develops from play, experimentation and your imagination.

Abundant Sky was designed without a client and was purely speculative. How would these conditions influence the final design?



Imagine this model as a building. If so where do you think it could be placed and what could its function be?

Does it remind you of structures that exist in the natural world?

What is the model made from?

What aspects of the design make it a dynamic structure?



Go to the BKK website and look at the Pavilions exhibition.

What is parametric modelling and how has it revolutionised the way architects can make models and design buildings?

Stutchbury and Pape Architecture

Eagle Talon House
Peter Stutchbury, Nichole Dark

The house is integrated into the site while 'capturing the landscape'. Ground level is a long room to capture cool breezes; bedrooms are located off this room. Upstairs is the living space with windows all the way around so that the landscape can be sensed as a whole.

How do models help in your architectural practice and how does the example in Abundant reflect the ideas that are important to you?

They give a tactile indication of the building, and supply the office with an object for discussion and debate, more so than a 2D drawing or computer screen.

What is rewarding about being an architect in Australia today and what makes it difficult?

The opportunity we have to design in a unique landscape, a privilege in this world where it is becoming increasingly difficult to access naturally occurring environments.



If there was just one thing that students could take away from this exhibition what do you think it should be?

The value of models in all aspects of design.

Buzz Words

- Tactile:** capable of being touched
- Organic:** relating to animals or plants
- Talon:** a sharply hooked claw especially of a bird of prey



Visit the Stutchbury and Pape website:
www.stutchburyandpape.com.au/

What might the three words [architecture landscape architecture] and the sketch on the front of the site reveal about the interests and philosophies of this architectural practice?

How does this website differ from many of the others you have visited?

Look at the *Verandah House*. How does this building relate to its surroundings?



By looking at the model consider how it could relate to the landscape.

Sketch the model from different views. Consider the sculptural qualities.

Sketch the model and annotate it with descriptive words such as flowing, undulating, stable and organic.

Look at the elements of contrast, solid and space, light and heavy, smooth and textured.

Why do you think the building is called the *Eagle Talon House*?



Peter Stutchbury says that models give people in the office a greater opportunity to discuss and debate the building and design. Establish an architectural practice in class. Choose a client, principal architect, model maker, cad operator, and other architects. Design a house that sits comfortably in your local environment and put it up for discussion in the practice.

Create your own design that 'captures the landscape'.

‘Engawa’ is Japanese for the space between inside and outside. This can be considered as the vital zone to filter aspects of the environment so that living conditions are pleasant and there is no need for air conditioning. The apartments have outdoor rooms with sliding shutters of glass and timber/aluminium that allow them to become sunrooms in winter and verandahs in summer. Movable Photovoltaic cells not only collect solar energy but act as a shading system that rotates from vertical in winter to horizontal in summer, giving more shade. Public spaces on the ground floor are raised over the naturally ventilated plant room, bike store and car recharge. The outdoor space of the green roof has food grown and solar thermal co-generation.

How do models help in your architectural practice and how does the example in Abundant reflect the ideas that are important to you?

We use physical models as (well as computer models) to explore ideas within our studio and to then explain those ideas to clients. Because architecture is a 3D pursuit, we concentrate our thoughts on space and form (the contained and the container if you like) and this is not always clear in a 2D drawing. So we make models of both the exteriors and the interiors of our buildings. The 2 models in the abundant exhibition show two sides of the same building and are used to highlight to ourselves, the clients and the builders the differences between these 2 facades. They also show how

the environmental filters are used to control the external climate to give a modulated quality of light, warmth and cool to the interior.

What is rewarding about being an architect in Australia today and what makes it difficult?

Australia faces a huge task to make its cities more sustainable, and at the same time we will see a doubling in the population in those cities over the next 40 years. Architects play a vital role in creating the cities and towns, not only individual buildings but also the urban design and planning of the built environment. However Australians by and large are ill-informed about design generally and architecture in particular and thus have often not paid sufficient attention to its importance and have made poor decisions about our cities and suburbs as a result.

If there was just one thing that students could take away from this exhibition what do you think it should be?

To learn much more about design and its vital role in our lives so that Australians are better educated about design and can make well informed decisions about our future with improved, more sustainable, designs.



Photographer: BKK Architects



Visit The Environa website:
www.environastudio.com.au

Why is there a section on the site called ‘the lab’? What type of projects can you find there?



What are the main concerns of the architects in designing *Engawa North*?

Which aspect of the building do you consider the most innovative and why?

Can you think of other architectural or urban spaces that might be thought of as engawa or the space between the inside and the outside?



‘We have made sustainability the core of our work, and the driving force of our design philosophy’
Debate: Should architects have a core philosophy or should they only respond to the needs and desires of their clients?

Devise a campaign that aims to raise people’s awareness and educate them to the importance of architecture and design.

Casey Brown Architecture

Permanent Camping
Rob Brown, Herman Alvarez

This small dwelling is located on a remote mountain on a sheep station near Mudgee NSW, which the client visited as a child on horseback. This structure is conceived as a retreat for one or two people and occupies a minimal footprint, making little impact on the environment. The sides of the two storey copper clad tower open at ground level to provide wide verandas. When not in use these roofs close down and enclose the timber and glass interior, protecting it from the elements. The interior provides a sleeping loft and a small kitchen. The tower has panoramic views of the surrounding landscape. Water is collected on the roof and a toilet is located in a separate structure. The toilet structure has three sides and a door opening onto a spectacular view.

Due to the isolated site no builder could be found to work there and the building was completely prefabricated, transported and erected on the site. The hut was trial erected by the builder, Jeff Broadfield, at this Mona Vale workshop beforehand to make sure everything fitted together as it should. No steel was used or nails instead all the joints were pre-cut the same way as a traditional Japanese carpentry house.

Photographer: Rob Brown



How do models help in your architectural practice and how does the example in Abundant reflect the ideas that are important to you?

Models are critical in understanding the form, scale and detailing of a building for the architect and as a tool to convey the idea to the client.

What is rewarding about being an architect in Australia today and what makes it difficult?

The sense of satisfaction in turning

ideas into reality in a setting so beautiful as the Australian landscape difficulties are the distances and the ever constant need to raise people's understanding and appreciation of the built environment.

If there was just one thing that students could take away from this exhibition what do you think it should be?

Models are a fantastic tool to explore ideas.



Why is this model/house called permanent camping?

What has the hut in common with a tent?

How else could this structure be used?

Why is this a very Australian building?

You could say this house has 2 distinct personalities. Describe the different personalities.

Why do you think that the architects chose to clad the house in copper?

Consider the advantages and disadvantage of prefabrication.

Buzz Words

Cladding: the material used for the outside facing of building

Prefabricated: to manufacture sections of a building so that they are easily transportable and easily assembled on site



In this example the client was also one of the architects. What could be the problems or benefits of this situation?



Look at the Casey Brown Architects website and read about the *Lake House 2007*. How did the architects respond to the natural environment when designing this house?

http://www.caseybrown.com.au/casey_brown_architecture.htm

Allen Jack and Cottier

Office Tower, Vietnam
Michael Heenan

An interpretive response to a previously designed office tower, *Pasteur* embraces a playfulness often found in the act of discovery. The gold curl that houses the lift and services core makes reference to the Michael Leunig character Mr. Curly. In contrast the oculus looks to the future and the dark and foreboding events that might occur as a result of capitalism coming to the city.

Five Petal Square is an urban park that covers an entire city block in Beijing. Designed as a modern park in a modern city, the square connects to the various layers of the city: to the commercial and residential, to the transport, the cultural and the natural. By situating the retail, exhibition and car parking below the park and the office space above ground, the design brings together modern Chinese culture with a contemporary interpretation of traditional Chinese landscape and gardens. The park contains a forest, a gorge, a valley, rocky cliffs and a plain that leads to a river.



Left: *Five Petal Square*, Beijing

Photographer: Nic Bailey
Modelmaker: Michael Heenan



Buzz Words

Oculus: circular architectural feature; a round window or a round opening at the top of a dome

<http://www.architectsajc.com/>

Allen, Jack and Cottier are a well established architectural firm that dates back to the 1950's. Visit their website and look at the timeline. Also look at their recent projects that involve the planning of entire towns in Mongolia and urban planning in Sydney. What does this website tell us about the work of architects and their relationship to contemporary society.

Visit Michael Leunig's website and if you don't know Mr. Curly you can meet him here:
<http://www.leunig.com.au/characters/>

Sketch the model. What materials have been used to create this playful example?

Consider the symbolic elements of this model.

Why would architects consider using symbolism in their buildings?

Interpretation is an important part of the creative process. What do you consider to be the role of the model in this process?



Experiment with symbolic ideas and play around with sketches and simple models to express your inspiration.