



MPAVILION

EDUCATION GUIDE

2023 BY TADAO ANDO

MPavilion is an annual initiative of the Naomi Milgrom Foundation that, since 2014, has brought leading architects from Australia and all over the world to Melbourne to design a temporary pavilion for the Queen Victoria Gardens. Each MPavilion hosts a diverse program of free talks, performances, workshops and educational activities and is open daily from November to March.

The ambition of MPavilion is to make architecture accessible as a field of design that is of central importance to the way we experience the world. The architects invited to design each MPavilion are chosen because they are both outstanding in their field and unique in their approach to architecture. This selection criteria has resulted in each new MPavilion being very different from the last in form, materials and building technologies used. At the close of the season each MPavilion is relocated to a new home. You can visit previous MPavilions at locations across Victoria, one is sited on a university campus and another is at the Melbourne Zoo!

How to use this resource

This resource introduces the MPavilion initiative and focuses upon the 2023 pavilion by Japanese architect Tadao Ando. It is aimed at students in levels/years 3-10 and its content is aligned with Victorian and Australian curriculum descriptors. It is intended as a source of insight for educators to draw upon for use either in the classroom or to help structure an excursion to MPavilion. The MPavilion website hosts a library of dedicated resources for each edition, and it is recommended that students visit more than one MPavilion to appreciate the contrasts between the designs of different years.



About the architects: Tadao Ando

Tadao Ando is an internationally recognised architect who has been practising continuously since 1969, when he established his own architecture office, Tadao Ando Architect and Associates - that's over half a century!

Ando was born in 1941 in Minato-ku, a designated ward in Osaka, Japan. Recognised as one of the most significant architects of his generation, Tadao Ando is a self-taught architect, which means he never studied architecture formally. Instead Ando created his own path by researching traditional Japanese design and architecture alongside American and European Modernist design. As a young man he visited buildings by European and American architects Louis Kahn, Le Corbusier and Frank Lloyd Wright, whose works inspired him. To develop his technical abilities, Ando undertook night classes in drawing and correspondence courses in interior design.

In 1995 Tadao Ando was awarded the Pritzker Prize, which is widely regarded as architecture's highest honour. Tadao Ando Architect and Associates have completed buildings in Japan and internationally, including Chichu Art Museum in Naoshima, Japan, Vitra Seminar House in Weil am Rhein, Germany, Siddhartha Children and Women Hospital in Butwal, Nepal, and the Pulitzer Arts Foundation in Illinois, USA. Ando is the recipient of the Alvar Aalto Prize, the American Institute of Architects

What is architecture?

Put simply, architecture is the art and practice of designing buildings. A person who practises architecture is called an architect, and usually to become qualified they must have studied architecture at university. However, there are notable exceptions to this rule, including Tadao Ando, Frank Lloyd Wright, Luis Barragán and Carlo Scarpa. The field of architecture is diverse, including very practical buildings, like hospitals, and also highly creative and expressive ones, like art galleries. And very often, architectural buildings combine both practicality and creativity together.

What is a pavilion?

Generally, pavilions are defined by their use as venues for enjoyment or pleasure-related activities such as art exhibitions, music concerts, or as shelters at sporting events. Ordinarily, people don't live or work permanently in a pavilion and this is reflected in their designs – you are unlikely to ever find amenities such as a kitchen or bedroom in a pavilion. Because pavilions do not need to be functional for day-to-day work or habitation (living), they offer architects unique opportunities to take creative risks and to test experimental designs.

You might already have encountered some examples of pavilions in day to day life. For instance a bandstand in a park, a gazebo in a garden, or a grandstand at a football oval are all different types of modern pavilion. The word 'pavilion' is thought to have developed from the Latin word papilo, meaning tent, and the French word papillon, meaning butterfly. This is because very early examples of pavilions were large tents with extended fabric sections that were reminiscent of the spread wings of a butterfly. Some of the earliest known pavilions built from permanent materials were Chinese and date back millennia - to 1046-256 BCE!



FURTHER EXPLORATION:

- Investigate these historical and contemporary examples of pavilion design from Japan and around the world.
- The Kokage-gumo Pavilion by Junya Ishigami and Associates, Chiyoda City, Tokyo, Japan
- Roof and Mushrooms Pavilion by Nendo and Ryue Nishizawa, Kyoto, Japan
- Japanese Pavilion for Expo 1992 by Tadao Ando Architect and Associates, Seville, Spain
- Patagonian Shadow Pavilion by Del Rio Arquitectos Asociados (DRAA), Lathuile, France

Key design: 2023 MPavilion by Tadao Ando

MPavilion 10 by Tadao Ando is a site-specific structure. This means that it was conceived, designed and constructed with its specific location and community in mind. Architects use this approach when they want a building and site to interact in a positive way.

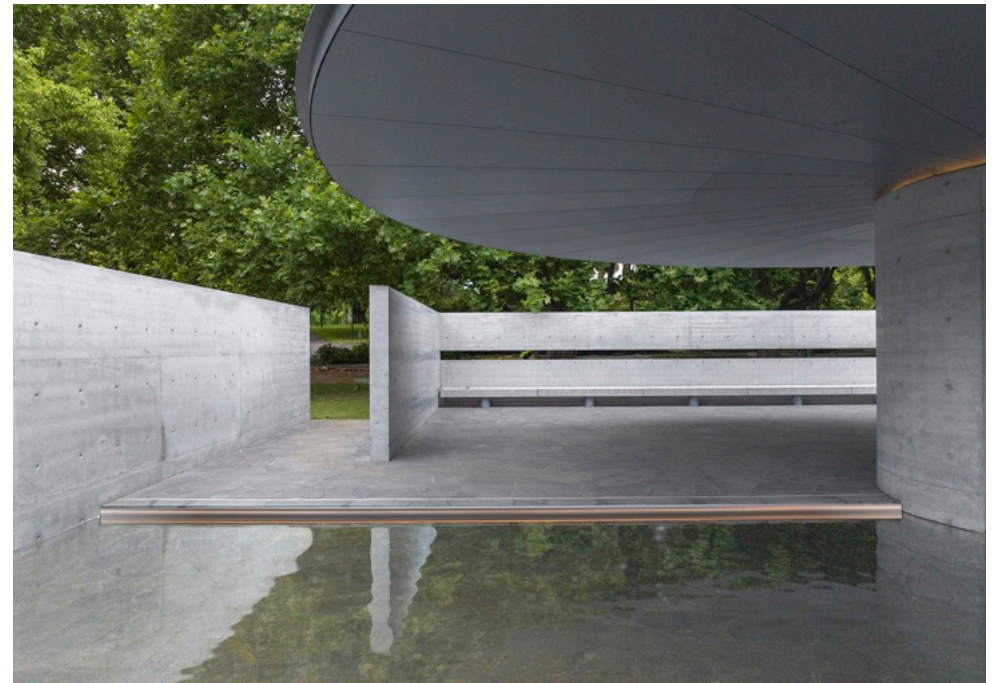
‘The design for the MPavilion began with a desire to find a scene of eternity within the public gardens of the Queen Victoria Gardens in Melbourne. Eternal, not in material or structure, but in the memory of a landscape that will continue to live in people’s hearts.’

—Tadao Ando, speaking about his design for MPavilion 10

When Tadao Ando uses the word ‘eternity’ he is referring to a memory-based concept, rather than a building that will last forever in physical form. Ando is suggesting that the pavilion could become eternal by existing in the minds and hearts of those who experience it. Because those experiences, when shared from person to person and across generations, could exist in a never-ending relay. In this sense, we can understand MPavilion 10 as a piece of architecture whose purpose is to create lasting memories. Similarly, culture can be understood as a collection of communal stories, customs and techniques which are remembered and passed across time, from person to person.

‘I have always used concrete, a material perfected in France in the late nineteenth century, and used around the world. Everyone uses it, but I want to create a space that no one else would be capable of creating. A space that spurs us to ask: how can such a space be created with concrete? I want to do it with a material everyone has access to, using geometry, proportions and materials.’

—Tadao Ando, ‘From Self Enclosed Modern Architecture Towards Universality,’ The Japan Architect, May 1992



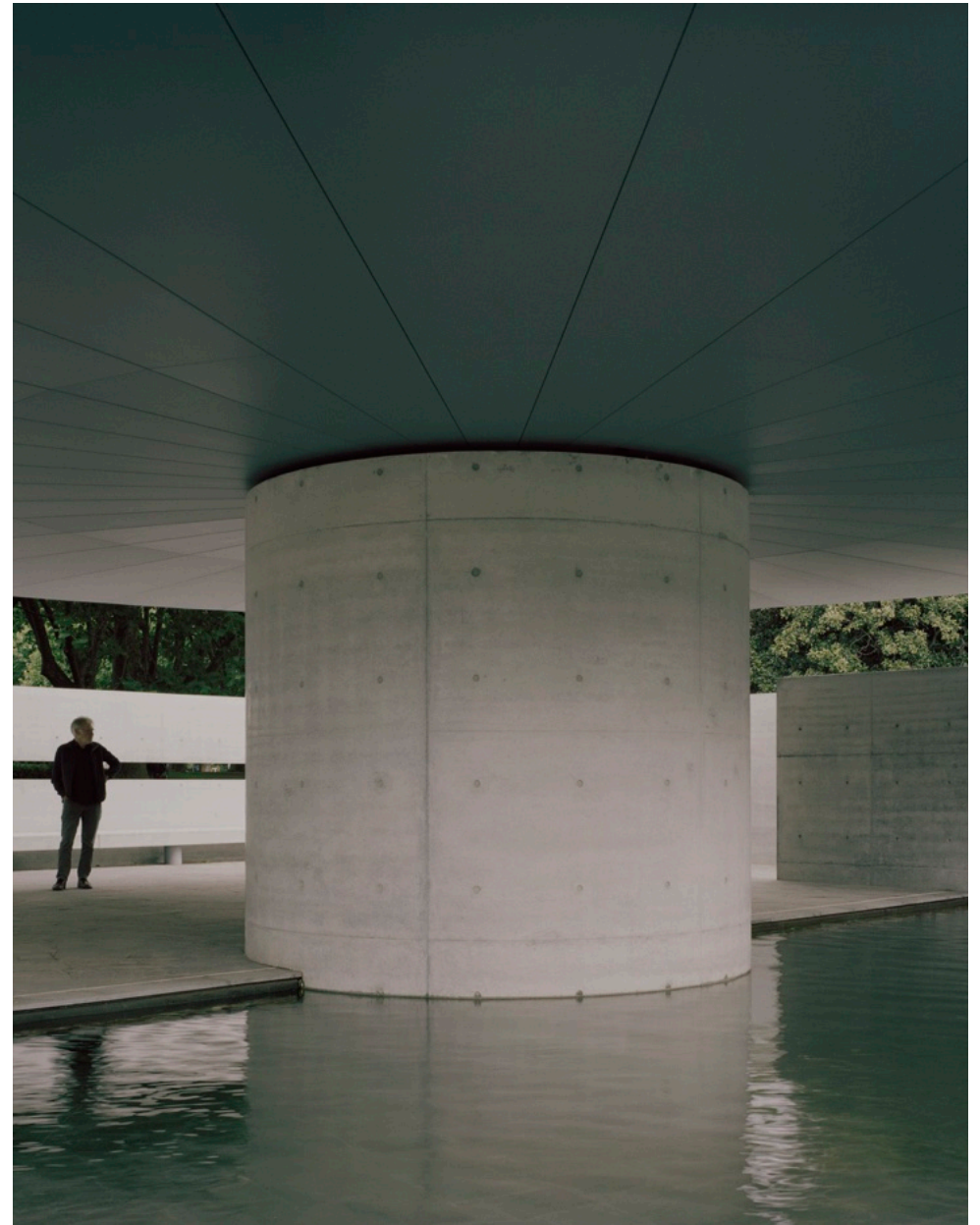
The walls of the pavilion are made from solid concrete that was cast on site. To do this, heavy duty plywood sheets called formboards were erected to enclose precise voids (empty spaces), into which liquid concrete was poured. This type of concrete construction is called formwork. Once the concrete had become solid, the form boards were removed to reveal walls the same proportions as the original voids. This process is essentially the same one used to cast the bronze sculptures and statues located nearby to MPavilion 10 – except those are made using molten metal instead of concrete, and more complex moulds. Because the form boards were laminated with a smooth coating, the surface of the concrete is also smooth. When architects choose to keep the surface finish left by the formwork instead of sanding or painting it, that is called ‘off form’.

Because of its curves the hollow column at the centre of MPavilion 10 that supports the roof was the most complex part to cast and required several technical trials to find a solution. Tadao Ando has perfected his concrete mix over his career and is very particular about how it is used. Accordingly, construction of MPavilion was planned with a longer timeframe than usual to allow for the possibility that some walls may have needed to be demolished and repoured if they did not meet Ando’s standards - luckily, that did not happen!

The roof of MPavilion 10 is the only element that is not concrete. It is made from aluminium sheet on top, with aluminium fascia (architectural term for the vertical band under the roof edge), soffit (architectural term for the underside of a structure), and steel frame that is concealed from view. The whole structure was assembled piece-by-piece on site and will be disassembled again at the end of the season.

‘The forms I (create, acquire) meaning through elements of nature (light and air), which give indications of the passing of time and the changing of the seasons...

—Tadao Ando, ‘From Self Enclosed Modern Architecture Towards Universality,’ The Japan Architect, May 1992



The circular roof does not shade the entire pavilion, and it only overlaps one wall, so there is space to view the sky on all other sides. One reason for this feature is because Tadao Ando aimed to create a building that would bring the outside and inside together as one, open to the weather and seasons.

‘Although many possibilities for different kinds of development are inherent in space, I prefer to manifest these possibilities in simple ways.’

—Tadao Ando, ‘Architect: The Pritzker Prize Laureates in Their Own Words’, 2017

Simple geometric shapes – squares, triangles, circles, rectangles and crosses – are a consistent feature of Tadao Ando’s architecture. This is because he is interested in the challenge of creating complex, meaningful forms using simple elements. Viewed from above (known as plan view), MPavilion 10 looks like two asymmetrically aligned squares overlaid with a circle. From the side perspective, the walls appear as elongated rectangles - the structure does not use any complex or irregular shapes.

‘Water is often used to reflect light, but also to release the imagination or to induce tranquillity. Water is a key element in many of my schemes.’

—Tadao Ando, ‘Architect: The Pritzker Prize Laureates in Their Own Words’, 2017

A shallow reflection pool covers half of the floor of the pavilion. Directly opposite is a concrete bench that runs the entire fourteen-metre length of the wall. Ando has positioned the bench so that when someone sits down their gaze is oriented toward the water. This is an example of design influencing the direction of attention, and can be understood as evidence of Ando’s intention for visitors to have quiet, tranquil experiences by considering the water – its reflections, movement, and play of light. Depending on the time of day, the water reflects rippling sunlight onto the underside of the roof, adding another dimension to the experience of the architecture.

‘Tadao Ando’s architecture is remarkable because it radically affects the way we perceive the world around us (...) I have long admired how Tadao Ando responds to and incorporates the particularity of a place into his design and his belief that architecture can shape a society.’

—Naomi Milgrom AC, MPavilion Commissioner, on why she invited Tadao Ando to design MPavilion 10



Naomi Milgrom has long admired Tadao Ando's work because of the way it changes one's experience of the places his buildings are sited. MPavilion always encourages its architects to take into account the site of the pavilion when conceiving their design, and MPavilion 10 addresses this challenge in a different way to all the previous MPavilions.

FASCINATING FACTS:

- Tadao Ando is an autodidact. This means he is self-taught, which is rare in the field of architecture where most architects have university degrees.
- Ando's first building, completed in 1976, was a house for a family expecting a baby. When the family found out they were expecting twins they realised the planned house would be too small for them. The family joked that because Ando is also a twin he had brought the same fate on them! Ando subsequently adapted that building to be his office and it is still his office today.
- Tadao Ando has never employed more than thirty people, because that is the most he can communicate effectively with while overseeing their work.
- At the age of seventeen Tadao Ando left school to become a professional boxer. In his downtime he visited Buddhist temples, the designs of which inspired him to pursue architecture.
- When Ando was awarded the Pritzker Prize In 1995 he donated the \$100,000 prize money to victims of the recent Kobe earthquake, a disaster that occurred earlier that year, taking many lives and making 45000 people homeless.

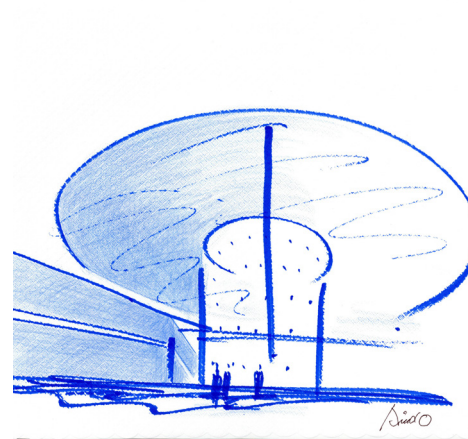


Tadao Ando MPavilion 10 Design Process

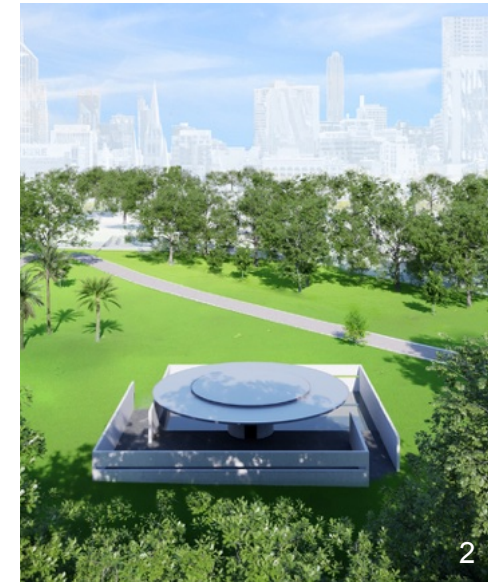
1. Tadao Ando's first step was to learn about the site where the pavilion would be located. Ando and his associate architects wanted to understand how people inhabited the park, the kind of trees and shrubs that grow there, and what other features defined the landscape. They spoke to MPavilion commissioner Naomi Milgrom and researched the Queen Victoria Gardens online from their office in Osaka, Japan. Ando then drew a sketch that captured the essential features of the design - Ando begins all his designs drawing by hand.

2. Tadao Ando's ambition was to design a pavilion that would make a lasting impression on visitors. This is what Tadao Ando means when he talks about eternity – a building that would be remembered long after being visited. To help communicate his vision digital renders and a physical model were produced to show how the pavilion would occupy the gardens.

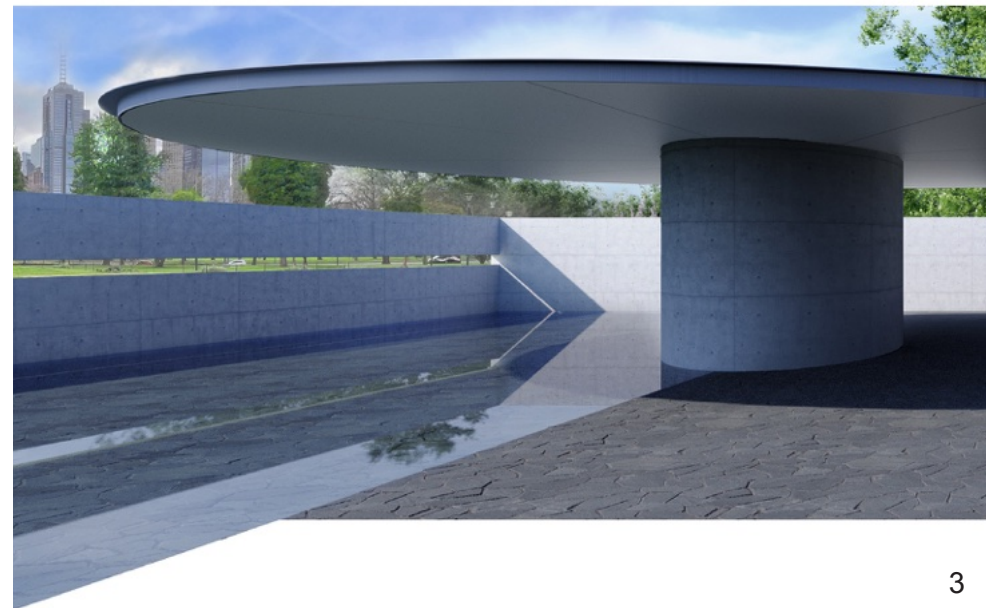
3. Once the design proposal was approved, Tadao Ando was put in touch with Melbourne-based architect Sean Godsell who, in 2014, designed the very first MPavilion. Godsell was brought in as the chief liaison with Tadao Ando. By selecting one person to communicate with Tadao Ando and his office, communications could be easily organised and streamlined. Having built his own MPavilion, Sean Godsell was able to advise Ando with the benefit of first-hand practical knowledge.



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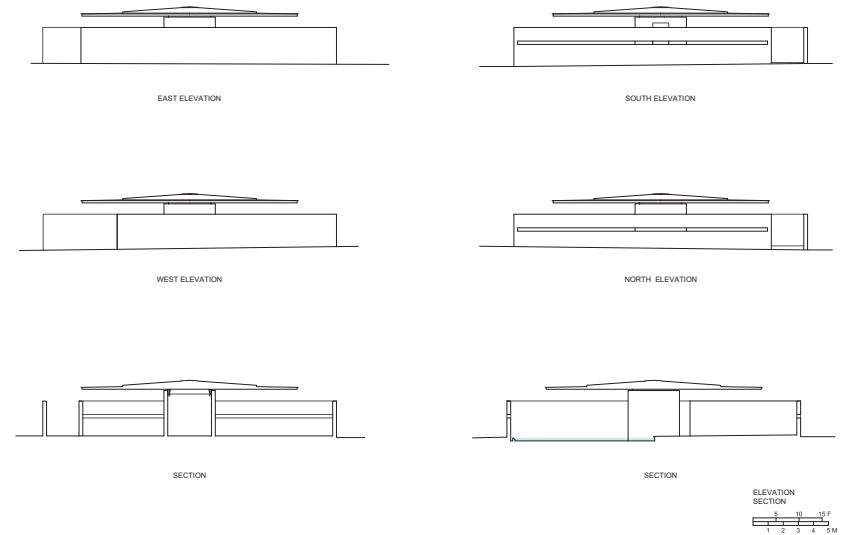
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Tadao Ando MPavilion 10 Design Process

4. The initial plans were translated into precise drawings that included measurements and engineer's calculations. It is at this point that the design began its journey of translation from aesthetic concept to real, physical structure. These drawings were used to specify which materials would be used where, and how they would be engineered to ensure safety and durability.

5. The next step involved finding a construction company that would be able to meet Tadao Ando's high standards of construction. Ando is particular about the concrete in his buildings, and has developed his own special recipe during his career. In the past, he has even been known to demolish walls that did not meet his expectations. Kane Constructions was selected as the company that would be able to build MPavilion 10.

6. Throughout the process of construction the Kane team had to develop techniques to achieve challenging aspects of the design. One of the trickiest parts was the long, open 'ribbon windows' that measure seventeen metres without any supports in between. To ensure that the structure could bear the weight of that much concrete a very heavy duty system of steel reinforcement was developed. This part of the process took place under the protection of a temporary marquee to shield the site from rain.



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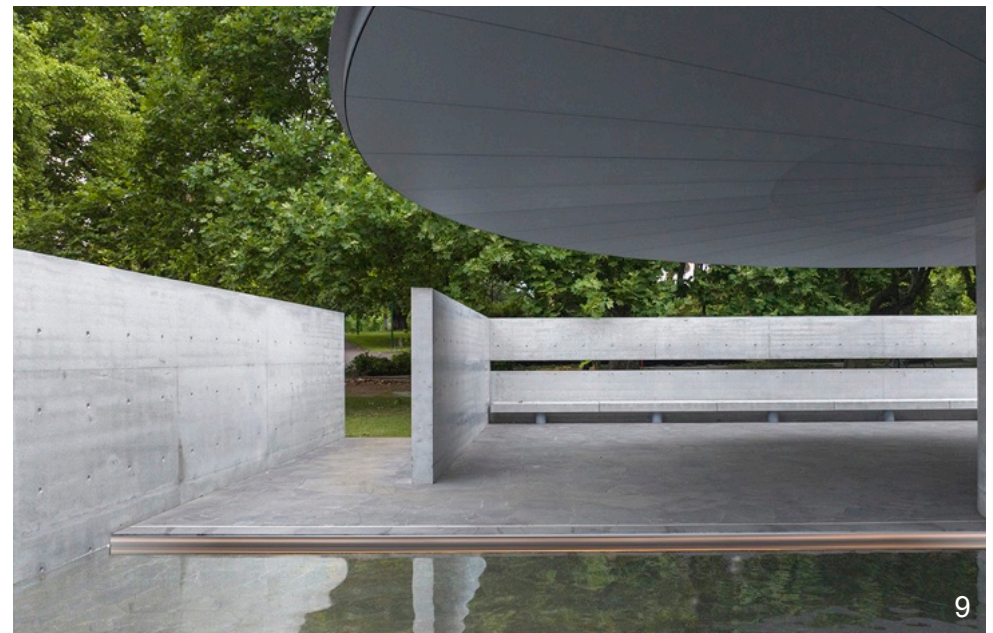
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Tadao Ando MPavilion 10 Design Process

7. The concrete forms that make up the walls, central column and floor were cast onsite. To do this form boards were erected that would hold the liquid concrete in the right shape until it set. Once the concrete elements were finished, the circular roof was assembled piece by piece on site, using steel for its framework and aluminium for its surfaces.

8. Once complete, the roof was lifted onto the supporting pillar using a crane. To do this the weather had to be calm. If it had been windy on the day the manoeuvre would have to have been postponed - luckily all went to plan!

9. Finally, the blue stone paving was laid and the reflection pool inside the building was filled with water. After that, the scaffolding came down and MPavilion 10 was open to the public.



MPavilion Commissions

Each year MPavilion commissions items of furniture, clothing and artistic works to accompany the new pavilion design.

Musical Composition: Wominjeka Song Cycle

Deborah Cheetham Fraillon AO and Dhungalla Children's Choir
Every year since 2014, MPavilion has commissioned Deborah Cheetham Fraillon AO to compose a musical expression of welcome in the traditional language of Bunjil's River Country to open the season and each new composition is the first performance hosted at the MPavilion. Cheetham performs the composition with the Dhungalla Children's Choir, which is made up of Indigenous children from across Australia.

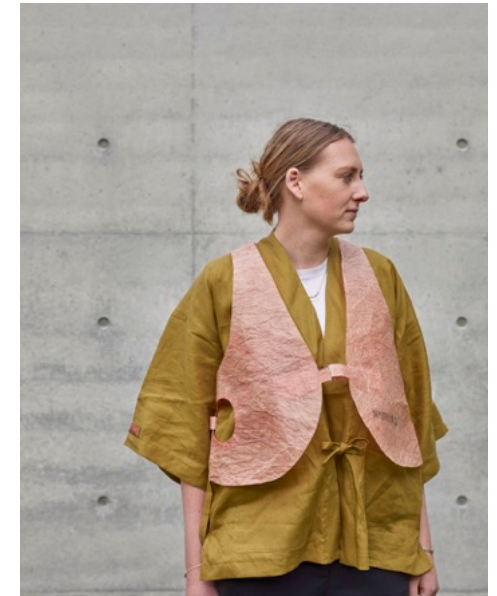


Fashion and Textile: MPavilion 10 Uniform

Each year a new uniform is commissioned for MPavilion staff to wear. This year's uniform was designed by DNJ Paper, the Melbourne-based collaborative duo of Daphne Mohajer va Pesaran and Jake Nakashima-Edwards that create paper clothing, accessories and objects. DNJ Paper operates as both a research project and a fashion label, and Mohajer va Pesaran and Nakashima-Edwards see their work as both a way to innovate through material technology, and as a means to critique dominant textile industry practices through sustainable, low impact processes.

“We aim to address pressing social, aesthetic, and conceptual questions related to fashion and textiles design.”

—Daphne Mohajer av Pesaran and Jake Nakashima-Edwards



Furniture Design: MPavilion 10 Chair

Each year an open competition is held and the winner is commissioned to produce a chair for the new MPavilion. This year's winning chair was selected by Tadao Ando himself from nearly 100 entries from Australian and international designers. The winning chair is named Circle|Square and has been designed by Melbourne-based Davidov Architects.

“Davidov’s concept shares my fascination with the geometry of circles and squares and is responsive to the pavilion’s design.”

—Tadao Ando on why he chose the Circle|Square design for MPavilion 10

The name of the Circle|Square reflects the geometry that is used in its design.

“We quickly gravitated towards a response we felt would pay homage to the lessons of restraint and geometry we had learnt through studying (Tadao Ando’s) work, while also representing our own approach to design (...) our initial impetus was the emphasis he placed on the circle and square. The exploration of architecture that celebrates pure geometry..”

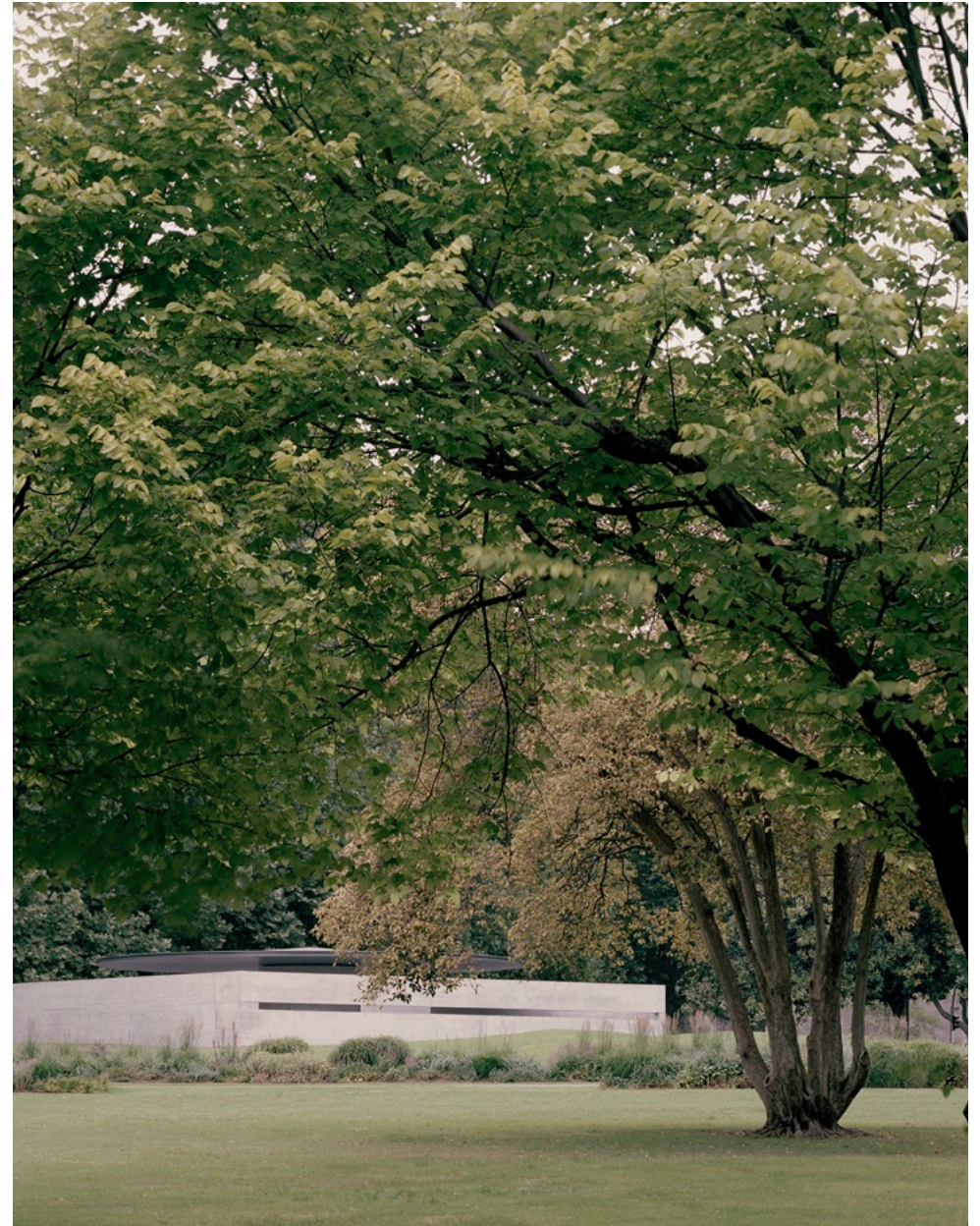
—Davidov Architects speaking about the design process for the Circle|Square chair



MPavilion relocation:

At the close of each season the current MPavilion is gifted to a Victorian organisation, this is to make space for the next MPavilion. Interested organisations apply to 'adopt' each MPavilion and the most appropriate site is chosen. Recipients of MPavilions include the University of Melbourne, Melbourne Zoo, RMIT University and the Hellenic Museum. This strategy means that each previous MPavilion remains available to visit, and Melbourne has also gained access to a diverse collection of architecture by leading architects.

The new location for 2023 MPavilion is yet to be confirmed - please see mpavilion.org for future relocation announcements.



Inquiry questions:

1. Have you seen a building that incorporates water before? Does contemplating the reflection pool affect the way you feel?

2. Have you ever been in another building that was open to the elements? Why do you think Tadao Ando chose to make his building open to the sun, wind and rain?

3. If you could design the next MPavilion, what materials would you choose and why? How could you select materials to influence how visitors might feel or think?

Inquiry questions:

1. Tadao Ando's inspiration for MPavilion 10 was to create an experience that would live on in the memories of visitors long after the actual building was gone. Do you think he has succeeded? If so, how has he achieved his aim?

2. MPavilion 10 is a site-specific design because Tadao Ando considered the Queen Victoria Gardens and its public very carefully before producing his design - including the features of the landscape and the kind of experiences people go there to have. How does Ando's design relate to the plantings of the site? Does the design shape a particular kind of visitor experience? If so, how?

3. One of the ambitions of the MPavilion 10 is to create a space that invites contemplation. How do you think Tadao Ando has used materials (concrete, water) and spatial design to try to achieve this outcome?

Primary activity:

Tadao Ando has designed a pavilion that uses simple geometric shapes and a limited selection of materials (concrete, aluminium, basalt and water) to create an experience of calm and quiet. MPavilion 10 is also very open to nature and weather, with permanently open doorways and window-like openings that have no glass. Ando also aimed for MPavilion 10 to be a space in which people would feel tranquil, calm and relaxed. Consider your audience the site of Queen Victoria Gardens, including the history, culture and relationship to Country maintained by its Indigenous custodians.

Your task is to design your own MPavilion using the same approach as Tadao Ando, using only simple geometric shapes to create your own space that will allow visitors to unwind and relax. Think about how different shapes make you feel. Will you use soft curves, straight edges, or a combination of both? How do curves feel different from right angles? Limit yourself to squares, rectangles, triangles, circles, ovals and rhombuses (diamonds). When you design your MPavilion, draw the landscape it is in as well. You could include bodies of water (ponds, fountains, or creeks), or landscape features (boulders, trees, and lawn), or a combination of both – don't forget the wildlife! Consider how Tadao Ando has used water in MPavilion 10 to create a sense of connection to nature. Research buildings that are designed to facilitate meditation for different communities, such as temples or churches, to help you to generate ideas.

Annotate your drawing to show what materials you use, considering sustainability in your choices. Include people in your drawing so viewers understand the scale of your design relative to the real world, and to show how you intend for visitors to interact with your design.

Excursion tool kit:

Coloured pencils

Paper or visual diary

Hats, sunscreen and water bottles

Australian Curriculum links:

Design and Technologies: Knowledge and understanding; technologies and society: (AC9TDE4K01)

Design and Technologies: Processes and production skills; generating and designing (AC9TDE4P02)

- examine design and technologies occupations and factors including sustainability that impact on the design of products, services and environments to meet community needs
- generate and communicate design ideas and decisions using appropriate attributions, technical terms and graphical representation techniques, including using digital tools

Victorian Curriculum links:

Design and Technologies Contexts / Materials and technologies specialisations

Design Technologies / Technologies and Society: (VCDSTS023; VCDSTS033)

- Considering the impact of environments on users.
- considering the impact designed solutions have in relation to sustainability and also on local, national, regional and global communities, including Aboriginal and Torres Strait Islander communities and countries in the Asia region

Secondary activity:

Naomi Milgrom commissioned Tadao Ando to design MPavilion 10 because she admired his sensitive approach to place, and his conviction that architecture ‘can shape society’.

One way that Ando’s MPavilion 10 has achieved its aim to positively shape the place it is located is by providing a space designed for quiet, peaceful contemplation within Melbourne’s busy centre. Ando’s approach is as much about the people who will visit MPavilion 10 as it is about how his building will relate to its surroundings.

Your task is to create an MPavilion design that is specifically intended for your peers to relax, contemplate and feel calm. You can express this as an annotated drawing or plan. Consider: what is it that your peers look for in a ‘downtime’ space, and how does that differ to adults? For example, will there be internet connectivity, or is it better to provide a space where people can take a break from being online? What kind of furniture will be there, do you want people to sit and think, or recline and sleep? What forms will your pavilion use, will it be wide and low, like MPavilion 10, or high up, to give an expansive view onto a landscape? Alongside these questions, be mindful of sustainability. Choose your materials and construction techniques with environmental impact in mind. Will you use metal, which lasts a long time but requires heavy resource mining to extract? Or will you use fast growing eucalyptus, that will be locally sourced but will also need to be replaced sooner than steel? Research the Indigenous history and culture of your site. Whose Country is it? How was this land valued by its traditional custodians, and how can you work respectfully and sensitively in relation to those relationships to Country?

Extension:

Working at school, develop your drawing as an architectural scale model using simple materials such as cardboard and tape.

Excursion tool kit:

- Pens and pencils
- Loose-leaf paper, visual diary and/or digital device
- Hats, sunscreen and water bottles

Australian Curriculum links:

Design and Technologies: Knowledge and understanding – Technologies context – Materials and technologies specialisations; Technologies and society (AC9TDE10K06; (AC9TDE10K02)

- analyse and make judgements on how characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions
- analyse the impact of innovation, enterprise and emerging technologies on designed solutions for global preferred futures

Victorian Curriculum links:

Design and Technologies / Technologies and Society: (VCDSTS044; VCDSTS054)

- investigating traditional and contemporary design and technologies, including from Asia, and predicting how they might change in the future in response to factors such as social change and the need for more sustainable patterns of living
- evaluating design and technology professions and their contributions to society locally, nationally, regionally and globally, for example Aboriginal designers collaborating with international craftspeople for local enterprises

Extension materials

Tadao Ando Architect and Associates website

<http://www.tadao-ando.com/>

Short Film: Documentation of Tadao Ando's Church in the Water

<https://youtu.be/pXLpBz34bU8>

Tadao Ando - in his own words

<https://www.youtube.com/watch?v=0kuLUrEGUOc>

Planning your visit

Though the MPavilions change each year, the location remains the same. You can find MPavilion located in the Queen Victoria Gardens, directly opposite the Arts Centre Melbourne, on St Kilda Road. MPavilion is open twenty-four hours a day and diverse free programs run back-to-back throughout the season. You can plan your visit to coincide with education-centred events for students and teachers by checking [here](#). The full-to-bursting program of free events for the general public can also be accessed [here](#).

Acknowledgments

This resource was devised and written by Andrew Atchison for MPavilion, November 2023.

Next steps: Visit previous MPavilions

All of the previous MPavilions either have, or are soon to be, been relocated to new locations within and around metropolitan Melbourne, and most are available to visit at no cost.

- 2022 MPavilion by all(zone) soon to be relocated to RMIT University's Brunswick campus
- 2021 MPavilion by MAP studio is soon to be relocated - watch this space. Admission free.
- 2019 MPavilion by Australian architect Glenn Murcutt can be visited at the University of Melbourne. Admission free.
- 2018 MPavilion by Spanish architect Carme Pinós is soon to be relocated to Monash University's Frankston campus. Admission free.
- 2017 MPavilion by Dutch architects Rem Koolhaas and David Gianotten of OMA can be visited at Monash University, Clayton campus. Admission free.
- 2016 MPavilion by Indian architect Bijoy Jain for Studio Mumbai can be visited at the Melbourne Zoo. Ticketed admission.
- 2015 MPavilion by British architect Amanda Levete for A LA can be visited at Docklands Park. Admission free.
- 2014 MPavilion by Sean Godsell, since modified, can be visited at The Hellenic Pavilion. Ticketed admission.

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