



PARAMETIC ARCHITECTURE

# ARCH. SHOWCASE

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**B & DANCE DESIGN PROCESS**

SUSTAINABILITY AND HUMAN INSPIRATION IS INNATE TO GOOD DESIGN AND HE FOCUS-  
ES ON MINIMIZING ENERGY USE NATURE MATERIAL DURING AND AFTER CONSTRUCTION.  
HE IS LEADING A CREATIVE TEAM WHO ARE COMMITTED TO EXTENDING THE LOCAL AND  
INTERNATIONAL ARCHITECTURAL DISCOURSE THROUGH ONGOING DESIGN RESEARCH,  
STUDIO TEACHING, WRITING AND LECTURING ABOUT ARCHITECTURE AND DESIGN.  
BELIEVE THAT ENVIRONMENTAL SUSTAINABILITY AND ENERGY EFFICIENT BUILDING PRIN-  
CIPLES ARE INTEGRAL TO "SUITABLE DESIGN" WITH THE INTENTION TO

## **B & DANCE DESIGN**

2019-2020

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IMPROVE QUALITY OF LIFE AND COST INTO THE FUTURE. THIS DESIGN PROCESS  
(1. SITE AND CONTEXT ANALYSIS 2. CONCEPT DESIGN 3. DESIGN DEVELOPMENT) CAN  
REDUCE THEIR HOME'S RUNNING COSTS, MINIMIZING ENERGY AND WATER USE, SUCH AS  
INCREASING ACCESS TO NATURAL DAYLIGHT AND SELECTING SUITABLE ENERGY EFFI-  
CIENT PRODUCTS AND WATER SAVING OPTIONS.

Hamzeh Najjar - Project Director

Soil & Water Design Group  
Soil & Water Developments Group



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B & Dance project is located at Albert Rd Melbourne and considered Melbourne weather conditions, suitability and green design.

Architecture design and concept inspired by SAMA dance to show a combination of Time and Movements.

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B & DANCE  
BUILDING

Contemporary designs which show sympathy and resonance with the original form and design of a building and/or the character of an area, without replicating past historical styles, forms or detailing. The design would need to demonstrate deference and “good manners in architecture” to existing significant structures and to any neighbouring significant and/or contributory buildings, through the appropriate use of such things as materials, textures, colours, finishes, rhythms, proportions, scale, angles, roof forms, solid/void relationships, massing, setbacks and planting. In order to develop a sympathetic response having the capacity to resonate with the character of the area without replicating the past, we need to develop a design process and concept that can support such. The three basic ideas in this process will be Abstraction, Biomorph and Transformation.

**Abstraction:** (Sama Sufism): Dance and architecture are two disciplines of creativity that share a special relationship. Dance is movement of the human body through space over time. Architecture and its spatial qualities are experienced by the human body through movement over time. Movement, space, and time are the three most silent characteristics shared by dance and architecture. All three elements are inseparable and must be present for dance and architecture to exist. Dance and time through experience and memory. Time in architecture reveals spatial qualities. Time in architecture allows for generosity and growth.

**Biomorph (Kidney):** The relationship between architecture and nature is explored through ‘biomorphic aesthetics’ to determine the application of form, functionality and design. Design emphasizes natural shapes and patterns. As such, biomorphic architecture is inspired by organic forms like human anatomy, animals, or the natural elements (i.e. modelling a building's exterior after birds' wings). Biomorph is one of the themes in the architectural approach that has a principle concern for the environment (nature), in which this approach was born from the idea of the importance of nature and oriented to the environment.

**Transformation:** The principle that an architectural concept, structure, or organisation can be altered through a series of discrete manipulations and permutations in response to a specific context or set of conditions without a loss of identity or concept. Rotation is the act of rotating a figure around a point. It changes the orientation and location of the figure. Architecture uses rotations when trying to increase interest and ingenuity in the structure.

Consideration of the movement in B & Dance consistent by Movement which is inspired of dancing.

- 1- Movement of the mind in itself
- 2- Movement caused by environmental forces
- 3- Motion factors

Throughout the history of architecture, interest in movement has been summed up in the form of static forms on maps and has been trapped. Therefore, urban areas and urban movements were also recognized and used as fixed and fixed projects.

1-1 Dynamic forms Movement exists not only in simple forms but also in formal combinations. Each formal contradiction has a mobility that manifests as a reciprocal relationship between the given stresses. The dynamics of a work are likely to be influenced by its fit and form. A building that is symmetrical and has conventional proportions induces less dynamism than a building whose elements are contradictory and complex.

1-2 Deformation occurred by chance during the Renaissance. Deformation creates movement by creating contrast, variety, and ambiguity, which creates conflict, diversity, and ambiguity in material and immaterial factors. (Material factors: materials, scale, form, etc.) and intangible factors such as light and shadow, etc.) One of the first deformed design is Ronchamp Chapel, which causes movement through contrast and variety. In deconstruction architecture, all the factors of contrast, variety and ambiguity are used to create movement in deformed spaces.

2- Movement caused by environmental forces in architecture, by substituting meaningful elements of architecture with formal elements (surface and volume), more stable perceptions of the space can be replaced by instantaneous perceptions. These meaningful elements are in fact the same cultural symbols of each nation that most postmodernists used these symbols and caused the mind to continue in a movement between the past and the present.





## Pre-Design

### Site Context Recording/ Analysis

"We don't have preconceived ideas; we work, we analyze, we read, we step into projects knowing that we're not the first ones there."

Elizabeth Diller

Site conditions play an important role in influencing the following issues:

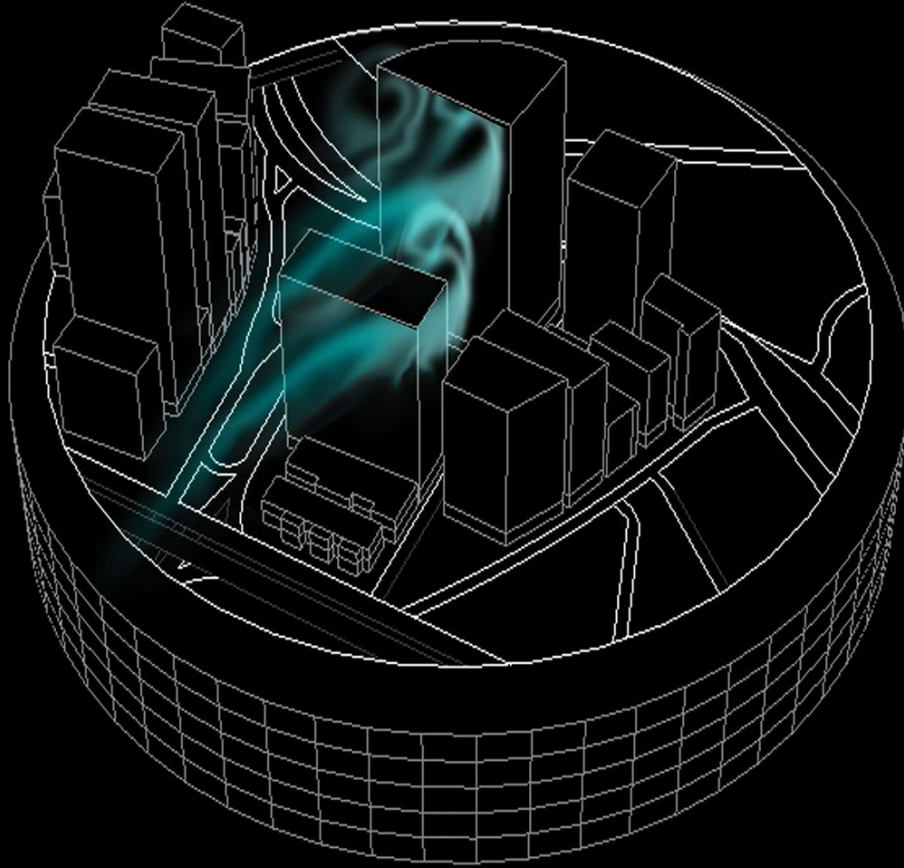
1) The siting of a building 2) The orientation of the building (i.e. north orientation and shading requirements) 3) The functional and formal outcomes of the proposed building. According to the Melbourne climate conditions, winter winds are from North, East and North-Eastern directions. We have to pay more attention regarding to materials and plant to protect the building from noise and received the summer wind which means this side of the building should have a more attention.

How we can site a building with real sensitivity and optimise passive design opportunities if we do not understand the nature of the site?

This building is located at 1 Albert Rd, Melbourne.

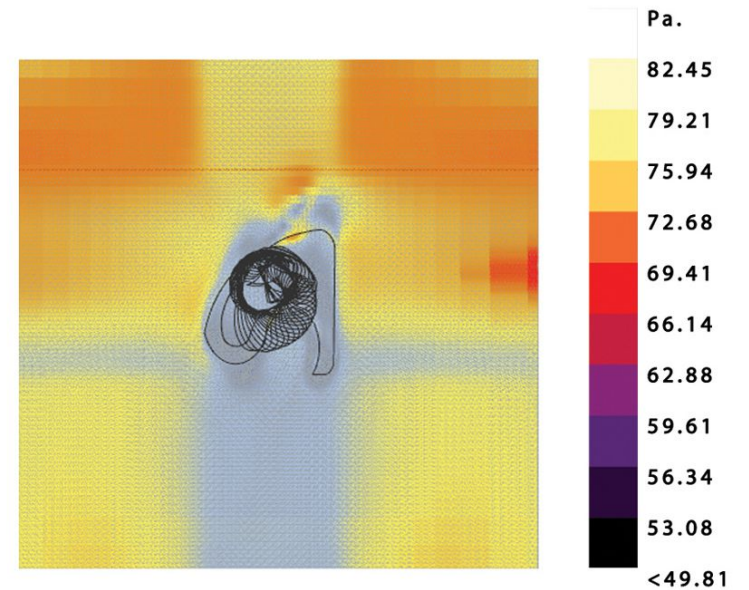
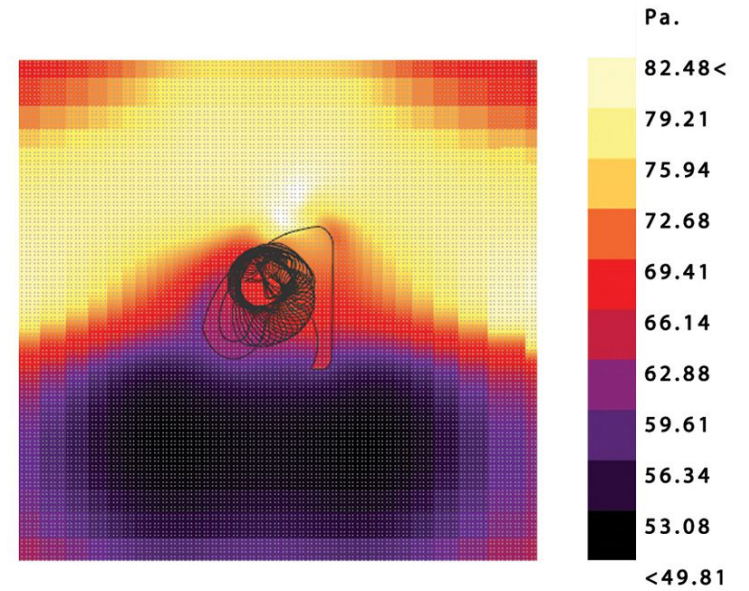
The Concept and Design are based on the Melbourne weather conditions, Suitability and Green Design to increase the cold in summer and heat in winter.

Access to the building through the street Bowen Lane, St Kilda Rd and Albert Rd. This building is programming for Residential and Office. Two main doors are considered for this Building, one door for people from the St Kilda Rd and Carpark door at Albert Rd.

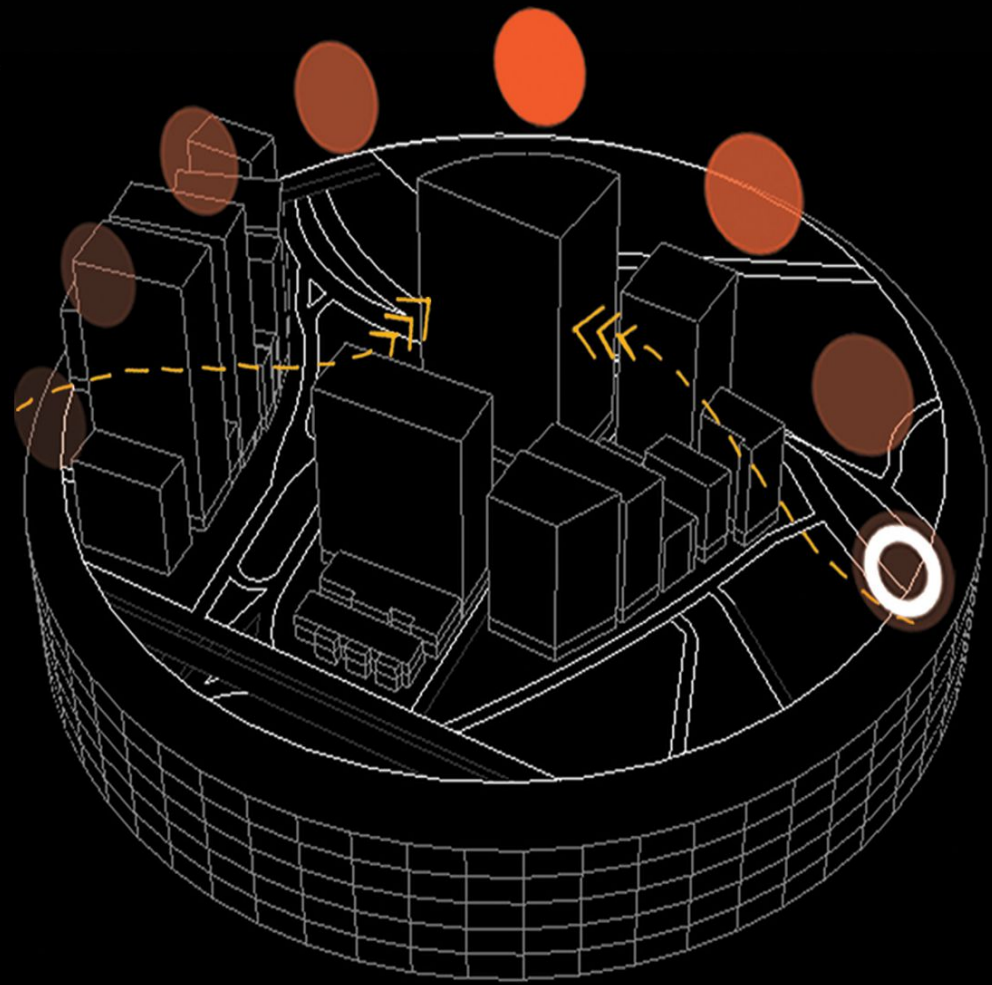
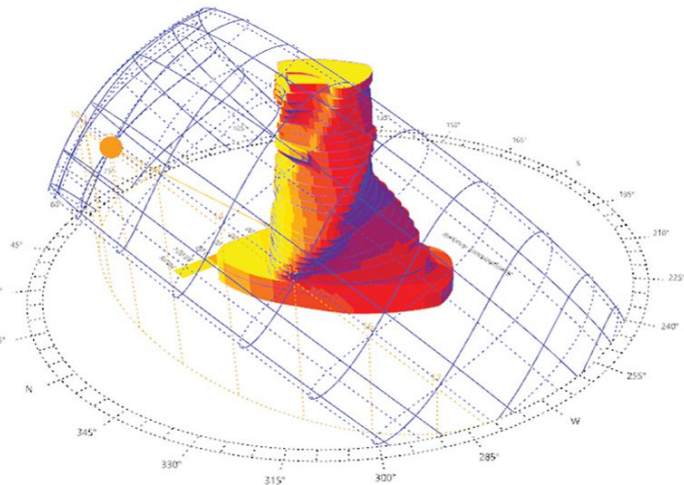
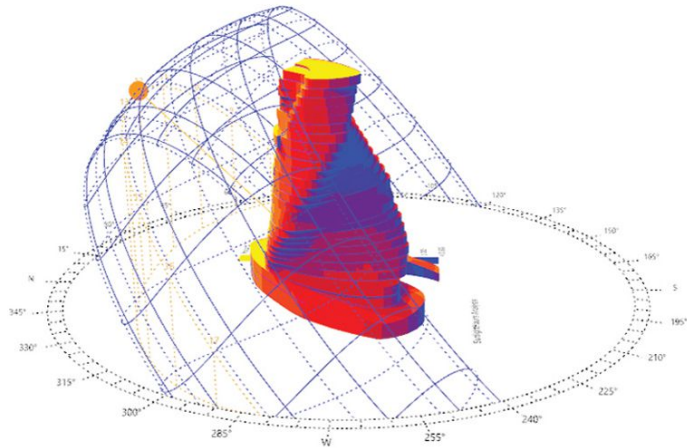
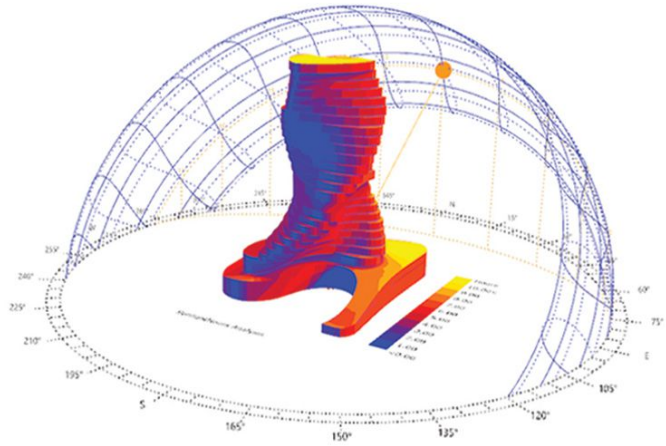


## Prevailing Winds and Airflow

Eastern side of the building should be considered in such a way as to prevent cold form winds. Summer winds are from the South and Southwest from the Albert Park and lake. To get a breeze in the summer, we can consider the design as an empty space in the face of building with the curvature of the design to direct this breeze towards the most points of the building.

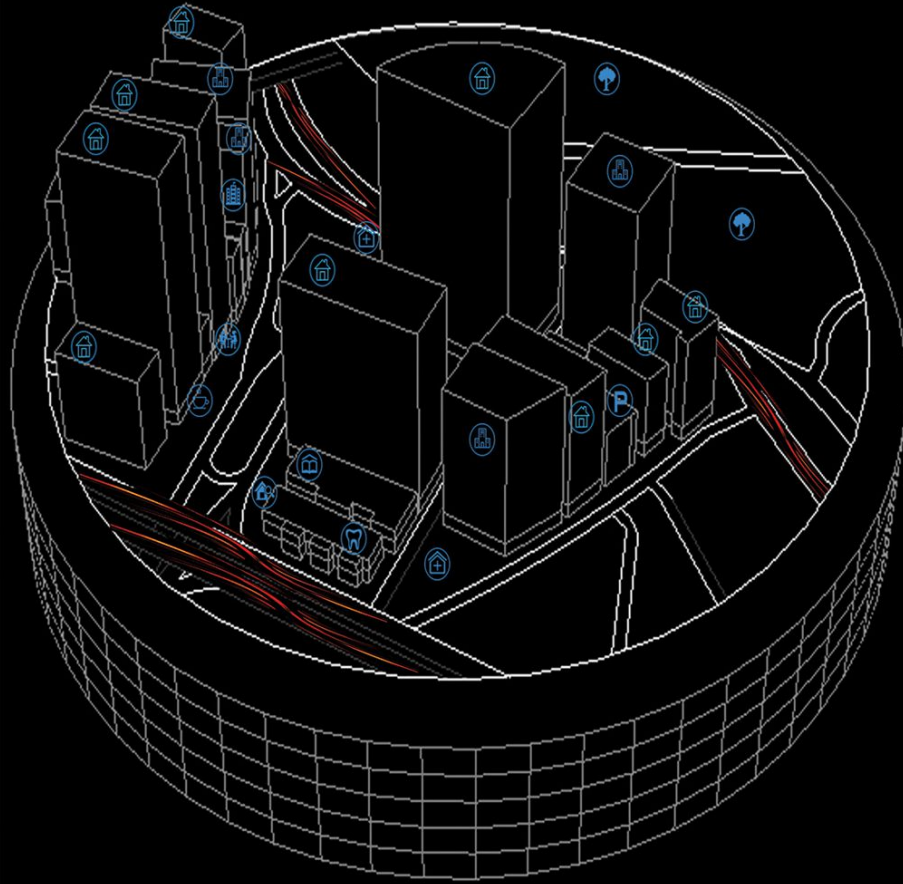






## Sun's Radiation Angle

East of building severs heat from sun in the winter and to be able to attain sunny times due to the radiation of the sun 29 degrees which creates heat in winter. The sun's radiation angle In summer, is 76 degrees. In West corner of the building, the design must be examined in such a way that we prevent sunlight into the Building and create a shadow. We can consider this by creating a spin on this side and produced a depth space with horizontal plants in summer.



## Public Space Details

Kings way one the main crowded road is located down of the building which is making more noise, in the March noise will be double because of the Formula one racing in Albert park however another high raised building in south side will be preventing our building from too much noise

| P 01 |



| P 02 |



| P 03 |



# Develop Design Concept

## Design Process and Ideas

19 February 2020

“Contemporary designs which show sympathy and resonance with the original form and design of a building and/or the character of an area, without replicating past historical styles, forms or detailing. The design would need to demonstrate deference and “good manners in architecture” to existing significant structures and to any neighbouring significant and/or contributory buildings, through the appropriate use of such things as materials, textures, colours, finishes, rhythms, proportions, scale angles, roof forms, solid/void relationships, massing, setbacks and planting.” In order to develop a sympathetic response having the capacity to resonate with the character of the area without replicating the past, we need to develop a design process and concept that can support such. The three basic ideas in this process will be Abstraction, Biomorphic and

Consideration of the movement in Architecture

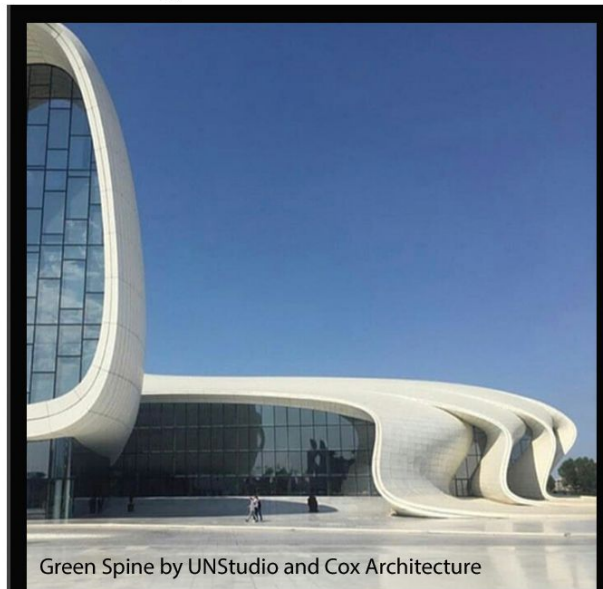
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Deformation occurred by chance during the Renaissance.

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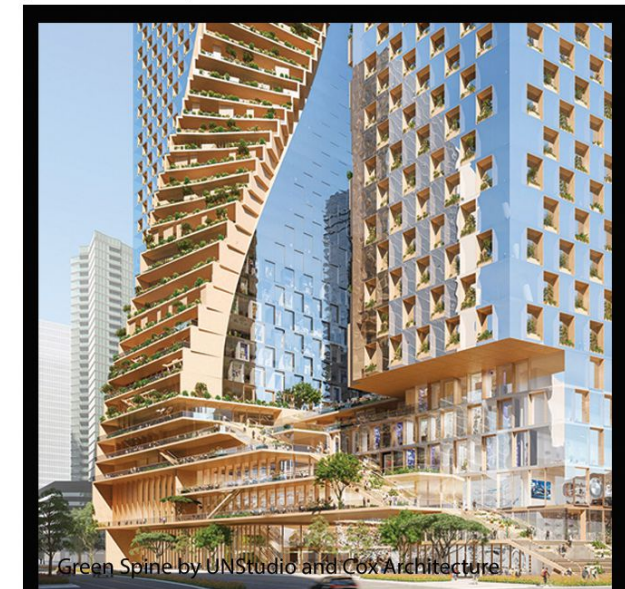


In deconstruction architecture, all the factors of contrast, variety and ambiguity are used to create movement in deformed spaces.

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In architecture, by substituting meaningful elements of architecture with formal elements (surface and volume), more stable perceptions of the space can be replaced by instantaneous perceptions.

These meaningful elements are in fact the same cultural symbols of each nation that most post-modernists used these symbols and caused the mind to continue in a movement between the past and the present.





### **Abstraction (Sama Sufism)**

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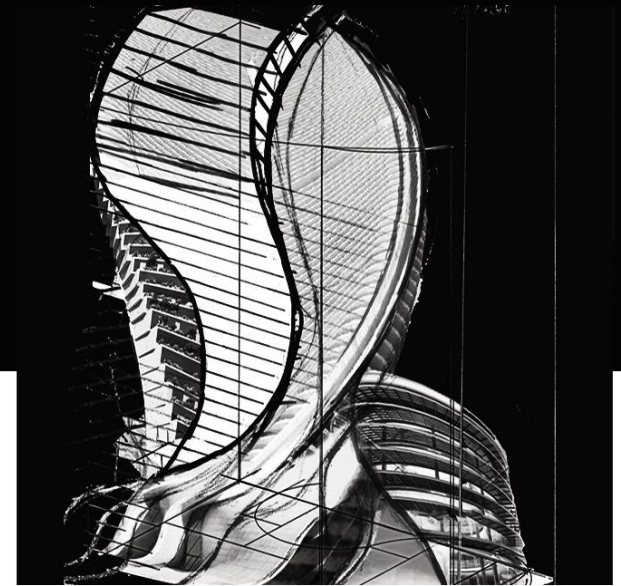
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## Design Process and Ideas

### Precedents and Visual literacy in Architecture

#### Geometry:

In this article, networks expand on the repetition of simple geometric shapes by multiplying, combining, and dividing.

Geometry has been used as a design tool in the history of architecture. The realm of geometry is the creator of the architectural form associated with measuring and determining its value.

The overlap is created by creating a third shape by combining the other two shapes.

The overlap of simple interconnected shapes gives rise to a common space that is as complex as a general arrangement.

Radial and spiral geometric combinations contribute to having a central centre. A particular type of overlapping geometry that is common in architecture is a combination of a rectangle and a circle.

#### 1- Balance using geometry:

Elements with two different form languages exist on both sides of the equilibrium axis. It is called equilibrium using geometry.

In this project, two different forms have been created in the main factions to create a visible stretch and movement.

#### 2- Creating units for whole formation:

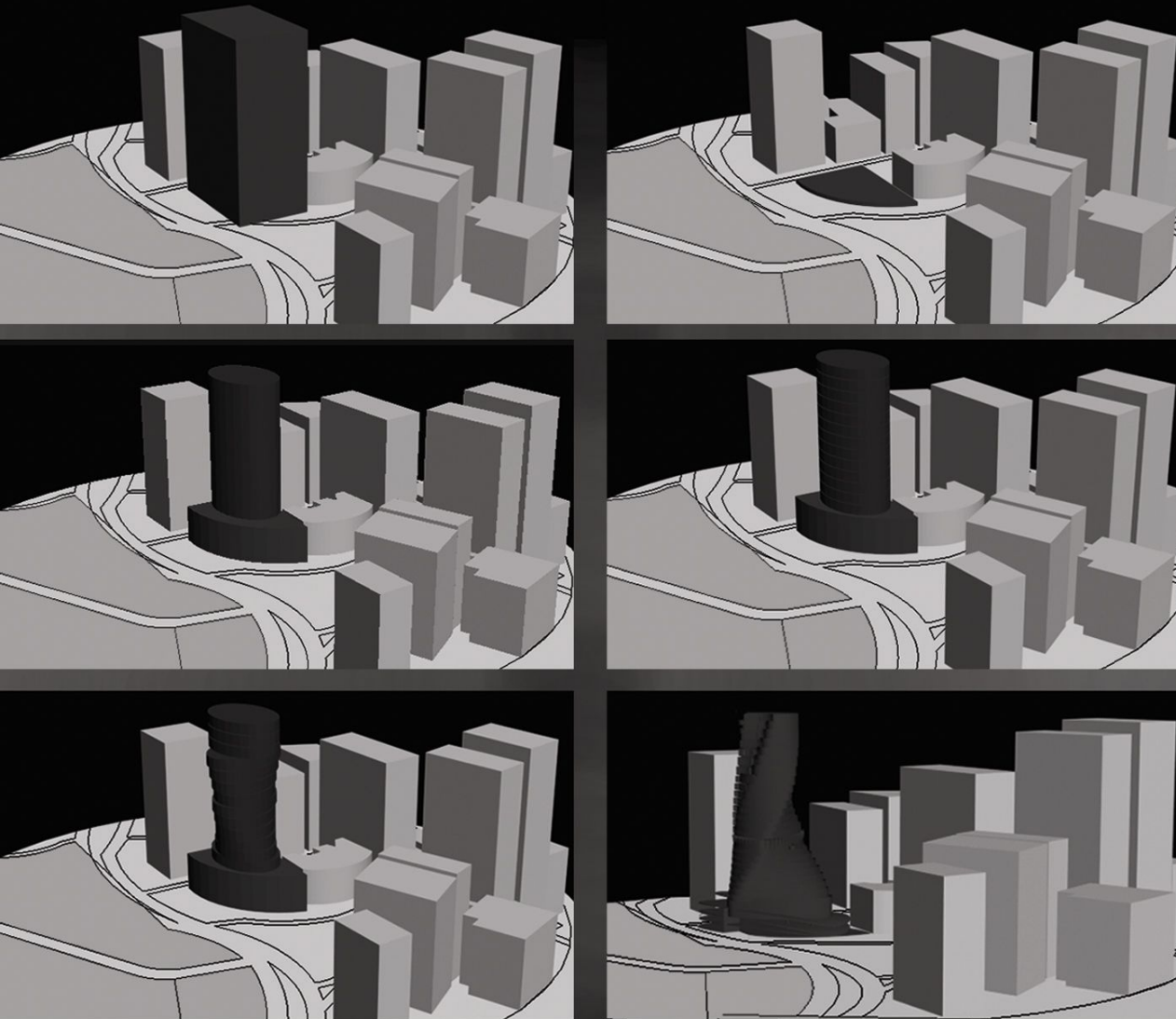
##### 2-1 Overlapping or interfering units

Units can interact with each other to form a whole. Tower is born by creating the interference of two stretched forms and two volumes or shape.

##### 2-2 Connected units

This can happen when forms make a whole of visible geometry.

In this design, the units are placed around an axis and form and create motion.



# Develop Design Concept

## Environmental Sustainability Considerations

19 May 2020

### Landscaping:

Resolving the external aspects of the site in a wholeistic manner in accordance with the building design is good practice and extends the ESD opportunities further. Consider how you might incorporate the following as part of:

**Soft Landscaping:** Shading trees/ Edible gardens/ Composting/ Water usage/ Other

**Hard Landscaping:** Permeability/ Recycling

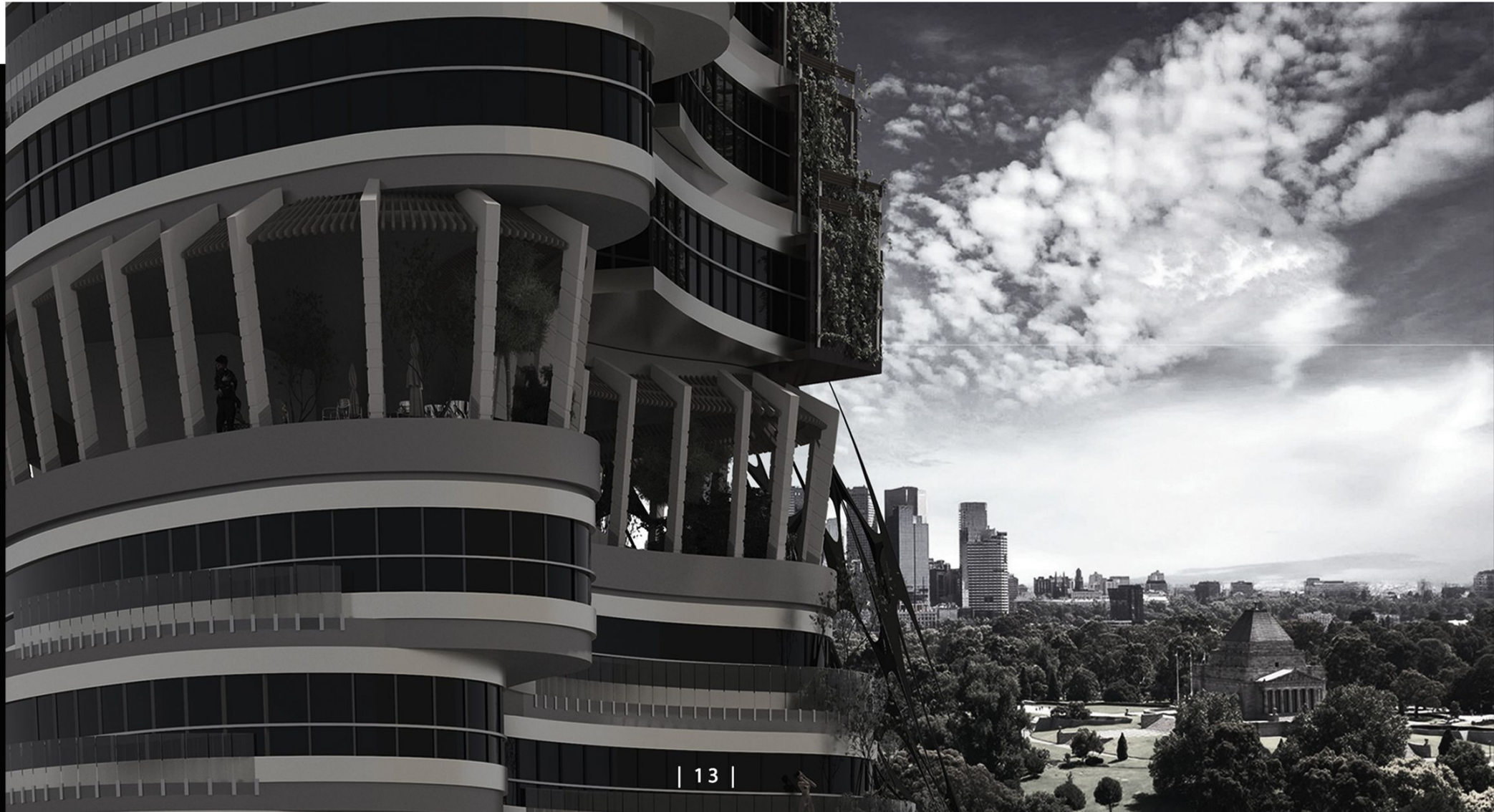
### Products:

Encourage environmental sustainability at a residential level have become commonplace. However, the inclusion of these elements into a site or building needs to be considered at the early design stage.

**Water:** Rainwater/ Greywater/ Tapware/ Other

**Sun:** Solar Panels/ Other

**Wind:** Cross ventilation/ Clothes drying/ Other



# Design Process and Ideas

## Movement and Form in Architecture

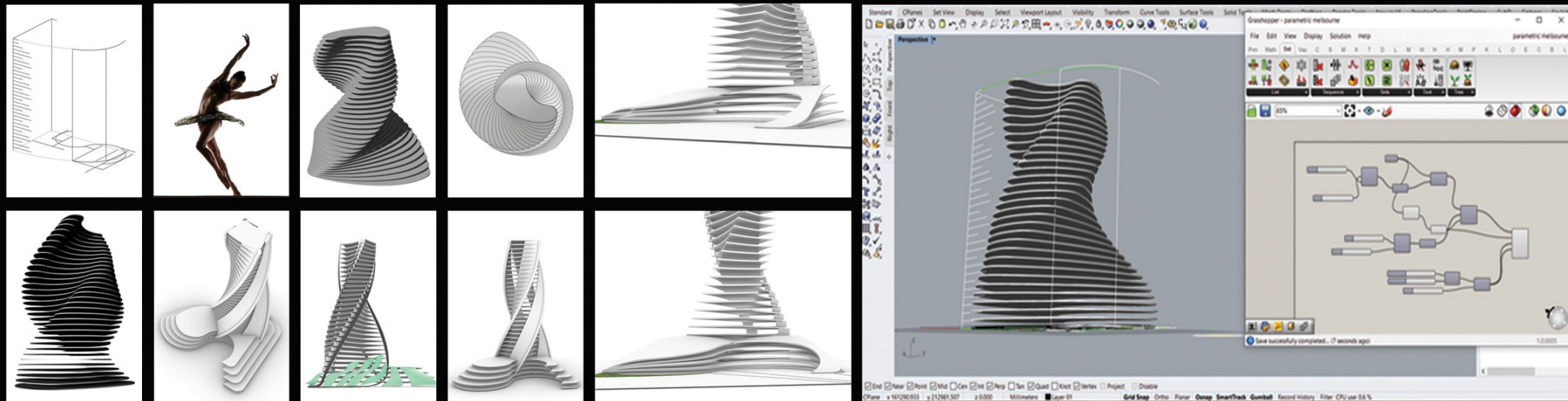
13 June 2020



In everyday life, we come across different issues that we may not seem to have a connection to, but in the space between these issues we are constantly moving mentally or physically.

In the book Space-Time-Architecture, Sigfried Giedion divides the path of space throughout history into three categories:

- 1) Imagining a space that means combining volumes, different buildings with each other, it seems that the observer must have a movement around the volume to understand the whole subject, such as the pyramids of Egypt.
  - 2) Attention to the interior of buildings and the issue of arching at this stage with the emergence of perspective, created the movement in interior spaces and in this regard, more importance was given to interior architecture and tried to create spaces with different sensory perceptions.
  - 3) Pay attention to the interior space and re-emphasize the volume in shaping the exterior space.
- This has led to the view that in architecture, the choice of angle viewing of buildings is mainly reflected in the perception of space.



# Develop Design Concept

## Construction, Materials and Product Tech.

07 October 2020

"What I try to do is the art of building, and the art of building is the art of construction; it is not only about forms and shapes and images." Peter Zumthor We are expected to bring an awareness of basic construction principles, materials and products to this Design project and make an innovation of combination materials Innovation is not always about creating new technologies or materials but evolving what we already have, evolving the given and experimenting with it. In architecture, it could either be using waste materials artistically, using the basic construction materials in a more cultivated manner following the rule of sustainability or using them in a more designated or expressive way.

Concrete is an achromatic symbol of strength that triggers harsh and roughness with human feelings when exposed. However, when appropriate pigmented admixtures added to cement, gravel, sand and water can result in coloured concrete mixtures. Other than aesthetics, it adds a sense of perspective and contrast with surroundings while reducing the dependence on paints and sealants.

It is a thermoplastic carbon fibre composite used in the exteriors of the building solely for resiliency purpose and protecting the structures from earthquakes mainly in Japan. It is the lightest seismic reinforcement, delicate and hence extremely strong adding aesthetics to the structure.

Modular Bamboo fits for the most versatile building construction material. Being light weight, availability in abundance and stronger than steel, this material can take any shape in construction and also act as a major earthquake resistant structure in various parts of the world. Bamboo can grow upto 4 feet in a couple of hours and is majorly used in low-cost housing in Philippines, Indonesia and other low-lying islands.

These panels are formed through air injection in molten aluminium and at a certain temperature, when air bubbles stabilize forming foam panels which create intriguing patterns and layers for opacity, texture, transparency and brightness. As per its manufacturing process, the foam panels can be formed with varied densities, shapes and visibility.





# Major Team

B & Dance team designer are a dynamic and experienced commercial and residential firm based in Australia, Iran, China and Italy. We believe that environmental sustainability and energy efficient building principles are integral to "Suitable Design" with the intention to improve quality of life and cost into the future. This design process (1. Site and context analysis 2. Concept design 3. Design development) can reduce the building's running costs, minimizing energy and water use, such as increasing access to natural daylight and selecting suitable energy efficient products and water saving options.

01/

Principal Designer  
Hamzeh Najjar



Ehsan Sovizi



Hamid Zoab

03/

3d Visualisation  
Hamzeh Najjar  
N2Q Studio

02/

Associate Architect  
Ehsan Sovizi  
Hamid Zoab



Masiha Hokm Abadi



Peyman Moharrami

04/

3D Model  
Ehsan Sovizi  
Hamid Zoab  
Masiha Hokm A.  
Hamzeh Najjar

05/

Site Analysis  
Hamid Zoab

06/

Animation Video

07/

Video  
Hamzeh Najjar



Jacob Xu

08/

Graphic Design  
Peyman Moharrami  
Hamzeh Najjar





