'AB AQUA LIBERTAS'

HOW WATER CREATES A SENSE OF FREEDOM WITHIN DESIGN.

INTERIOR ARCHITECTURE DEP. MTU CIARA WINSTON 01/03/24. CIARA.WINSTON@MYCIT.IE

1 BACKGROUND & JUSTIFICATION:

BACKGROUND:

- Throughout history water has been revered as a crucial element within our society. Hence why in times gone by, water has been depicted within designs in a variation of forms, usually in a decorative sense. For example, ponds, water fountains, water features and walls. (2)
- Water's presence within design in the past was rooted in historical and philosophical connotations and symbology. (1)

JUSTIFICATION:

- As biophilic design evolves, designers have in recent years begun to acknowledge the benefits of using water within their designs. (3)
- Scientists have proven that having water within our proximity can have a variety of benefits to us as humans, in particular, in terms of aestheticism, blue spaces and catharsis. (5)
- Water within our urban environments is also thought to promote balance and serenity. (5)

2 METHODOLOGY

AIMS:

- Research the philosophical and historical connotations attached to water.
- Investigate the design principles attached to water-based design.
- Explore how the benefits and drawbacks to having water within our environments.
- Study the effects of having water within the interior space in relation to the case study: Jewel Changi Airport
- Compare and contrast the research found to the case study and draw conclusions from the results found.

OBJECTIVES:

- Study texts and publications related to the philosophy and history of water within a societal context and how it has been carried over to design.
- Governing research of examples where designers have integrated water within their designs.
- Explore published experiments carried out on having water within a persons environments.
- Conduct an interview with a user of the case study and also by completing a case study based questionnaire amongst design students and recording their responses.
- Examine the overall findings of the research project, draw conclusions and create suggestions for the industry.

Source Material:

Secondary Sources:
- Publications
- Novels

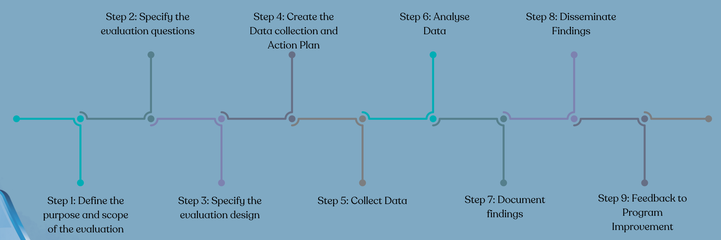
Primary Sources:
- Statistical data obtained through questionnaires.
- Professional opinions from interviews.

Sample Selection:

Will be obtained through dimensional sampling model (a small group with design knowledge) in order to improve the reliability of data collected.

Data Evaluation:

Data will be mixed mode (both qualitative and quantitative) and will be evaluated by following Janet Wall's evaluatation framework, specifically in reference to step 6.



Janet Wall Evaluation Framework

TOOLS:

Mixed Mode Research Tools (qualitative & quantitative)
- Literature
- Interview
- Questionnaire

3 CASE STUDY: JEWEL CHANGI AIRPORT INTERIOR

- **WHO:** Moshe Safdie Architects
- **WHAT:** 7 storey, neofuturistic internal waterfall, recycling water from monsoon season
- **WHEN:** Official Opening: 18th October 2019
- **WHERE:** Singapore Changi Jewel Airport
- **WHY:** To maintain Changi Airports status as a major aviation hub in Asia- Pacific

Architect Moshe Safdie at the Jewel's opening in 2019

The Rain Vortex, Jewel Changi Airport

BACKGROUND/JUSTIFICATION FOR THE DESIGN:

- The Jewel was conceptualised in order to maintain Changi Airport's status as a major aviation hub in the Asia- Pacific. (7)
- It was built over what had originally been the terminal 1 car park. (6)
- The Jewel was also created in order to maximise opportunities for Singaporeans. (7)

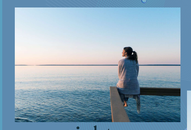
DESIGN DEVELOPMENT:

- The Jewel's rain vortex was designed to combine an envisioning of a marketplace and an urban park. " Its sloped oculus at the mouth of the waterfall is a continuation of the building ...in liquid form" according to Safdie. (8)
- "The component of the traditional mall is combined with the experience of nature, culture, education and recreation, aiming to provide an uplifting experience. By drawing both visitors and local residents alike, we aim to create a place where the people of Singapore interact with the people of the world," said Safdie. (6)

ANALYSIS:

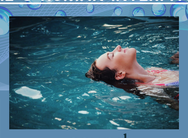
- The rain vortex recycles the rain water collected during monsoon season and adds a sustainable aspect to the design. (8)
- In order to prevent excess humidity the water flow alternates between trickling and cascading that reduces air turbulence. (8)
- According to reviews and research conducted by the airport the reception to the Jewel is overwhelmingly positive and has had a calming effect on its users travelling through the airport. (8)

THE 5 HUMAN INTERFACES:



sight

smell



sound

touch

taste

4 EMERGING CONCLUSIONS:

- Water within our spaces promotes wellness and mental balance
- Water can be used as a sustainable element within designs which is of upmost importance in the current climate.
- Although water has historical significance it is apparent that at some point in time its worth was sidelined, it is only within the last few decades that its value is being recognised again.
- Water's connection with the five human interfaces or senses has a variety of benefits to our society, especially considering that as a society we spend more time indoors than ever before.
- Water as a design element is primarily being used in Asia and North America, the design industry in Europe, particularly in Ireland has not yet advanced to using water as a creative element within spaces, although we have water in abundance.

5 EMERGING RECOMMENDATIONS:

GOVERNMENT:

- Waters use as a sustainable design tool should be further promoted.
- The benefits of water to people's wellness should be considered in future projects where the opportunity is there in incorporate it within the space.

DESIGN PRACTIONERS:

- The design industry in Europe, particularly in Ireland should look to Asian and North American examples in regards to this topic. From studying examples they might find themselves being inspired to draw attention to the benefits of using water as a creative element eithin their designs,
- Introducing water based design principles into new projects will benefit not only the users mentally but also physically.
- The use of incorporating water may stand to create more functional designs,

EDUCATORS:

- The topic of water and its attributes should be encouraged to students during their degrees,
- Workshops, field trips or site visits should be introduced to courses in order so that students can use their own senses to ascertain how water within spaces can be benficial.

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