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Magna Architecture

Xue Yang

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This thesis contains that threshold space anticipates sensational enhanced experiences. an Escape propose a threshold building that is composed majorly by threshold space that directs people via sensory experiences and diverts them to a fantasy land—— a thermal bath house. Conventional programmatic space is underplayed – instead, this thesis emphasizes threshold space as the primary spatial design factor.

Contemporary threshold are most of the time underplayed as thin surface, or intentionally minimized in terms of thickness. This thesis, contrarily argues that threshold space, as stretched, sometimes shredded space that associate sensorial experience can direct people’s movement in terms of speed and affect people’s focus either shift away ot shift towards the surrounding space, and social interaction.

This thesis chooses Bath as Program the act of bathing is a rituals of daily life in a majority part of the world despite its cultural context in the ancient times, such as Ancient Roman, Finland sauna, Japanese onsen and etc.

The most influential model was Roman bath, which were later shaped the islamic bath or Hammam after the fall of constantinople in 1453, which in turn was the source of inspiration for the British Victorian Baths and contemporary spas. In this model, bathing was an act have such complexity that it required a relatively large building for the different stages of the process to take place.

though there was One common theme threading the evolution of these buildings, is the sequence of spaces associated with the different types of sensorial conditions that the bathers experience as they go through the process of cleansing.

Besides hygiene purpose, baths are also serve as a meeting place for social interaction similar to the contemporary community center where it was common to find reading rooms, food and spaced for exercise. In the contemporary time, thanks to advanced technology, social interaction are more frequently engaged than ever, while spas is more served as an escape for solitude or deep bonding among family and close friends.
AN ESCAPE

THRESHOLD SPACE DESIGN IN

BATH

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Candidate, 2016
Primary Advisor: Molly Hunker
Secondary Advisor: Roger Hubeli,
Sinéad Mac Namara
Syracuse University
Contention

This thesis contains that threshold space anticipates sensational enhanced experiences. An Escape propose a threshold building that is composed majorly by threshold space that directs people via sensory experiences and diverts them to a fantasy land — a thermal bath house. Conventional programmatic space is underplayed — instead, this thesis emphasizes threshold space as the primary spatial design factor.
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### Bath

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Threshold Space

Contemporary threshold are most of the time underplayed as thin surface, or intentionally minimized in terms of thickness. This thesis, contrarily argues that threshold space, as stretched, sometimes shredded space that associate sensorial experience can direct people’s movement in terms of speed and affect people’s focus either shift away or shift towards the surrounding space, and social interaction.

the following chapter unfold the definition of threshold space and categorize them into five kinds in increased scale.

- AS CONCEPTUAL
- AS SURFACE
- AS WRAP
- AS OBJECT
- AS FIELD

the collection of strategies is used to formulate individual design aims and also develop planning tools for the practical shaping of spatiality of transition.
“(...)the **threshold space**, as an **articulation** between spaces, i.e. between outside and inside, between one space and another (between one **reality** and another, is literally a "key space" that can "open up" or "close off" access to a space(...)”

Robert Venturi
Category: THE THRESHOLD SPACE

as program

Enfilade
frame-door-door-door

vestibule
doors-room-door

court
doors-wall-door

pergola
doors-ceiling-door

minor surfaces perceived as threshold
major surfaces perceived as threshold

as entrance

layered
frame-frame

scattered
colonnade-wall

centralized
vault-vault

elevated
plinth-door

as materiality

transparent
revealing
time
needed:

mystical:

reflected
revealing
time
needed:

mystical:

solid
revealing
time
needed:

mystical:

screen
revealing
time
needed:

mystical:
Definition| THE THRESHOLD SPACE
AS CONCEPT

conceptual transition

the installation of video and screen hook-ups invites the visitors to a perception of extended past, it subtly blurs the sensation of being inside or outside the spatial configuration. It reveals the complex nature of a "threshold" as a device, a phenomenon.

Brasserie
Diller Scofidio + Renfro
100 E 53rd St, New York, NY 10022
Classic French brasserie fare elegantly served amid ultra-modern decor in the Seagram Building
Definition | THE THRESHOLD SPACE
AS THIN SURFACE

Element Noren

Exterior noren are traditionally used by shops and restaurants as a means of protection from sun, wind, and dust, and for display of shop name or logo.

Interior noren are often used to separate dining areas from kitchen or other preparation areas, also serving to prevent smoke or smells from escaping.
Interior noren are often used to separate dining areas from kitchen or other preparation areas, also serving to prevent smoke or smells from escaping.

[1] Noren

hapticity kinesthesia

touch | movement

Asian

view | transparency

transparency

Interior noren are often used to separate dining areas from kitchen or other preparation areas, also serving to prevent smoke or smells from escaping.
[2] Bowl wall | double facade

threshold space as an opportunity for visually penetration on building perimeter.
it’s often associate with branding or visual complexity.
synaesthesia would be more focused in this case.
innovative materials usage

A number of innovative materials were used such as a stretchable polymer ceiling material, python textured sheet vinyl flooring and LED floor lighting designed to draw the customer through the store. This project has been extensively published and won numerous design awards.
tactile quality combined with program, lure user communicate with the spatial program in a more intimate way.

With cacoon shape taht reminds people of the quality of softness, this design engaged more with Kinesthesia.

[1] Cacoon
Threshold as an object have the quality of attracting attention. With its sculptural quality it build a playful atmosphere.
A threshold space can often be associated into a filed of threshold space.

A threshold space can often be used as a filter of circulation that directs the flow.
Threshold space as wrap, hugging around programmed volume, creating the sense of wandering and play. The moriyama house modeled after traditional Japanese garden. Itself situated in the center of dense traditional Japanese housing district. It break down major program into scatter and recombined them in order to create increased opportunity of social interaction.
SENSE OF WANDER AND PLAYFULNESS

D.  
C.  
B.  
A.
[2] COMPARISON OF MATERIALALITY

the sharp contrast of materiality highlights the different atmosphere in between Moriyama and its surrounding neighbor. The sharp contrast of the width and view along the circulation enhanced the sense of wandering as well.

[1] DYNAMIC WIDTH OF CIRCULATION

[3] SOFT, LIGHT

[4] ROUGH, HEAVY
Thresholds serve an important role, in that both entering and leaving a space are key moments of the experience of a space. These moments are manifested through the acceleration and deceleration of movement (example...). Meanwhile, materials, lighting, and atmospheric conditions (temperature, humidity, etc) play a decisive role in forming pathways in a threshold space. Spatial obstacles and lighting conditions might invite the user seamlessly stepping in and produce a steady movement pace or on the contrary, slowing down the approach as planned.

It is the space that is perceived through movement, - thresholds constitute an invitation to cross. Threshold exists between two scales: architectural and human, it deals with an interaction with people where sensory design should have been prioritized. This chapter investigates how the following sensational experience affects people's behavior in threshold space, especially in thermal bath.
“(…)while the **tactile space** separates the observer from the objects, the **visual space** separates the objects from each other (…) the perceptual world is guided by the **touch**, being more immediate and welcoming than the world guided by **sight**”

Zumthor, Peter, 2005
threshold space as store front

linear light in frames directs destination

constant or acceleration space

long section
synaesthesia
relationship between elements

Definition
involuntary phenomenon that collects sensory information from one sense and transfers to another
(red as hot, blue as cold)
The act of bathing is a ritual of daily life in a majority part of the world despite its cultural context in the ancient times, such as Ancient Roman, Finland sauna, Japanese onsen and etc.. The most influential model was Roman bath, which were later shaped the Islamic bath or Hammam after the fall of Constantinople in 1453, which in turn was the source of inspiration for the British Victorian Baths and contemporary spas. In this model, bathing was an act have such complexity that it required a relatively large building for the different stages of the process to take place.

Though there was one common theme threading the evolution of these buildings, is the sequence of spaces associated with the different types of sensorial conditions that the bathers experience as they go through the process of cleansing.

Besides hygiene purpose, baths are also serve as a meeting place for social interaction similar to the contemporary community center where it was common to find reading rooms, food and spaced for exercise.

In the contemporary time, thanks to advanced technology, social interaction are more frequently engaged than ever, while spas is more served as an escape for solitude or deep bonding among family and close friends.
"(...) skinship in the bath thus... is in relation to the person, so the objects such as soap, toys and towels used in the water become a part of the experience of bathing, included in the whole intimate experience. There is a removal of any sense of boundary from divergence in temperatures of different surfaces... the water is the thick space that holds them and removes any sense of bundary. The water, its temperature and the mixed surfaces all take any emphasis off the surface or skin of each bather’s bdy and, instead, allow a touching at depth. there is no longer any position of tocher or touchee. through these different surfaces, co-bathers connect and are surrounded in a state of mutuality (..)"

James J. Gibson, 1966
threshold space in sequence

progressing sequence

25°C

28°C

30°C

32°C

34°C

38°C

40°C

42°C

44°C

46°C

48°C

50°C

temperature

rest space

access point

changing room

sweat stone | turkish shower | sauna

bath

therapy

rest space

exit

25°C

28°C

30°C

32°C

34°C

38°C

40°C

42°C

44°C

46°C

48°C

50°C

34°C

aquatherapy
physiotherapy
orthopaedic bed
fango prep room

32°C

30°C

28°C

25°C
A number of innovative materials were used such as a stretchable polymer ceiling material, python textured sheet vinyl flooring and LED floor lighting designed to draw the customer through the store. This project has been extensively published and won numerous design awards.

bath as sequential collection of threshold

This thesis propose a threshold building that is composed majorly by threshold space that directs people via sensory experiences and spatial quality. Conventional programmatic space is underplayed – instead, this thesis emphasizes threshold space as the primary spatial design factor within the design of a bathhouse. The building design intends to capture and create an experience of recognition and of threshold.
A number of innovative materials were used such as a stretchable polymer ceiling material, python textured sheet vinyl flooring and LED floor lighting designed to draw the customer through the store. This project has been extensively published and won numerous design awards.
Element

Combo Elements
This chapter, studies the following questions:
how much percentage that skin has been exposed in a bathing condition? During different process of bathing, which sensor has the greatest opportunity to be pleased? What spatial organization of threshold can be used in designing the circulation of bath? In other words, how and where threshold space that designed with sensational experience component can affect bather?
threshold as object
threshold as object

---

**skin surface temperature distribution of the 20 minute time point after bathing**

[Source] Osaka Gas
Conditions: mist sauna bathing = room temperature 40 °C, 10 minutes
Tub bathing = hot water temperature 40 °C, 10 minutes

---

hot ➔ cold
Haptic touch requires movement of limbs, muscles and skin. Thus hapticity is more tend to be considered in an individual scale process of design where materiality is being specially addressed.

The effects of spatial compression and expansion on human awareness.

The examination of our environment through movement. Kinesthetic movement is not limited to walking, but can also be head-movement or movement of the eyes.

The optical phenomena that associate with various light qualities with designing elements.
thermal comfort in threshold space
5 senses that involved in *conventional design process*:
- sight
- hearing
- taste
- touch
- smell

*reformulate into*

*synthetic design process*:
- **hapticity**
  the act of touching in three dimensional, include but not limited to temperature, pain, pressure and movement.
- **kinesthesia**
  the examination of our environment through movement
- **synaesthesia**
  involuntary phenomenon that collects sensory information from one sense and transfers to another
  (red as hot, blue as cold)

**Why**
*in terms of the creation of place*

unrecognized space
sensory stimuli

perception of place
hapticity
  kinesthesia
synaesthesia

**recognition of place**

thus the more senses that are engaged with a space, the easier it will be to establish the perception of place.
Haptic touch requires movement of limbs, muscles and skin. Thus haptics is more tend to be considered in an individual scale process of design where materiality is being specially addressed.

A **the sound of material**
Mesayo Ave

B **miranda wall**
Giles Miller
*Silicon base layer with 65,000 polypropylene‘hairs’ attached that can be brushed in different direction to creat images.*

C **chaple of st. ignatius**
Steven Holl
*Wall that coated with candle and then scratched, so that light is not allowed to easily skim over the corduroy surfaces.*
For boardwalk in Asian garden design

“[…] stretching visual space by exaggerating kinesthetic involvement […] to watch his step as he picks his way along irregularly stepstones […] At each rock he must pause and look down to see where to step next. Even the neck muscles are deliberately brought into play.”

The design takes in account the influences of the direct environment, even to the scale of the surface, on human perception of space as a result of kinesthetic properties of man. Kinesthetic movement is not limited to walking, but can also be head-movement or movement of the eyes.

Intercative design might be considered in this thesis as well.
When one object/space caught one’s eye, vision triggers stimulation in other senses. Eventually haptic touch verifies the stimulation. The **contradiction** between the **verification** and the **stimulation** is what this thesis pursues for.

this strategy can be used as facade design/ overall concept.
Water injection moulded tiles
solenoid valves
pressure regulators
custom software
3D tracking cameras
steel beams
water management system,
grated floor

Possible Working Principle:

- Environment: the 100 square meter floor area that the visitor walk in

- Input: the sensor (3D tracking cameras) sense the body position/condition (move in the unit area or not)

- Processing: the computer converted signals into matrix that fit the dripping ceilings - and control it’s “on/off”, that is 1/0 in the computer language

- Output: pressure regulators adjust the amount of water that come out through the pipes to the drippers.
Robotic projectors
media servers,
Pani 12kW projectors,
scissor lifts,
computerized surveillance system,
custom software

Possible Working Principle:

- Environment: the 100 square meter floor area that the visitor walk in

- Input: the sensor (3d tracking cameras) sense the body position/condition (move in the unit area or not)

- Processing: the computer converted signals into matrix that fit the dripping ceilings - and control it’s “on/off”, that is 1/0 in the computer language

- Output: pressure regulators adjust the amount of water that come out through the pipes to the drippers.
different shape

**vision**
materiality

**experiences**
sense memories

rough, heavy

layered rocks

tight, narrow

**evoke**

traditional Switzerland housing

memory/knowledge cultural and geographic context as background prepared one unrecognized space as more familiar.

different materiality

**vision**

shape

**experiences**
sense memories

horizontal slots
shoji(screen)

warm, soft

**evoke**

traditional building exterior

**enclosed**


in complete will update

......
SENSATION

HAPTIC
VISUAL
KINESTHEIA
SYNAESTHESIA

THRESHOLD

WILL BE UPDATED

the Means

the Place

the ESCAPE

AS CONCEPTUAL
AS SURFACE
AS WRAP
AS OBJECT
AS FIELD

ACCESSPOINT
CHANGING ROOM
BATHING POOL
REST SPACE