SEEING OF DARKNESS

Representations of Darkness and Various Approaches of Seeing

Kan WANG

Chalmers School of Architecture, ACE

Examiner: Morten Lund
Supervisor: Naima Callenberg
Year of Graduation: 2018

Author: Kan WANG 王 侃

Title: Seeing of Darkness--Representations of Darkness and Various Approaches of Seeing

Institution: Chalmers School of Architecture, Department of Architecture and Civil Engineering

Examiner: Morten Lund

Supervisor: Naima Callenberg
Special thanks to Naima Callenberg, Morten Lund, Peter Christensson and Danni Tian 田丹妮
Abstract

This research project focuses on the visual perception in between painting and physical space. The aim is to find method translating the phenomena captured by the painting to the one can be perceived in physical space.

I chose to work on the painting from Ming dynasty called <Gua Bi Fei Quan Tu>《挂壁飞泉图》as a demonstration of capturing phenomena in painting. It was painted by artist Gong Xian (1618-1689) in his late years. The most beauty of the painting is the growing experience derived each time to see it. There are so many approaches to see and get richer feelings. Although it is just a 2D image, it generates the infinite perception of space and time which makes it more like a container of phenomena linked to reality rather than a dead material object.

The great potential in architecture is to create physical spaces that could be engaged through different approaches, be precepted variously by different individuals repeatedly and they can get growing and diverse experiences each time.

Following this intention, I simplified the painting as collection of darkness, focused on several configurations of darkness. My pursuit is to translate the technique of drawing darkness on 2D surface into technique of building darkness based on architect's tools, such as models, drawings and spatial arrangement.

Structurally, the research process is separated into three chapters. Each chapter deals with one configurations of darkness. They are named as layers of darkness, contrasts of darkness and moving viewpoints. Then the design outcome is an architectural model based on the assemblage by the three configurations.

The model is a sketch to approach the similar quality of the painting. It contains different viewports, darkness is layered by several screens and light contrasts can be controlled by covers. It is a transformation of <Gua Bi Fei Quan Tu>. 
Contents

一 The Painting
   Introduction & Structure
   01

二 Layers of Darkness
   Research Chapter One
   05

三 Contrasts of Darkness
   Research Chapter Two
   13

四 Moving Viewpoints
   Research Chapter Three
   19

五 The Architectural Model
   Design Sketch
   25

六 Appendix
   37
The Painting
Introduction & Structure
Introduction

The image in the previous page is a small-scale copy of the painting 《Gua Bi Fei Quan Tu》《挂壁飞泉图》. It was painted by artist Gong Xian (1618-1689) in his late years. The full size is 99cm*273cm.

The research simplified the painting to the collection of darkness as a starting point. It classified the collection into three configurations in order to discuss in an isolated condition.

So totally there are three research chapters. Each research chapter started with extracting fragments from the painting, then I came up with observation device to imitate these fragments. Each device is a reduction of painting focusing on isolated configuration.

Following the extraction and imitation part, there are some other developments based on the cognitions from the device. The final model tries to assemble all the previous outcomes into a complex representation of darkness as a transformation of the painting.

So, generally, the research structure can be simplified as this diagram in the next page.

The project is directly inspired by artist Gong Xian, also the book <Painting and truth: Merleau-Ponty and Chinese Landscape Paintings> plays a fundamental role in the research. In the later part of the research, the book <Secret Knowledge> helped me clarify some key points about painting and camera image. Before I start with this thesis, I spent more than half a year study Kazuo Shinohara’s work. There must be strong influence by him although I cannot tell the clear trace.
Structure

Phenomena of reality

Deals with

The painting <Gua Bi Fei Quan Tu>

Contains

Configurations of darkness

Isolated to

Layers of darkness

Contrasts of darkness

Moving viewpoints

Imitated to

Device -1

Device -2

Device -3

Combined to

The architectural model
Layers of darkness
Research Chapter One
Extraction

Fragments from the painting

There are overlapped points drawn in several times using different density of ink. Sometimes paper was in different humidity. So, the shape of the points is very different. Some are sharp, some are diffused.
Imitation

Capturing layers of darkness in Device-1
The change of focus point in Device-1
Drawing

Drawing as a way of cognizing the darkness in accumulated space

Long Section Surface

Short Section Surface

Plan Surface
Arrangement

A spatial arrangement developed by drawing
Perspective Plan
Contrasts of Darkness
Research Chapter Two
Extraction

Some part of the mountain looks very flat, seems like shadow. The boundary of the cloud is very blurred. It contains the feeling which cloud slightly covered the mountain. The roof of the house is curved because the gradual contrast. These leaves of the tree are blinking. Because of the clear circular shape and strong contrast.
Imitation

Device-2

Four boxes of the device 02

Front box-1  Front box-2  Screen  Handle  Rear box  viewport

Take in light  Capture darkness  Control light intensity surrounding observer

The sequence to connect the four boxes

The adjustment situations of device 02
Capturing contrasts of darkness in Device-2
Drawing & Compare

Compare different contrast of darkness under the same setting of Device-2 between camera image and eyeball drawing

Camera image situations

Eyeball situations (same setting with camera image)
四

Moving viewpoints
Research Chapter Three
Extraction

Possible viewpoint

Possible horizon line

Possible viewpoint

Possible horizon line

Possible viewpoint

Possible horizon line

Possible viewpoint

Possible horizon line

Possible viewpoint

Possible horizon line

Uncertain viewpoint

Uncertain viewpoint
Imitation

Photos of the same shadow by a mini mountain from different directions
Five images overlapped through different transparency
Imitation

Photos of the same mini mountain in various distances
Six images overlapped through different transparency
The Architectural Model
Design Sketch
The Assemblage

This architectural model is a assemblage of previous outcome.

The spatial arrangement comes from the first research chapter. The moving viewport in the center and the switch screens come from the second research part. The ceiling of the corridor space comes from the third chapter.
The Seeing

Through a Movable Vertical Viewport

Through Seven Horizontal Viewports
The Setting

Pulling up and down to open gates and control light directions

Putting the screens in or out the seeing area through flipping
The Darkness Inside
六

Appendix
Discussion

The painting can be seen infinitely, I want my project can raise different interpretations. The project will still alive when ideas and discussion continue. The architect’s tools I used in this project is more aiming to the cognition of reality rather than expression although they are interweaving to each other.

Translation of the poem in <Gua Bi Fei Quan Tu>

Flying waterfall hangs on the cliff night by night

Lunar light lights up four sides

Mountainous ground wet by cloud

Livable place is the platform dwelling
Bibliography


Hockney, David(2006). *Secret Knowledge*. Thames & Hudson Ltd

Foucault, Michel(2008). *This is not a pipe*. University of California Press