Visual Perception in Architecture

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Su Yeon Chi

Abstract

From the earliest paintings to photographs and images of current 3d rendering and virtual reality, humans have been trying to reproduce what they are seeing. Taking advantages of technology, nowadays we are able to visit all over the world through a small screen in front of us. We believe quite strongly and unquestioningly that this “scanned world” is the same as the actual world and we rely on those copies of reality. Rather than just observe the scanned world, through the cinema project, I used existing materials actively to try and show my idea about the city based on that observation. Contemporary technology makes easy to scan 3D object as well as a 2D image. We also can simulate the vantage point and suggest 3D on a 2D plane as in a way that resembles we see. Visual perception is an essential topic in the architecture field since we are living increasing age of imitated reality or seeing more of what is operated than by facing reality. Human experience of urban and architecture became wider, while at the same time the boundary between those artificial and reality become ambiguous. As the virtual object and space become more and more part of everyday life, we have to clarify the essence of both worlds and use a more specific and sensitive approach to address both materialities.
As an architect, we not only work with the digitalized world but also create images of the world using graphics tools and rendering programs. Architectural representation does not only mimic reality but tries to convey our own thought about the urban. That interaction has a significant meaning since we keep building up the world by contemporary media and this contributes to perceiving and understanding of space, architecture and the city. In this essay, I discuss the perception and transformation of the space through the medium and manipulation of visual perception could enrich the human experience of space.

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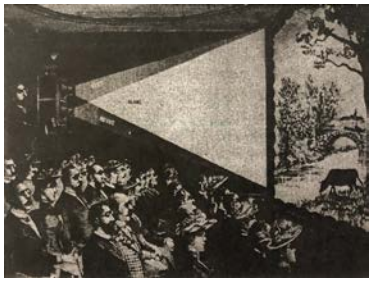
"The heightened sensitivity of the picture plane may no longer permit sculptural illusion, or trompe-l'oeil. But it does and must permit optical illusion. The first mark made on a surface destroys its virtual flatness, and the configurations of a Mondrian still suggest a kind of illusion of a kind of third dimension. Only now it is a strictly pictorial, strictly optical third dimension . . . one into which one can look, can travel through, only with the eye." [1]



[Fig.1]Max ernst, la femme 100 tetes, 1929

Humans have been trying to reproduce what they are seeing, from the earliest paintings to photographs and images of current 3d rendering and virtual reality. What is noteworthy here is that everything is a flat plane compressed in a 2d screen, but the human eye sometimes takes it in three dimensions. [Figure1]

Visual perception is an essential topic in architecture field, since we are living increasing age of imitated reality or seeing more of what is operated than by facing reality. Images produced by the media also create an illusion, then obscure the boundaries between real and virtual. In this essay, I discuss about the perception and transformation of the space through the medium and manipulation of visual perception could enrich human experience of space.

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1. Clement Greenberg, "Modernist Painting," in *The New Art*, ed. Gregory Battcock (New York: Dutton, 1966), 107.

The way we see the world

[Fig.2] Google Street View
[Fig.3] Google Earth

Taking advantages of technology, nowadays we are able to visit all over the world through a small screen in front of us. It is very common to Google Street View [Figure2] and Google Earth [Figure3] for this digitalized tour. We believe quite strongly and unquestioningly that this "scanned world" is the same as the actual world and we rely on those copies of reality. In other words, we are being passive when we perceive digital reality. Even though this does not exactly describe the world, we also cannot underestimate the power of these media that represent the city and the earth in the contemporary situation.

[Fig.4] Thin cities, Final project, Temporary face, Fall 2018

Through the elective course "Thin cities", I used several cinema projects to construct my thought about the city and urban issues using existing material such as Google Street Views, maps, and 3D representation. The main method of those projects was using cinematic techniques to make a short video. [Figure4] I edited and montaged the clips of the scanned city to focus on a specific topic I was interested in. Rather than just observe the scanned world, used those materials actively to try and show my idea about the city based on that observation.

I discovered that seeing through the picture plane is significantly different from seeing the actual scene because we see through the medium. Through the process of translation, we

could experience a wider angle and higher viewpoint, which is impossible through bare eyes.

Furthermore, if those material combined with cinematic techniques, we could shape the viewers perception of the man-made city via a planned journey. Human experience of urban and architecture became wider, while at the same time the boundary between those artificial and reality become ambiguous.

The way we represent the world

[Fig.5] Studio Work, Architecture + Urbanism, Urban tectonic, Summer 2018

Beyond orchestrating and editing existing usual material, I also explored how we represent the urban situation through architectural projects. The site, one of the most important factors when we deal with architectural design, can be represented in thousands of methods and style, according to the architect's intention. We are not always trying to describe reality and or trying shows everything as it is. Therefore, in terms of representation, site description and analysis could be seen as subjective.

[Figure5] In the first project, of the "Architecture + Urbanism" studio during the summer semester, our group worked on the site "Park Avenue" in Manhattan, New York. Through the main perspective view, we intended that the surrounding buildings look more like the continuity of huge structures. Instead of showing all real façade each building, we chose to show a

common grid system and coldness of the surrounding mood with major companies' logo. Those qualities make viewers perceive this urban setting as unfriendly, leading to a project that could be more emphasized pedestrian-friendly space.

[Fig.6] Studio Work, Architecture + Discourse, Learning commons, Summer 2018

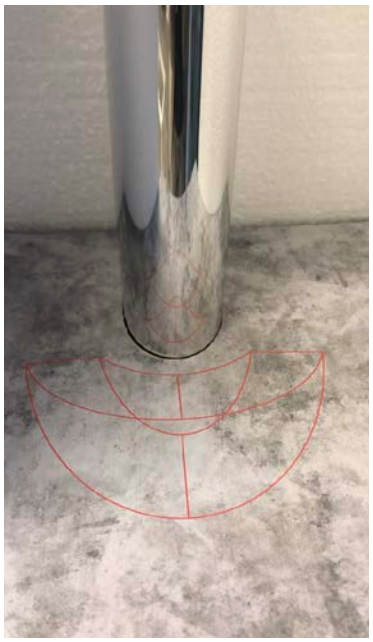
[Figure6] On to the second project, in "Architecture + Discourse" studio of the summer semester, the main goal was to use one image to represent an architectural narrative. Our site was Washington Square Park in Manhattan. In the real world, the surrounding buildings of the park are not black at all, on the contrary, beautiful classic facades. However, our argument was a barrier of education. Therefore, we decided to color the surrounding with black, which looks like a series of walls.

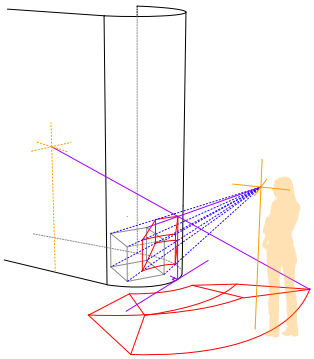
As an architect, we not only work with the digitalized world but also create images of the world using graphics tools and rendering programs. Architectural representation does not only mimic reality, but try to convey our own thought about the urban. That interaction has a significant meaning since we keep building up the world by contemporary media and this contributes to perceiving and understanding of space, architecture and the city.

[Fig.7-1,2,3] Scripting Illusion, Project1, Still Life, Spring 2019

Scanned object vs Real object

Scanning techniques enable realistic reproduction. Contemporary technology makes easy to scan 3D object as well as a 2D image. However, the tricky point of visual perception is that human sight always perceives as a perspective view and through a computer program, we can simulate the vantage point and suggest 3D on a the 2D plane as in a way that resemble we see. Based on this logic, we could actively apply this technique to visual projects. [Figure7-1,2,3] The first project of the Scripting illusion class “Still life”, confuses reality and imitation with a combination of 3D objects and 2D scanned images together in the chessboard. For example, the background of the snow-covered land is the paper with the scanned image, and the stone on the chessboard is a mixture of the real object and scanned photos. But in a specific vantage point, the human eye perceives it as a picture plane, therefore it is hard to tell what the real object is and what fake images is.





[Fig.8-1,2] Scripting Illusion, Project2, Anamorphosis Installation, Spring 2019

Boundary between reality and illusion

Using eye perception principle, I conducted another installation project about anamorphosis. [Figure8-1,2] Reflect the distorted 2D image on the cylinder mirror, we got a normal shape object in the mirror. This object is not physically existing in the mirror nor actual world, but we could find through the sight.

All these projects suggest an ongoing discourse about materiality, immateriality and the virtual object as Friedberg observed.

"The term "virtual" serves to distinguish between any representation or appearance that appears "functionally or effectively but not formally" of the same materiality as what it represents. Virtual images have a materiality and a reality but of a different kind, a second-order materiality, liminally immaterial. The terms "original" and "copy" will not apply here, because the virtuality of the image does not imply direct mimesis, but a transfer – more like metaphor- from one plane of meaning and appearance to another."[2]

According to the Friedberg idea, virtuality also has materiality, but not exactly the same as exist in reality. As the virtual object and space become more and more part of everyday life, we have to clarify the essence of both worlds and use a more specific and sensitive approach to address both materialities.

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2. Friedberg, Anne. *The Virtual Window*. Cambridge, Mass.: MIT Press.

Urban Tectonic

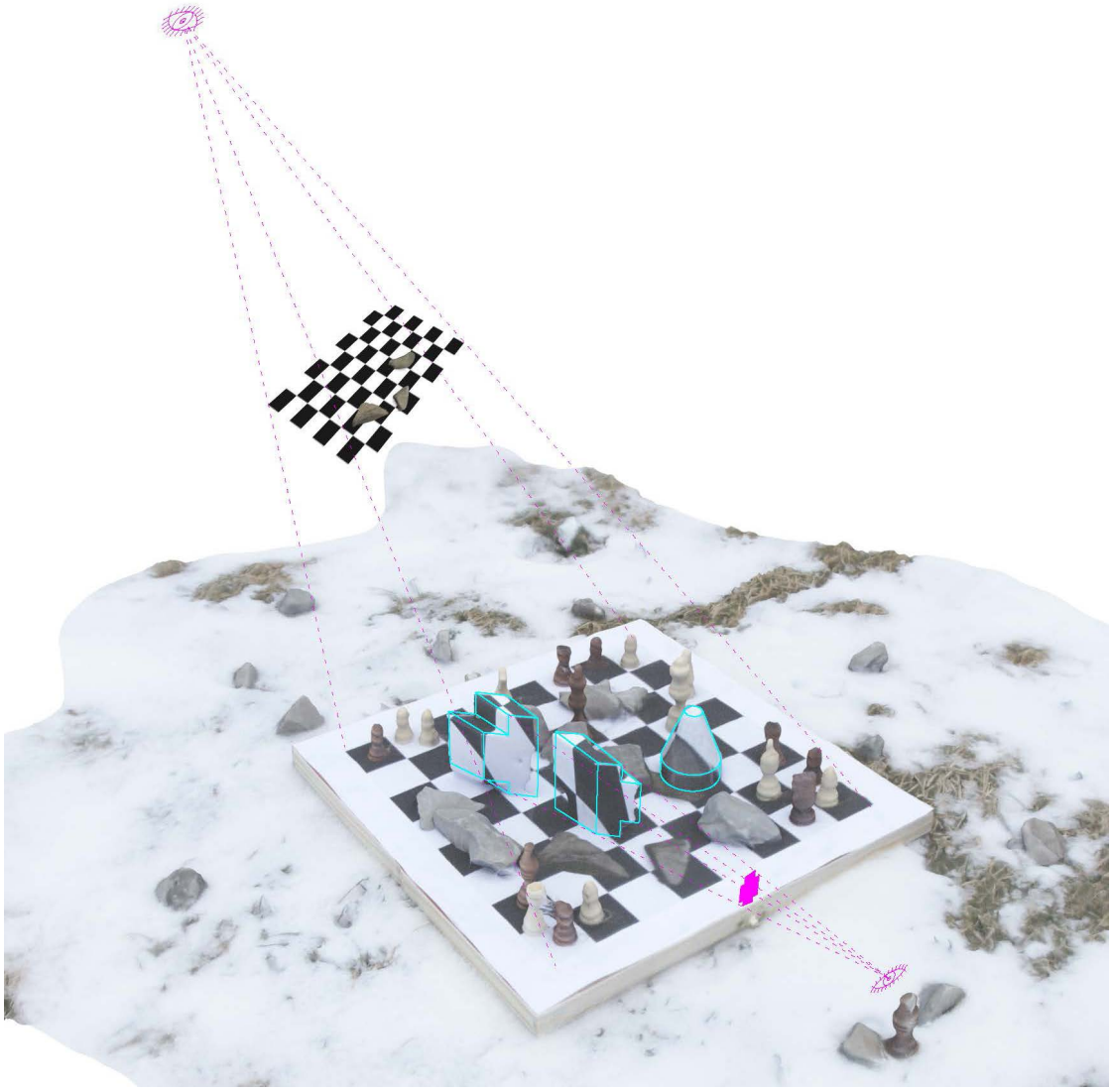
Group Work: Tanisha Sheth, Muhammad Mansoor, Jiayi Yi,
Qingzhou Yan, Suyeon Chi
Advisor: Nahyun Hwang and David Eugin Moon.

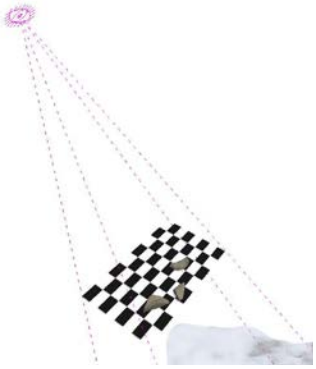
Learning commons

Group Work: Felix Seo, Damien Lee, Suyeon Chi
Advisor: Michael Young and Kutan Ayata

Cinema Project_Temporary face

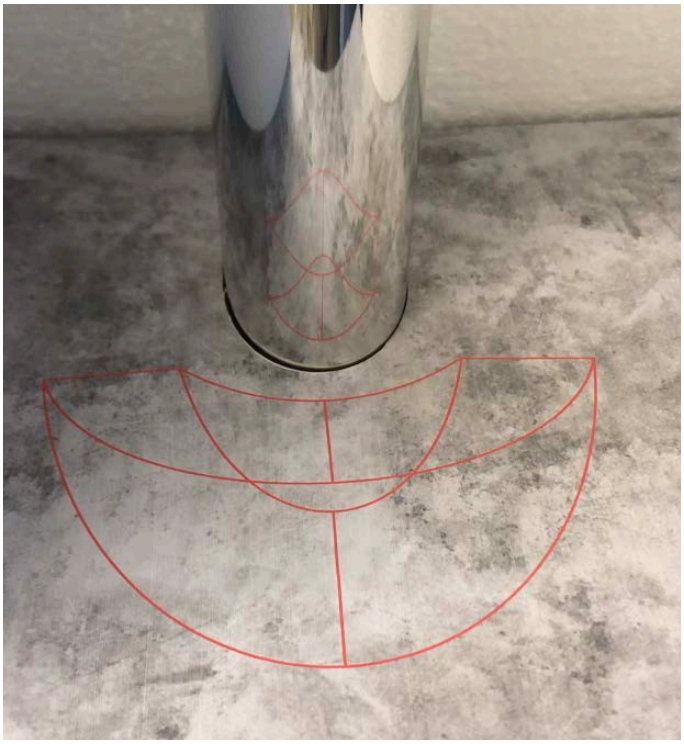
Advisor: John E. Zissovici

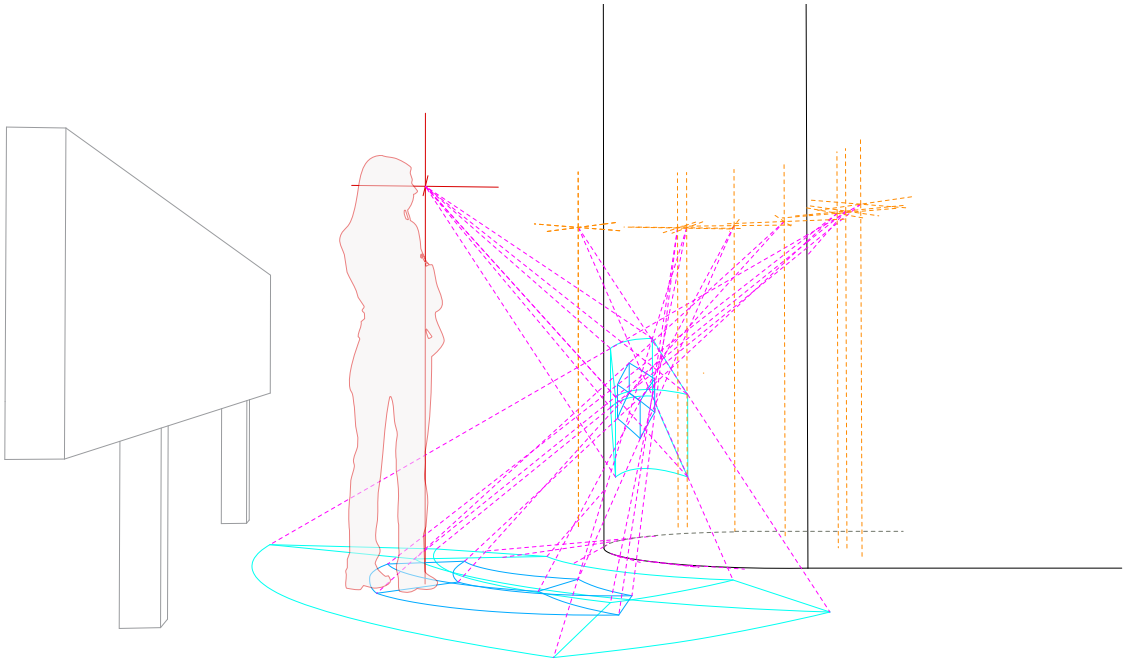




Project 1_Still Life

Advisor: Jonathan A Scelsa





Project 2_Anamorphosis Installation

Advisor: Jonathan A Scelsa