



# Temporality Dimensions in Architecture

The intervention of time perception

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Territory of Investigation:  
Architecture and Discourse (A+D)

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Library of Illusions by Maitai Kunawong

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**Abstract**

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## **ABSTRACT**

What is the finish line of designing an architecture? If the role of an architect, typically, ends once the building is done, then it turns to the next designer, 'time', who works for the rest of the building life span. Time adds another layer on a building. The dimension of time embedded in an architecture space from designing, construction and occupancy phases. The interaction and the movement of people in a particular moment make the space alive and unique while the construction takes time to grow the idea from drawing on pieces of paper to a building. The notion of time does not only exhibit within the people, but also the physical elements and the building itself. Time brings the space into a place with traces of memories.



In the Eurocentric worldview, time is defined by linearity and future-orientation.<sup>1</sup> It arises with the idea of a clock which has a fixed pace at a measurable rate. However, is time linear? Time perception is a subjective experience. It depends on many factors including cultural context. Within the framework of temporality dimension, this paper examines the role of architecture as an active spatial and cultural agent challenging the linearity of time perception. It consists of three parts according to scale level of investigation: material scale, architecture space scale, and urban scale investigation.

<sup>1</sup> Clauss-Ehlers, Caroline S. Encyclopedia of Cross-Cultural School Psychology. Springer, 2010. page 1044

In material scale investigation, the shift of rust in metal from corrosion to weathering perception is explored. The weathering steel is the evidence of the passage of time until the emerging of rust accelerating process. How do the weathered look and the rust disrupt the time perception? The next section moves to a bigger scale, an architectural space. The design project uses technology to challenge the linearity of time perception. While the enclosure leads the architectural space towards the permanent notion, the temporality of space inside is shaped by the movement of light and people. On the Urban scale level, the project mapped the moving pattern of scaffolding along Park Avenue in New York City and taking that as a moving temporal platform where the meeting point of public and private space takes place.

The notion of time is an innovative tool by the human to track changes in nature, things, and events. Influencing by Eurocentrism, time is perceived in a progressive and linear line. Time is defined as a non-spatial continuum that is measured in terms of events which succeed one another from past through the present.<sup>2</sup> Along with the same line, in City: Asia course, the class raised questions about the colonial historical allegory written by western is conformed to the linearity time perception and how does that affect the spatial and cultural forms in post-colonial time.<sup>3</sup> The power to utilize and manipulate mechanisms of time perception has subtle underlying domination on cultural identity and historical allegory.

Within the framework of temporality, the question underlying in this study is, how could an architecture challenged or negotiated the notion of progressive temporal linearity? Can the perception of time be manipulated and distorted? The investigation would be done through the lens of various scales of projects and approach from both design projects in option studios and discourses in elective classes.

<sup>2</sup> The definition of time defined by Oxford English Dictionary (OED)

<sup>3</sup> The City: Asia Class (ASIAN 4423/6623; FGSS 4504/6504, PMA 4504) by Professor Arnika Fuhrmann in Spring semester 2019.

From the perception of rust as destroyer to weathering perspective in John Deere's Headquarters



**Fig. 1: The Throwing Dart made from Iron and Lead during Late Roman era; Plumbata.**  
In Roman Artifacts. [http://www.roman-artifacts.com/Military Accessories/4th Century Plumbata/Plumbata.htm](http://www.roman-artifacts.com/Military%20Accessories/4th%20Century%20Plumbata/Plumbata.htm).



**Fig. 2: John Deere Headquarters, the first use of weathering steel for architectural applications;** Dispatch Argus. By Jonathan Turner. December 29, 2016. [https:// qconline.com/life/deere-headquarters-featured-in-new-pbs-documentary/article\\_59e10d14-ca7e-5a53- a552-d69222f044f5.html](https://qconline.com/life/deere-headquarters-featured-in-new-pbs-documentary/article_59e10d14-ca7e-5a53-a552-d69222f044f5.html).

## **Material Scale Investigation:**

### **Weathering**

In Materiality in Architecture class taught by Peter Christensen, the seminar examined the theoretical and phenomenological discourses of materiality in the aspects of form, function and cultural values.<sup>4</sup> In this section, the progressive temporal linearity of time perception is investigated in material scale level. My final project “From Corrosion to Weathering” focused on the shift of rust perception in natural and engineered weathering steel.”

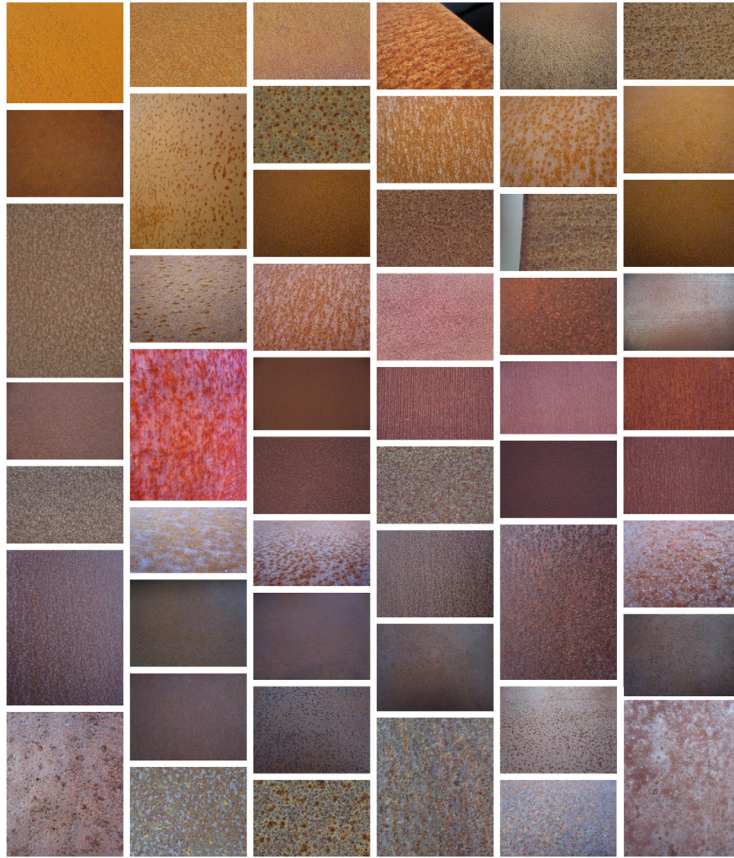
The first recorded piece about the perspective toward rust is written by the great Roman philosopher, Pliny (AD 23-79). During the Roman period, iron is used extensively as a material for artifacts, tools, and weapons. (Fig. 1) Ferrum Corrupitur or spoiled iron, iron is considered as the best and worst of man’s servants. Without advanced technology for investigation, the rust is viewed as the penalty to limit the power of iron.

<sup>4</sup> Materiality in Architecture Class (ARCH 3819/5819) directed by Peter Christensen in Spring Semester 2019.

A technology of weathering steel often referred to by the generalized trademark CORTEN steel in 1933, is the paradigm shift of the rust perception. Visually, a look of rust layer might not be much different from the natural formation of rust. However, in terms of functionality, it is an alloy of steel containing quantities of less active metal such as copper, chromium, nickel, etc., to form the atmospheric corrosion resistant coating over the base steel. In an early period, the weathering steel was used primarily in railroad coal wagons. During 1950s-1960s, the application of weathering steel as a material was shifted to modernistic architecture and outdoor art. (Fig. 2) A layer of rust in weathering steel is seen as an aging process exhibiting the trace of time. In an early stage, the coating is in light orange-brown appearance. Later on, it would be thicker, rougher and turn into the reddish orange brown surface and darker purple-brown patina in a few years. (Fig. 3) The weathering steel, therefore, acts as an unfinished or living finish continues to evolve depending on the ambient environmental factors. As Mohsen Mostafavi and David Leatherbarrow mentioned in *On Weathering* that “Finishing ends construction, weathering constructs finishes.”<sup>5</sup>

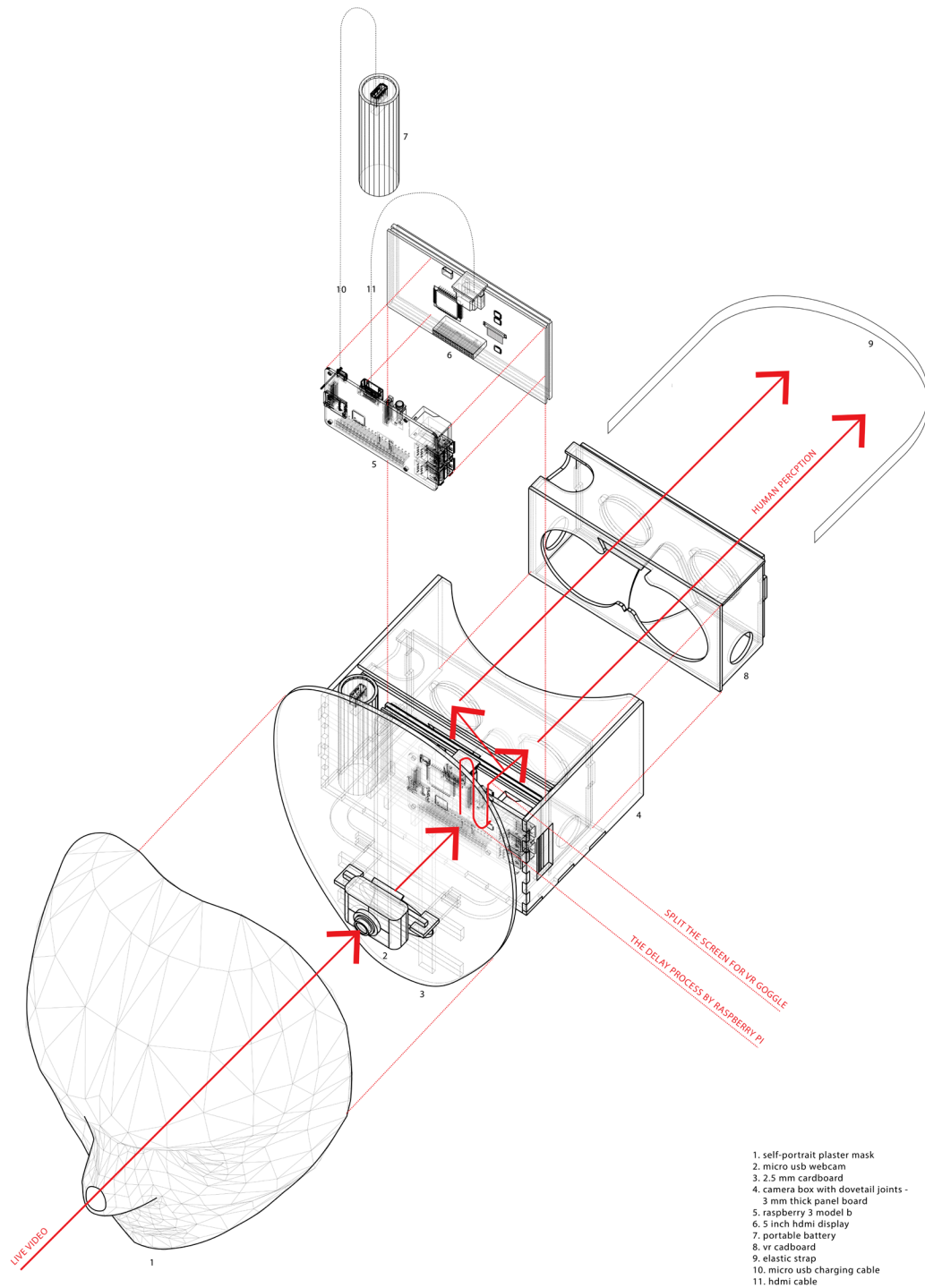
<sup>5</sup> Mostafavi, Mohsem, and David Leatherbarrow. *On Weathering: the Life of Buildings in Time*. MIT Press, 1993.





**Fig. 3: color range of weathering steel patina;** Distressed Metals. <https://www.distressed-metals.com/corten/appearance/color-range/>.

The aging and weathering process of architectural materials causing by natural factors used to be uncontrollable and unavoidable factors. Some weathering effects are more desirable than the others. While the appearance of the weathering rust used to be true to the passage of time, the emerging technology of the rust accelerating process questions the remaining cultural value in engineered weathering materials. Time is always intertwined with space and architecture. Weathering process could be another constructive layer adding on architecture to create a narrative and history. Or the ability to manipulate the natural weathering process might create a timelessness architecture belonging to nowhere in a timeline.



**Fig. 4: The Spectacle designed during The Library of Illusions, Fall Options Studio 2018**

## **Architectural Building Scale Investigation:**

### **Mixed Reality**

In modern society, human perception is strongly biased by visuality. As Plato suggested in his writing, Allegory of the Cave, the aesthetics were used in relation to senses, feelings, and perception. In Fall Options Studio “The Library of Illusions” directed by Ruben Alcolea, the manipulation of visual perception and the notion of illusion and reality was explored.

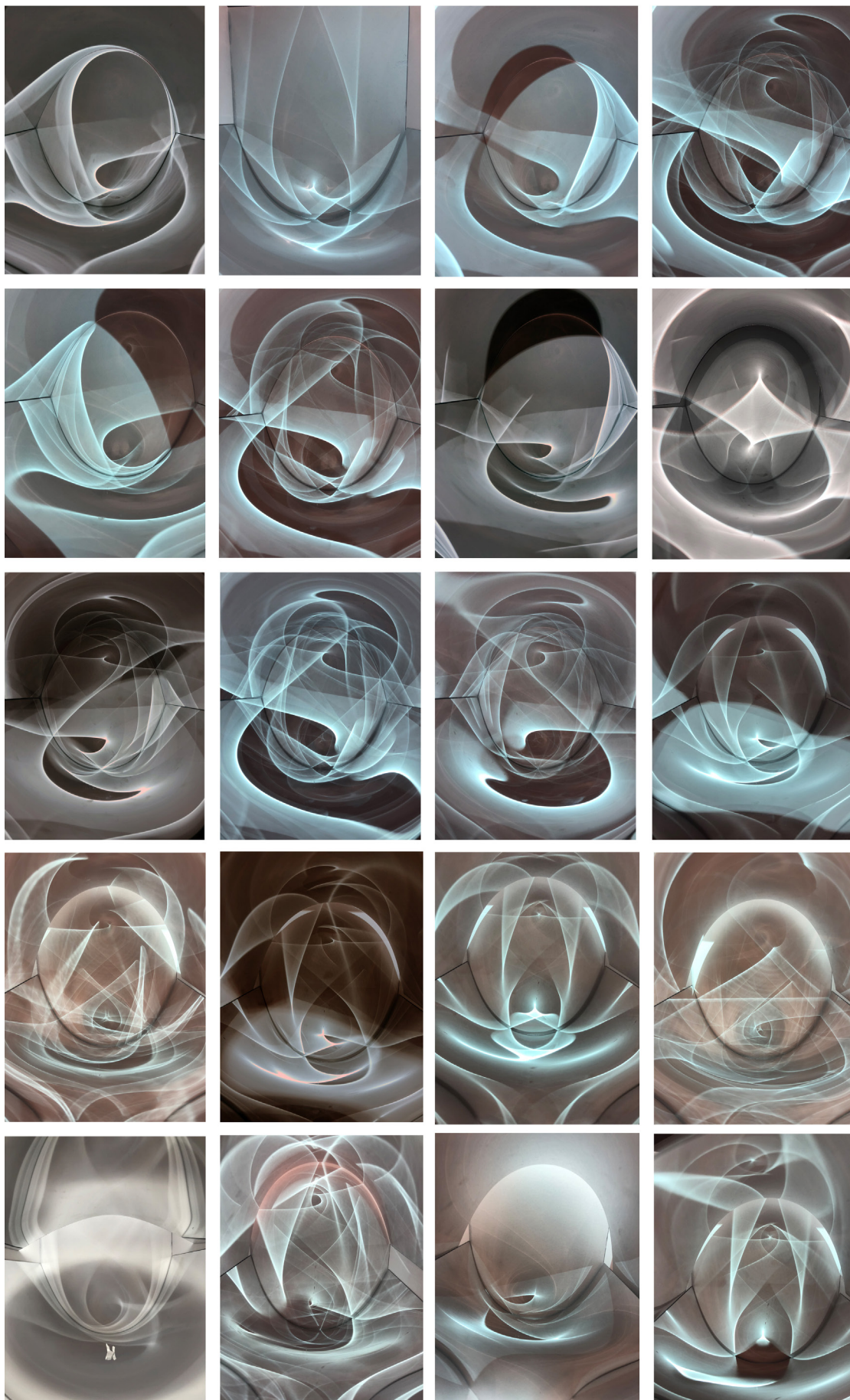
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The studio’s approach started from experimentation of the mechanical operations to manipulate what one sees. My spectacle is the experimentation of the coexistence of past and present. (Fig. 4) The live video is captured and goes through the delayed process by coding. The interaction with other people when wearing the spectacle created two invisible space-time. (Fig. 5) All the mechanical devices are covered with the self-portrait white plaster mask hiding the presence of myself behind the evidence of me in the past.



**Fig. 5: Video captures showing the process and the interaction of the spectacles;**  
 filmed by Cun Zhang and Maitai Kunawong  
 edited by Maitai Kunawong





**Fig. 6: The movement of light reflected on  
Mirror Iteration**



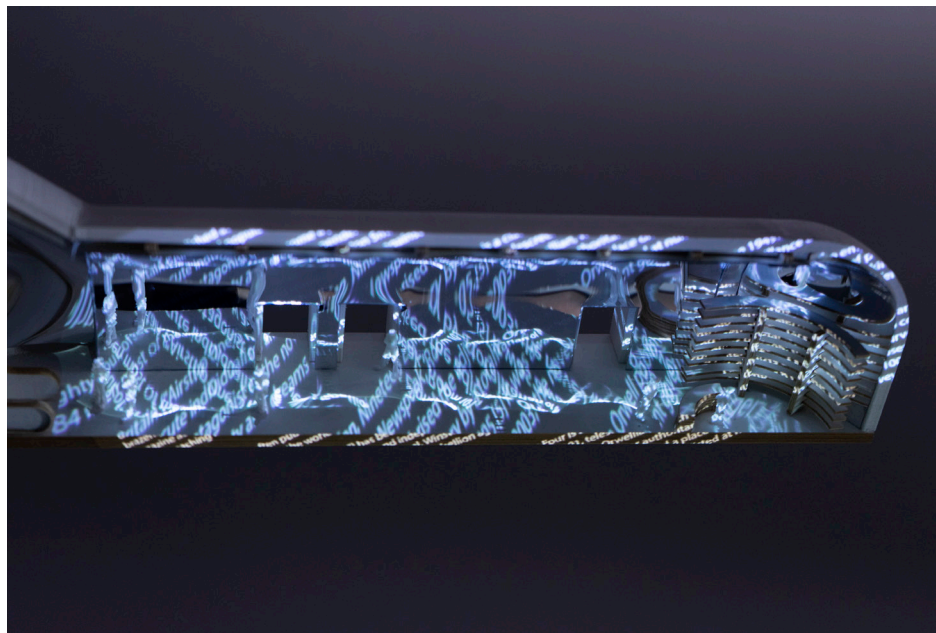
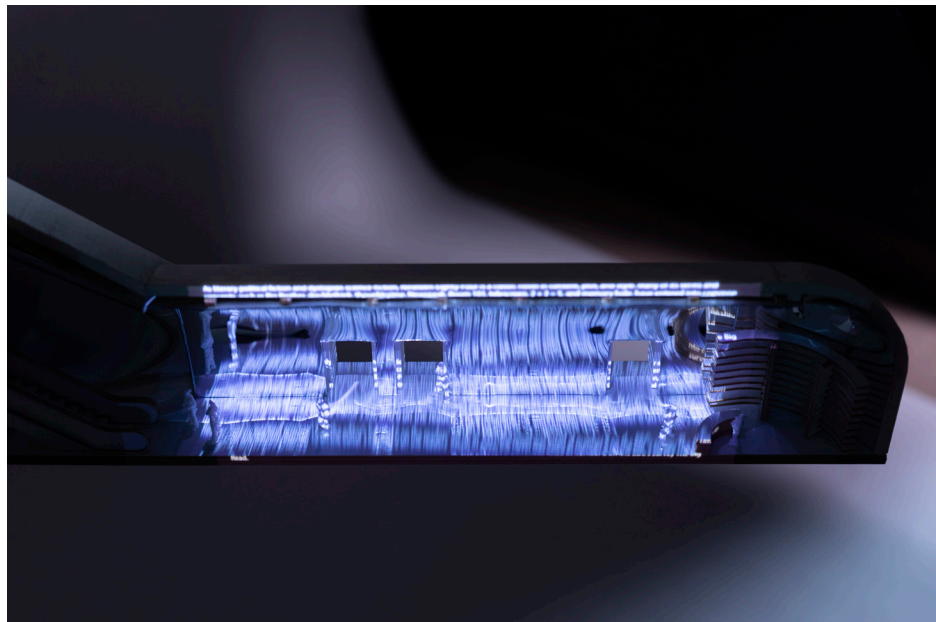
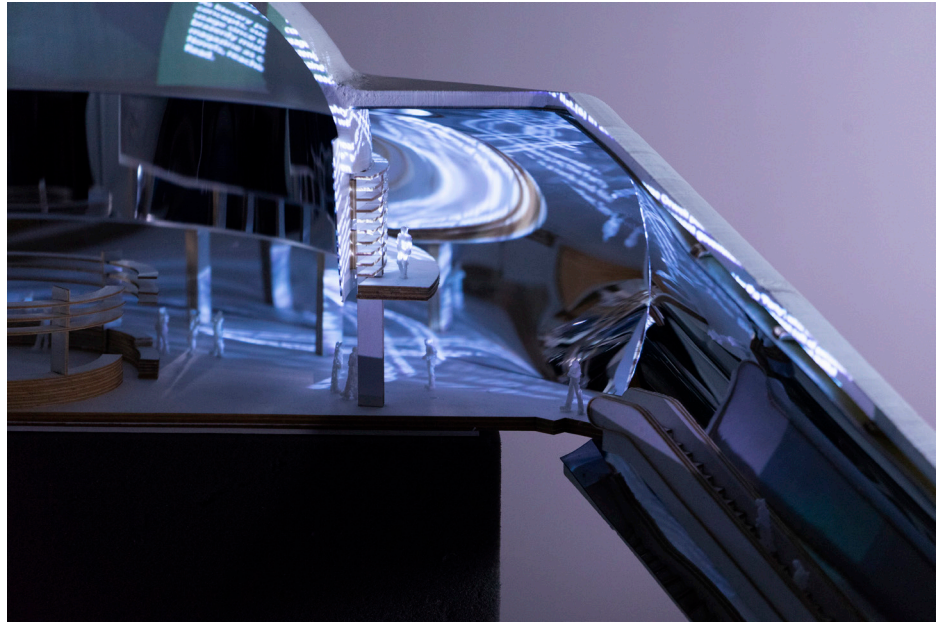
The notion of spatiotemporal experience is carried through to the physical space. Different iterations of mirrors altogether with the movement of light form a unique experience every time once entered the space. (Fig. 6)

In the end, the library was designed integrating to the subway station where people is always continually moving in different speed heading to somewhere. The library, therefore, would never be the destination, but it exists on the way to others. People will not come to read here, but books will reach to you. The project could occupy the whole subway system that has many doors opening to visitors.

With the light and the text projecting to surfaces of a subway station, the library would appear to our eyes. (Fig. 7)

In this design project, the Library of Illusions, the linearity of time perception altogether with users' movement is reflected in an architectural space. How can space be altered by altering the user perception and blurring the line of reality and illusionary?

Fig. 7: One Book A Day, an integrated library and the subway station







**Fig. 7A: Escalator Tunnel on Ninetne Eighty-Four day**

George Orwell

Utopian and Dystopian, Political Science, Social Science  
1949

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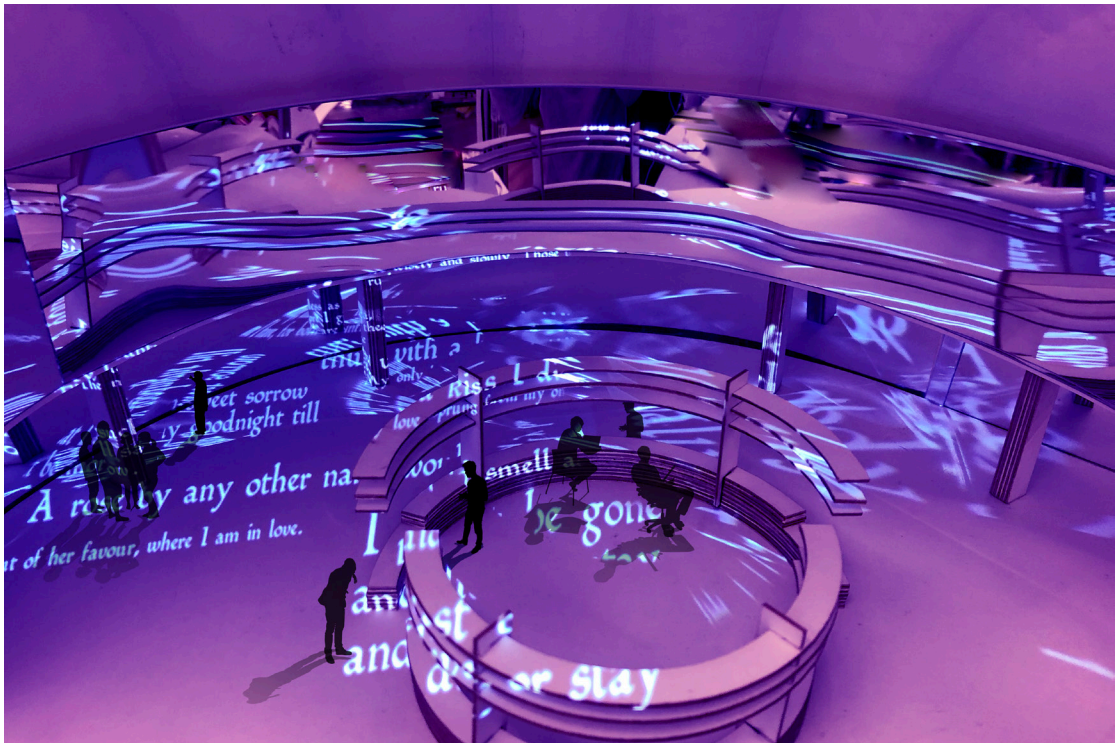
**Fig. 7B: Transfer Corridor on The Diary of a Young Girl day**

Anne Frank

Autobiography

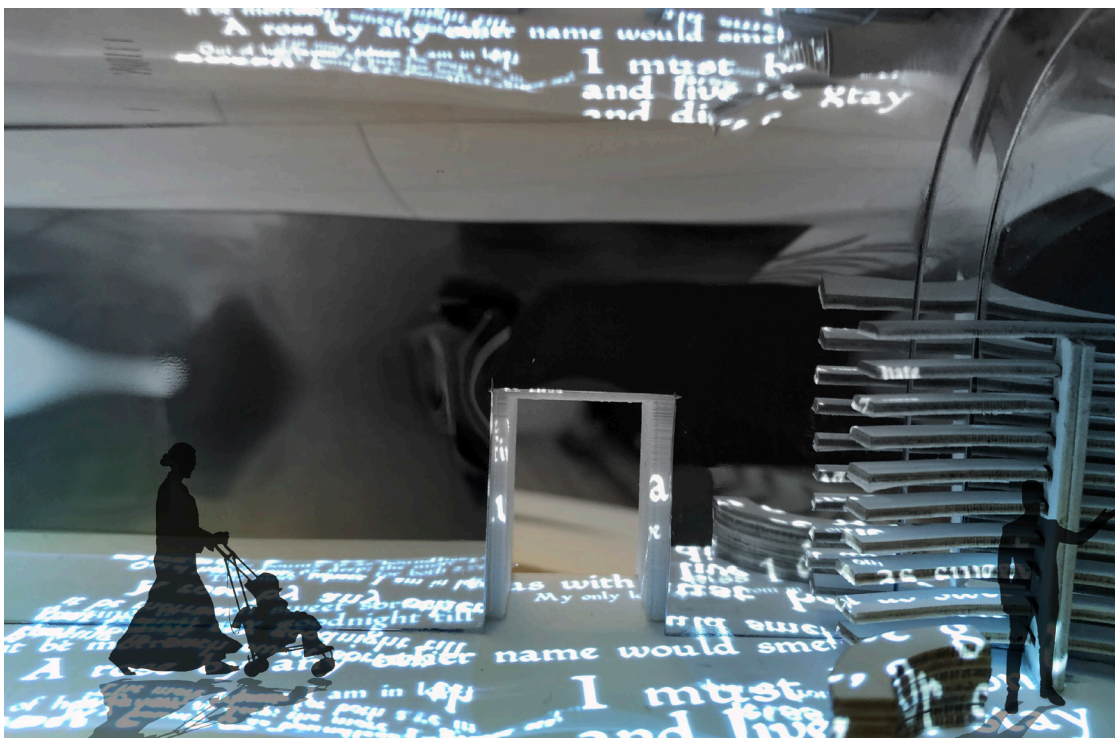
1947





**Fig. 7C: Main Concourse on Romeo and Juliet day**  
 William Shakespeare  
 Tragedy, Romance  
 1597

13



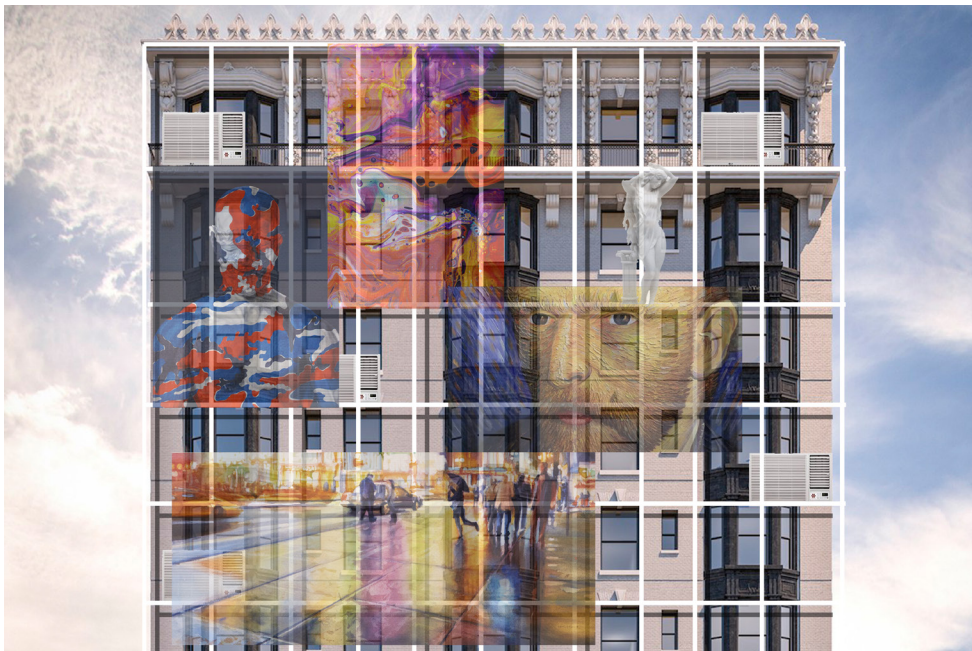
**Fig. 7D: Do Androids Dream of Electric Sheep?**  
 Philip K. Dick  
 Science Fiction, Philosophical Section  
 1968



**Fig. 8: scaffolding and the process of facade preservation**



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**Fig. 9: Art on the Scaffolding**



## **Urban Scale Investigation:**

### **Active Construction Thoroughfare<sup>6</sup>**

Moving to an urban scale, the studio investigates the seemingly benign but potent architecture of and around urban arterial roads. The studio during New York City Summer semester directed by Nahyun Hwang and David Eugin Moon aims to seek the possibility of an architecture that actively challenges the construct of pure utility through investigation of the existing and transformed conditions.

<sup>6</sup> A group project in NYC Summer Semester 2018, done by Binhun Tang, Chen Shen, Shawn Sun and Maitai Kunawong

After exploring the Park Avenue, which is the site of the project, the city is conceived as the active construction platform. Seeing the hint of scaffolding setting up along the road, the city is actively transformed and always under construction. (Fig. 8, 9) The moving pattern of scaffolding and the underlying city regulations, which is required according to the Facade Inspection Safety Program (FISP) for owners of buildings to retain a registered inspector to examine the facade every five years is examined in this studio. Taking advantage of moving structure, the project investigates how can temporal public activities intervention collaborating with the historical context be the powerful tools to revitalize the urban space. (Fig. 10)

Fig. 10: Mapping of Scaffolding along Park Avenue, New York in 2015-2017

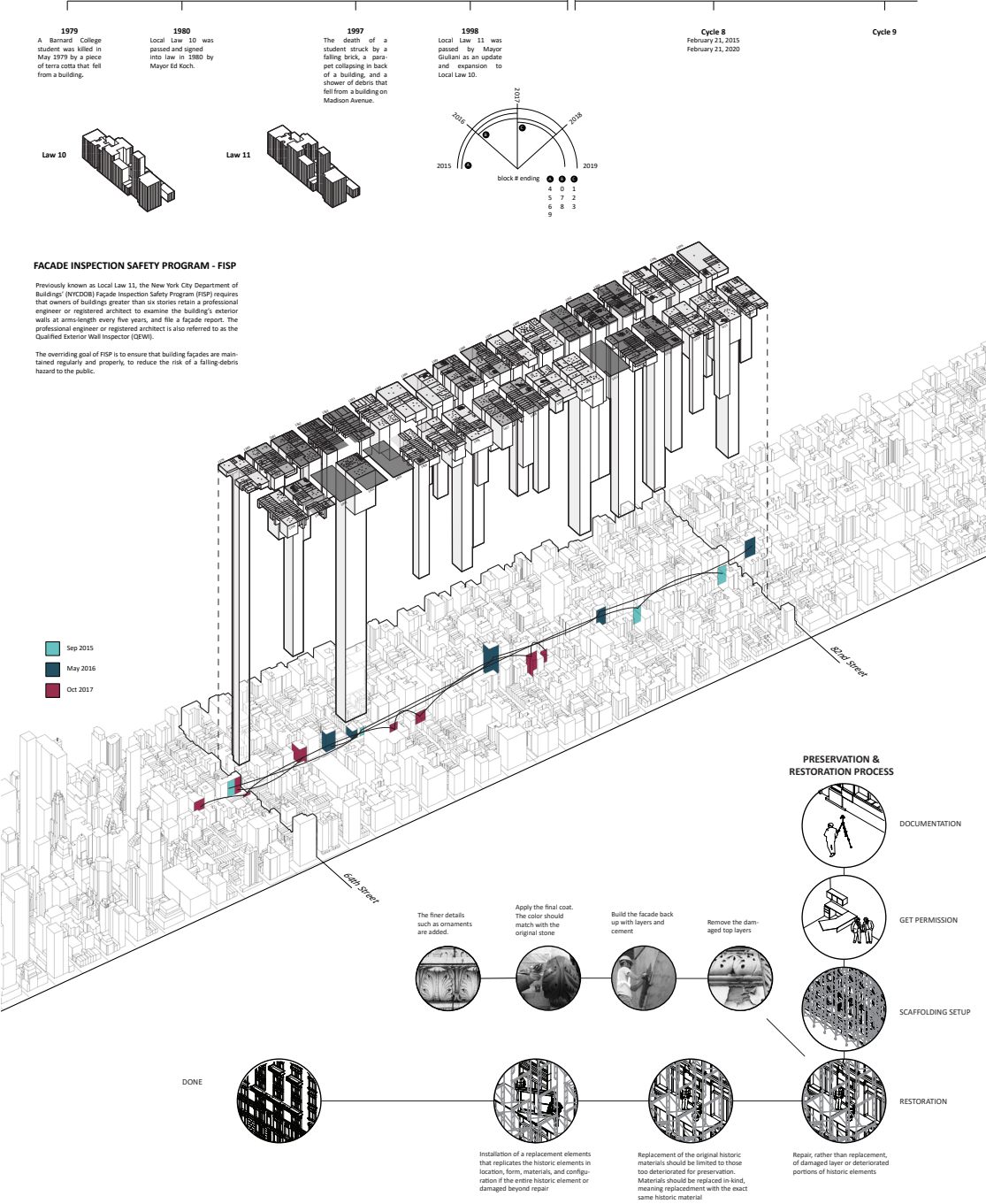
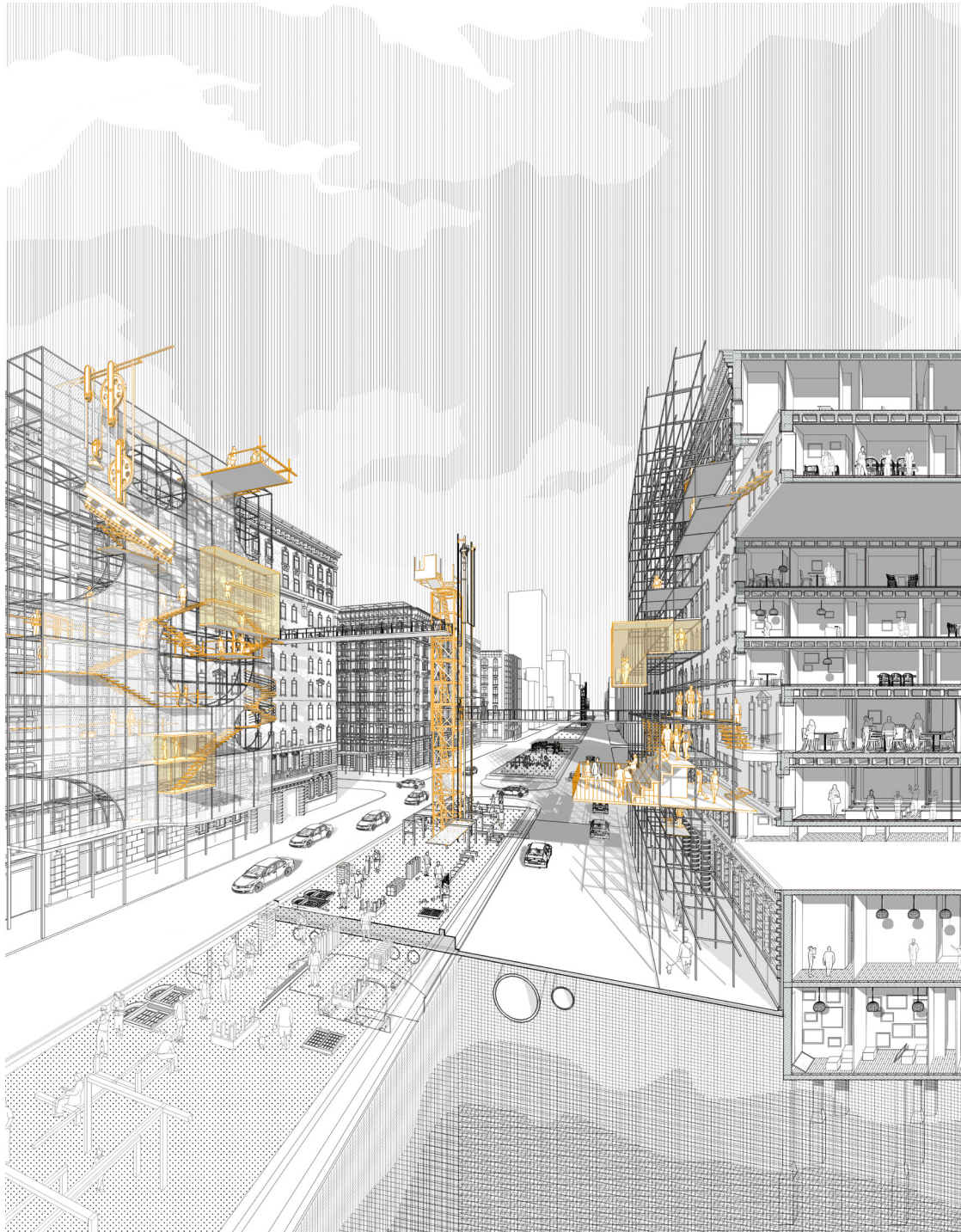


Fig. 11: A pop-up collective platform



In one level, architecture is seen as the passive outcomes corresponding to specific socio-economic and cultural context. Architects design the space to work both functionally and aesthetically. However, it is a space embedding both collective and individual ambitions. (Fig. 11)

This paper is part of the further lifetime investigation by using the notion of temporalities as a starting point. My ending question would be if the architecture could be considered as an active political agency, how would the notion change the role of architects as a designer? Does architecture have their own voice?

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