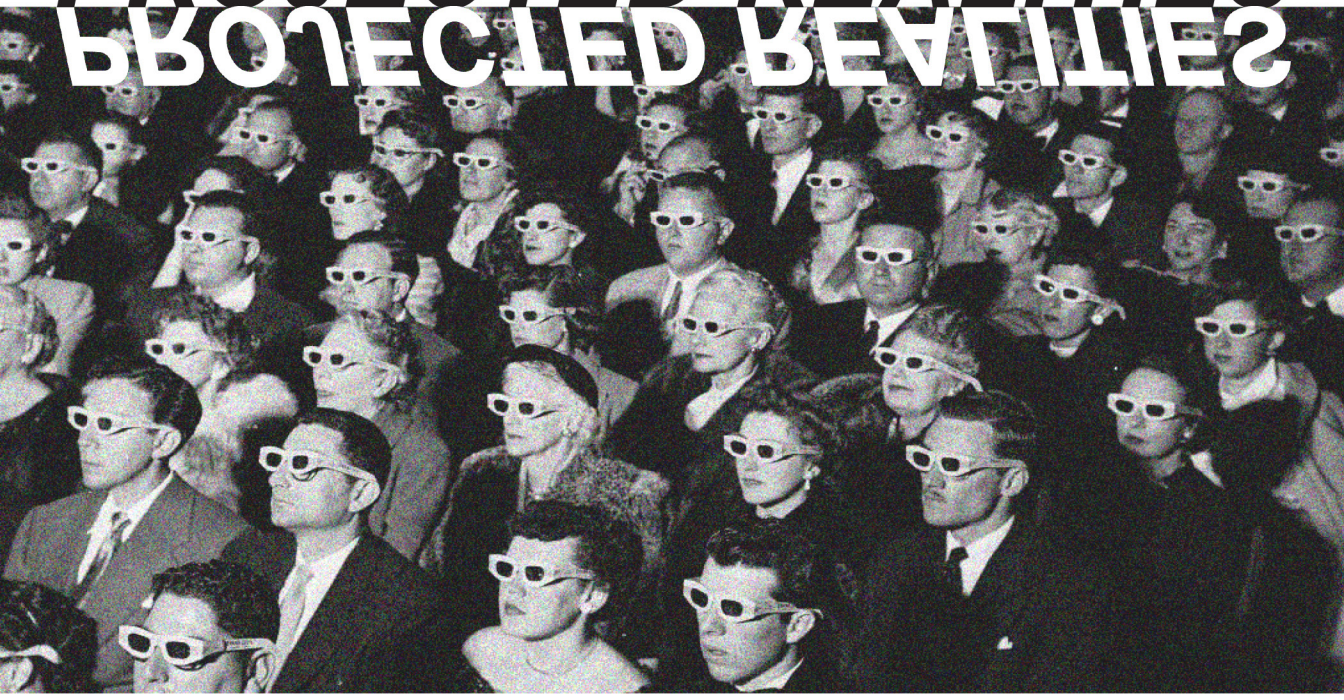
PROJECTED REALITIES



Spring 2020 Degree Project
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STUDIO FREETIME FALL 19 ~ SPRING 20

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course

ARCH 503 / HMS 498B

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Our degree project speculates on how architecture can be augmented by projected realities and explores new methods of designing and representing virtual objects as a means to test possibilities for manipulating the experience of space and the objects it contains. We propose that physical space can be tempered by a malleable overlay, creating a new condition of space achieved through the overlap of the physical and virtual.

WE ARE NOT DESIGNING A BUILDING.

Rather, we are designing a physical set within which to test the design of these projected realities. This project is an experiment.

1. the concept :

_portable living room
_society of the spectacle
_photogrammetry
_the naked city
_rear window

figure 1.1

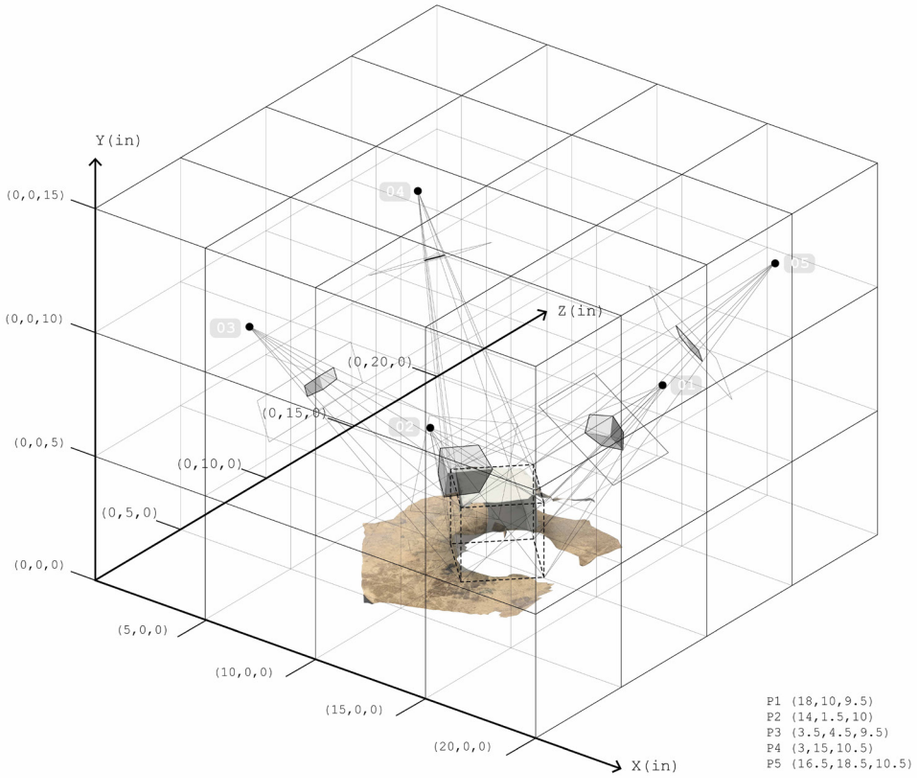
Virtual reality, or any immersive simulation, implies an insular experience that is specific to the viewer as portrayed by the "Portable Living Room" image. We aim to reverse engineer these insular experiences by bringing the projected realities out into a communal, shared experience, as implied by the Society of the Spectacle image.

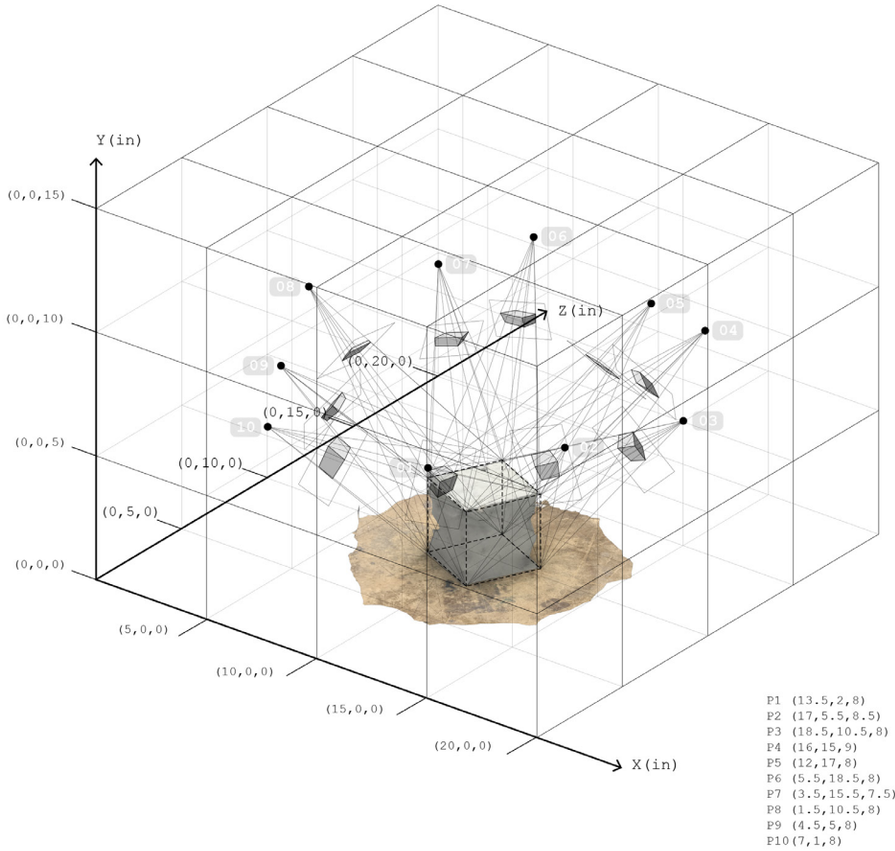
(fig 1.1) "Portable Living Room", Walter Pichler

figure 1.2

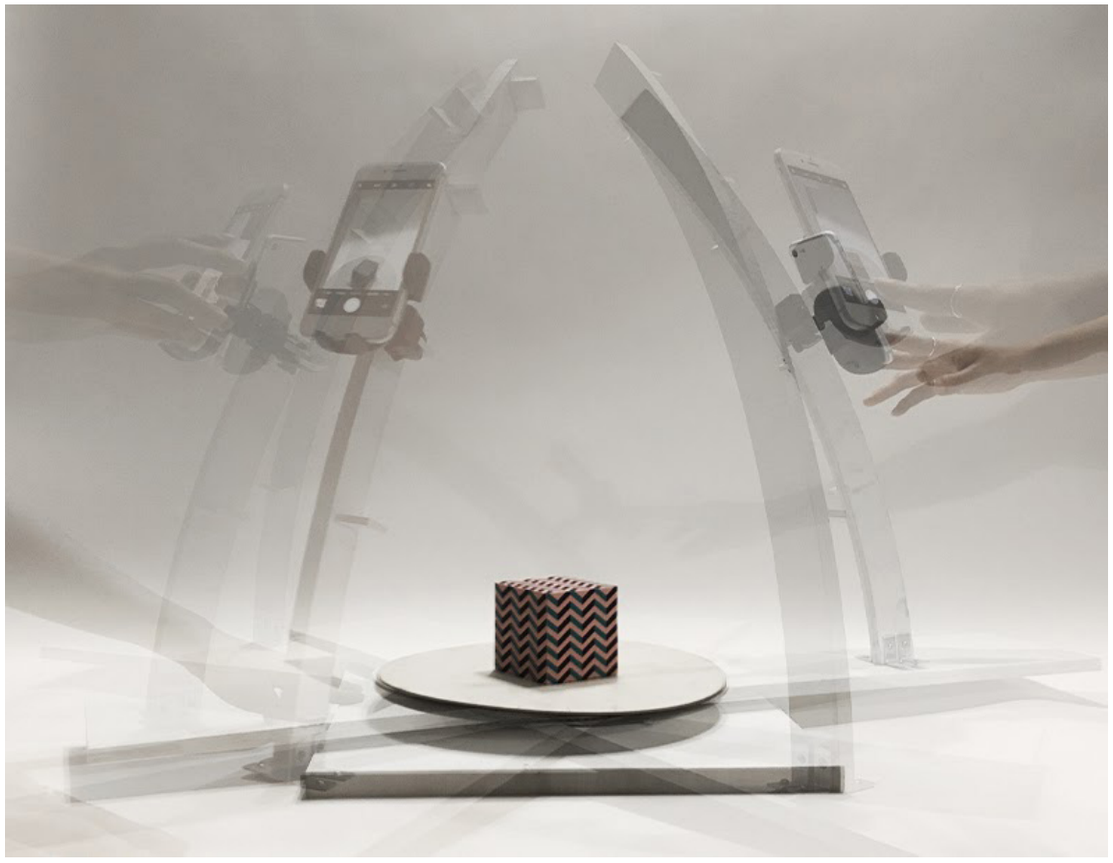
The intention is to interrogate the virtual realm by raising questions about how it is designed through the experimentation of projected realities. The method has architectural implications and implies a new type of space derived from rethinking the boundary between the physical and virtual, exploring the conflation of the two.

(fig 1.2) "Society of the Spectacle", Guy Debord

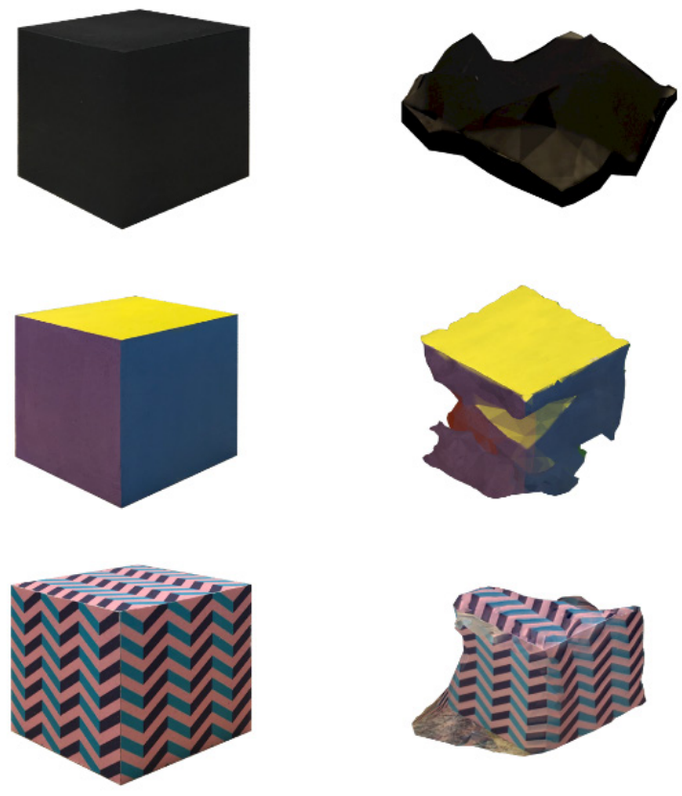




Last semester, we experimented with photogrammetry, which is a process of converting a physical object into a digital copy. Photogrammetry scans a series of pictures of a given object to construct a 3-dimensional virtual model of that object. The fidelity of the virtual model to its physical counterpart depends on the number of input images – the more images, the higher the precision.



We built a photo set to begin a set of controlled experiments of the photogrammetry process. We were interested in the process of how something physical can get digitally scanned in order to explore the liminal boundary between the physical and the virtual.



We did a series of test where we tried to reverse engineer the photogrammetry process by manipulating aspects of the physical object, such as color, contrast and pattern, to create intentional errors in the result.

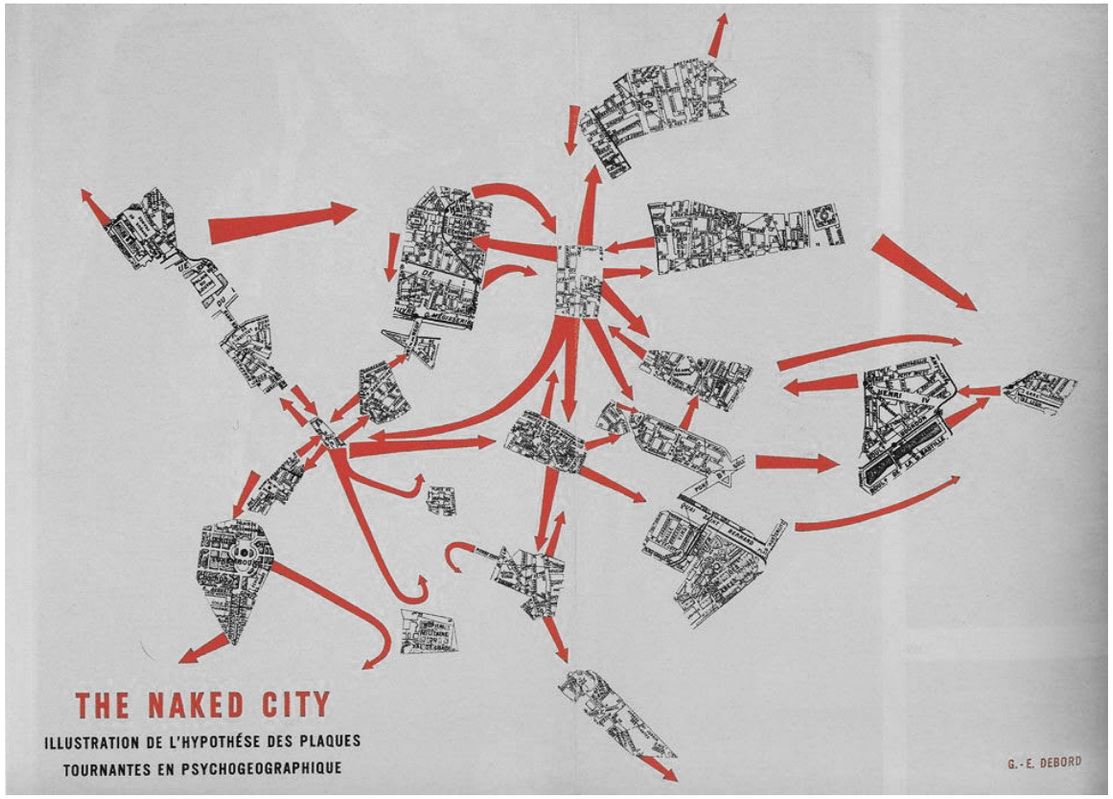


figure 1.3

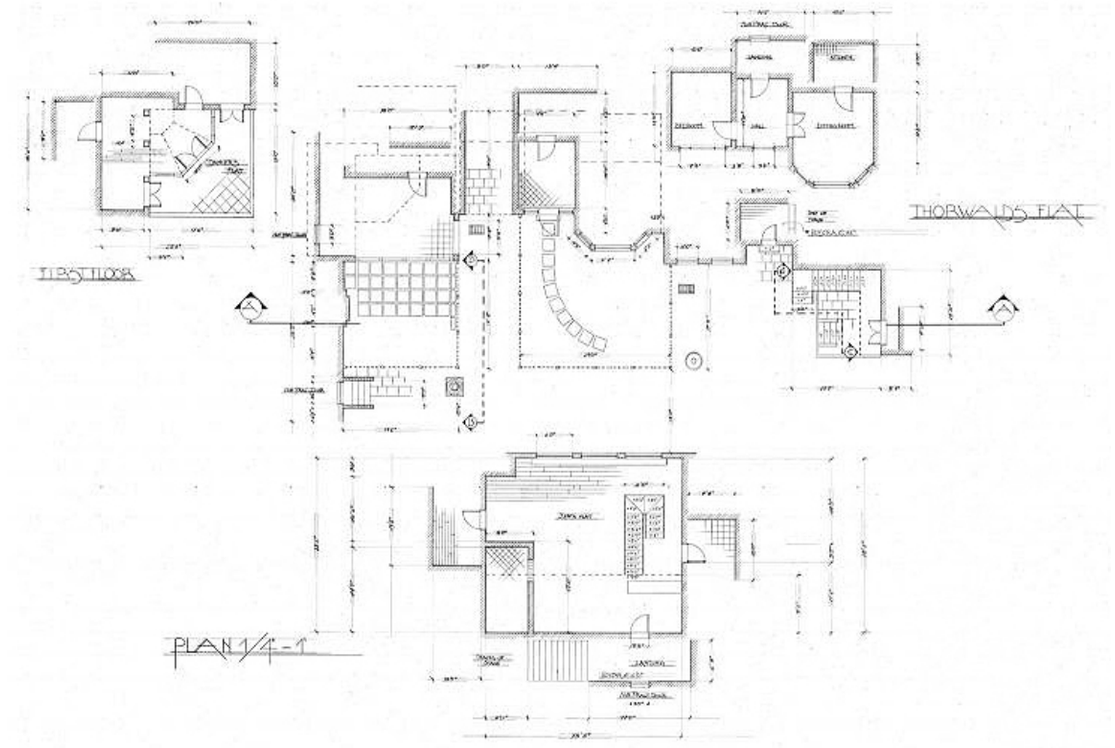


figure 1.4

Fragmented Spaces:

Guy Debord's Naked City drawing of Paris suggests how we remember experiences as fragments in an almost dream-like way. The understanding of architecture is also generated in discrete moments that accumulate into a coherent spatial experience.

In the making of the movie "Rear Window," Alfred Hitchcock built only the parts that were needed for the camera to capture specific views. The set used fragments of architecture to construct a whole world, and yet the experience of the spaces remained seamless. The audience is unaware of the fragmented world. In the recreated plan, spaces are rearranged to create strange spatial linkages – **as if architecture becomes a stage set.**

(fig 1.3) "The Naked City" Guy Debord

(fig 1.4) Alfred Hitcock's "Rear Window" set adaptation, Marialusia Pacini

figure 1.5

figure 1.6

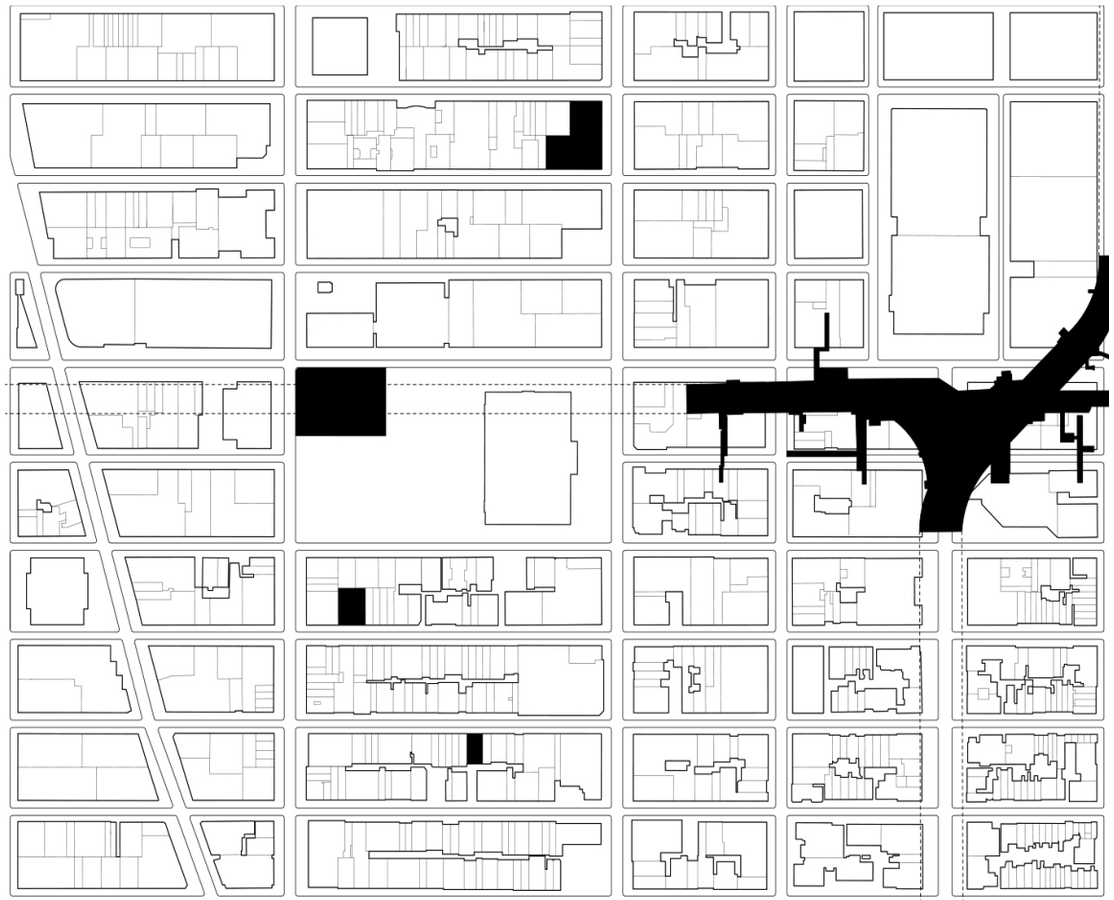
These images depict the human experiences of Guy Debord's "Naked City" drawing of Paris and Alfred Hitchcock's "Rear Window" set. While the two images appear to be ordinary, the drawings of both (fig 1.3, fig 1.4) present different realities. The two examples took fragments of the existing world and rearranged them to produce another version of that world.

(fig 1.5) Picture of Paris

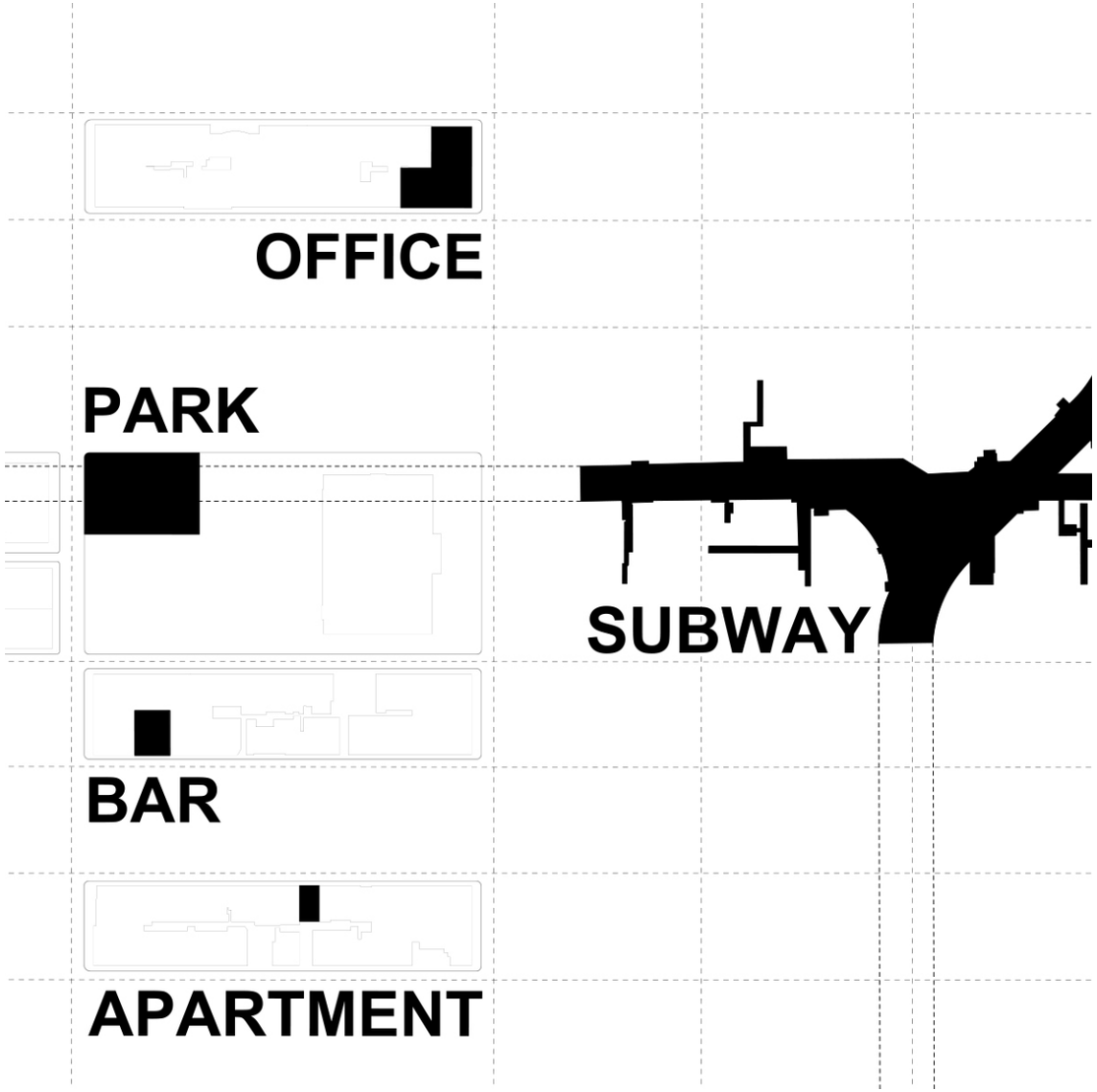
(fig 1.6) Scene from "Rear Window"

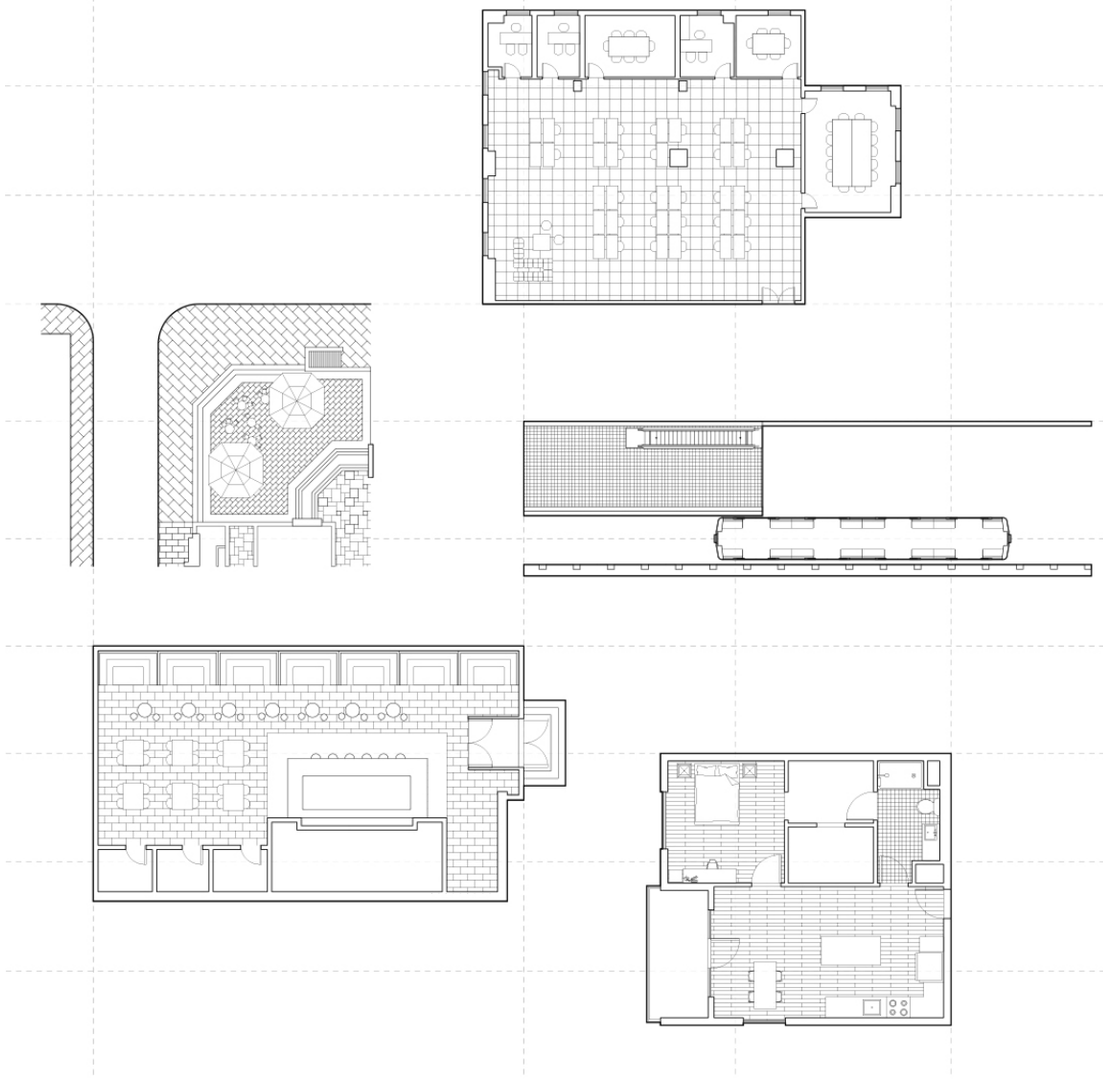
2. the set :

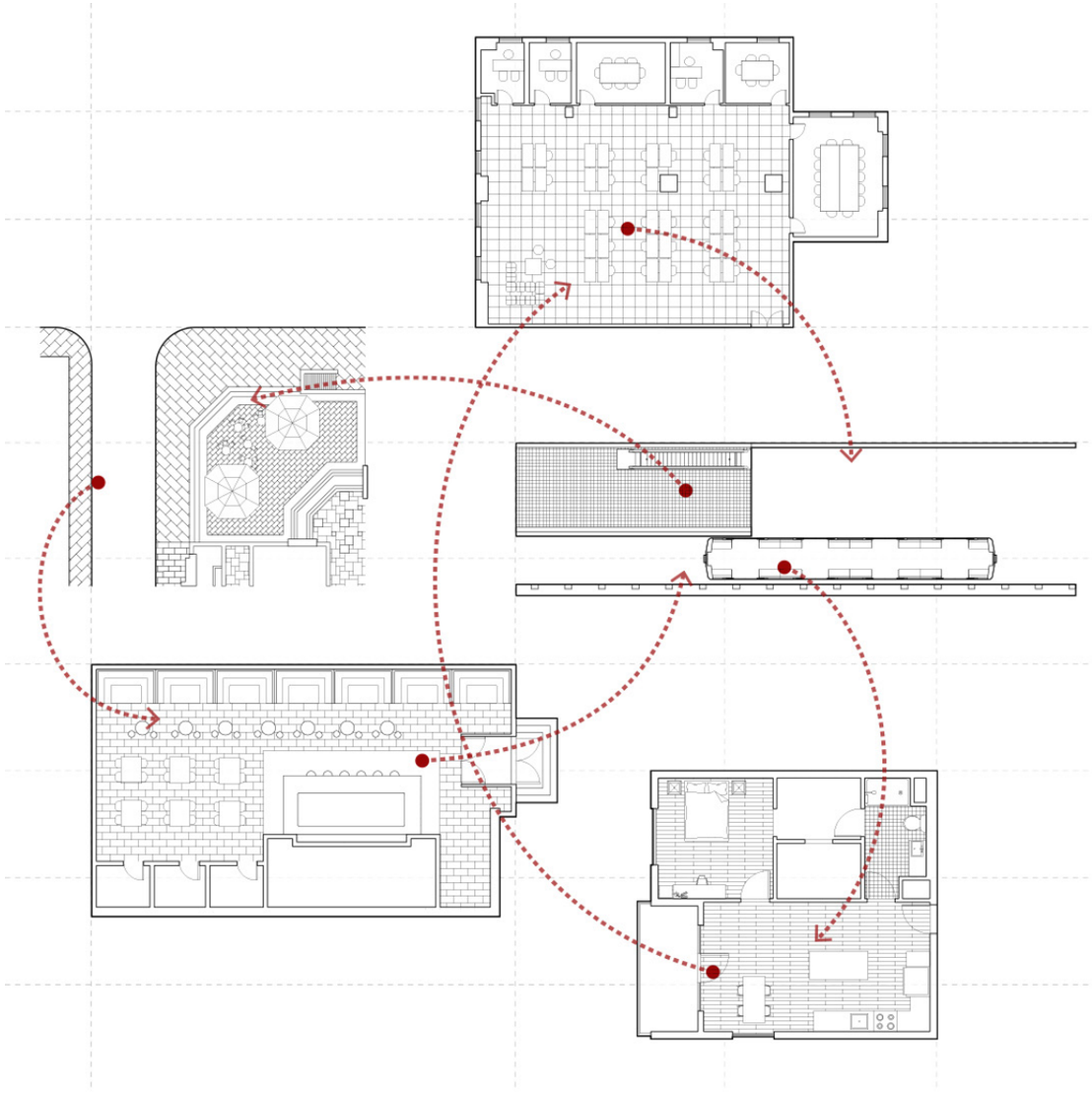
_midtown manhattan
_fragments
_viewpoints

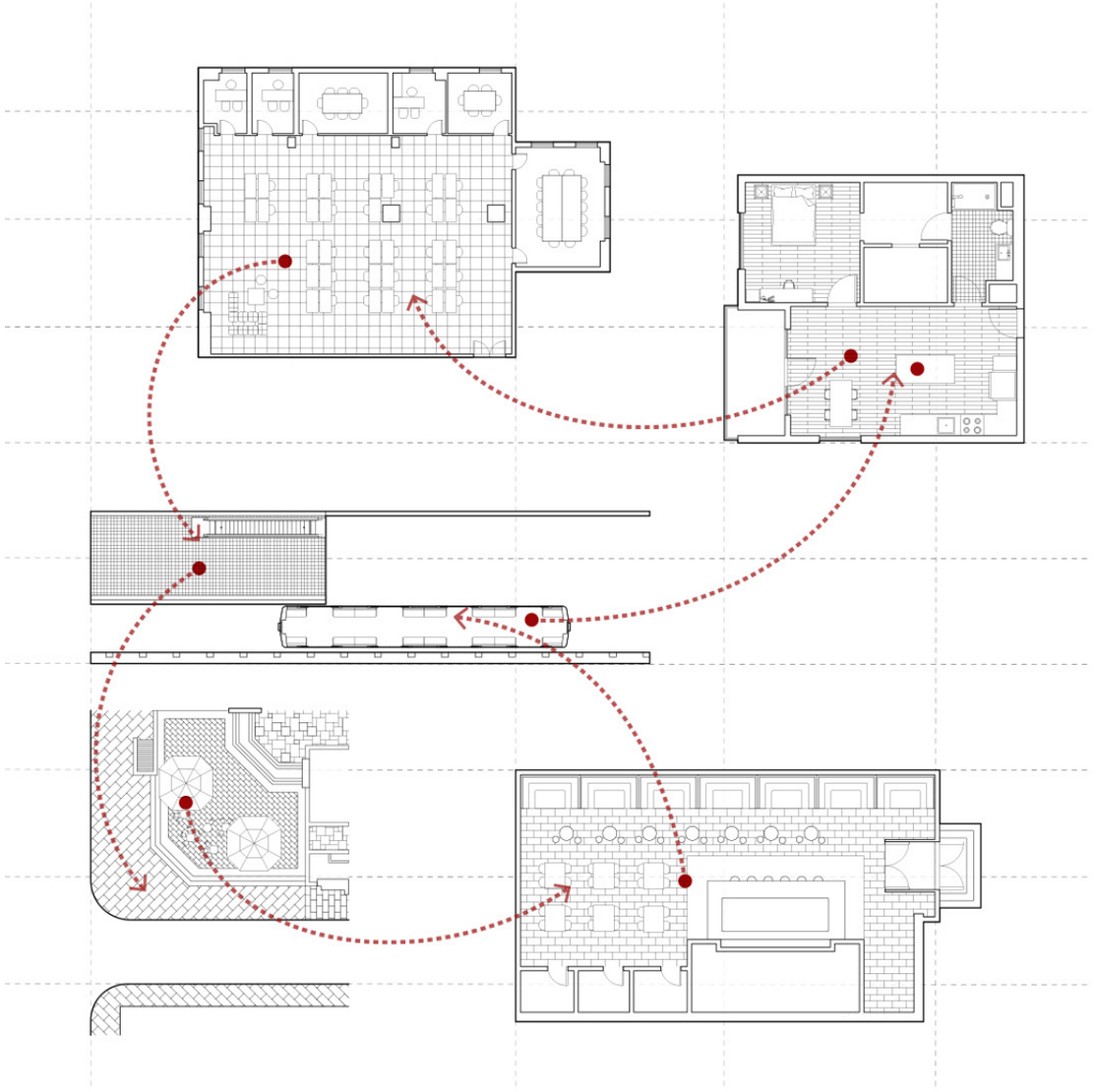


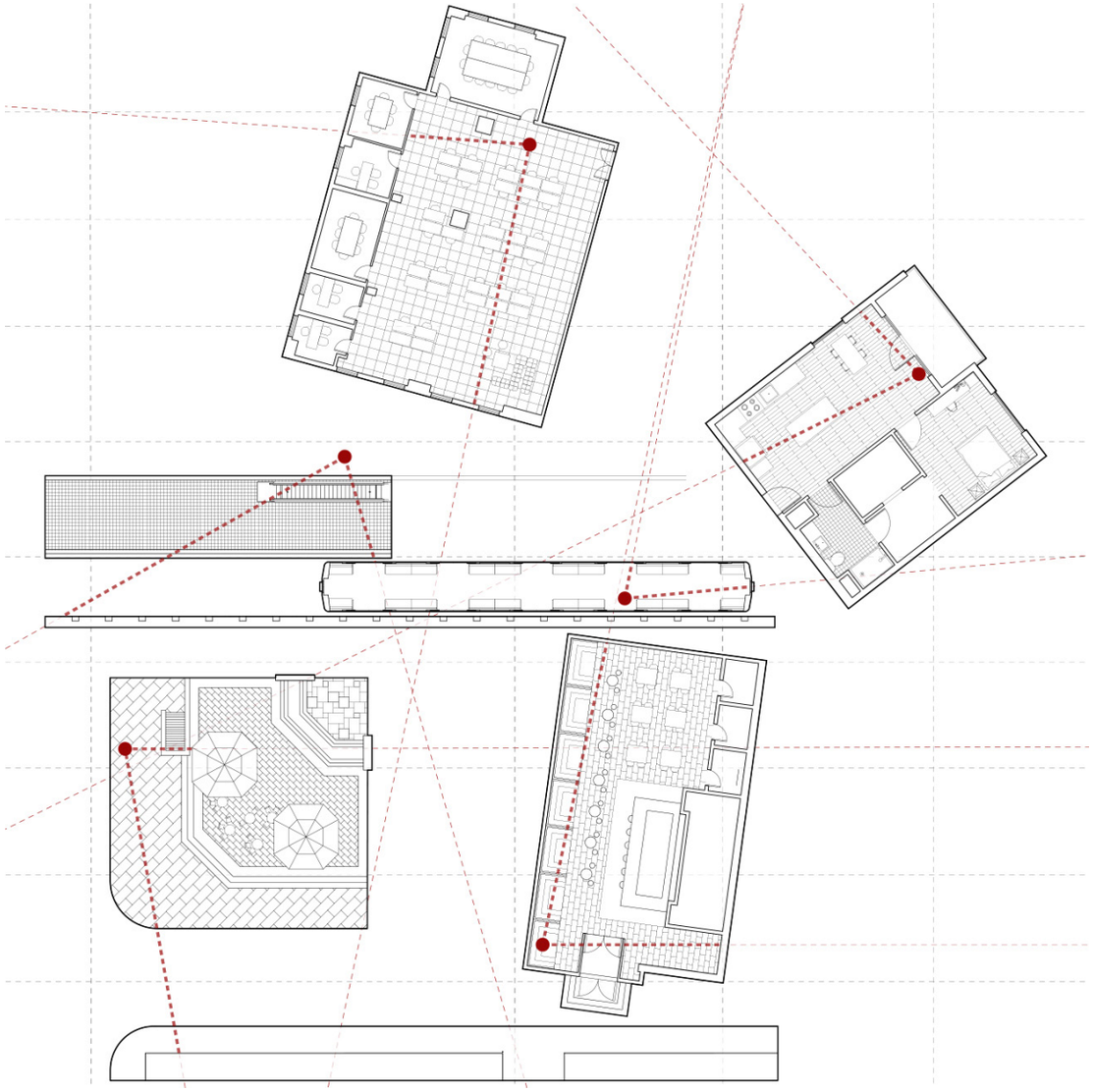
The following series of plans show the development of our set. The set appropriates a spatial sequence that exists in New York City as a prototypical site. A path in Midtown Manhattan, along which a fictionalized routine of work and leisure takes place, is broken up into fragments of spaces and experiences. The geographical connections between the fragments are no longer important and the fragments are instead reconfigured and reconnected through defined views.

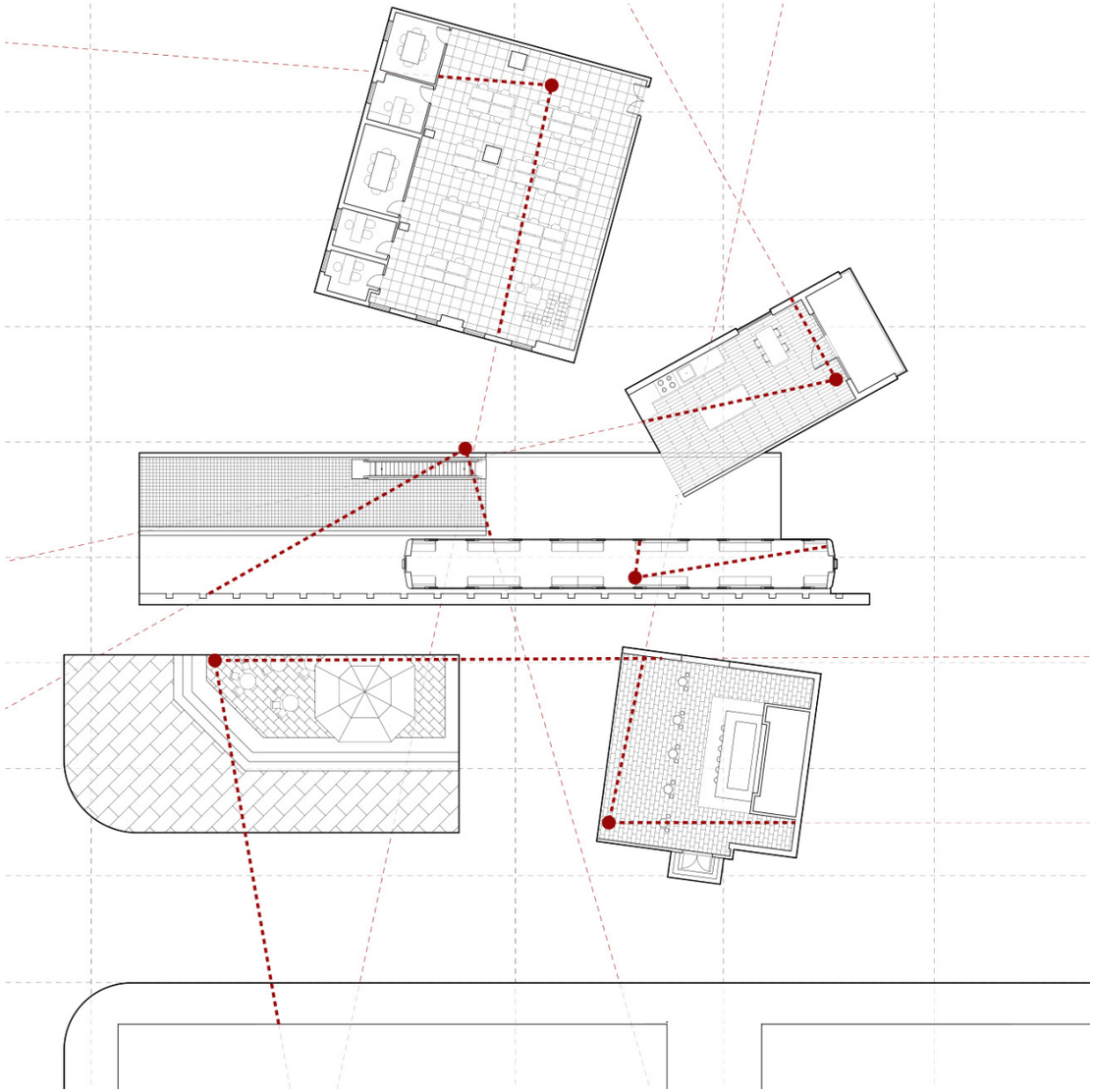

OFFICE
PARK
SUBWAY
BAR
APARTMENT

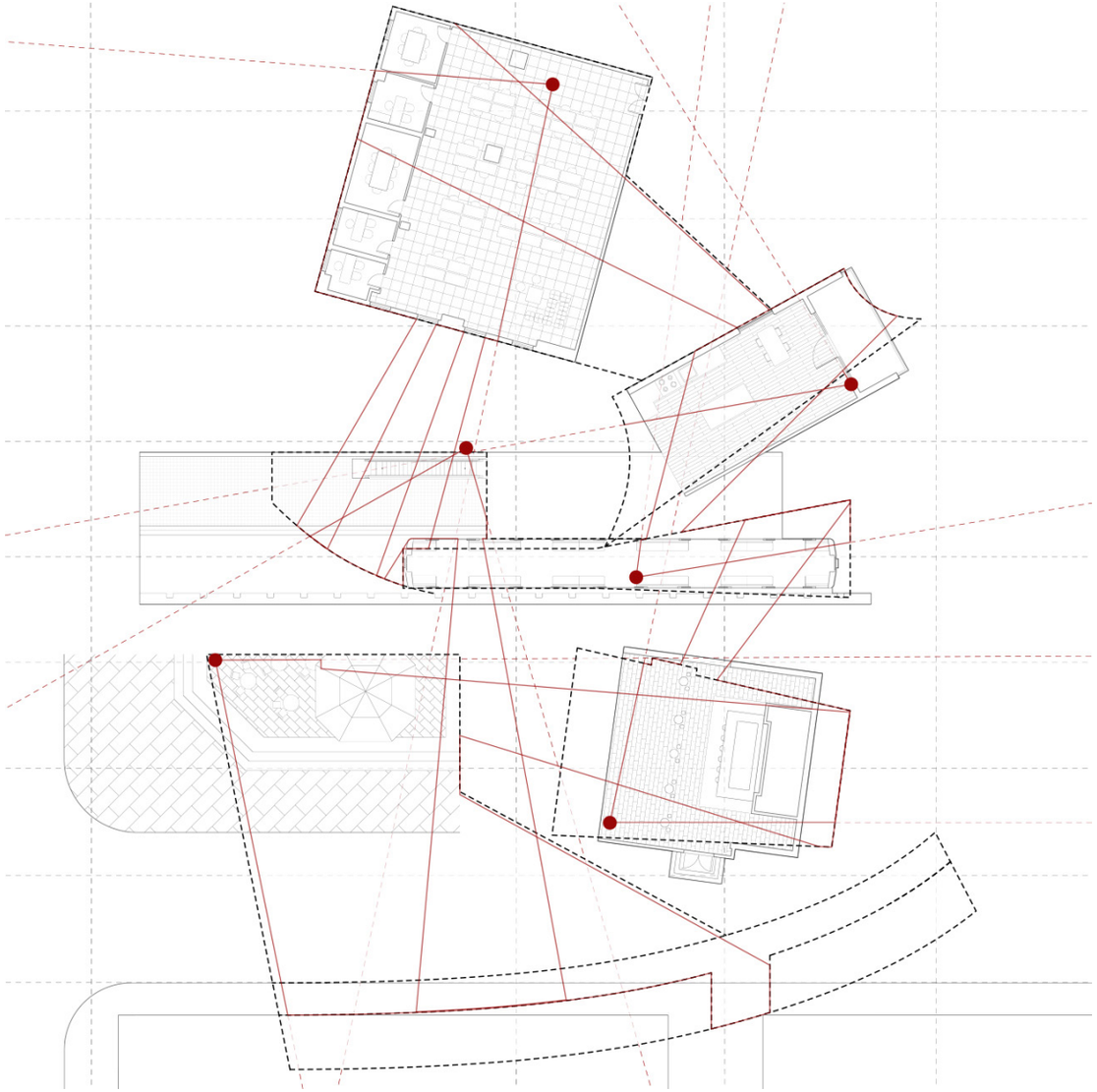


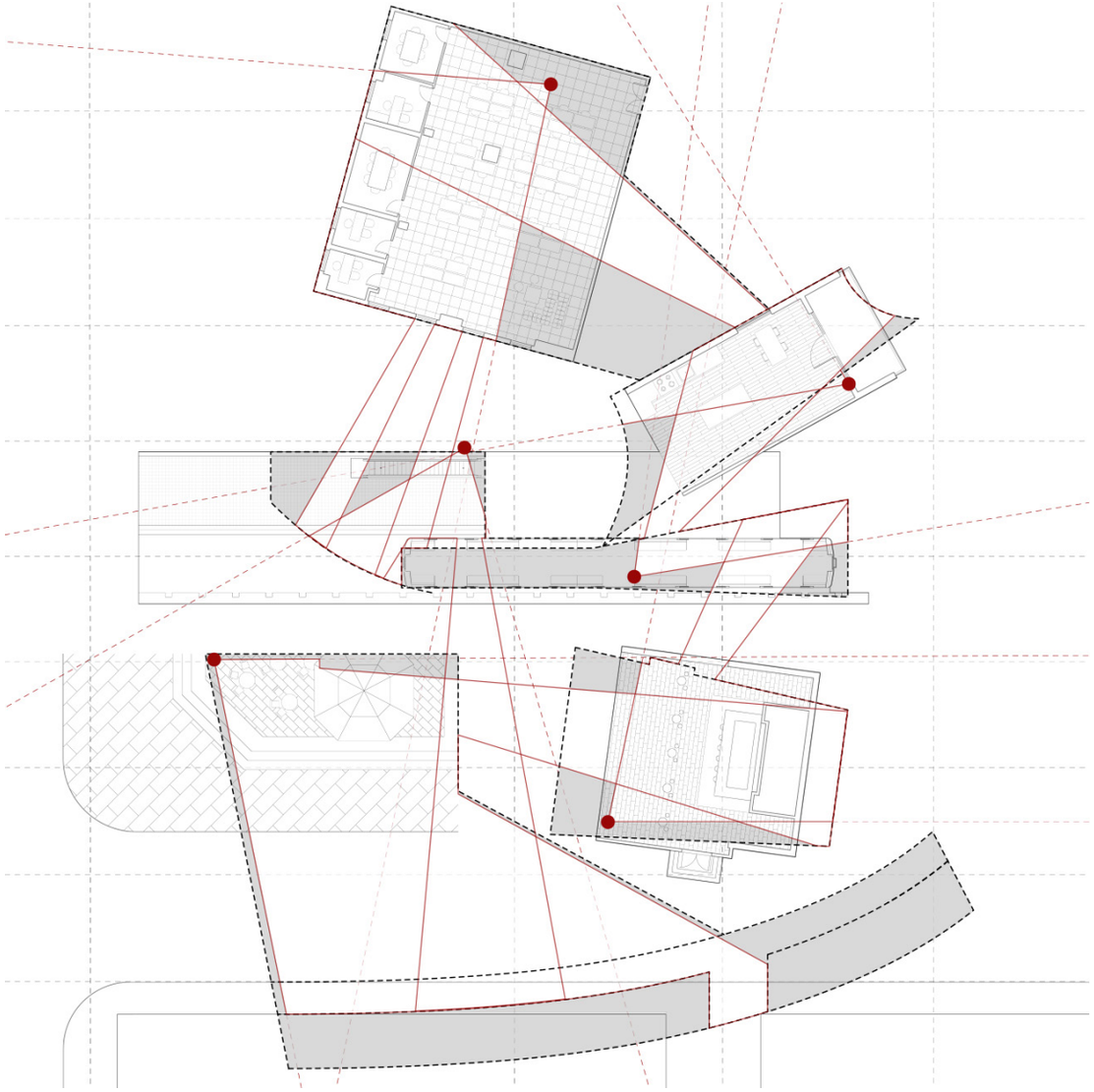


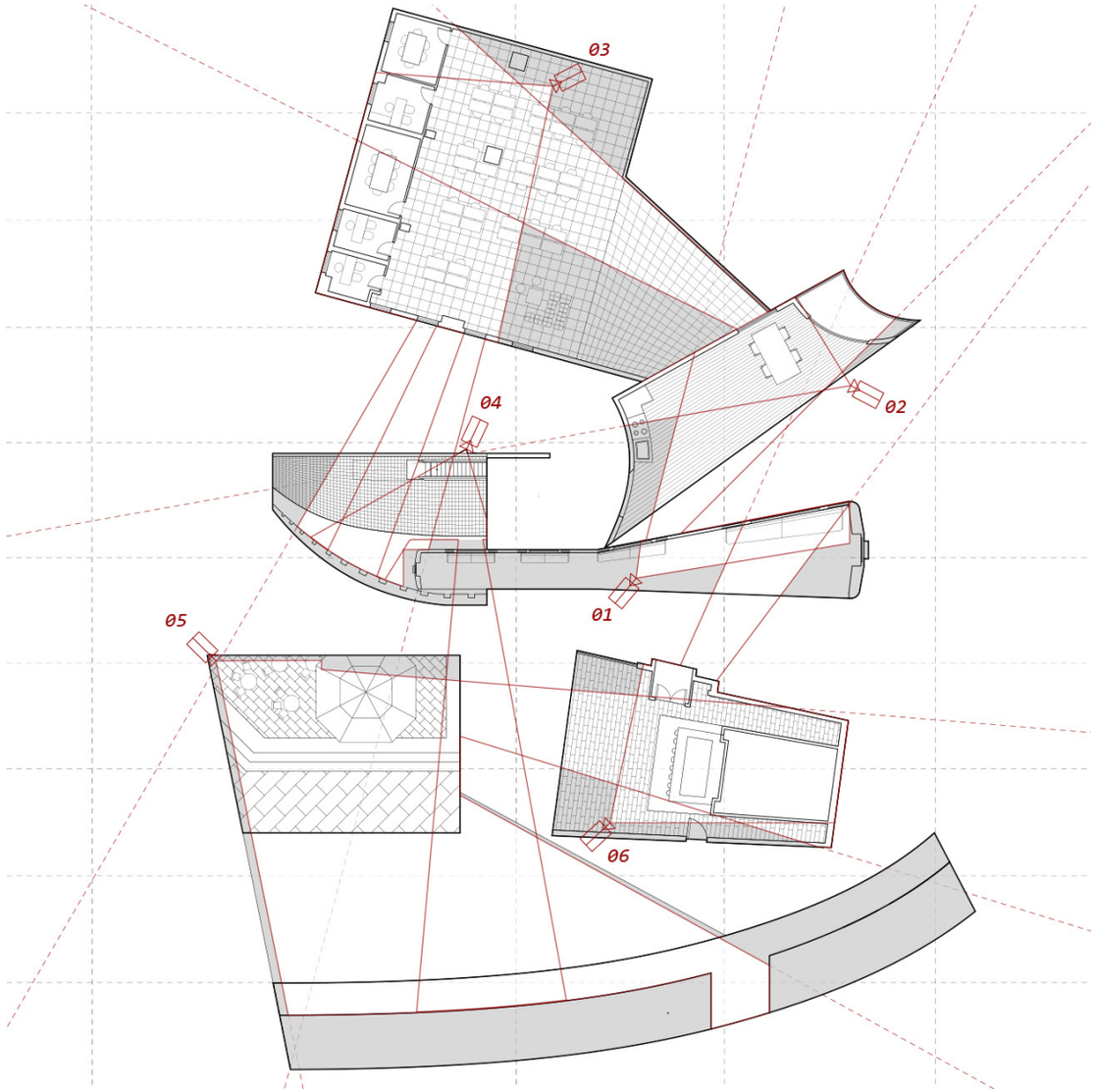






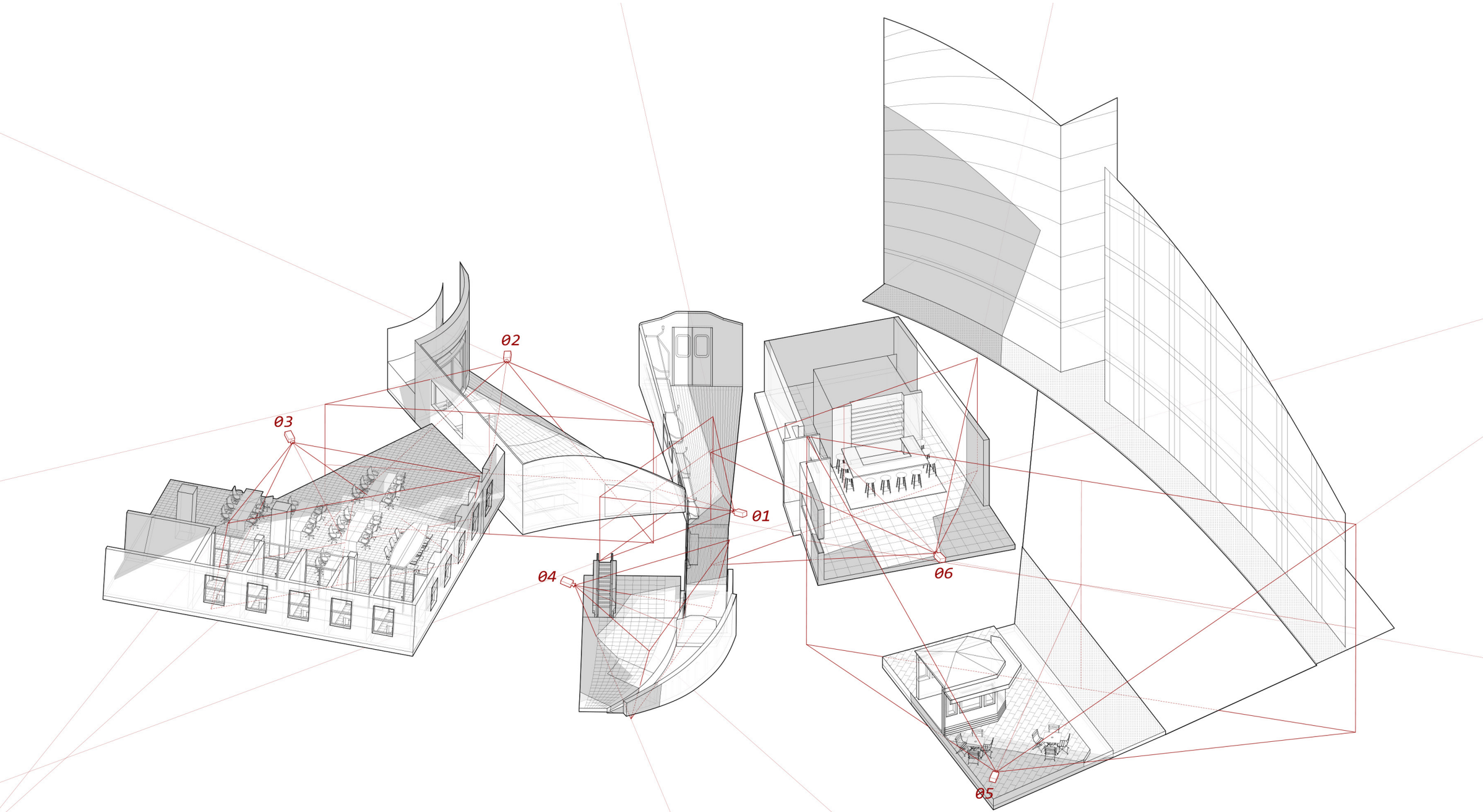






This is the final plan of our set with six finalized view points. The idea of "viewpoints" and the human view becomes crucial to our project as they start to activate the construction of these spaces. The set was developed through rearranging, reorienting and distorting the existing fragments to create a cohesive, seamless experience of all of these spaces.

The set now becomes a groundwork for the experimentation of projected realities.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3. the window :

_mise en abyme
_view within a view
_rear window

figure 3.1

The creation of the set is resolved through the "window." As windows or paintings flatten another world into a plane so that it coexists with an existing space, the windows in our project are how a fragment is nested into the view of another fragment.

(fig 3.1) Scene from "Rear Window"

figure 3.2

Each established view offers a view into another fragment through the window, creating a **"view within a view"** or "**mise en abyme"** similar to the effect Alfred Hitchcock used in his film "Rear Window." We call this the nested view. In our set, the fragments are arranged through visual linkages created by nested views.

(fig 3.2) Scene from "Rear Window"

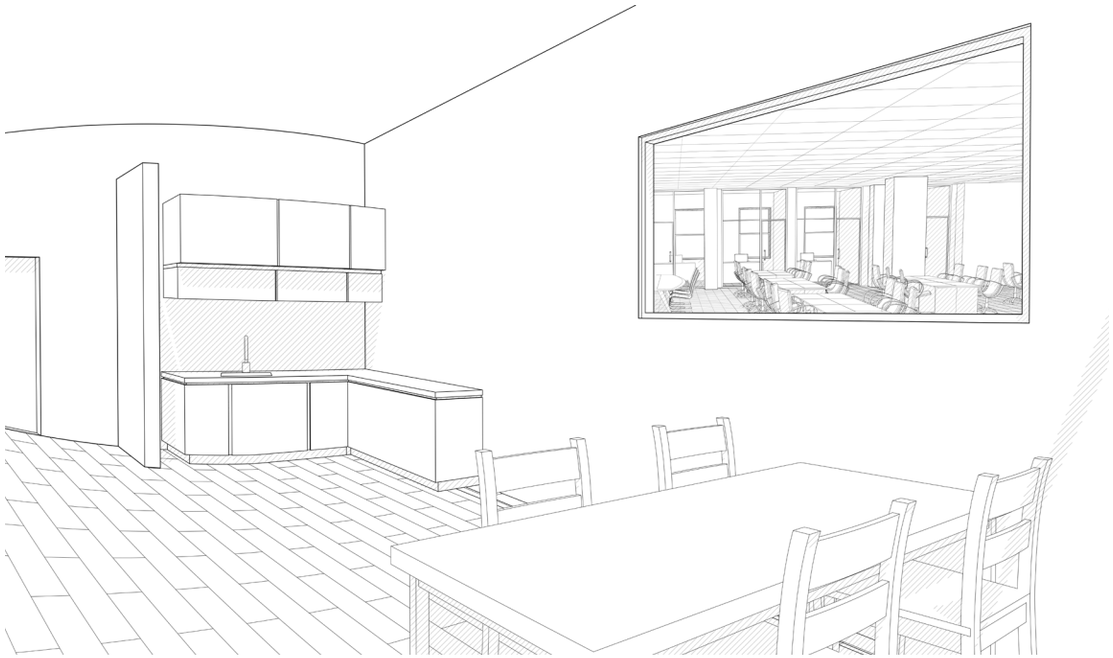


figure 3.3

EXPERIENTIAL VIEWS

PRIMARY VIEW

(fig 3.3) Experiential view of apartment

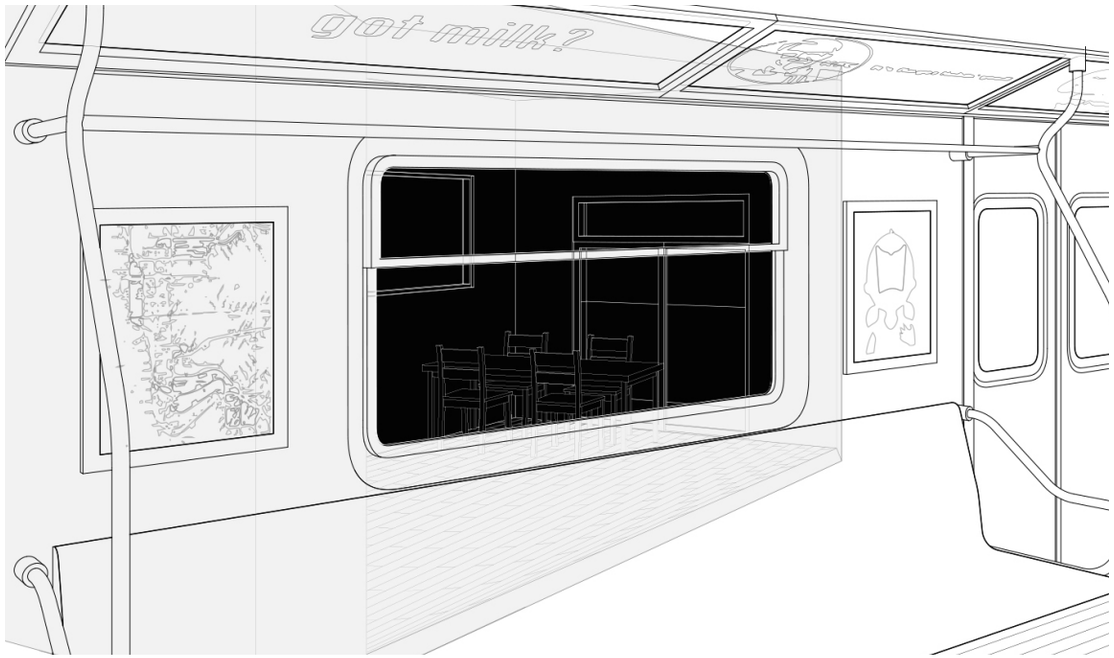
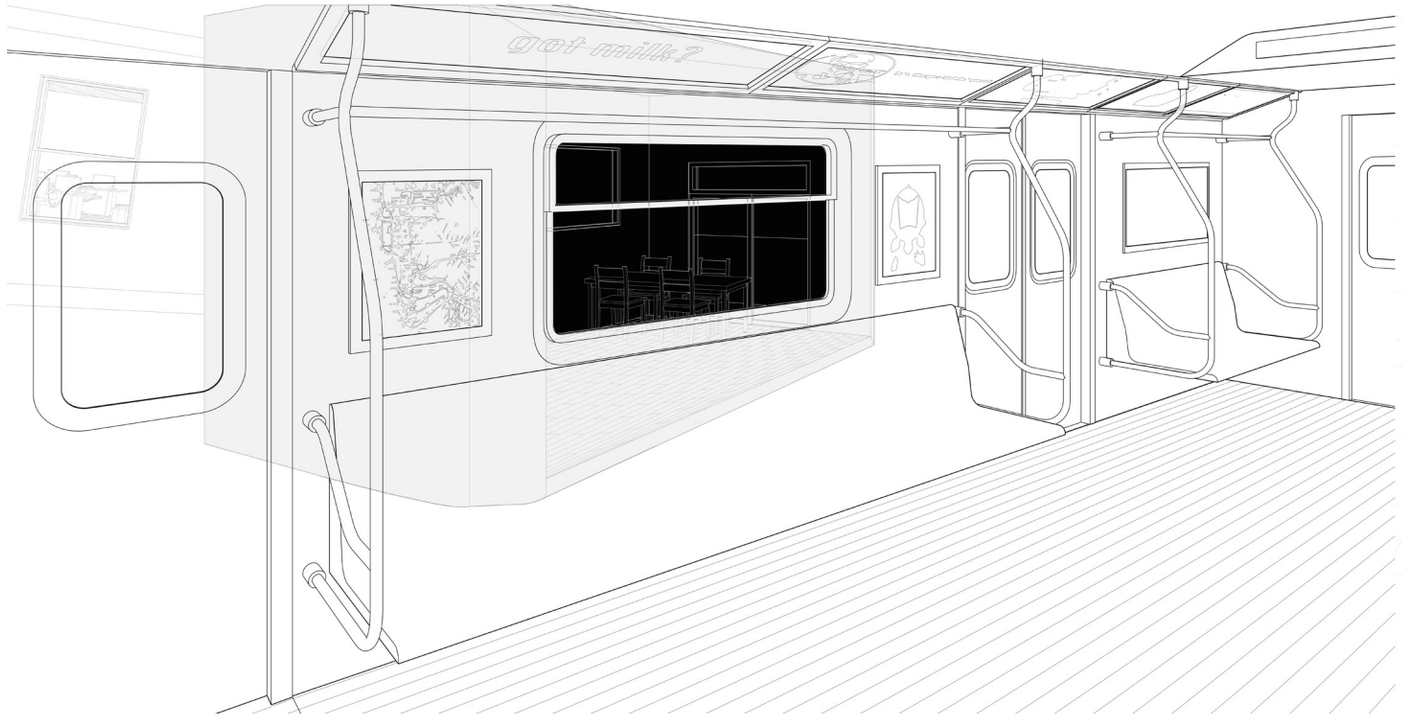


figure 3.4

NESTED VIEW

SECONDARY VIEW

(fig 3.4) Nested view of apartment shown through the window of the subway (hatched black)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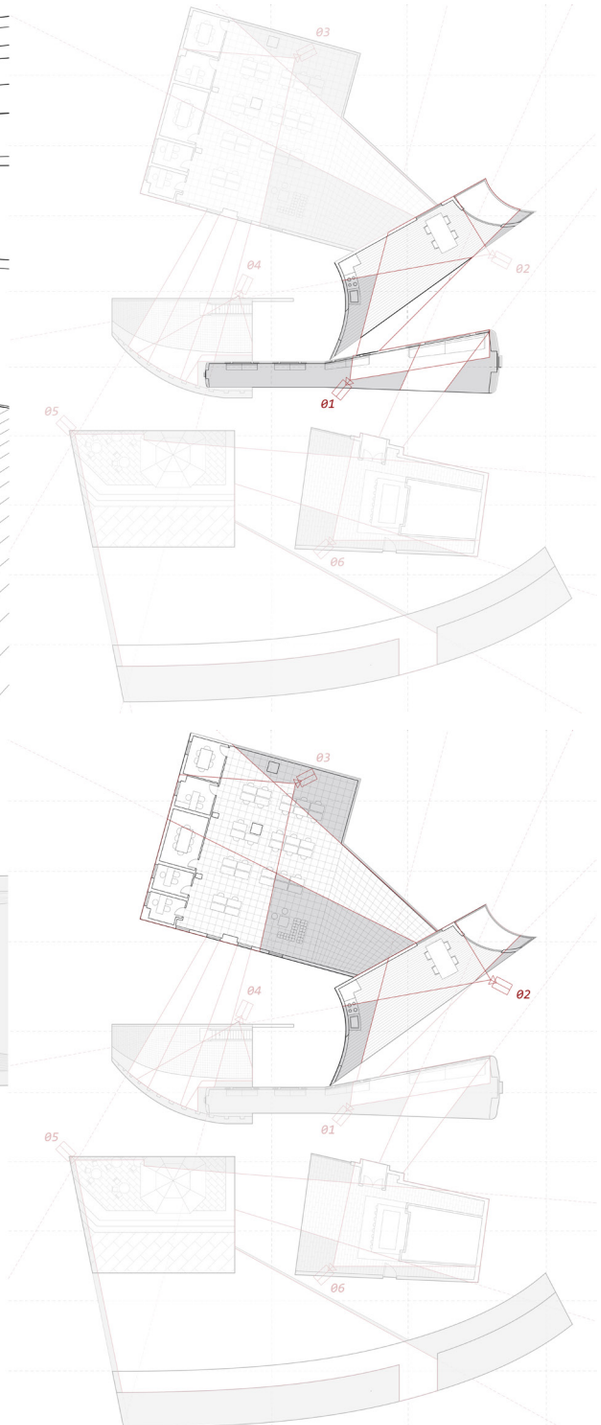
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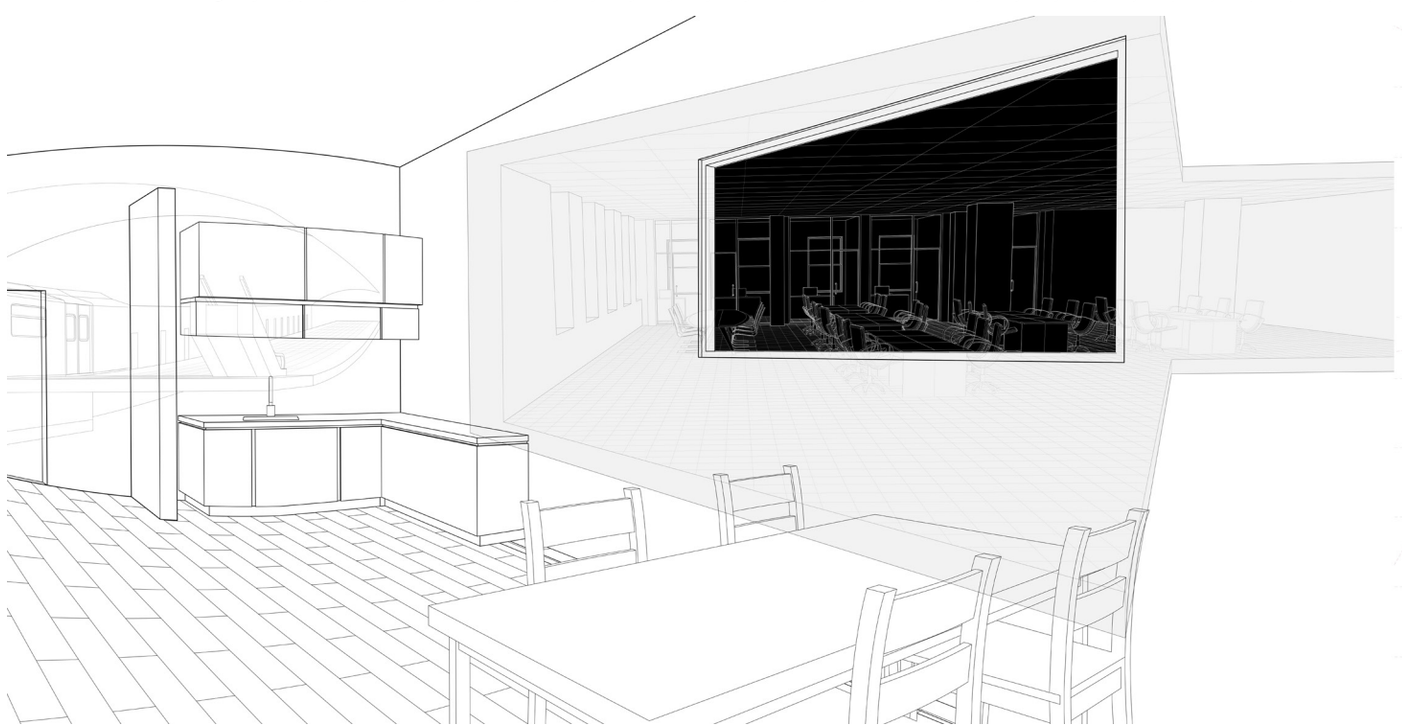

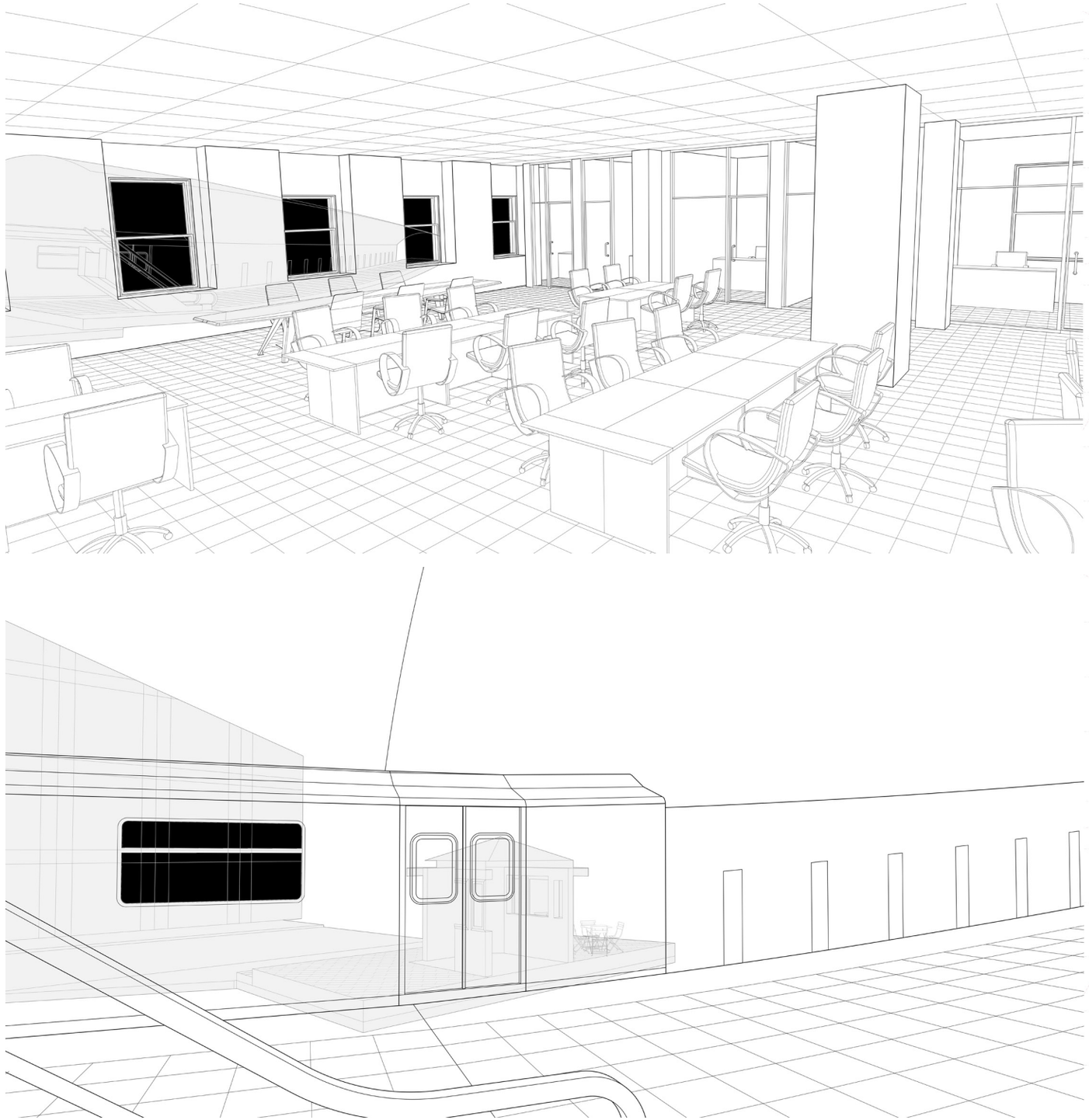

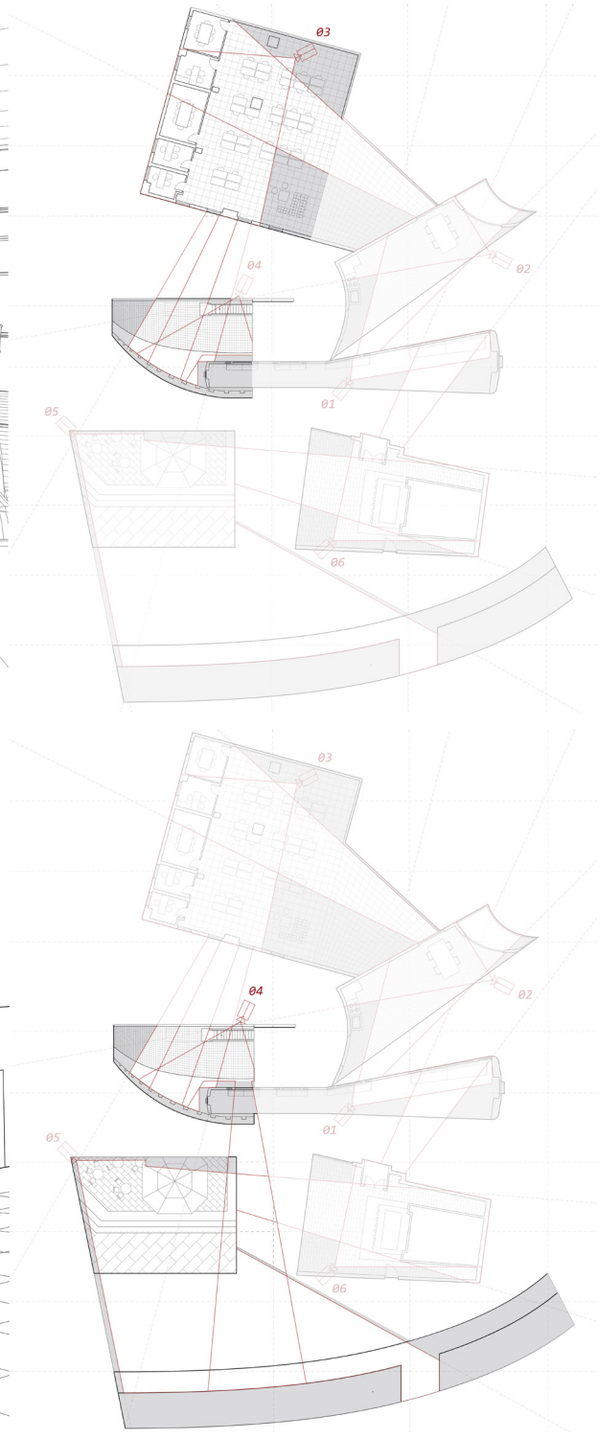
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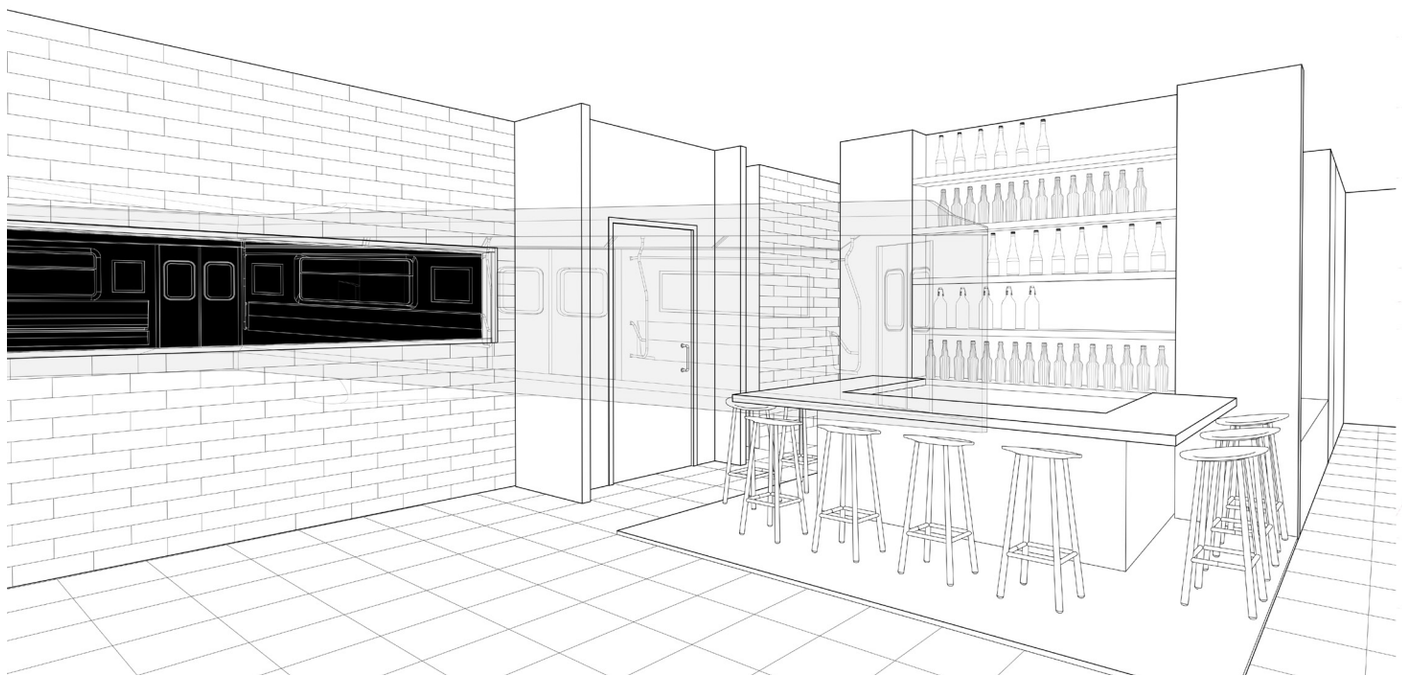

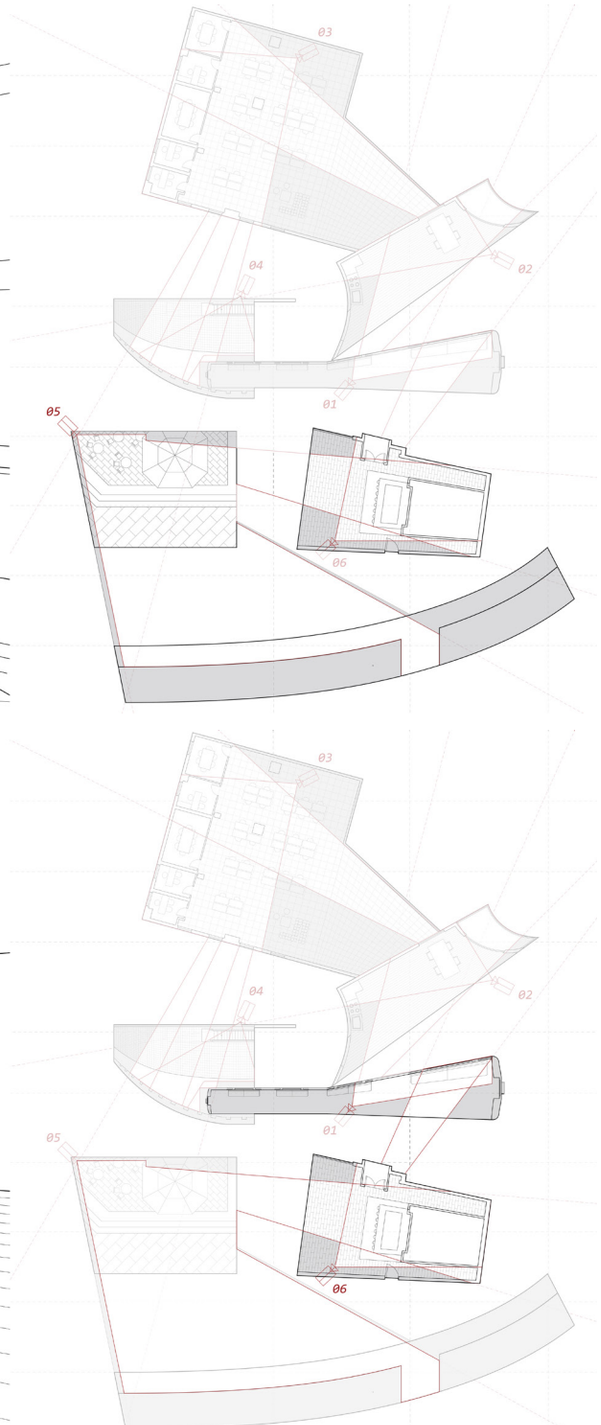
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4. the object :

_developed surface
_architecture in extremus
_projected reality as virtual objects
_object experiments

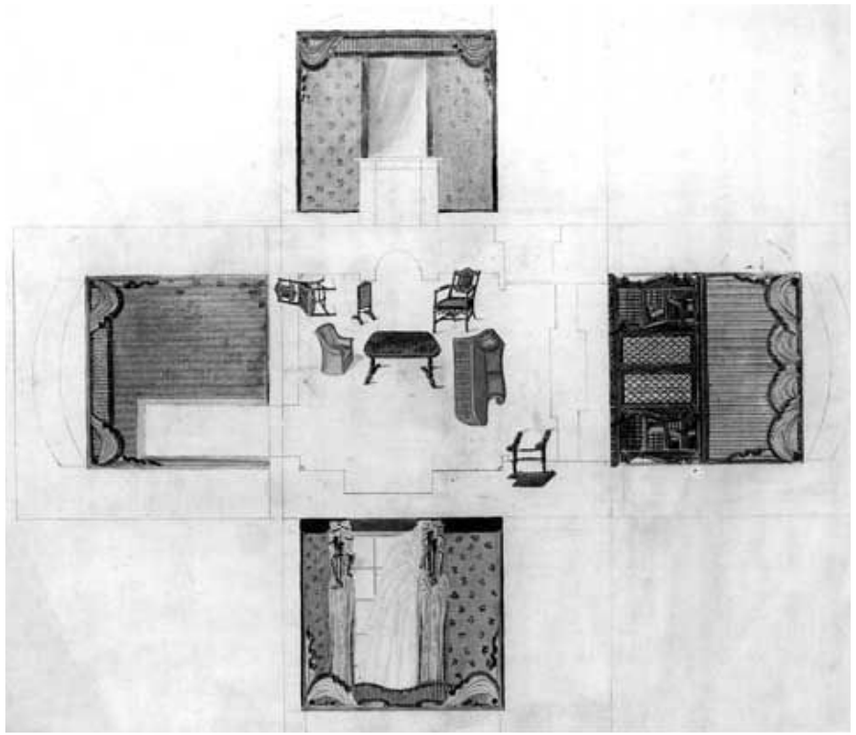


figure 4.1

In the "Developed Surface" essay, Robin Evan discusses how objects don't have an allegiance to a specific surface or orientation in terms of cartographic projections. He frames this as a problem he encountered while creating drawings of unfolded interior elevations. (fig 4.1) He had difficulty representing the projection of furniture because 3-dimensional objects in space don't have an allegiance to a wall or surface.

What Robin Evan frames a problem in his essay, is what we decided to investigate through the design of the projected realities. Through projected realities, we are designing objects that have an allegiance to a specific view and can begin to reconcile multiple views. These objects can exist in two different realities, aligning to multiple viewpoints so that they start to re-evaluate and re-frame the spaces differently in both the experiential and the nested views.

(fig 4.1) "The Developed Surface" Robin Evans

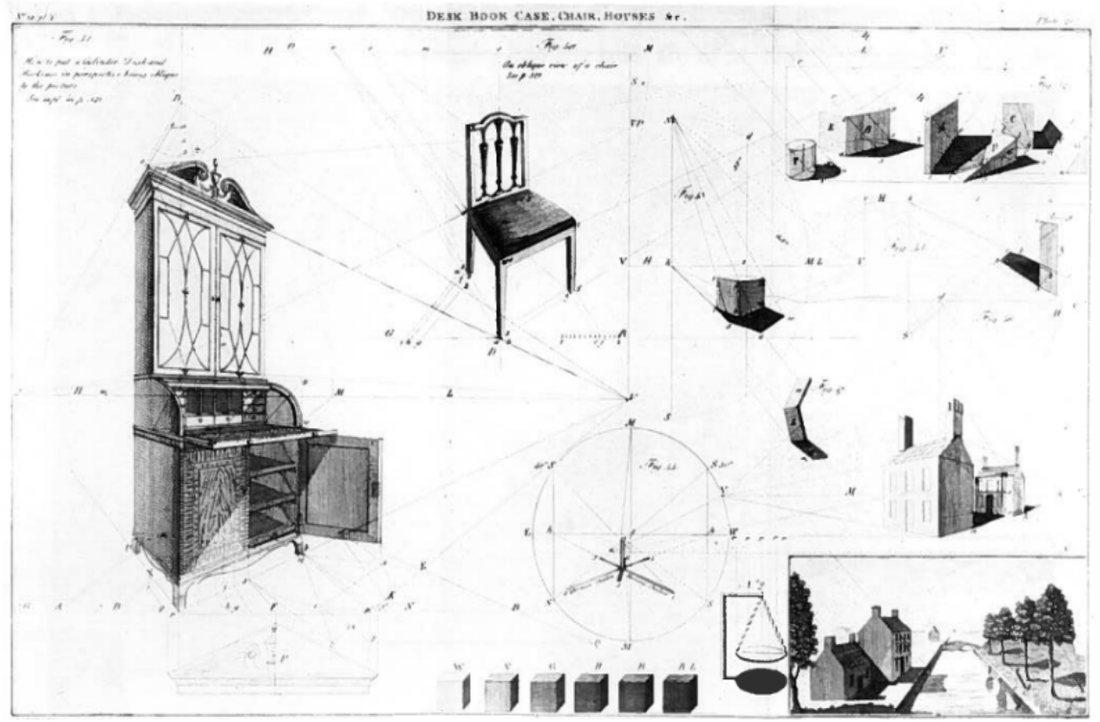


figure 4.2

Projected Realities as objects :
We are not investigating the architecture, but how spaces can be perceived differently through virtual objects which have architectural implications.

(fig 4.2) "The Developed Surface" Robin Evans

figure 4.3

Sylvia Lavin also talks about how objects within a space can start to become architecture in her essay "Architecture in Extremus." She describes the idea of hoarding and explains that if an interior houses enough objects, those objects actually become architecture as they define the space around them in the same way walls and enclosures would.

(fig 4.3) "Architecture in Extremus" Sylvia Lavin

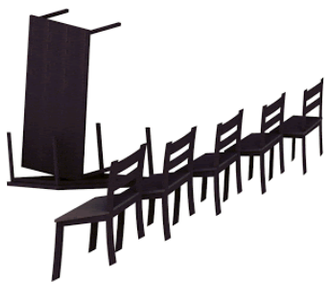
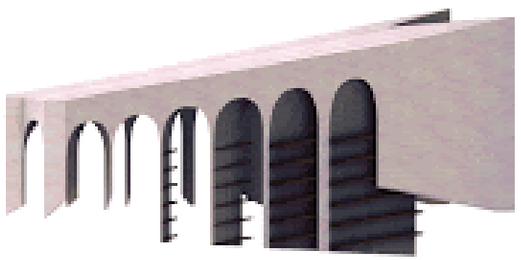
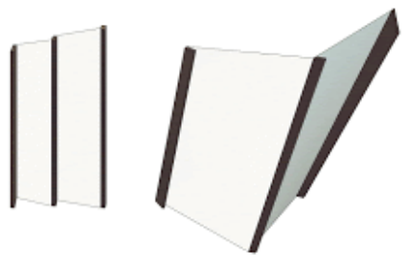
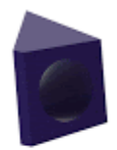
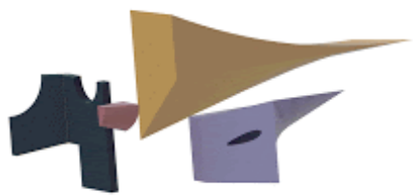
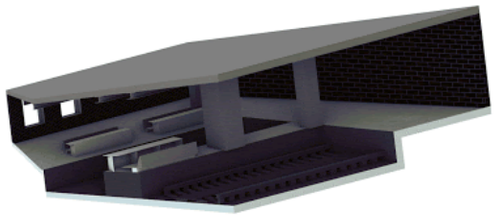
figure 4.4

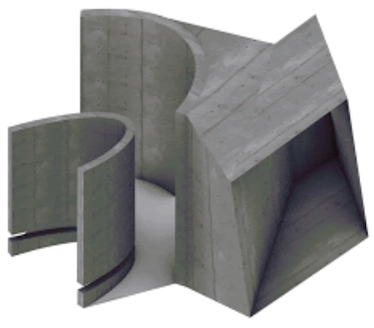
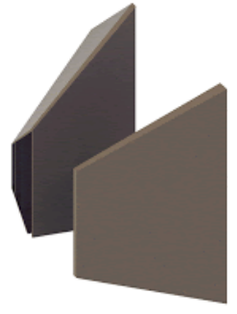
Objects as architecture :

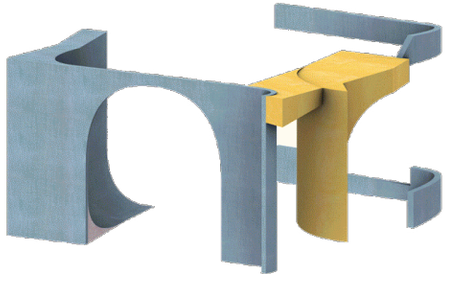
For us, projected realities are beyond just furniture. They can be complete or partial spaces, architectural elements and many other things.

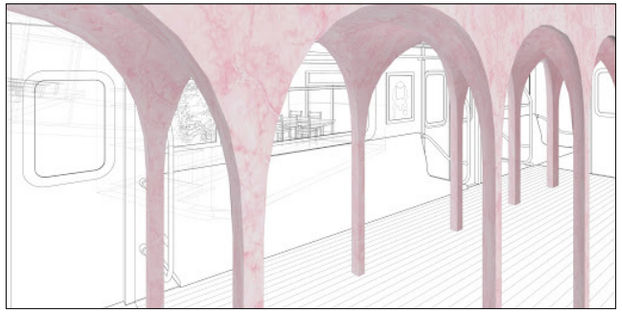
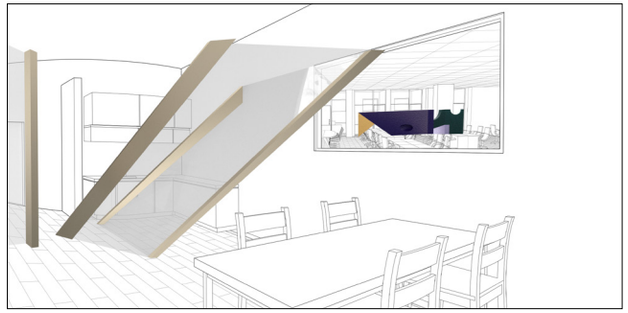
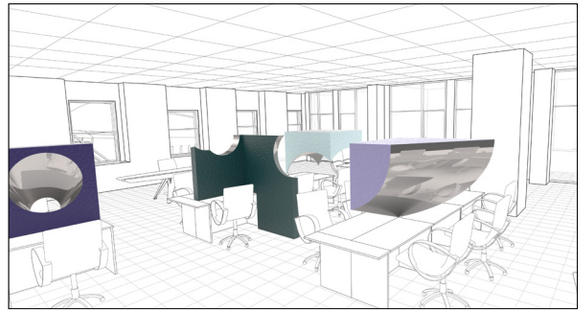
(fig 4.4) "Architecture in Extremus" Sylvia Lavin

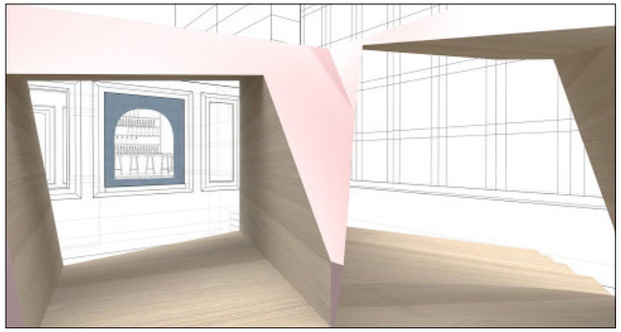
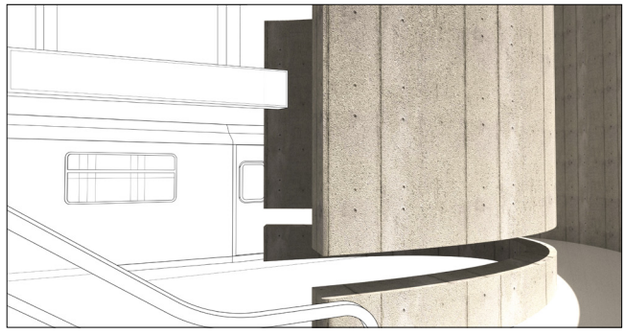
Catalog of Experiments :

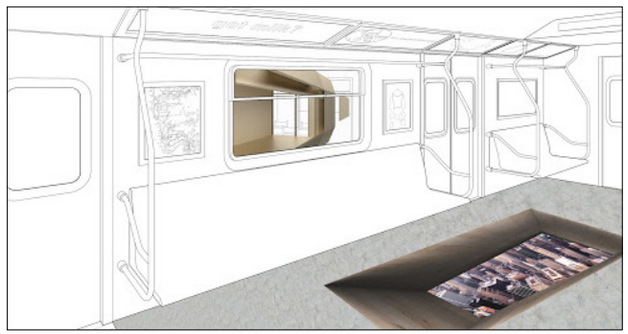





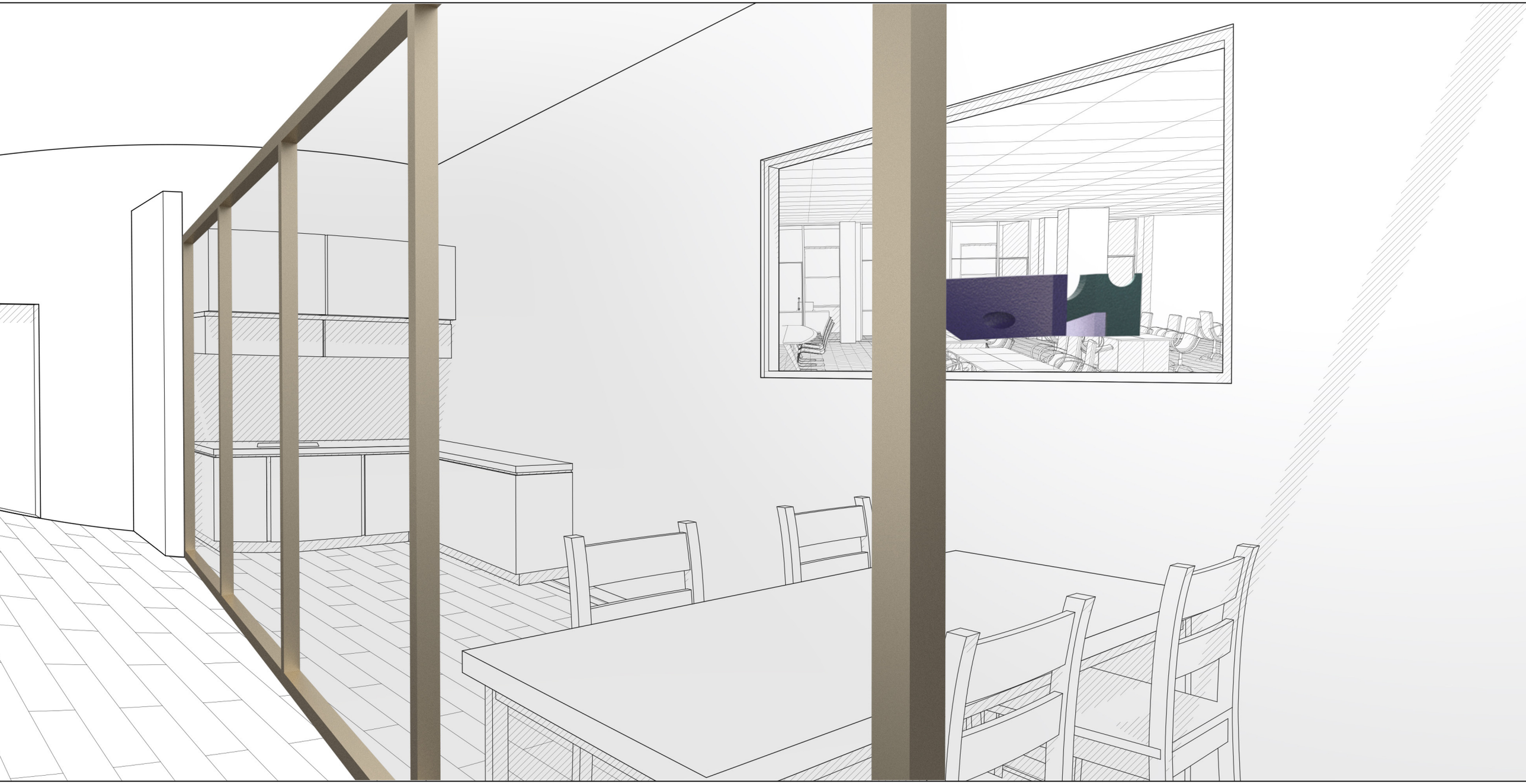



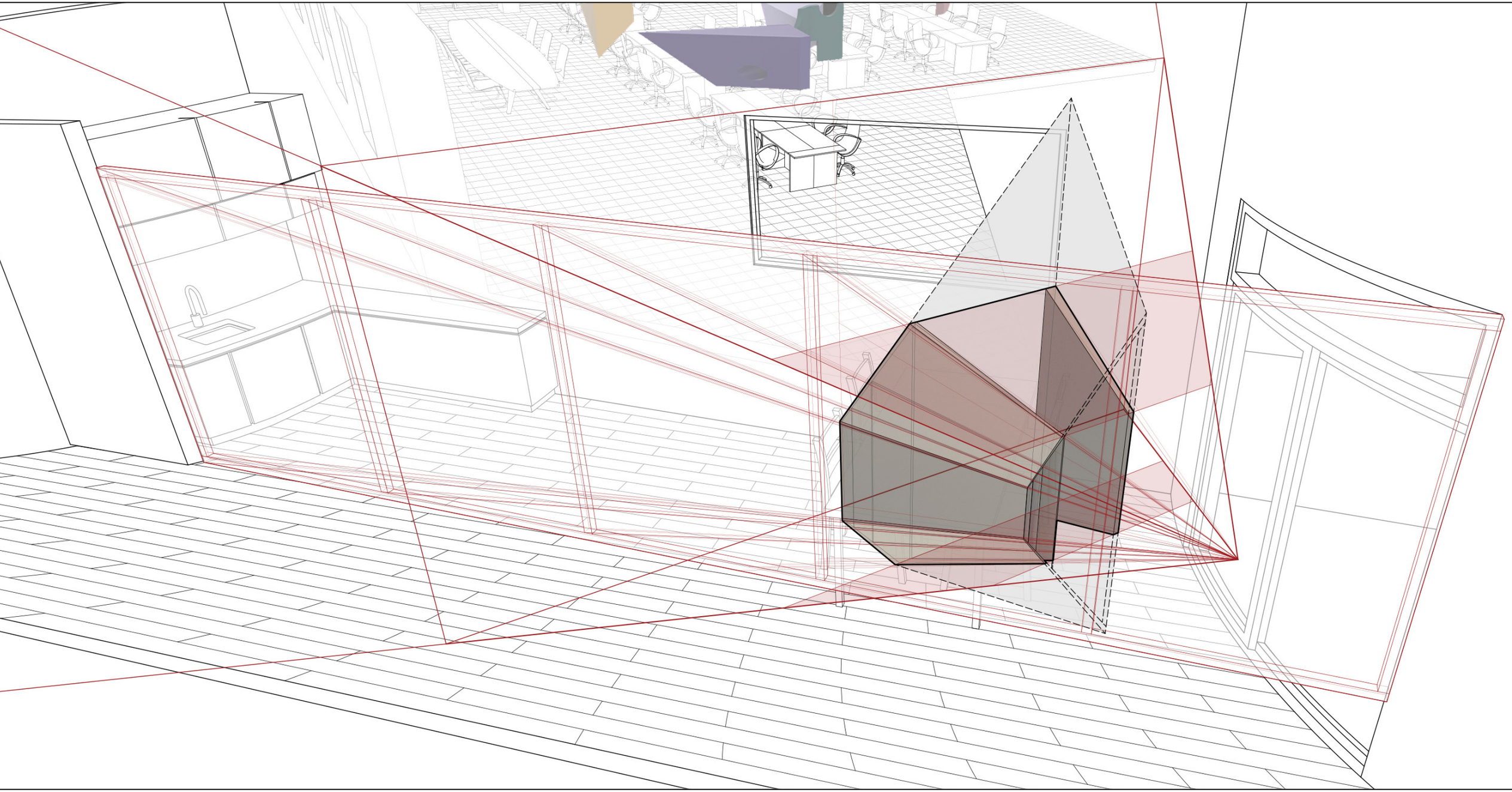


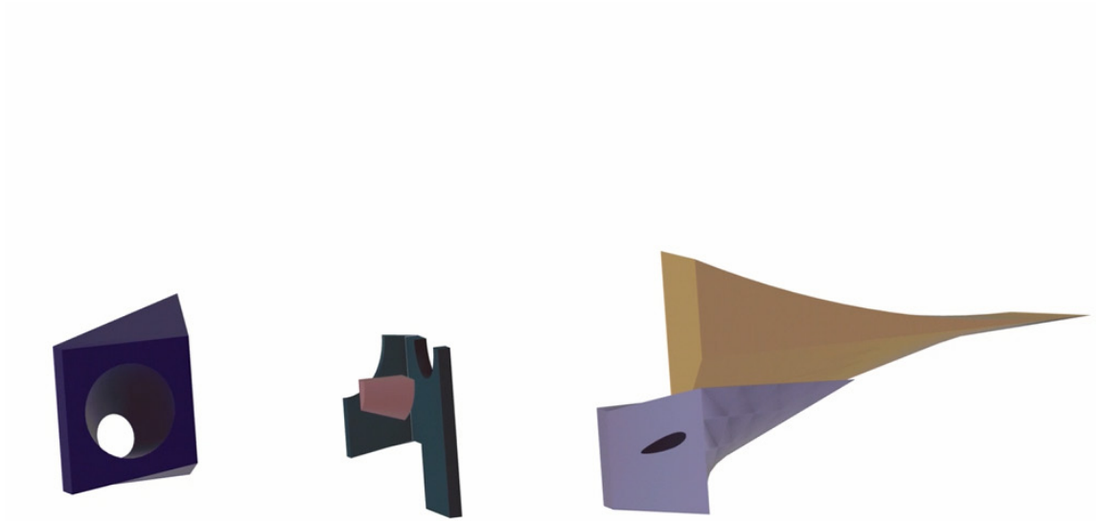



Object 01: Partial Objects

This object makes a simple mullion in the space. However, since the mullion is so close to the camera, the object doesn't have to be complete. As the object is specific to one viewer, we used the viewcone to cut the object so that what is outside of the viewcone doesn't have to be constructed. What is hidden in the experiential view can be a potential opportunity to create something for the nested view.

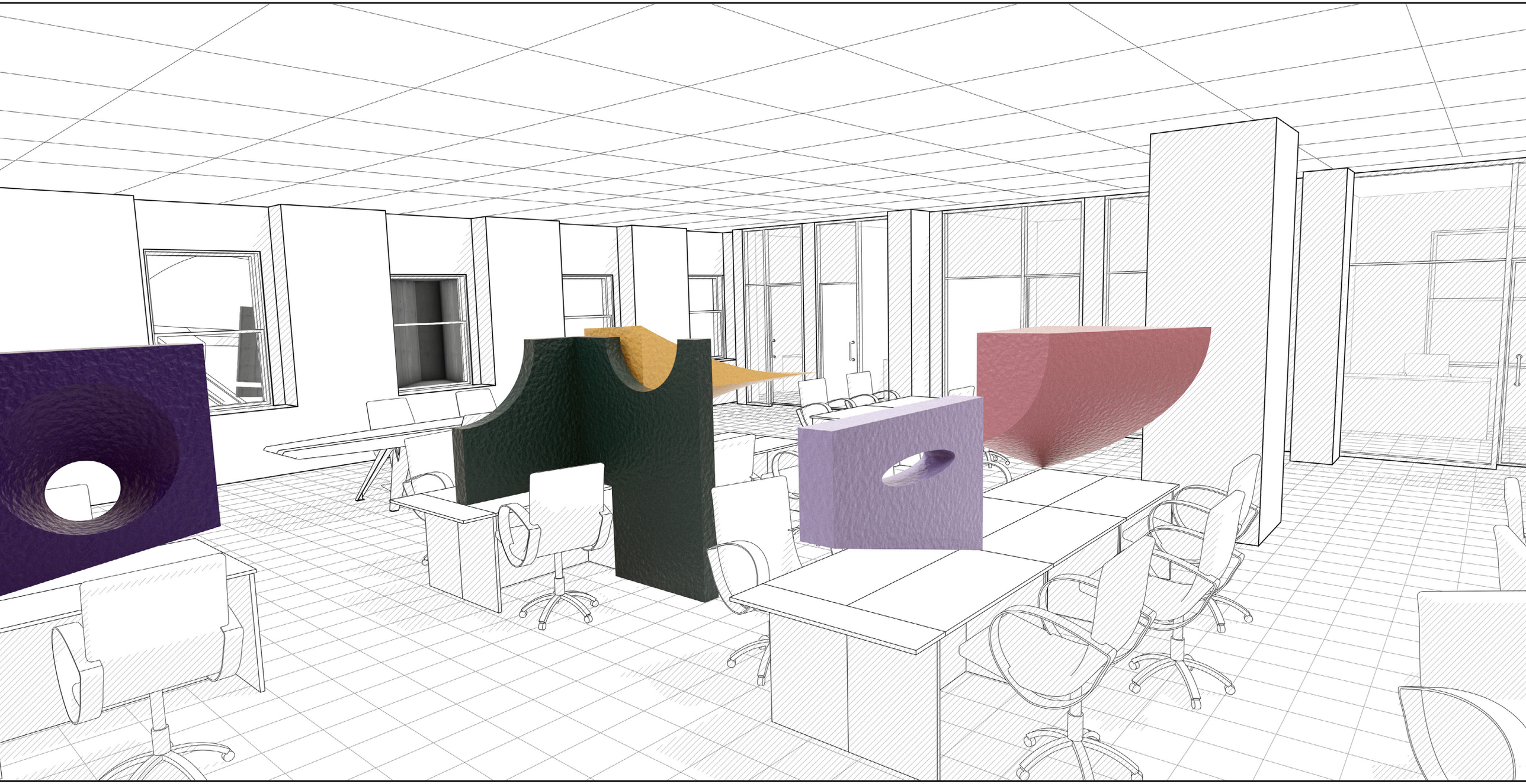


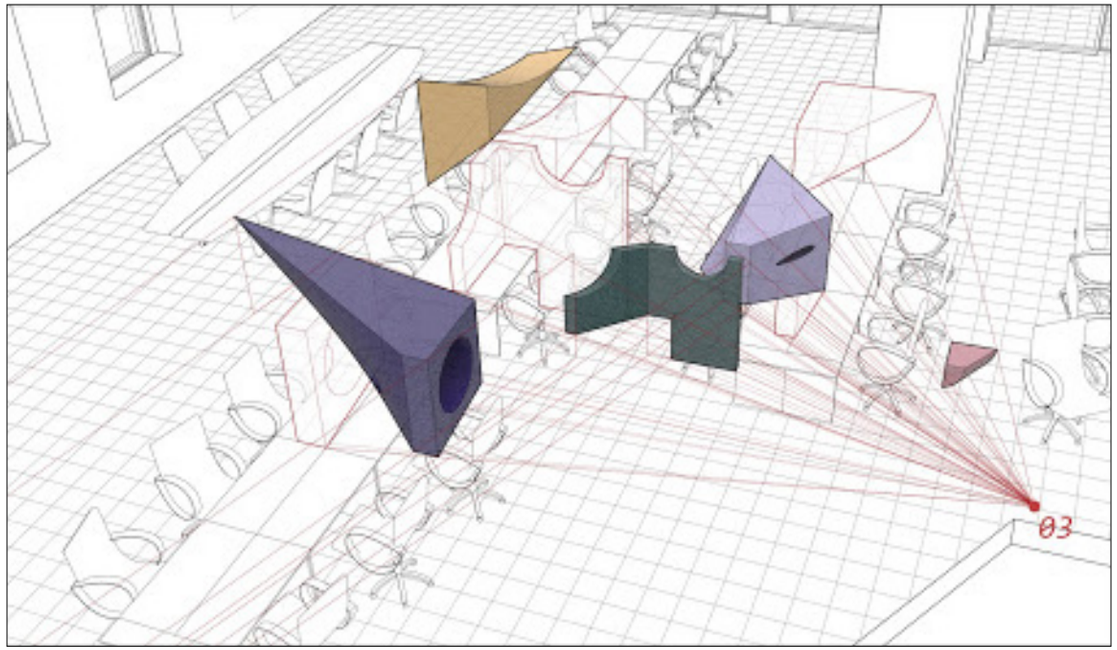




Object 02: Projected Reality as a group of objects

In the experiential view of the office, the objects become partitions between the desks that are cut differently to create various conditions between desks. Some of the cuts are a result of aligning the objects in the nested view.
In the nested view from the apartment, the objects on the desks start to align and patch together like a puzzle to form a wall with cutouts.

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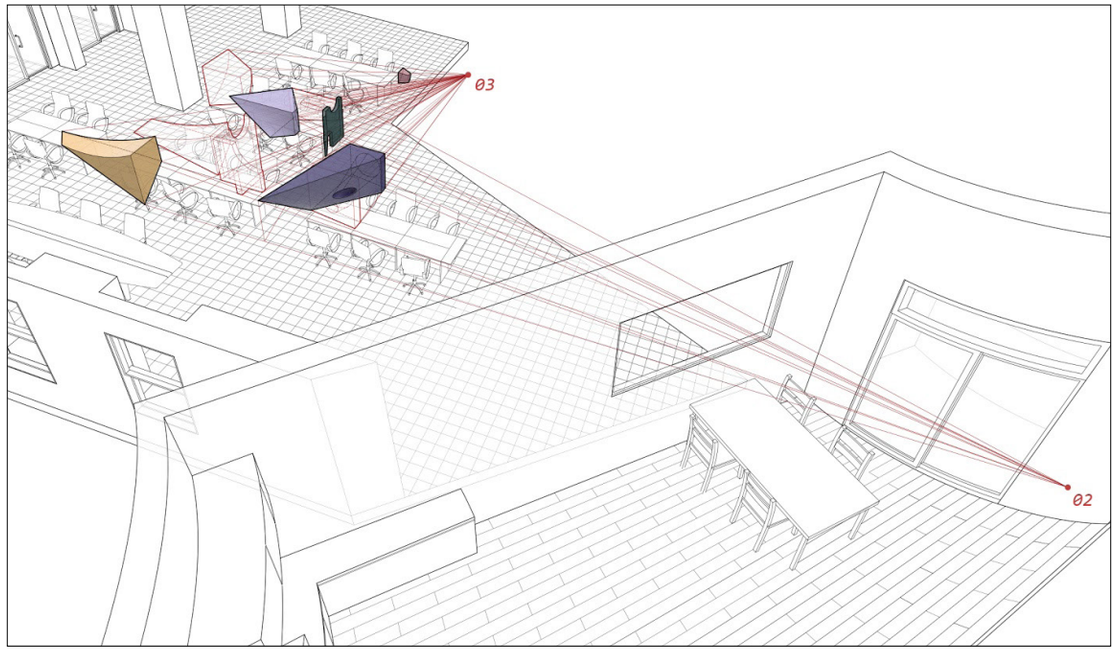
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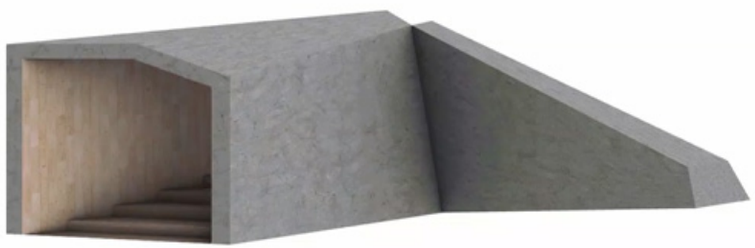
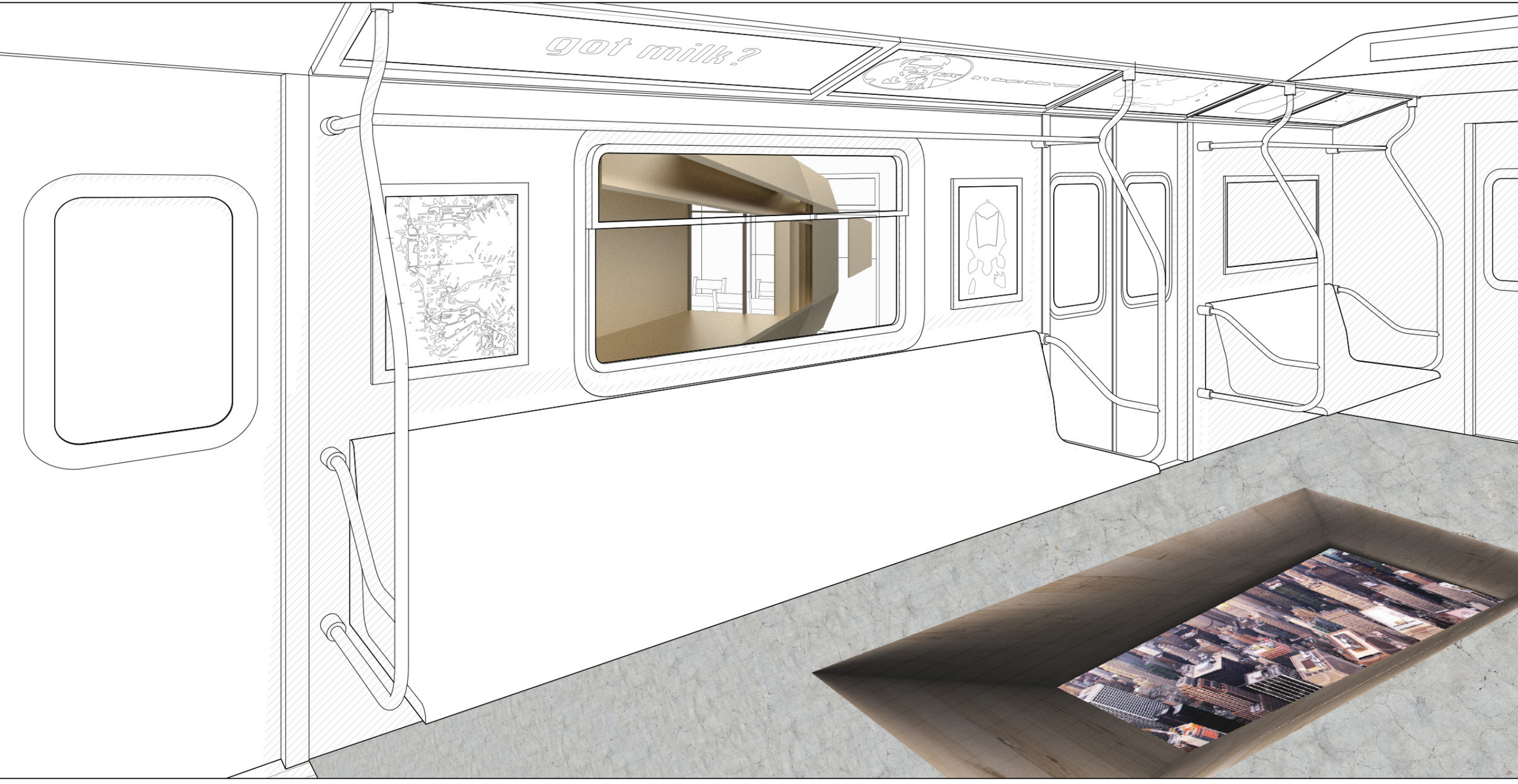


Object 03: Surface as volume, object as threshold

In the experiential view of the subway, the object becomes another kind of "window", creating a new version of the view within a view. The window reveals a view back into the cityscape of Midtown.Here, a flat virtual surface is made out of a volume.
In the nested view from the bar, the object then turns into a threshold, creating a opening with stairs.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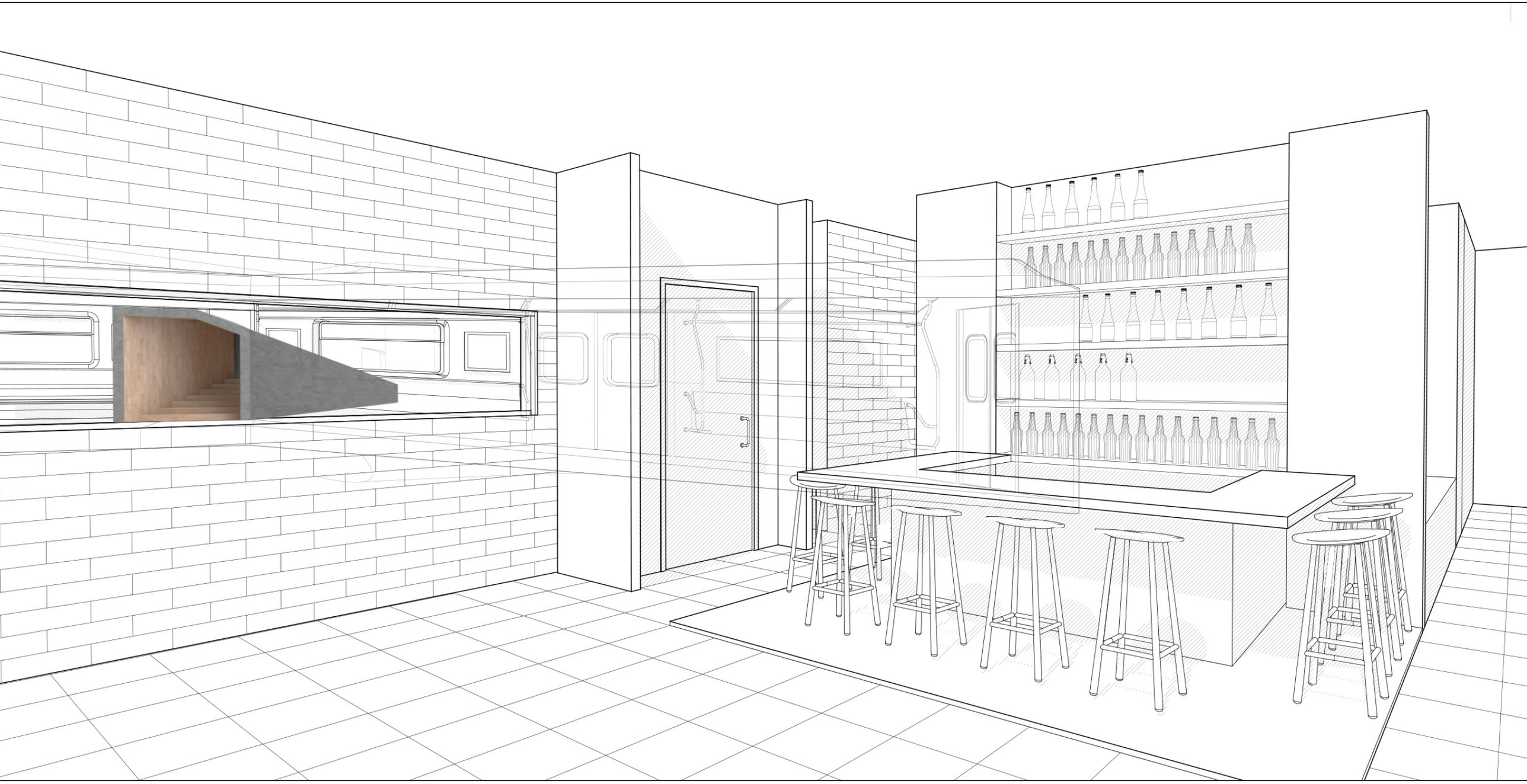

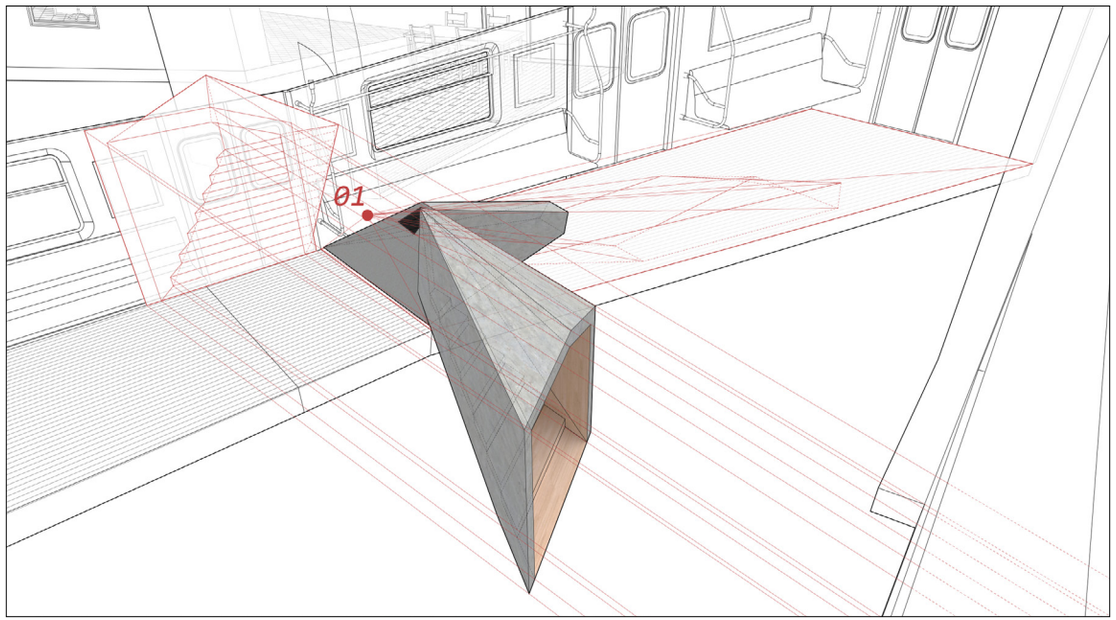
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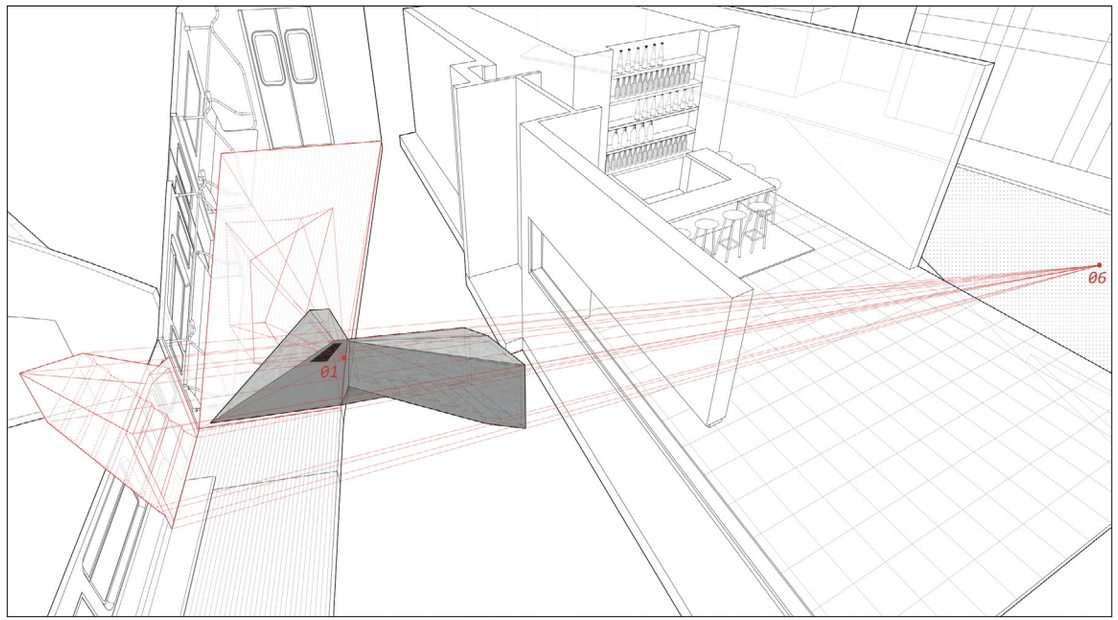
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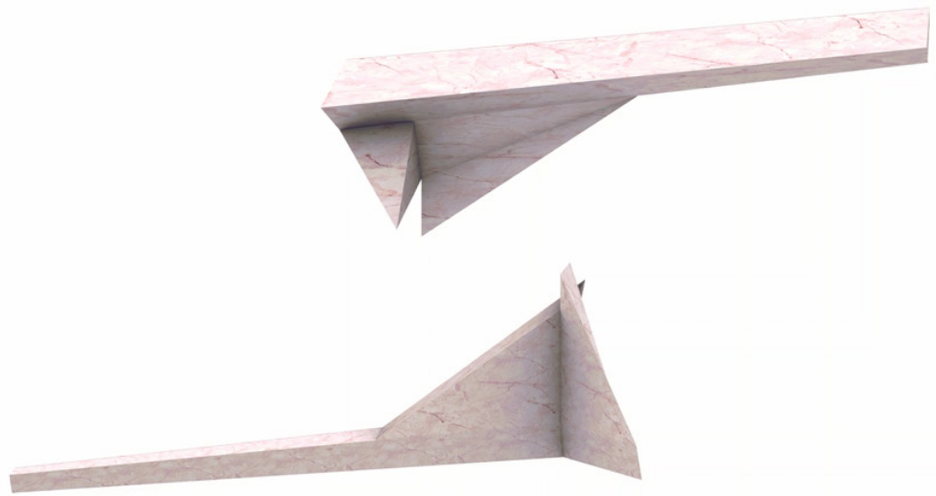
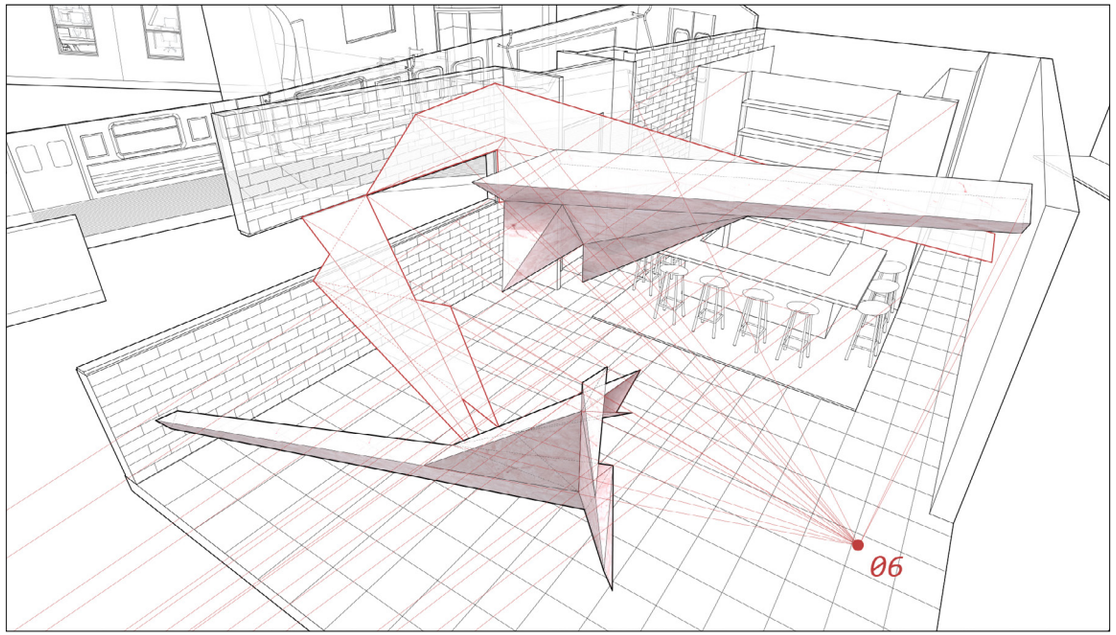


Object 04: Object framing multiple views

This object shows how a singular object can start to frame multiple views at the same time. In the experiential view, the object frames the window looking into the subway. In the nested view from the park, the object frames the bar.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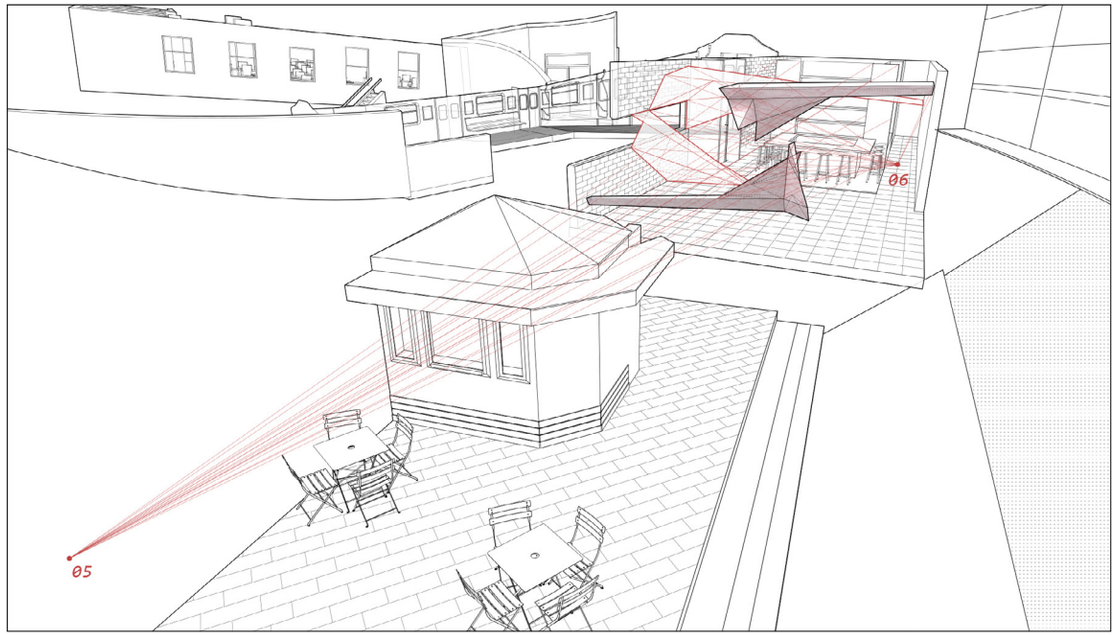
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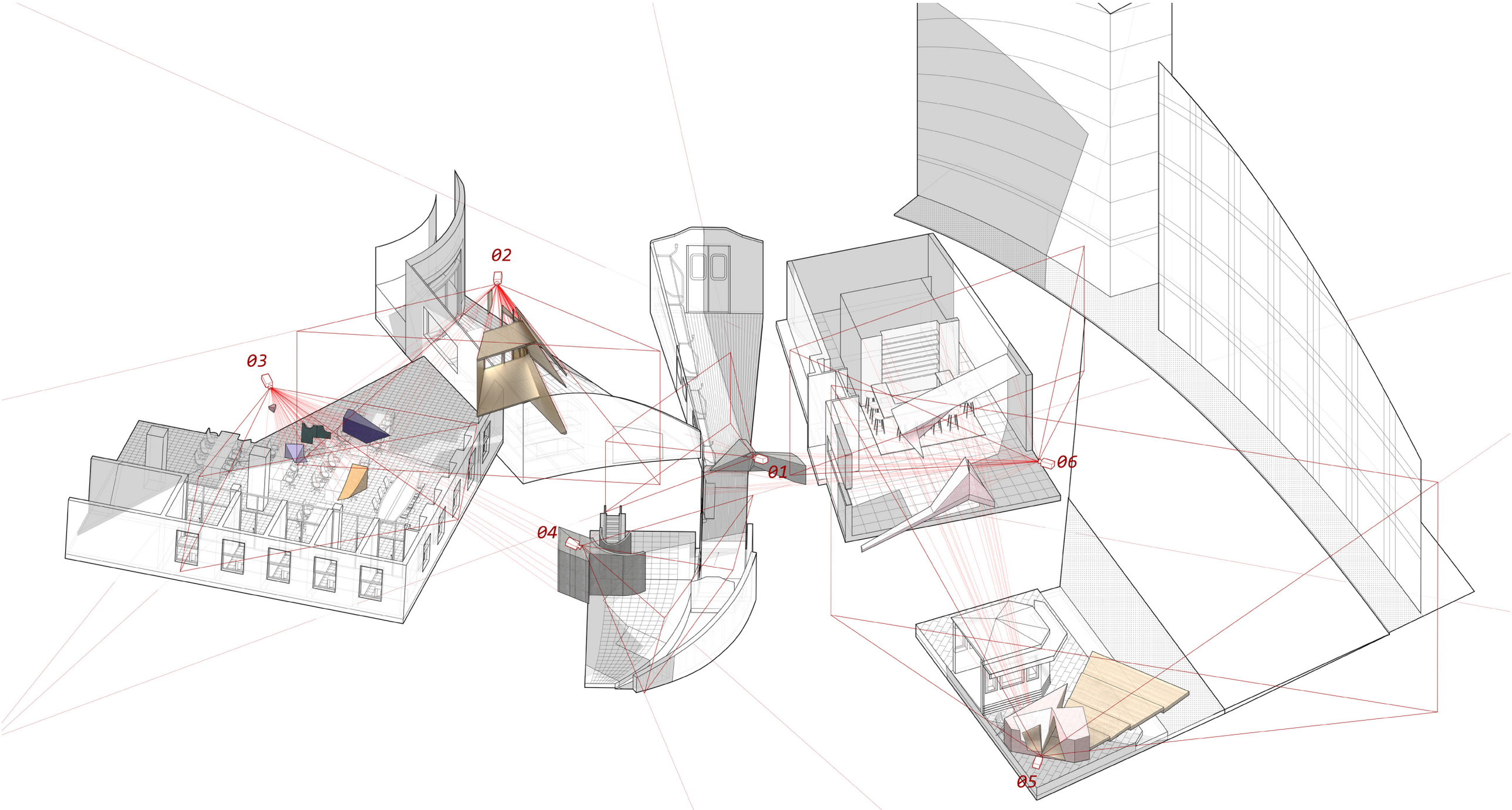
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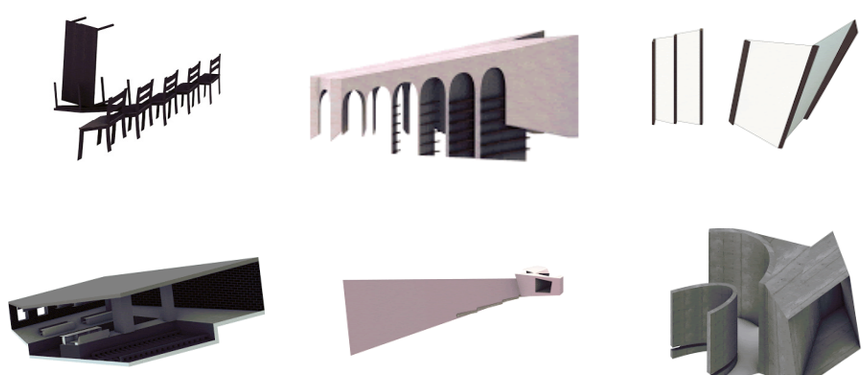
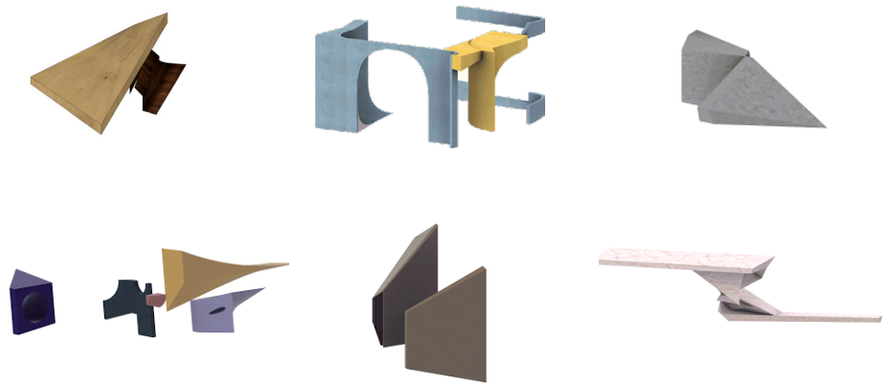




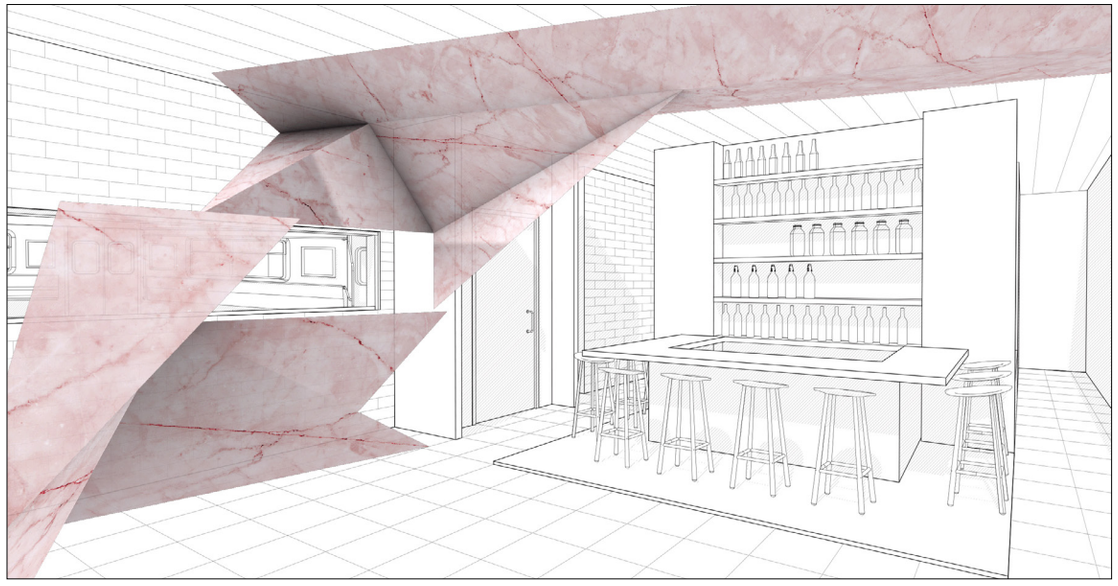
This degree project, became an experiment for us. We were testing and exploring different methods and the project became a way for us to question, speculate and make discoveries through the production and experimentation.

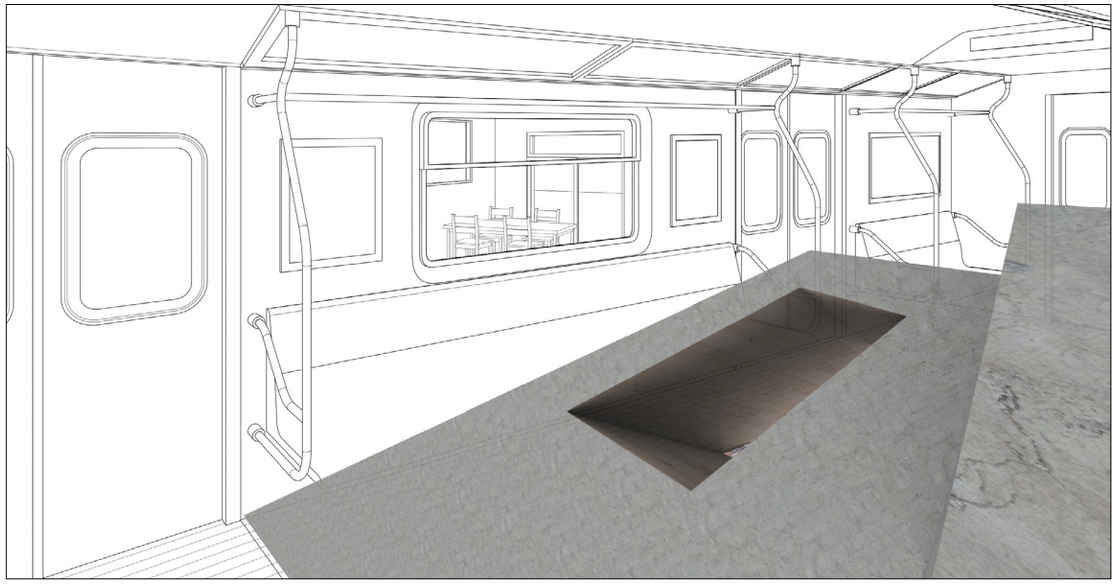
The result was not determined from the beginning. Initially, we did not know to what end the project would serve. A lot of the ideas discussed throughout the project came up near the end as we started to more rigorously test and experiment the design of projected realities. The set acted as a platform for us to continue experiments to drive this project further.

Although we are exploring architecture as a synthesis of the physical and the virtual, we initially planned to represent both the set and the projected reality objects as physical models. However, as the projected shifted entirely into virtual representation, we realized that there are opportunities to create something that doesn't have to abide by physical rules. We further augmented these objects to accentuate the virtual.

5. the virtual :

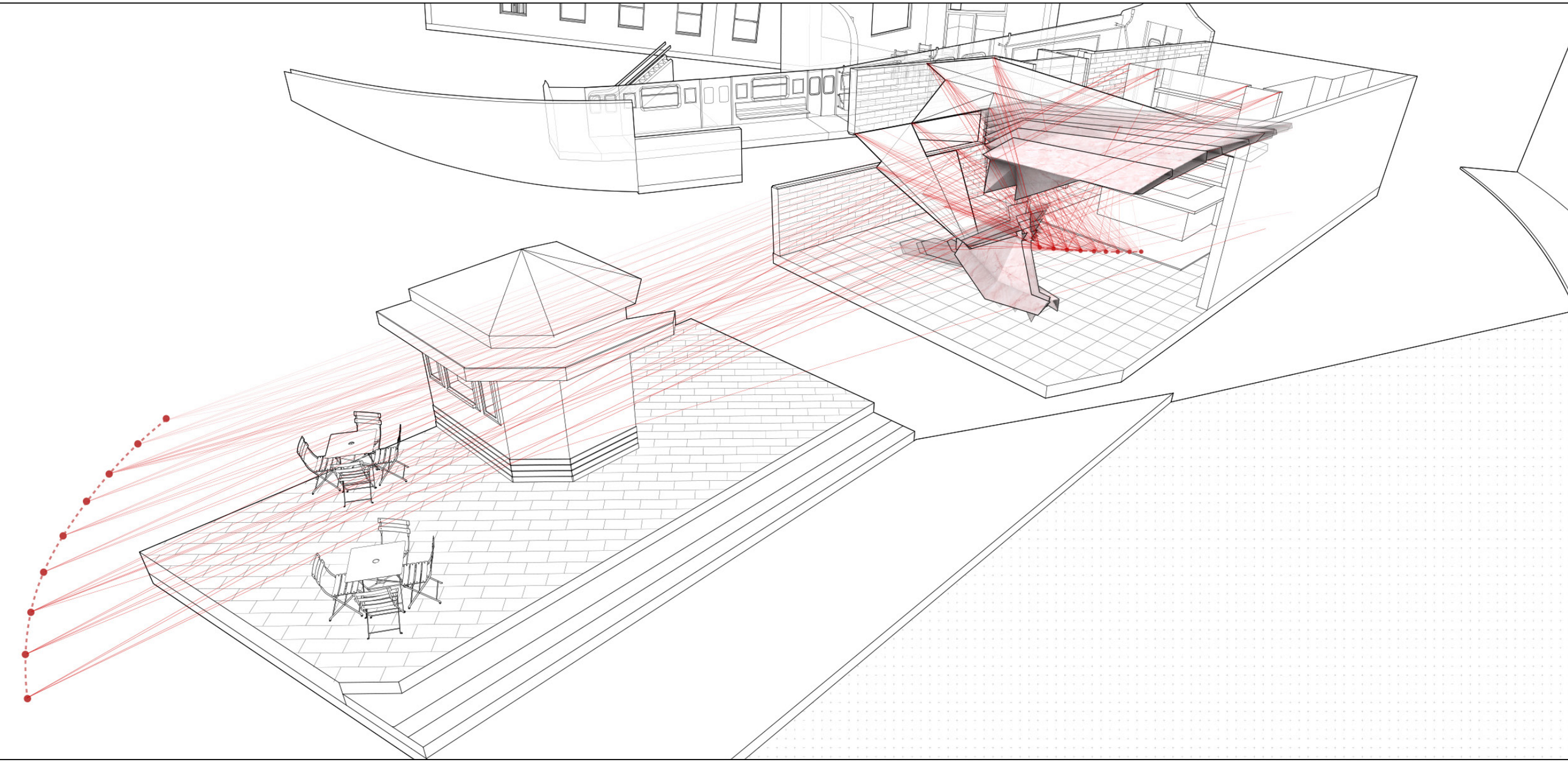
_further experimentation of projected realities
_moving viewpoints
_multiple viewers

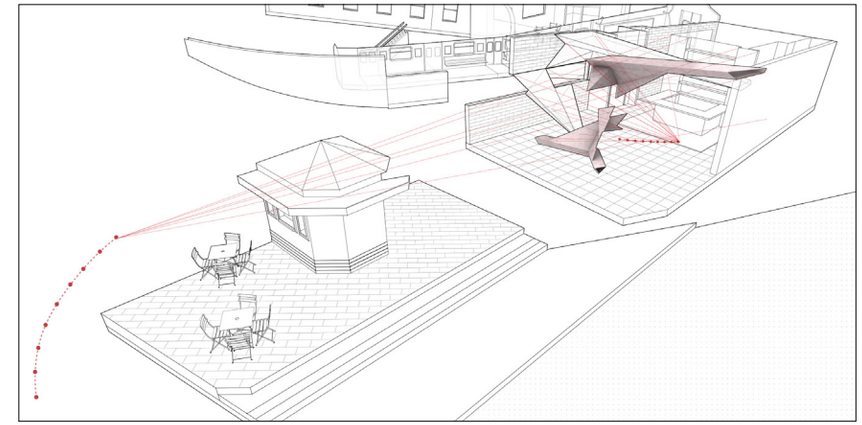


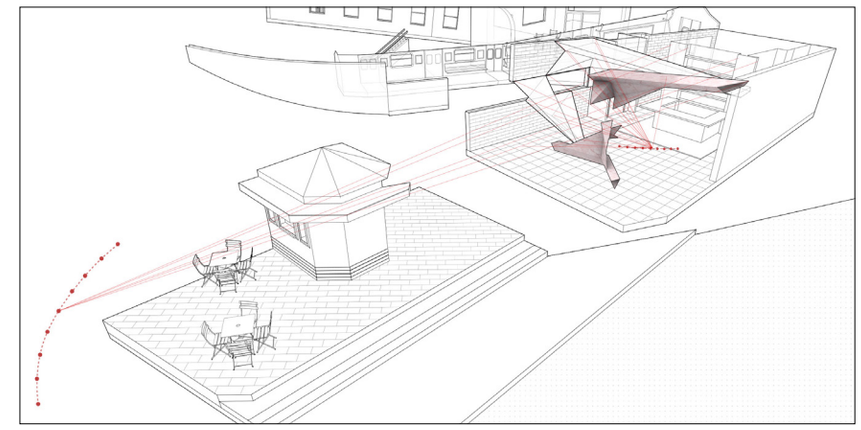


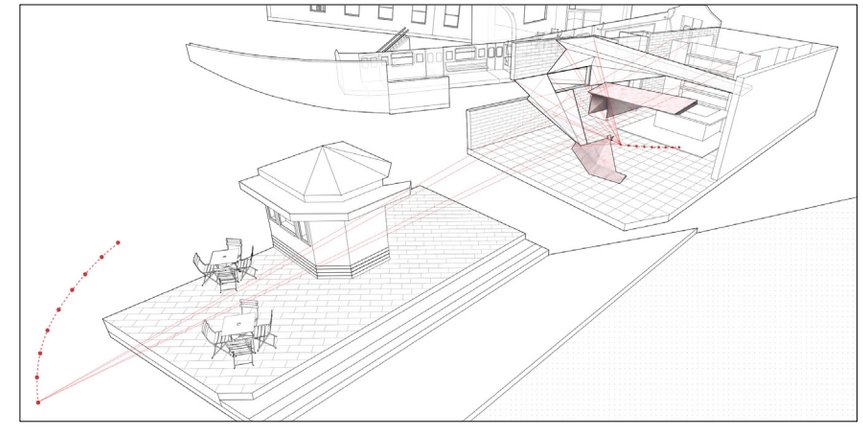
Multiple Viewpoints:

The objects can also start to have multiple moving viewpoints. A fixed viewpoint is not representative of the human view. Because we are constantly moving, we never actually view an object from a singular fixed viewpoint. The objects we had earlier start to misalign when stepped out of the fixed viewpoint. Once stepped out of view, the viewer becomes aware of the distortions of the projected realities as they no longer align seamlessly with the physical set. While this yields interesting sculptural potentials, we wanted to create a version of the object which constantly changes to adapt to a moving viewer.

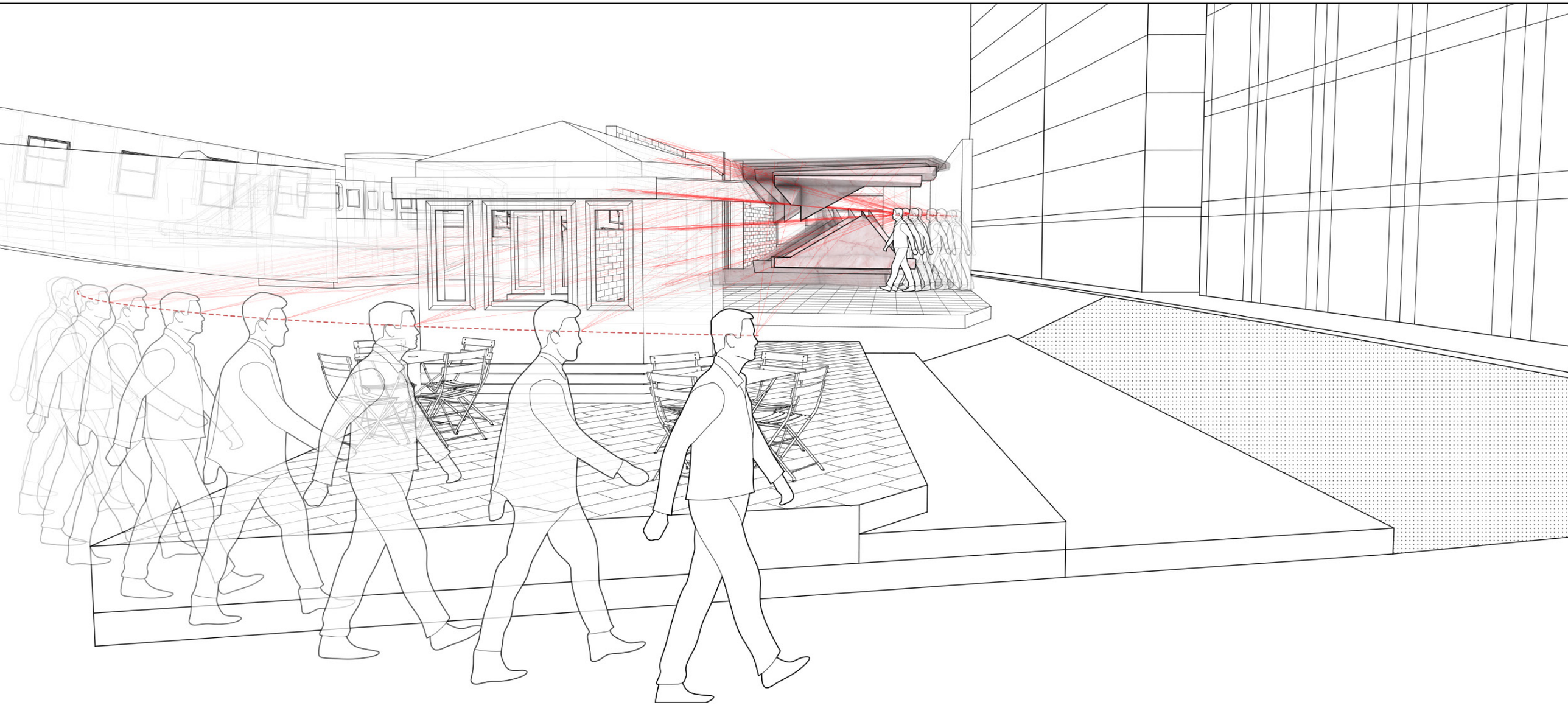


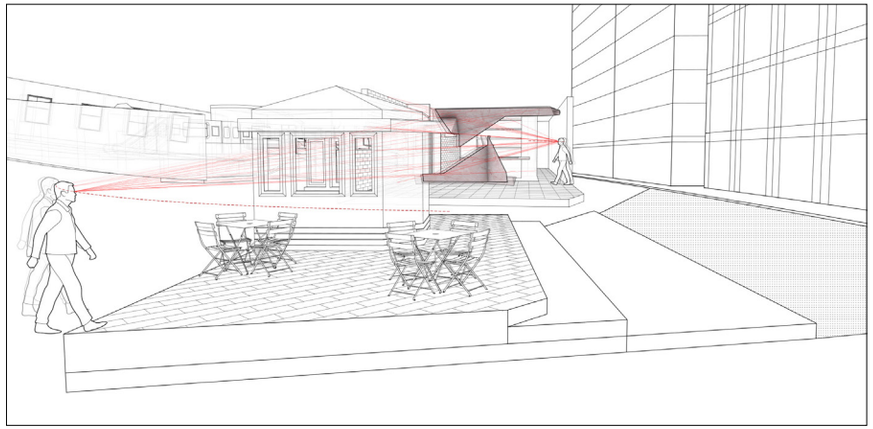


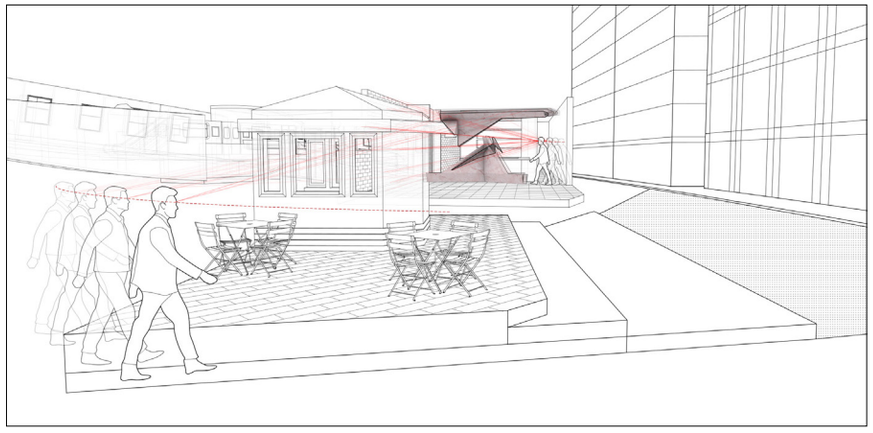


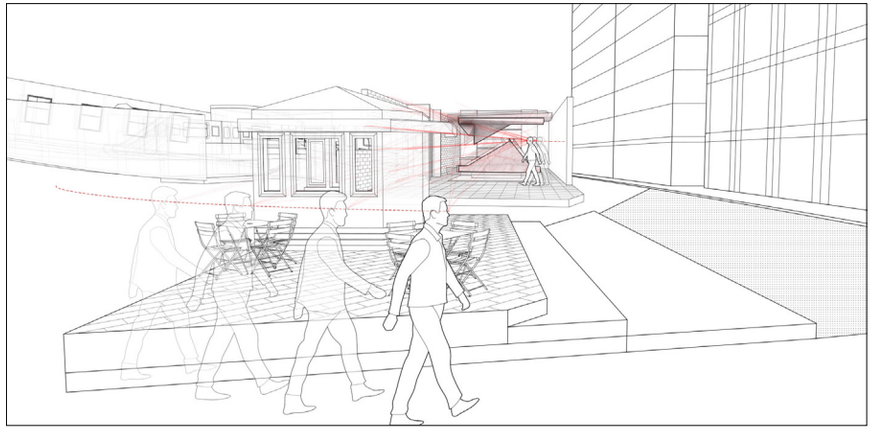


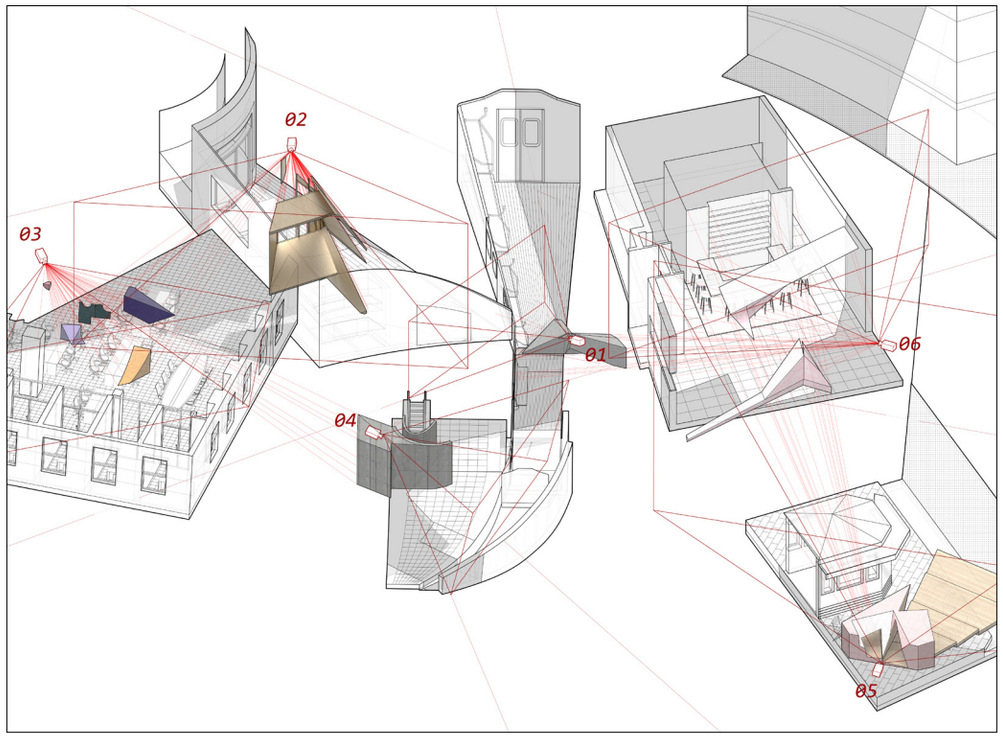
The object is now constantly changing to align to the view of a person moving within the space. Whereas earlier, it was evident that the object misaligned with the space when stepped out of the fixed viewpoint, it is clear that the object now remains seamlessly aligned even when moved out of the initial fixed perspective.











In Conclusion:

As these projected realities start to reconcile and align to various viewpoints, the project acts as a provocation for how these virtual objects create different implications for multiple viewers. We discovered how the idea of several viewpoints can relate to multiple user experiences of the projected realities, creating a shared, communal experience between the viewers. Projected realities allow architecture to become exclusive to multiple moving viewers, implying different experiences for each.

Although the project isn't oriented towards the technical aspects of constructing the virtual realm, we are hoping to provoke how conceptually people can start to think about the design of architecture once it becomes both virtual and physical, using the human view as something active rather than passive. The experiment of projected realities made us interested in the question of what does the exclusive objects mean to people other than the specific viewers? What can the "backside" of these objects start to reveal? Our project begins to question this new kind of architecture which acts as a synthesis of both the fixed and projected realities as we start to rethink the boundary between the physical and virtual and the possibilities of both.

6. the reseqrch :

_fall 2019 research work
_genealogy essay 01, 02
_glossary
_annotated bibliography

Genealogy Essay 01:

Diana Jungeun Oh

Now more than ever, technology is placed at the epicenter of society. Automation and and machine intelligence have created an environment of hyper-connectivity and productivity where all processes are rendered efficient and all systems (social, economic and cultural) are interconnected. This rapid advancement of technology has created a new domain, the domain of the virtual, which is increasingly being used by people as a form of escapism from reality. Digitization allows for hyperrealistic simulations of physical environments which are virtually made indistinguishable from reality. How can architecture start to respond to this contemporary condition of society shaped by saturated media and characterized by passive participation? Technology currently does, and will continue to shape our perceivable world. Then how can technology be repurposed to work in correlation with architecture by exploring the in between step of the physical and the virtual? Immersion into the virtual domain disconnects the way people respond to and interact with the physical world. Can architecture subvert these conditions to assimilate the conflation and confrontation between the physical and the virtual?

French Philosopher Guy Debord's book, "The Society of the Spectacle." Debord explains the "spectacle" as being the modern-day manifestation of the effects of technology. The spectacle is much like the smartphone through which constructed images are projected to feed consumers. Debord argues that "the spectacle is not [merely] a collection of images, but a social relation among people mediated by images."[1] The spectacle increasingly redefines the way we relate to others and the surrounding world; it is starting to engineer our human behavior. Total isolation and escapism is attainable through digital means, which is perceptively impeding our interactions and engagements with one another and the outside world. In a New York Times article, Andrew Marantz describes this phenomenon as "techno-utopianism" which he compares "to a super highway, to a marketplace of ideas."[2] He describes the influx of social networking sites such as Facebook, Twitter and Instagram as an instrument where unregulated commodified information can be distributed to feed consumers.

[1] Debord, Guy. "The Society of the Spectacle"
[2] Maratnz, Andrew. "The Dark Side of Techno-Utopianism"

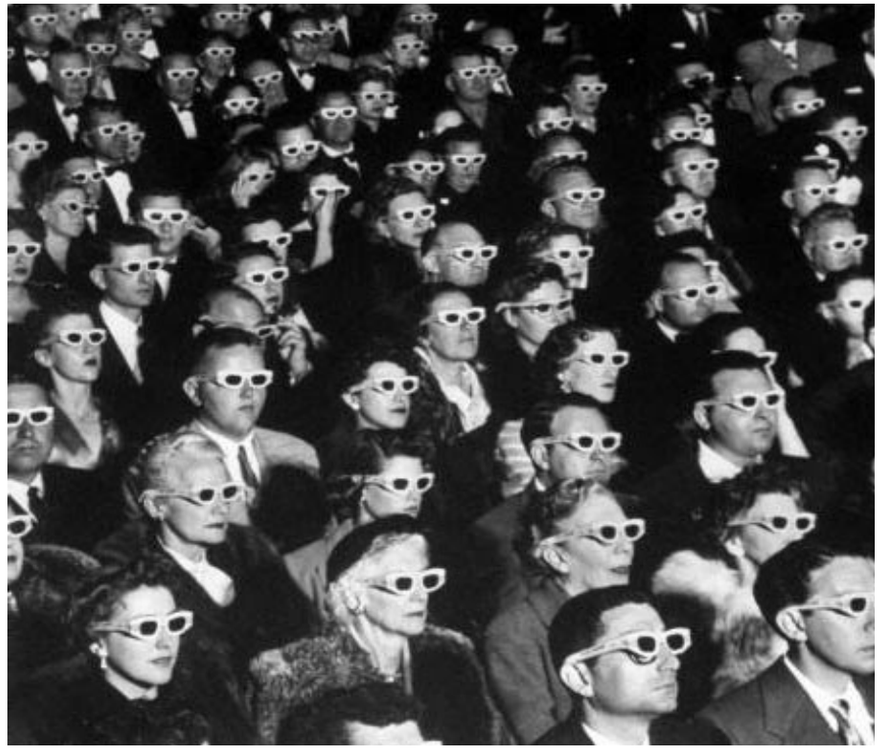


fig 6.3

The spectacle aims to "reunite the separate, but reunites it as separate."[3] The spectacle gives the illusion that we are all now reunited through global networks in the cybernetic space. However, as human relationships become progressively attainable and effortless in the virtual domain, we are becoming increasingly physically disconnected and separated. As the spectator is immersed in the society of the spectacle, direct human relationships are replaced with fragments of this spectacle which isolate and insulate us. It is an instrument of separation and the creation of the "lonely crowd,"[4] as Guy Debord calls it.

fig 6.1 Debord, Guy. "Society of the Spectacle"
[3] Debord, Guy. "The Society of the Spectacle"
[4] Debord, Guy. "The Society of the Spectacle"

fig 6.2

The project is not to offer a solution to the spectacle through its elimination, but rather to propose a way to redefine technology in work and leisure through generating uncanny realities which derive from the conflation and confrontation of the physical and the virtual. The uncanny and surreal can repurpose technology to liberate people from a total immersion in media by rupturing the boundary between the virtual and the physical, ultimately reconfiguring interactive patterns between ourselves and the physical and virtual domains. Methods of alternating digitization and physicalization can break down the discreteness of the physical and virtual, producing a kind of "third space" engendered by the misalignments between the two binaries. The exploration of past precedents such as Walter Pichler's "Portable Living Room" and Jean Baudrillard's "Simulacra and Simulation" alongside contemporary technologies such as Virtual Reality and Microsoft's "HoloLens" will set out to define and address the ideas of the uncanny in relation to technology and given realities.

fig 6.2 Pichler Walter. "Portable Living Room"

Walter Pichler was fascinated by technology's ability of simulation and what this form of media and control could be capable of accomplishing. He created extensively simulated environments which took on a variety of different forms. These projects generated highly technological and mediatized simulations of various environmental conditions by augmenting and intensifying given environments. In his manifesto "Absolute Architecture," Walter Pichler stated that "machines have taken possession of [architecture] and human beings are now merely tolerated in its domain."[5] Pichler viewed technology not as enabling and engaging, but rather disabling and entrapping. Pichler's project "TV Helmet/Portable Living Room" which was a part of the "Prototypes" exhibition in 1967, exemplified the imminent pitfalls of the spectacle. Hollein saw the TV as a subtle escape from reality and thus, extracted the element of the television from its traditional living room setting and input it into the helmet. By having television as the only input, the 'consumer' or 'viewer' is in complete isolation with media as its sole stimuli. These isolation chambers remove one from a given reality and offers complete and absolute escapism. The helmet represses the viewer to remain static and motionless, separated from their obligations and necessities. Through his prototypes, Hollein did not attempt to eradicate technology which he criticized, but rather constructed admonitory analogs of their potential effects.

Further, technology and digitization have created a new 'reality,' a kind of 'hyperreality' which Jean Baudrillard also refers to as the simulacrum. As demonstrated by Walter Pichler and Hans Hollein, technological processes have enabled the extended simulation of environments and experiences to create a new perceived reality. Baudrillard calls the creation of these technological and mediatized simulations the 'hyper-reality' or 'simulacrum.' He states that we do not currently live in reality, but our reality has been superseded by new processes which are "unthinking, mechanical means that produce the simulacra which we take for reality."[6] We have become so reliant on models and simulators which recreate the truth that we have lost contact with the real world which once preceded the simulation. The simulation has taken possession of reality and creates the simulacra. Within the virtual domain exists a kind of cybernetic terrain which displays the simulation of beyond the screen. These screens and projected surfaces become the device through which we can access the digitized simulated world. The shift between the real and the hyperreal lies in the complex zone in-between, a zone where the representation gives way to simulation.

[5] Pichler Walter. "Absolute Architecture" excerpt from "Programs and Manifestoes on 20th-century Architecture
[6] Baudrillard, Jean. "Simulacra and Simulation"


fig 6.3


fig 6.4

The modern day manifestation of the ideas delineated by Walter Pichler and Jean Baudrillard are VR and Microsoft's "HoloLens". Virtual Reality is a hyper-simulated experience which extends and augments the limits of the real world. Materialized through a pair of headsets, virtual reality can give the user an illusory experience of physically inhabiting a new constructed reality through visual simulations. Microsoft's HoloLens works in a similar manner, except that instead of virtualizing reality, it augments reality. Through the use of motion sensing input devices and advanced optics, HoloLens melds visual information seamlessly with its environment. The sensors allow for environment understanding in relation to spatial depth, motion, light and sound so that information and images are directly overlayed onto our physical environments. The goggles can also track the user's movements and track the gaze to allow the user to physically interact with the 3D images. Through HoloLens, Microsoft created a "mixed reality" in which allows for virtual environments to seamlessly bleed into the physical environment.

As outlined through HoloLens and VR, technology allows for near-perfect, hyperrealistic simulations which do not allow for the virtual simulation and the physical reality to be distinguished. However, the project aims to explore the conditions when the virtual and the physical become slightly misaligned. Technology can offer precision, but this fidelity is achieved depending on how much information is inputted. Can information input be manipulated to allow for intentional and precise misalignments? Through this, the act of virtualizing physical objects can give way to unforeseen results which can create such uncanny realities. The process of virtualization can foster intentional and precise misalignments which then can be translated into a physical manifestation. By intentionally misaligning the physical and the virtual, we seek to subvert the current technology's aims to seamlessly blend the two binaries.

fig 6.3 Virtual Reality : "Oculus Rift" by Oculus VR
fig 6.4 Mixed Realities : "HoloLens" by Microsoft

What happens when the methods of digitizing and physicalizing becomes a means to construct architecture? The creation of these new kinds of architectural spaces through the conflation of the digital and physical can repurpose the way we work and play. Architecture becomes a system which is constantly being reprocessed through these means of digitization and physicalization. Thus, the conditions generated by misalignments can break the traditional way of how work and leisure are distributed and experienced and also reconfigure how we interact with the physical and virtual domains.

Thus, the uncanny happens at this in-between of the real and the hyperreal; of the analog and the digital. The uncanny is not found in just the destabilization of a given reality nor the distortion of technological effects. Rather, the uncanny is found at the juxtaposition of the virtual and the analog, a place where the simulation or representation begins to confront its surroundings. This view of the uncanny is similar to that of Kriss Ravetto-Biagoli, who studies the 'digital uncanny,' and believes that the "interstitial space of digitally generated settings also reproduces an uncanny effect, a sense of instability, an uncertainty that makes us aware of boundaries rather than seamlessly immersing us in virtual environments." [7]

Why the uncanny? Tying back to the topic of free time and leisure, people have become too immersed in the 'spectacle' as an exploitative form of leisure. Free time essentially is time away from work, an interstitial time of aimlessness where one has no specific given functions. The point of the spectacle is to engross people into the world of simulacrum especially during these periods of free time. Most people spend these periods of interstitial free time consumed on their mobile devices hindering one's contact with one another and within the surrounding environment. Despite some of technology's detrimental impacts, technology currently has, and will continue to have, an omnipresent and ubiquitous existence in society. Therefore, the uncanny can be used to subvert some of these adverse conditions and repurpose technology to use the methods of digitization and physicalization to create a new genre of architectural spaces. The uncanny can redefine the way we perceive reality by juxtaposing these technological simulations with its given surroundings which happens at the point of adjacency between the analog and the digital, the real and the hyperreal. Ultimately, this repurposing of technology through the uncanny can repurpose the way we work and play and reconfigure the way we interact with the physical and virtual domains.

[7] Ravetto-Biagoli, Kriss. "Digital Uncanny"

Genealogy Essay 02:

Claudia Yalai Pang

As technology advances, our expanded ability of manufacturing reality induced an indistinguishability between substance and the simulated. The post modern society is saturated with electronic images. Images that used to be a clear imitation of the substance now precedes and determines the substance. Images has become the reality itself. The boundary between the world and the representation of it is deformed by the existence of a hyperreality, obliterating the difference in between. It is the consequence of the escalation in mass fabrication and rapid industrial developments. It is rooted in the society of spectacles and consumerism. How can architecture be better understood and what is the architecture concerning with this socioeconomic phenomenon? Can the conflation and confrontation of reality and hyperreality be assimilated in architecture? Today is the postdigital age. The cultural perception of digital technology has shifted from novelty to ubiquity. Situated in this age, architecture can position itself as the means to broaden and deepen our understanding of the relationship between the built environment and digital media, continuing to interrogate the definition of the digital and the physical.

The mundane aspects of life in this image-saturated consumer culture accumulate as spectacles; advertising, television, film and celebrity. Guy Debord who is a founder of the Situationist International which is a group inspired by Surrealism and Marxist philosophy stated in his work The Society of the Spectacle that "Everything that was directly lived has moved away into representation".[1] Debord defines the spectacles as the "autocratic reign of the market economy".[2] Mass media is the carrier of the spectacles, taking on myriads of forms in today's society. It can be images posted in social media, rendering the aspired facets of life; packaged celebrities, glamorizing the physical form of people. Media can now create idealistic representations of reality that overshadow actual reality by tossing out certain information and reducing reality to commodifiable fragments.

The process of digitizing the world distorted our perception of reality. Indeed, in the post-modern epoch, the electronic image is the prevailing force forming our way of understanding the world in an unprecedented grade. The advancement of technology further expanded the potential of electronic image. Relating to Jean Baudrillard's work Simulacrum and Simulation, digital image and the virtual environment now has the power to produce a hyperreality which disables consciousness to distinguish reality from a simulation of reality. "Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal".[3] The differentiation between the world and the representation of it has disappeared. The simulacrum shifted away from imitating the original to a degree that it can produce simulations that are even realer without any reference of the original.

Virtuality in this age illustrates a version of hyperreality. "Nothing resembles itself, and holographic reproduction, like all phantasies of the exact synthesis or Resurrection of the existent (this besides goes for scientific experimentation), is already no longer existent, is already hyperreal".[4] Anticipated by Walter Pichler through his projects such as the Portable Living Room, "these isolating simulators remove one from a given reality and can be seen as the ultimate conclusion of technology's encroachment on the body".[5] Pichler envisioned a total immersion in the digital reality that separates one from the physical reality.

Today's equivalent of Pichler's Portable Living Room is Virtual Reality (VR) and virtual environments that are much more sophisticated with practical applications, such as the Microsoft Hololens and World of Warcraft and Second Life. Augmented Reality (AR) and VR have a broad spectrum of applications and are increasingly used in an array of industries. Microsoft Hololens resembles VR headsets, but operates differently. The Hololens does not transport users into a completely different world. Users perceive the same physical environment with digital elements layered on the top of the physical entities around them. The process evolves scanning the physical environment around the users and augment it digitally. The digital content is then physicalized using analog to embody the digital content's physical presence.

[1] Debord, Guy. "The Society of the Spectacle"
[2] Debord, Guy. "The Society of the Spectacle"
[3] Baudrillard, Jean. "Simulacra and Simulation"
[4] Baudrillard, Jean. "Simulacra and Simulation"
[5] Labrahamson, Michael. "Walter Pichler: Prototyping Escapism"

fig 6.5

fig 6.6

Approaching the physical and digital world differently, VR creates non-physical environments that can be visualized and experienced, whereas AR blends the real life and VR together, allowing users to interact with the virtual entities in the physical world. Despite certain level of combing the physical and the virtual, with VR or AR, the physical and virtual coexist but remain separate. Can the process of digitizing and physicalizing environments become the means to merge the DNA of the physical and the virtual worlds therefore both is neither?

The effects of merging the DNA can be understood through Hans Hollein's show rooms where fake palms trees that do not fully represent the real palms trees are placed in the interior space. The physical setting presents an aura as if it is digitally composed. A physical object or environment can retain digital qualities, redefining what has been understood as physical and digital. James Bridle, British artist and writer, introduced his project "New Aesthetic". His work "deals with the ways in which the digital, networked world reaches into the physical, offline one".[6] Bridle's collections of images and objects range from low-resolution polygon meshes to drone photography which all encompass traces of computational processes or logic. "Different from previous claims of technology-inspired newness, this aesthetic is inconspicuous, enmeshed within the physical world to the extent that distinctions between digital and non-digital struggle to hold". Technological methods of today's development can be used as the means to transform the physical and perceivable world in a way that can undermine the boundary between what is used to be considered digital and physical.

fig 6.5 Annihilation
fig 6.6 Annihilation
[6] Carp, Alex. "The Drone Shadow Catcher"
[7] Abrons, Ellie and Fure, Adam. "Postdigital Materialitiy"

fig 6.7

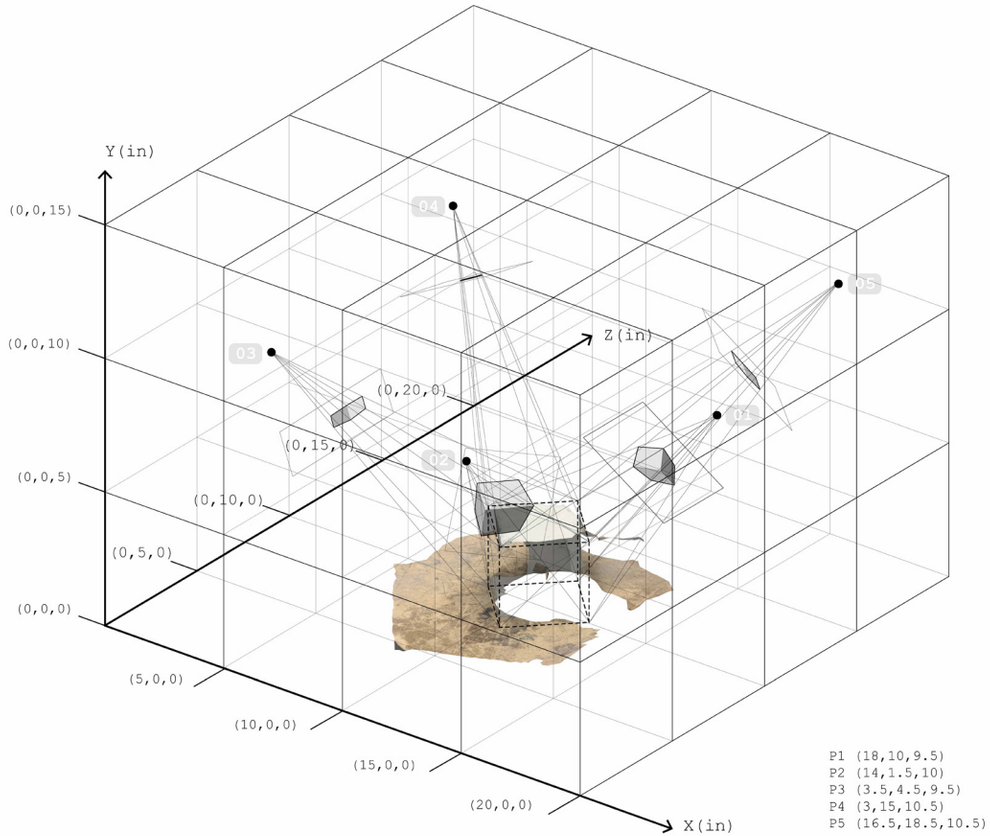
Artist Artie Vierkant's concept of the "image-object" describes a condition where both the physical artifact and its capture as image are synthesized to become one piece of work. Vierkant displayed traditional sculpture in a gallery with photographs of those sculptures in that same gallery, post-processed with digital means. The processed photographs become a new object that transforms the original object. By juxtaposing the two together, "Vierkant's work undoes two longstanding binaries: the distinction between "original" and "copy", which collapses as each instantiation becomes a new object that need not refer to something else; and the discreteness of "physical" and "digital", which breaks down when photographs of objects in a gallery blur seamlessly with digital elements".[8] The techniques of image production such as Photoshop and renderings can take the process beyond a photorealistic copy of the original object. A distance can be created between the original description of the physical entities and the digital translation of those.

The effect of uncanniness is generated through the juxtaposition of the physicalized digital translation and the original context, for that the process of translation deviates from the original, producing an inconspicuous condition of misalignment. Technology inspired uncanniness can be applied in architecture to the extent that the differentiation between digital and physical barely remains. A third space can be produced through the calibrated misalignment. Architecture can explore spatial and relational possibilities that are germane to the understanding that computation is deeply rooted in reality and that the digital can move beyond the representation of the reality but becomes reality itself.

fig 6.7 Hans Hollein Showroom
[8] Abrons, Ellie and Fure, Adam. "Postdigital Materialitiy"

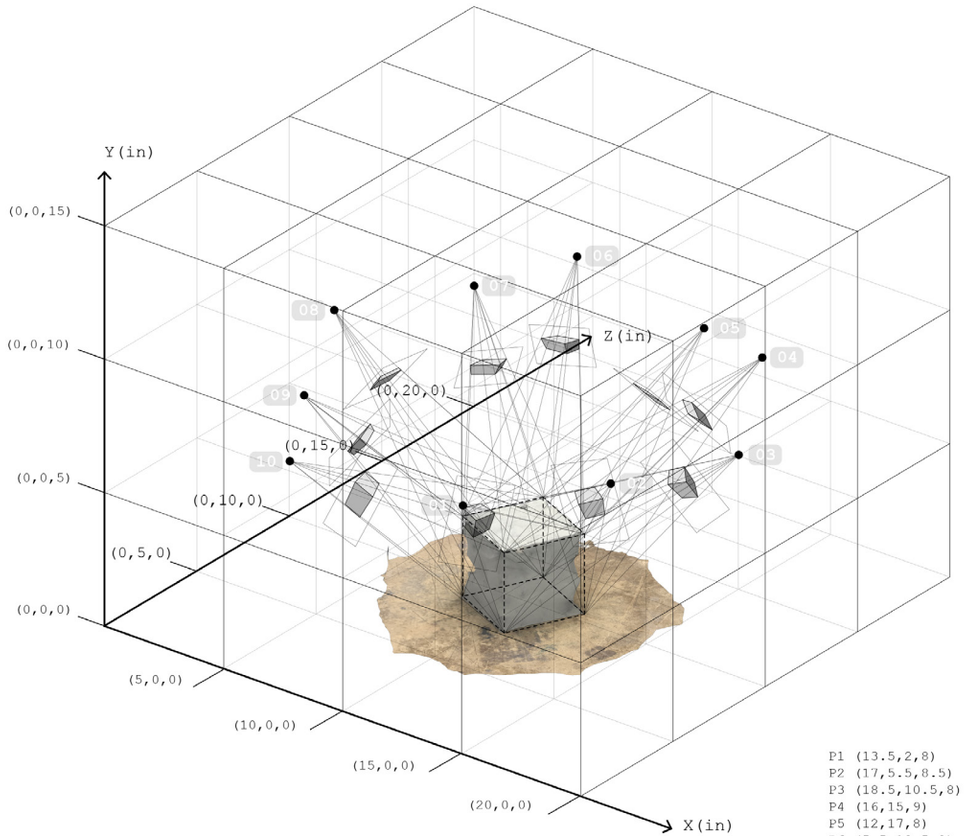
EXPERIMENT 01-A : 5 photos

VIRTUAL



EXPERIMENT 01-B : 10 photos

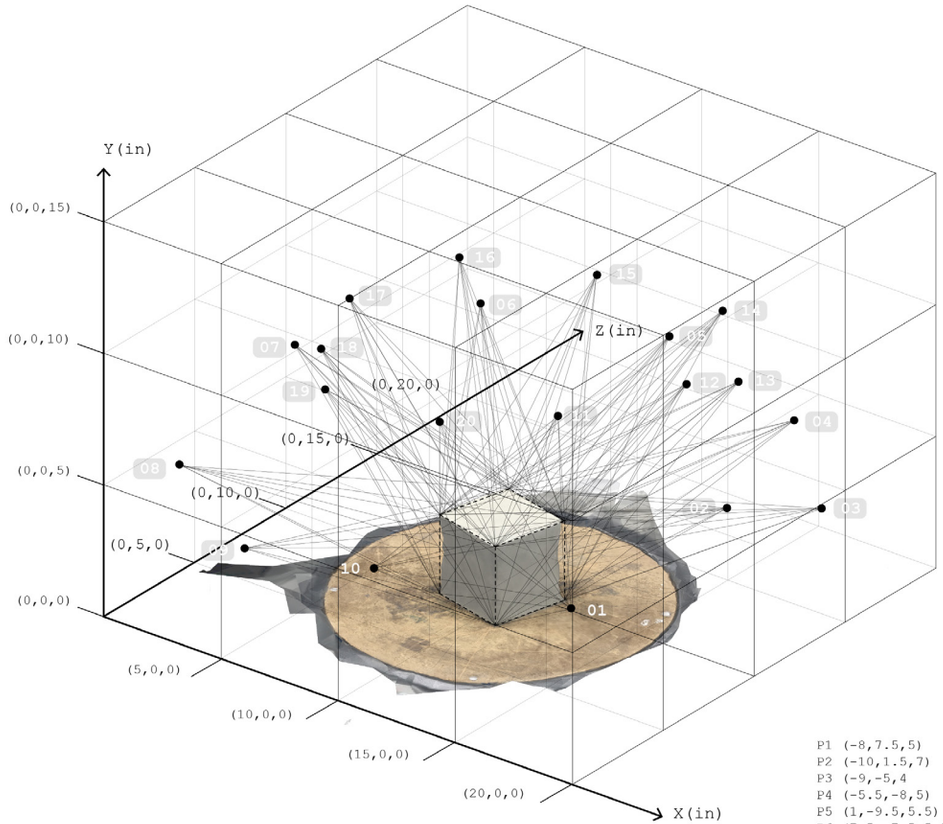
VIRTUAL



P1 (13.5,2,8)
P2 (17,5.5,8.5)
P3 (18.5,10.5,8)
P4 (16,15,9)
P5 (12,17,8)
P6 (5.5,18.5,8)
P7 (3.5,15.5,7.5)
P8 (1.5,10.5,8)
P9 (4.5,5,8)
P10(7,1,8)

EXPERIMENT 01-C : 20 photos

VIRTUAL



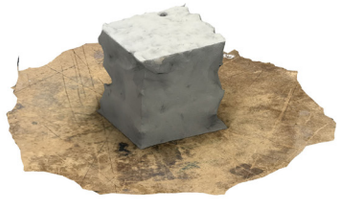
P1 (-8,7.5,5)
P2 (-10,1.5,7)
P3 (-9,-5,4
P4 (-5.5,-8,5)
P5 (1,-9.5,5.5)
P6 (7.5,-7.5,5.5)
P7 (10,-0.5,6)
P8 (9.5,6.5,4.5)
P9 (4,10,4.5)
P10(-1.5,10,5.5)
P11(-5.5,5,10.5)
P12(-7.5,0.5,10.5)
P13(-7,-3,9)
P14(-4,-6,9.5)
P15(1,-5.5,9.5)
P16(5.5,3.5,9.5)
P17(6.5,1,9.5)
P18(5,4.5,9.5)
P19(2.5,7.5,10)
P20(-2,7,10)

EXPERIMENT 02 : materializing the virtual

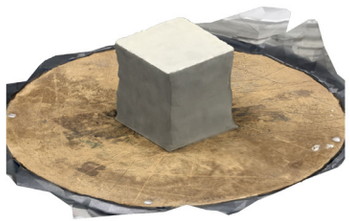
PHYSICAL

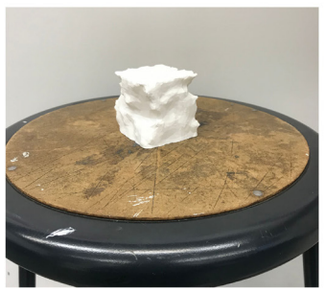
5 photos

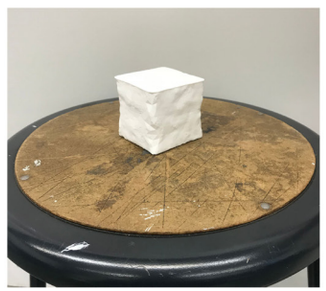
10 photos

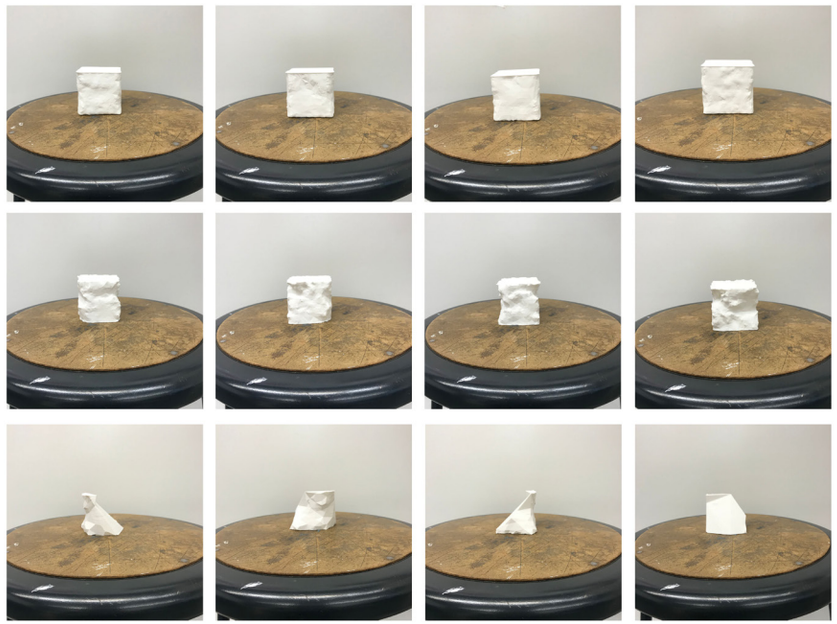


20 photos







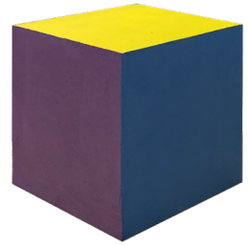


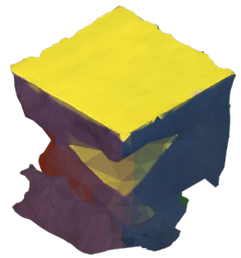
EXPERIMENT 03 : the error

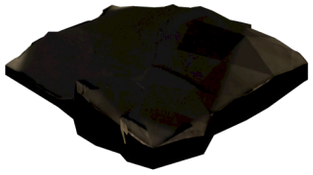
CREATING INTENTIONAL ERRORS

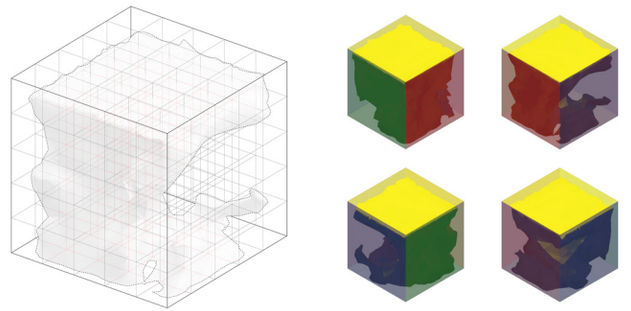
PHYSICAL

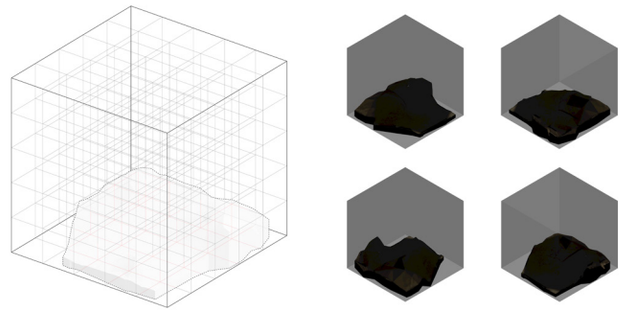
VIRTUAL

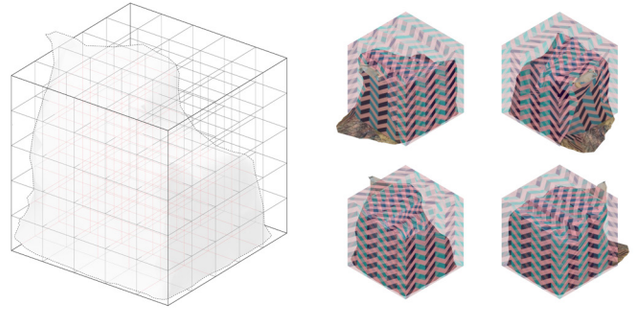












glossary of terms

A

Analog : The analog exists only in the physical domain and is subject to natural change over time. It is susceptible to organic decay and physical degradation. Analog processes are also vulnerable to human error

C

Conflation : The merging and coming together of two binary systems, aka the virtual and the physical

Confrontation: The subtle differences and tensions created when two binaries come together, aka the virtual and the physical

D

Digital : The digital domain happens in the cybernetic space. It is not subject to laws of nature. Images and objects are liberated from physical constraints and can be processed through technological and mechanized means. The digital can be constantly reprocessed and revised through expedited systems

E

Error : Intentional mistakes which are not characterized as conditions of deficiency and inadequacy, but rather opportunistic conditions where error can be productive. Error births invention, where unexpected and new outcomes can be created

Experiential View : View of the fragment from the experience of someone inhabiting that space. Also referred to as the "primary view"

F

Fixed Reality : The physical world. Fixed Reality is "fixed" because the physical world does not constantly and rapidly change

Fragment : Parts of the city that are taken from the routine of someone living and working in Midtown Manhattan. These fragments include: the apartment, the bar, the park, the subway, the subway station and the office

G

Glitch : The slight errors in the system of the matrix where the simulacra is able to be distinguished from reality. In the Matrix, the glitch is manifested through the form of a déjà vu

H

Hyperreality : Simulations of reality which are augmented and extended through technological means, ultimately creating a new type of reality

M

Misalignments : Misalignments happen when techniques of digitizing can create distance between the physical description and the virtual representation

Mise-en-Abyme : A formal technique of placing a copy of an image within itself, often in a way that suggests an infinitely recurring sequence. "View within a View"

N

Nested View : The view of a fragment through the window of another fragment. ex) through window in the experiential view of the subway, you can see the nested view of the apartment. Also referred to as the "secondary view"

O

Object : Projected Realities are virtual objects placed within the scene that have architectural implications

P

Physical : Substances that exist in the tangible world

Projected Reality : Virtual objectst that are placed in front of the viewer's eyes to align and misalign with the fixed realities, creating new perceptions and spatial experiences

S

Spectacle : The spectacle as defined by Guy Debord in "The Society of the Spectacle" is the passive participation of saturated and commodified images. Reality is lived through representations and images. The society becomes the spectacle

Simulation : A simulation the re-creation of real-world environments and systems through automation and technological processes. As described by Jean Baudrillard in "Simulacra and Simulation", a simulation is an imitation of reality

Simulacrum : A simulacrum is the creation of hyper-real environments. Unlike a simulation, a simulacrum no longer seeks to imitate reality, but becomes reality

T

Third Space : The physical and virtual realms break down through a process of constant translation to produce a third space generated by misalignments between the two binary conditions

U

Uncanny : The uncanny is the slight misalignments and subtle discordances through the conflation and confrontation of the virtual and the physical

V

Virtual : The virtual is not subject to the laws of nature. It can be constantly reprocessed and changed

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Belton, John. "The Space of Rear WIndow." Mln 103, no. 5 (December 1, 1988): 1121-38. https://doi.org/10.2307/2905203.

In cinematics, set design and filmmaking is done in a specific way in order to minimize the amount of the physical set actually being built. Alfred Hitchcock uses a method where he explodes the walls within the miniature set that he is building and only physically builds the walls visibly shown during the filming process while keeping the rest of the set unbuilt to allow for the camera to move through spaces. In this essay, Belton argues that Alfred Hitchcock establishes two types of spaces : cinematic space and theatrical space. Essentially, theatrical film space is the part of the set that is physically constructed to be filmed while cinematic film space is the part of the set that is virtually constructed to fill in the areas which the physical is unable to complete. In this way, the film explores and lays bare the nature of space, "revealing it to be an amalgam of theatrical and cinematic qualities." The way the film set is built would be similar to how we construct our site. Spaces will be fragmented and truncated for the camera to capture specific views. Parts outside of the camera view remain unbuilt. Since our project studies how the projected reality can influence the physical existing spaces, the physical fragments also act as an open background for the virtual to be placed in, creating a synthetic space that will be captured by the camera.

Debord, Guy. "The Society of the Spectacle" translated by Donald Nicholson-Smith. New York: Zone Books, 1995.

Debord explains the 'spectacle' as being the modern day manifestation of the market economy, capitalism and automation. Much like the smartphone, the 'spectacle' is ubiquitous. In fact, the 'spectacle' is the smartphone. Every screening device becomes the spectacle, on which constructed images are projected to feed consumers. However, Debord argues that "the spectacle is not [merely] a collection of images, but a social relation among people mediated by images." The spectacle is much more than an image at which we passively observe. Instead, it creates a new kind of human environment; an active environment which is constantly being reprocessed. The spectacle increasingly redefines the way we relate to others and the surrounding world.

The spectacle aims to "reunite the separate, but reunites it as separate." Further, the spectacle exploits the spectator. As the spectator is immersed in the society of the spectacle, direct human relationships are replaced with fragmentations of this spectacle which isolate and insulate us. It is an instrument of separation and the creation of the "lonely crowd," as Guy Debord calls it.

Robin, Evans. "The Developed Surface." In Translations from Drawing to Building and Other Essays. 153-194. London: Architectural Association, 1997.

Architectural drawing allows viewers to see the architect's field of visibility. By suppressing three-dimensional spaces into two-dimensional drawings, there are opportunities gained through representation. Throughout his essay, Evans explores the possibilities for architectural representation in order to solve the problems of interior ambiguity depicted through section drawings, leading to his creation of the developed surface. The developed surface is a drawing method accomplished by unfolding all of the interior elevations of an enclosed room stitched onto a combined plan. The developed surface allowed for a holistic portrayal of a room. Although sectional drawings presented the viewer with the problem of never being able to see the rest of the building in front of the section cut, the developed surface method was impartial to view. However, there has always been the question of how to represent buildings. Our project explores how people would inhabit and experience their routine spaces differently due to the augmentation of the virtual overlay, which will lead to a new spatial paradigm. Therefore, it is also important for us to invent a new type of representational method to capture spaces that are both physical and virtual from an experiential perspective.

McDonough, Thomas F. "Situationist Space." October 67 (1994): 59-77. Accessed March 4, 2020. www.jstor.org/stable/778967.

Debord wrote in Society of the Spectacle that under advanced capitalism "everything that was directly lived has moved away into a representation." McDonough attempts to explain Debord's map with his writing. The corollary to Debord's writing in spatial discourse was that directly lived space had transformed into the space of the conceived and the perceived. Instead of social and concrete space, mental and abstract space determines the way people navigate through and experience the city.

The Naked City is composed of nineteen cut-out sections of a map of Paris which are linked by directional arrows that are based on the forces of attraction and repulsion. Instead of positing the city as a neutral form, this psychogeographical map of Debord's rendered the city as something experiential and nuanced. Informed by this approach to interpret city, our project selected fragments of places in the city from the dwellers' daily routine. The city is no longer of its fullness, but becomes a pseudo-map made out of collected spaces that are generic regarding Manhattan workers.

Lavin, Sylvia. "Architecture in Extremis." Log, no. 22, The Absurd (Spring/Summer 2011): 51-61.

When discussing the relationship between hoarding disorder and domestic spatial conditions, Lavin considers the interior space to be produced by the arrangement of objects, in addition to walls and boundaries. Objects and walls together constitute the material architecture. In the void of which, the flow of bodies are interrupted and modified. The objects influence inhabitant's movements in such a way that they can be placed in the programmatically wrong place. By the extreme agglomeration of objects, space normally intended for circulation and inhabitation is crowded. Therefore, the voids are converted into solids.

Lavin stated that "hoarding adheres to a logic of display and a theory of animation". Objects as part of architecture are inherently subject to reconfiguration. The ability to be reconfigured constantly changes the solid and void relationship in the interior, hence the way the inhabitants interact with the space. "This animation, from an architectural point of view, gives the interior a temporal flow that it otherwise does not have…offers building a measure of durational variation that the typical definitions of architecture lack." By expanding categories of objects in the process of design

yield a new definition of architecture that responds to instability. With the development of the virtual world, the agglomeration of objects is no longer limited to the physical. The digital can potentially fill the space with objects that do not need to abide by the physical rules and that can easily be reconfigured, leading towards new spatial conditions.

Pichler, Walter. "TV Helmet (Portable Living Room)" part of Prototypes exhibition, 1967.

The works of Walter Pichler embody the situations delineated by Guy Debord. Walter Pichler was fascinated by technology's ability of simulation and what this form of media and control could be capable of accomplishing. He created extensively simulated environments which took on a variety of different forms. These projects generated highly technological and mediatized simulations by augmenting and intensifying given environments.

In his manifesto "Absolute Architecture," Walter Pichler stated that "machines have taken possession of [architecture] and human beings are now merely tolerated in its domain." Pichler viewed technology not as enabling and engaging, but rather disabling and entrapping. Pichler's project "TV Helmet/Portable Living Room" which was a part of the "Prototypes" exhibition in 1967, exemplified the imminent pitfalls of the spectacle. Pichler saw the TV as a subtle escape from reality and thus, extracted the element of the television from its traditional living room setting and input it into the helmet. By having television as the only input, the 'consumer' or 'viewer' is in complete isolation with media as its sole stimuli. These isolation chambers remove one from a given reality and offers complete and absolute escapism. The helmet represses the viewer to remain static and motionless, separated from their obligations and necessities.

Walter Pichler's "TV Helmet" was created during the late 1960s, a time when technological processes were emerging, but not nearly as prevalent as they are today. Despite this, Pichler constructed admonitory analogs of the potential effects of technology, which ironically are happening in today's society.

Baudrillard, Jean. "Simulacra and Simulation." translated by Sheila Faria Glaser. Ann Arbor: University of Michigan Press, 1994.

Technology and digitization have created a new 'reality,' a kind of 'hyperreality' which Jean Baudrillard also refers to as the simulacrum.Baudrillard calls the creation of these technological and mediatized simulations the 'hyper-reality' or 'simulacrum.' We have become so reliant on models and simulators which recreate the truth that we have lost contact with the real world which once preceded the simulation. The simulation has taken possession of reality and creates the simulacra.

Representation is no longer a copy, alterations, distortion or imitation of the truth, but rather "a question of substituting the signs of the real for the real." Thus, in this postmodern age, we are confronted with the precession of simulacra before the reality. The representation now precedes and determines the real. The simulation itself has become so real, that people are no longer able to distinguish between the actual reality and the constructed representation of reality. Therefore, the infeasibility in perceiving the distinction between the real and the hyperreal ultimately undermines reality itself.

Wachowski, Lana and Wachowski, Lily. "The Matrix." 1999; Burbank, CA: Warner Bros. Pictures.

Directed by Lana and Lily Wachowski, "The Matrix" is set in the near future and follows a story about Neo, a computer hacker. Neo is contacted by a group of underground freedom fighters who explained that the "reality" he is living in is actually a hyper-complex computer generated simulation called the Matrix. The Matrix is created by an Artificial Intelligence which aims to hide the truth from humanity in order to allow machines to harvest people as an ongoing energy source.

In the movie "The Matrix," a déjà vu signifies a glitch in the Matrix system, when the code of the Matrix is altered. The déjà vu happens when Neo sees a black cat walk past in an adjacent hallway followed by an identical black cat walking past in the exact same manner. These moments of déjà vu uncover that the perceived physical reality is not as solid as most people assume. It operates through an underlying Matrix system much like a machine running a large-scale simulation, ultimately creating everything around us.

Garland, Alex. "Annihilation." 2018: Paramount Pictures.

Directed by Alex Garland, the movie "Annihilation" is about a group of scientists who enter a zone called "The Shimmer," a quarantined zone of mutating plants and animals caused by the invasion of a foreign alien presence. The movie "Annihilation" deals with the hybridization of two binary systems, in this case, the DNA of various plants and animals. The movie depicts the creation of various mutations, such as a deer with flower antlers, a mutation of an alligator with shark DNA and human figures composed of plant life, which were created through the merging of existing DNAs. It recombines and changes whatever it encounters by collapsing living beings into one another. Through this merging and shifting of physical conditions, the mutation slowly becomes an unrecognizable thing and the real becomes lost. The hybridization of DNA creates a new anomaly derived from existing creatures. This mutation is the "third space" which we aim to explore through the hybridization of virtual and physical processes.

Microsoft. "HoloLens." March 30, 2016. https://www.microsoft.com/en-us/hololens

Virtual Reality is a hyper-simulated experience which extends and augments the limits of the real world. Materialized through a pair of headsets, virtual reality can give the user an illusory experience of physically inhabiting a new constructed reality through visual simulations. Virtual Reality is more like a modern-day manifestation of Walter Pichler's "TV Helmet." The helmet is replaced with a pair of headsets which displace the body from its actual surroundings and places it inside a new simulated reality. Microsoft's HoloLens works in a similar manner, except that instead of virtualizing reality, it augments reality. Through the use of motion sensing input devices and advanced optics, HoloLens melds visual information seamlessly with its environment.The sensors allow for environment understanding in relation to spatial depth, motion, light and sound so that information and images are directly overlayed onto our physical environments. The goggles can also track the user's movements and track the gaze to allow the user to physically interact with the 3D images. Through HoloLens, Microsoft created a "mixed reality" in which allows for virtual environments to seamlessly bleed into the physical environment.

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