

Reflections: Drawing for the Body

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M.Arch Thesis 2017

"Drawing Architecture is about being true to yourself as an architectural designer. It is about having the bravado and the ego to put your head above the parapet and shout 'this is me - this is what i do, this is what excited me and this is how I go about describing it'. It is about experimental design practices that choose to use drawing as the primary means to communicate their design aspirations to a wider public"

-Spiller, Neil, Helen Castle, Caroline Ellerby, and Elizabeth Gongde. *Drawing Architecture*

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This is a Masters Research Project presented to the University of Florida in partial fulfillment of the requirements for a Master's in Architecture.

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"Architectural drawing is alive, kicking and positively screaming...Every aspect of the graphic is undergoing transformation and reinvention. Infused by new technologies and techniques, innovative media and materials are being explored at every turn. Simultaneously, there is a renewed enthusiasm for the spontaneous and the sense of the hand behind the image, which the analogue engenders, leading to numerous different combinations of hand-computer hybrids." ¹

¹ Spiller, Neil, Helen Castle, Caroline Ellerby, and Elizabeth Gongde. Drawing Architecture. Chichester: John Wiley & Sons, 2013. Print.

“Perhaps the ideal way in which an architect can approach the act of drawing is to be unaware that he is actually doing it at all!”

-Peter Cook

Abstract

Drawing in its most simplistic definition is the action of tracing or producing a line or mark on a surface. For architecture, drawing is a provisional method and process of designing. It is an exploration of palimpsest, disappearance, and reflection through the process of trace and method of marking in drawing. With this in mind, the process of the project focused on two-dimensional drawing aiming to express material qualities effectively, and exploring a variety of characteristics developed from the process of marking through a set of operations. Drawing became the process of marking from matter to marking in space, leading to the transformation of two-dimensional drawings into three-dimensions. The two-dimensional drawings done in watercolor and graphite go hand in hand with plexi-glass and wood studies to further help the understanding of marking on media as a different drawing format which evolves and unpacks new discoveries of the project. The marks and sets of operations in the media had to become intrinsic to the idea of how each drawing was produced. The three series of exercises were done with the hope of testing the same operations of mark making in three distinct mediums based on a subtractive process, each step reflecting about the previous drawing.

The question of tool and materiality transcended that of surface and moved into the realm of the paper filigree. Materials slowly and fluidly transformed into the canvas, and the machine or instrument used became the pencil of the drawings. The project in its entirety focused on responding and reflecting from the different types of marks made by the instruments which limited the scale and characteristic of line.

The research then looked into developing a three-dimensional drawing, drawn in wood. In this study an armature or framework system had to be present to act as the underlying paper which received the markings. With the testing of drawing in three-dimensional space, the question of the intersection of marks in a drawing and its translation into a three-dimensional spatial intersection became primordial. Minding this, reflecting on the process of how a two-dimensional drawing is developed was necessary. The inherent restrictions of the drawing process itself needed to become apparent in all the studies but particularly the three-dimensional drawing to begin to bridge the two worlds. The two-dimensional process of marking on paper would be carried out into the three-dimensional drawing allowing for limitations to guide the experiment.

The research thrives to understand the process of drawing and how architects design. It is an exploration of palimpsest, disappearance, and reflection through the process of trace and method of marking in drawing. The project informs us that in every mark on a drawing there are multiple possibilities of buildings and that drawing is a way to suggest a spatial construct. In the process of researching and reflecting the way in which we draw and mark on media, a clear understanding of how drawings transform into build objects should emerge. The goal was to project space back and forth between two-dimensions and three-dimensions.

¹ Cook, Peter. *Drawing: The Motive Force of Architecture*. Hoboken, NJ: John Wiley & Sons, 2013. Print. pg. 8

Drawing the Process: An Introduction

"A drawing for me is a model that oscillates between the idea and the physical, or built, reality of architecture. It is not a step toward this reality but an autonomous act to anticipate the concreteness of the ideal... The first markings on a white sheet of paper, the first carvings in stone, the first engravings in metallic plates represent the beginning of architecture, the primal act of construction toward the realization of an idea. To draw is to map the world through signs, locating the absence of the eye."

-Abraham Raimund

Drawing in architectural design practice has been for many about representations of ideas and concepts. As mentioned by Peter Cook in his book *Drawing: The Motive Force of Architecture*, drawings are meant to be for public presentation, but are used by the author as a way to move into a place of discovery in preparation for the making of the building.² Drawing is the act of producing tangible material existing between ideas and concretized objects. It is the search for new fields of speculation utilizing tools and media readily available to the author, while reflecting between methodology and the resistant media.

In architecture, drawing is a method used to suggest a spatial construction, it is a critical means of investigation that can provoke questions of spatial implications between multiple notions. Drawings in the scope of the project is not about the aim of the line, or the point, but rather about the scaring of the surface and medium used. The act of drawing is about working with the unanticipated, about putting ideas in and receiving unforeseen echoes back as you add, hide and reveal new information through the process of making. The process of development is the most important aspect of the drawing, the change over time and the layering of information can lead into another set of ideas that can stretch the unknown into the known, now a place that the viewer can move into.

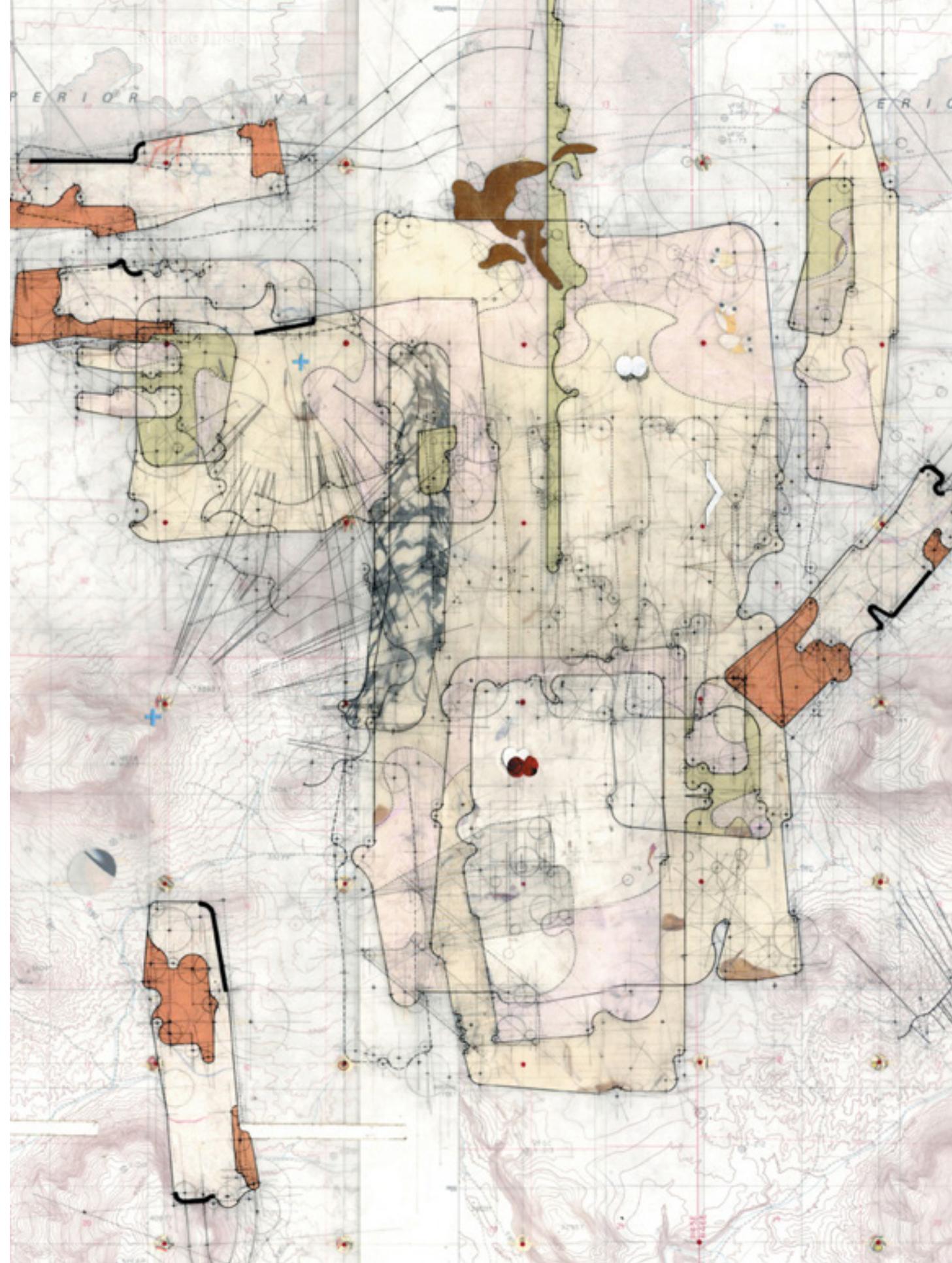
As Robin Evans suggests about Daniel Libeskind's Chamber Works "We must look in front for the things that the drawing might suggest, might lead to, might provoke, in short, for what is potent in them rather than what is latent."³ The aim of the author of the drawing is to look for new questions, to inquire what is to come next through the development of the lines and markings on the surface. In this sense, the table and the surface being manipulated became a place of interrogation, a working field, a place of thought.

The act of drawing was not about the finished product but instead about the process of making, generating new ideas, discovery, learning and most importantly revision. Instead of conveying the drawing as the description of the project, ideas are amplified through the lens of discovery during the process of constructing a drawing, learning more from 'drawing' than from the drawing itself.⁴

Through drawing one can find relationships of spaces simultaneously, there is an understanding of scale, of the overall organizational intentions of the concepts and ideas developed. The objective is to enter into the drawing, to occupy it by reading it and imagining oneself in it, whether it is through the actual size of the drawing or the technique used to make it. Drawings intended to be provisional, allow a greater range of information to live within the surface. Fields of ideas can consequently all coexist permitting the necessary changes and adjustments to be made through an additive and subtractive process.

Questions of what it means to draw and how to go about doing it lead to new inquiries about the act of drawing. Questions of how to mark on the paper, what happens when two lines intersect, how do you decide the boundaries of the paper, and how do you decide the medium used for the development of a project? Are the marks on a surface the first marks of the building/intervention, and if so is the surface/paper/medium the site?

The drawing process is a tool utilized to solve questions of spatial joints between lines, using the idea of discovery and invention in the drawing and allowing the reading of the drawing to inform the following steps. Awareness of the act of drawing is crucial to the scope of the project as each mark made is a response to the previous.



Buildings are interpretations of drawings, needing a translator to convey the concept of the marks made. Thus, drawing becomes a tool and collection of interpretation. With that, the author, is he/she who knows the truest qualities of the space, and the objective is to eliminate the translation, therefore making the purest and truest form of the space imagined.

In much of Perry Kulper's drawings we are faced with dynamic fields of speculation that emerge from his understanding of finding relationships between objects on the page. He is not interested in the end result of the drawing but instead he tries to find ways to express, materialize and reveal thought.

"I try to visualize and support ideas long enough to see if they might be relevant to a project in the long run. Increasingly, I am less judgmental about possible ideas for a project, especially in the early phases of a project –about whether everything in play is suitable for the piece of work. Depending on what I am working on I often make drawings, or parts of drawings that are not targeted at a synthetic building proposal, but are specific in their intent – studying erasure as a possible representational and spatial activity, for example."⁵

The success of Perry Kulper is his ability to react to his drawings, allowing the process of curation to eliminate any preconceived notions of what is to be expected. Fully entering into the work to form spatial intentions from which ever direction.

Therefore, predetermined paths towards what drawings are supposed to convey were rejected, instead allowing the material, and method to inform each step of the discovery of relationships between the sets of marks made and operations. Revealing traces of thought through layers of information in the drawing while allowing the marks made be the generator of the spaces of the project.

¹ Abraham, Raimund, Norbert Miller, and Bridgitte Groihofer. [Un]built. Wien: Springer, 1996. Print.

² Cook, Peter. Drawing: The Motive Force of Architecture. Hoboken, NJ: John Wiley & Sons, 2013. Print

³ Evan, Robin, "In the Front of Lines that Leave Nothing Behind," in Architecture Theory Since 1968, ed. K. Michael Hays (Cambridge, MIT Press: 2000), 48

⁴ Cook, Peter. Drawing: The Motive Force of Architecture. Hoboken, NJ: John Wiley & Sons, 2013. Print

⁵ Drawing Architecture - Conversation with Perry Kulper [http://archinect.com/news/article/54767042/drawing-architecture-conversation-with-per-](http://archinect.com/news/article/54767042/drawing-architecture-conversation-with-per)

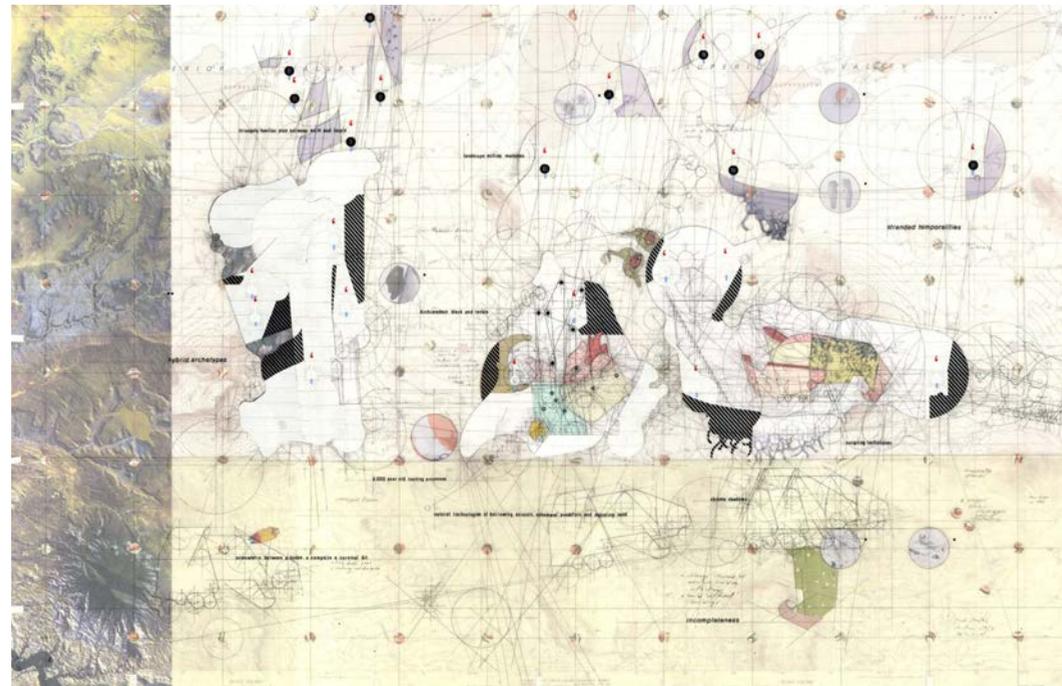
Marking Absence: Drawing an Additive and Subtractive Process

Architectural drawing has been referred to as the act of addition of lines, tones, and points in space. The process of making a drawing is to experience with a range of marks shaping space at multiple scales. In the work of Julie Mehretu, and Perry Kulper one is confronted with additive marks and 'characters' as Mehretu refers to, in addition to a series of layered surfaces filled with information that compose the whole. The added layers allow for a greater understanding of depth and relationships between each other.

What it is interesting to note is that architectural drawing is not just an additive process. It also includes subtractive processes that hide and conceal information to bring to light new unanticipated material. In Robert Rauschenberg's Erased de Kooning Drawing Willem de Kooning (1953) the act of deconstruction and erasure in Art were introduced. In this work of Art, Rauschenberg's goal was to discover a method of making a drawing with an eraser. As stated by Walter Hopps, an understanding of Erased de Kooning Drawing "is inextricably embedded

in the viewer's explicit knowledge of the process of making."¹ The basic idea of erasing away, carefully and thoughtfully, from a commonly known drawing to leave traces of the original was in itself the work of art. The impact of the drawing was not the finished product but that it showed the viewer the process in which the piece was made. Every single erased mark and every trace of the original drawing still intact, informed the viewer of the decisions made by the author.

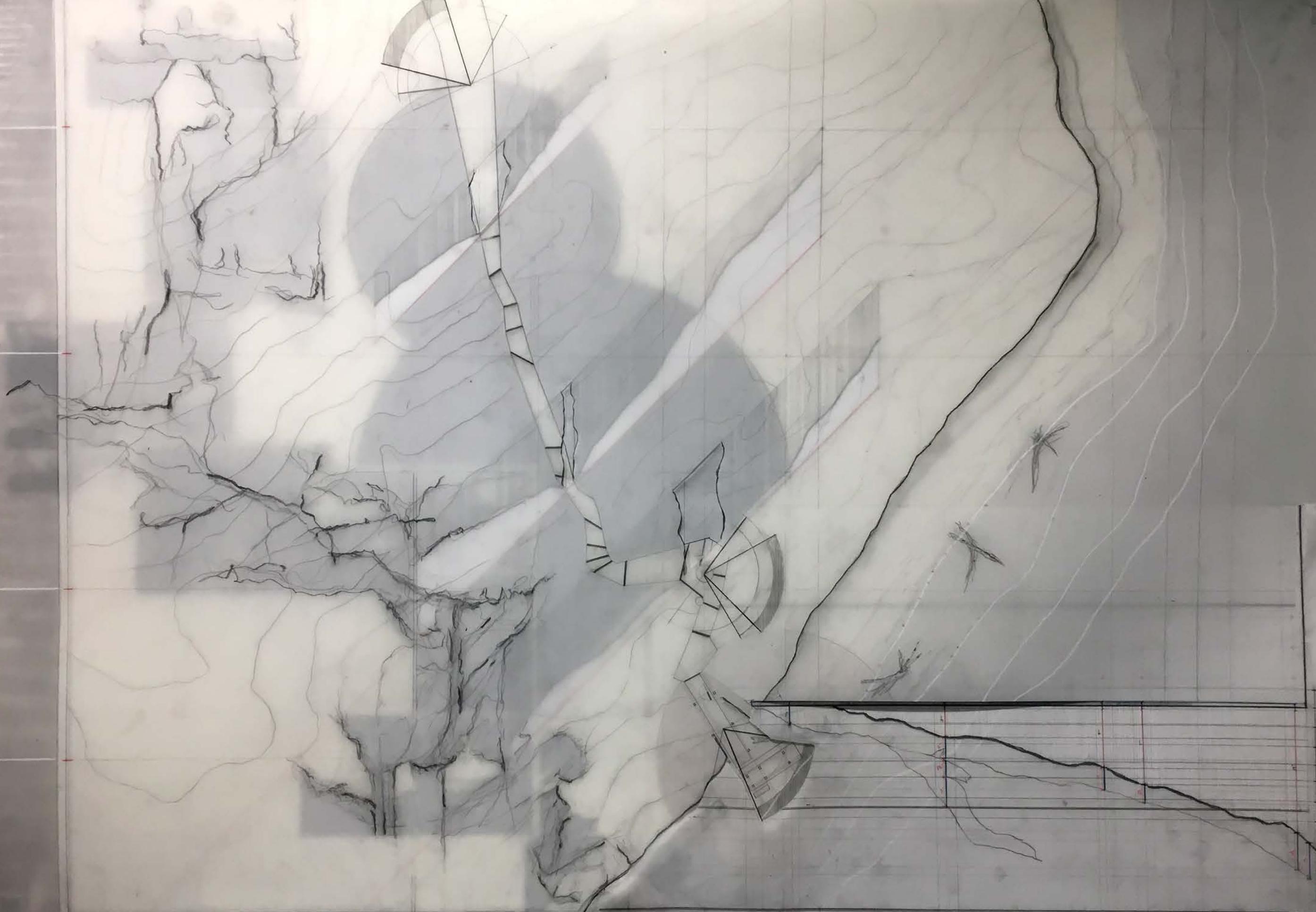
In the paintings of Julie Mehretu, every layer of clear acrylic is composed of mark-marking 'characters' made up of the removal of paint, ink, and graphite. In addition to the marks there is a layer of architectural tracings that are projected to distort the image. Mehretu includes additive techniques such as the building up of layers of marks, and materials, and subtractive methods such as erasing, removing, and hiding elements that make up her work.² The artist uses both techniques to create her drawings and makes a palimpsest of information and time.

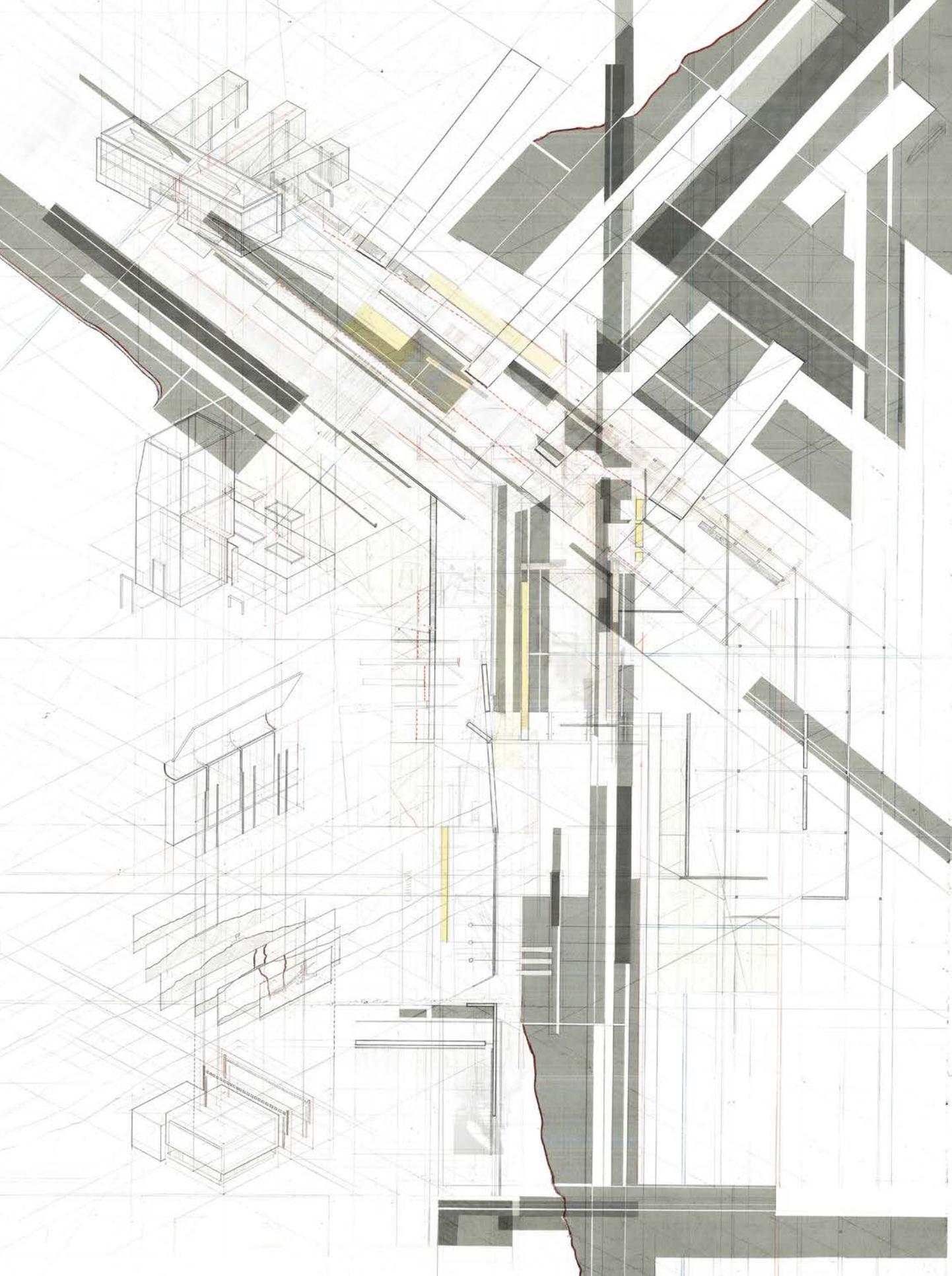


Perry Kulper



Robert Rauschenberg's Erased de Kooning Drawing Willem de Kooning (1904-1997)





A palimpsest when seen through an architectural lens, is the process of superimposing information through layers of discovery that begin to conceal and reveal space. Palimpsest use both methods of addition and subtraction, as more layers are added, more and more information in the existing drawing will begin to fade away allowing depth to exist within the drawings.³ Slowly the digging of the surface or ground, and the discovery of new layers of time will become an additive process. Thus, as you begin to add layers things begin to be covered up and hidden(subtracted) to later, hopefully, be reflected back into the surface of the drawing, once again becoming additive in nature, allowing for a full cycle to reemerge every time.

With this we come to the conclusion that drawing includes both opposing techniques, the additive with buildup of lines, layers, or marks, and the subtractive, the erasing or covering up components that make the whole.

Questions of what makes a mark on a surface an additive or subtractive process came into light. Arguably, if erasing a line to create space to form in the drawing was subtractive, wouldn't making a mark, whether a linear, tonal, or planar, in the surface of the drawing be considered subtractive away from the space of the canvas?

The drawings done in this project further help the understanding of marking on media as a drawing format. The marks and sets of operations in the media had to become intrinsic to the idea of how each drawing was produced. The three series of exercises were done with the hope of testing the same operations of mark making in three distinct mediums based on both an additive and subtractive process. An exploration of palimpsest, disappearance, and reflection through the process of trace and method of marking were ideal for the development of the project.

Cedar Key- Mapping place

The drawing originates from measured movement in Seahorse Key, an island in Florida, highlighting the ephemeral condition of the beach. Looking at driftwood, tides, and wrack – the residue of marine life due to tidal change, the mapping focuses on the drastic amount of useable space between tides, informing the experience of the site. The drawing examines the structure of the island, a densely forested area cut by a manmade trail that acts as a threshold from one side of the island to the other. These two elements, trail and forest, generated a drawing where measure and disorder could coexist. The disorder and more organic hand sketched graphite puts the viewer in the site, the experiential aspect of the trees and the chaos of nature can be seen in this technique, in which the hand informs the drawing. Every time the graphite touches the Mylar, it informs the next

move. The moment that the two react to each other, the pencil slides down the paper, allowing the hand be there only to hold the pencil from falling; the pencil moves and the hand follows it.

The trail not only works as a threshold, but it becomes the anchor in the drawing from which everything is measured from. Every experience originates from the trail; every view out to the Gulf of Mexico is measured and specifically oriented from the trail. The drawing aims to represent the experiential qualities of the site in a hybrid drawing, which is used simultaneously to demonstrate the idea of measure and precision in contrast to the organic and free-moving atmosphere of the site.

The hybrid drawing is composed of multiple added layers that allow for depth to be seen with the overlay of each piece of paper. Each layer was produced as new added information after every visit to the site, letting a reading of time to exist within the development of the drawing itself. Each drawing would need editing, reflection time, and a new a series of lines and elements. Once everything was out and materialized in the surface of the paper a thoughtful process of selection would be necessary to begin to understand which marks were the important ones.

Fields of Memory

The hand drawing developed as a palimpsest of explorations of spatial details. It focuses on multiple scales that coexist on the same plane. The many territories slide past each other in both three-dimensional and two-dimensional space, creating tension between zones. The drawing examines the possibilities of assemblage and introduces possibilities of integration. The memory map introduces several opposing fields from which different details and projects exist within, to challenge the assembly as well as find relationships that transcend individual projects.

¹ Walter Hopps, Robert Rauschenberg: The Early 1950s (Houston: Menil Foundation and Houston Fine Art Press, 1991), 160

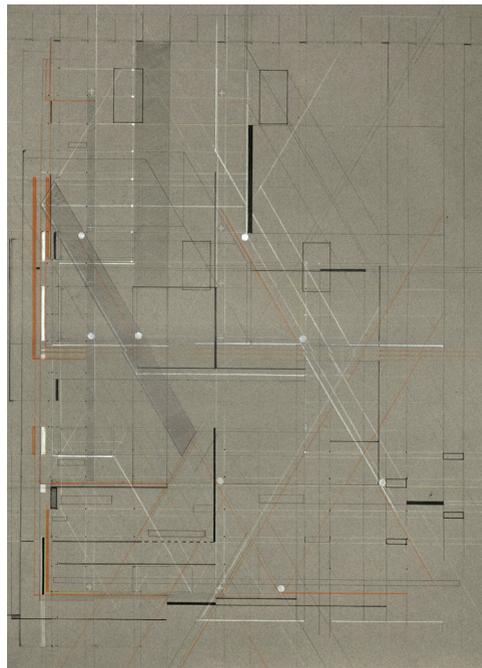
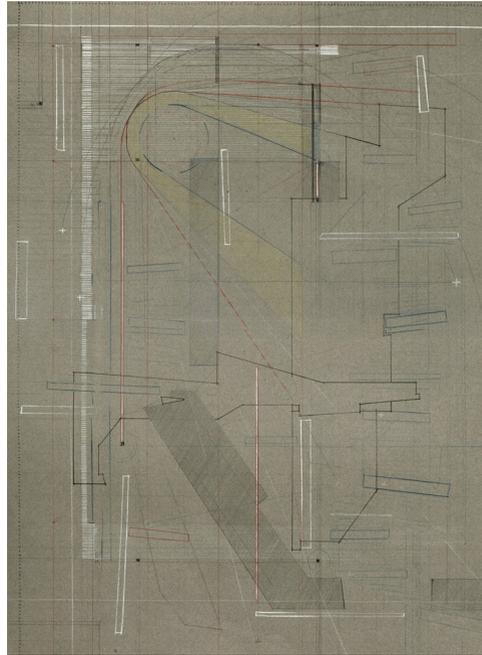
² <http://www.art21.org/texts/julie-mehretu/activity-thematic-addition-and-subtraction>

³ Palimpsest in Architecture: Six Personal Observations. Robbert Verheij. Monday, April 13, 2015

The development of the drawings focuses on two main drawing prompts, time and measure. Each drawing has an additional prompt that drove the drawing through an additive process of gestural lines. The three words, driving the three different studies were materiality, marking, and transparency. The project focused on responding to new unexpected marks on the page as the drawing moved from one partner to the other. Each drawing study was worked on by both partners back and forth, each time adding a new set of rules to work against with.

While one team member worked for 30 minutes on one study, the other team member would be exploring different techniques using a different set of prompts. The objective was to keep each iteration as lively as possible, and to allow the studies to continually be evolving. The drawings were purely trying to experiment with techniques of drawing, using different line types, line weights, and operations such as adding material layers of Mylar and cutting away at the media.

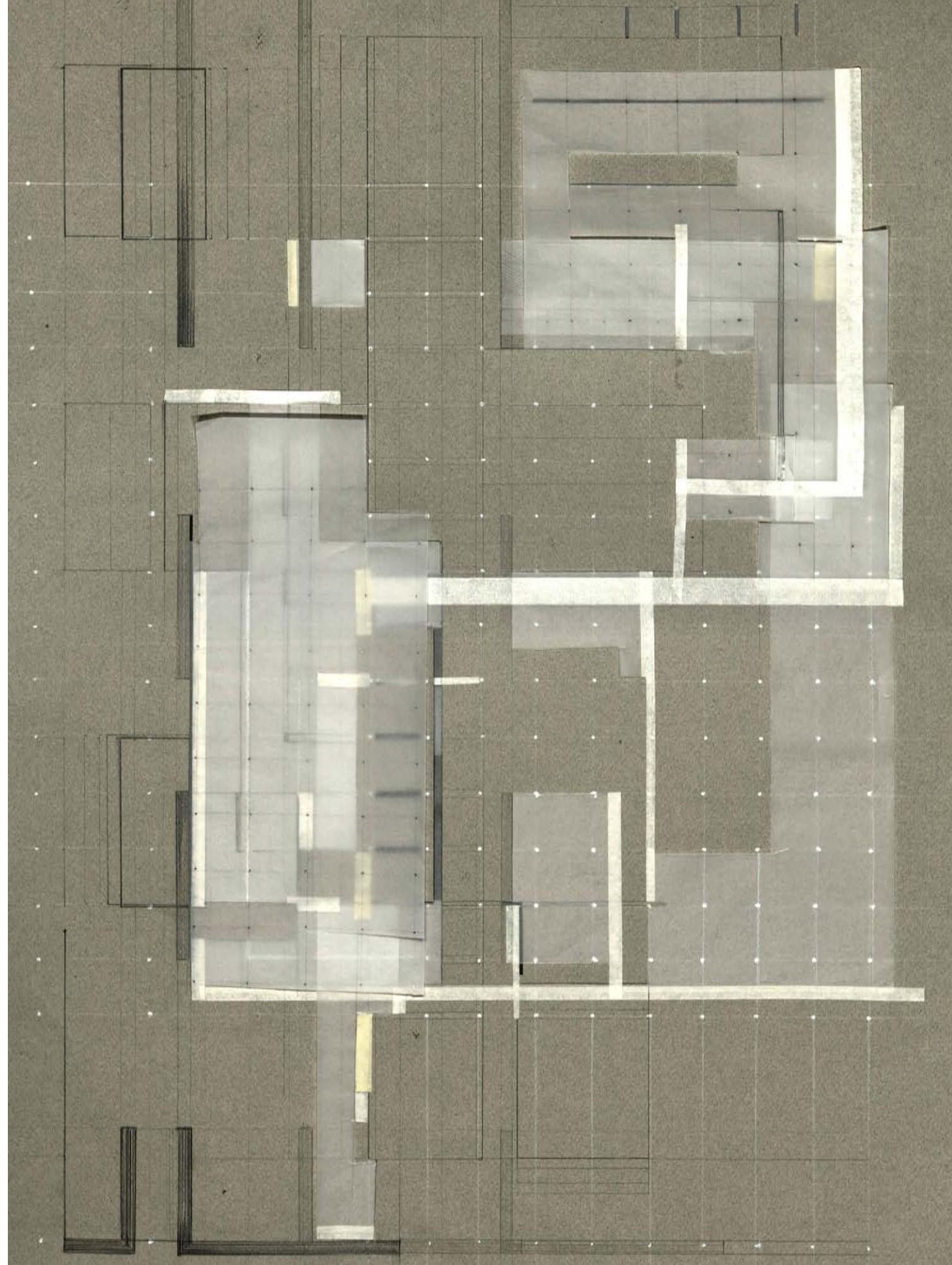
In this study one can begin to understand how the two opposing techniques can operate within the same drawing. Moments where erasure and carving away at the surface allow new opportunities for other materials and marks to be introduced into the drawing.



Partner: Levi Wiegand

"Architecture generated from the white space, not the black lines of the architectural drawing"

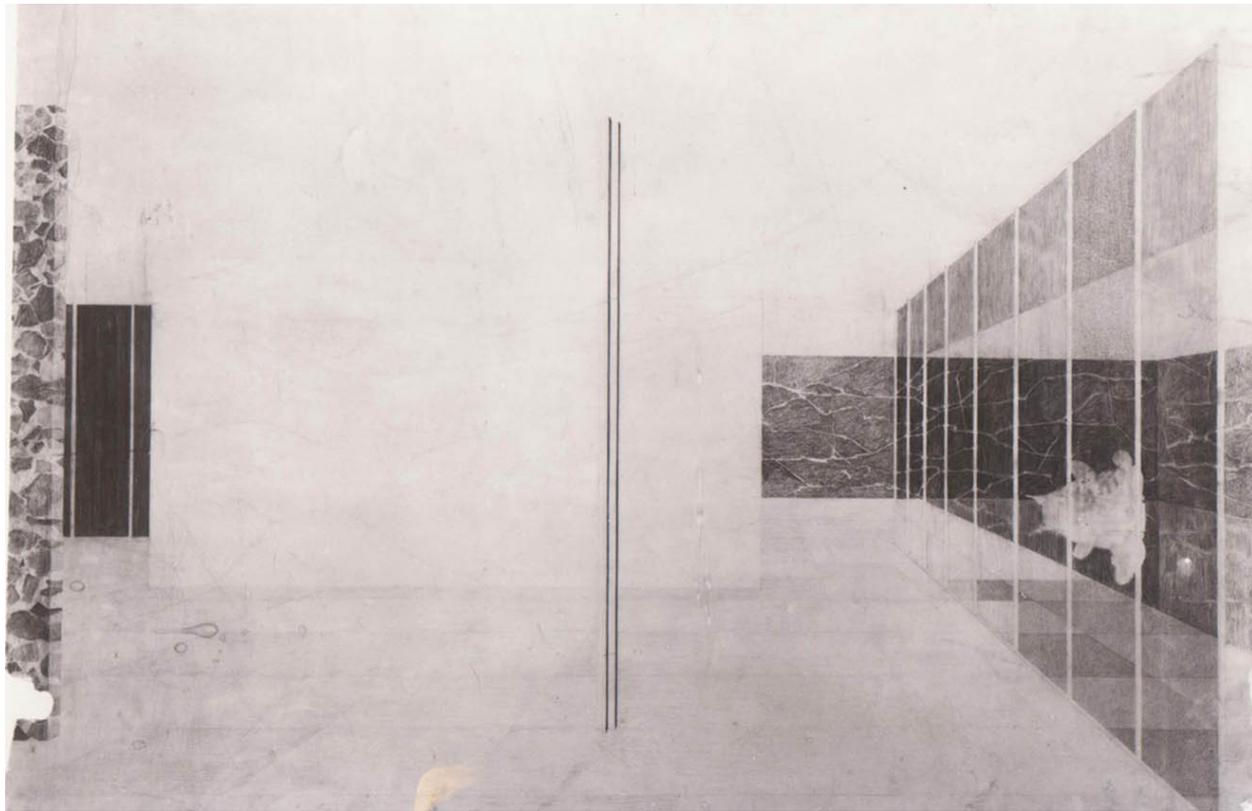
-Perry Kulper, OZ pg.83



Methodological Resistance: Experimenting Media in Drawing

"We must remember that everything depends on how we use a material, not on the material itself... New materials are not necessarily superior. Each material is only what we make of it. No design is possible until the materials with which you design are completely understood."

- L. Mies van der Rohe



- L. Mies van der Rohe

Architecture is the manifestation of materials, light, and sensations through a phenomenological lens. As humans interact with architecture, the assembly and the details which increase the comfort and compelling expression of the spaces one dwells in, become much more influential in the way in which these are executed. Drawing as a first pass at the most effective form of representation in architecture comes to be the most relatable and crucial aspect of architecture in itself. For most of the built projects in designer careers, the project is seen in drawn format. When confronted with drawings and materials, questions of what is the medium in which to draw, and how to effectively express ideas, play a huge role in the development of the project. Most of the time in school this question is overlooked, but the desire is to explore different media to test if through it, there is an approximation of reality. Media can either create a strong bridge, which in itself carries information much stronger and effectively than the content, but if it is not explored correctly it will allow for a degree of disconnect that might be necessary for the translation of the drawing. Only until recently have I come to ask why designers choose to limit their tools to pencil and paper, or in digital terms strictly computerize drawings. The research asks if investigating other tools widen the scope in which drawings are developed and in which these are then translated into architecture. As described by Herve Descottes in *Architectural Lighting*, "in order to control and give form to transient daylight, it was often channeled through a substance or medium. The resultant light thus became a sort of synthetic memory of the material or form through which it passed- a new, distinct element in space with its own formal properties and effects, reminiscent of its parent architecture."¹

From this quote one understands that the result of the medium is light, a new element in play which is directly

correlated to the qualities of the medium. When the primary factor or medium changes, the result will be significantly different. Thus, attention to the media is necessary, the character of a drawing or sketch on vellum will be completely different than on watercolor, and it is part of the research to investigate what media is needed for the drawing to effectively create a clear translation to architecture. Two-dimensional drawings were compared and contrasted with three-dimensional material studies that will supplement the drawings and help convey the desired experience. The goal was to arrive at drawings that capture the language of a built object or detail, much like Mies Van der Rohe, in his perspective drawings which focus on materiality and their effects on space, particularly using translucency and opacities that challenge the way the Barcelona Pavilion is seen. The research tried to understand design communication through built objects, but most importantly through speculative drawings that intent to manifest an architectural drawing language effectively and objectively. Mies van der Rohe drawings, with the most minimal expression can illustrate materiality, texture, and depth. The research explored the effects of drawing as an effective architectural communicator through the lens of different media of materials and their phenomenological qualities. The drawing process was used to solve ideas of translation from two-dimensionality to three-dimensionality.

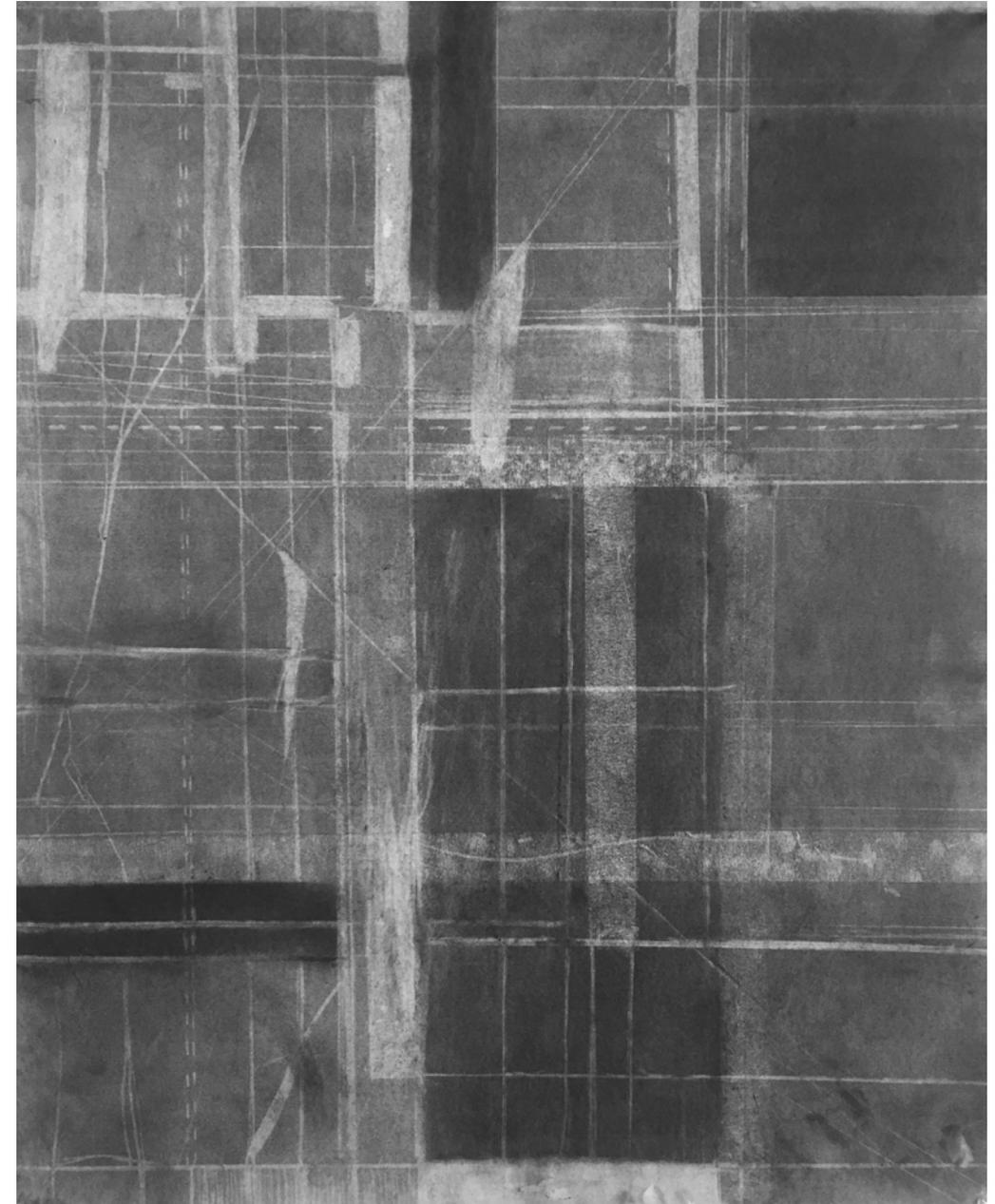
The research brought awareness to use more the idea of discovery and invention in the drawing and allow the reading of the drawing to understand information out of the paper to construct new kinds of spaces. Questioning as often as possible, what do drawing and sketched do in design thinking and for the space finding process?

The thesis explored the effects of drawing in stratum as an effective architectural communicator through different media of materials and their phenomenology. Thus the interaction of materials in details, spatial joints, and layers was crucial and significant as these allowed an opportunity to explore design decisions that changed the character of the space. In the process of the project, two-dimensional representations aim to express material qualities effectively, and explore characteristics between opposing materials and their relationships in space. The two-dimensional drawings went hand in hand with physical material studies to further help understand the material in the drawing format. Ideas of tool, medium, and methodology came into play as the testing of materials began. As stated by Lily Chi in *Translations between Design Research and Scholarship*, "Design must be located in the specificity of architectural work: its material and media... its particular modes of deliberation, and discovery."² With medium comes other questions of tools and delivery method. In the research the materials tested for drawing became the medium or canvas used to hold the information of the drawing. Many times in the drawing there is an inter dependency between the mark and the media, the paper and the charcoal, the plexi-glass and the lines. Strategies of drawing into other material allowed for a compilation of matrix or pallet of materials. Through the idea of making and portraying materials through and with the help of drawing, it permitted the different sets of drawings to inform the next step of the process. Each drawing was to be taken as an experiment in which different techniques of the controlling and manipulating the media would unfold. The project was process driven, through the idea of iteration, series, and letting one think lead to another, thus speculating endlessly.

The study goes from testing graphite, to Plexi construction composed of six "plate", to a three dimensional assembly made up of wood elements. The aim was to trace the process of development by marking through a series of operations and strategies that would be the common thread of the project and each study. To challenge and limit the work each material had to go through the same operational and formal strategies that moved from material to material. This allowed a greater understanding of the different materials and their potentials. Inherently in each material new sets of operations would emerge strictly to that material and this allowed an unfolding process that became antecedent of something I could occupy. Each step was a new moment of invention through the combination of the previous work. The ability to find relationships between the different materials was essential for the understanding of the work. Additionally, questions of relationships not only in the operations but in the different kinds of marks created and their spatial implications. As the process unfolded all the different studies influenced each other greatly, in specific moments when all operations occurred simultaneously a new strategy would reveal itself. The materials chosen allowed for a wider range of results and allowed the body to be interactive throughout the development of the project. It was crucial for each drawing to be constructed with as little computerized media, everything was to be hand-crafted and manipulated to come to understanding of the tactility and characteristics of the material.

¹ Hervé Descottes, Cecilia E. Ramos. *Architectural Lighting: Designing With Light And Space*. Princeton Architectural Press. New York, New York. pg. 76

² Chi, Lily. "Translations between Design Research and Scholarship." *Journal of Architectural Education* (1984-), vol. 61, no. 1, 2007, pp. 7-10., www.jstor.org/stable/40480731.



Graphite Excavation [Stereotomic] [Cast-like] [Fields] [Erasure]

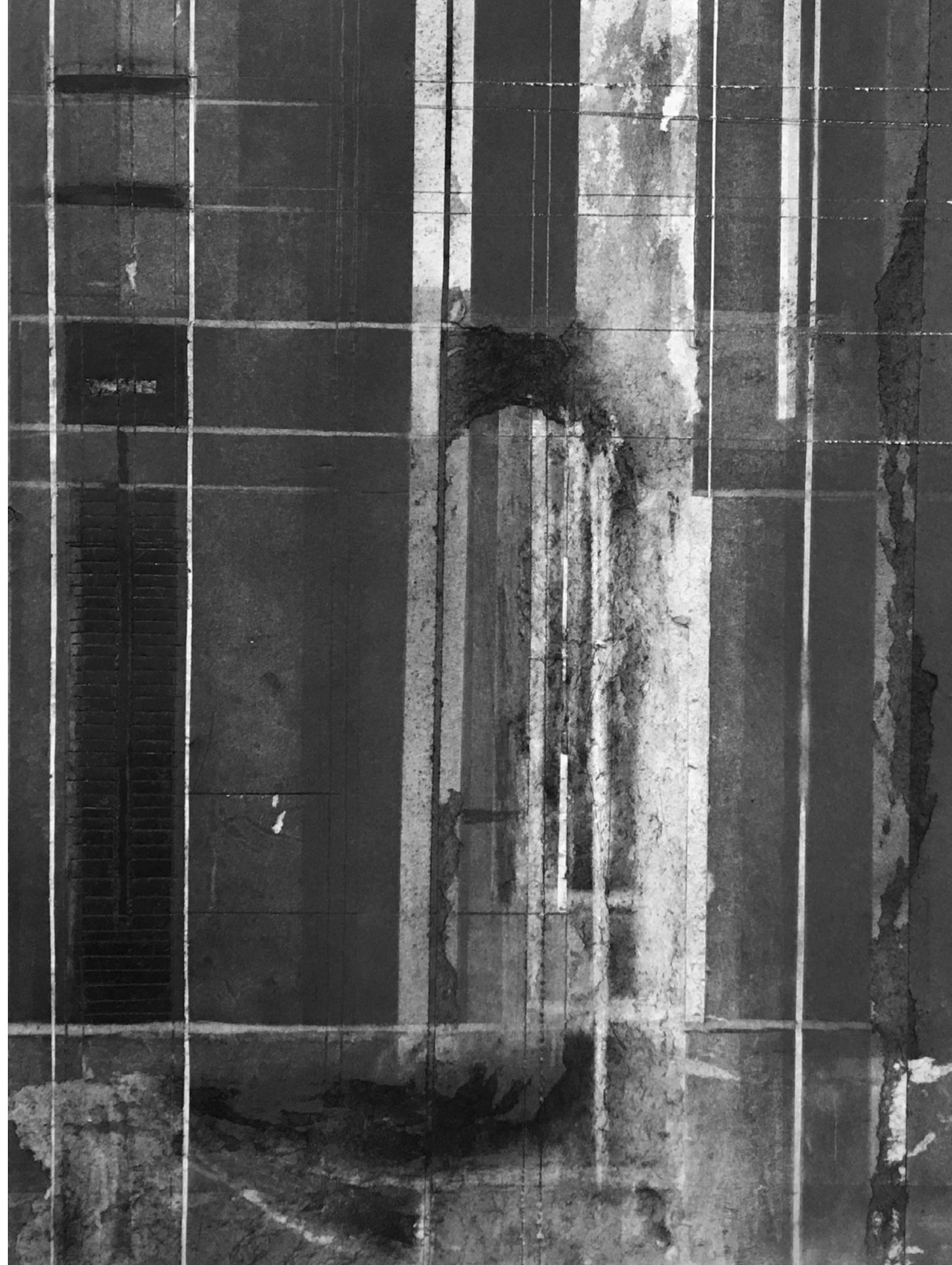
- Operations: Carving
Ripping
Scoring
Scratching*free hand
Peeling
Taping(additive)
Rubbing
Cutting/Slit

Plexi Plates [Transperency] [Additive] [Intersect]

- | | |
|----------------------|--------------|
| Operations: Carving | Notching |
| Ripping | Burning |
| Scoring | Folding |
| Scratching*free hand | Bent |
| Peeling | Intersecting |
| Taping(additive) | Sanding |
| Rubbing | |
| Cutting/Slit | |

Three-Dimensional Constructed Drawing [Line Drawing] [Construction Lines]

- | | |
|----------------------|--------------|
| Operations: Carving | Notching |
| Ripping | Burning |
| Scoring | Folding |
| Scratching*free hand | Bent |
| Peeling | Intersecting |
| Taping(additive) | Sanding |
| Rubbing | Chiseling |
| Cutting/Slit | Drilling |





Graphite Excavation [Stereotomic] [Cast-like] [Fields] [Erasure]

Tools Used: Olfa
Tape
Eraser
Graphite Powder
Watercolor

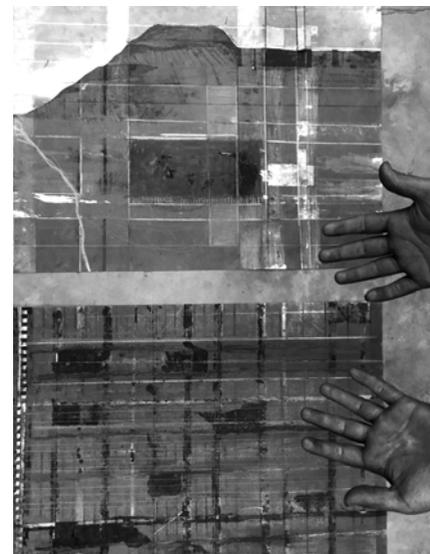
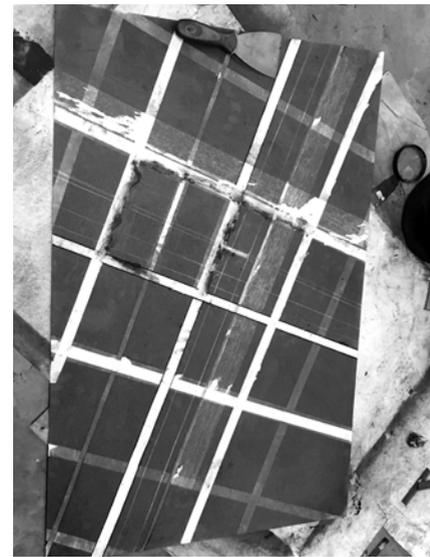
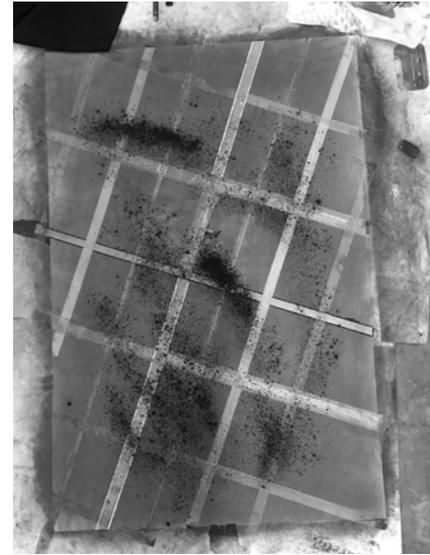
Throughout the process of excavating the graphite from the watercolor, a one to one correlation between constructed materials was made, materials such with cast-like and stereotomic characteristics. Originally, the process was exclusively using an eraser, but as the project developed the eraser became limiting to the amount of marks on the paper. At that point using different kinds of sharp tools and materials including tape and oils were used to research what the effects of these tools were on the graphite. Different types of tapes, all of different grasp and sizes were used to create more scalar changes of marking. The process began by adding tape on the white canvas, mapping out the initial first intuitive moves that would control the entire drawing. Then once two or three layers of tape were added the graphite would be placed in a light but balanced manner to allow for even tones throughout the paper to be manipulated. After much of the tone and depth was developed the markings of lines would begin with fields and zones which overlapped one another. This was a process in which layers would be added at a time to allow for a gradual increase in dark tones. Because the process was so messy, a wooden stick was used as a straight edge or ruler to mark all of the lines. Lines were marked by using the eraser or by edging (ripping) the first layer of paper in the canvas to leave a white imprint. Every iteration served as a learning experience, and a new discovery was made.

It was not until the last set of drawings that the idea of cutting into the paper intentionally would create the same effect of excavation and subtraction. The ability to cut the paper was a much faster method of subtracting into the paper but it had to be minimal as the rest of the canvas depended on the graphite being carved out and erased not eliminated. The project developed with an interest on making, doing, and experimenting by hand, with drawing behaving as the primary process of architecture. As the process unfolded a series of matrixes developed using a medium not commonly used. Architectural drawing are mainly manipulated through an additive process involving layering of media, lines, and tones. The goal was to completely take that process and juxtapose it using a subtractive method, in this case the act of filling watercolor paper with graphite. The aim was to develop a drawing through architectural processes that suggest ways of creating different assemblies. Thinking of drawings as constructions (building a framework of lines) was the most natural way of drawing from paper, into drawing in matter. The graphite drawings were an iterative process in which every day a new technique or marking was discovered and used. It was

about working in real time of the entirety of the project, operating and flush changing at the same time. The slow moving process of experimenting and working with the hand allow for each of the six drawings to influence each other. Additionally, this process was a way to find strategies of drawing into other materials, watercolor and graphite, plexi and later on wood. The big question was to think about what do you do differently to the graphite to explore the potential of the material, through a series of six drawings. The goal was to experience with a range of marks shaping space and diagraming. The idea of erasure and subtraction could have also been explored by the computer using a black screen that was eventually carved out with white lines and tones but "When electronic mechanism replace the filtration of idea development through tactile means, the fertile territory of 'subliminal accident' is lost."¹ Computers and machines don't allow for error, this completely challenges the need for failure. When you sketch by hand or draw by hand you are allowing for unwelcome marks that change the drawing completely. For initial process the aim is to have squiggly lines that speculate so as to open up options for "happy accidents". The very first iteration study was done so, mainly to investigate the medium and the capacity of having different tones and line types in the drawing. Originally, the drawing was done by hand without using any sort of straight edge or tool other than the eraser. The drawing and the media called for the use of a straight edge and for more drastic contrast between the whitest white and the darkest black.

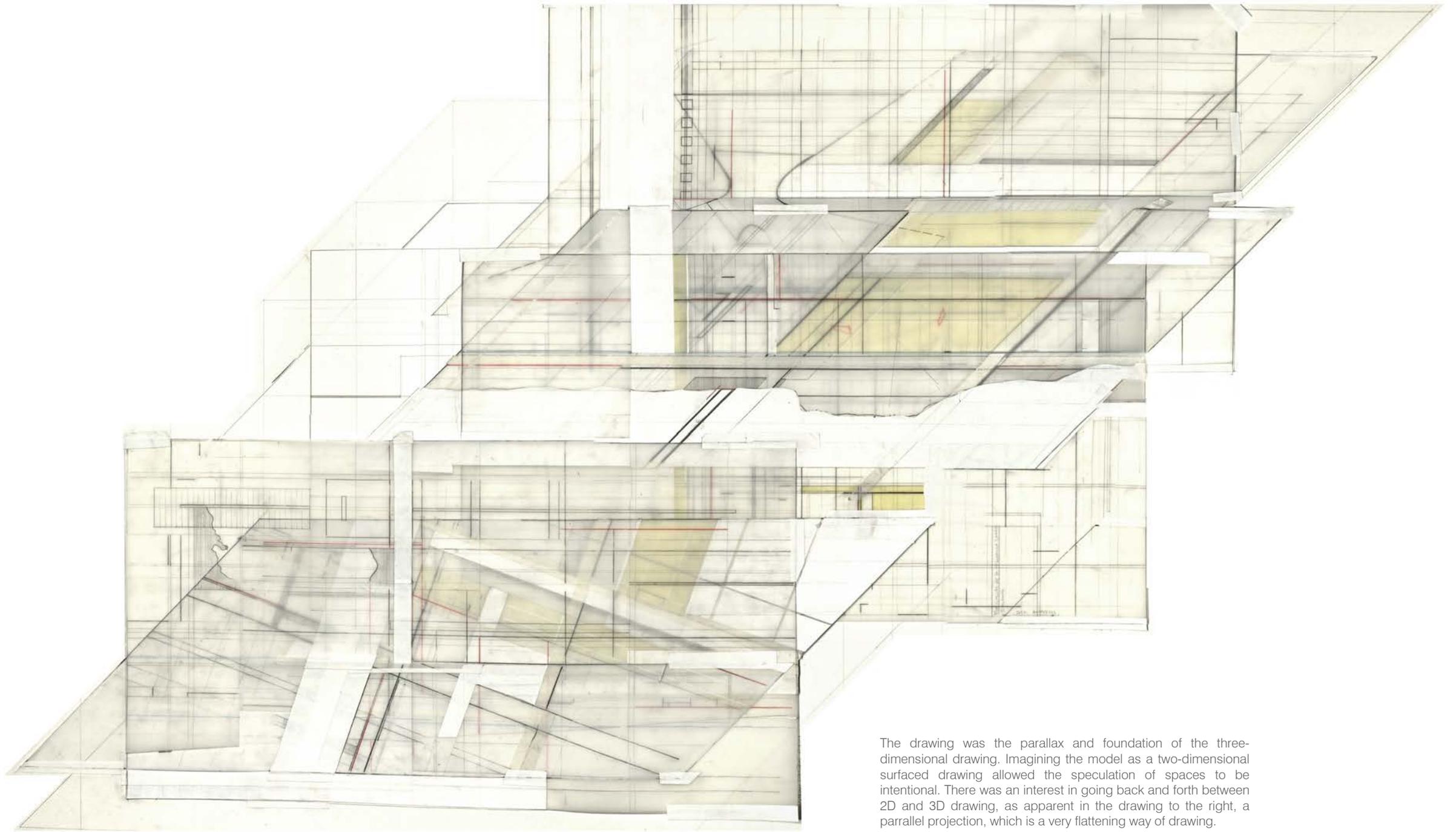
The series of drawings to were a tryptic using three different buildings and three different sites with opposing scales and sizes, as the drivers for investigating the media. By analyzing buildings and their sites, architectural elements would naturally be introduced into the drawings. This experimentation of graphite was material conscious, as well as bringing to attention the notion of the body. The body was such a primal part of the drawings, hands, elbows, arms, and knees where all part of the development of these. The aim was to be one with the material, and by being covered in graphite for a series of days as the drawings developed there was an understanding of the density of the material. The scale of the drawings also influence the relationship to the body, usually drawings have a close relationship with the hand as the hand operates the tool, in this case the entirety of the arm and the body was used to operate the graphite and the tools used to mark.

¹ "Mind and Hand: Drawing the Idea." Mind and Hand: Drawing the Idea | Boston Society of Architects. N.p., n.d. Web. 12 Dec. 2016.



"It is not so much about drawing by hand, or not, but about a kind of relational calculus in which working manually is not really at stake-aside from the latent contributions, the discipline of constructing a drawing and design decisions that come with spending time on something."

¹ "Drawing as Relational Act-Perry Kulper." CHAIRS & BUILDINGS. N.p., 19 Oct. 2014. Web. 12 Dec. 2016.



The drawing was the parallax and foundation of the three-dimensional drawing. Imagining the model as a two-dimensional surfaced drawing allowed the speculation of spaces to be intentional. There was an interest in going back and forth between 2D and 3D drawing, as apparent in the drawing to the right, a parallel projection, which is a very flattening way of drawing.

Plexi-Glass [Transparencies] [Opacities] [Fields] [Linear]

Tools Used: Laser cutter
Paint
Olfa
Blow-Torch
Dremel
Tape

The process of developing the plexi drawings began with the idea of marking and exploring different line types and line weights in this very precise medium. Due to tools limitations the variety of line weights and types were not present.

The laser cutter, and olfa, tape, and spray paint were the primary tools used to create markings and spatial lines into the plexi. Each plexi sheet was developed from the previous graphite experiment, taking the diagram one step further and adding different scales of marking. Because the process of drawing had to be planned out before it was executed it became harder to work with. In contrast to the graphite, the plexi was precise and couldn't be influenced as freely, and it proved to be more difficult to respond to the marks made as they were all made at once. After the plexi was laser cut, spray paint was added to make the lines, and then a new layer of taping was added to allow for more cuts and markings to be made. This step of the process was about thinking about the sequence of multiple steps, planning and anticipating what might come next. This completely changed the outcome of the drawings as it was difficult to plan a drawing from the beginning instead of letting each line and mark guide the process and discovery of it. Difficulty in the craft and planning, in the fact that the order of operations and the going back and forth was not possible. From this I was able to understand that I was fascinated with taking drawing slower and manipulating it with time to reflect. The tools in this case forced me to work in a certain way—which was faster and scripted from the starting point which created obstacles along the way.

As the plexi-sheet drawings were completed, something was missing. The depth and the line weights that were initially intended weren't successfully developed. There seemed to be too much information in every drawing. Due to this failure, because of the difficulty of the media and the process in which it was developed, the plexi drawings were not as experimental as the graphite drawings. It is at this point that the quality of the media, its translucency allowed the option for a 3-dimensional model. The sheets were cut and joined to allow to make space and depth which was previously missing from the sheets. The Plexi was bent and cut in a minimal way to allow for each of the sheets to be independent from one another, the possibility of each sheet to be its own independent surface was necessary.

The plexi sheet was bent completely by heating it intensely and slowly molding it to create space and depth that was initially missing from the drawing. This plexi sheet was the first one to be manipulated and the goal was to keep the sheet intact as a whole. A similar affect could have been created by cutting the sheet completely into three and then gluing it but this would have made the sheet delicate and fragile. Because plexi melts when heated, it forced a decision to be made when attempting to bend the sheet. As seen in the photograph the bent portion of the plexi started bubbling and if there was more heat added to it, it would have completely melted away. The degree in which the bent was rotated was at its maximum before the plexi completely transformed.

Cutting and intersecting the sheets was the result of a frustration from not being able to manipulate each plexi sheet as much as hoped. The sheets were to be manipulated as the graphite study but due to the quality of the material and the tools used for marking the plexi it didn't allow for depth to be visible.

The model was the first step in the process of this semester of creating a 3-dimensional matrix, with different fields and territories that created multiple spaces all with different spatial conditions and light phenomenology.

The different tones and markings on the model allow for different light, shadows, and reflections. The translucent areas, opaque, and clear areas create systems that exist within the x, y, and z axes of the model. The model created spaces for inhabitation which was something that was missing from the project. Up this point every drawing developed was 2-dimensional that aimed to bring space and experience into being. The model allow for a direct one-to-one relationship between the drawing and the space that now brought light and shadow into the equation.

The way in which the sheets were manipulated was completely intuitive. Due to the material quality the model was possible, if the sheets were made out of another material like plaster or wood making a model would have been hard to work with. The transparency of the material allowed the sheets to act as boundaries but not as hard edges, space was still allowed to flow in an out and to create relationships between one sides of the model to the other even though there were many strong edges created.

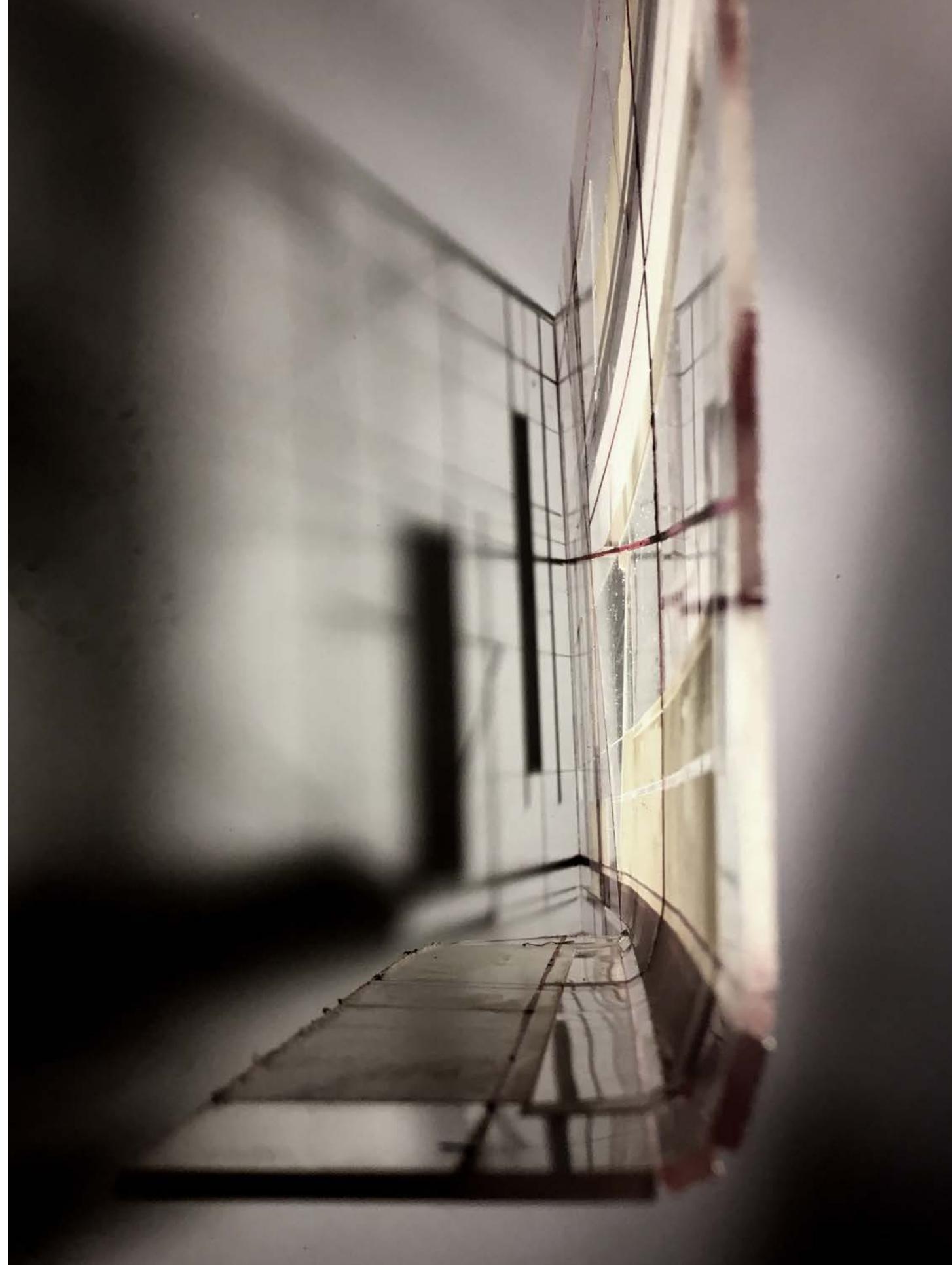


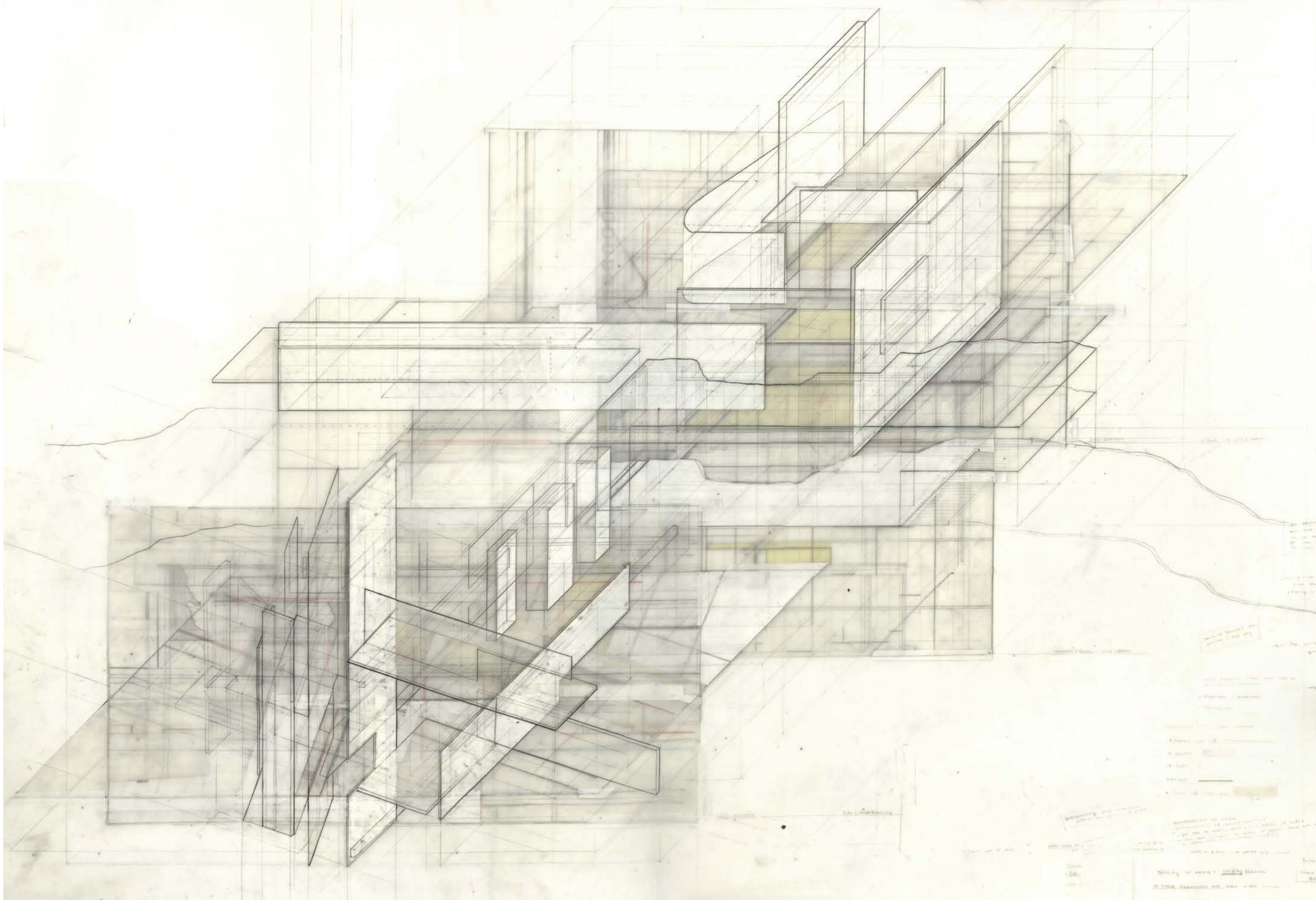




"Drawing is a mode of representation. It makes no difference whether a watercolor is tight, loose, or flabby; for it discloses a purpose, it is of value, and the more we understand the purpose the more valuable our watercolor will become."

- Louis Kahn





Handwritten notes and a legend in the bottom right corner of the drawing. The notes are in a cursive script and include various annotations and measurements. The legend consists of a list of items, each with a corresponding line style or color used in the drawing. The items in the legend are:

- 1. Floor slab
- 2. Wall
- 3. Column
- 4. Staircase
- 5. Window
- 6. Door
- 7. Ceiling
- 8. Foundation
- 9. Ground level
- 10. Section line

Additional notes include:

Section through the building showing the staircase and other internal features.

Scale: 1/4" = 1'-0"

Drawn by: [Name]

Checked by: [Name]

Date: [Date]

Three-Dimensional Constructed Drawing [Line] [Volume] [Fields] [Depth]

Tools Used: Olfa

Sanding Paper
Fishing Weights
Fishing Wire
String
Wood
WoodShop
Aluminum Steel Angles

From the plexi study a major transforming occurred that brought to light the idea of constructing a three dimensional drawing. With this in mind, questions of joint, detail, and the significance of lines crossing each other, became a role in the project. The idea was to understand the physical depth occurring in the assembly using a readily available material, such as wood. The characteristics of the wood challenged the process of the project. Its dimensionality, gravity, weight, opaqueness, grain and texture were constrain elements that changed the way in which the material was worked with.

The study was not an investigation of the material joint, but instead of the spatial joint of the parts and their relationship to one another. What would happen at the moment when two lines cross each other, would there be space between them, or how much space would be contained within these two? Such questions became the primal drivers of the study. With that, the idea of reflecting on my own two-dimensional way of drawing was crucial. One of the significant aspects of drawing is that it allows the viewer to see through everything, there's a quality in which lines, planes and points begin to be seen through. Therefore, the aim was to develop the three-dimensional constructed drawing as transparent and visible as possible.

To prepare for the creating of the study a couple of pieces were to be manipulated initially to add another scalar change to the drawing. The pieces were worked as their own individual drawing, to then be utilized in the latter. Due to the characteristics of the wood used, the only tools available to manipulate the elements were tools in the woodshop. This meant fighting the urge to

draw on the wood before heading into the woodshop, as every line and cut made was in response to the previous, and planning ahead would defeat the purpose of the experiment.

Questions of line weight, tone, and how elements were to be held were primordial to the development of the experiment. Construction lines became significant to this step. What would be their role in this study and how would they be held? Within this material test, the series of operations persisted and maintained the same process that stitched all material studies together. In this material study the wood became the media and the machine became the pen, limiting the line weights and line types available. Reflecting on drawing in two-dimensions played a role on the development of the project. In two-dimensional drawing a variety of lines and tones are used, thus helping to introduce other set of materials such as steel, and fishing wire as to create a collage drawing of materials. The constructed drawing would need a primary system that would hold the marks in space much like a pieces of paper holds the marks of a graphite line. This thinking allowed an understanding which in order to hold each mark individually in space a filigree of material would need to exist. This filigree became the construction lines of the drawing, which held all of the marks in space to help create a three-dimensional constructed drawing of depth and volume. It evolved into a construct that is lives as a drawing.

"So as Woods' work... became more abstract than illustrative, it became more generically spatial. This once again suggest that there is no real gap between drawing and modelling, standing within the piece, there was no ambiguity to be felt since wherever you stood and turned, from every direction there was the experience of a 'drawing'- through the clarity and definition of the lines and then, on turning, another, related drawing." ¹

- Peter Cook

¹ Cook, Peter. Drawing: The Motive Force of Architecture. Hoboken, NJ: John Wiley & Sons, 2013. Print. 195

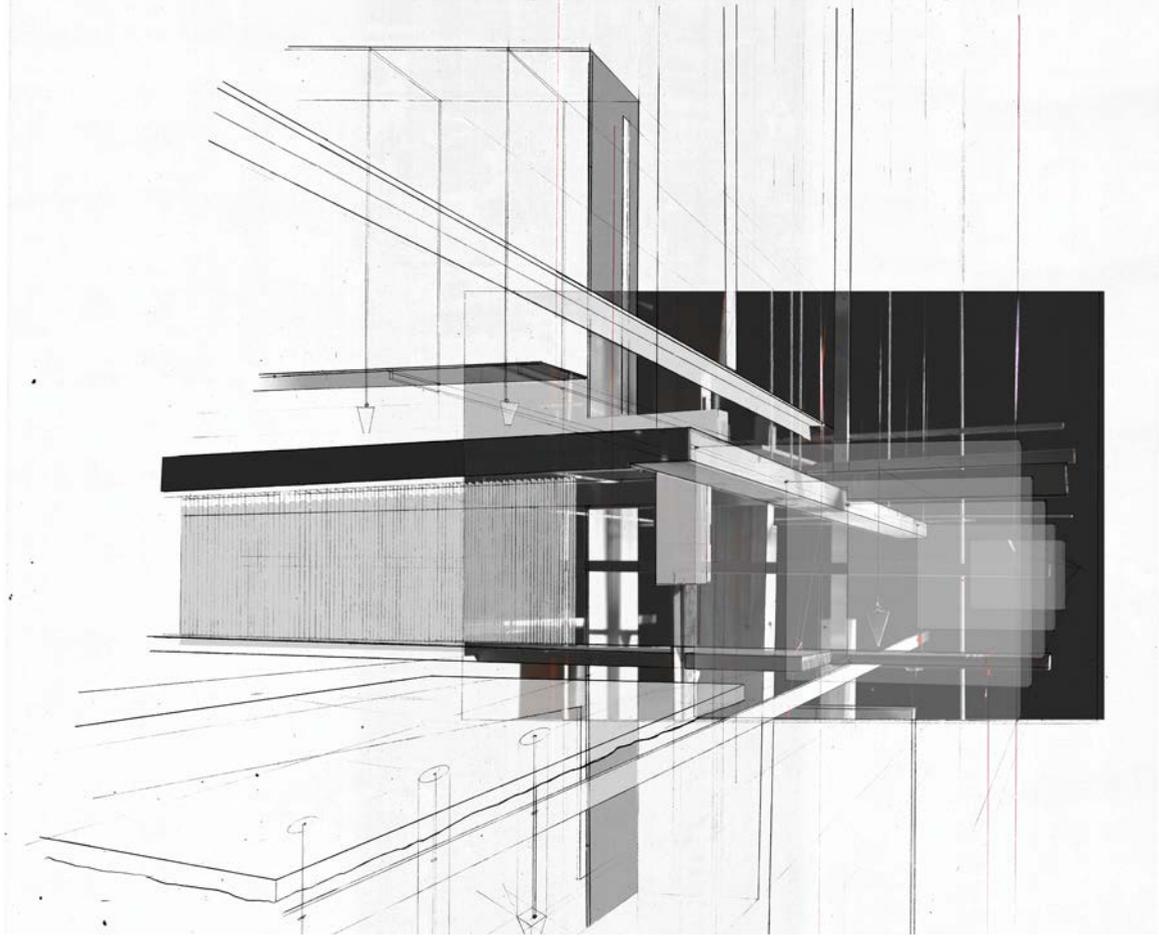




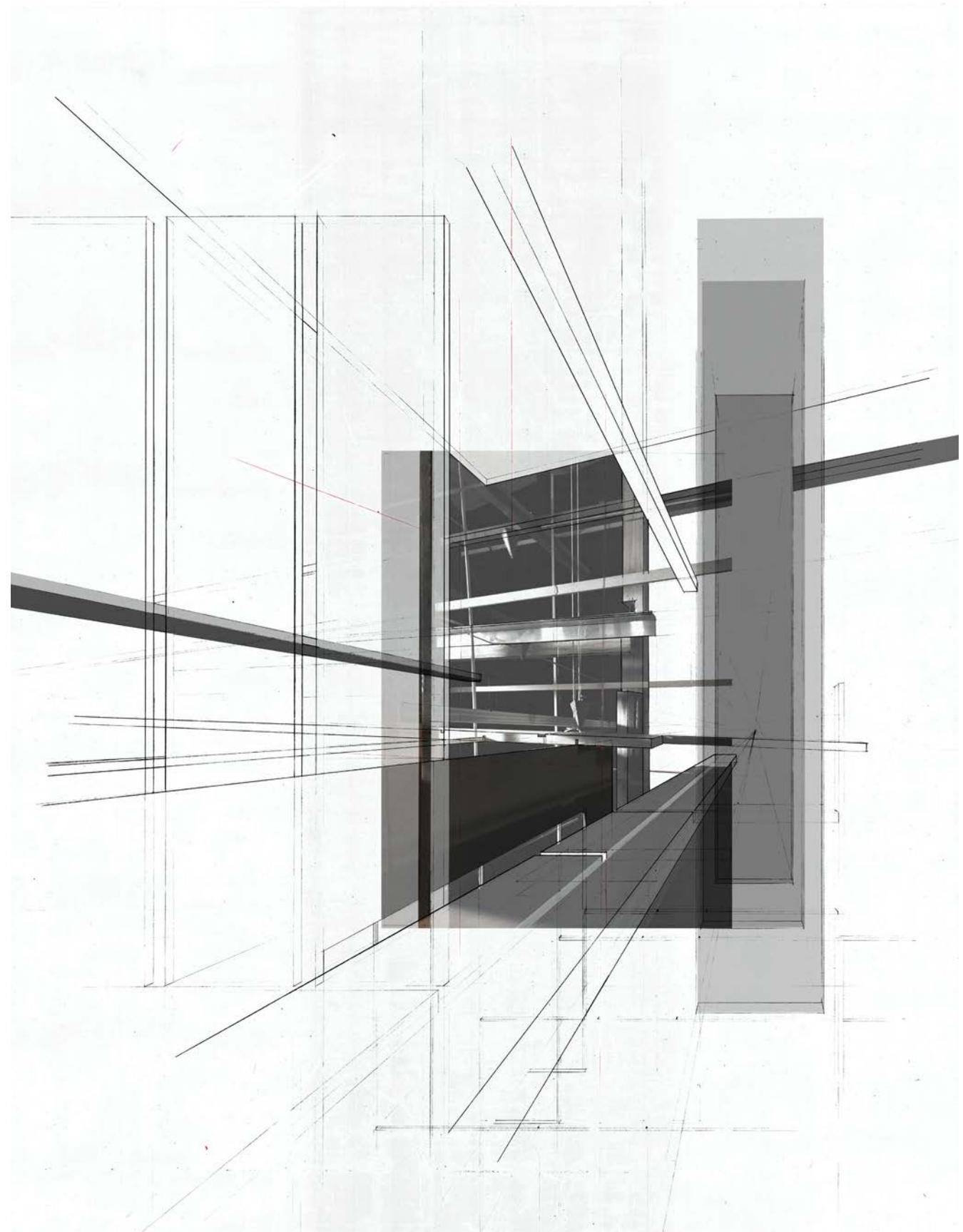


"My work is about how we construct reality. The real illusion is that we aren't aware of how we give reality to things? We have awarded them concreteness or reality and we are unaware of how we've done that."

- James Turrel



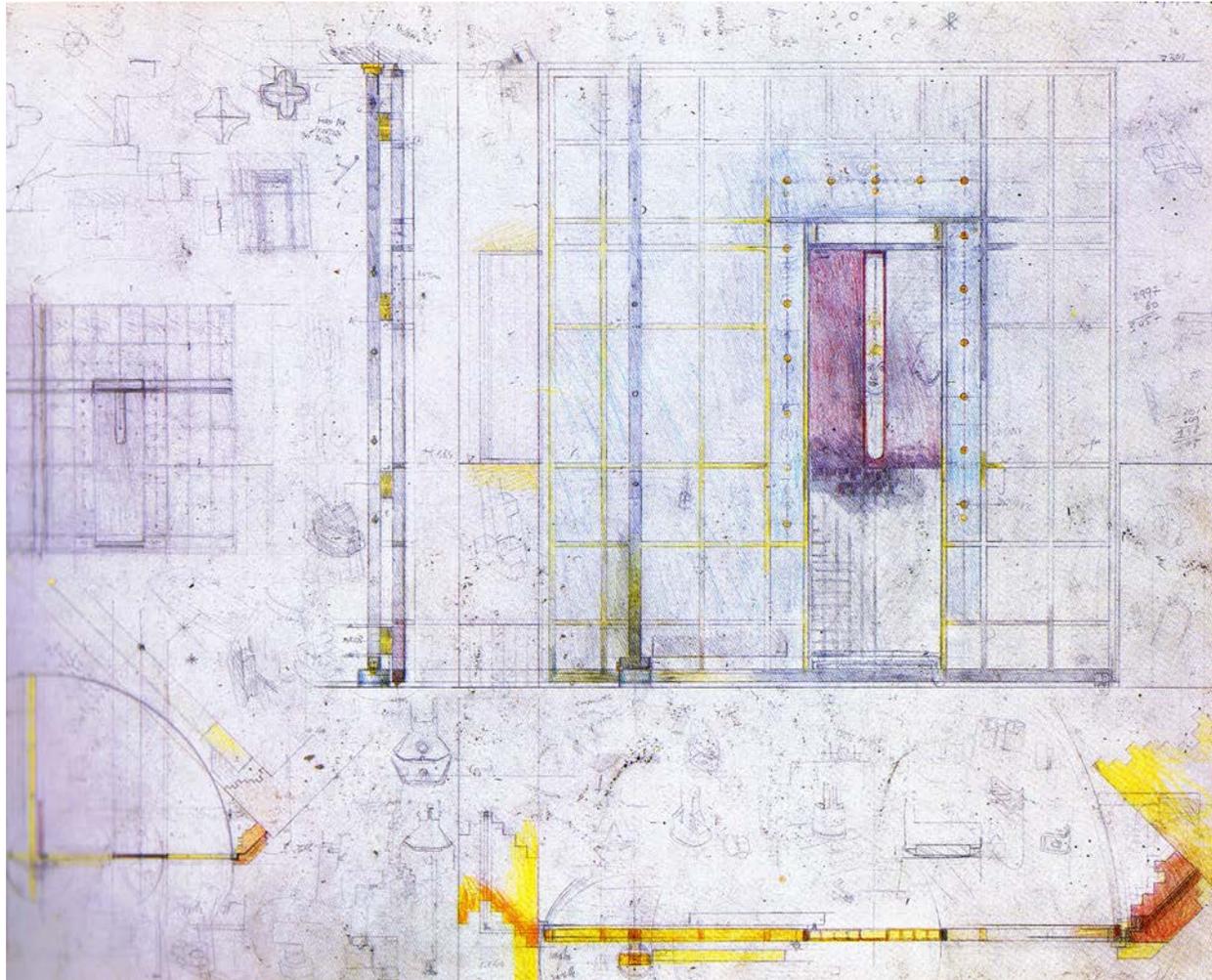
Taking the three-dimensional constructed drawing and utilizing it to find new spatial possibilities by learning how to occupy the drawing was essential. Ideas of horizon, scale, detail, and materiality of planes were questioned as the spaces were created using remince of the previous drawing.



Fields of Delamination and Speculation: Palimpsests of Methods

"Here, rather than framing the possibilities of drawing as related to problem solving, or limiting the role of the drawing to a metrical description of a project, ideas are augmented through an emerging visual field of study that is discovered in the act of constructing a drawing"

- Peter Cook



- Carlo Scarpa

Carlo Scarpa's drawings have been commonly commented on as pieces of work that demonstrate his thought process when developing projects. His drawings have the ability to move ideas back and forth between process and finalized concrete objects in space. With his joint studies and spatial organization drawings a concept of time comes into play. By demonstrating process Scarpa is simultaneously suggesting the transformation through time of his thoughts. When thinking about time one is confronted with issues of palimpsest commonly known as pieces of writing on a material which have been eroded to make space for new writing, while traces of the earlier writings are still visible. If looked at through the lens of architecture, palimpsest becomes about a recording of time and concepts in space finding through the format of a drawing. Thought provoking questions and ideas are resultants of larger more complex structure knowledge acquired in the past. Concepts, ideas, thoughts, and drawings, are not singular identities but rather come from a layered timed transformative based source that has been influenced by history and earlier forms of knowledge. Palimpsest drawings are about the continuation of process of rediscovery and linkages between previous knowledge and steps of the process.¹ The process of my own work is about the experience of moving back and forth allowing information stay while other begins to be hidden away. In Scarpa's work one is met with multiple ideas and iterations of the process of what is happening as he resolves issues in the project. The intent in my research is to read the spatial outcomes of what I created, to look at each of the pieces made, to reflect on what are the qualities that emerge from all of the different studies, and to understand what I can take away from each.

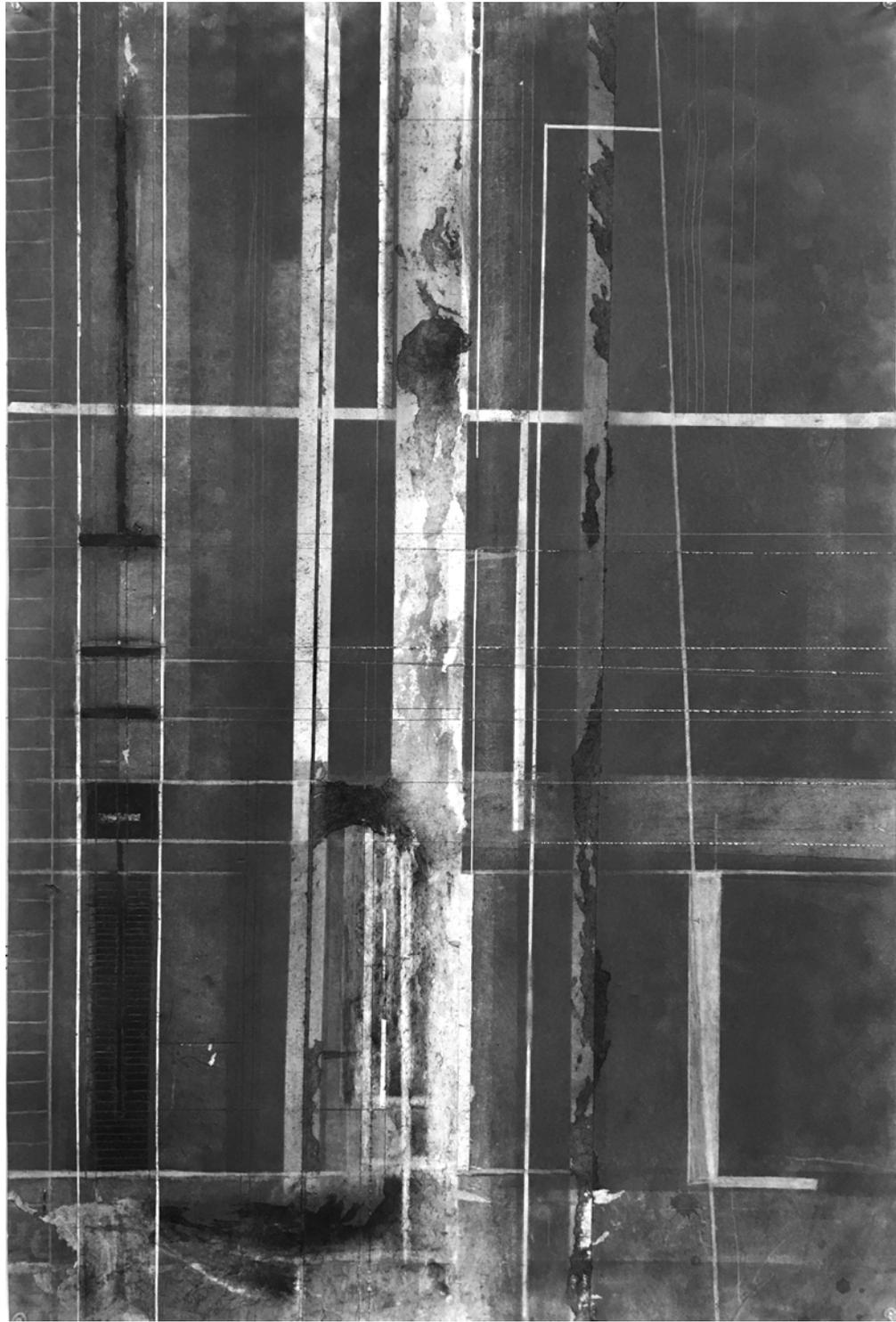
The project hopes to find the potentials of thinking through process and palimpsest of making, testing and retesting materials and different methods of drawing. With that, the idea of transformative drawings and unconventional drawing methods had to be accepted. Working with the unanticipated was primordial to the development of the project. Looking at the result of different ideas to unfold a greater unexpected result that could lead to the next step of the project. The drawing studies developed were both two-dimensional and three-dimensional to allow for an understanding of the transformation from one to the other. The constant conversion between the two formats of drawing allowed for ideas to be added in to then receive echoes back with new knowledge. With that in mind another constrain

came into the project asking what scale would be used in each material study. The goal was to each step of the way to occupy the drawing at different scales every time zooming in more and more, to allow for the body to be part of the drawing, consequently drawing from within. The process of packing something, testing it, and unpacking it and then repacking it, was something that transformed the drawings back and forth between two-dimensions and three-dimensions. Each time learning and re-questioning the process. Thinking about the relationship between two dimensions and three dimensions was necessary in particular because the unpacking always found a way in the three-dimensions. Whether it was in perspective, axonometric, parallel projection, or constructed dimensional drawings. The project was a process of investigating ways of transforming space through a palimpsestuous thinking. Preserving concepts and narratives of the earlier studies. In this case preservation is not a repetition of the past but an invention of the past, drawing connections between a periods of time.

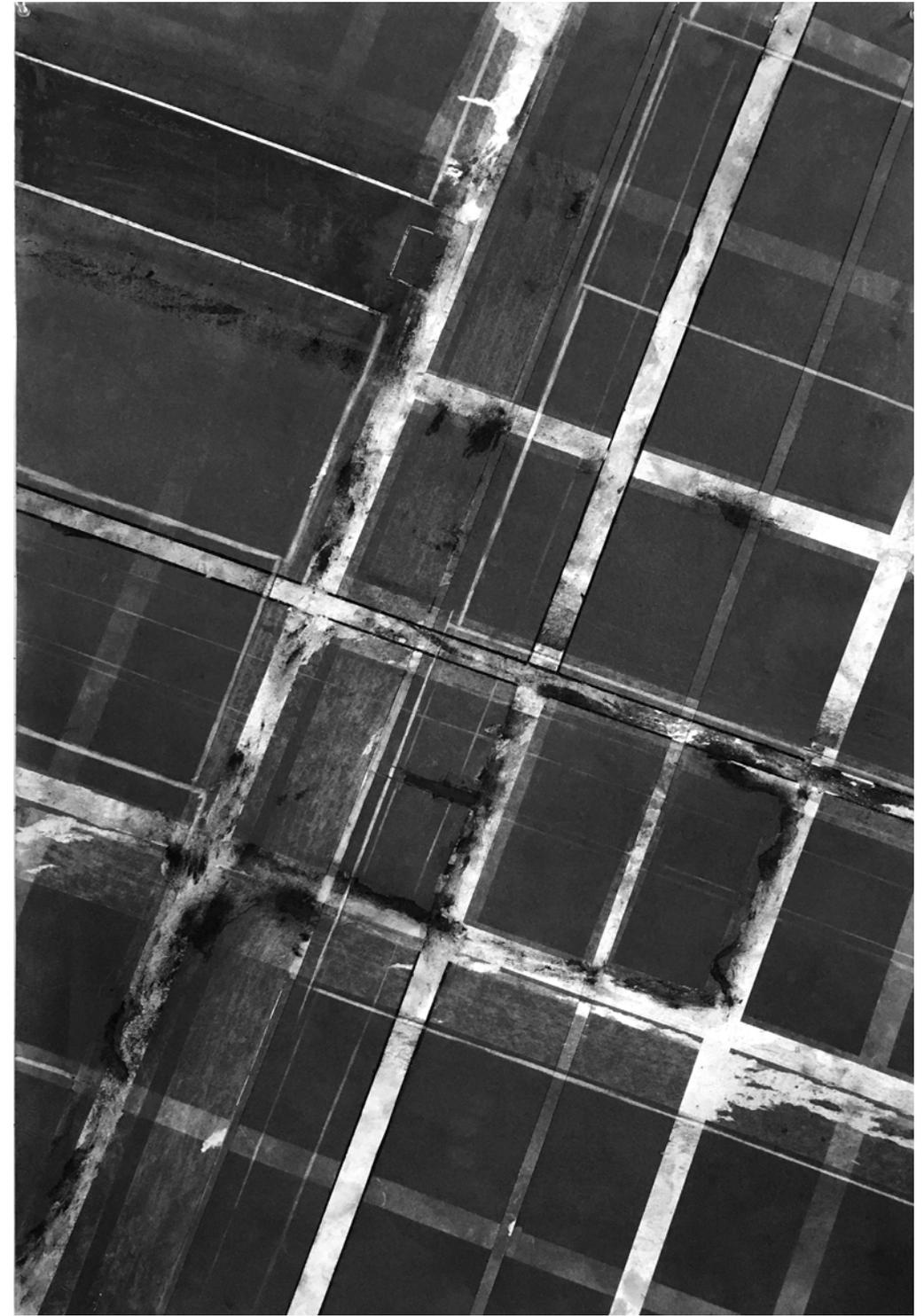
The focus of the research was the development of drawing from paper to drawing in matter and then drawing in space and assemblies. Testing how drawings become a construction through a series of iterative studies of drawing in different materials. Exploring ranges of marks and techniques that shape space in both two and three dimensions. The aim was to work with opposing materials. The Graphite – a stereotomic and cast-like material, the plexi-glass with qualities of transparencies and opacities, and wood a material with dimension, weight and gravity. Doing all three very different studies allowed each step of the process to inform the next step and challenge it based of the obstacle of the material.

With the transformation of each step into three-dimensions, an idea of context emerge, claiming two within in the project. An internal context looking at the X, Y, and Z axis, and an external context creating the boundaries and edges of the project which is this case was the six sides of the plexi assembly and the wood constructed drawing.

¹ Palimpsest in Architecture: Six Personal Observations. Robbert Verheij. Monday, April 13, 2015



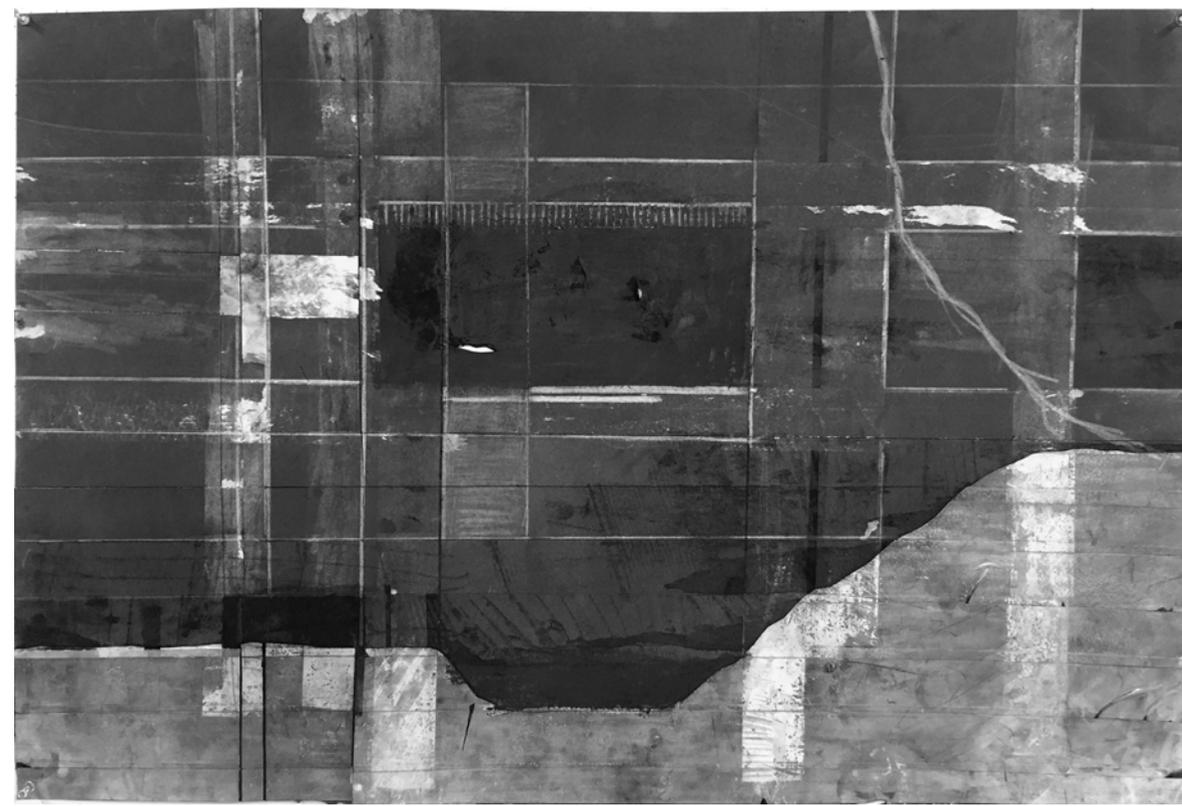
36" x 24" Graphite Excitation | Australian Cultural Forum | Building



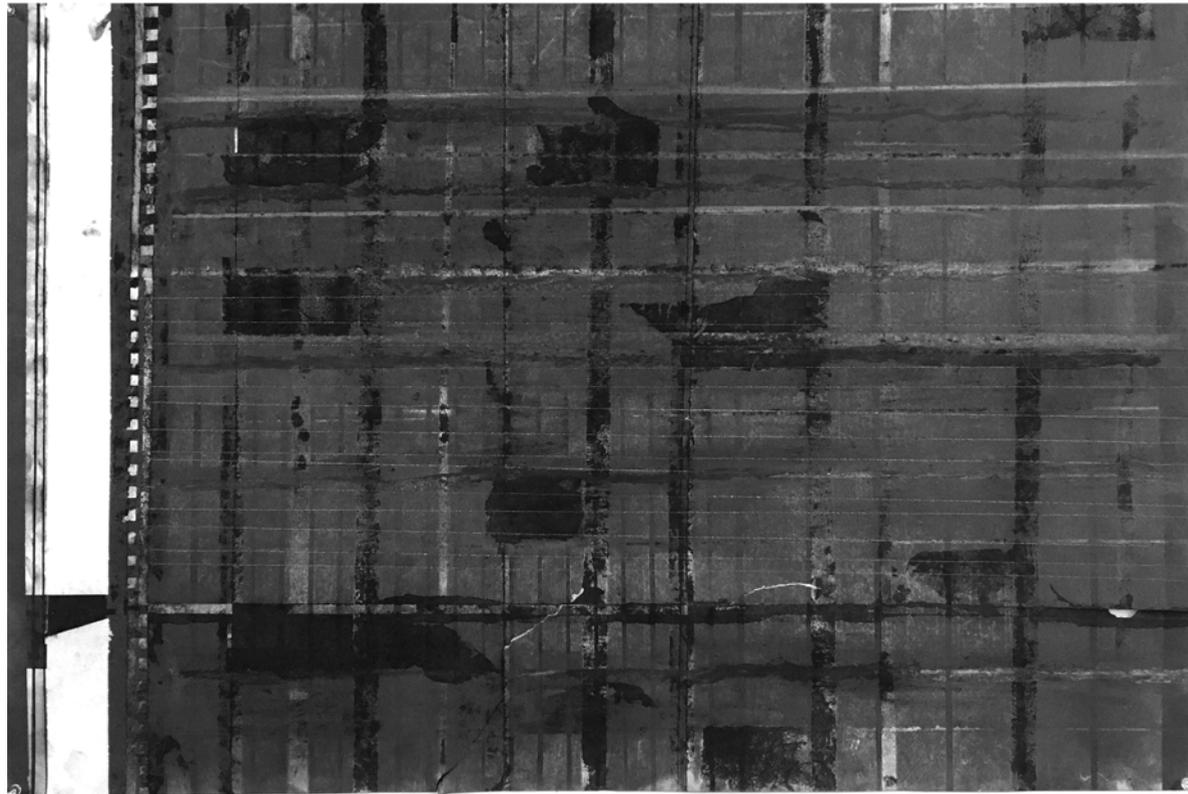
36" x 24" Graphite Excitation | Australian Cultural Forum | Site



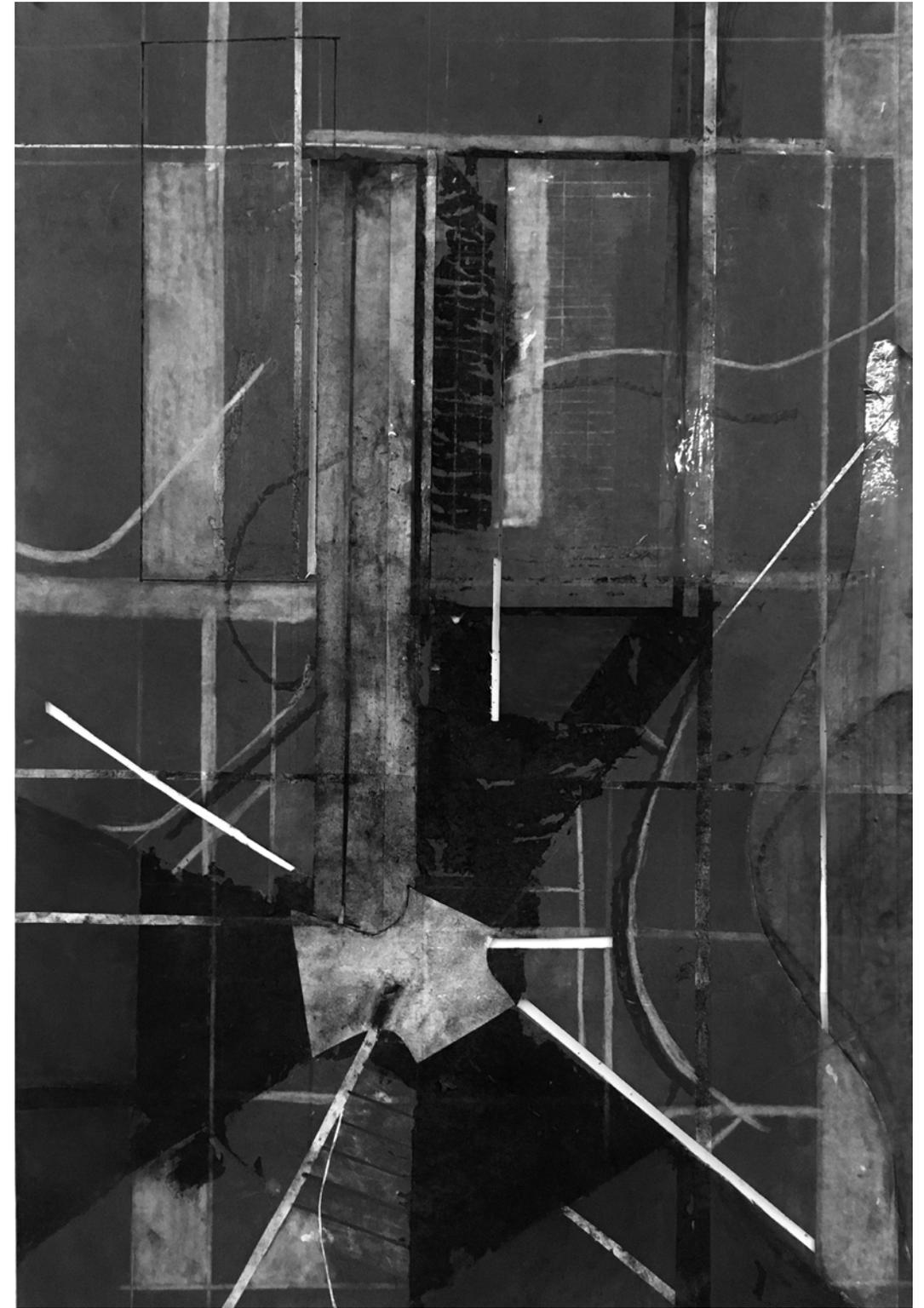
24" x 36" Graphite Excitation | Porciúncula de la Milagrosa Chapel | Building



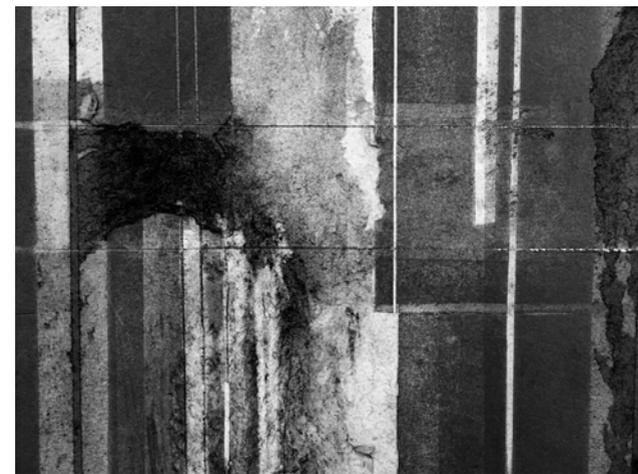
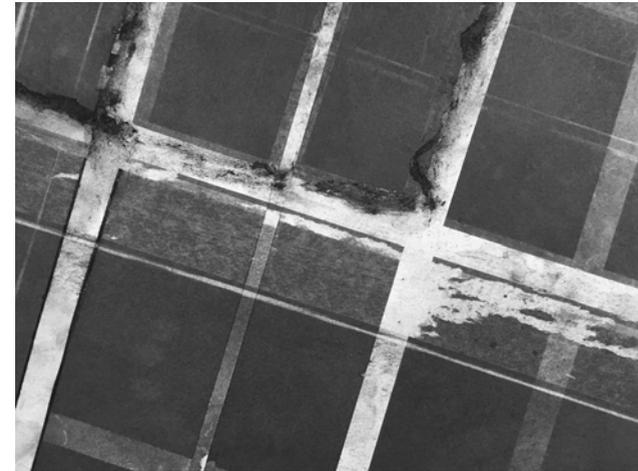
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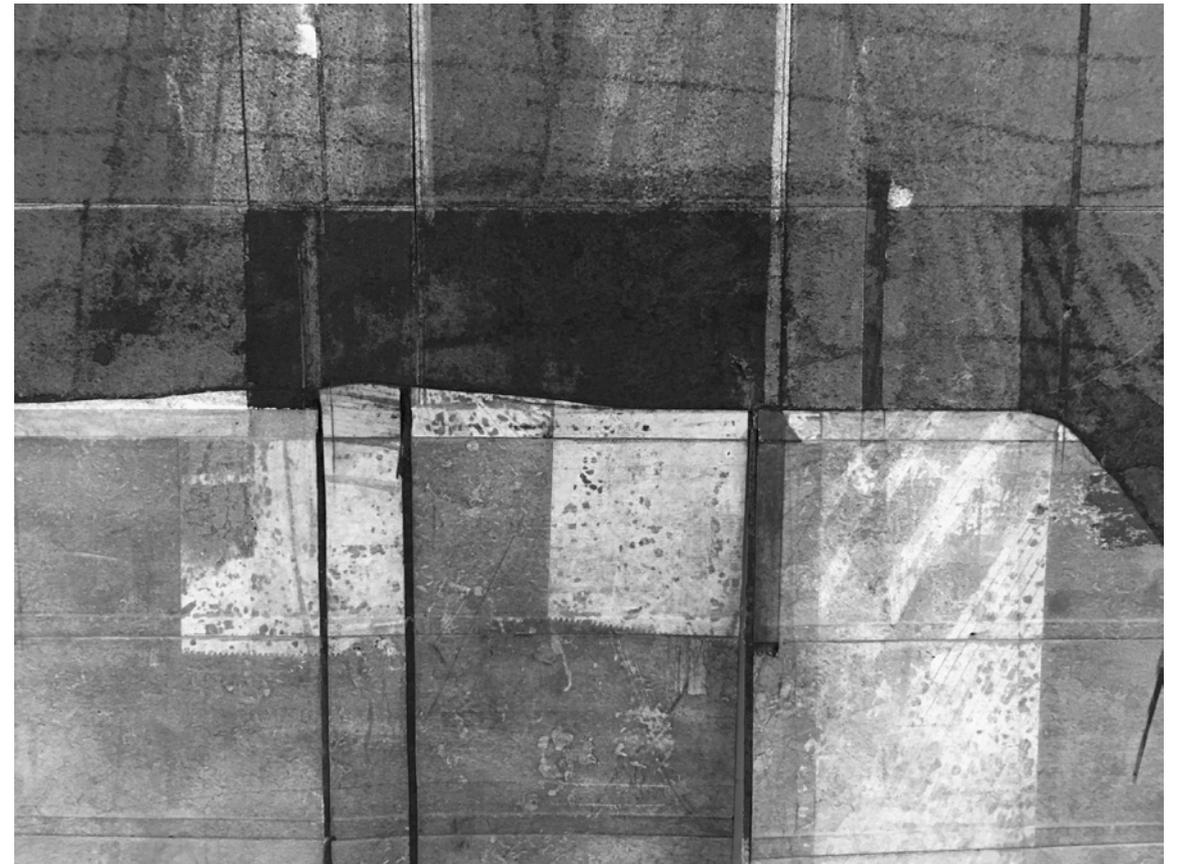
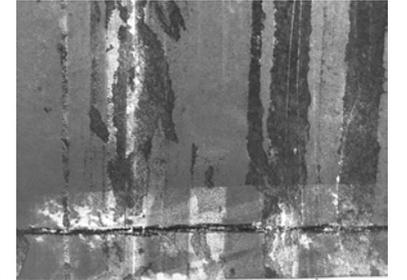
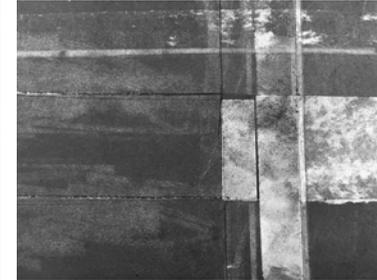
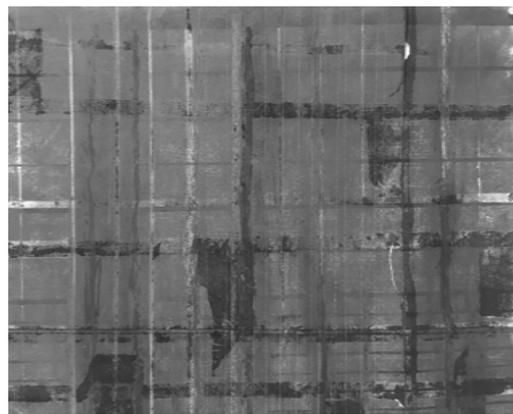
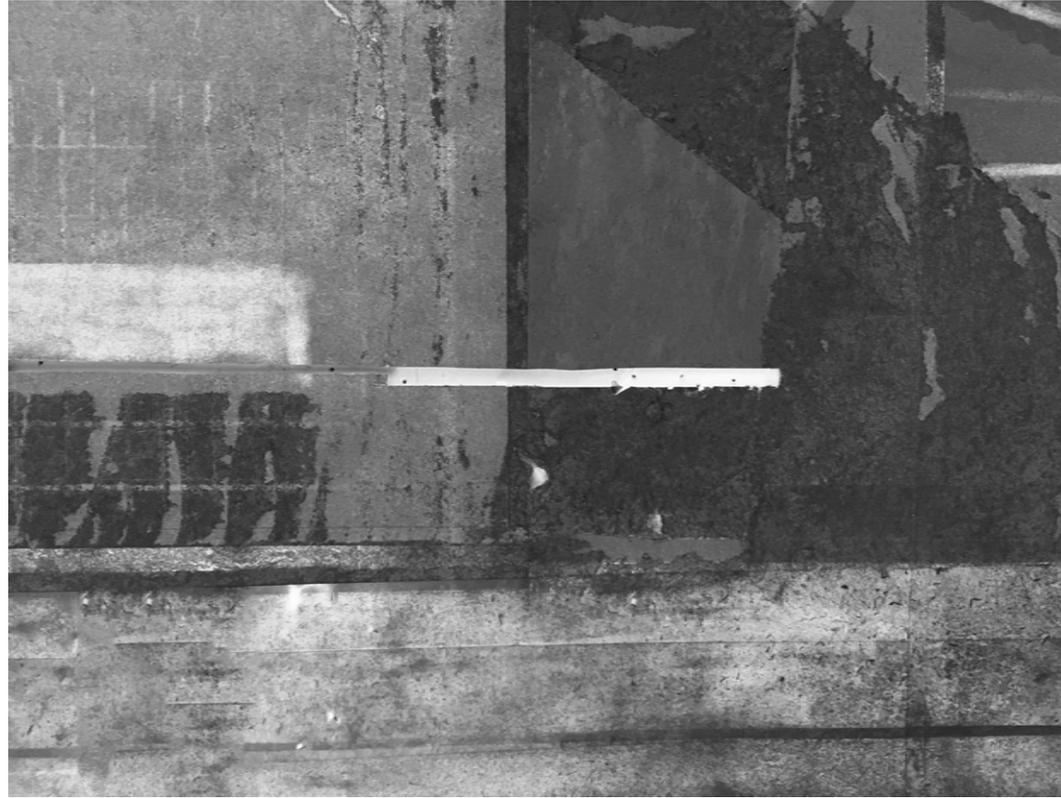
24" x 36" Graphite Excitation | Cube Torre | Building

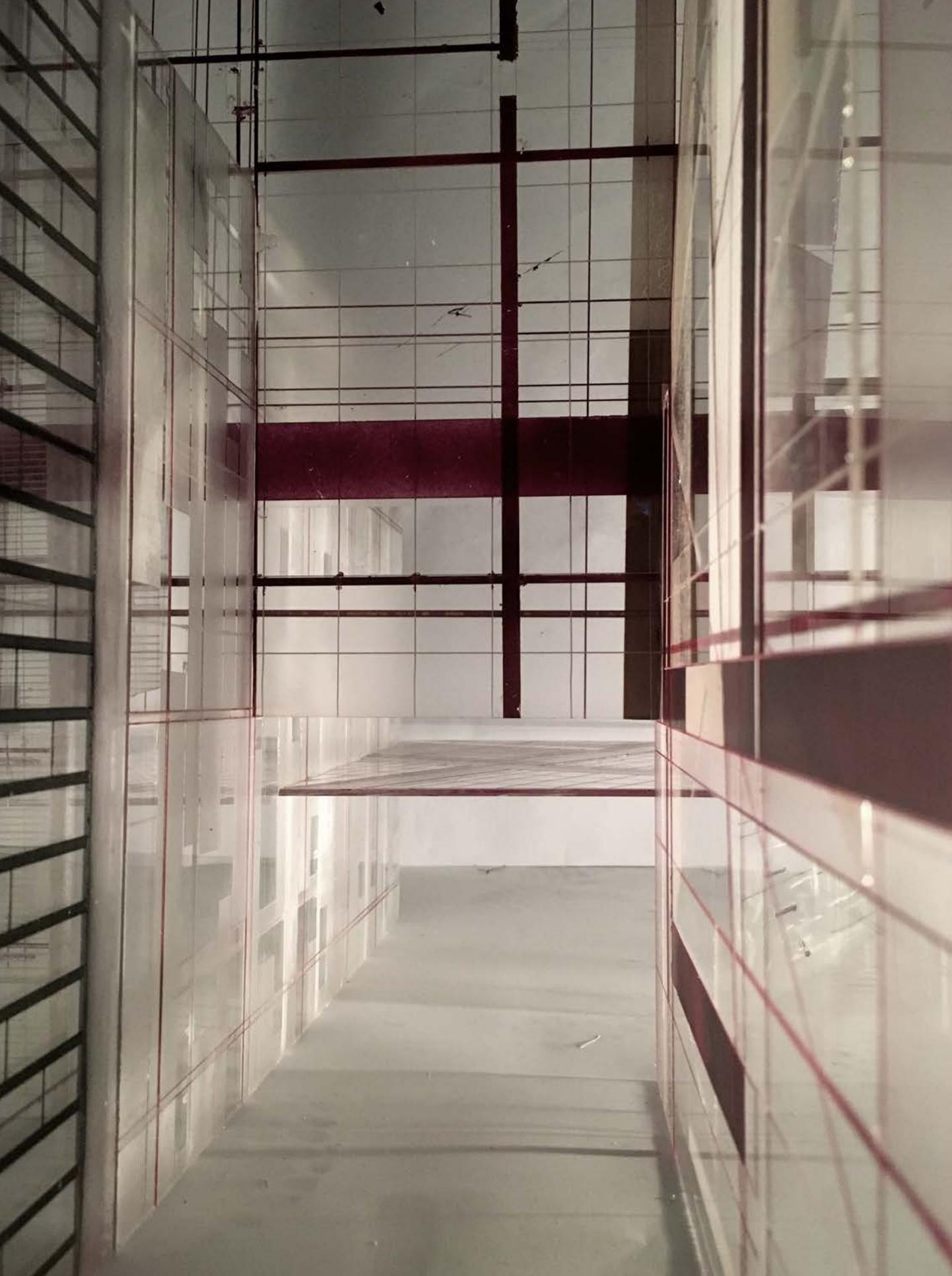


36" x 24" Graphite Excitation | Cube Torre | Site



Like Julie Mehretu, the process of developing these graphite excavation drawings involved the method of introducing characters within the field of marks. The investigation of working with graphite and watercolor led to the discovery that if tape is placed initially into the watercolor and then taken off to allow the first layer of watercolor to be peeled off, the texture of the remaining watercolor will absorb all of the graphite. This texture actually became the darkest tone in most of the explorations and thus the "characters" that intruded into the organic, precise, and measure pieces.





The six plexi sheets although independent from one another, also became an assembly. The many mistakes that arose from manipulating the sheets were seen as "happy accidents" that forced decisions to be made in an aggressive matter. Removal, folded layering, and intersection became a new pallet of operations based on prior decisions of the manipulation from the each plate. Each individual plate was edited in a way to allow test the capacities of the material before getting to its breaking point.

The plexi plates didn't allow depth to be read just by looking at it in two dimensions, but because the plexi plates were transparent and translucent they allowed an opportunity to assemble them into a three dimensional matrix drawing composed of the 6 plates. The assembly

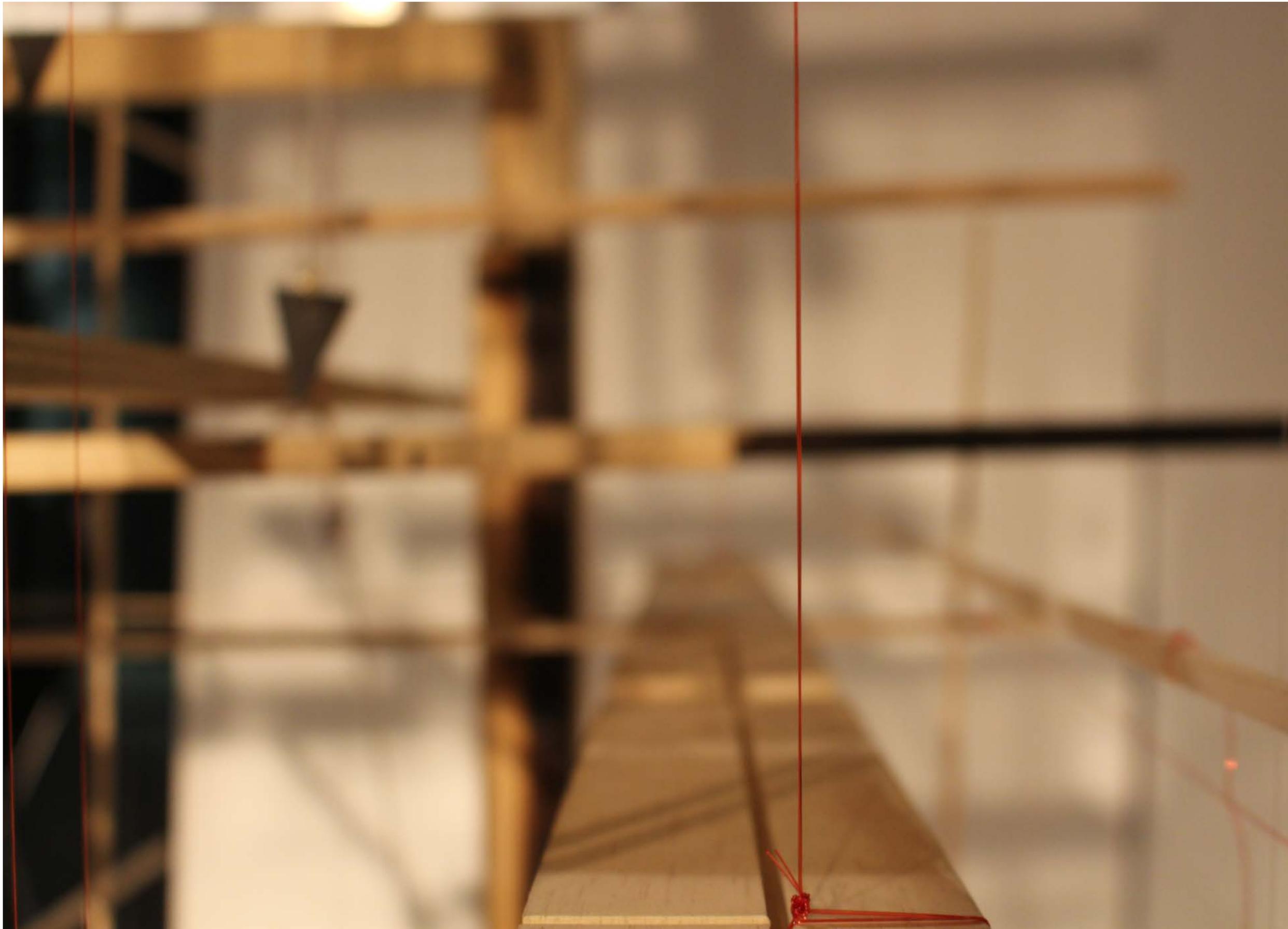
matrix drawing was an opportunity to begin to find new speculations of space. The idea of occupation was now visible, as well as understanding lines, and edges with different tonal qualities allowed for a greater interpretation of place.

Scale, measure, rhythm, light and shadow were introduced by this step. It was in this transformative stage of the process that the idea of constructing an occupiable drawing was attained. Testing what qualities of drawing and its process would stay intact once the drawing became three dimensional and at a one-to-one scale was the next step of the project. How would that change the way in which we see drawings and buildings? Would the end result of the spatial program be a building like all the others developed in a traditional process of drawing?



*"Drawing could be a privileged medium
of speculative critical thinking in design."*

- Lily Chi



Reflecting back on the two previous studies at this point was essential. In the graphite studies a lesson of field conditions overlapping each other through analysis was learned. In the Plexi-glass the concept of occupying a drawing and possibly existing within it, and with that the wooden constructed drawing required all of these to be apparent. Line, planes, and points had to exist considering ideas of line weights, tones, and textures of a drawing. Challenges such as the weight and opacity of the wood made the experiment difficult. It was necessary for the study to allow transparency to live within it as all of the previous drawings. Following the same operations and process of the plexi matrix drawing of intersecting the pieces by joining them to be dependent of each other was the first step. But this process was extremely limiting. Elements of wood had to rely on all other pieces to make a mark, and it was becoming difficult to manipulate each piece individually. Taking a step back to think about the process of drawing allowed an understanding that in order to make a mark or line anywhere in the paper there first had to be something which would hold the mark in place. The paper, canvas, or surface of the project became absent the moment the drawing became a constructed three dimensional drawing. The assembly didn't benefit from the claims made with the plexi and the graphite drawings. This constructed drawing needed something to hold each mark so that the two systems are not isolated from each other. With that, a challenge of making another system or filigree that would hold the marks in space had presented itself. A build system that engages every single mark made but allows it to

be independent was crucial for this part of the wood material drawing. At this point the filigree became the construction lines and weave of the drawing. For the construction lines to exist a literal framework, with a different scale, had to be present to allow the marks a greater range of movement within the drawing.

The three dimensional drawing allowed the ability to get inside the drawing to work between the lines in the space of the paper which lead to asking questions of what happens when two lines are jointed, or the significance of lines crossing each other in space. These were tested in the drawing seeing the different ways in which two lines meet each other in space and understanding that just two lines could hold space. An understanding of opacities in two dimensional and three dimensional drawing developed and how they are interchangeable. Frame and boundaries were parts of the process that developed strictly from necessity to hold the drawing in space but the interest of the study was not at all about a particular view or frame, instead it was about occupying drawings in different ways and what the limits are. The desire during the process of making this drawing was to be able to put things in free space. Think about the series of operations was important and beginning to ask how to cut into three dimensional space was the next step of the project. The constructed drawing began moving between what might be, to what it is and known, and it was an antecedent of something one can walk through.



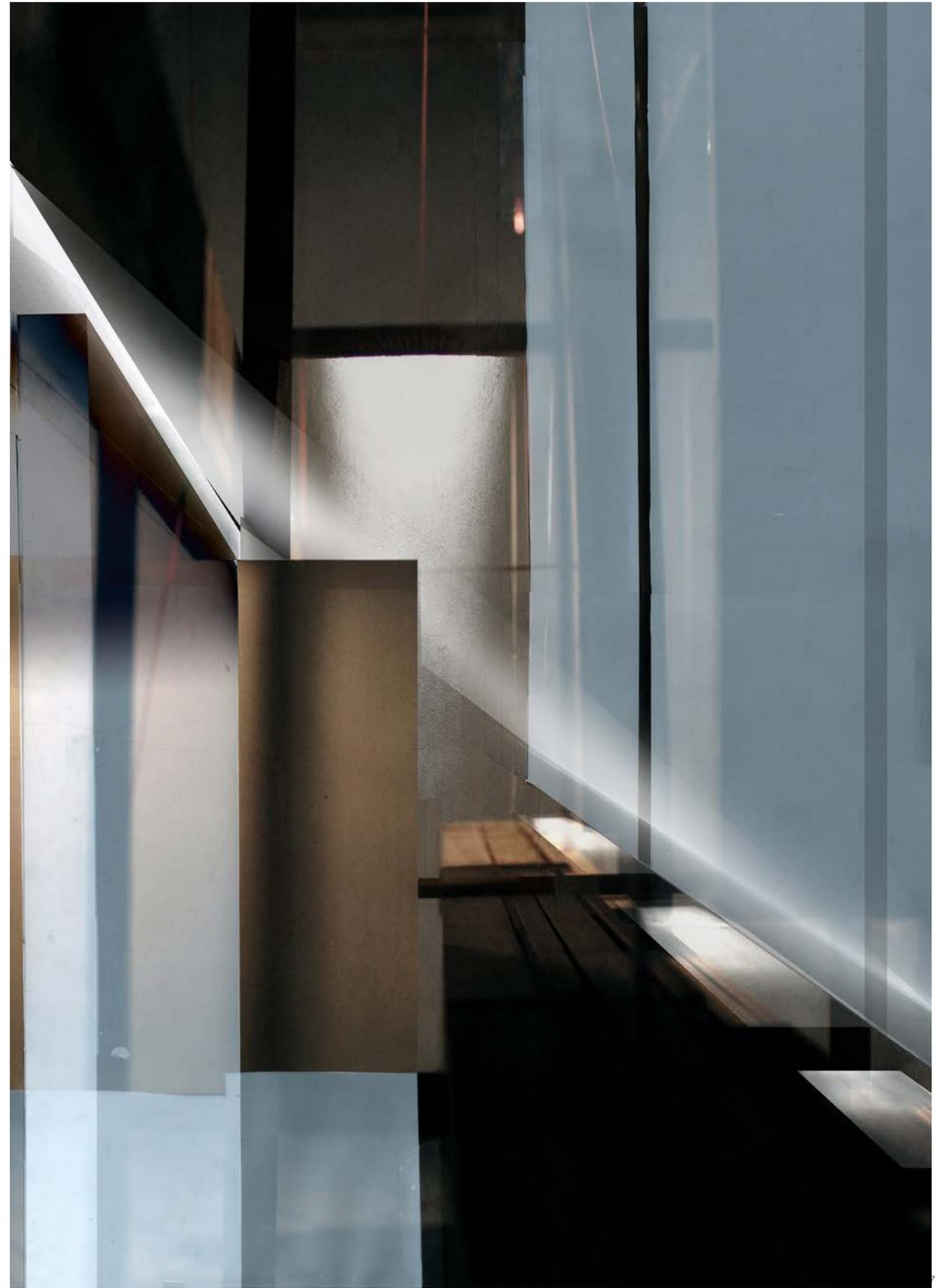


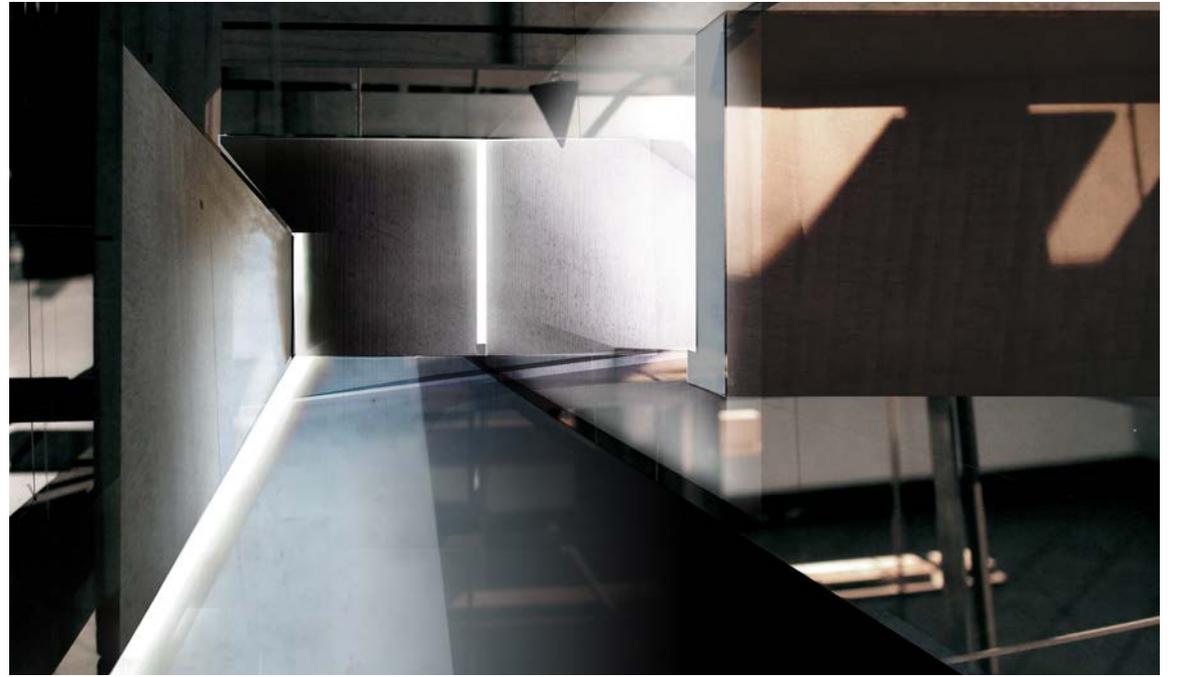


While the constructed drawing allowed us to understand and see physical depth, the scale and construction of it limited the ability to enter into the space to begin to inhabit it. In order to fully understand what a drawing is at full scale a step in which one enters into the drawing was necessary. Additionally, the drawing became difficult to work around with thus limiting the amount of edges, tones and textures used. Photographing the drawing and entering into the lines of the drawing was the only way in which scale would start to develop in relationship to the human body. Once the photographs allowed an idea of measure, and enclosure the aim was to test a way in which to add elements that could be

held up in free space. With new edges of enclosure a study of how light enters into the space and transforms yet again the drawing. With light came shadows, texture, and notions of transparencies and opacities that change the phenomenological experience of the drawing. Existing elements of the three dimensional constructed drawing were used to make decisions of placement and registration that formed relationships to other spaces of the drawing not easily visible. Like all of the studies the development of the edges were added and manipulated as marks in space that would react to all of the previous marks on the drawing.













Delamination of Layers and Spaces

Julie Mehretu is a contemporary American artist known for her large-scale architectural abstraction somewhat architectural paintings. Mehretu uses many layers of acrylic with graphite and ink into heavily intersected lines of color, and topographical elements that are projected and hand drawn. Born on November 28, 1970 in Addis Ababa, Ethiopia. When she was seven years old her family moved to the United States. In 1992 she began pursuing an art career and soon enrolled in the MFA program at the Rhode Island School of Design. Her work bears the influence of important 20th-century abstractionists such as Wassily Kandinsky, Kazimir Malevich, and Piet Mondrian. Mehretu currently lives and works in New York, NY. Developing paintings that are up to 6 feet tall and 10 feet long, Julie now works with a team that helps her draw and paint these large paintings that are strongly related to architectural buildings blend together to prevent viewers from recognizing any sort of element.¹

As she developed a way of working she perfected painting by composing each individual piece of work in five to six layers of acrylic paper that is then layered into one drawing. Each layer is filled with different information and 'characters' that all react to the other layers. Thinking of this questions of what would happen if an architectural space finding drawing is split into five layers, and the physical space between each becomes visible? The three dimensional drawing tries to read a series of moments and space to find relationships between those moments. It allowed a greater understanding of drawing and seeing physical space through the depth. But the

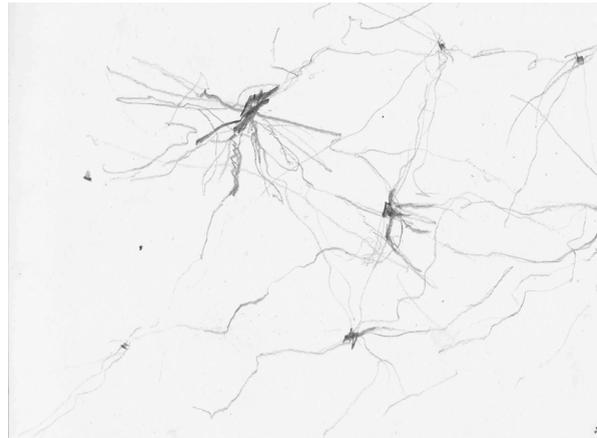
next step of the research was to jump scales and look into a drawing that is for the body. Entering into the drawing within the space between the lines and the paper to find deeper translations of drawing in a one-to-one scale. The drawing thus became the space one occupies. This time the desire was to look at the detail as a method of drawing. Drawing with the line and edges of the elements that enclose the space one occupies, and the points and seams that hold and compose them.

Like the previous material test, this was a moment to work by hand-crafting every single piece and panel for the drawing. By crafting each piece by hand, sewing and stitching every line and point in the elements a greater understanding of the materials was gained. Each piece was developed individually and later placed in the space of the drawing, responding to a mark previously established by the context or the other lines in the space.

Additionally, a two dimensional drawing was developed to understand how the pieces would all begin to react to one another in space. This drawing was then projected into the space of the three-dimensional occupiable drawing for a greater understanding of the transformation between the two methods of drawing.

¹ "Julie Mehretu." Julie Mehretu | Artnet. N.p., n.d. Web. 11 Dec. 2016.

"Mehretu often populates her paintings with what she calls 'characters,' very small markings that cluster together in formations that suggest human activities—migrations, crowds, battles."¹



The goal of studying an artist like Julie Mehretu is to understand the different types of relationships she uses when making her multi-layered palimpsest paintings. These paintings are filled with lines, tones, and characters that will the canvas to express an idea of human interaction within a city and society. Much like Mehretu, the aim was to develop a series of markings and characters done in pencil to add to my list of techniques when creating architectural drawings. The markings done were organic movements of graphite on watercolor that were categories after they were intuitively drawn. This method of drawing was derived from a personal method Mehretu had utilized early on in her career. Mehretu's mentor and teacher Michael Young, told her to "make drawings, hundreds of drawings - to get lost in the process. And so Mehretu stopped trying to paint, she drew compulsively, in black ink, forging a language of abstract marks—straight or curved lines, circles, cones, arcs, stars, directional arrows—and putting them together in groups."¹



As Mehretu drew she began creating "colonies" of intuitive marks that helped create multiple collections that she used for her paintings, much which became characters. The large juxtaposition of the measured and precise lines with the "characters" introduced by Mehretu allowed her paintings to become internationally known. The elements portrait those social issues she intended to illustrate.

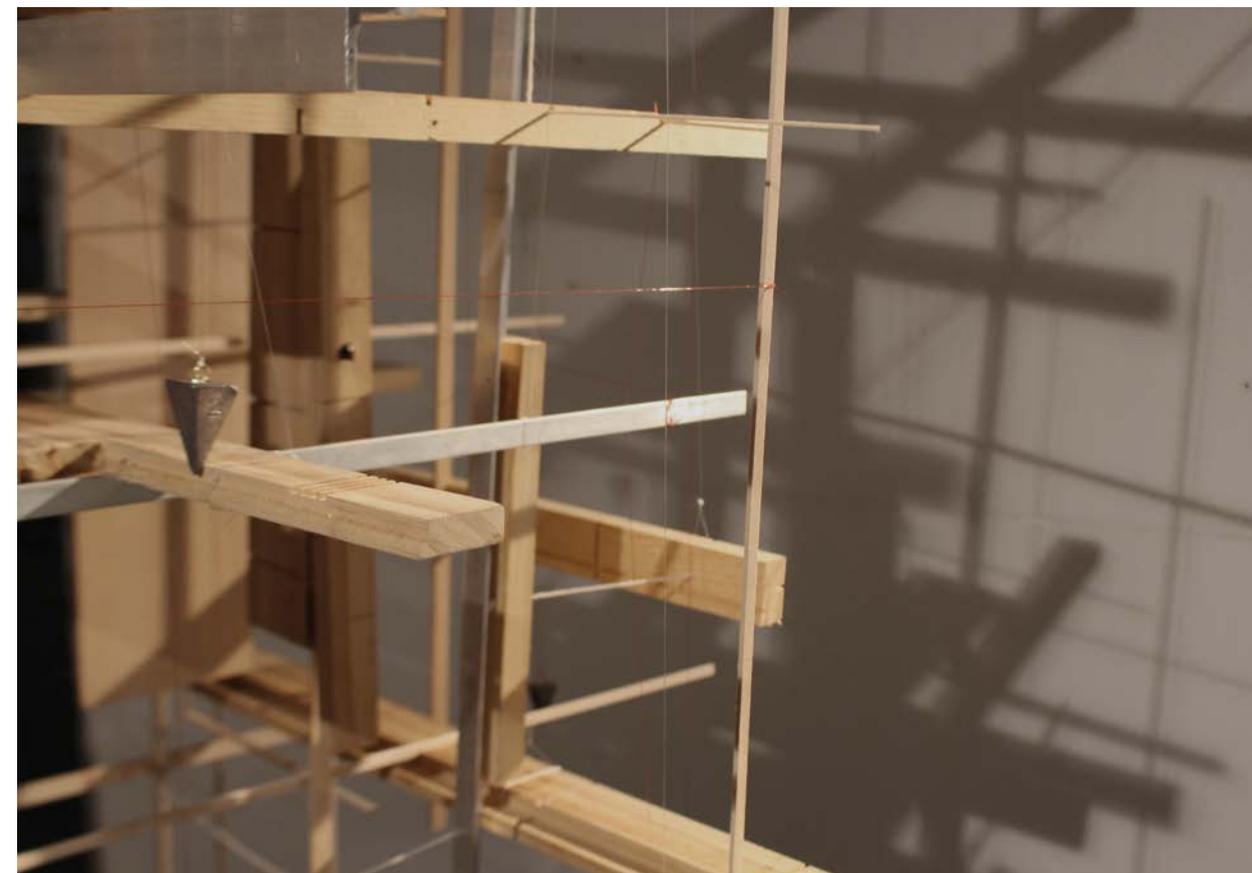
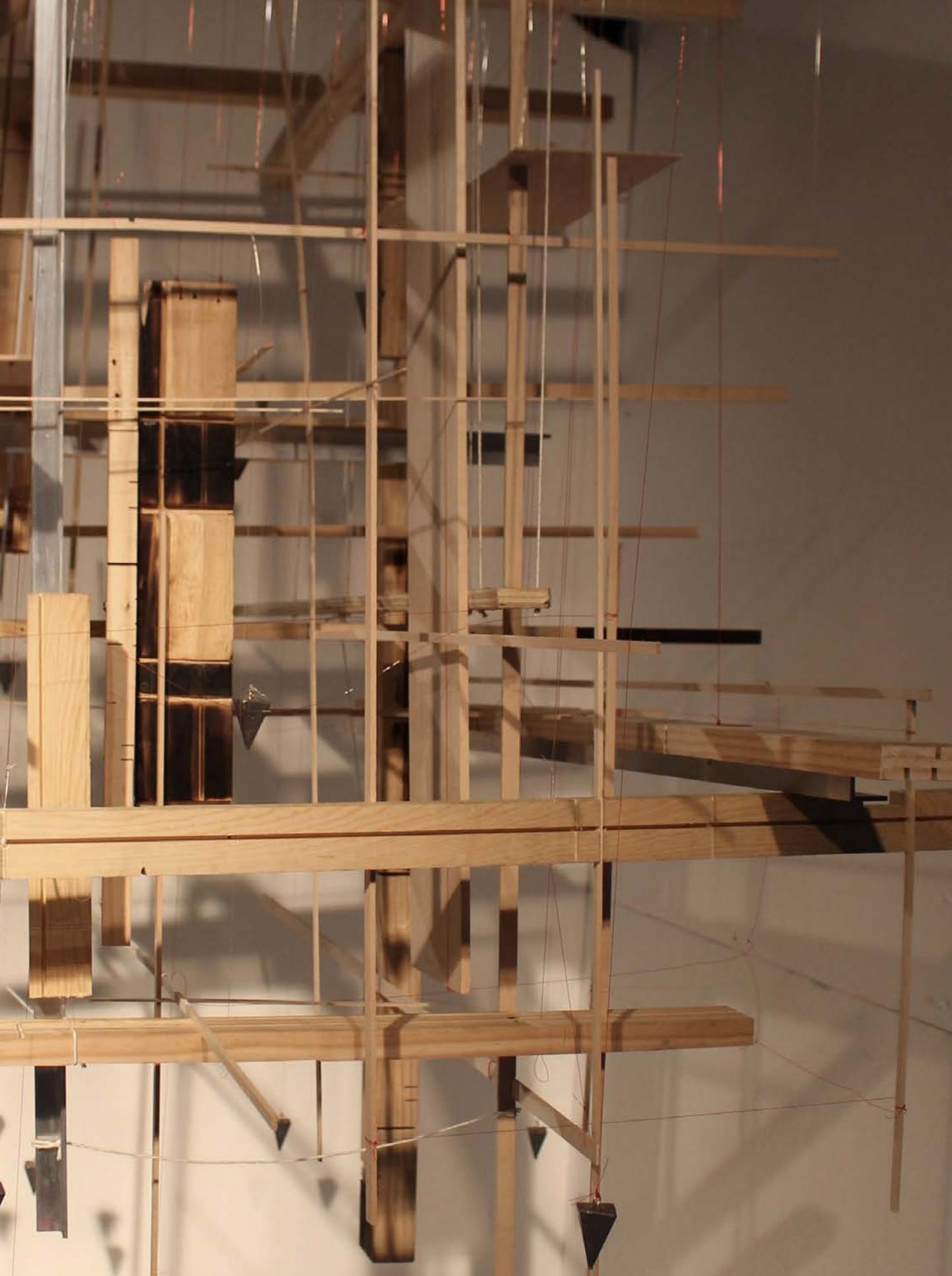


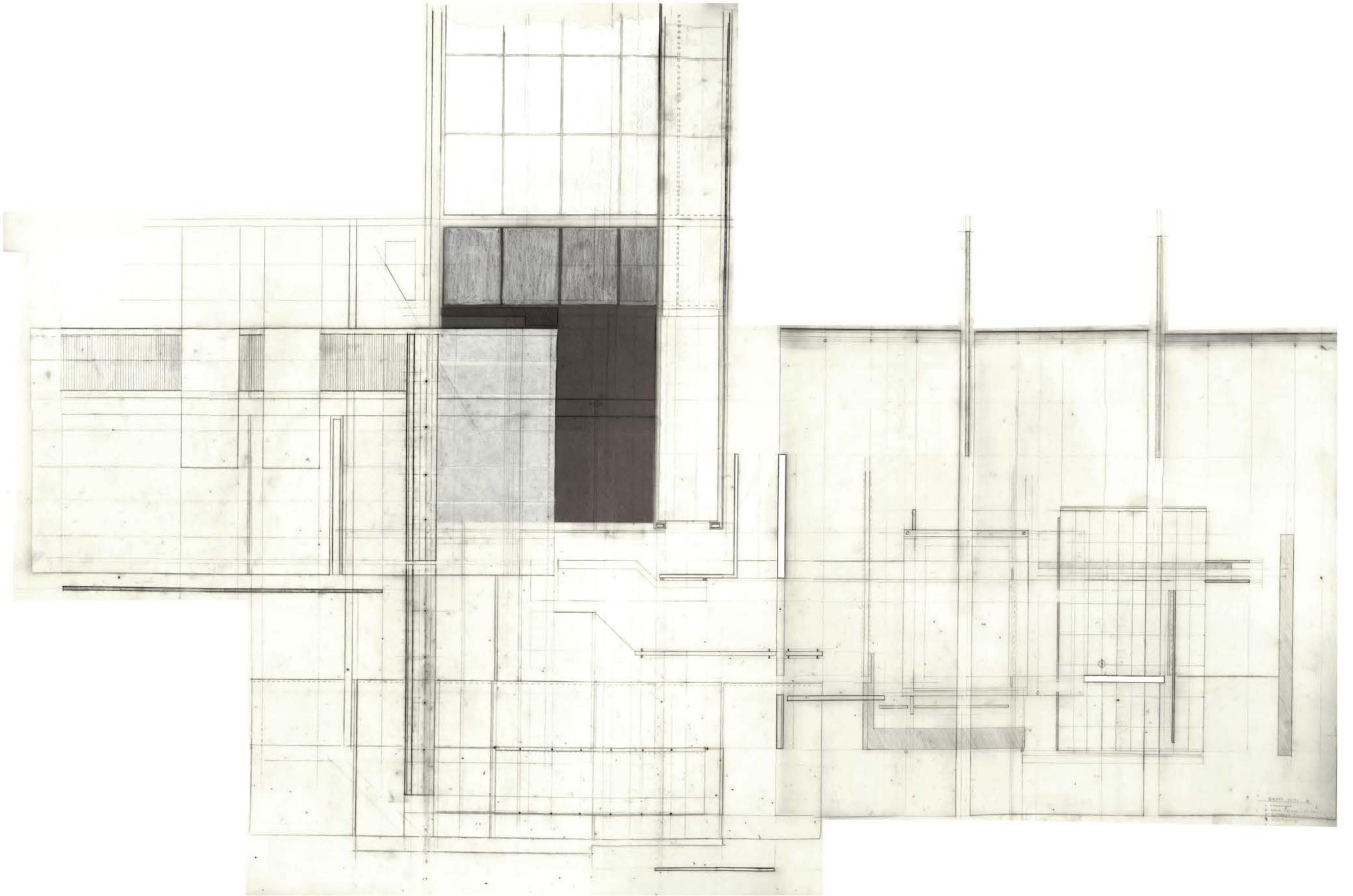
As mentioned before the markings to the right were categorized based on their qualities illustrating movement, network/nodes, and a somewhat organic stratum of lines and graphite dust. Some of these and Julie Mehretu's techniques were used and draw inspiration from to develop the drawings shown later on.

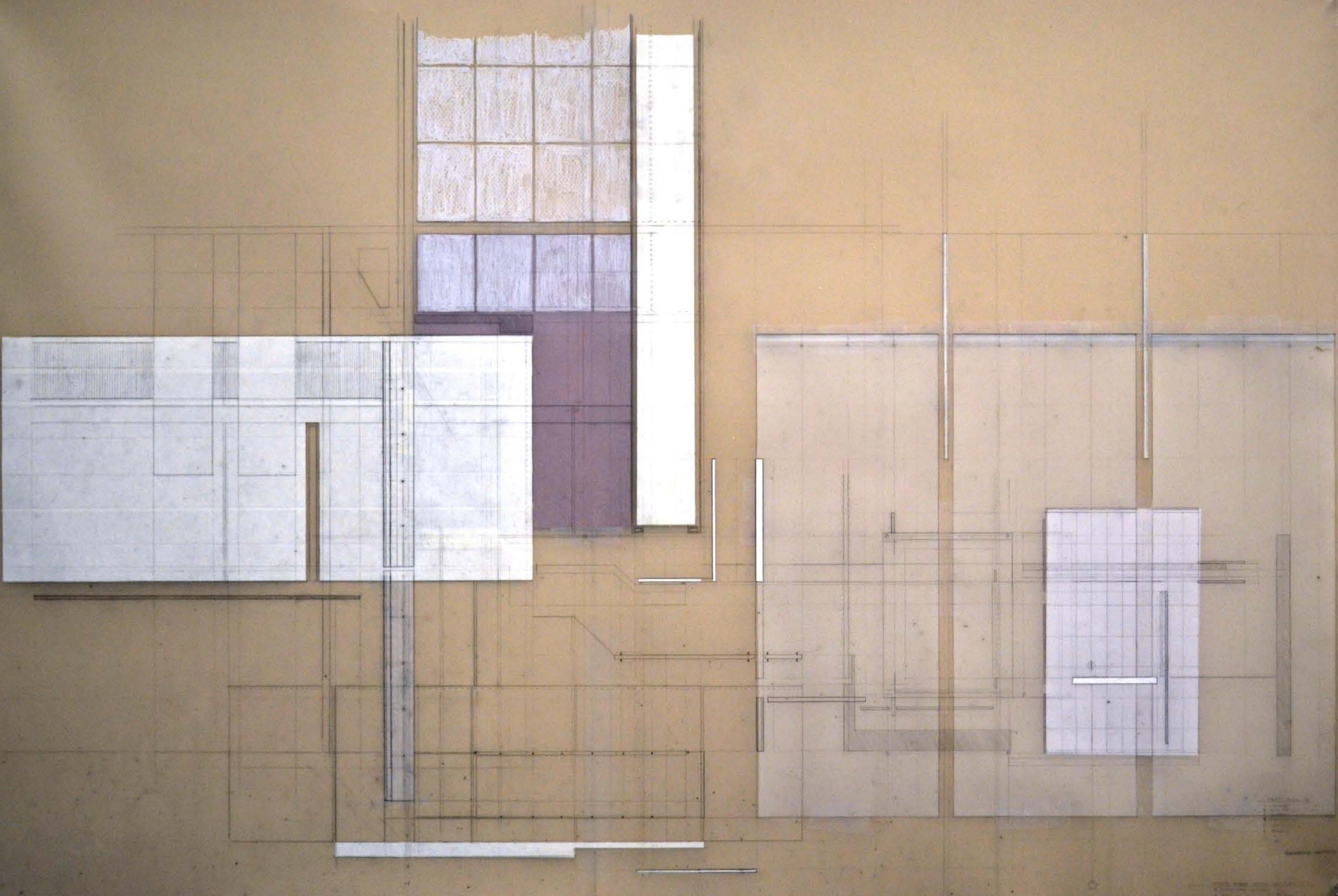


¹ Tomkins, Calvin. "Big Art, Big Money." *The New Yorker*. N.p., 06 Aug. 2015. Web. 12 Dec. 2016.

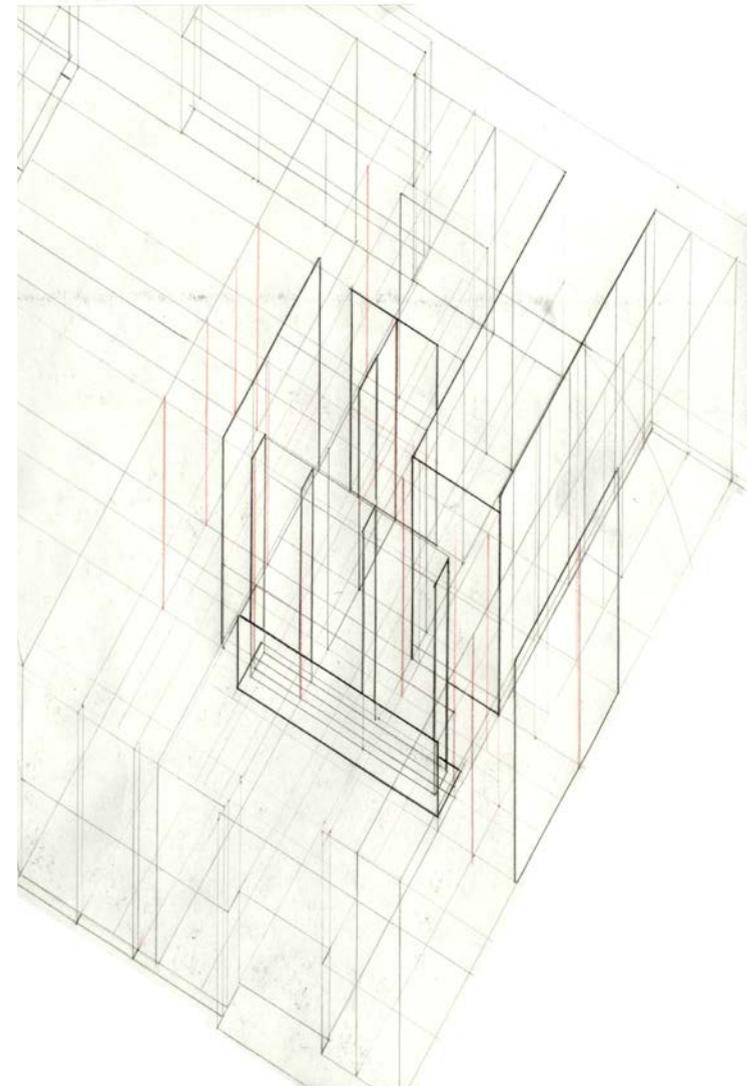
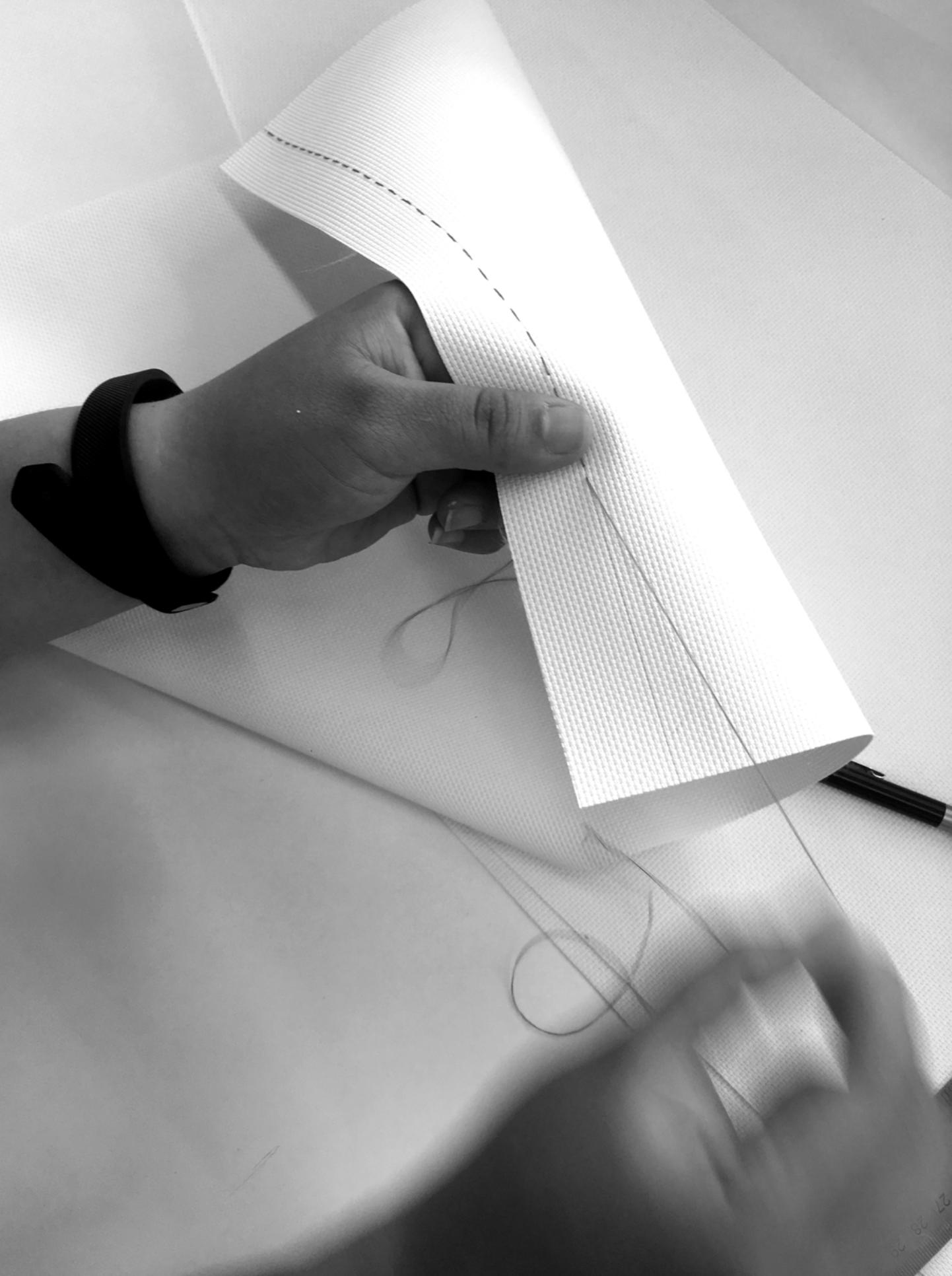












For this study, the context became the school's gallery. Utilizing all of the edges, and lines already established in the 'place' was essential. Looking at the placement of the drawing was just as crucial as choosing the placement and scale of the drawing in a piece of paper. By finding already established hard edges within the gallery, the composition of the drawing was anchored, forcing certain decisions on the project and its development.



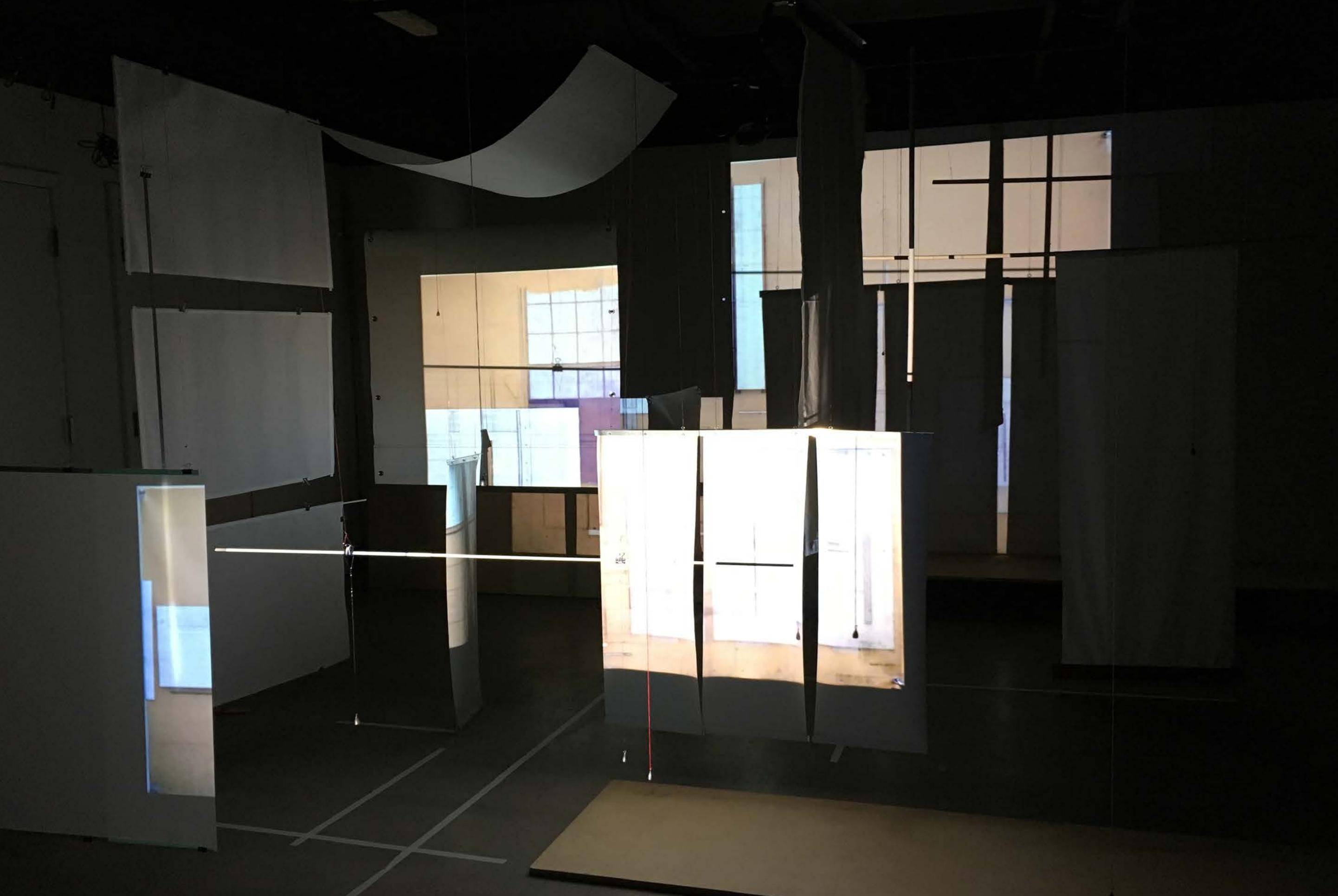


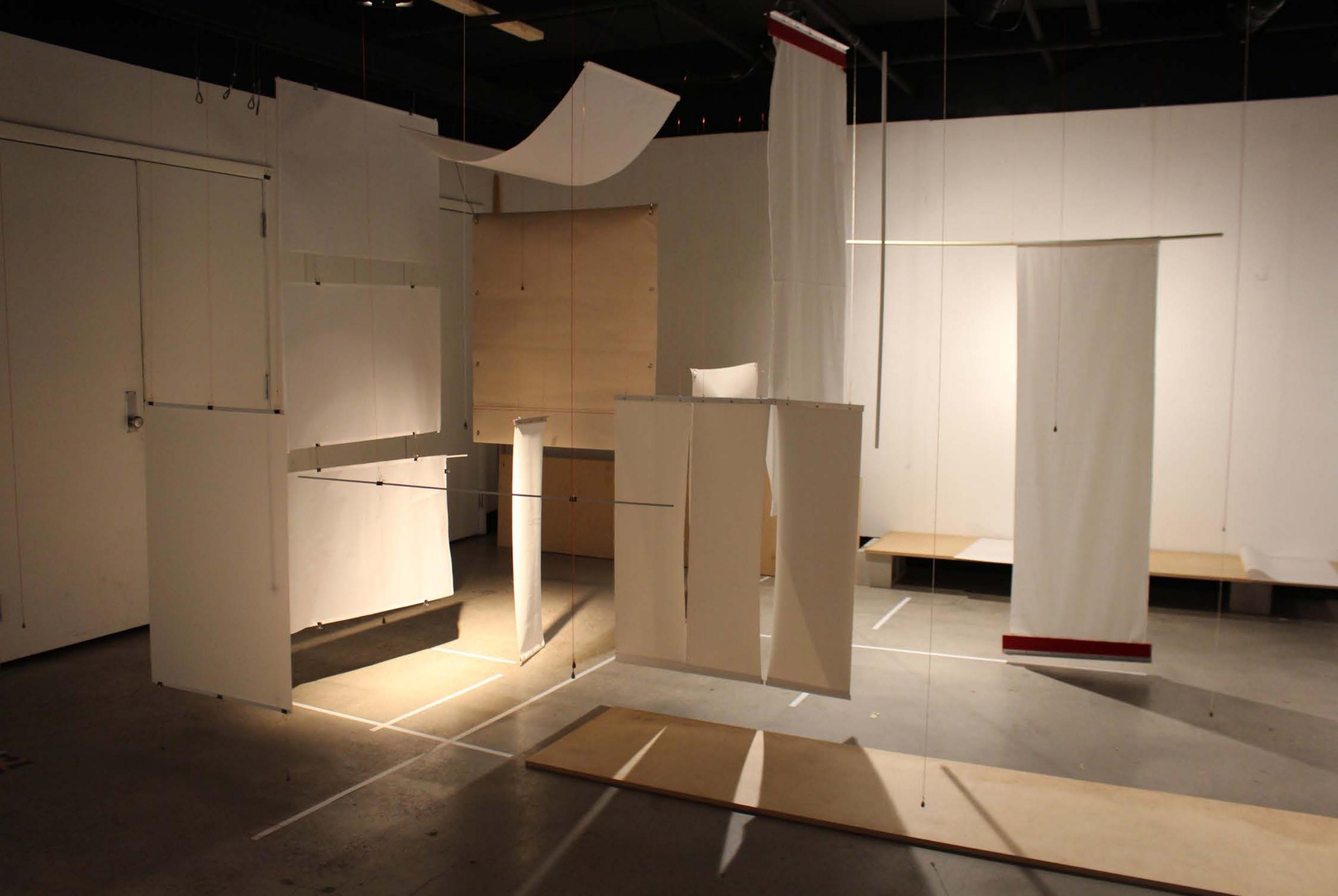
- Olafur Eliasson

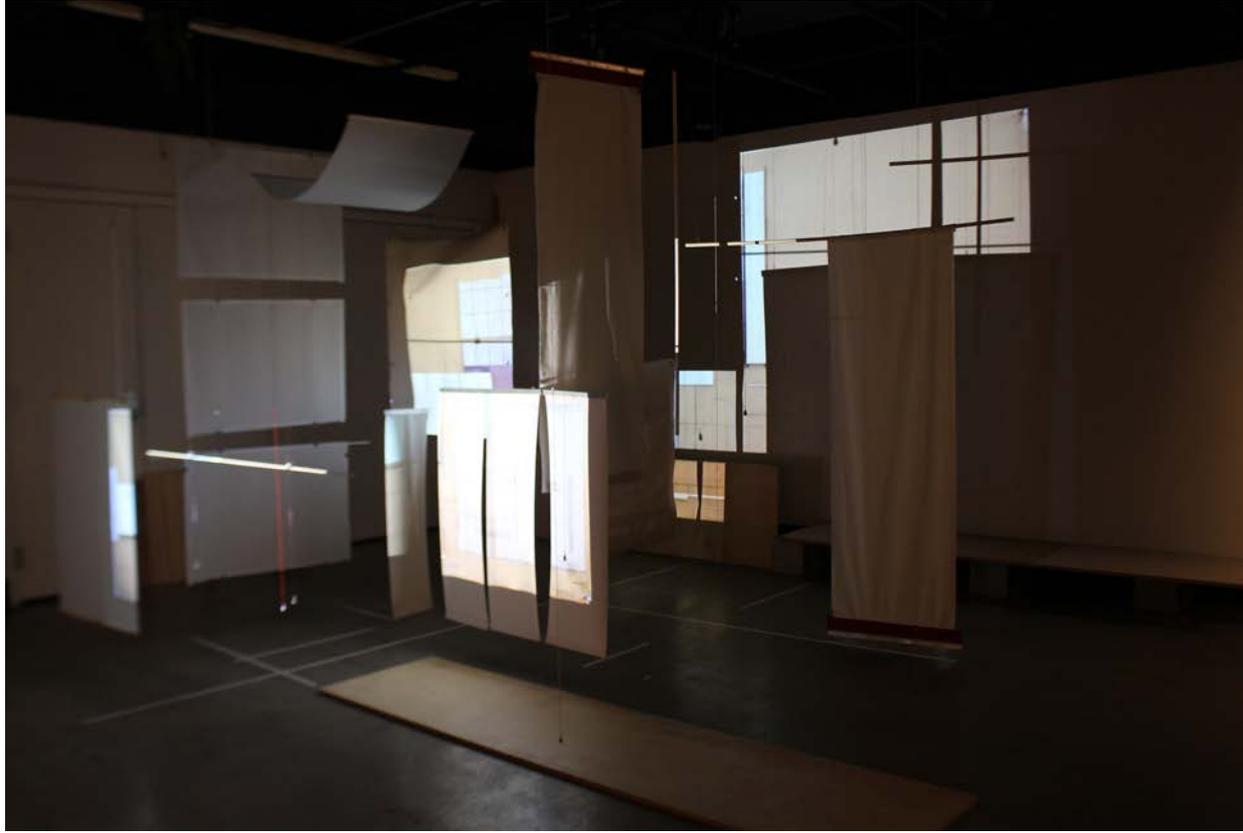
Line Resultant of Method

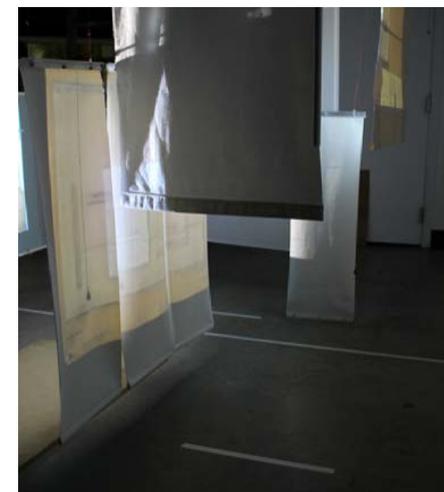
Much like Mehretu, Olafur Eliasson is known for his experiments with projected light. This light is manipulated in such a way that it transforms light into edges which create volumes of space in a perspectival view. Both Mehretu and Eliasson, influenced the decision of projecting a two dimensional drawing into the three dimensional occupiable space, to allow for light and show to play a role in the manipulation of the study. The projected light created an opportunity to use elements that would cut into the projection introducing a debris of shadows left behind by all of the elements in space.

In Eliasson's study a wall is projected on by a series of six to eight projectors that all make up the perspective image. This creates a challenge as the volumes made are only visible from one point of view. No matter where you stood the translation and understanding of the projected volumes, would always be an exterior view looking into the space. With that in mind, this last study of the project aimed to allow for occupation and understanding of the drawing from multiple points of view. When occupying the drawing a different understanding of line, point, tones and planes would emerge, in contrast to the information you received if you stood outside looking into it.

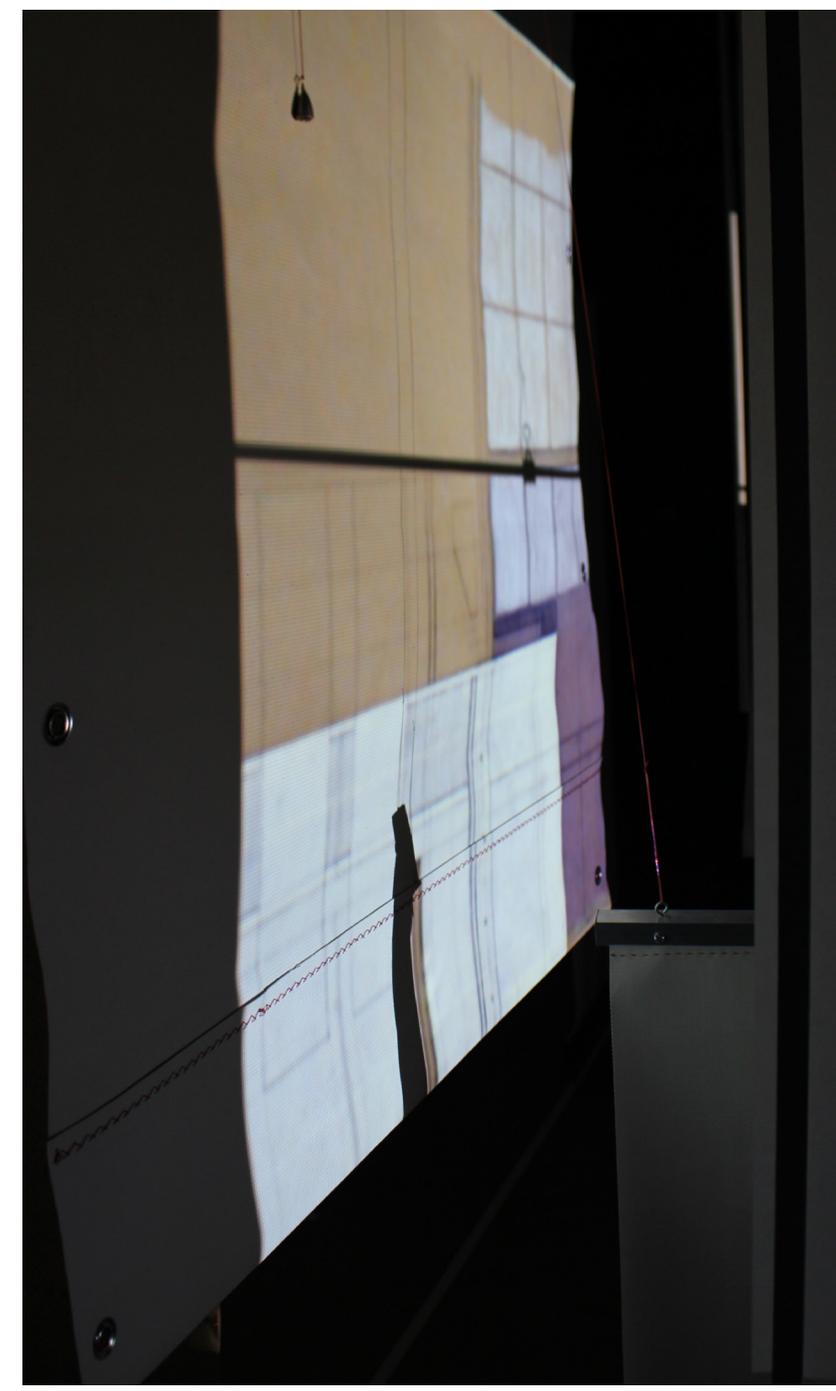








Using the information from the projected two dimensional drawing, the panels created controlled to find relationships between the space of the projection and the resultant shadows. The light of the projection allowed the drawing to be seen through the material, thus making the marks made of the drawing visible from all views. The lines and planes developed, multiplied the reading of the drawing from all directions. Through this, the study became about the multiplicity of resultant lines on top of lines of the never ending provisional drawing. This was the moment in the reflection of the project, in which lines were seen as a resultant response to the planes, fields and overlapping conditions of work. The lines created where not intentional but rather resultant of the method of working. The lines were dependent on the relationship between the planes and points in scale.





Marking in Paper, Matter, and Free Space: Drawing for the Body

"We must learn to see things for ourselves, in order to develop a language of self-expression. The capacity to see comes from persistently analyzing our reactions to what we look at, and their significance as far as we are concerned. The more one looks, the more one will come to see."

- Louis Kahn

As stated in Perfect Acts of Architecture, "The architectural drawing as end work can function in many of three ways: as an innovative design tool, as the articulation of a new direction, or as creation of consummate artistic merit. Put simply, a perfect act of architecture achieves all three at once."¹ The aim of the thesis was to project space back and forth between two-dimension and three-dimension explorations through drawing. Through the process the search of bringing information forward and pushing other back to find importance and meaning in the drawing was primordial. This investigation allowed the act of drawing to teach lessons of editing information with it a series of techniques. The project was about reflection and the distilling of ideas passed down from the previous experiments. The urge to control every step of the process and how the project unfolded was difficult, understanding that the process was not about what the end result looked like, but rather about what is the substance. Being conscious of palimpsestious thinking while finding connections of the past to the present and to the future, the project developed to find interactive spaces in which the line was not intentional but rather a resultant of the method. Thus, the line become dependent on relationships between planes and fields, and their overlap. This was a process of becoming without an end. 'Drawing' was used as the prompt for the project, in which notions of mark making on surfaces were drivers and controls for the different material investigations. The idea of discovery and invention in the drawing was used to allow the reading of the project to draw from paper, to draw in matter, and then to draw in free space. This was used for understanding drawing and seeing physical space to draw for the body. Discovering the limits of drawing and their capacity to inform space finding methods was an approach to connect to ideas of site, context, sky, ground, materials and their qualities. With the thesis, context and site evolved into an impactful concept. The context was used to inform the entirety project, and seen as a condition which is rich in information. Realizing that 'Imperfections' in the context and work is important and useful in the process because it informs the work of new possibilities and potential for things to transform. Finding

connections between the process of making buildings and drawings was crucial, coming to the conclusion that mark making was the building and the medium used was the site holding architectural conditions was an enlightenment in the process. The drawing and marks of the media, therefore, became the generator of the space and program for my project. : The role of overcharge, disruption, and intuition played a big role in this process. Overcharge was a notion of putting all kind of informational marks that were then edited and strictly subtractive. Disruption was about finding what is important to the project and bring it forward as an additive method, and intuition which was responding the marks made.

The three were done so using series of operations, techniques of drawing, and materiality to discover a program.

The next step is to allow the program of the occupiable drawing, the last study in the project, to unfold itself, to allow it to invent new possibilities of occupation depending on the context. Meaning it's transformed by the condition not by preconceptions of a tittle. The desire is to look at what the program means not what it was. Our jobs as architects and designers is not to make program but to invent program. With this, questions of what is the next scale of the process moving forward? Would the occupiable drawing become larger? What are some of the joints and details of the drawing if developed with more time and resources? How many different materials should be used? How will the boundaries of the project be solved and does it touch the sky and ground? How will these new questions change the indications and restructuring of the process? And how does light and shadow play a role once the scale of the project is increased?

¹ Kipnis, Jeffrey. Perfect Acts of Architecture. New York: Museum of Modern Art, 2001. Print. 12.

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