Fractured Sections

Mattia Melone: Graduate Thesis 2013

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DEDICATION

To my parents, Nicodemo and Antonina; Because without them I would have never attended the University of Detroit Mercy nor learned how I can make a difference.

To my sister, Natalie; for sharing me with UDM the last five years of her life.

To my UDM School of Architecture Family; including professors, previous graduates, future graduates, and those who have been with me through this five year journey.

And lastly to my AIAS Family all over the nation; because through them I have learned not to fear the world.

I had big dreams when I was a little girl. Secretly, I planned to be a famous artist traveling the world or the best female soccer player to rise up from nothing. When I was little, I felt like I was living in Peter Pan's world; I was never going to grow up because the way I see the world it did not allow for my creative spirit to be accepted. Of course, when I look back, I wish I realized that I only had to grow up to a certain extent.

In the sixth grade I had this crazy idea that I wanted to become an architect. It came to me in a thick, red book while working on my Career Focus project. I tossed aside the ideas that I was going to become an artist or a soccer player because I wanted to pick a career that was transcribed to me as more holistic in helping others live happily. (Not that being an artist or soccer player is not a great profession.)

Though in the sixth grade I had the stigma that all architects do is drafting, that a house would pop up, and people would move in and the architect would move on. But I began to notice that if I did indeed become an architect, I wanted more beyond that stigma. This came from me spending my spare time with a camera at hand capturing the interactions of the world in front of me; whether it is at a cross country meet, family Christmas parties, or sightseeing. And the more time I spent making subtle connections through my photography, the more I veered from the drafting, house popping, and moving on idea of architecture.

My Master's Thesis stems from the creative spirit I thought would not allow me to grow up. But that creativity is all the reason more for me to allow myself to delve into an exploration with an unknown conclusion. Just attending the University of Detroit Mercy, I have grown to love

that architecture is more than just a floor plan and walls, that architects have the ability to help others see the world in new ways.

With my camera at hand and my thirst for a creative way in understanding the relationships of space and body I lead you in my journey with this book. You should know that this journey is not about the facts; it Is about how one exploration leads to the next. You should also know that this journey leaves room for you as the reader to develop ideas and create your own conclusions.

Don't forget to smile.

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"A wall we cannot go through.
Which is in some ways where we began.
Except that memory, in leading us back, has turned us about.
It has drawn us through room after room towards a past body,
an experience of the world that cannot be entered,
only to confront us with a future body that can.
Memory is deeper than we are and has longer views.
When it pricked and set us on, it was the future it had in mind,
and the door we were meant to go through.
The door was in us.
Our actual body is the wall our fingertips come to.
We have only to dare one last little blaze of magic to pass through."

David Malouf

FRAMES EXIST EVERWHERE

        If you think about it, we may never understand a space by the intentions to which it is initially designed. We can read about what we are supposed to feel, or not feel. We can assume where we are supposed to look. And we can guess based on our culture. But we are all different so our experiences are different. We all have our own thoughts and our own apprehensions. And knowing this is an understanding of how space can be looked at with the mind and body.

This comes from realization of perspective and perception; that spatial understanding can be brought down from abstract ideas to more connected thought processes.

By looking back to history and the basics of design, space takes on a more *simple complexity.* This thesis looks to understanding space through many media and through the process of where one exploration leads to next.

This thesis began with a camera and no direction. The camera without question produced images, which evolved into the idea of images as sections. Sections in architecture, as defined by the Merriam Webster Dictionary are the profile of something as it would appear if cut through by an intersecting plane. With the idea of a camera at hand, images became detailed sections, which really include more than the profile of the section, to gain an understanding of the spatial relationships that occur in our world [whether it is a natural or designed environment].

Ultimately, this process is one with no true expectations of what the conclusion will be; this is however, a process with all expectations to gain knowledge from explorations to build momentum toward a holistic meaning for the spatial relations of architecture; whether the process leads to an architectural solution or not is yet unknown to you [at this point].

The idea of an architectural solution is a desirable condition, yet in the case of this thesis, it will only come from the knowledge of this process one step at a time. Yes, this is a product from a master's thesis in architecture, but realizing that architecture is much more than a skyscraper or a room consisting of four walls and a door is important, too. This thesis wants to be able to apply the person and their understandings to architecture in a more personal form than 'just because it looks cool'. For this reason there is an interest in the ways architecture can create a study from the personal perspective or perception.

Figure 1

Figure 1.2

Figure 1.3

This process began with the idea that images hold more meaning
than we give them these days. Everyone has a camera to capture
something in their lives for important or even 'just because'
reasons but by the product of the camera, the results tell more
than you see. It is a perspective you choose to capture and
you share with others to hopefully expand on the perception you
understood at that moment in time.

This idea relates to the discovery of Olafur Eliasson, a Danish
Icelandic artist, and his Little Sun Project[1] which he worked on
with engineer Frederick Ottesen. The Little Sun is a solar powered
device that turns "sunlight that is for all of us into light that is for
each of us." Though it is used most by those who do not have
access to electricity, its use during a black out exhibition at the
Tate Modern is what attracted it to this thesis most.

Individuals at the museum would view art in the dark *Figure 1.3*
and move through the space using the light from their own device
（given at the entrance）. It is evident that the light represented
the person and the things they were focusing on as it was used
to move through the space just like the use of a camera. The
Tate Modern exhibition and most of Eliasson's other projects
are examples of how he turns the act of looking into a social
experience.

[1] http://www.littlesun.com/index.php?sec=light
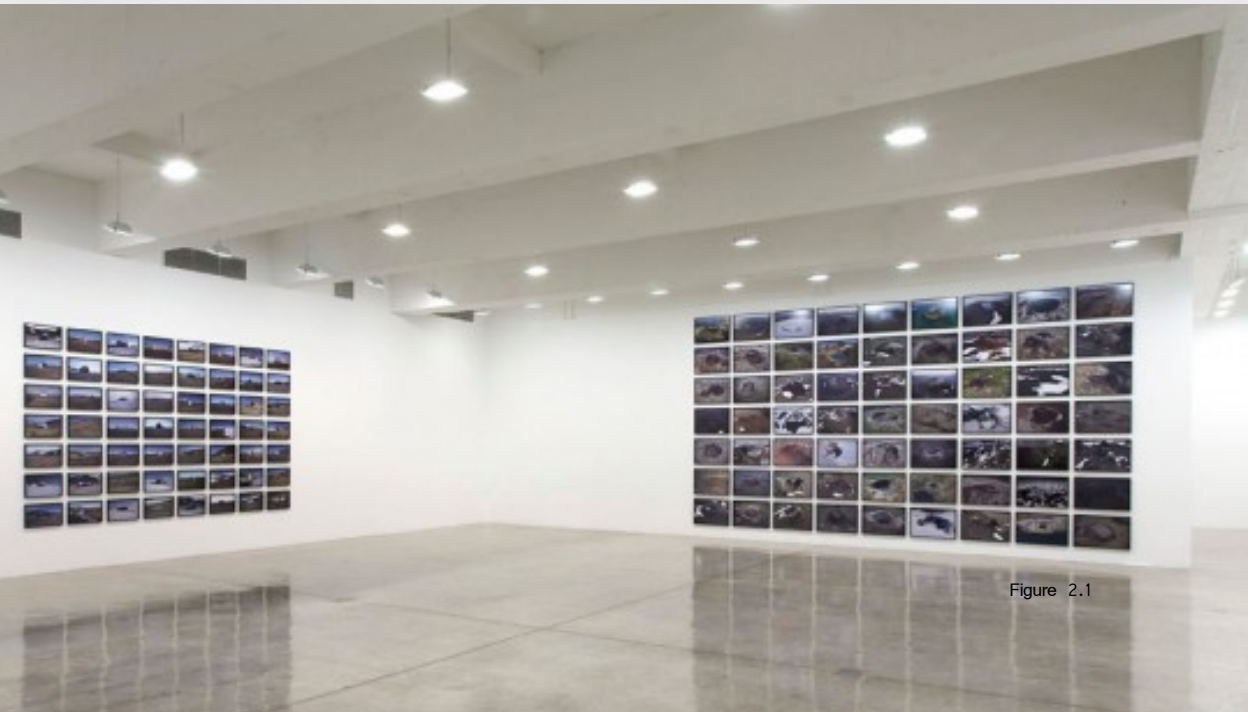
Figure 2

Figure 2.1

Other examples uncovered of Olafur Eliasson's work include his photographic series of nature[2] and his permanent installation called 'Your Rainbow Panorama' on top of the Aros Museum in Denmark[3].

In his photographic series of nature（left）, he takes several images of a natural occurrence and photographs it from several perspectives. He does this without giving viewers a sense of scale in looking at the fifty of so enlarged photos on a wall, which becomes the social experience. In looking at these photos he is allowing the viewer to understand and find their own meaning behind the value of nature. From this precedent is drawn the idea of multiple perspectives and the power they hold in becoming a whole entity.

2 Photographic Series of Nature

3 'Your Rainbow Panorama'

Figure 3

Figure 3.1

In his permanent installation 'Your Rainbow Panorama' Eliasson simply created a circular, color spectrum pathway of steel and glass to separate one from the outside world. It is interesting because once you are inside you have to walk through the pathway without being able to see the true colors of Denmark. Eliasson is working with the space in a way that challenges the users to move though it at their own pace and to explore the afterimages created in hues complimentary to the colors that surround them, thus altering their perceptions as they look into the city from the museum. From this installation is drawn the idea of how people create perceptions when knowing that what they are seeing may not be true to what they know from past social experiences.

Figure 3.2

Figure 4
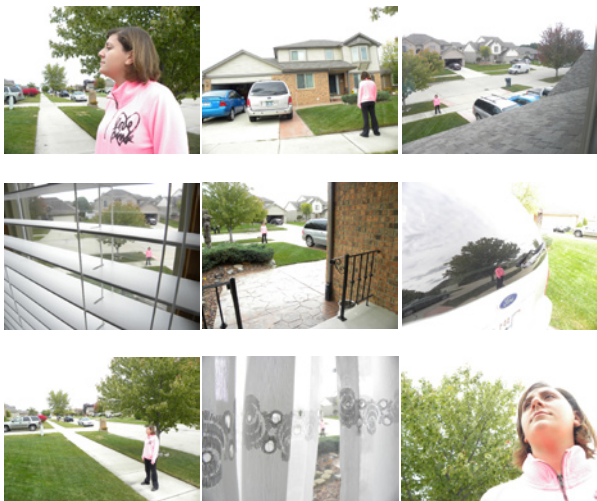
Figure 4.1

Figure 4.2
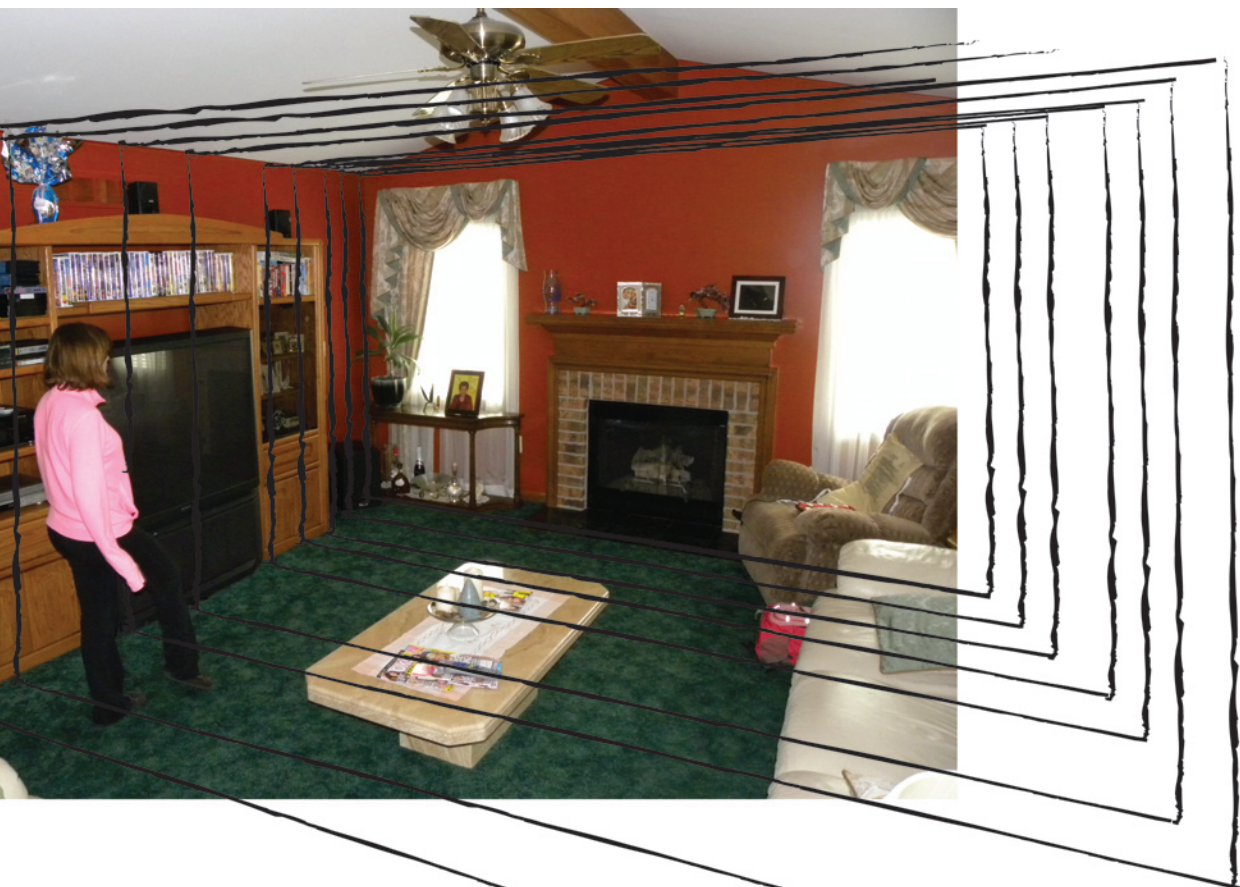
This social experience of Eliasson's work is what this thesis gravitated towards most; to achieve social experience through several explorations this year. At first the explorations are found trying to capture a single experience, as with two early collages expressed as montages (top left). According to Sergei Eisenstein[4], a montage is defined by the action of fragmenting reality and then reassembling it under the principle of a conflictive order. By juxtaposing two contrasting, disjointed elements a new meaning is created, something that transcends them both and the reality from which they arise. In simpler terms a montage is comprised of scenes from different times and different perspectives put together to develop one cohesive experience. This relates to Eliasson's photographic series: the idea of taking many perspectives and looking at them side by side.

In the first montage *Figure 4* a subject is placed outside. With a camera, from different perspectives, several pictures are taken as to develop a meaning of its scale in that one particular time. With the second montage *Figure 4.1* the pictures span a distance of what one can see as they walk from point A to point B. This shows how the context changes, but together the environment creates a holistic experience for the person in transition. From these collages is where the word images evolves into the idea of sections. These sections have character from their certain perspectives, thus the perception from these sections allow for the understanding of spatial relationships.

These sections work in spatial relationship as endless overlays across the earth and originate from every person *Figure 4.2*. In order to understand the thesis process you will have to understand the evolution it has gone through. This begins with an explanation and a piece of exploration whose content proves to be irrelevant.

4 Sergei Eisenstein
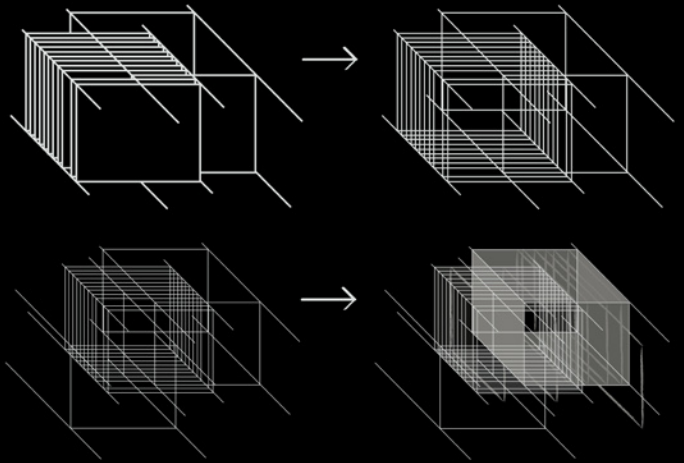
Figure 5
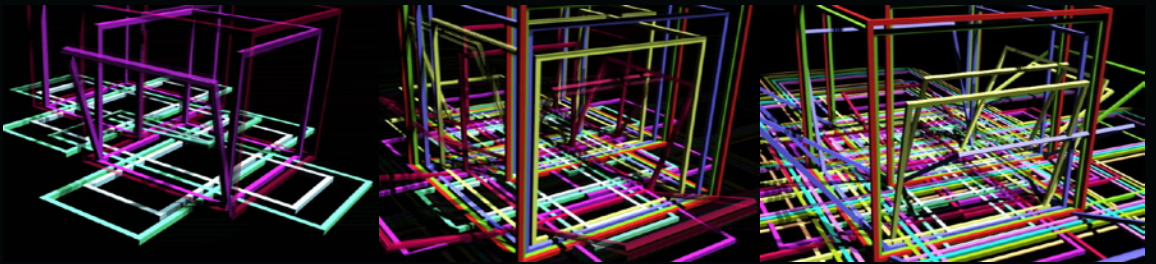
Figure 5.1

［The irrelevant content is as followed］Initially an exploration was started with a box frame that holds together all the image sections that a person has the possibility to encounter. This is inspired by Rudolf Arnheim[5] who describes The Percept as a Potential Field in his book "Art and Visual Perception". He writes that "The percept is really a continuous _eld of forces. It is a dynamic landscape, in which lines（of the structural skeleton）are actually ridges slopping off in both directions."

But in applying this idea to sections, it is self cognitive that it was in the form of a box. This box comes from the idea that when we take film from a camera and develop it; the image comes forth in the shape of a square since this is how a camera captures images. In the common knowledge of images, this concept sees the idea of image sections as squares that fit into a box which folds and unfolds around every single person to represent the overlay of images across the earth *Figure 5.1*. The box has sections that unfold as far as the eye can see and when a frame of the box hits a solid opaque *Figure 5.3* object it can then stop unfolding and fold back up towards the person and initial perspective it originats from. This theory shows that sections from every person cannot be shared but instead that the sections are unique to each individual and that is why each one has a different perception of the spatial relationships around them though they may be encountering the same space.

Another way to think of this would be to imagine every person taking pictures at once: their perspectives can overlap many times in many ways; this represents how the sections overlay. But it is important to note that the section perspectives are not captured like the camera where in all the details are treated with equal attention at once. This is where the framed box theory is proven irrelevant.

5 Rudolf Arnheim
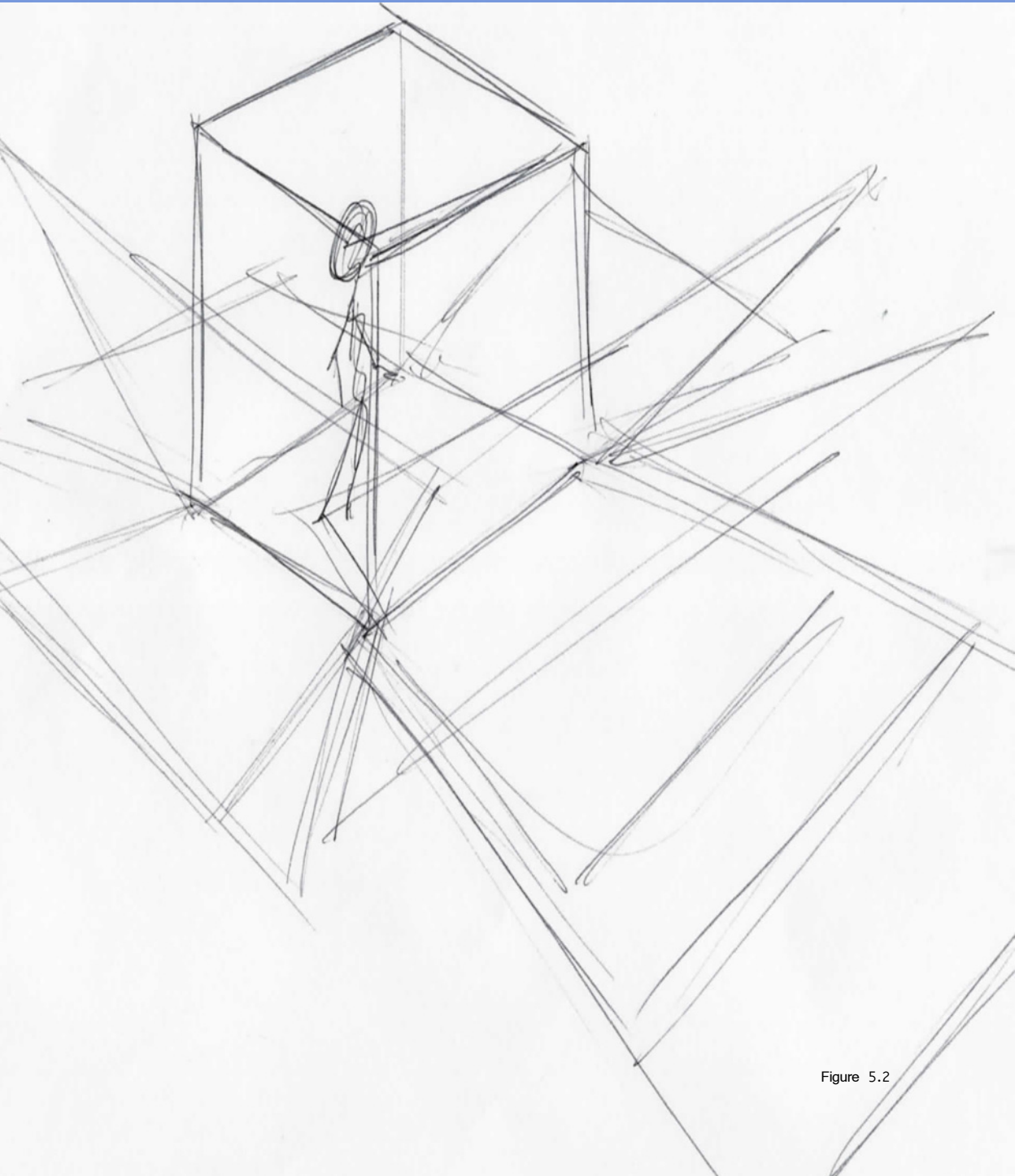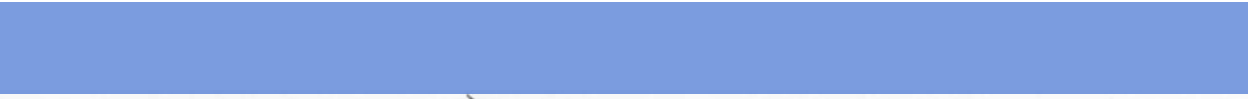
Figure 5.2

Here are sketches that show how the sections act as overlays from a person. The left sketch suggests how the sections actually unfold outward from a person. The sketch below shows how the sections unfold past open spaces or fold up back towards the person as they encounter an opaque barrier.
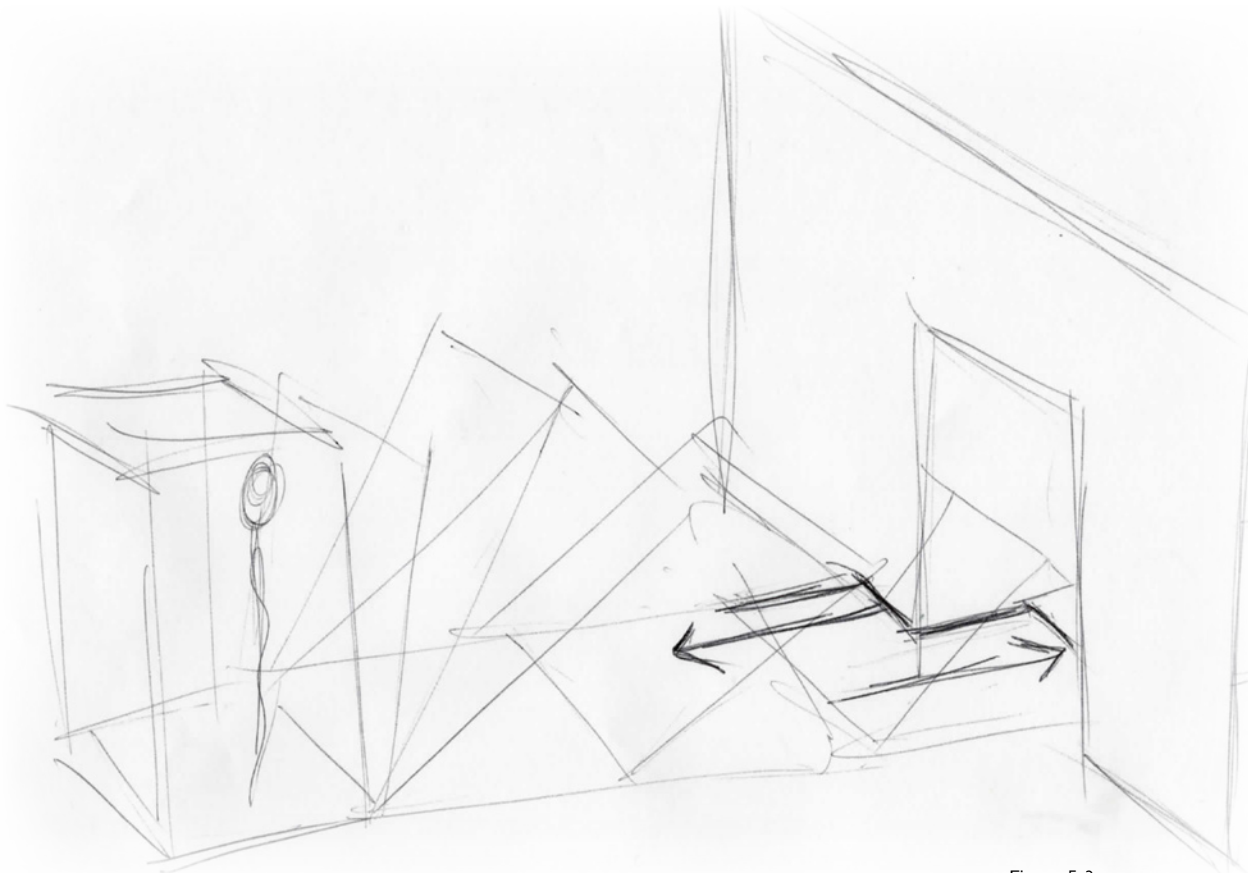
Figure 5.3

Before going any further one must truly understand how vision works. Our eyes allow for us to see detail from a central spot. And even then, our brains are not comprehending the things we see just as images, but rather, it does a lot of work based on pattern recognition of lines and motion. To understand how vision works it is important to know that our eyes are always working, moving, and recognizing what is in front of us all the time.[6]

Figure 6

Imagine that it is like focusing on someone's eye during a conversation and then their lips, or focusing on the brightest thing in the room, or by noticing some form that does not look like the rest. Even better it is like reading a book one word at a time. An individual sees sections blurred out, except for the detail the eye is focusing on, and then once the entire section is looked over, this is when one can truly understand all the parts and creates a unique perception.

Figure 6.1

6 http://www.kenrockwell.com/tech/how-we-see.htm
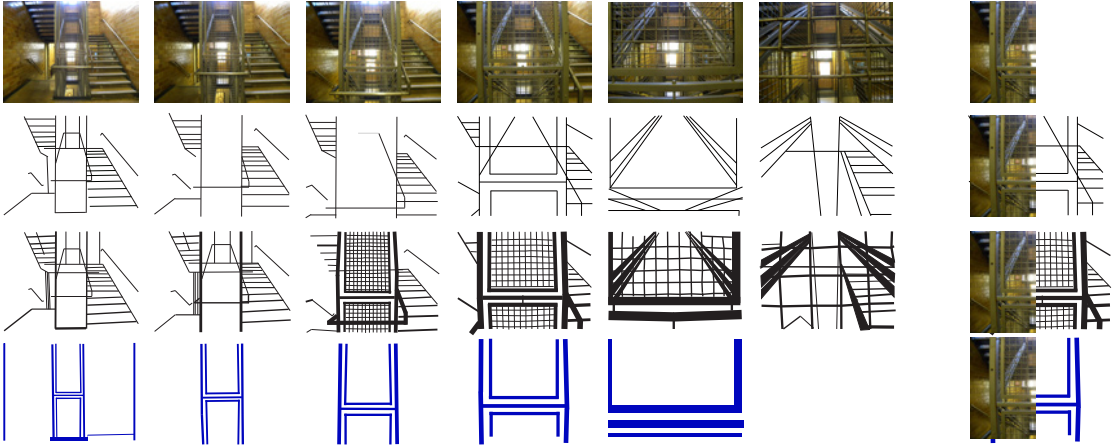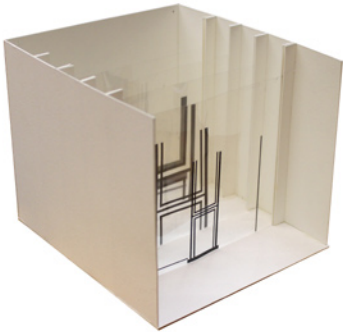
Figure 7

Figure 7.1

Figure 7.2

Now if seeing merely consists of lines and motion, how can space be analyzed the same way? In other words does dissecting sections do anything?

At first the dissection experience process proves confusing because of the lack of tangible elements exposed at the site. The site choosen is a staircase; and the lack of tangible elements is because of the fact that stairs are a circulation area; an open space where people do not activate constant activity.

With what is at grasp, the process led to breaking down a section of the stair by outlining all or as many of the elements from the perspective as possible, as well as taking away detail little by little until there was that one traditional section and all that touched that one section of space without the concept of context *Figure 7*. Pulling up the pictures on the computer screen leaves confusion. Where is this study going? Through the computer the sections can not expand back into any tangible space, so the result of this concluds in the print outs of the sections on acetate and the attempt to build the perspective abstractly utilizing the techniques of pathological sections *Figure 7.1*.

[There is no set definition of what a pathological section is, but in brief understanding is it used in science to dissect organs and other sorts, as a way to fully understand how they work. By dissecting the organs into layers on slides the organs can still be viewed as a whole, but taken apart at sections to view.]

Due to the nature of the acetate the sections are printed on, it is undeniable that one can see reflections of each section on each new piece of acetate that was placed in the model. From the reflections derived the idea that subjects are able to reflect upon themselves in space and can be considered as theory at this point. From this developed the idea that simple spaces hold more meaning than we allow. With sections drawn on the acetate, such as a simple line that moved per each acetate slide or an element that could represent a door *Figure 7.2*, one begins to see more of this theory of section through reflections.

Figure 7.3
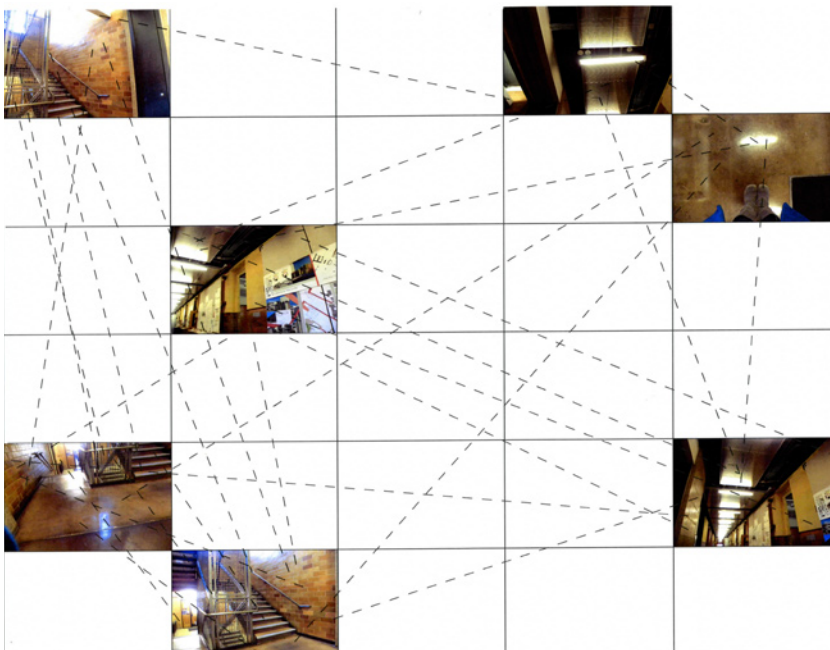
Figure 7.4

In the making of these sections, the idea of reflection as an experience is what occupied new thoughts on this matter. How could the acetate through pathological sectioning allow an understanding for something beyond the models?

Reflection as experience brought in the realization of how people use space to navigate from point A to point B. For example, when people are walking in a hallway it is inevitable that each person will try not to walk behind the person in front of them or even in the same path of the person coming toward them in that given time section *Figure 7.3*. In the idea that each person creates their own path, the path becomes a reflection in that space. In terms of perception, understanding this relates to the presence of the space in the sections, that in essence the sections in the hall has already been occupied.

In thinking about each person as they walk in the hall one can begin thinking about the different sections each person would see due to their choices of movement and perspectives the movements created. After the reflection of someone else already being there each person is also playing with sections as connecting elements *Figure 7.3*. These elements could be the floor or the light in the hallway. If one was to look slightly left, right, up and down, and freeze a section from each direction, one would be able to understand the space from sections just like connecting the dots to make up the whole experience of the hall at that point.

While beginning to think about connecting sections as perception, it led into more thoughts of how a single space can have several different perspectives depending on what is in one's view. Looking at this suggestion by thinking of someone sitting in a space- for this example the space is a kitchen- if two people come into the kitchen together one might notice a glove on the table and perceive that at some point a certain individual was or will be going outside, where as the other person may not notice the glove and have a different perception of what was or will be happening.

Maybe one person looks at the individual and follows their gaze toward the television to see what is being looked at, while the other person perceives that by their gaze they are just thinking. This exploration is important to understand in building up our spatial awareness and how the connections of sections can impact our lives. Though we are all in the same space, the relationships with the space are different because we are all looking at different entities in the sections we choose to create.

Figure 7.5
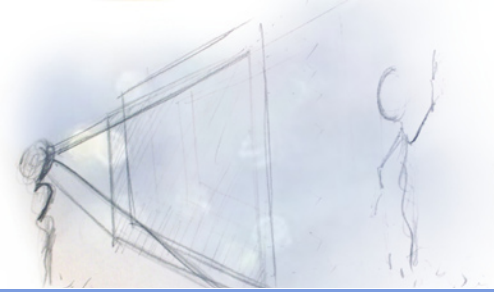
Thus far in the process, the explorations are static sections of perspectives. They all suggests the idea of movement but none have explored section in the moving fashion.

By trying to bring in moving parts to the explorations the consideration of video is at hand and a possible way to approach this meandering thought. Using video allows one to break apart a video section perspective and show how space is broken up into sections more visually. This relates back to the beginning when it is understood that sections are endless overlays across the earth that originates from each person.
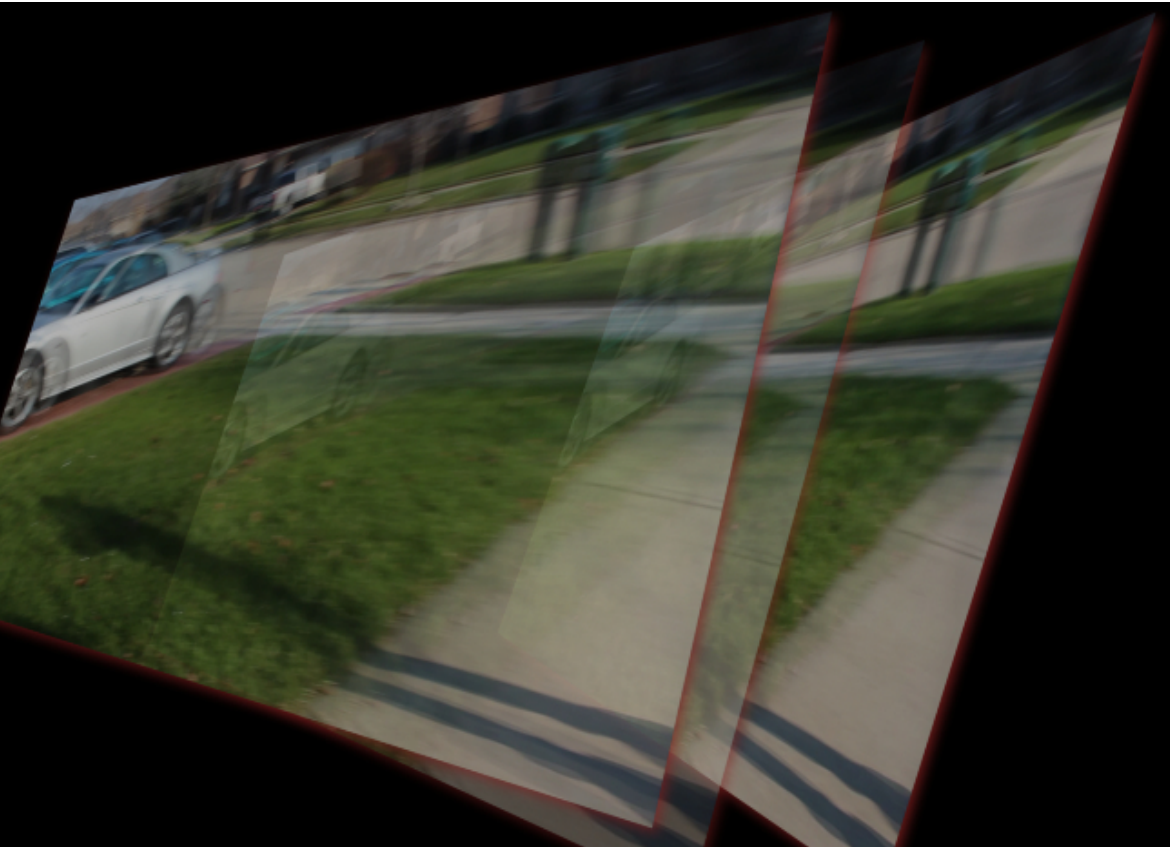
Video permitts one to start overlapping different perspectives and show how dynamic a single section could become. This becomes an active piece in the exploration where sections can be captured with a moving camera as single overlays on the earth. To do these explorations and be true to reality the subjects in the explorations areoutsiders to the study of architecture.

The first of the video explorations *Figure 8* start the process of analyzing capture perspectives. This begins by transforming a scene attempting to show its sections and how the flat capture can actually be split up into sections.

Figure 8
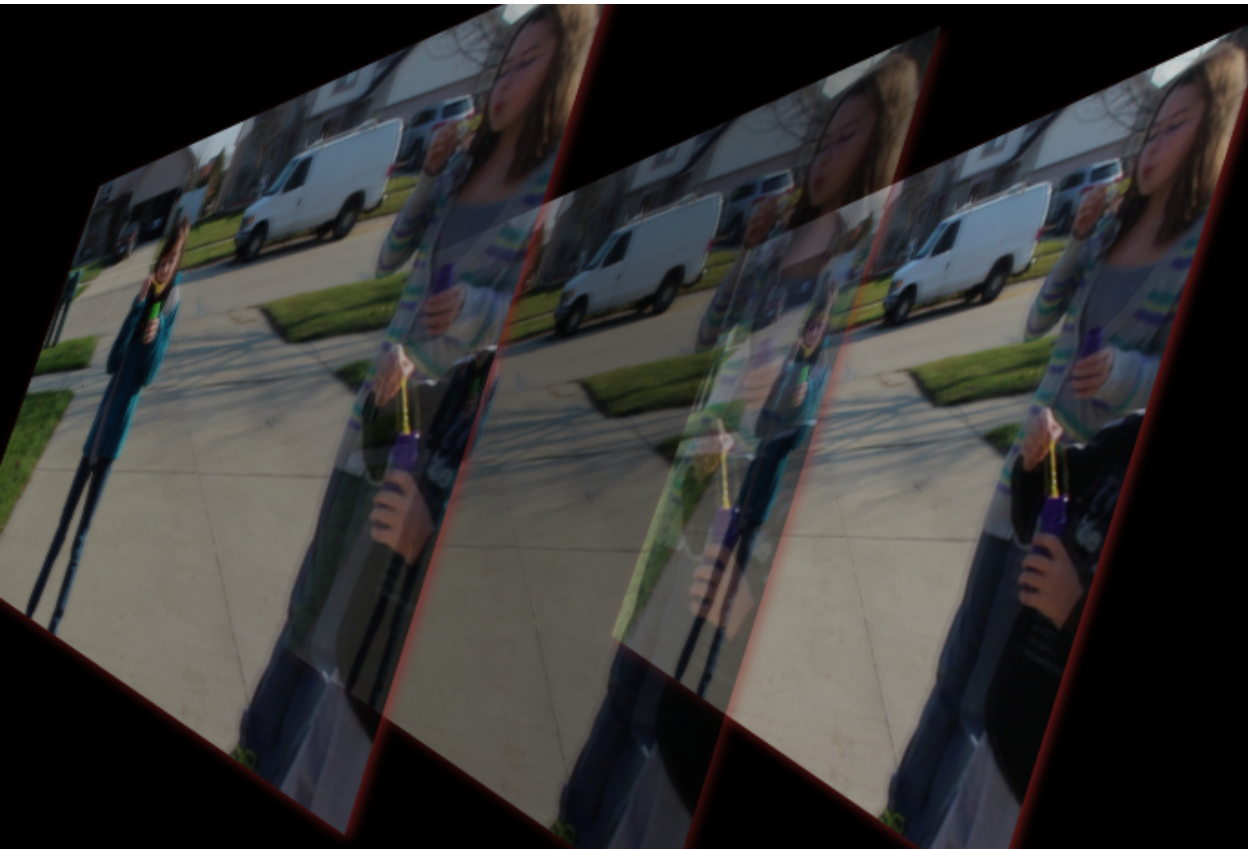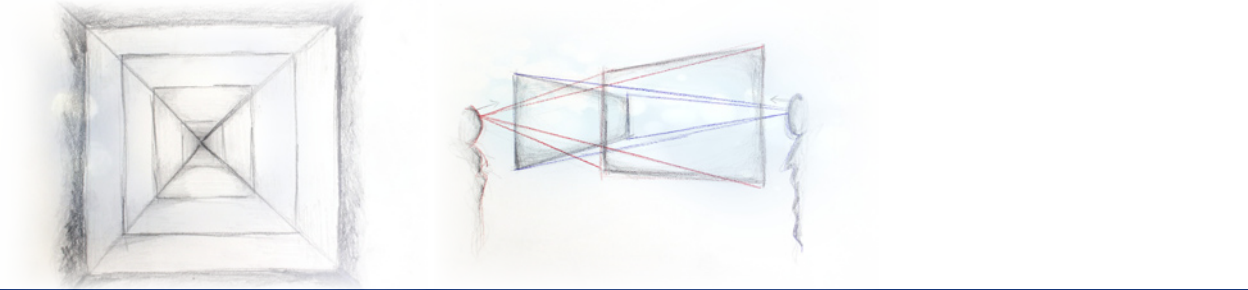
Figure 8.1

Figure 8.2

With a second video exploration *Figure 8.1* the attempt is to show how a flat video could possibly begin to show depth as a single perspective in one direction. So one begins to see the video overlapped of the same scene through changes in opacity but the scale of the original video becomes smaller and smaller and gives a sense of the scene expanding out into space like it is perceived in reality. This also relates to how one learns to draw perspectives, we understand that elements are not true to the scale at which we are in contact with them, but that they are at a new scale in our relation, yet the same with other elements at a new depth in space.

A third exploration *Figure 8.2* attempt is trying to show how a single scene could be viewed from multiple perspectives as sections. This was merely expressed as the idea of two cameras shooting simultaneously from different perspectives. In doing this one can understand how overlapping of perspectives have a true connection in beginning to complete the experience that is occurring. Without the realization that others positions affect the situation, spatial relationships have no reason for being. The perspectives begin to relate to architecture such that without some element in section one would be existing in a world of meaningless depth. These explorations were also understandings of how complex a section could be; that a section is more than a section in the traditional sense when it comes to architecture.

Figure 9

Figure 9.1

After looking at these explorations during the thesis process one can see some intriguing sorts happening with manipulation of a flat section. Though the video explorations extend the idea of movement from a section to many sections as overlays. The conclusion is that one needs to create understanding through more of a hands-on approach or model form. Deciding to step back to the idea of using images from a camera and to dissect those at a larger scale seemed like a step that has been missed along the way thus far. Trying to bring images back to the third dimension is an intuition that sparks ideas for future explorations and possible solutions for the architectural mind.

With the concept of dissection as a direction the process leads to print outs of black and white sections of a child playing outside with snow. This was an attempt in going back to dissection understanding but instead of placing the dissections on acetate they are direct cut outs of photographs *Figure 9.1*. The sliced elements of the section perspective now have the intention of pulling forward or pushing back the dissected piece to the respective direction of their element in relation to the rest of the section. The chosen display of this piece becomes a suspended exploration *Figure 9.2* with a larger architectural possibility and fewer restrictions in spatial expansion. In creating this exploration there is a use of a series of sections hung one on top of the other to give a perception of what is happening.

Figure 9.2

Figure 9.3

The first dissection *Figure 9.2* is a perspective with context in the depth while the second one *Figure 9.3* is a close up of a snowball in the hands of the child. The way the dissections hang with the thread upon a solid color back round begin to bring forth the expression of the overlays and the sense of movement and blur they begin to create with the section. A strong element that stands out is the shadows and the negative space that are cast from the voids from where the original section once sat; this also begins to speak to the idea of sections as overlays again and shows how each part of our being is a section of that from some else's perspective.

The suspended images open the exploration for the idea of reflection which is much stronger than the examples of how people move in a hallway. At this point in the process the word reflection has now evolved to support the meaning of exploring voids in sections.

But before going too far, let us imagine the suspended images broken down into more parts? What could this possibly lead to? It is possible that space could form from the distancing of the elements and that where the section overlays cannot be stretched anymore it becomes a solid entity.

What could this possibly relate to?

Figure 10

Surely there must be some link that the suspended images have in creating architecture. But as far as some precedent, one can say that looking at Kurt Schwitters[7] Hanover Merzbau（left）, there is a stretched connection between the suspended images and its design.

Originally constructed at Schwitter's parents house in Germany, it was an experiment that would stay with him ever after its conception. But what is it supposed to be? Even Schwitters had a hard time explaining his intentions with this space. It was pioneering hybrid art and architecture installation. And at the time, in the 1920's and 1930's, it was a space designed in a new way where *it is about what surrounds you and not what you look at.*

7 Kurt Schwitters http://www.merzbarn.net/hanovermerzbau.html

So…Kurt Schwitters… it is about what surrounds you and not what you look at, huh?

What are we looking at though?
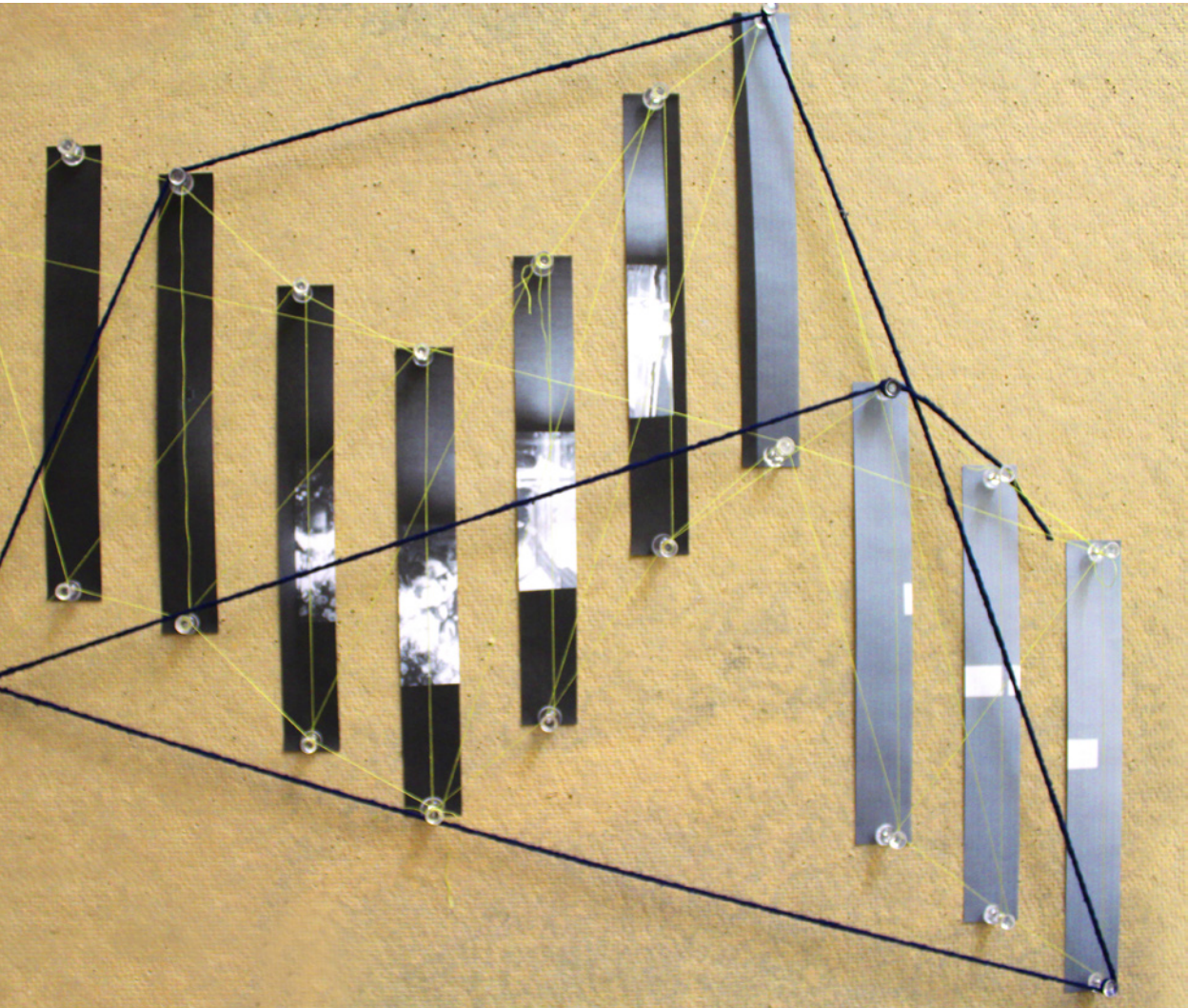
Figure 11

Figure 11.1

[Sketches in attempt to read the negative space and trigger movement.]
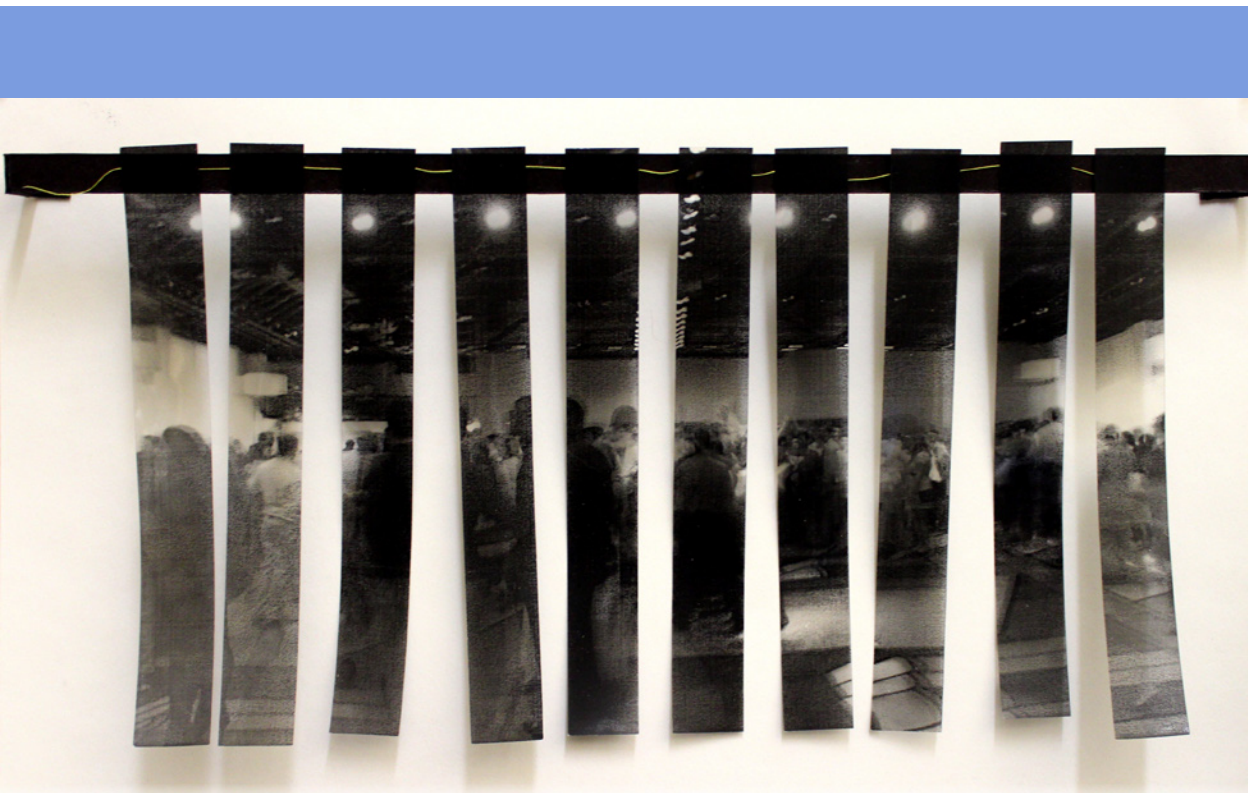
Figure 11.2

[Sketches that deal with transparency.] Figure 11.2 takes an actual section split into equal separate sections which were supposed to transfer to the surface behind, but did not. Figure 11.3 is the negative of a section. When the negative is transfered onto transparency the shadow cast to the surface behind changes with depth of the light surface and the distance between the transparency with the surface. These are both process sketches that may or may not turn up again in the process.

Figure 11.3

Figure 12

Figure 12.1

The concept that evolves reflection into the idea of voids is actually beginning to create a dialouge of depth from flat sections. The cutting out of elements from a single section perspective allowed for the opportunity to give the sections new planes, and now a new sense of depth that comes from staggering the elements apart in strips.

Through the creation of staggering the strips of a section, there is now conversation to have about the negative space, or the void. This coversation amounts to the void space and the fact that it is hidden in certain views. What happens or is it even worth exploring the idea of taking the void and allowing it to occur in a solid section? This can be done by taking away the elements that allow for the understanding of what the section consists of. In doing this, an individual begins to see not just one perspective of one section, but another perspective of a different section *Figure 12.4*. It becomes a push and/or pull in the mind to understand what is being looked at now. Are we looking at the negatively produced image or the image shown behind it? (In some cases when the section was out in public, people thought the negative section was a drawing. Now that's perception!)
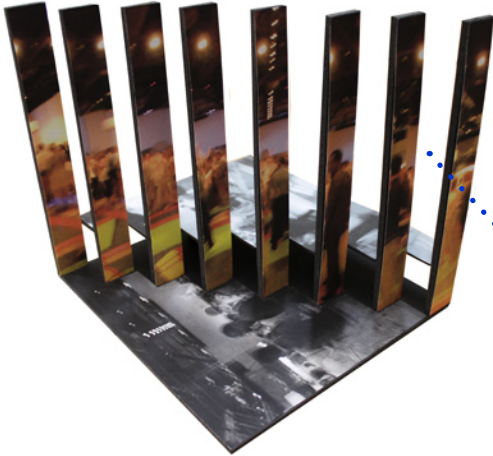
Figure 12.2
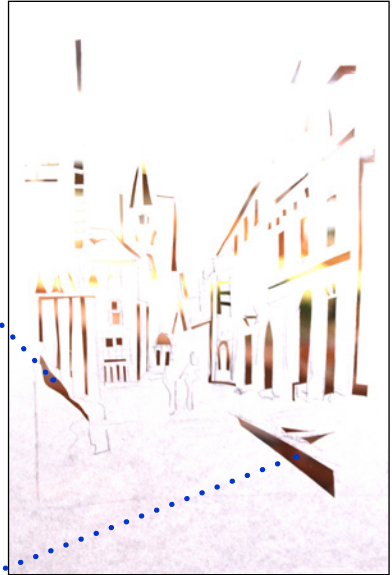
Figure 12.4
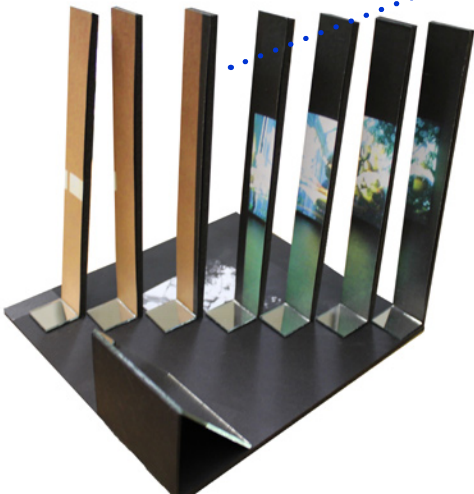
Figure 12.3

Figure 12.5
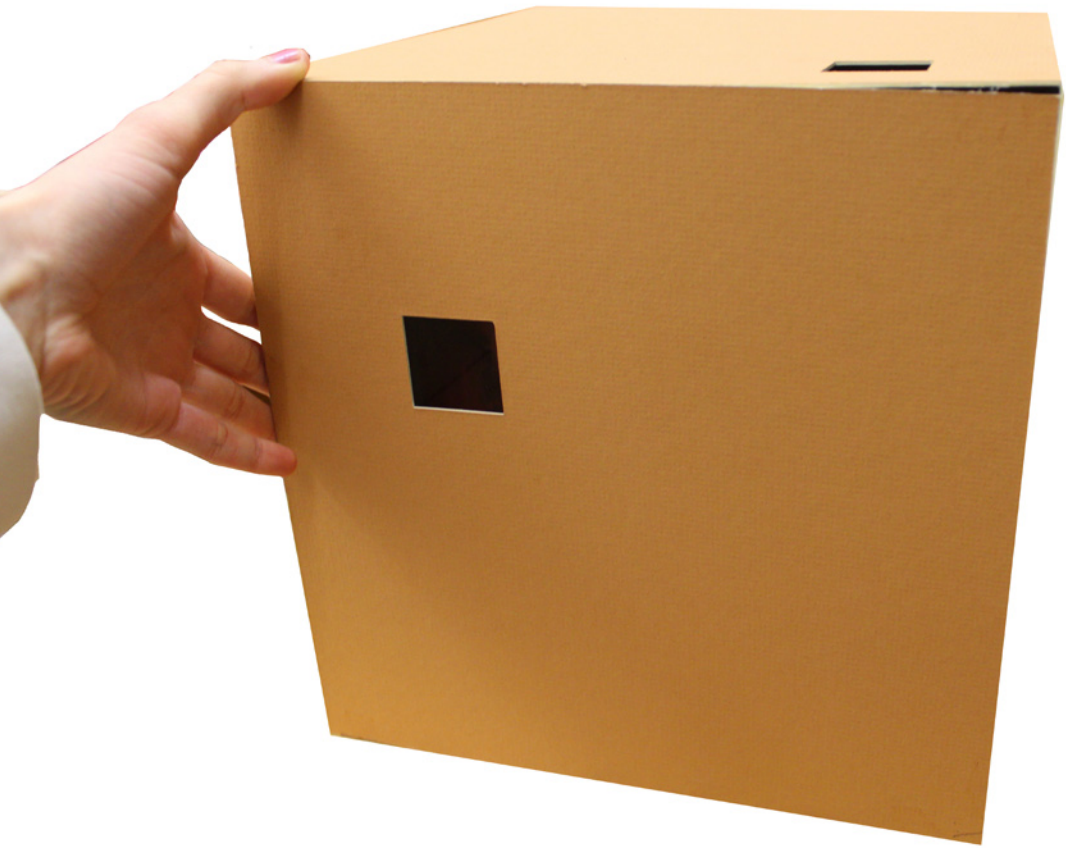
Figure 13

Looking back at first semester the culmination focused on the fact that the topic barely articulated the possibilities of exploring through reflection. So to advance this realization the use of acetate and mirrors came into contrivance together.

Trying to slightly eliminate the world around as context, a ten inch by ten inch looking box was created *Figure 13*. The looking box is merely composed of square voids and contained of mirrors and a section inside which allow for a viewer to knowingly aquire their eye to look for something; though it is an unknown something. After having people look inside and move the box around the realization is that the box too large in comparison to the eye. In order to find merit of the looking box, the box should be made smaller and more relational to the eye.
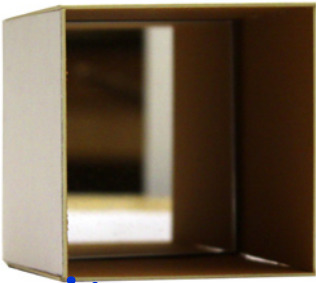
Figure 14

Figure 14.1
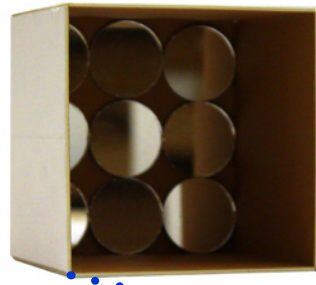
Figure 14.2
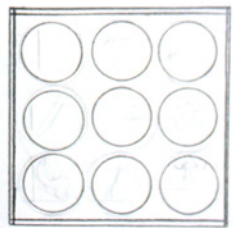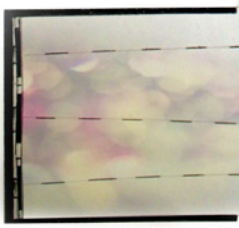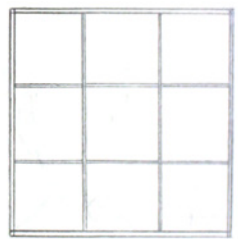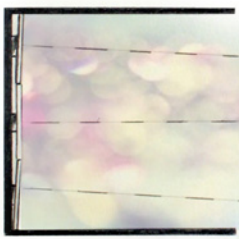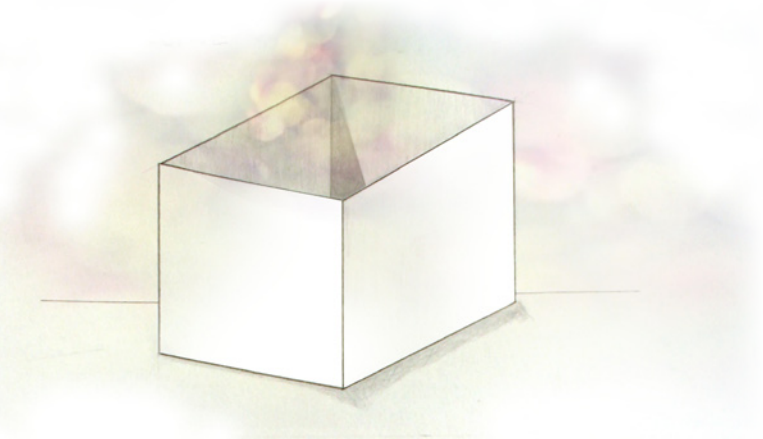
Figure 14.3

Developing smaller boxes resulted in three different types of explorations. Each with the goal to control what an individual saw when looking into the box.

At three by three by three, with a cube composed of 7 solid sides and one open to air, the new looking boxes create a more easily tangible object. In the first is a flat mirrior which allows an indivdual to observe the reflection as a true representation *Figure 14*. The second contains nine, one inch by one inch square mirrors, each tilted ever so slightly in different directions. This becomes a fractured view causing the observer to see more entities of their spatial surroundings *Figure 14.1*. The third box contains nine, one inch diameter circle mirrors, tilted in different directions as well, but furthering the fractures between the view making it an unsettling representation *Figure 14.2*.

In thinking about the perception quality these boxes had, no one that the boxes were given to expected them to contain mirrors, and such views. Upon the realization that looking into each was going to be different, the question for each was why does this fracture happen? One would think that putting multiple mirrors next to each other would create a larger mirror, but in fact the pieces being ever so slightly shifted change the context and our perspective and perception *Figure 14.3*.

Another quality of the boxes is the fact that they make seeing pleasureable, fun. In Alva Noe's book Action In Perception it states that sometimes we see not in order to act, but just in order to know, or to enjoy our experiences of seeing[8]".

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8 Action in Perception p. 11
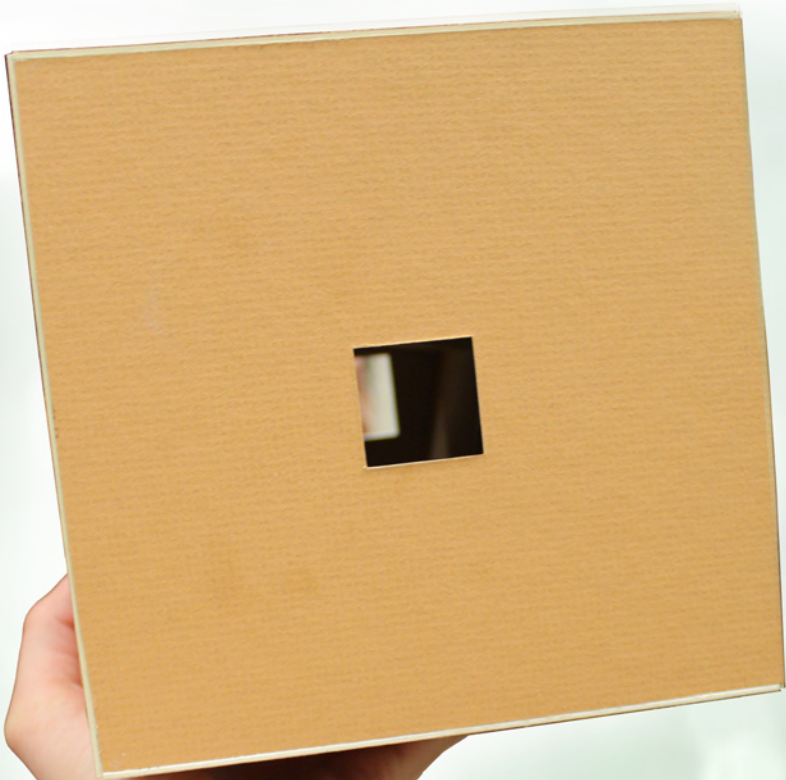
Figure 15

The mirrors themselves are strong entities to these explorations. Hugh Jacobsen, defined mirrors as, " when you can see yourself; otherwise it is an illusionary means of expanding space.[9]" So the mirrors in the fractured looking boxes aquired both qualities- where you are able to see both yourself, and the space around you.

With perception in mind, the exploration continues to experiment with a change in the context of the exterior versus interior. How does looking at a box from the outside concur with the perception of the space inside?

With the example to the left there is a play on a box within a box. When you look inside though; can you tell there is a smaller box? The actual looking that occurs proves that most people focus on the mirror inside the box and are unaware of the difference in space. That is because you see the size of the box on the outside and your brain transcribes the inside to reflect and you do not realize there is a smaller box.

The box explorations activate dynamic thoughts with vision and space. Sometimes what we think we see is not everything.

9 Mirror By Design p. 6
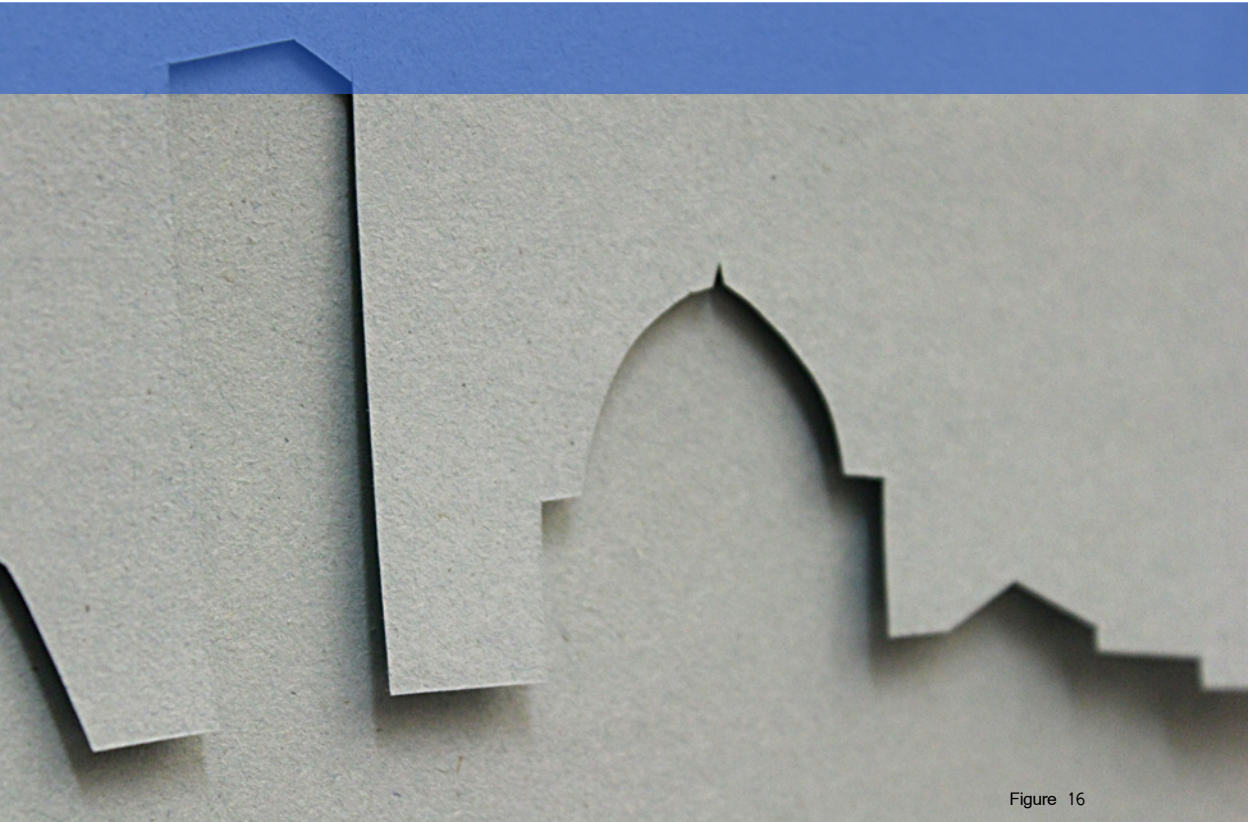
Figure 16

Figure 16.1

After the fractured box explorations, the focus is shifted back to cut outs. This time by using controlled contrast through cut outs with colors. The thing about color is that it can really define a section. But what about when a design uses one color for both the designed piece and the section *Figure 16*. Yes, one is able to distinguish between the elements because of the slight shadow. If the elements are brought closer to each other, there is an even stronger shadow.

Why not give contrast utilizing the colors of the paper? As each exploration is mounted to a wall it is common knowledge that we already know that each contrast design is going to show all the details, but the question is how to add more information? Taking what is already known about acetate, that is has reflection qualities, the direct connection between two explorations occurs. In doing this, the process gives one perspective, a two perspective quality *Figure 16.1*. That not only are you able to see what you are looking from the front, but also seeing what is behind that particular section.

One perspective, a two perspective quality.

Obviously, we move through sections and in doing so we change our perceptions based on what we see. Now revert back to the idea of seeing through one section into another section. How can we go about filling in the void of the sections? (And not just filling in the voids all together at the same time.)

In the figures at the bottom of the page the view past the window is drawn and then cut out of paper that stretched across the lower half of the window. Depending on the viewpoint of the person a different void space would be completed while other voids would be filled with excess pieces of the sections. [This exploration was an engagement of movement upon a section.]

The fact that the observer can still see out over the section below gives context for the true representation of the section. So with that fact the voids have a direct relation to the true representation.

Figure 17   Figure 17.1

But the engagement is part of the social experience with this exploration and thus brings back the link that all of the explorations are trying to accomplish. What more connections can come together to create a social expereience?

In other thoughts, this exploration is also picking at how to look at vanishing points to alter perception. The hidden sections become incomplete and complete at different viewpoints thus fracturing vanishing points of the sections.

Vanishing points are the moments that happen when the perspective appears to end in a distance. In the figures below the vanishing points change rapidly due to the shape of the fractured sections in the several moments that can occur. With sections, the individual moments that exist are the ones that make this exploration so diverse.

Figure 17.2

Figure 18

Poetics of a Glance:

An individual is walking along a busy path and looks up to see window full of voids, or so it appears at first glance. But in one moment a 'void' produces a reflection. The individual stops and for that one moment the reflection forces a connection of the surrounding context. The power of design and the joy of seeing *do* have the aptitude to change our actions.

Maybe this idea is also another way to spark social experience with others through the means of looking, as Eliasson's work strives to do.

Small ideas. Big moments. Larger than life?

Figure 19
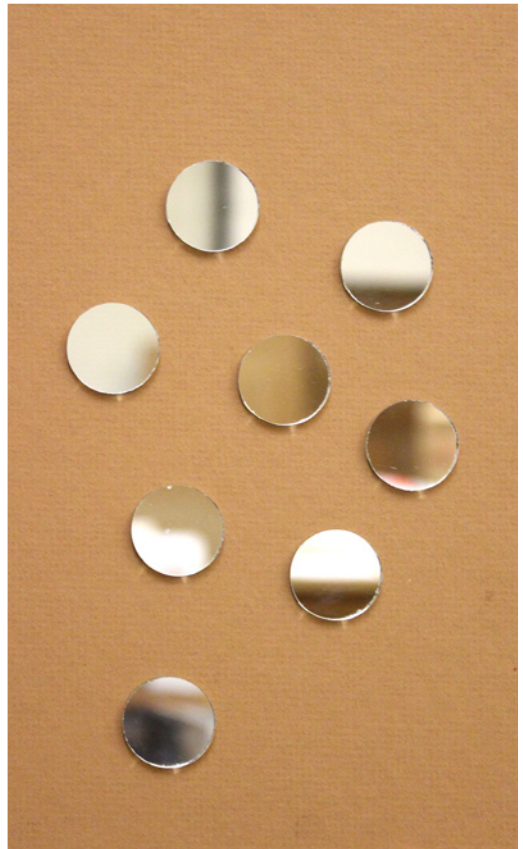
Figure 19.1

[Keep in mind the previous example, where an individual catches sight of their surroundings.] The mirrors/voids/reflective surfaces do not need to be one entity. It is known that no matter their distance, once we know what we are looking at, the pieces fit together within our minds.

No matter the size, shape, color or distance apart.

We can design all we want on paper and through sketch models，but real applications make all the difference．
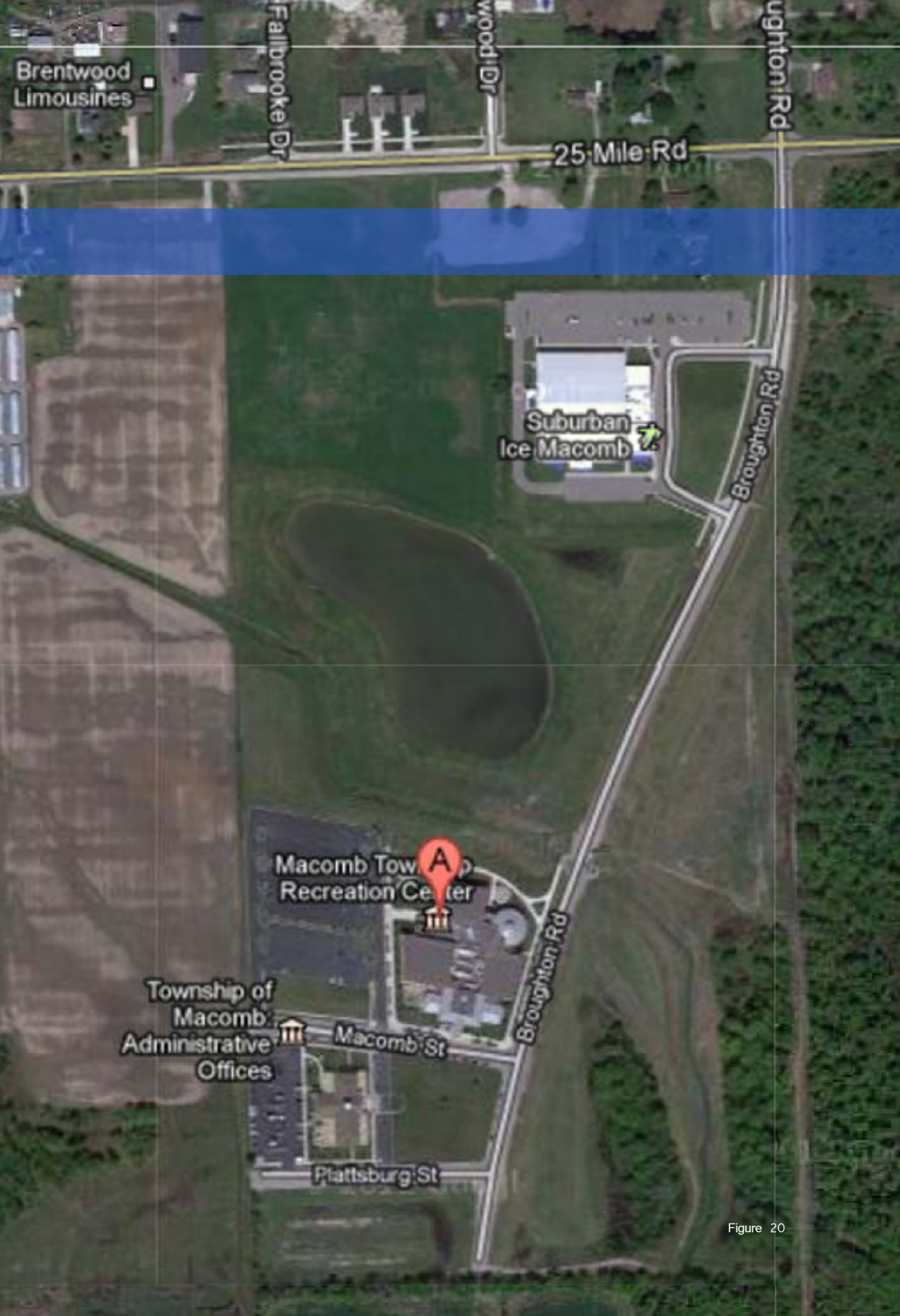
Figure 20

Proposed Site Explorations: The thought about obtaining a site was an attempt to control all the explorations. An attempt to turn a design idea to a solid structure or installation. The site is a plot of land in Macomb Township, Michigan, surrounding the Macomb Township Recreational Center, the Township Administrative Offices and the Suburban Ice Rink.

This area was selected because it already has a lot to offer people in the community with the flaw that it is only for indoor activities. People come to utilize the basketball courts, softball, and indoor water park, as well as run the track, work out, and take advantage of its childcare while aspect. But there is no set boundary if one wants to extend any of these activities outdoors.

Chosing this site provides opportunities to apply the explorations at a larger scale and really show how they can affect life aside from being models on a desk or ideas within the computer. Chosing this site was a chance to freely design sculptures, pavillions, and plazas. The way this process is structured is all conceptual and therefore contains limitless possibilities.

Figure 21

Figure 21.1

In the process of deciding to work with larger installments on a site, there needs to be a way to transcribe the black board *Figure 18* with voids and mirrors to a more tangible product for a possible mass contruction. With this came the product of pegboards. The pegboard already contains voids and based on materiallity, the chance for altering the view/section through the voids.

Thinking minimally about the materiality of the pegboard, which has two different textured and colored sides; both are opaque to the observer, and the holes allow you to form the image behind thus the idea of seeing one perspective through an opaque section.

In making the pegboard panels, it is apparent that seeing a perspective through the brown side of the board is easier to do than the white side in the event that the light source is brighter on the oppsite side of the section.

It is still credible that sections can be seen through the white pegboard, but because white reflects it is slightly more difficult to focus on the sections past it. In the case of the brown pegboard, darker colors absorb light and therefore it is easier to see through can capture the sections past the pegboard.

Figure 22

Before the alterations of the pegboard could happen, the pegboard was removed from the structure all together. To occupy the structure the section was filled with compact discs. When taken outdoors the compact disc began a new dialouge. With the reflective side of the disc, the sun rays transcribed the shape and motion of the disc to the ground and began to move due to the non-restrictive movement. This was another way to apply the idea of looking as a social experience where children became involved with this piece and worked together to chase the reflective elements.

Alas the pegboard exploration commenced after the compact disc exploration because of the multitude of questions left behind from before looking at just the compact discs.
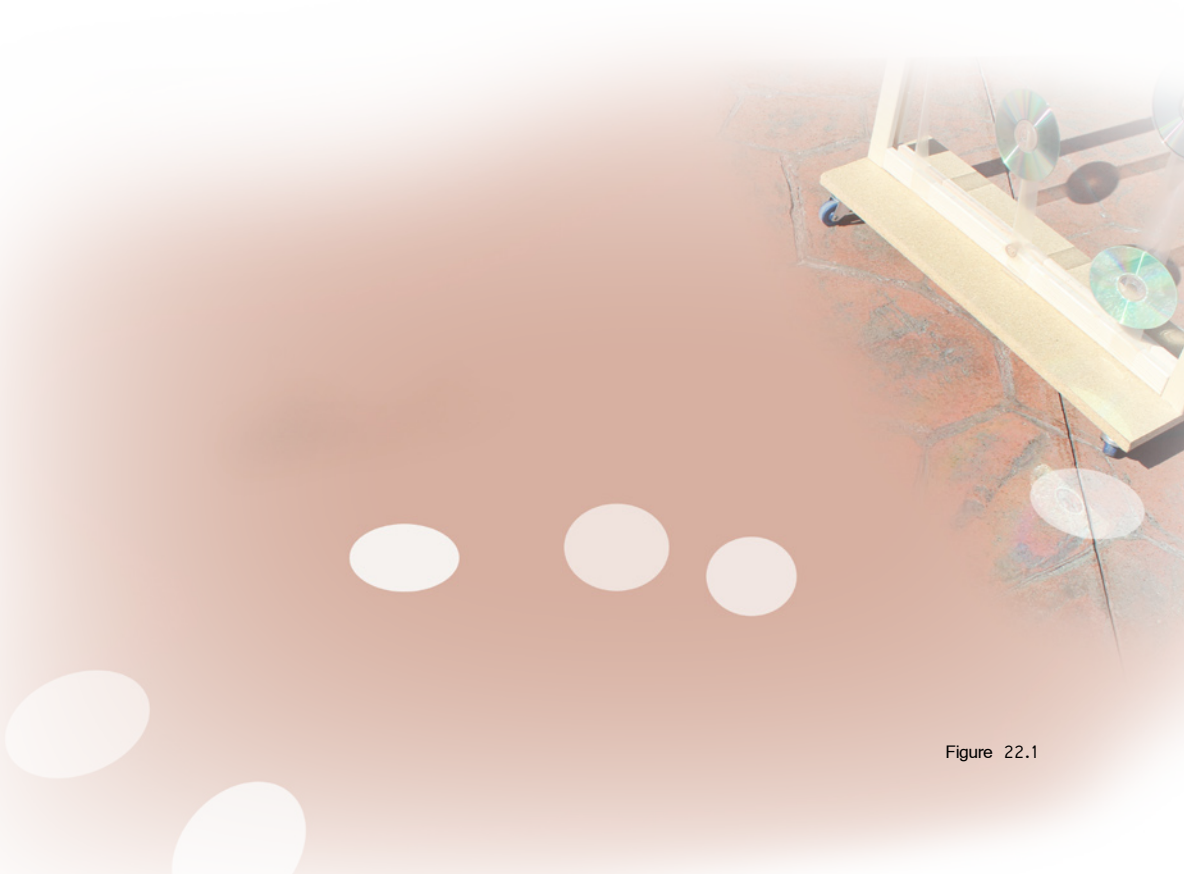
Figure 22.1
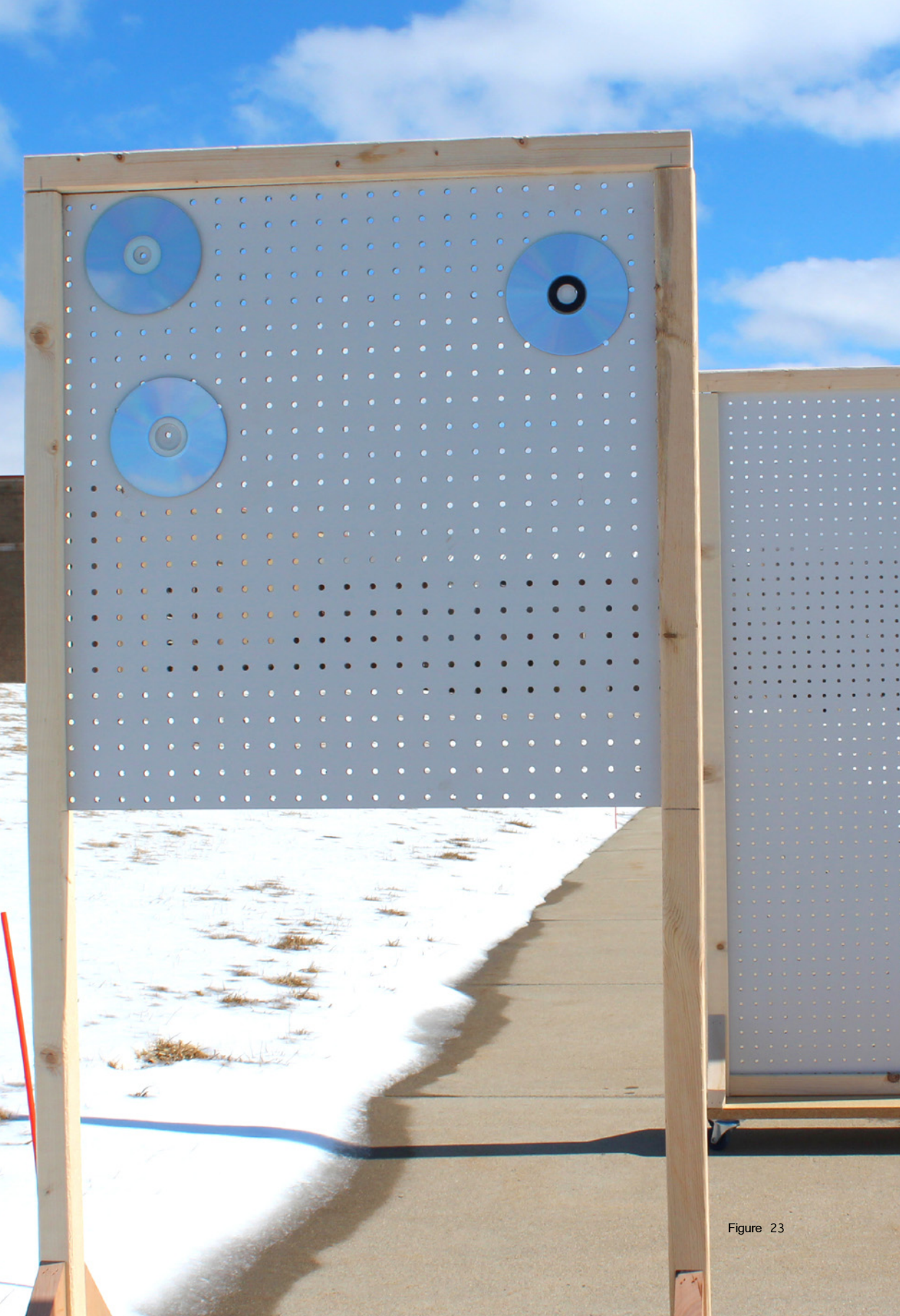
Figure 23

Come time to take the pegboards out to the proposed site the vision became more of a reality as the reflective surfaces began to capture sections from the context. Being on site, cognitively the visions began to question the possible alterations in the size of the voids within the rigidity of the pegboard.

Figure 23.1
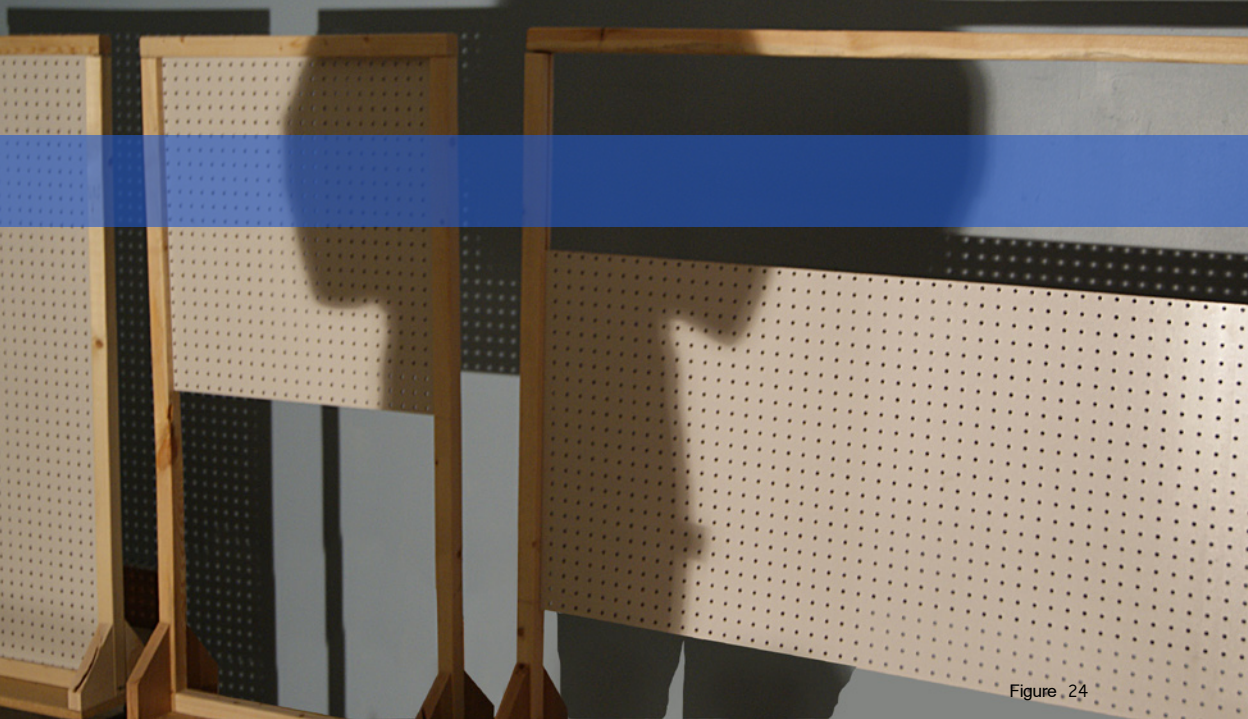
Figure . 24

Figure 24.1

Figure 24, 24.1, and 24.2 display the pegboard model during the interaction of light and shadow. Is this stimulation enough for engaging in social experiences with others?

How might this translate into a real world application?

Along sidewalks?
As an entrance/exit?
Within a nature center?

Opportunities are endless, though the reasons must be relevant to the program.
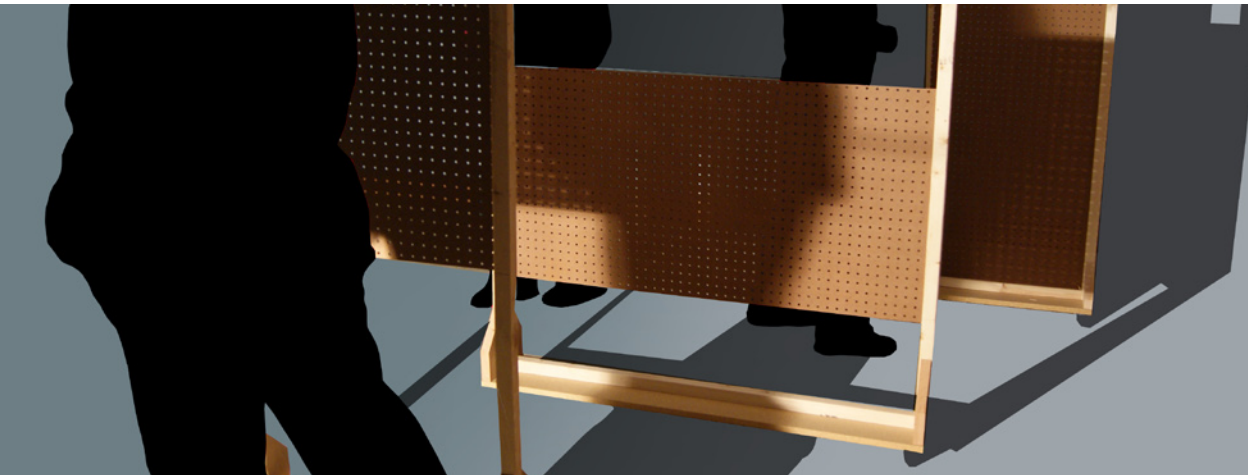
Figure 24.2
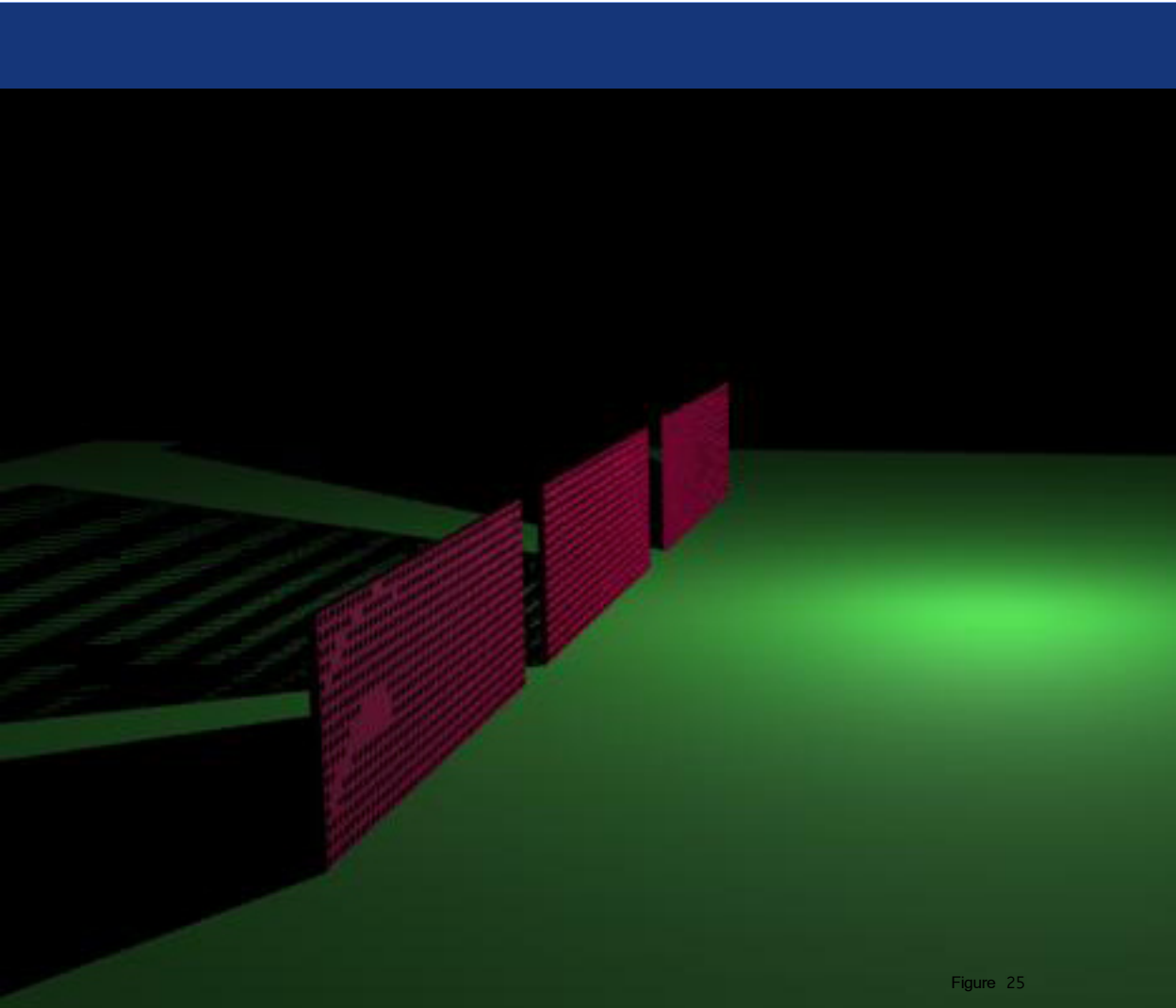
Figure 25
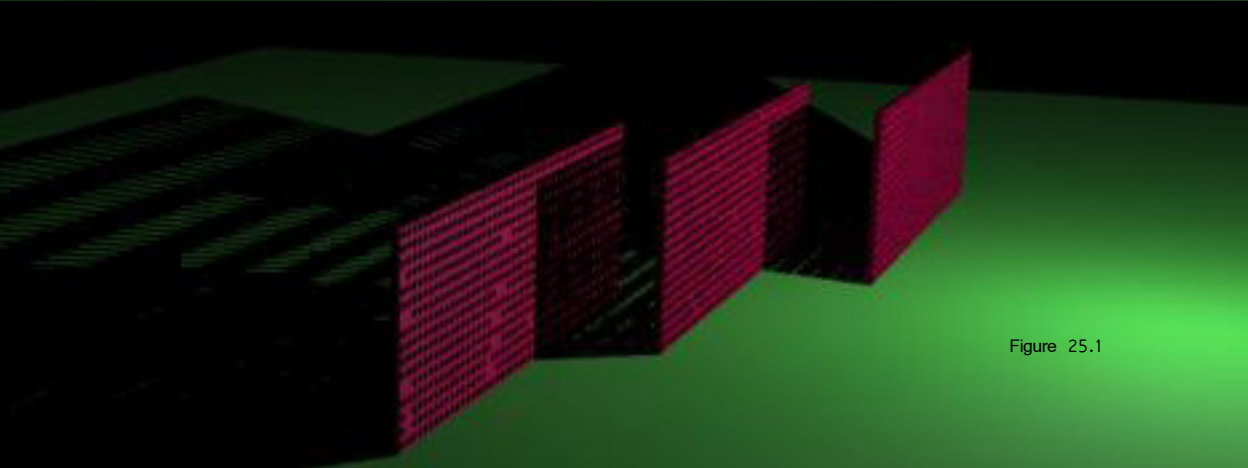
Figure 25.1

Instead of direct contact with the pegboard the design was transcribed as a structure in 3D Max because of the abilities to manipulate and test designs in a more efficient manner. Because maybe light can be incoorporated into the design or maybe the scale will need to be manipulated.

This designed concept is to have development in both small scale elements and large scale elements to help with transition between the applications of all the concepts. The design was also supposed to be a nonstationary structure and the ability to be alter by users.

PULLED UP?

FOLD TOGETHER? (HOLES FIT PERFECT)

FOLD UP?

MOVEABLE?
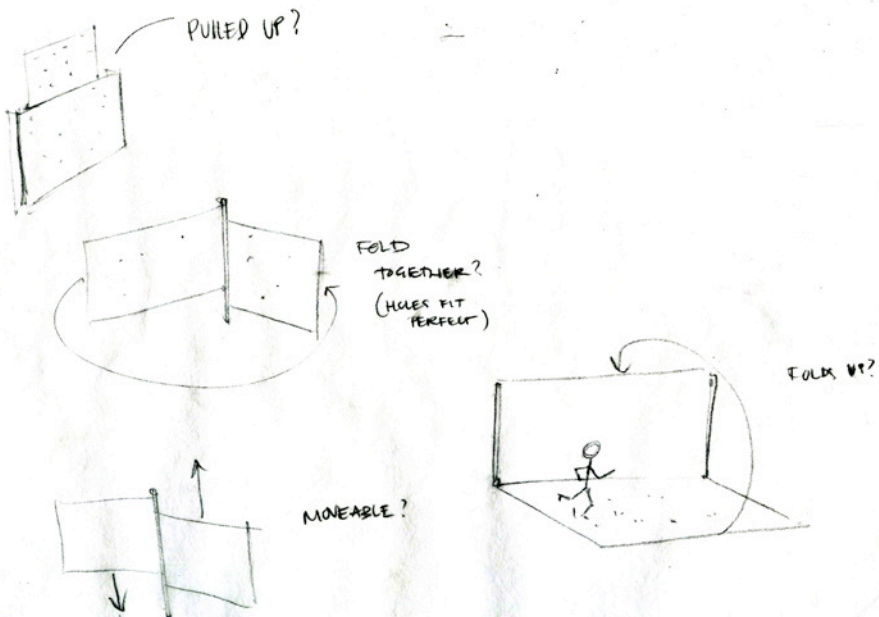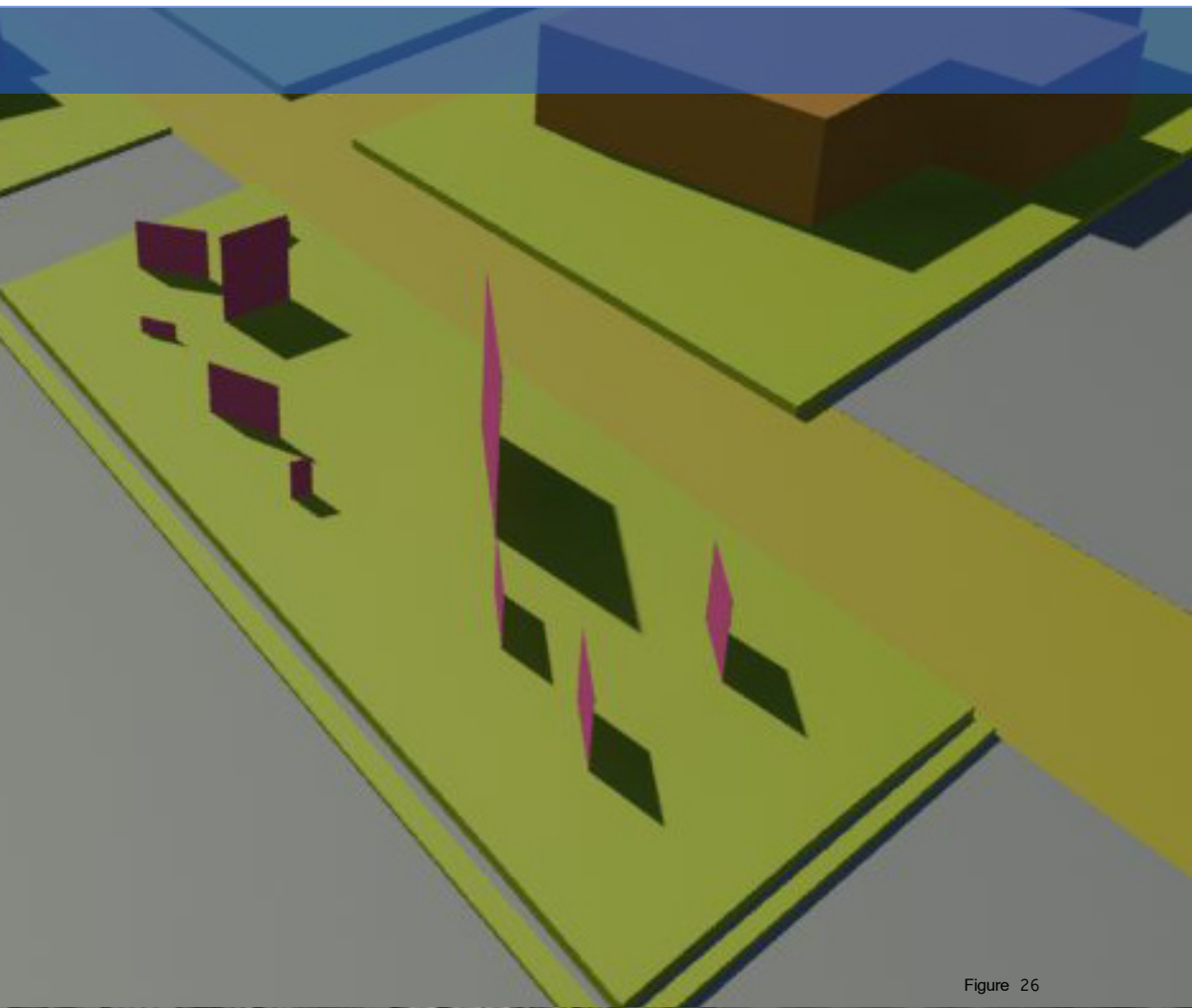
Figure 25.2
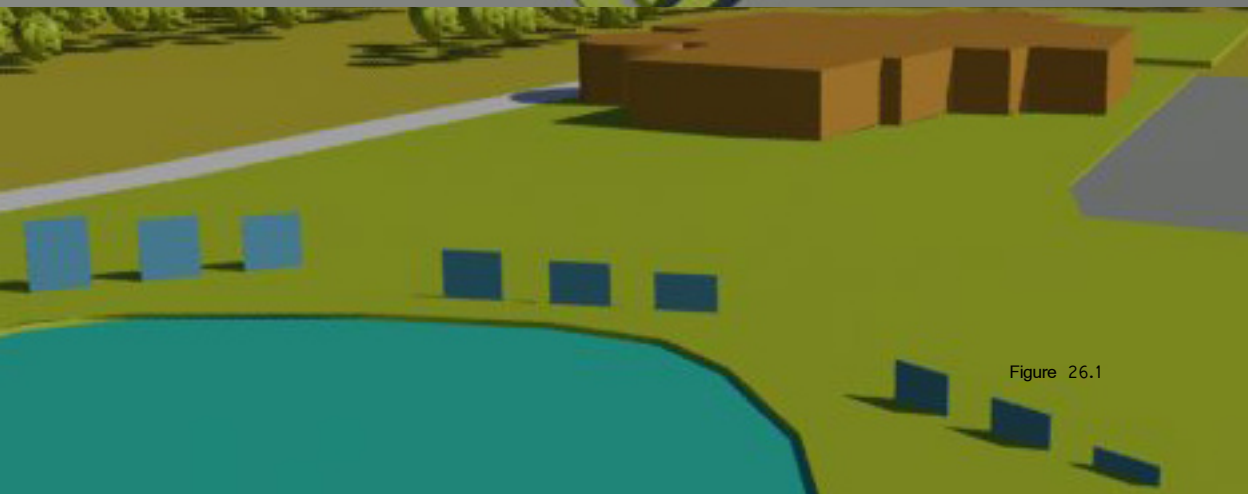
Figure 26

Figure 26.1

The initial response upon the site visit was to exploit the area between the administrative building and the recreational center- it is a small site about 300 by 100 feet and in perfect view when people park their cars. The only problem is after people park they are going to set their perception to getting to where they need to be in ten minutes. So with an implemented design, how could the space become a social interaction spot? A place where design can manipulate the parking lot and poetically slow down the pace of life due to the gradual shift in the shadows cast from the voids in the pegboard.

With this thinking, why does some design intervention have to only happen between the parking lot and the building? The goal is truly to bring the indoors out, so maybe this design actually wants to expand towards the water- the space between the rink and recreational center. So by designing some sort of path/pavilion the hope would be to make this a location for folks to come to enjoy in the nice weather and not just to work out.
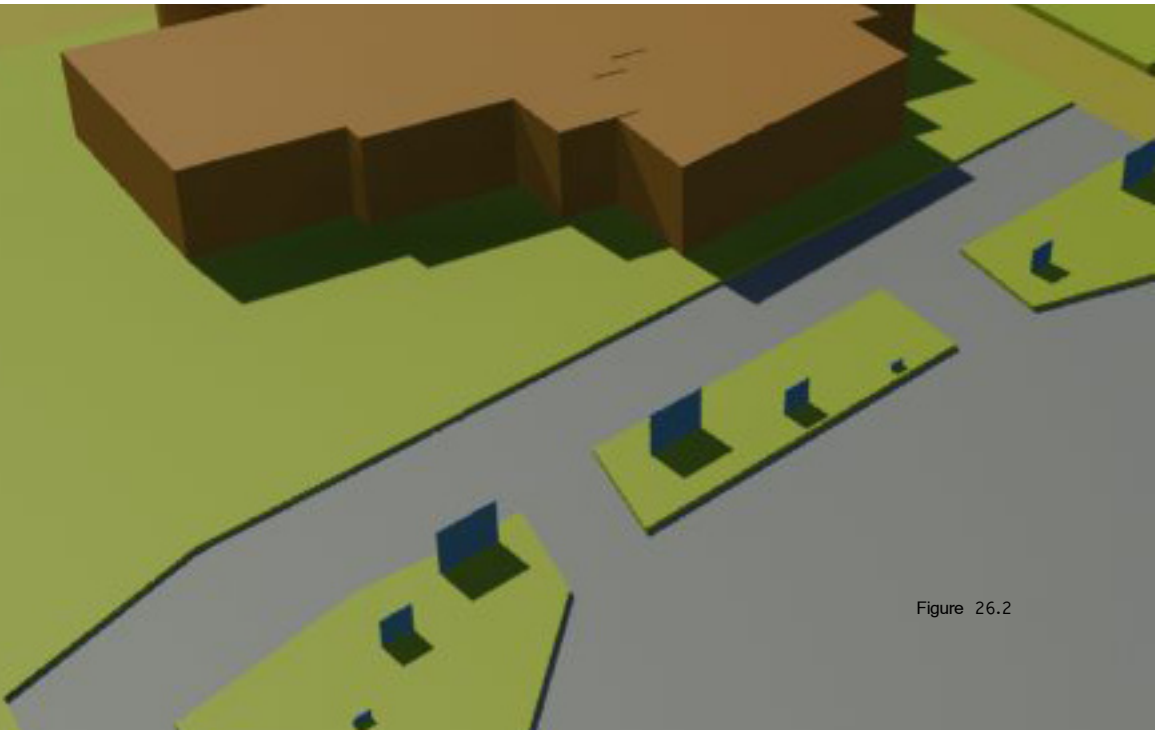
Figure 26.2

Yet, this is where the implementation of using a site stops. Why you ask? Because the concepts that are explored previous to the decision to exploit a site, really show how this process should not actually stop on a site, but that there are more exporations to uncover.

Having a site to apply all the concepts to at once may be overbearing and a poor decision. Imagine having everything that you have already read right in front of you as you look up. You may not know where to look or what to make of these sections.

Rather, it should be understood that a lack there of a site is a strong decision to allow for a continuation of the possibilities of this thesis. Meaning that this thesis is merely a way for one to understand and realize ideas that can be thought of when actually designing a program.

What is the purpose of all of this and why is it a thesis?
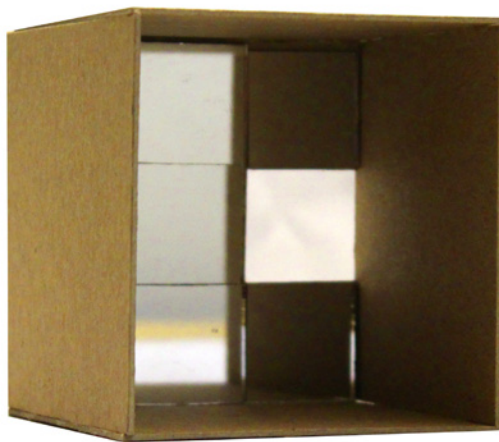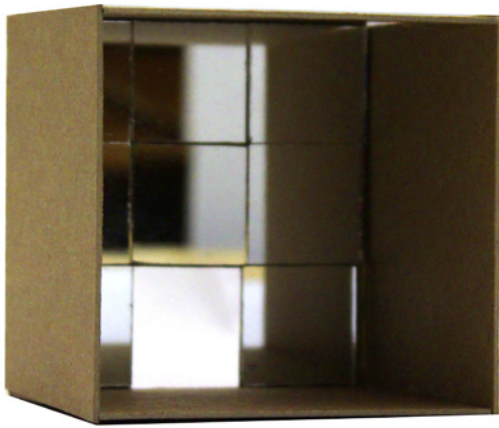
Figure 27

Revisiting the idea discovered with the looking boxes, the potential for furthering the sections in connection with the voids wanted/ needed to happen. Instead of the square looking box *only* containing mirrors, one of the spaces now became a complete void *Figure 27*. With this, the looking boxes not only have a sense of reflection, but also a sense of depth.

Surely, by looking into the original looking boxes one can see a contrast between the edge of the box, the interior, and the exterior content. Now by actually creating a contrast of the interior sections of the box, the sections become framed and the eye is more prompt to focus on the new section that is unlike the rest. The new section is also a part of the box's exterior. This allows an individual looking into the box to understand more about what is behind the reflected sections.

Take into account the movement of the looking boxes; they are not a static model in one particular place. Rather the boxes are portable and have the ability to create new experiences when taken to new spaces. And depending on the size of the boxes and mirrors, there is the possibility for the reflections to hold more or less content.

Maybe the boxes connect to everything that has already been explored. Maybe they do not. Some of this exploration looks to, and is based off of what is already out there, and some of it comes from ideas that come from this process naturally.

Either way, the end is almost near and the conclusion is trying to be clear; [just] maybe you can understand it.

Anot now: A race against time.
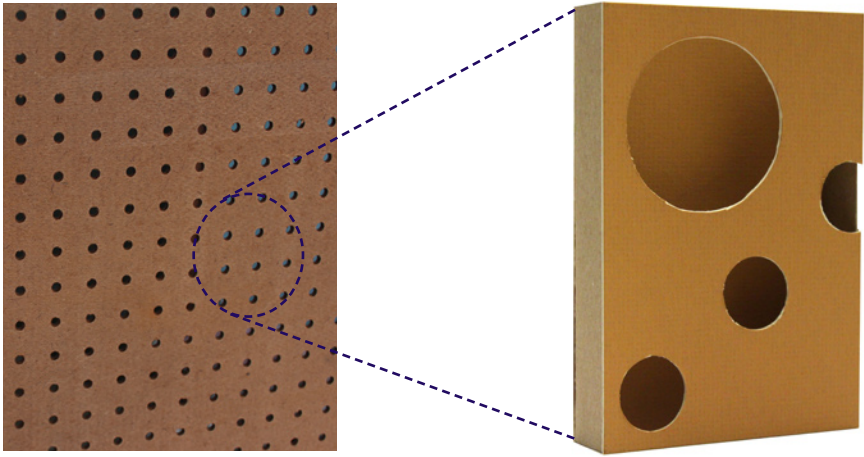
Figure 28
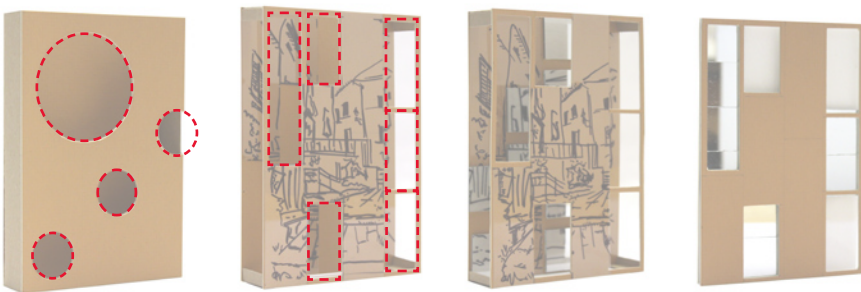
Figure 28.1

Over the course of a year this process has gone through, created, and worked with several ideas of perception and perspective. The real question is 'what kind of solution does this lead to for this thesis?' Note the word choice, 'this thesis.' It is not 'the' only thesis- it is just one thesis in this particular time of life. And it is just one thesis exploration on this topic. The decision of returning to expand on the explorations ever transpire is questionable, but for now an attempt to draw conclusion is one to result with the work in this process.

After having dealt with the idea of the pegboard installations, the next decision is that it is necessary to zoom in on the construct of the board- the void circles that allow for seeing past the section that the board occupies *Figure 28*. In the actual making of the small model of the pegboard, inspiration struck from a past exploration. It is the idea of transparencies and looking past a section into another section. And overlapping or connecting two explorations in this thesis is quite reasonable. What happened is that there is a jump from the void on the pegboard back to the fragmented section. Utilizing the acetate, the process began to see it as an overlay on a model instead of its own subsistence. This, in the making of the models (*Figure 28.1*) retreats from using circle voids to using squares.

By arbitrarily arranging the cut outs of transparencies came the development of new layers of seeing the transparency. In giving parts of the transparency new section planes the new models begin to play with the idea of depth. With the addition of mirrors to the same amount of planes, comes the ability create even more judgments of depth upon only applying two sections.
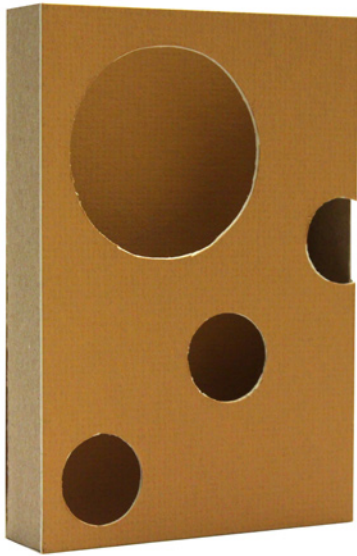
Figure 28.2

This model is the first attempt to zoom in on the pegboard. The idea was that by changing the sizes of the voids different experiences can occur per whatever scale will be selected.

In all honesty, the attempt with this model is to design a facade, change the orientation of the model and work with different perspectives. For example, this could become a facade to which someone is walking past the smaller voids first, but by only through the facade at different points new information is gathered and by the time the individual reaches the larger void is when the smaller voids become perceptional complete.

Figure 28.3

The second model is where the idea of the transparency is incorporated. The voids became squares, but the idea of this being a facade is still intact. From the front elevation one would see a complete section, but upon walking along the facade, sections and perspectives only show pieces of the full section and therefore there is no way the experience of the full facade is complete.

Figure 28.4

By adding mirrors and a section behind the front of the facade, the individual walking past now is able to see the whole section. Yet, this only occurs once that individual passes through the exterior and into the second layer.
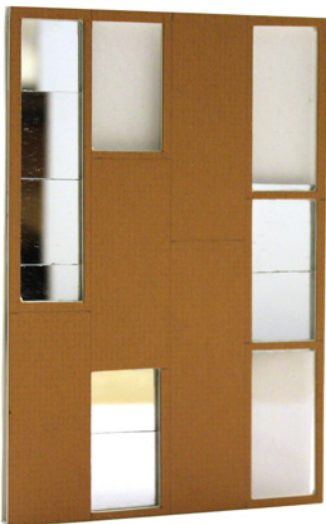
Figure 28.5

By taking away the second layer of section all together, there is a fallen dialouge between anyone in the front of the facade and the possible sections that would want to occur. From here the question is what is past this section? How can this sketch model be further developed?
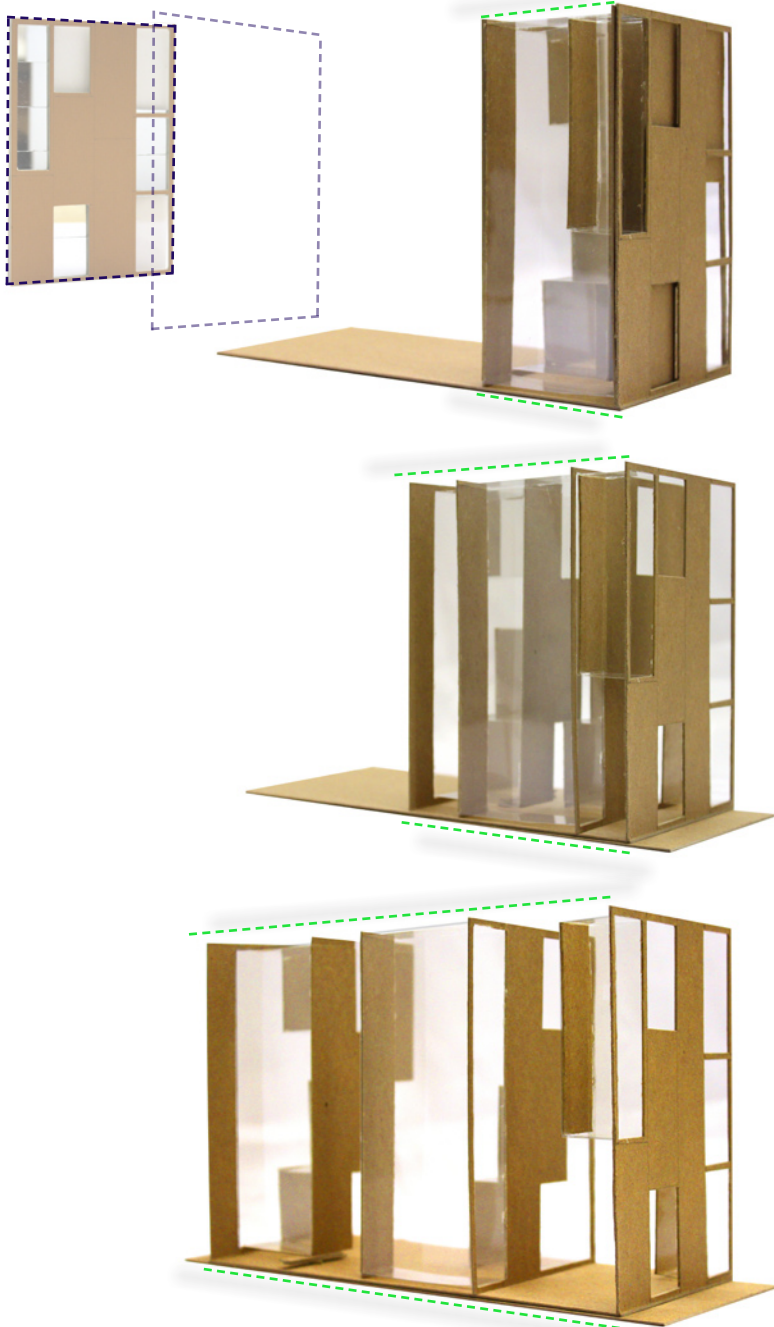
Figure 29

Utilizing models, the possibility to actually 'capture' a section and explode the parts is viable. In reality we can only exisit in multiple sections without ever seeing the divisions, but maybe this is a way, like Schwitters, to base the depth of a designed space.

To answer the question on the previous page asking how the last sketch model can be further developed, one can devise that it is a simple section again. Meaning that it is just one sliver of space. What happens is that this one section can break apart *Figure 29*, like the video explorations（see images chronologically from the top left to the bottom）and space is actually formed remotely.

Figure 29.1 shows the expansion of the model in perspectives of how a space can exists.
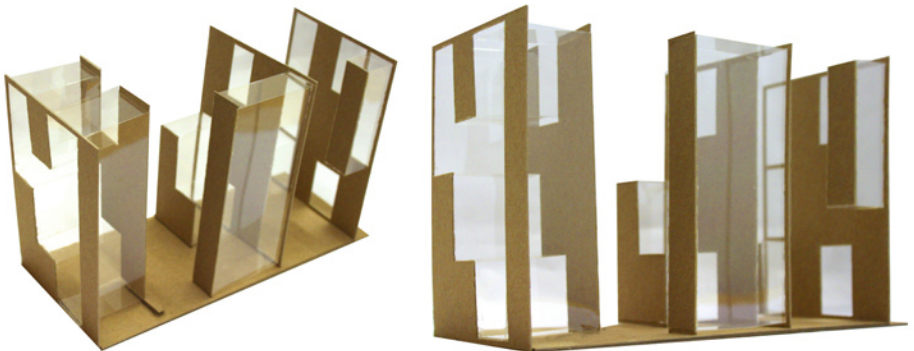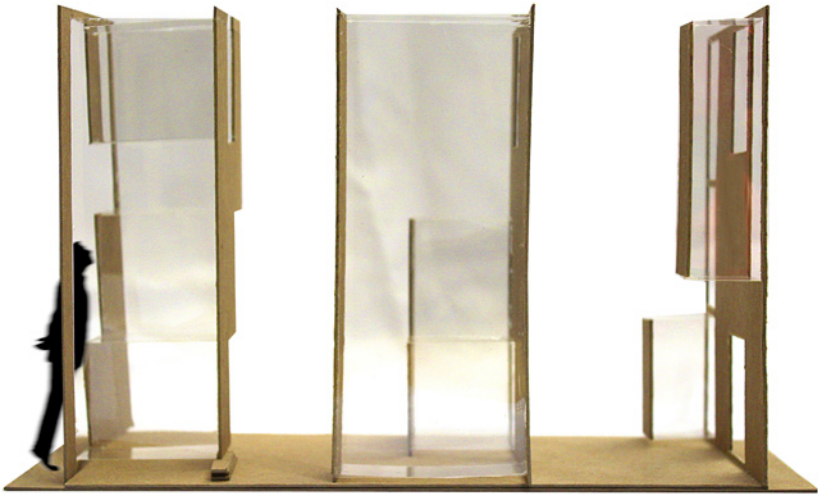
Figure 29.1

Figure 29.2
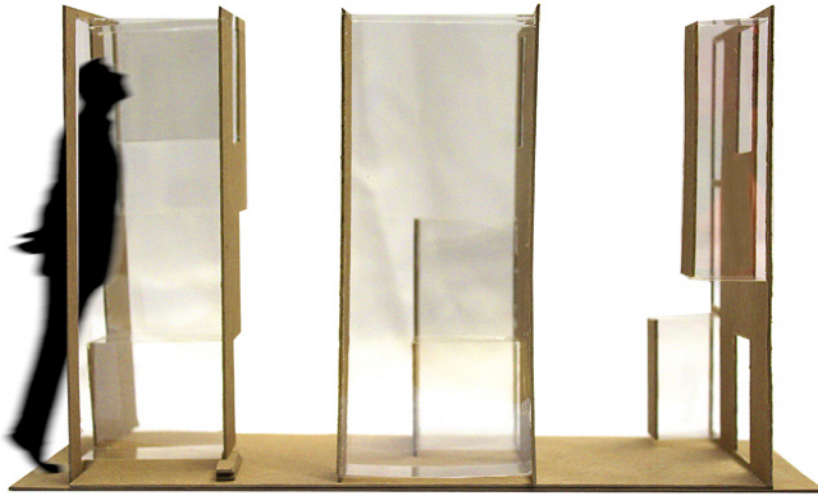
Figure 29.3

There is no scale to the models. A person can have different
experiences based on the application to the space the design
actually takes up. All that is important to take away is that the
expansion of a section has endless possiblities and that is where
architecture can take full advantage of activating experiences.

Figure 30

Thinking of scale and where dynamic architectural experiences occur, Europe easily stands out with many prospects. It is so amazing to see massive amounts of detail in such compelling buildings. But no one is ever fortunate enough to be up close and personal with the elements as the designers/artist themselves were primitively. Surely at times there are moments for people to be somewhat close to the magnificant ceiling details of a cathedral dome, but never close enough to breathe the detail in and let that memory and mystical creation seep into the soul.

With this thought in mind, *would it not* be a wonderful way to explore the idea of making the movement through a space become experience enough where you can be standing in front of details that look so out of reach from a distance?

The conclusion to this thesis is the literal design of moving through a space that contains the every detail of a façade. With this, comes the idea of never seeing any of the façade from the same perspective again, thus altering the perception of the space at the same time. Which allows for new experiences at all times.

The idea of the design becomes a measure for making space. It can be a universal approach, meaning that it can be used in with the same approach, but for different programs. Each design becomes its own.

So, to reiterate, one can see the façade, but once one passes through it, is a whole new experience to unfold- all at human scale. Instead of walking up an enclosed circular staircase, one can actually experience a change in space by the change in elevation and detail. This is not a new revelation though, designers are known to express movement, and express structure by leaving a circulation as space open. But this is an idea of how to occupy a space to merely enjoy all the details that make the facade of space alluring.

Figure 31

Figure 31.1

To retract, with this conclusion there is an association to the idea of pathological sections, as mentioned in the beginning. Upon the inital attempt to use the pathological sections to dissect a section back, there was not enough confidence and scope as to how it could relate to spatial awareness. Nor was there enough insight on how to use the technique, but after critically working away at thesis ideas, a conclusion is now drawn from using the pathological sections as explained in the previous page.

The sketch models（shown left）illustrate how space can be formed using pathological sections. The first sketch model shows sections without a break in the facade. The section is easily viewed as a dense facade, while the second sketch model contains a fractured pathological section. It shows depth as well, but this time enlightening and opening a path which can be moved through.

Figure 31.2

Figure 31.3

Figure 31.4

Shown here are process models; sections that allow passage at different perspectives based on moving up through the space *Figure 31.3*. In *Figure 31.4* the model changes in materiality; where the previous model uses paper, this one uses color transparent sections to hold the idea that from behind one section an individual can look back and recognize where they came from between the space.
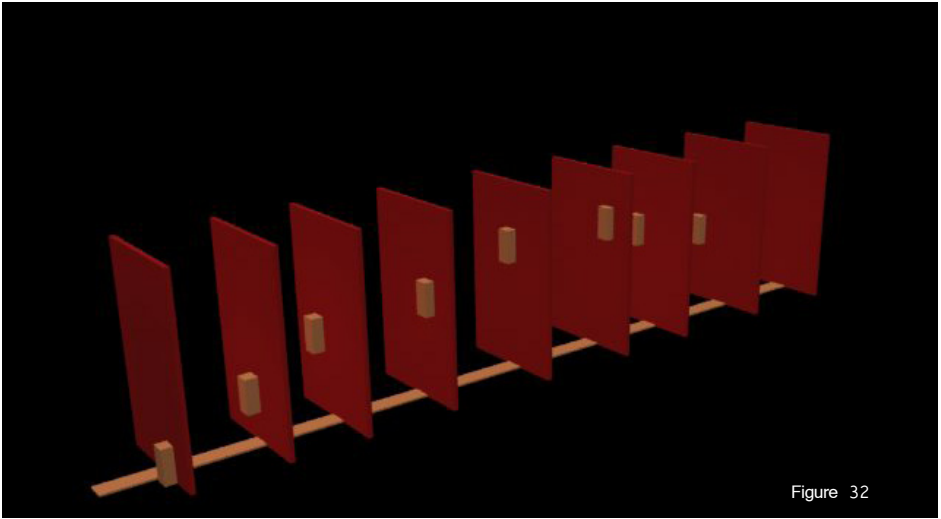
Figure 32
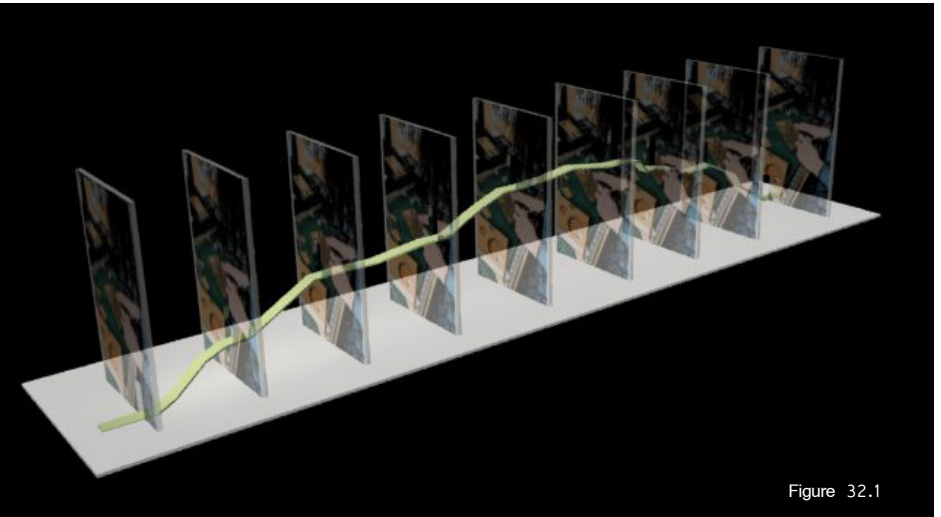
Figure 32.1
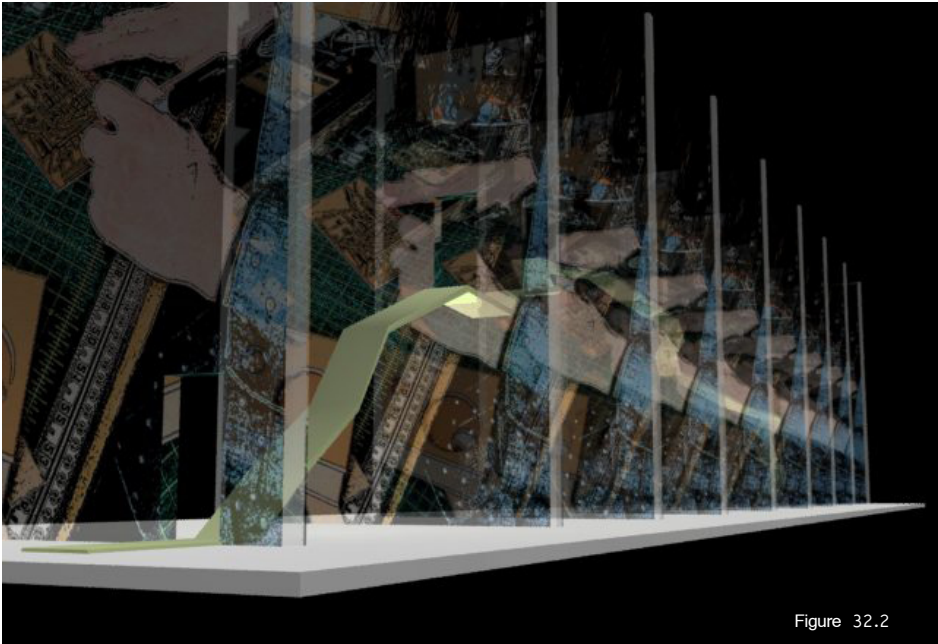
Figure 32.2

To see how this movement is possible, the sketches shown here are captures from a 3D Max model. It is simply a series of nine sections, with a door frame cut out in a different position（different level and different area）on each.

From this model is a video walkthrough of the passage and the experience through each section. The video starts from a distance seeing the facade and pulls in closer to the door and moves through as a potential perspective someone may have; perceived reality.（screen captures of video on next page）
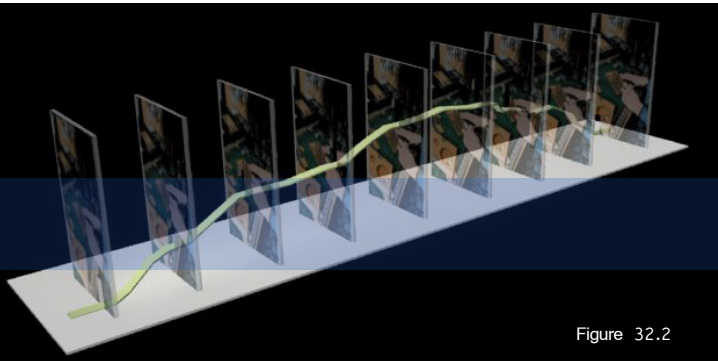
Figure 32.2
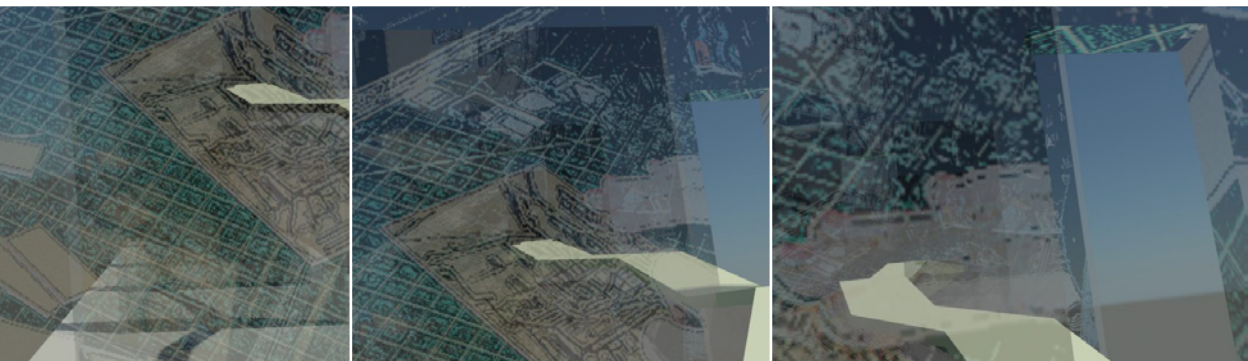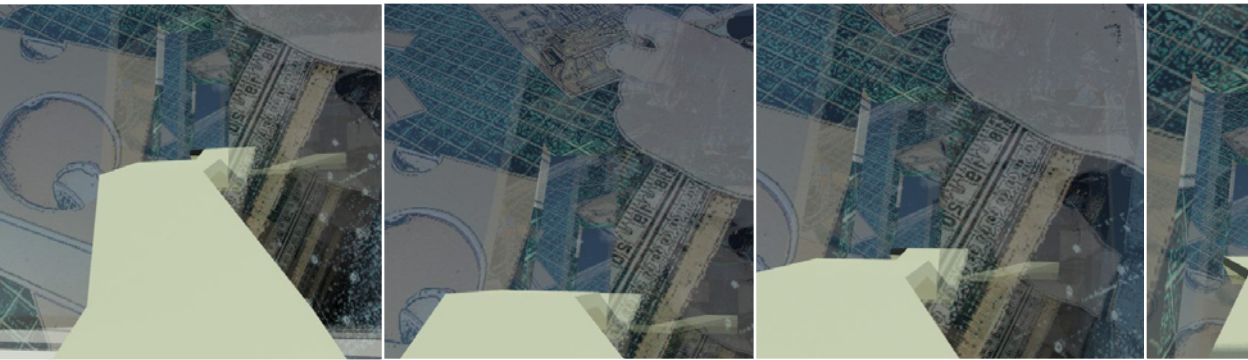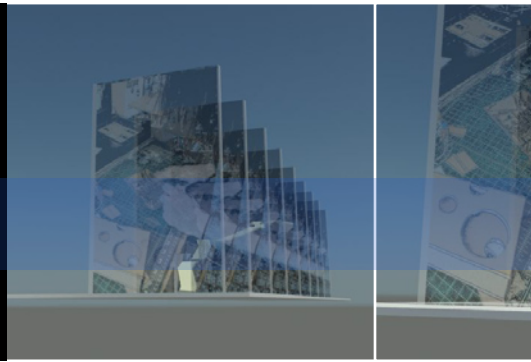
［The images on this page are screen captures of a video produced to show moving through sections］ An individual is able to be near a piece of the facade that is seeming out of reach from the ground perspective.
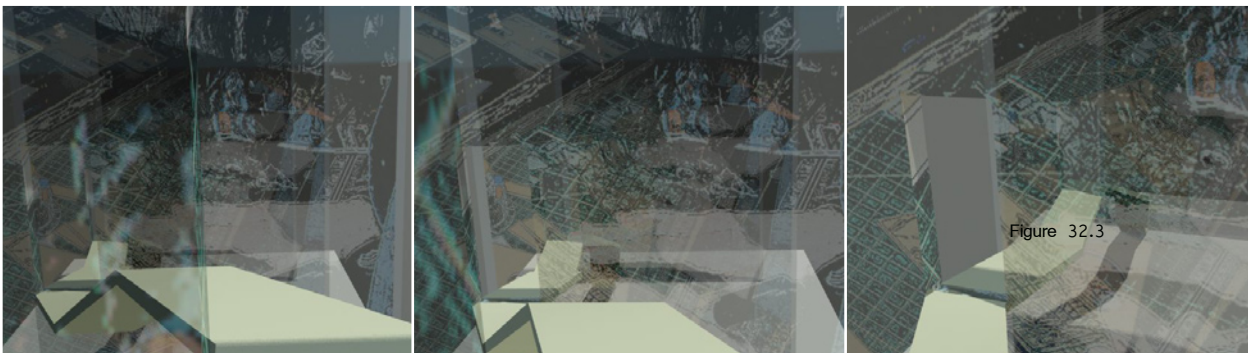
Figure 32.3

Figure 33
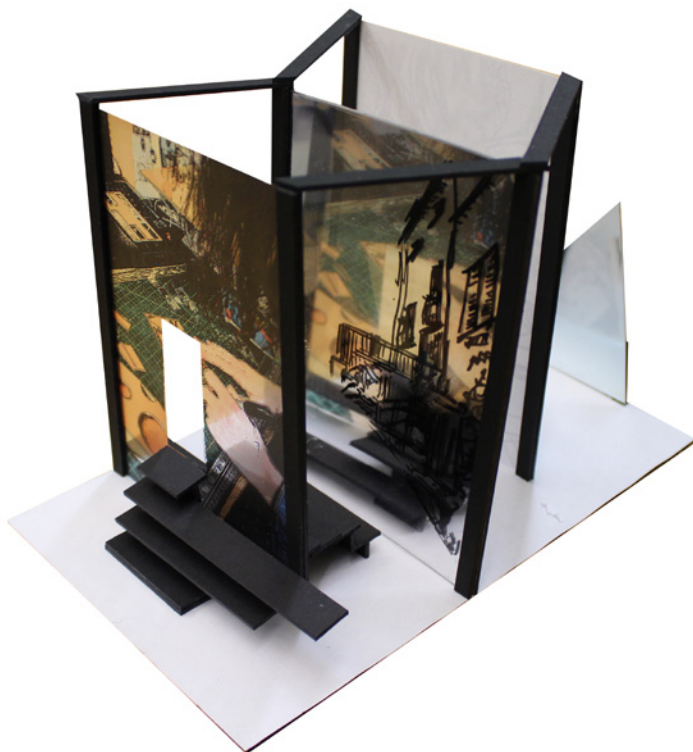
Figure 33.1

There is no reason that this idea cannot be continually progress. The sections do not have to be static, they do not have to be within a set 'rectangular' site. The sections can shift left, right, up, or down. By all means the material to which the section overlays can be transparent, translucent, opaque, or even reflective.

Architects contemplate these dicisions continually. That is why this is a thesis; and the purpose of all of it is to realize that once an individual is finished studying architecture or design that there is still more out there to learn because there is never one solution. What has been learned here may be new, may be exisiting, but the fact is that for this one moment in time it is the conclusion.

And for the sake of knowning that perception is not just one configuration.

Be Inspired.

"Life is a series of natural and spontaneous changes. Don't resist them; that only creates sorrow. Let reality be reality. Let things flow naturally forward in whatever way they like."

-Lao Tzu

Al Omari, Hafs Sa, and Rand A. Younis. "Color Contrast an Architecture Formation Style." Http://psrcentre.org/images/ extraimages/1412167.pdf. Web.

"ANALYZING A PHOTOGRAPH A How-To Guide." ANALYZING A PHOTOGRAPH. Web. Sept. 2012.

Arnheim, Rudolf. Art and Visual Perception; a Psychology of the Creative Eye. Berkeley: University of California, 1954. Print.

Arnheim, Rudolf. The Dynamics of Architectural Form. Berkeley: University of California, 1977. Print.

Arnheim, Rudolf. Visual Thinking. Berkeley: University of California, 1969. Print.

"Basic Strategies in Reading Photographs." Basic Strategies in Reading Photographs. Web. Nov. 2012.

"Bravura Camera Obscura." Camera Obscura. Web. 25 Apr. 2013.

Carone, Angela, and Maureen Cavanaugh. "Duane Michals: Photographer Or Metaphysician?" Duane Michals: Photographer Or Metaphysician? Web. Nov. 2012.

"Frantz, M. and Crannell, A.: Viewpoints: Mathematical Perspective and Fractal Geometry in Art." Frantz, M. and Crannell, A.: Viewpoints: Mathematical Perspective and Fractal Geometry in Art. Web. 2 Apr. 2013.

Gibson, Carl. "Journal Psychology: Psychology of Architecture." Revit TotD. Web. Sept. 2012.

Heyne, Pamela. Mirror by Design: Using Reflection to Transform a Space. New York: Wiley, 1996. Print.

Minca, Laura. "—MARCH *Inbetween." MARCH Inbetween. Web. Feb. 2013.

Moeller, Martin. "The Tell-Tale Drawing." The Tell-Tale Drawing. Web. Dec. 2012.

Noë, Alva. Action in Perception. Cambridge, MA: MIT, 2004. Print.

"Olafur Eliasson | Thefault Series." Olafur Eliasson | Thefault Series. Web. Aug. 2012. <http://www.olafureliasson.net/works/the_fault_series.html>.

"Olafur Eliasson: Photographs." Glasstire Texas. Web. 25 Aug. 2012.   <http://glasstire.com/2004/05/02/olafur-eliasson-photographs/>.

"Olafur Eliasson." World News. Web. 25 Aug. 2012. <http://article.wn.com/view/2011/06/05/The_Element_of_Structure_Olafur_Eliasson/>.

"Photos: Your Rainbow Panorama by Olafur Eliasson." Quintin Lake Architectural Photography Blog. Web. 25 Aug. 2012.
Rockwell, Ken. "How Our Eyes See." How Our Eyes See. Web. Sept. 2012.

Scholfield, P. H. The Theory of Proportion in Architecture. Cambridge [Eng.: University, 1958. Print.

Shaffer, Leigh S. "From Mirror Self-Recognition to the Looking-Glass Self: Exploring the Justification Hypothesis." Web. <http://www.cisat.jmu.edu/visionsconference/pdfs/shaffer.pdf>.

Szaflarski, Diane M., Ph.D. "How We See: The First Steps of Human Vision." How We See: The First Steps of Human Vision. Web. 25 Sept. 2012.
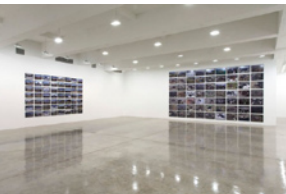
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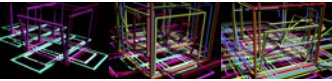
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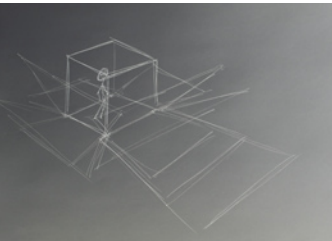
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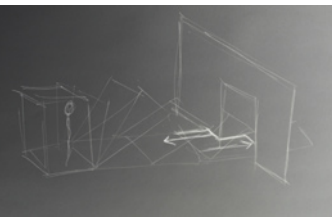
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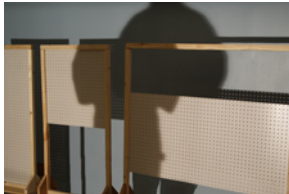
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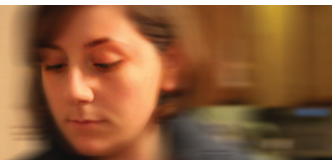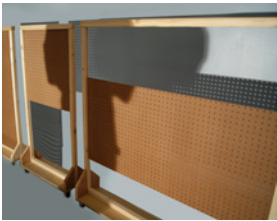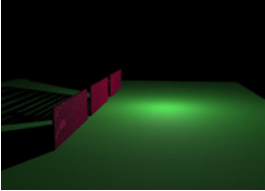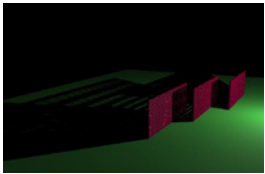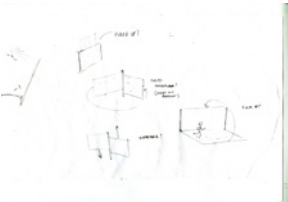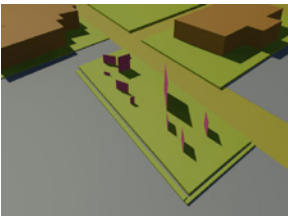

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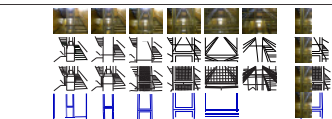
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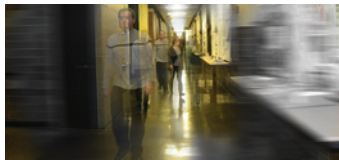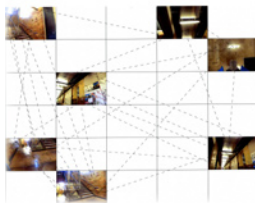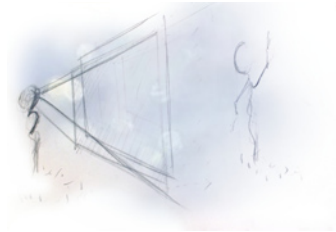
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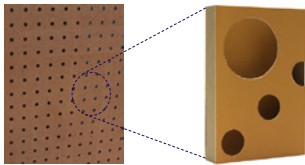*Figure 8* Created by Author: Mattia
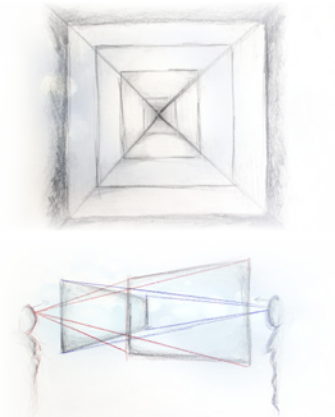
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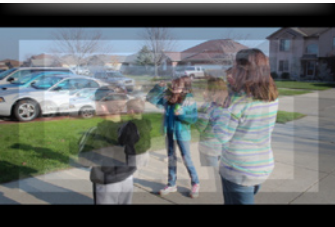
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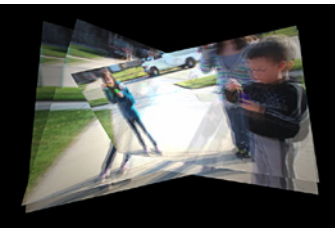
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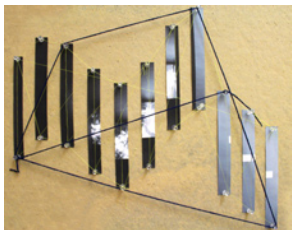
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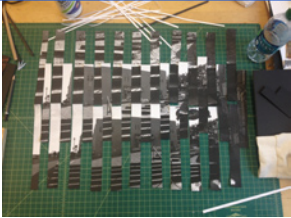
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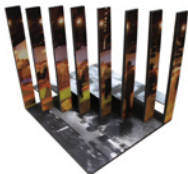
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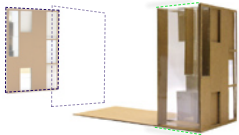
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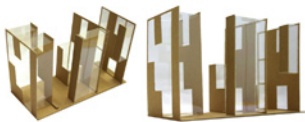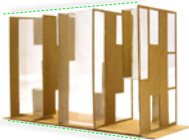

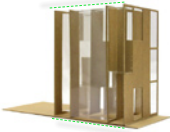*Figure 14.3* Created by Author: Mattia
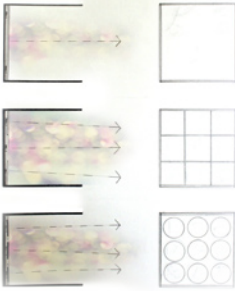
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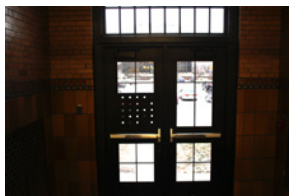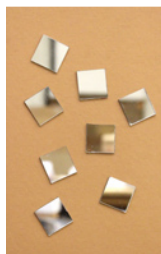
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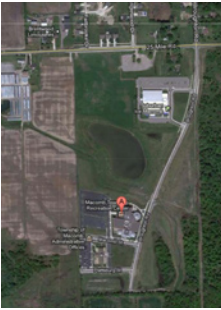
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Figure 20 Google Earth

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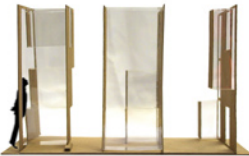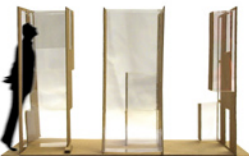

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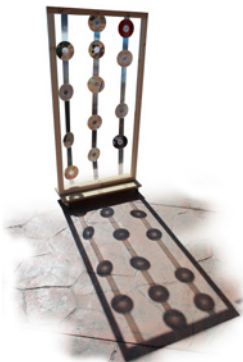
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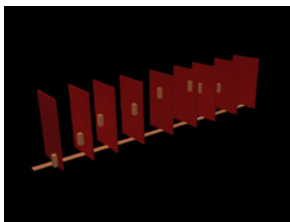

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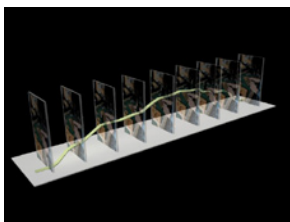
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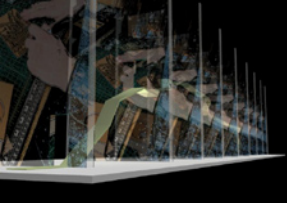

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Figure 30 Photo by Author: Mattia

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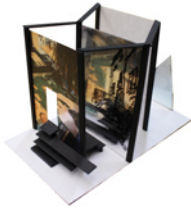*Figure 32.2 Created by Author: Mattia*

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