

two screens

and an [urban] place

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Two Screens and an [Urban] Place

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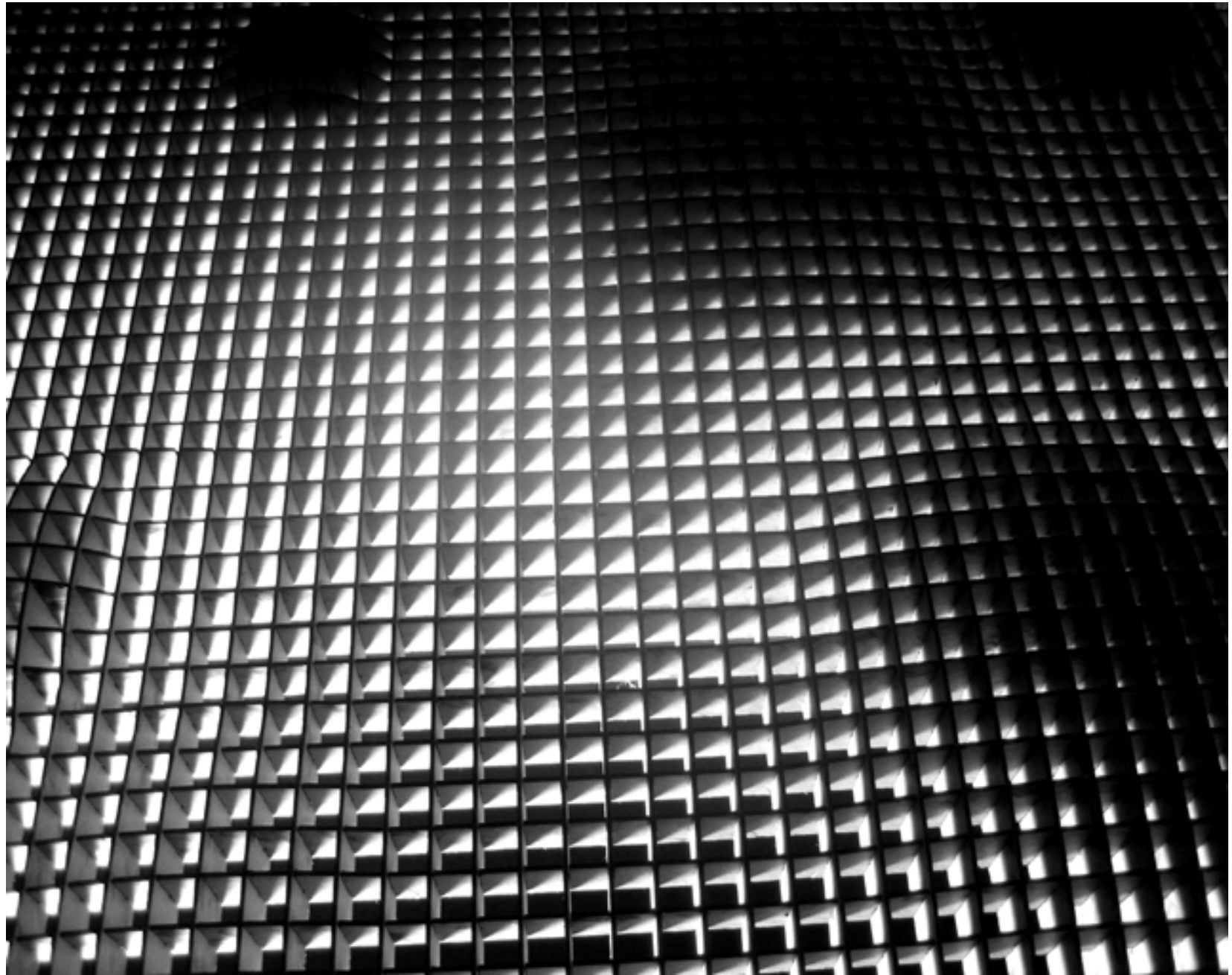
I would like to dedicate this book to life and the people in it that have helped me along the way: my father, my sisters, friends, and of course my mother. I will love you until the ocean stops loving the moon.

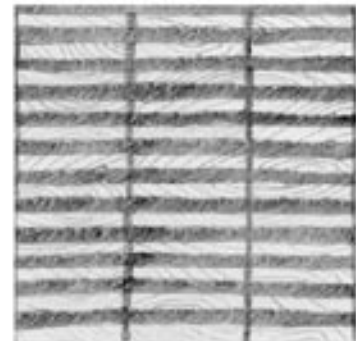
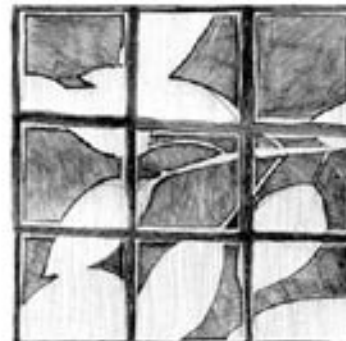
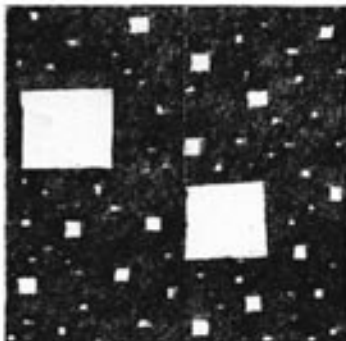
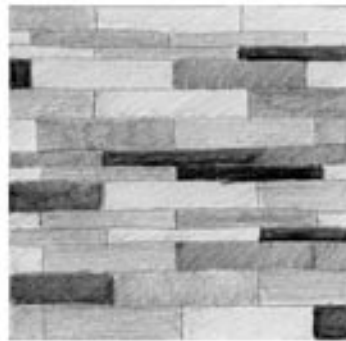
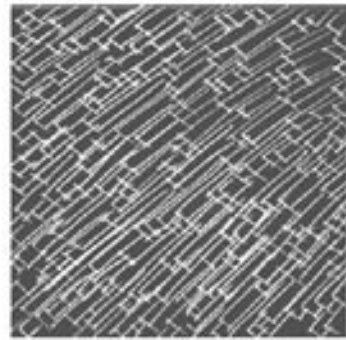
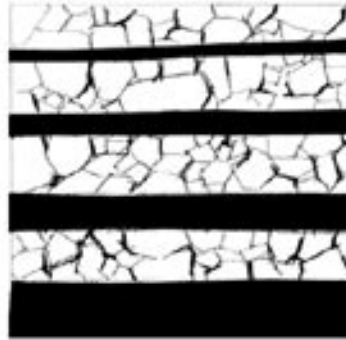
I would also like to take this opportunity to thank all of my academic colleagues, professional and student, for the input and encouragement through this process.

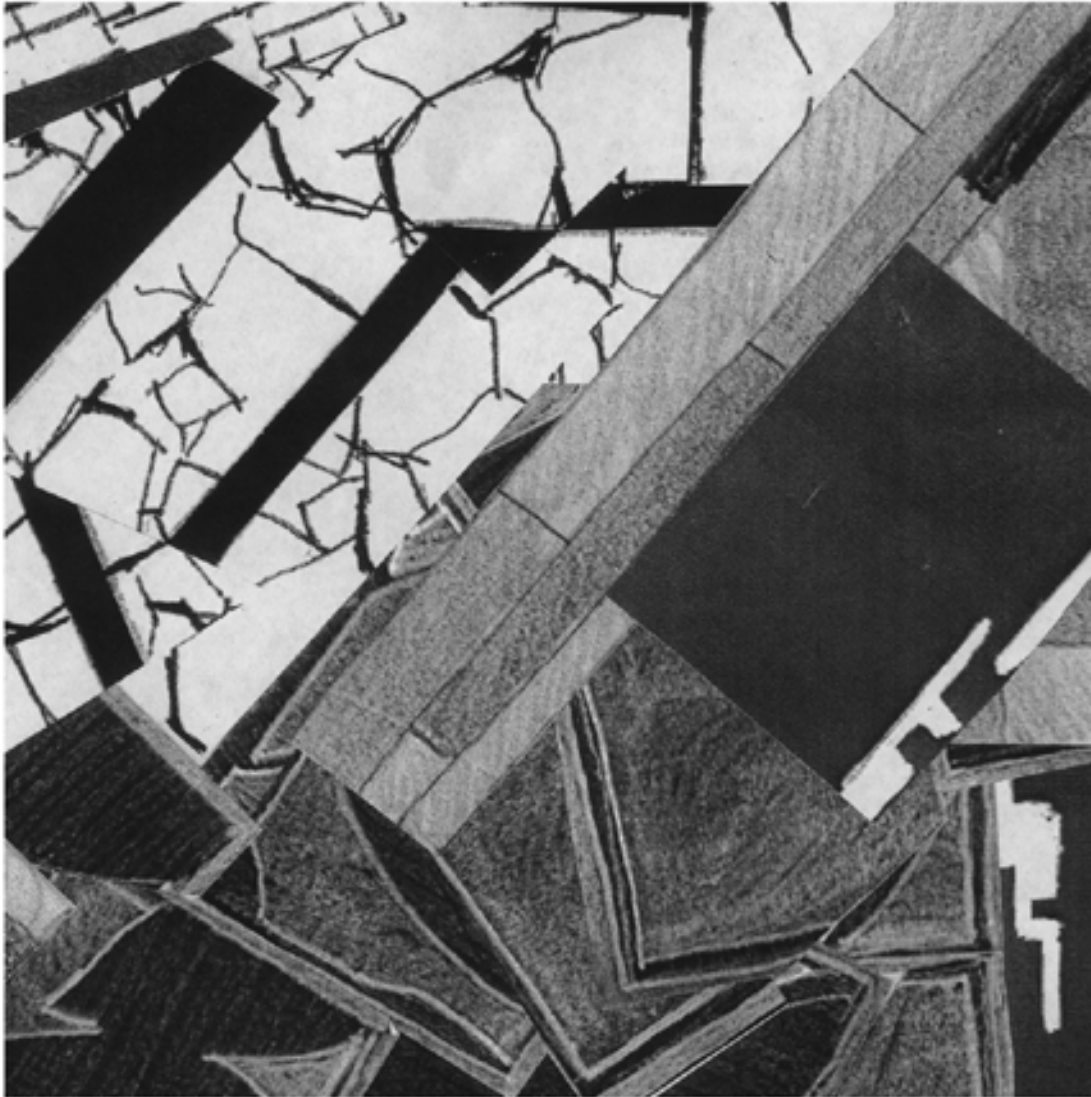
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Abstract

An exploration to utilize the notion of a screen in order to orchestrate an urban response, an urban mixed-use building. It is an investigation into the contradictions of materiality and the inherent values of organic and rigid geometries and formations in terms of architecture and the facade.

Two screens make use of pattern, texture, and layering to create a sense of order and chaos within the same instance. This is most noticeable through the introduction of light, natural and artificial. These screens are a reflection of the ripples, webs, and vibrations of all human activity.

This is an investigation into repetition and layering, covering and wrapping, and ultimately creating an enjoyable environment to live, work, and play.

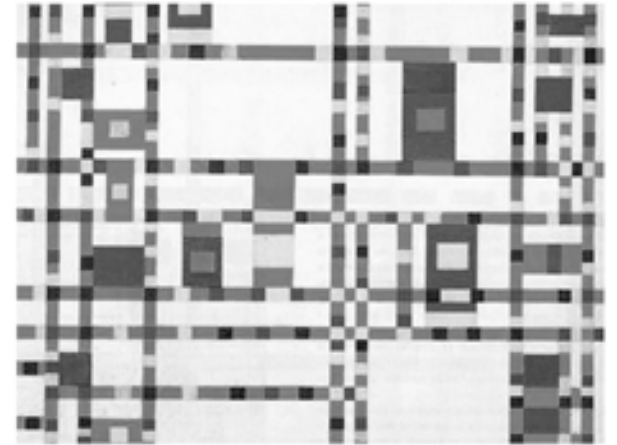
The program is quite simple. On the ground floor there is a grocery store, shops, and offices. On the upper levels, there are townhomes and apartments, one and two bedroom.



Ansel Adams - Aspens (1958)



Cliff Tremblay - Wood Pile (2006)



Piet Mondrian - Broadway Boogie Woogie (1943)



Cliff Tremblay - Wood Pile (2006)



Paul Klee - Highway and Byways (1929)



Arild Danielsen - Untitled (2006)



Atta Kim - Field Series #030 (1997)

Inspiration: Art

Early in the investigation, artwork was a major inspiration in terms of repetition and the perceptive tactile qualities associated with the images. There is a depth to these two-dimensional representations through the utilization of layering and stacking.

Also at this point of beginning, there was a realization that became clearer: the conflict between the organistic and the orthogonal. There is a sense of satisfaction at the point where something inherently random becomes regularized and controlled. This satisfaction works in reverse as well: when the rational and planned becomes perceptively accidental. It seems that this is most noticeable and satisfying when the organistic/random is directly conflicting and contradicting with the rational/orthogonal.



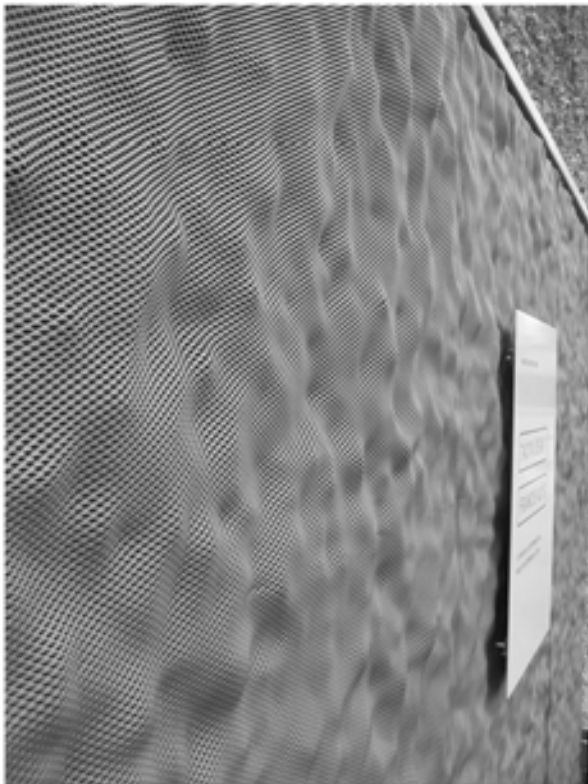
SANAA - Zollverein School (2006)



Herzog & de Meuron - Dominus Winery (1998)



Dominique Perrault - Bibliotheque Nationale de France (2002)



Herzog & de Meuron - Munchenstein (1998)



Allmann Sattler Wappner - Sudwestmetall Reutlinger (2002)



Jun Aoki - Louis Vuitton Ginza (2004)



Jun Aoki - Louis Vuitton NYC (2004)

Inspiration: Architecture

A second inspiration and early influence was from existing enclosures of buildings, spaces, and volumes. Of most interest were facades and volumes with contrast between the apparent random and rational, organistic and orthogonal, or natural and man-made.

The interplay of materiality and light in terms of architecture became more important. The use of glass, metals, and concrete as wrapping devices, as a means of creating enclosure and as three-dimensional rather than two-dimensional elements volumizing space became a very important characteristic.

Also of interest were the contradictory qualities of some of the materials. For example, Jun Aoki's use of stone as a translucent, light-giving device on his Louis Vuitton stores or Herzog and de Meuron's use of metal as a plastic form in Basel or their use of softness through stone gabions as a cathedral-like light giving device. The contradictory, reinterpreted qualities of the materials enables a more enigmatic experience and an opportunity to feel rather than judge architecture.



Toyo Ito - Burg Pavilion (2002)



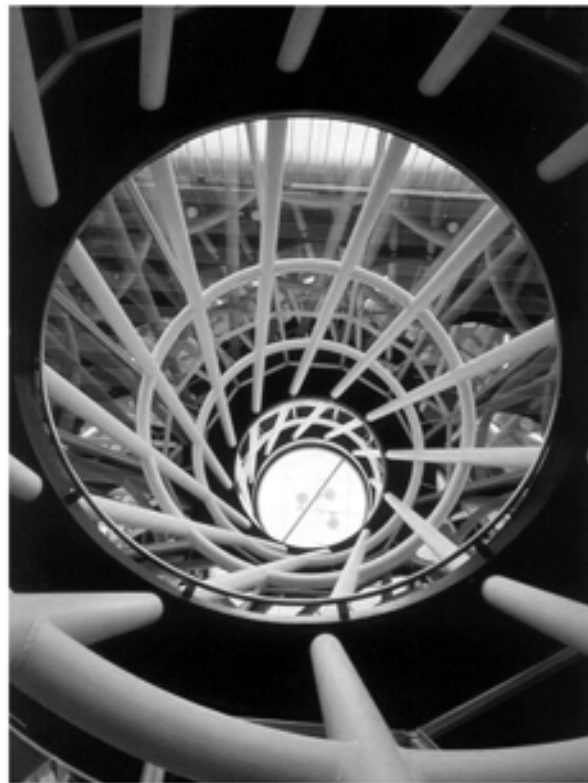
Toyo Ito - Serpentine Pavilion (2002)



Toyo Ito - TOD's Omotesando (2004)



Toyo Ito - TOD's Omotesando (2004)



Toyo Ito - Sendai Mediatheque (2001)



Toyo Ito - Mikimoto Ginza (2005)

Inspiration: Toyo Ito

Through this architectural investigation of texture and repetition, one architect, Toyo Ito of Japan, became increasingly important to my desires in terms of the organic, orthogonal conflict and the use of wrappings and enclosing volumes.

Ito eloquently incorporates structure, enclosure, and decoration into his architecture by combining organic supports and enclosures with normative volumes. One looks at the form and understands the simplicity instantly, but as one investigates further, there is a level of depth, dematerialization, and complexity that invigorates the senses and invites the viewer to explore deeper.

His architecture is between Modernism and the desire to decorate but in a functional, structural manner with an air of aestheticism and a respect for the divisions and similarities between man and nature.



Toyo Ito - Mikimoto Ginza (2005)





The Site

Situated in downtown Blacksburg, Virginia, the building occupies two entire blocks. It is two buildings entwined by a single curtain tying them together to form a perceptible single building, a visual continuation of the building volume.

It stretches between Main Street and Draper Road. To the north is Jackson Street and to the south is the Farmer's Market and a very narrow alleyway closer towards Main Street.

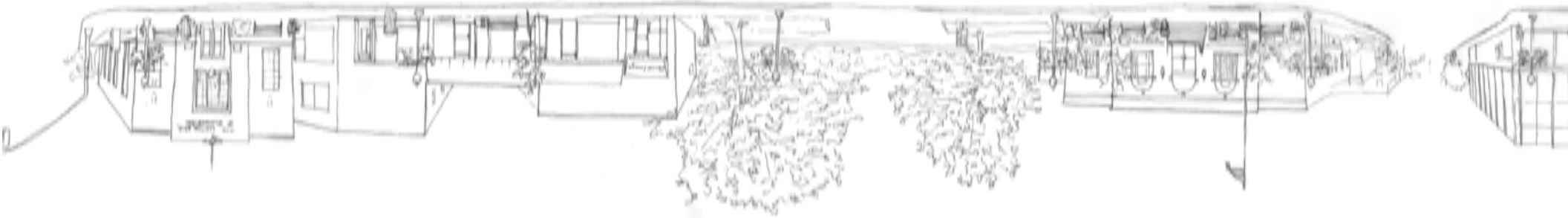
Dividing the two buildings is a new alleyway connecting existing paths and arcades behind the buildings currently along Main Street.

These two blocks and the division of the site with an alleyway gave rise to the preliminary, generic forms in terms of the plan.



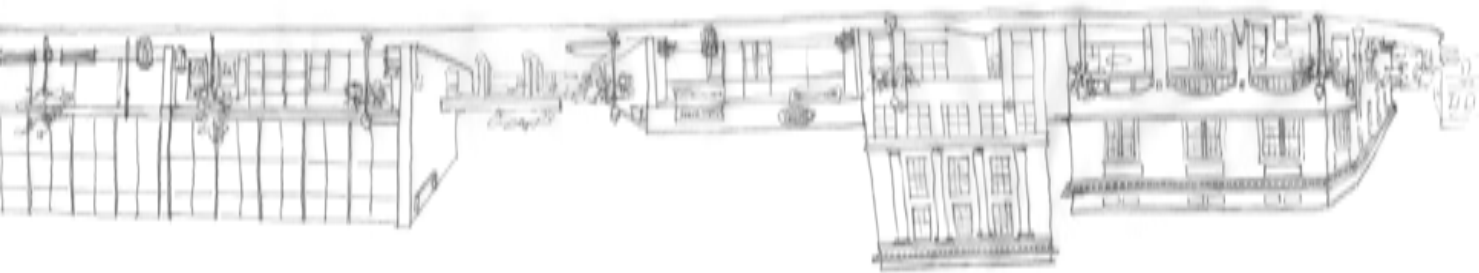
south

north main street





north





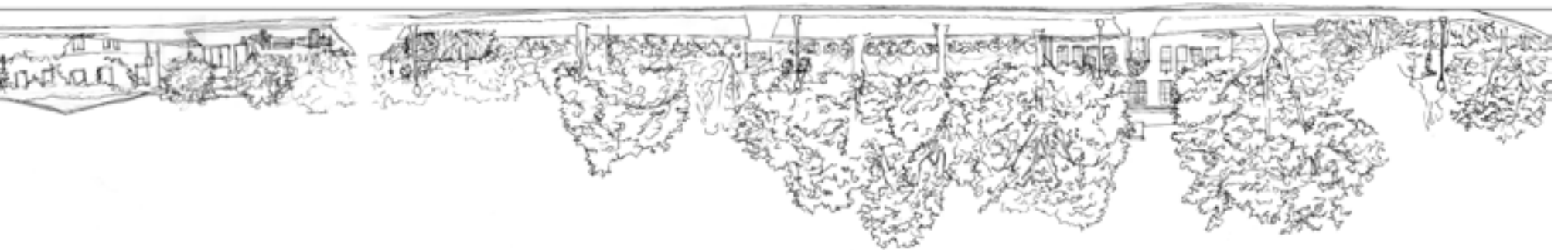
north

draper road





south









Screen: Criss-Cross

The most noticeable screen is the criss-cross concrete pattern wrapping the exterior of the building. The monolithic system unifies the structure with the surface. It is decoration and function.

In terms of material, concrete fits the ideals of the intention best. In this use, it is contradictory: the heaviness of the material and the lightness of the intention. Concrete enables a great means of expression while still providing structure and strength. The web is full of massive, interconnected columns eloquently and lightly reaching up to the cosmos, confusing our expectations of mass.

Additionally, the concrete provides a tactile quality that invites one to feel the smoothness of the surface. It also supplies an environmental reaction that will absorb and reflect the temperature directed upon it inviting one to feel it in terms of comfort, cooling or heating to the touch and to the emotions. It is a dynamic facade changing throughout the day, the year, and in terms of one's own perception or vantage point.

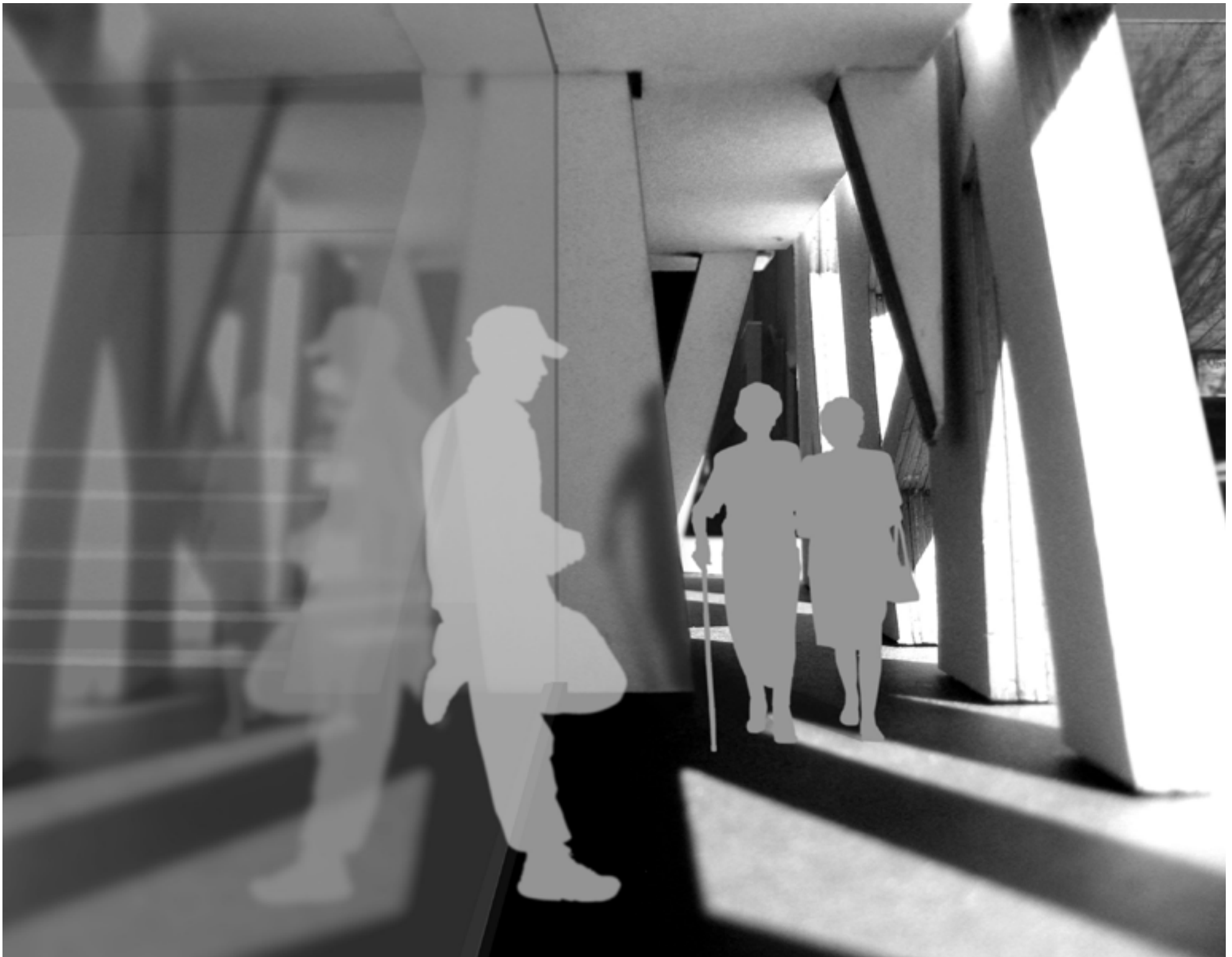
The weaving of the pattern provides an opportunity to tie the building together and reach out to the community and residences physically and psychologically. While simultaneously providing structure to the building, it reaches an aesthetic and purposiveness within and around the screen. Inside,

people can use it as bookshelves, closets, lighting, and so forth. Outside, it can be a place of pause, relaxation, protection from the elements, and simply a place for play as one ponders its enigmatic character.

This notion of purposiveness is heightened by rotating the facade ninety degrees and enabling it to enter the building. It provides an optical (and structural) device where the facade becomes more cloud-like and less of a two-dimensional application. The introduction of glass and its reflectiveness increases this ambiguity and confusion between virtual and real; one sees layers of truth: the exterior/interior, the reflection of the interior/exterior, and then the continuation of the interior/exterior beyond the reflection. The facade is a perceptual confusion of boundary and the divisions of space.









Screen: Grid

The second screen, which wraps the courtyard spaces, is a steel grate laid out on an orthogonal grid with varying thicknesses to provide spherical bumps, which create a modest wave-like pattern. Its inspiration is directly from street vent grates, but modified to abstract it and make it appropriate for the intentions. It is an interpretation of the organic and the orthogonal by colliding the normative grid with the dynamic wave. This moment of contradiction induces interest and curiosity.

Its use in the courtyard provides a certain reflective quality where one experiences a glittering, sparkling light at the right moments and conditions. The grate and bumps provide an opportunity to confuse the senses. It is a means of permitting and omitting light at varying depths with an undulating gradient dependent on the vantage point of the viewer, internally and externally of the building.

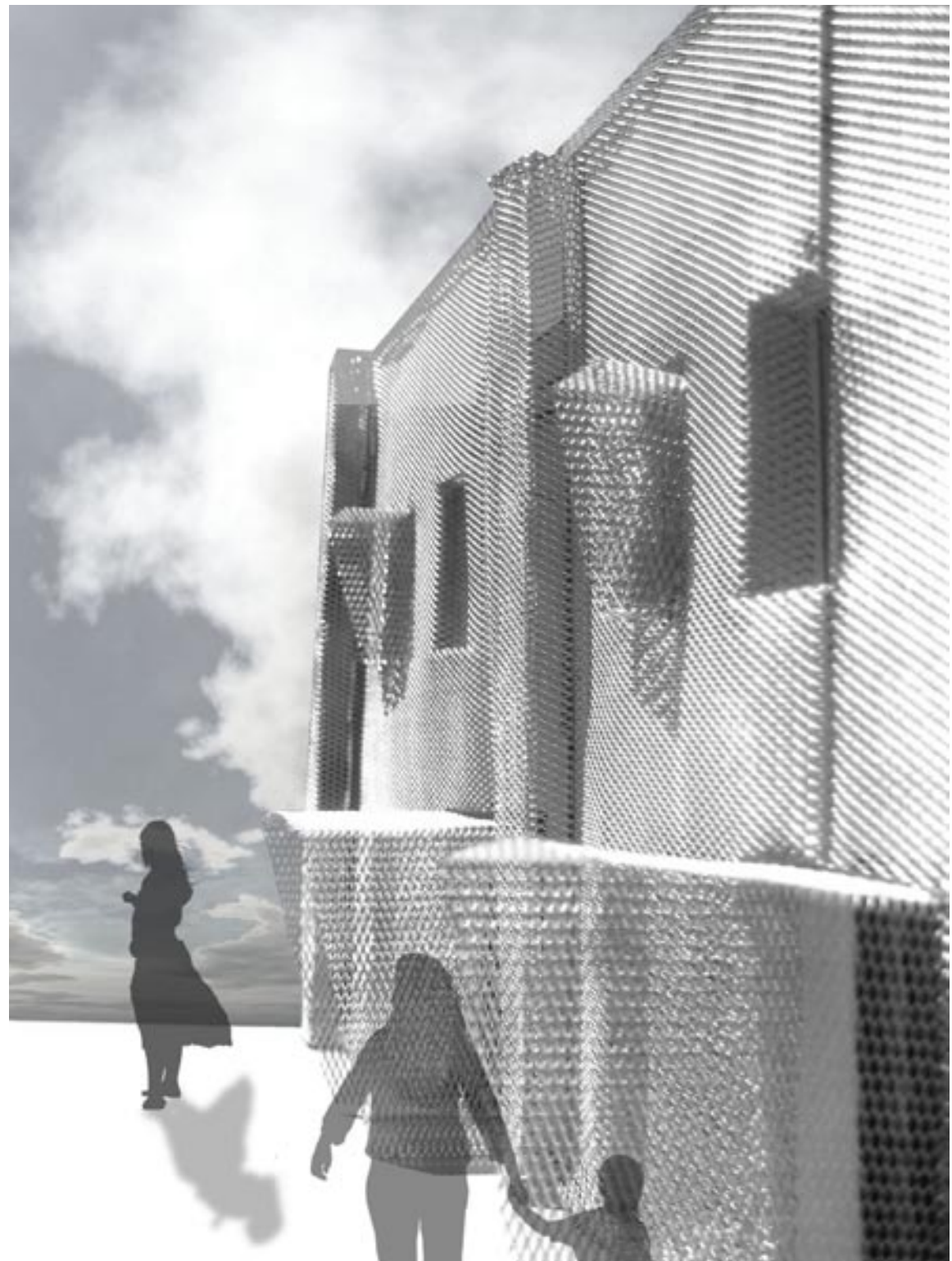
The use of metal more as a fabric application enables a similar multitude of possibilities that weaving achieves: transparency, translucency, softness, draping, and overlapping. This creates a cloud-like atmosphere where it is at once solid and translucent.

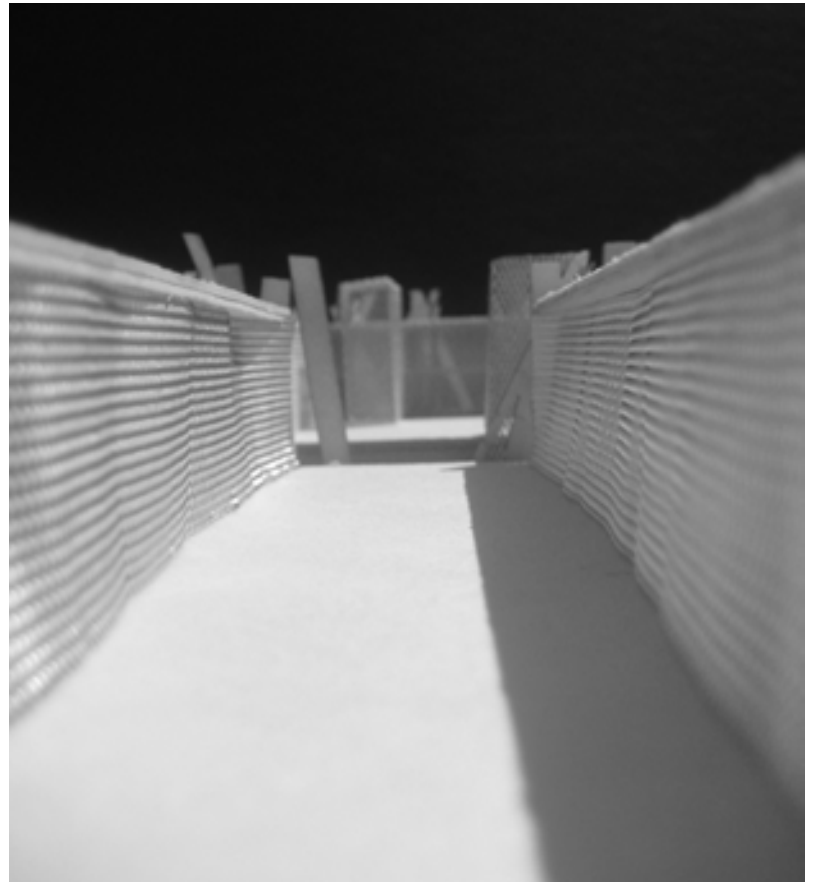
Imagine, at night, someone watching television inside one of the apartments and the flicker that the light would project on the screen, the undulating, terrain-like metal

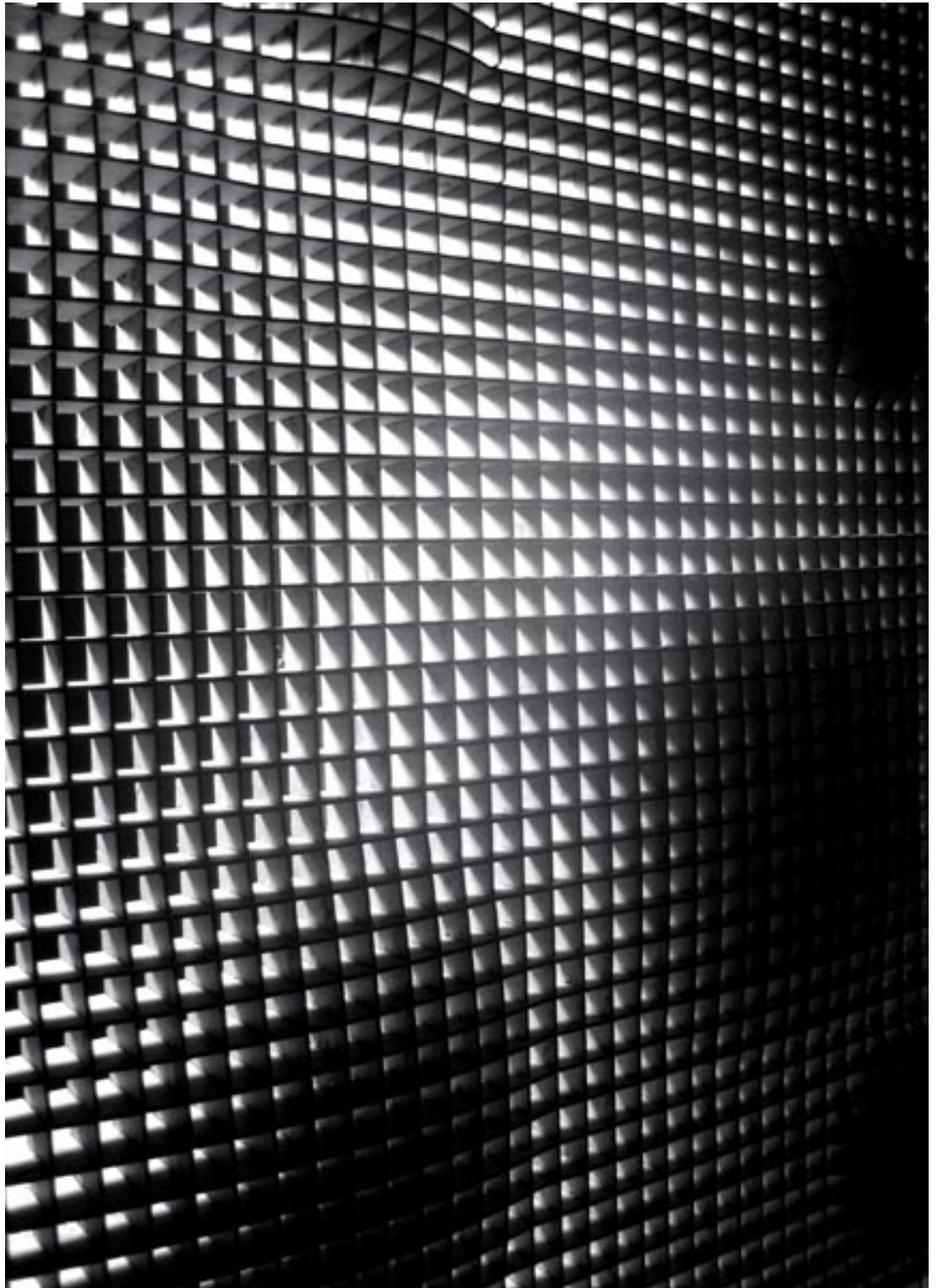
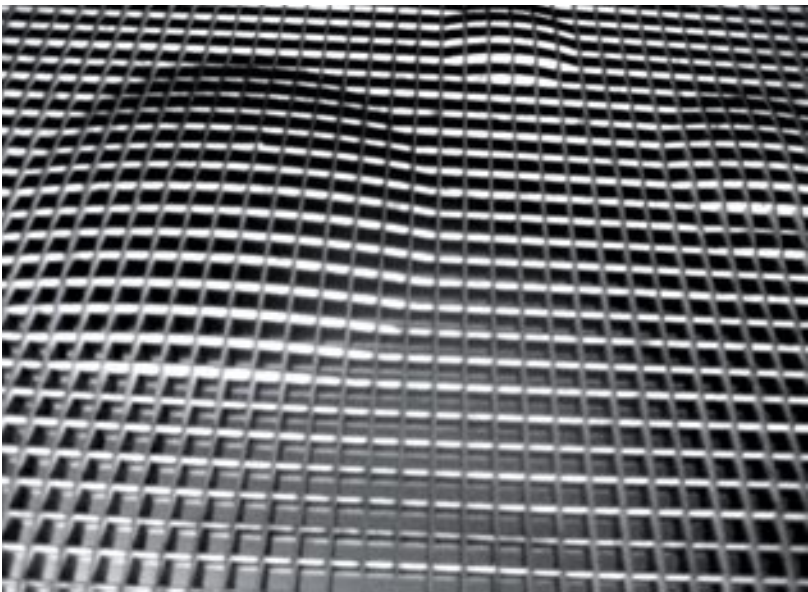
grid. The courtyard, with the addition of the grid, is a space vibrating with optical activity, a shimmery moiré effect. This effect is exaggerated through the projections in and out of the openings. The screen achieves a new pattern at the moment of overlap with the general grid plane. A third, dancing pattern appears to the viewers as they walk down the courtyards. In the end, the courtyard is a gleaming metal atmosphere that gives an aura of water and clouds in the same instant.

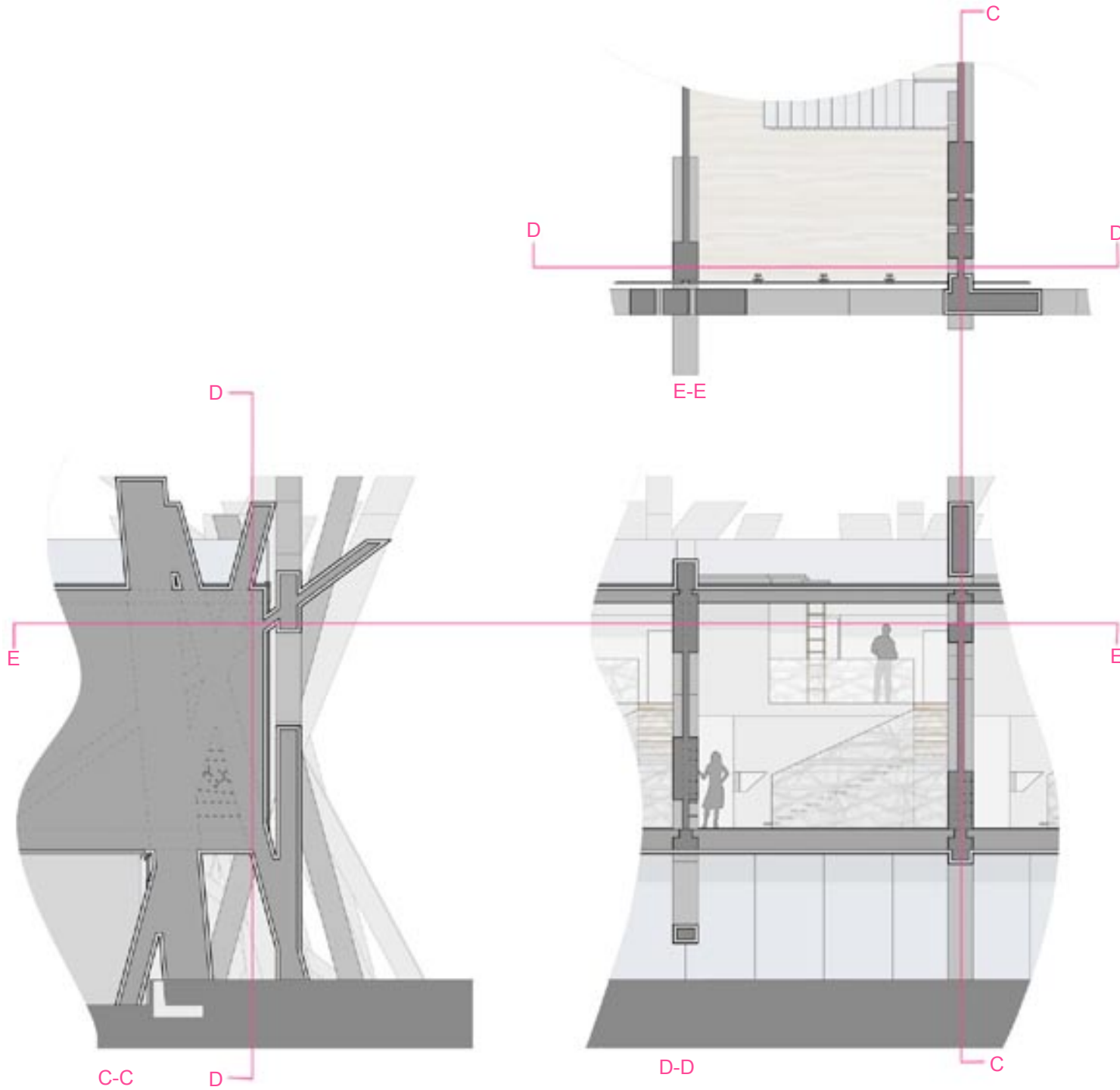
“But more than that, and not so easy to decipher: it is a game of masks, resonances, of overlapping, appearance/disappearance, crossings, searing intensity, transfiguration, that bear witness to this invention of a singular architectural language. Which is one of pure abstraction, composed of space, time, tension and energy, from whence springs a strangely lyrical movement... Freedom of design and spontaneity of execution, expressing in terms of texture, of quivering, calligraphy, scarification, pulsation...rhythms and perspectives, curves and counter-curves, stretched and ruffled forms that, rebounding from bump to bump as if from wave to wave, playing with incandescence and irisation, bedazzlement and sensuality until light is literally, liquefied. Weavings are no longer a sign of space, but an allusion to it”

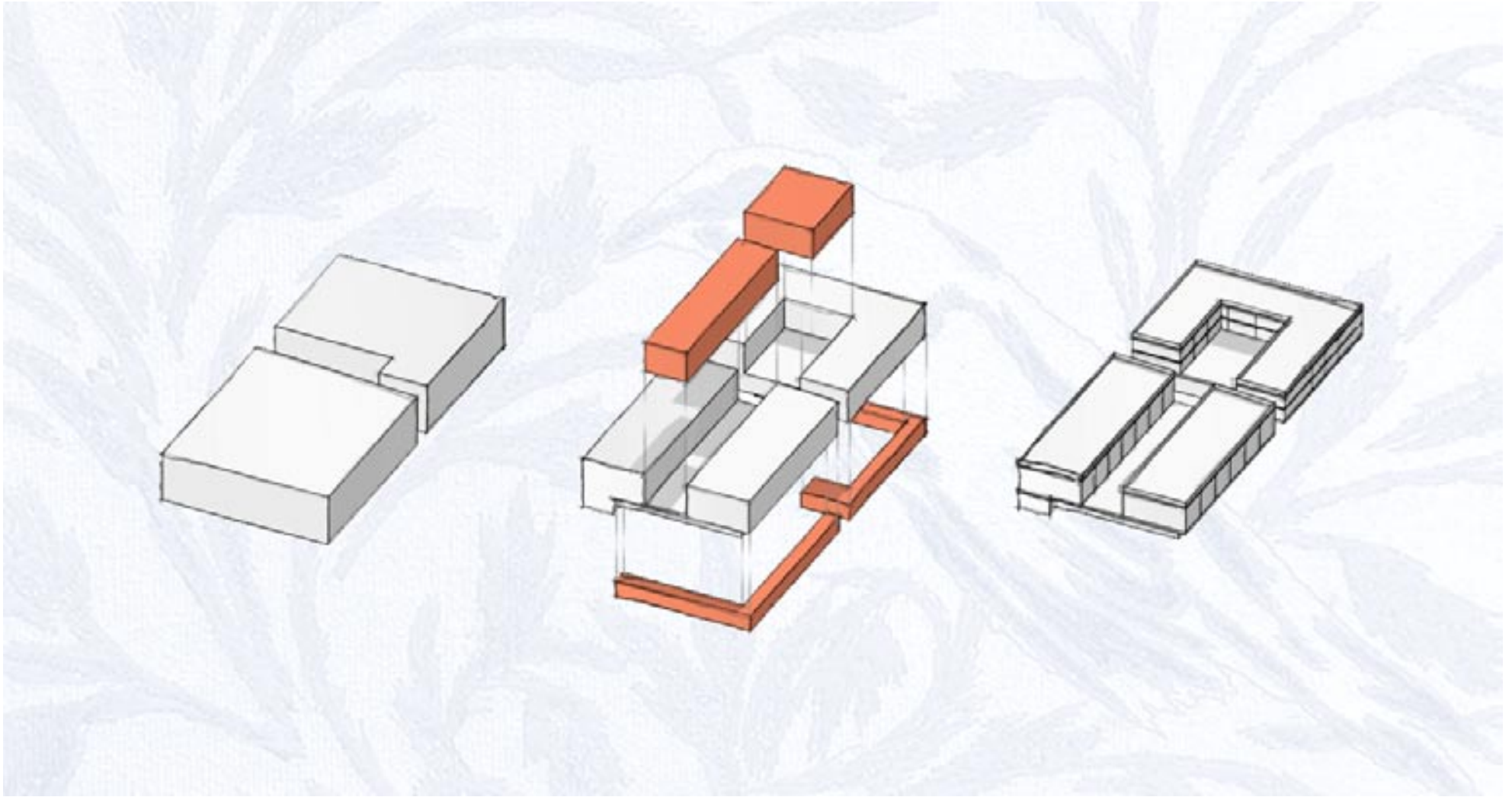
-Dominique Perrault

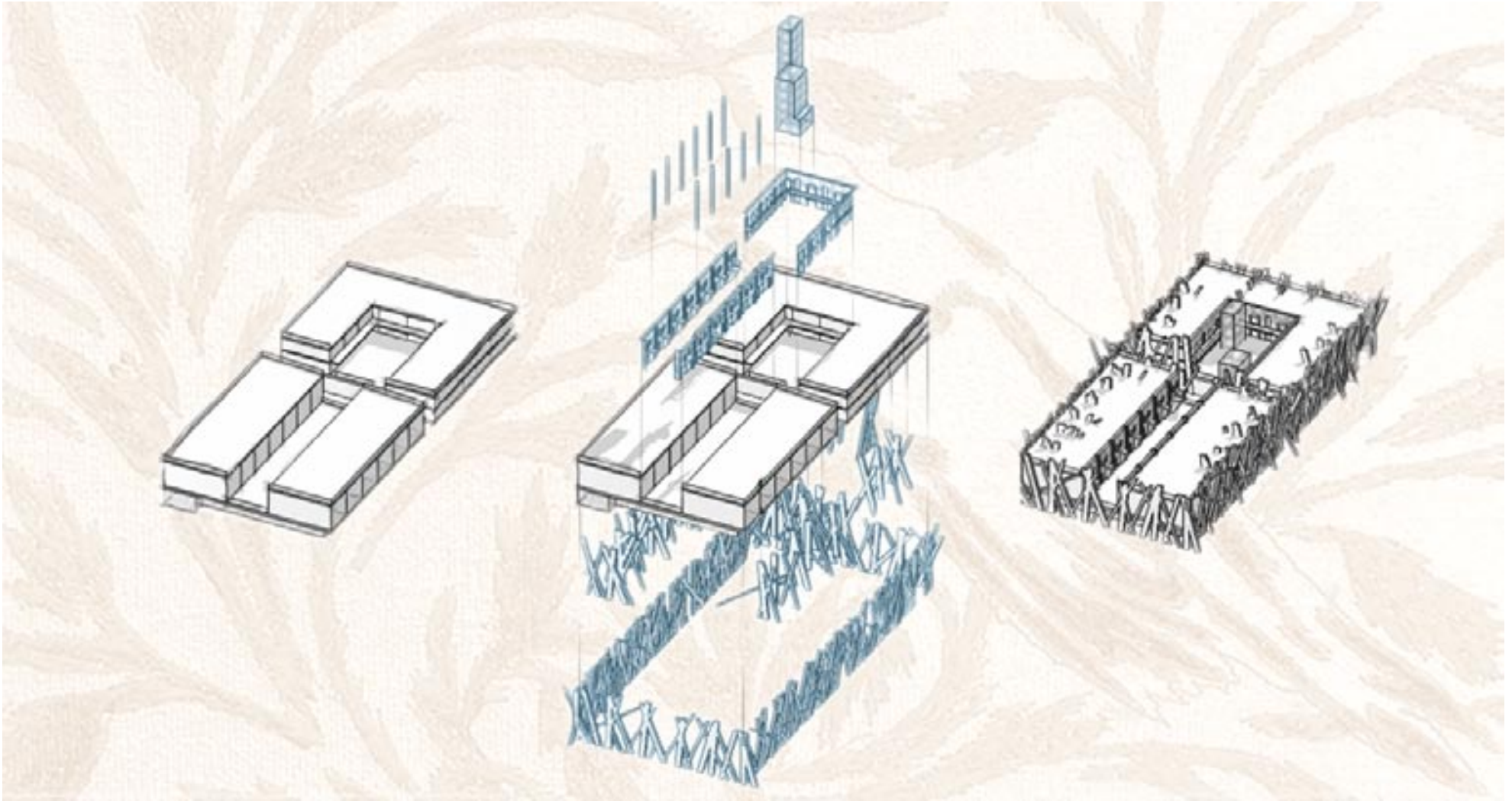


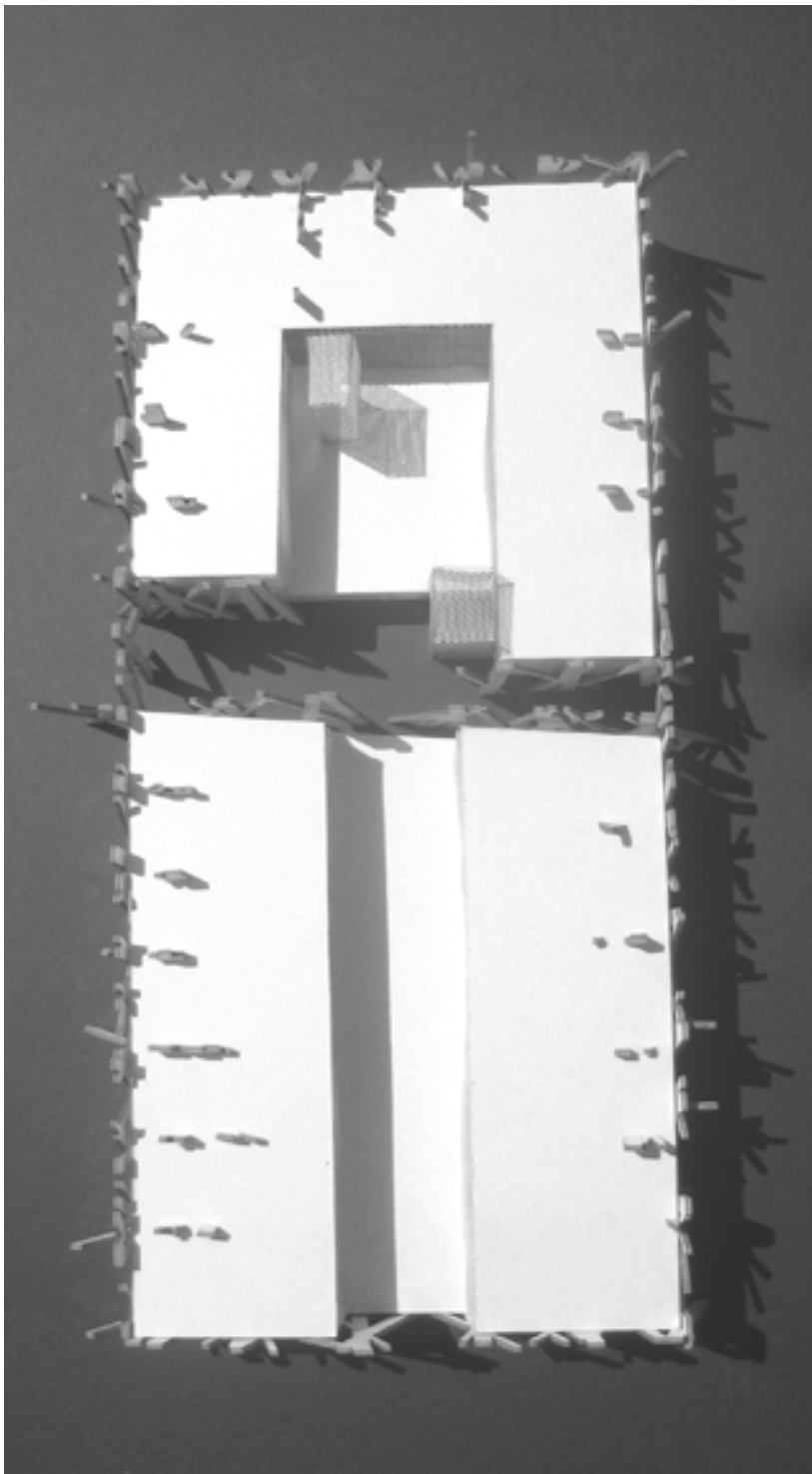




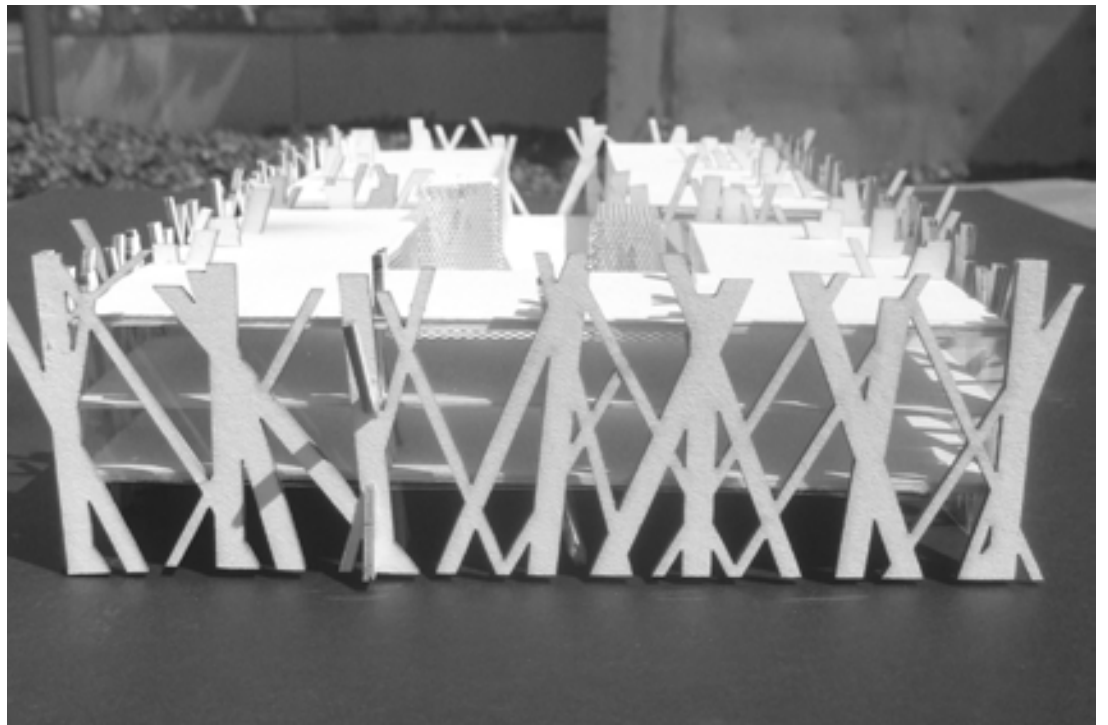




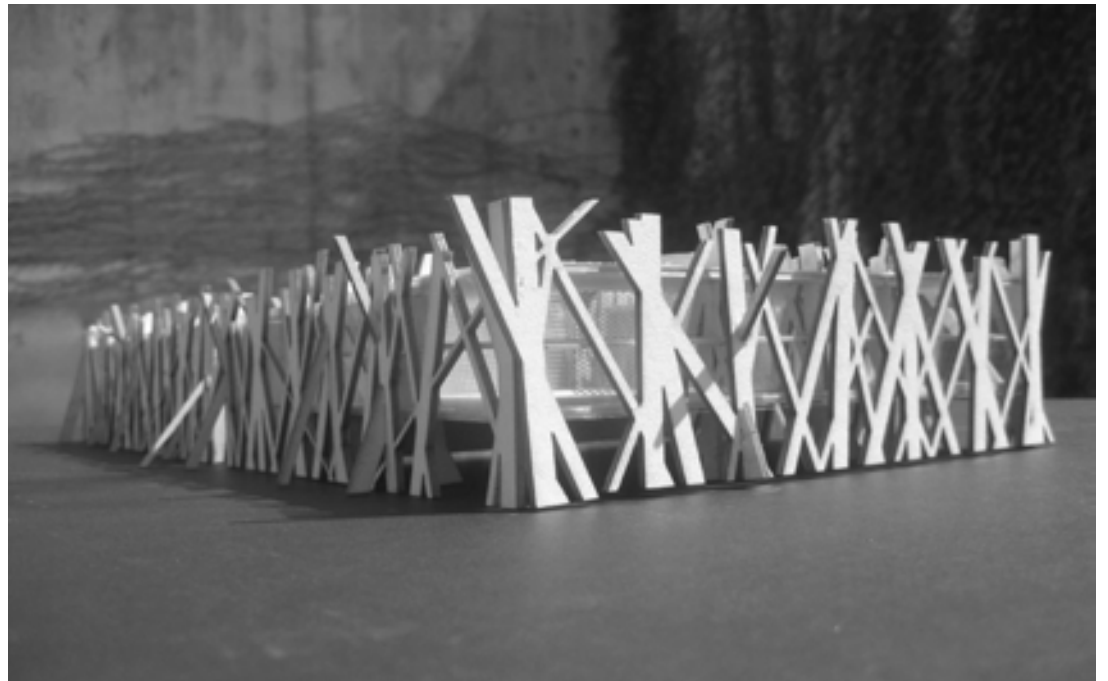




Two buildings informed by site conditions



Units hidden by facade



Two buildings perceived as one

Facade + Form

The form was influenced by the conditions of the site: two blocks resulted in two buildings, a very literal interpretation. Also, the buildings heights for the downtown neighborhood, which are typically two to three stories created a horizontal datum. From this early form, other site conditions, most importantly the sun, required more specific interventions.

First, behind the buildings along Main Street, there is a path, an alleyway of sorts. The current buildings at the site interrupt this condition. To create a continuous walk, the massing was broken into two, divided by an alleyway. This new path widens towards the north, creating a quasi square at one end, to adjust to the diagonal line between the existing alleyways. This diagonal is also reflected on the wall of the west building.

Second, because of historic urban design principles, the building meets the street and does not have a set-back aside from the sidewalk. To provide weather protection from the sun and rain, an arcade was subtracted along the west, north, and east. Along the north, on Jackson Street, there is not an arcade because the sun will not be as harsh along that side of the building during the summer, but during the winter months, the sun will be welcome to the passersby.

Last, the sun runs east to west throughout the year along the elongated length of the

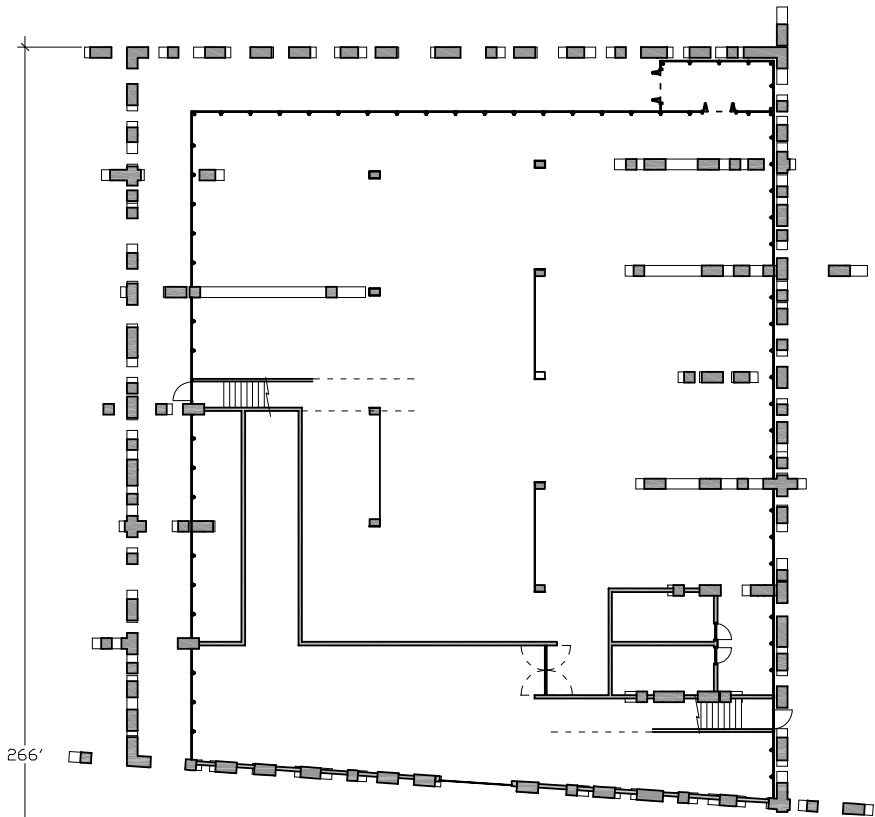
building. Consequently, a raised courtyard was carved out to provide an opportunity for the sun to travel along this east-west axis and supply additional light to the units year-round. This subtraction enables more light and air to enter the residential units from two sides instead of one.

Concerning the screens, rather than a subtraction, they are considered an addition to the building with a certain level of autonomy. They exist between the interior and exterior of the building minus the points of intervention for the criss-cross screen, but more or less, they exist as an architectural element in themselves. They are separate from the membrane and thermal enclosure and are consequently set off of the building, giving them the room they deserve as separate elements.

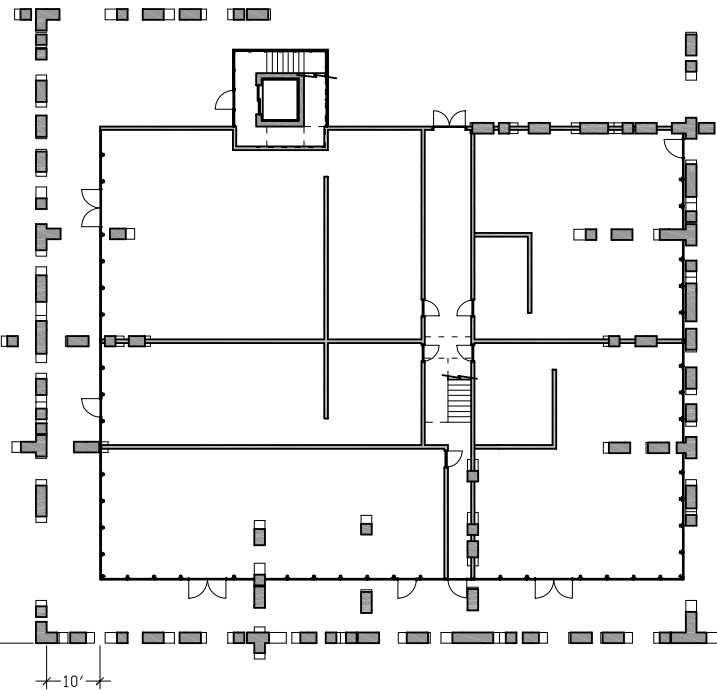
Overall, the intention of the screens is to make the building, externally and in terms of the courtyards and the interiors, at a state of constant interaction with the environment. Without moving, the building shifts and flows through the intervention of the rigid, yet quasi organic additions. This interaction is most noticeable through the light-matter relationship – passing time: hours, seasons, rain, and an array of other possible compositions – revealing and concealing possibilities, realities.

Both of the screens are means of shifting

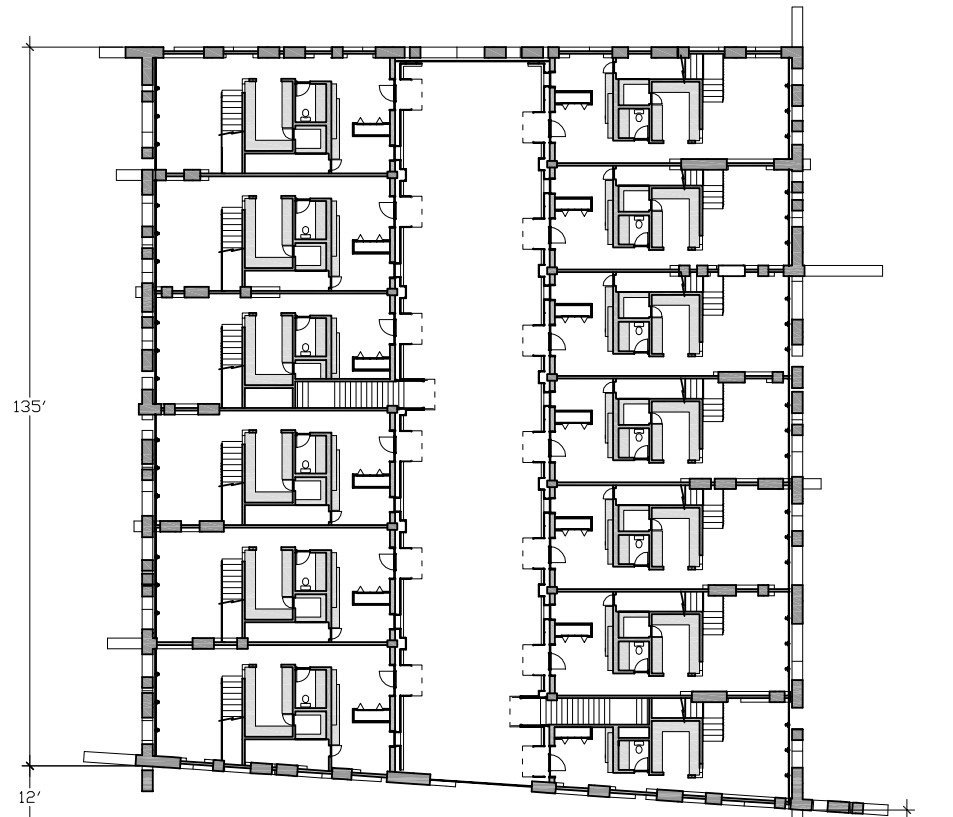
the rather large scale of the building(s) into something that is not intimidating. It can be seen as a wall, a simple condition, or it can be seen as many parts, a complex facade system leaving the viewer emotionally responsive rather than simply judging. What is left as a means of measurement are diminished strictly to sensational and emotional responses. The enormity is forgotten. It leaves one with a sense of gradual disappearance into something atmospheric. Hints of the volume exist but it is only a suggestion of what lies beneath.



266'

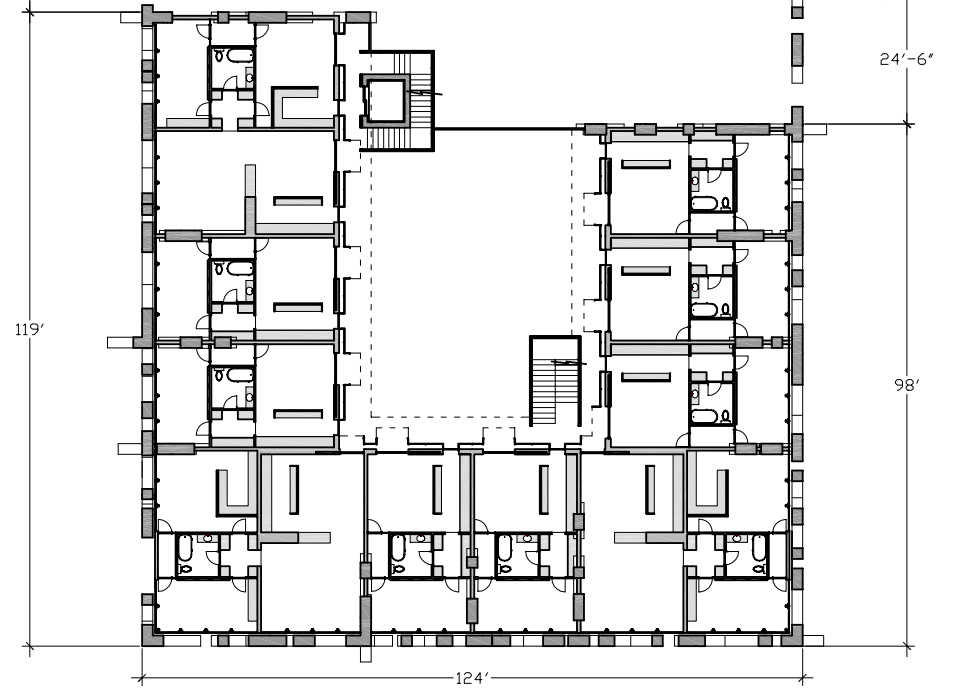


10'



135'

12'

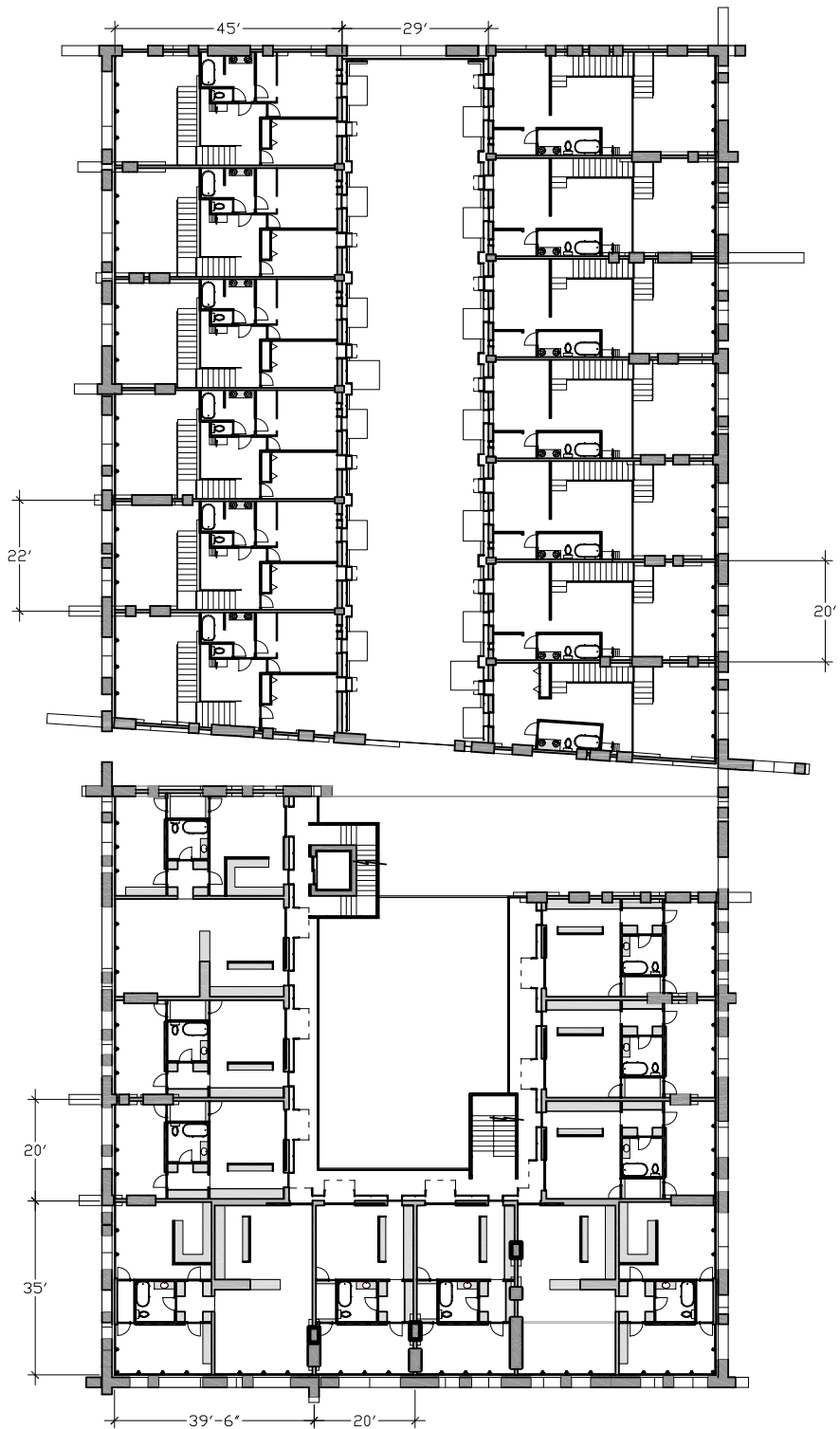


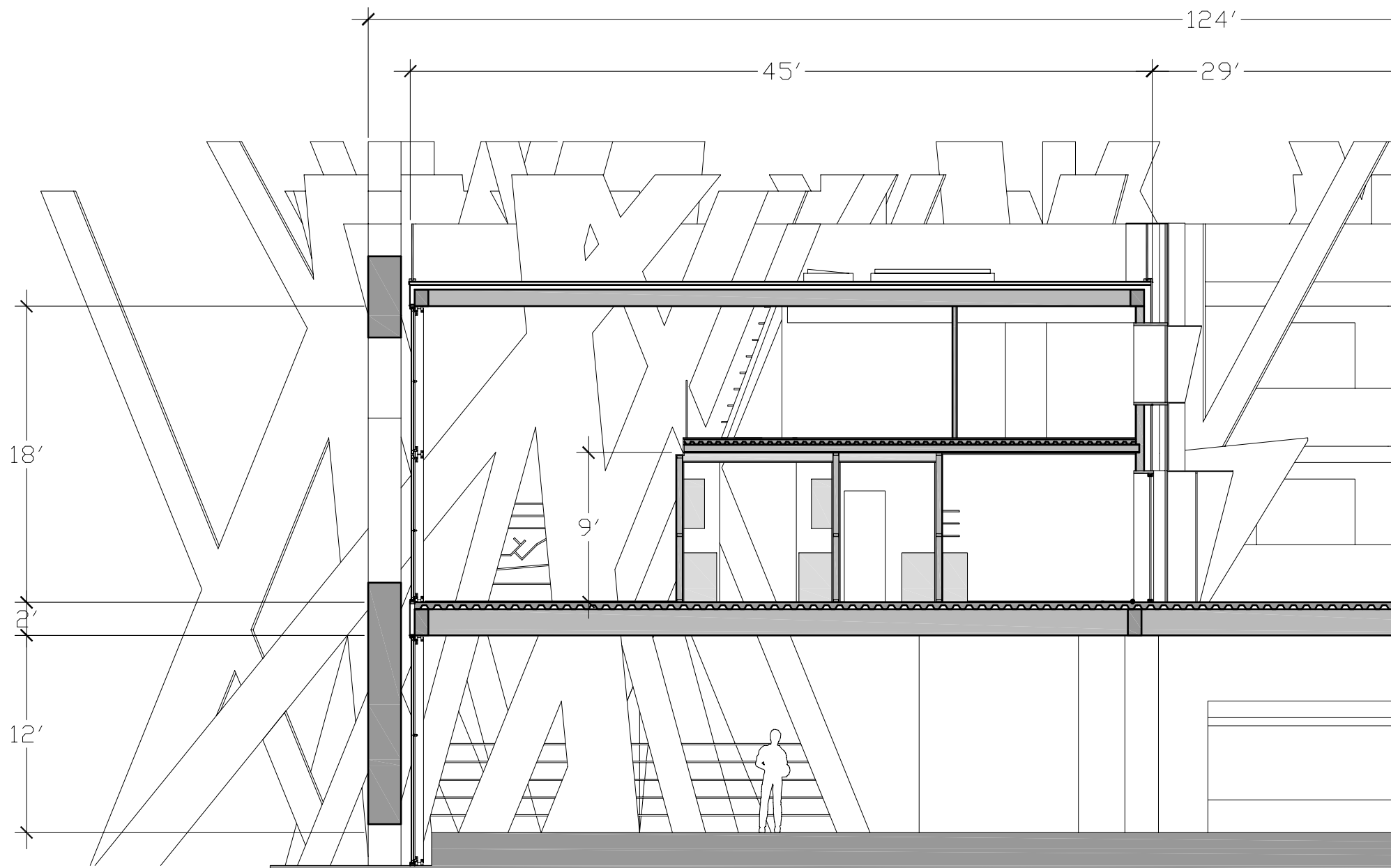
119'

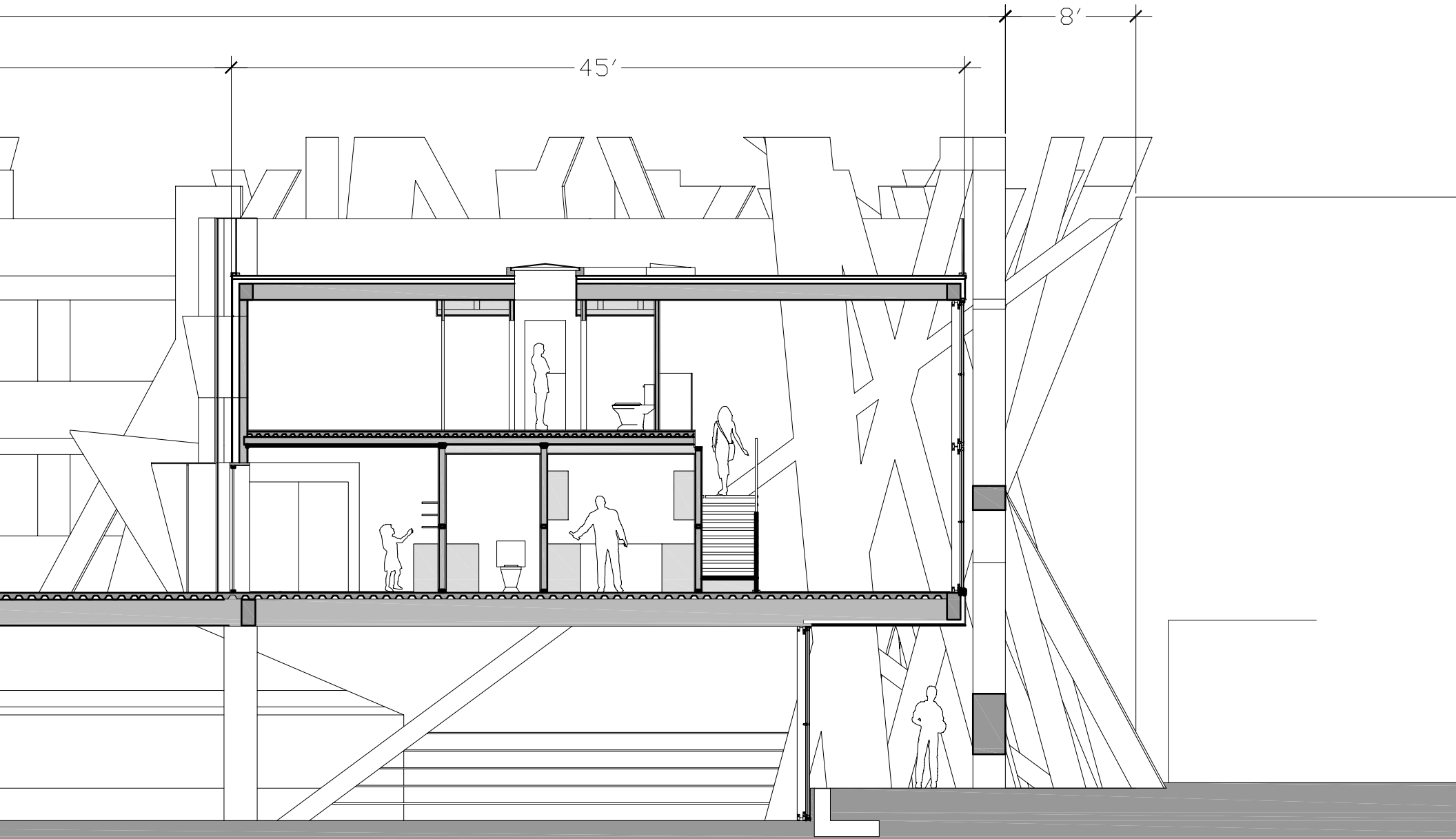
24'-6"

98'

124'







Rules of the Facade

To create the appearance of a random facade, one cannot apply randomness. That process does not generate randomness; human interventions rarely achieve authentic randomization. So, a process laden with rules was selected as the alternative to justify a randomly appearing facade. Of course, some rules were bent in order to achieve the desired design.

The first action was to create a kit of parts for the multiple levels of rules. The columns range in thickness and in angle to achieve an appearance of irregularity and they correspond to the various steps below. There are three different thicknesses: four, three, and two feet. There are four different angles throughout the facade, each one projecting to the right or to the left. As a moment of interruption, there are two, much larger angles connecting the facade together.

The **blue** level is the main structure; it is the dividing columns hiding a majority of the divisions between adjacent units. Consequently, it has the greatest thickness. Also, it has the smallest angles to make sure a majority of the interior dividing walls are hidden while simultaneously reiterating the notion of making the buildings appear continuous, without such walls interrupting it.

The **purple** and **yellow** levels are the second and third levels of this hierarchy respectively. Every unit has one of these thicker col-

umns, which alternate between the largest (purple) and the second largest thickness (yellow). In addition, each of these columns are placed at a certain, predetermined distance from the original column. This last rule is continued throughout the facade with various distances for each step.

The **green** level is the smallest of the columns. Each unit receives two of these in correspondence to the determined distances from their predecessors. Also, the angles of this level are more intense to achieve a more connected and weave-like appearance to the facade.

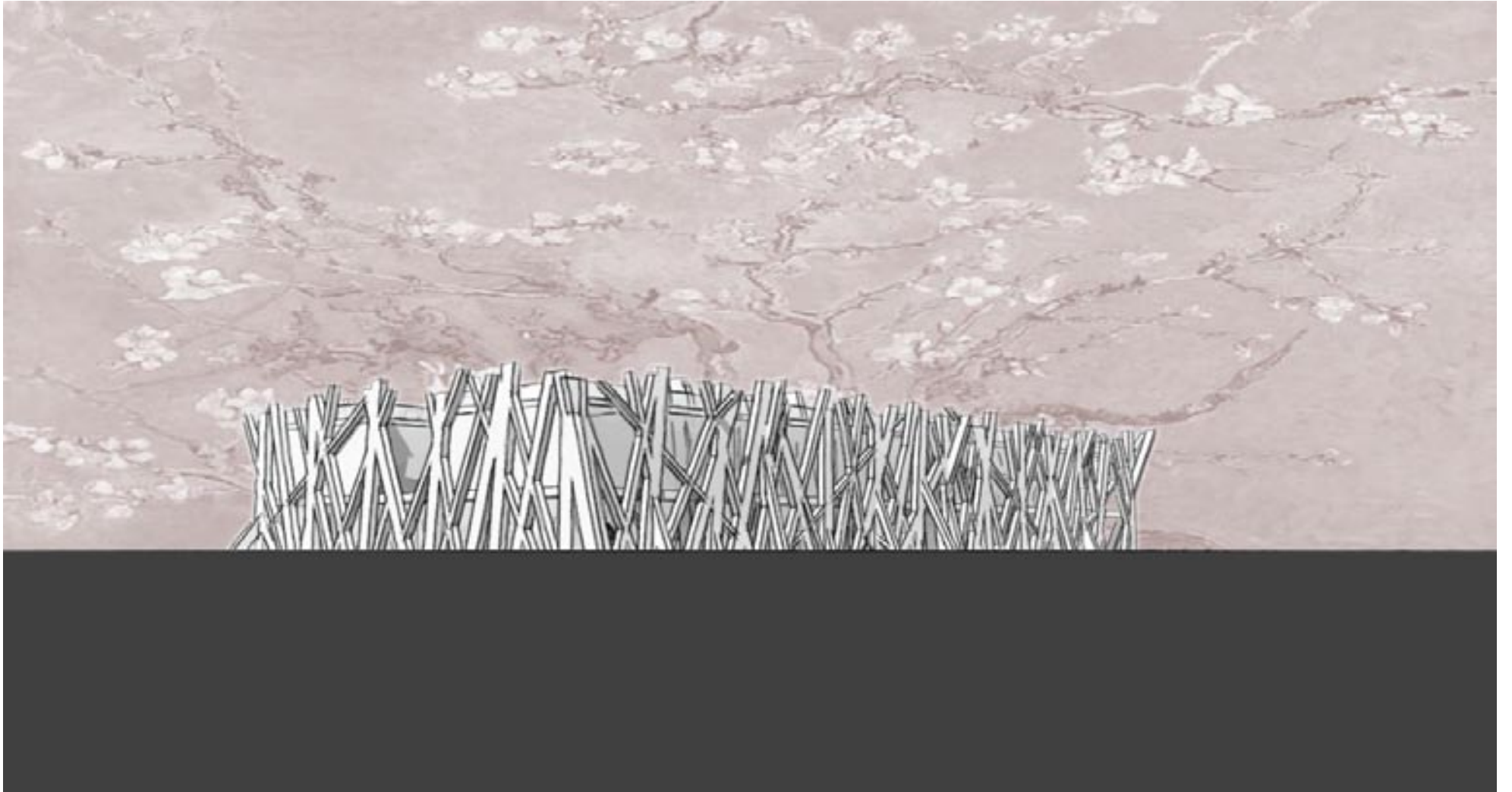
Last is the exception, the **pink** layer. It is strictly used as a device to create a more random appearance by providing an obvious break in the rules. It has two very acute angles. Its placement is purely aesthetic to help tie together the weaker linked parts of the facade.

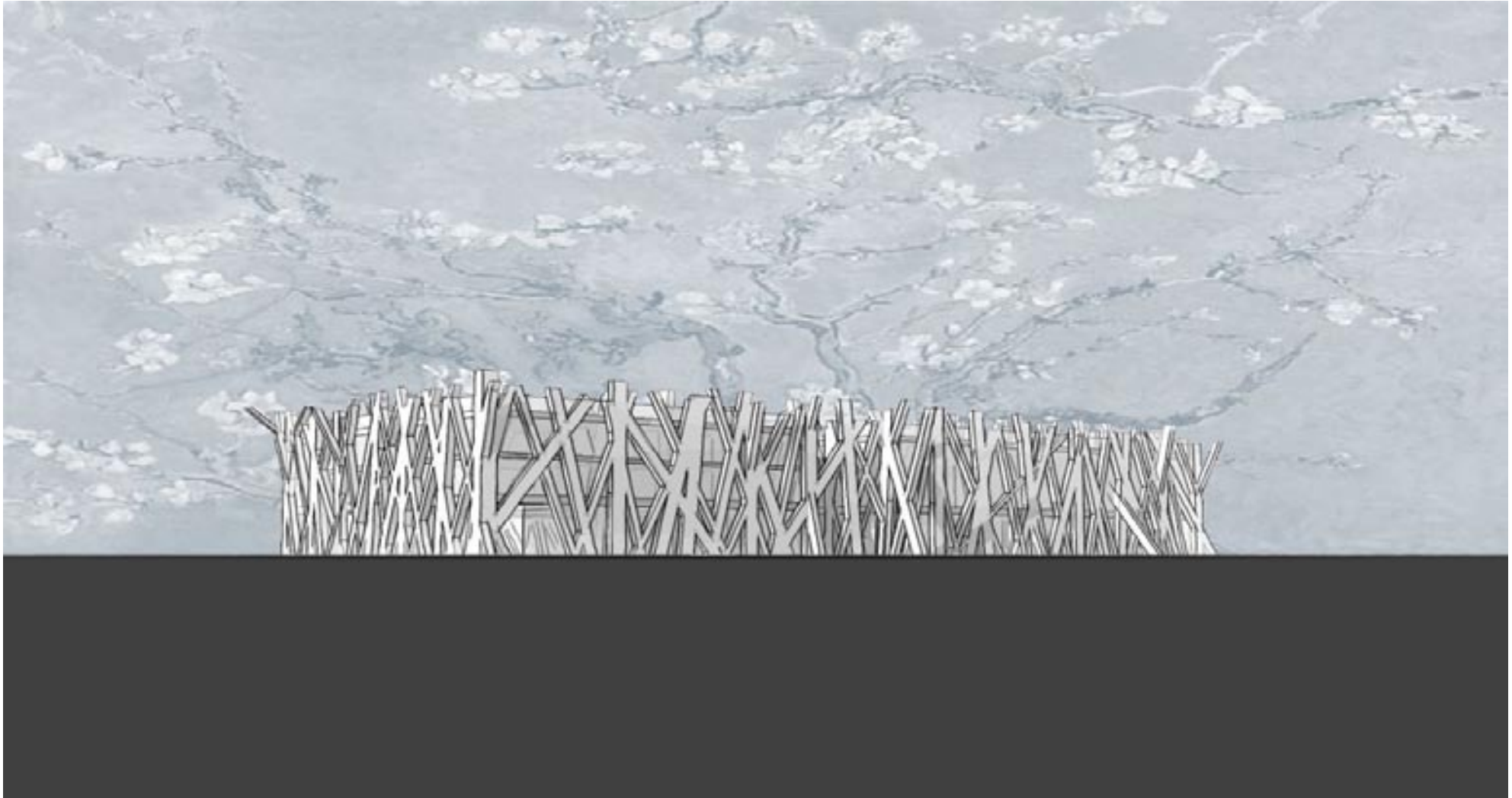
In the end, this two dimensional representation is folded along the gray lines and wrapped around the building. Additionally, to create a more haphazard appearance, the heights of each column go through another set of rules determined by counting off certain heights at various intervals.

And the last step of the facade design process results exists when portions of the facade are turned ninety degrees to intersect

the building and provide internal support. It is simply a selection of the final facade at a predetermined distance in relation to the size of the units and then, turned inward/outward.

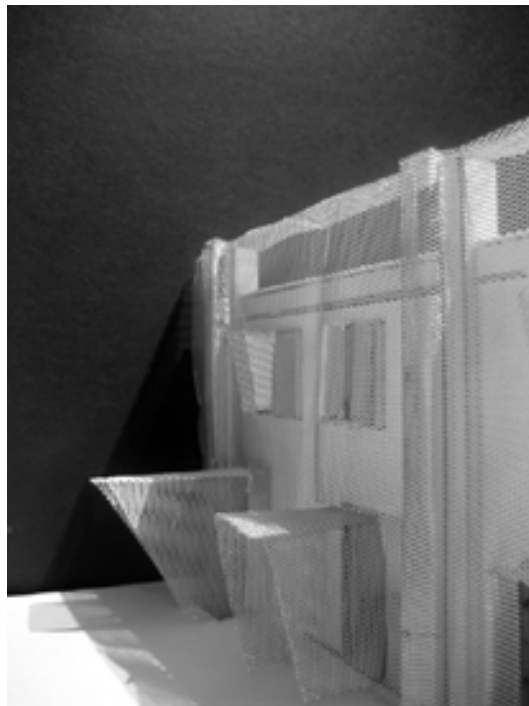
To end the whole process, it was necessary to remove unwanted columns and partial sections to achieve a respectful level of functionality and an overall appearance.







Clouds of Influence



Grid Facade Offset from Conventional Wall



Kitchen Bar Translated as Criss-Cross

Sectionally and in plan, the building is broken down into three areas. Each has a different purpose and field of influence in regards to the placement of the screens. It consists of the **grid** facade, the **conventional** areas without either wrapping, and the **criss-cross** intervention. The divisions between the three have specific starting and stopping points.

First, the criss-cross pattern has its aura reaching out and into the facade. The limits on the exterior are a result strictly of the facade itself. Oppositely, the penetrations into the building are only influential to a certain point, the staircase and balcony above in the townhouses and only in the bedrooms in the apartments. Pertaining to the staircase, it stops when the stairs rotate moving up the unit. The influenced stairs are metal with a silk-screened glass support that mimics the facade. An inch gap exists between the influenced stairs and the regular stairs, which are wood, to insinuate the notion of a field of influence. One exception in the townhouses is the subtraction of the bar between the living room and the kitchen; it is cut at an angle reflective of the angles on the facade.

Within the units, the layout is quite conventional. For the most part, angles are perpendicular and room divisions are typical of a standard dwelling.

Aside from the light qualities, the grid pattern along the courtyards does not influence the interiors of the units. The screen is offset from the facade by a foot minus the projections towards the windows. Additionally, this offset is implemented in the floor of the court; it is six inches off of the ground and rotates ninety degrees out to exaggerate this repulsion of the conventional. The corner at the roof copies the same action but in the opposite direction, opening up to the heavens above and proving its desire to be cloud-like.

So, each domain, conventional, criss-cross, and grid, has its own particular home with a certain area of influence. Some overlap, some do not



In Closing...

Through this study of the urban screen, a development of contradictions emerged. Mainly, it is the contradiction between the organic, dynamic and the orthogonal, static. Additionally, there is the emergence of the notion of materiality and the many contradictions that can become apparent.

This is a building that flows and moves, but it is also static and rigid. It looks light, but is heavy and monolithic in nature. One cannot look at it and understand it at a glance. It is something into itself that one, on their own, must investigate and develop with personal conclusions and experiences. One can say that it is a cloud, or one can say that it is a vicious animal reaching out to devour the Town of Blacksburg, but it is the viewer and the inhabitants that decide.

For this reason, I have left much to chance. The layout of the grocery store is quite open. The retail is lacking many divisions. The courtyard does not have many spatial interventions aside from the grid facade. I have purposely left these as clean slates so that the future inhabitants can create their own architecture, experiences, and dwellings. It is their building.

On that note, one final observation... The townhouses work well spatially, but it might be an improvement if there were no walls within the units, as if it was an enormous space for the residences to occupy and

make their own, except for a small kitchen wall and water closet. Additionally, the apartments in the east building do not seem to be the best use in terms of the facades. An open layout would work best. Therefore, offices would be the best use and the best experience of the effects of the two screens. One could see and interact with both screens simultaneously. What a wonderful, light-filled, dynamic space that would be to work in.

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Experience:

Intern Architect, Elkus-Manfredi, 2007- , Boston, MA
Graduate Research Assistant, 2006-07, Virginia Tech, Blacksburg, VA
Center for European Studies, 2006, Riva San Vitale, Switzerland
Graduate Teacher Assistant, 2005, Virginia Tech, Blacksburg, VA
Intern, Downtown Roanoke, Inc, 2004, Roanoke, Virginia

Activities:

Exhibition of Library Design, Riva San Vitale, Switzerland (2006)
Graduate Student Assembly Delegate - School of Architecture (2004-07)
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