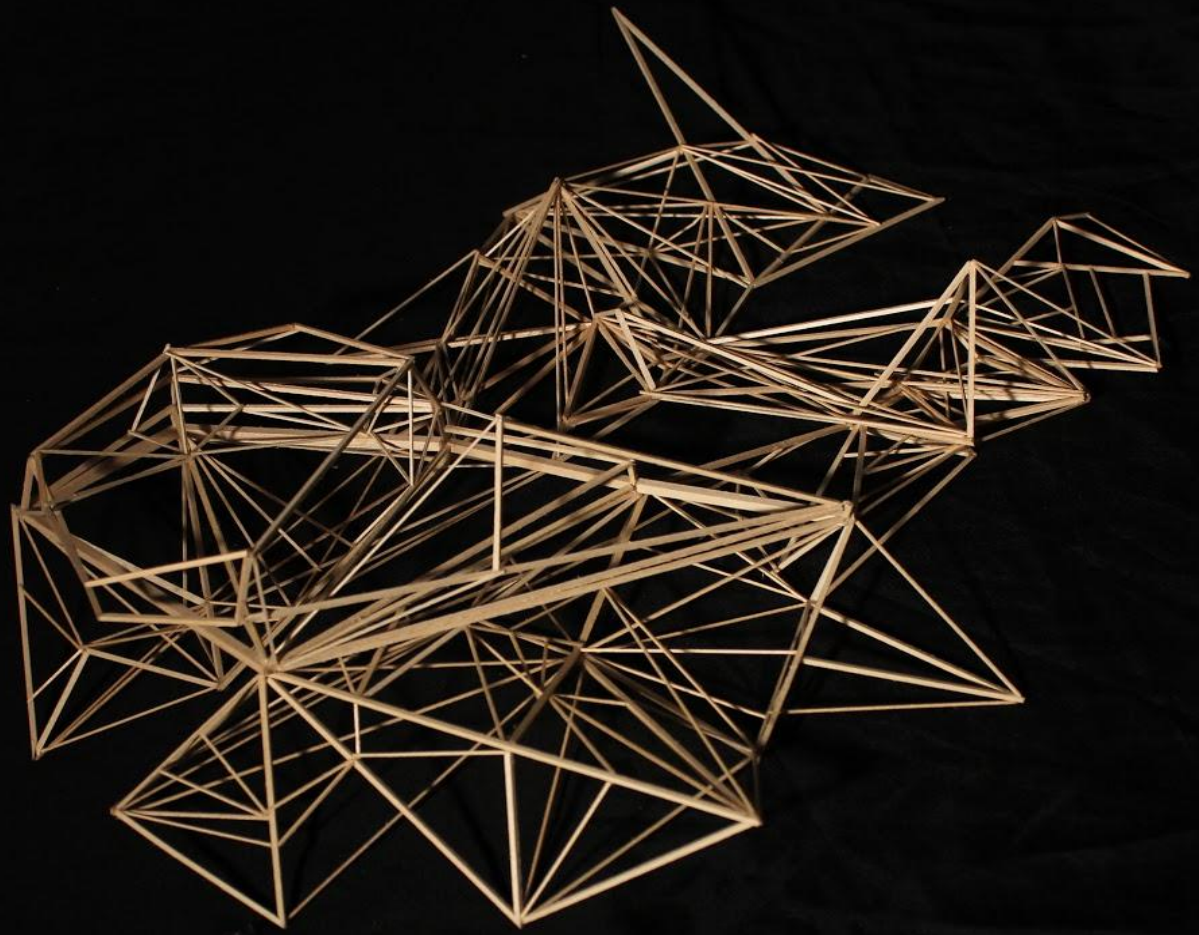
AARON CHU

ARCHITECTURE PORTFOLIO

SELECTED WORKS

2017-2021

Rice University School of Architecture
Rising Sophomore
Projected Graduation 2027 (B. Arch)

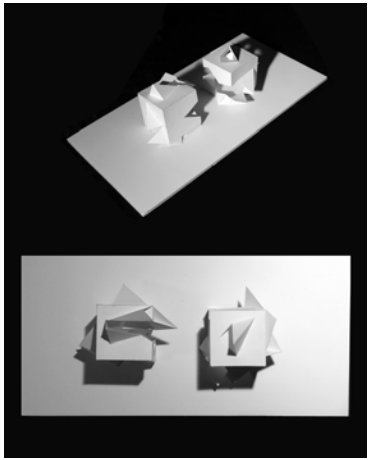


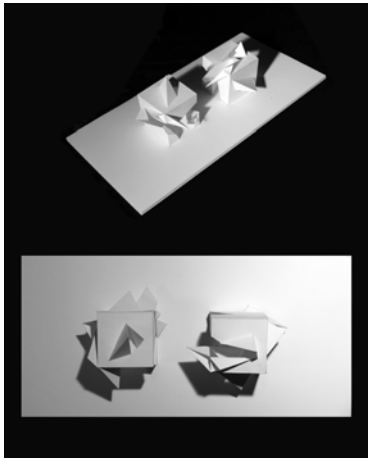
“Topography”
Washington University in St. Louis, Summer 2019

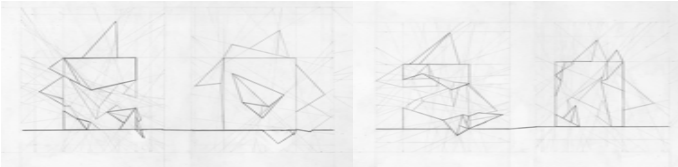
The Identical Cubes

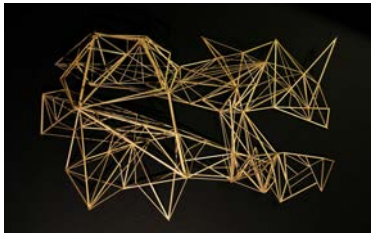
Investigating the idea of using a singular material to its fullest potential, I created two identical 2” cubes using the entirety of one 11” x 15” sheet of bristol board.

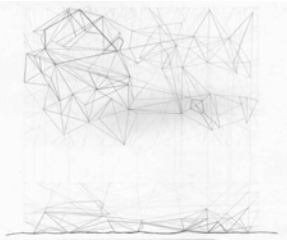
The triangulation technique I used created spaces that are characterized by adding in a congruent triangle that fits into the extruded triangular plane. I chose to use two identical cubes to showcase how homogeneous spaces interact in distinct ways by altering the orientation.











Basswood Topography

Using the line drawings from the two identical cubes, I chose three of the most compelling plans and composed them at different scales (100%, 200%, and 300%). Using a mylar transparent sheet, I abstracted three possible topographies (top right).

I decided to further study the topography dictated by the unoccupied space in the middle. I was captivated by the idea of separation and envisioned it as a canyon. Using basswood sticks, I continued the use of triangles, due to their structural integrity, to create a topography.

Completed: Summer 2019, Washington University in St. Louis, Architecture Discovery Program (Independent)

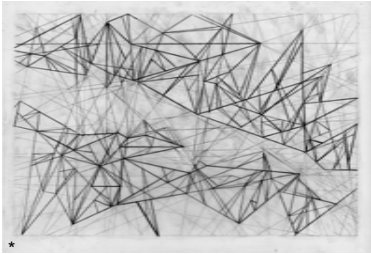
Materials: Bristol board, foam board, pencil (4B, HB, H), drafting paper

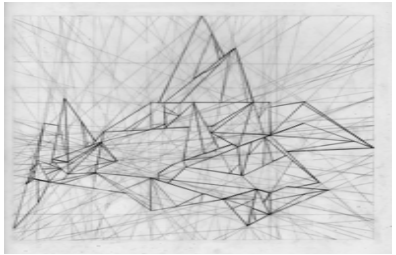
Dimension: 8" x 4" x 2"

Completed: Summer 2019, Washington University in St. Louis, Architecture Discovery Program (Independent)

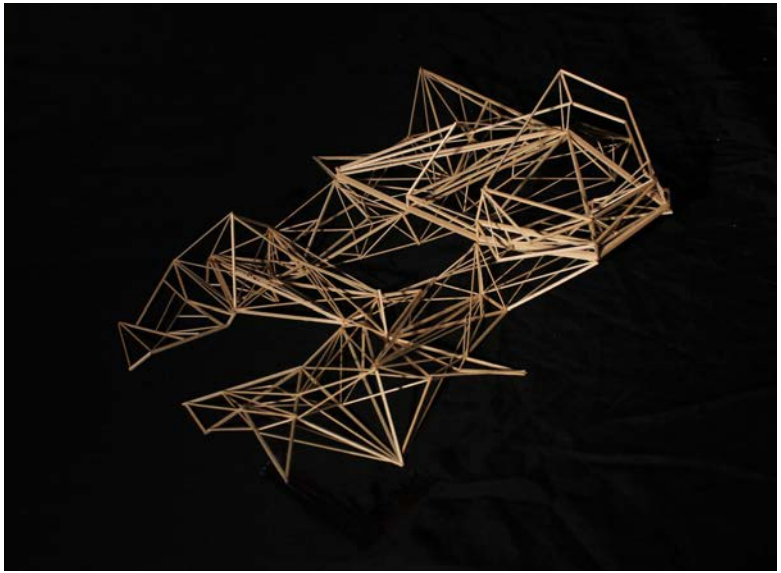
Materials: scale lumber, basswood sticks

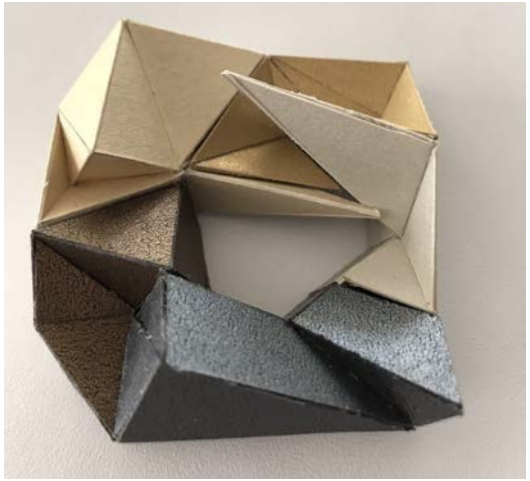
Dimension: 10" x 14" x 4"

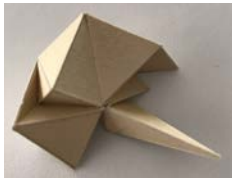


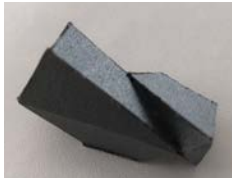


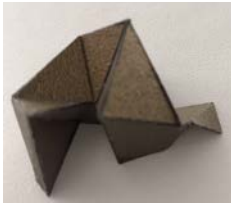
INVESTIGATION OF SPACE AND TOPOGRAPHY

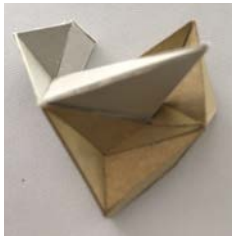












INTERCONNECTION

Designed by Aaron Chu

Completed: Sophomore year, 2018, Princeton Day School (Independent)

Materials: metallic cardstock (silver, black, brown, beige, gold), museum board (4-ply)

Dimensions: 2" x 2" x 1"

5 Piece Puzzle

Within the construct of a 2" x 2" x 1" volume, five distinctly designed pieces interlock in unique ways.

My initial iterations of this project involved dull plain square pegs. However, as I continued to work with the piece I discovered a triangulation technique that created more dramatic and interesting shapes. I refined this technique for my final iteration.

5 Piece Puzzle, cont.

Experimenting in 3D printing, I first attempted to scan each puzzle piece at the Princeton University StudioLab. The scanning process was lengthy and unsuccessful. Instead, I drafted plans for each piece using a computer software which was much more effective. I then 3D printed them and hand-coated each piece with a spray paint.

This triangulation technique inspired other projects such as the *Space and Topography* Study conducted in Summer 2019 at WashU.

TEXTURE AND MATERIAL

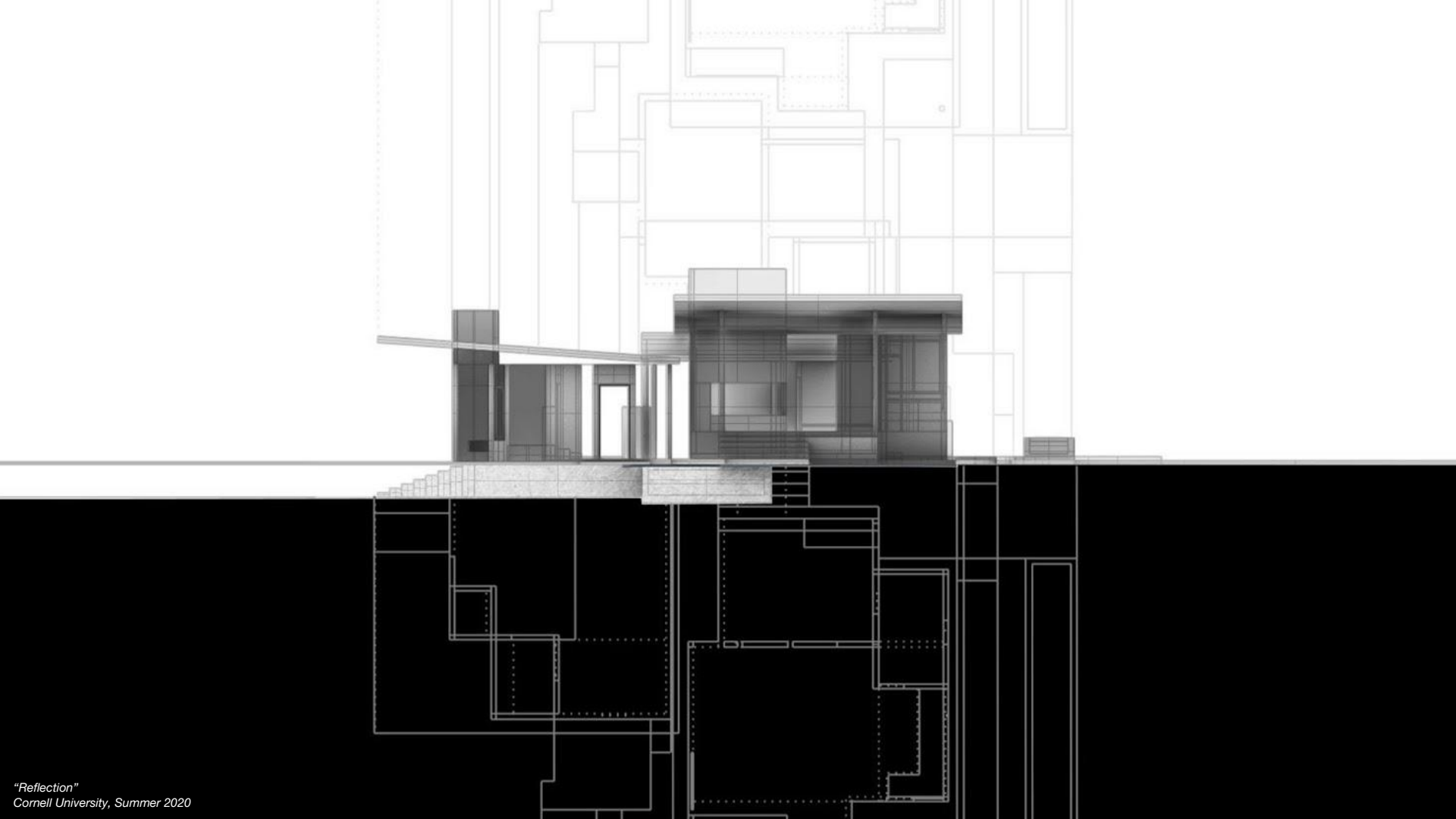
Designed by Aaron Chu

Completed: Senior year, 2020, Princeton Day School (Independent)

Materials: Wood-filled ABS, ColorShot spray paint

Dimension: 4" x 4" x 2"

PRINCETON DAY SCHOOL (So. 2018, Summer 2020)



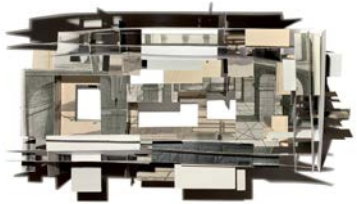
“Reflection”
Cornell University, Summer 2020

Bas Relief

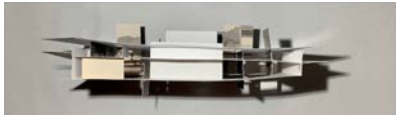
Selecting 3 of 200 primer images printed on 11” x 15” cardstock, I created a bas relief by extracting patterns, folding, scoring and cutting. No adhesive (glue/tape) was used resulting in a freestanding structure.

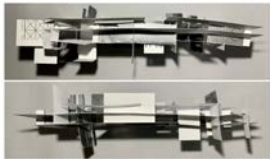
After creating three unique bas-reliefs, I selected the most compelling one and created a collage using orthogonal documentations of the relief.

The reasoning behind choosing my final relief was the unique elevations. I made sure to accentuate these characteristics in the collage.



Final Collage using the selected bas relief



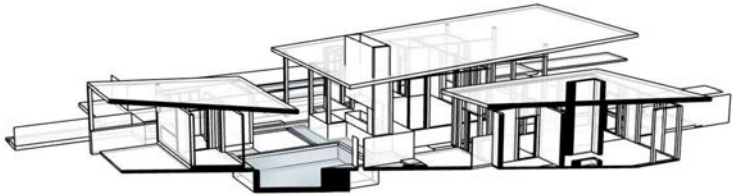


The bottom row show my multiple iterations for studying the technique of intersecting planes.

Completed: Summer 2020, Cornell University, Introduction to Architecture Summer Program (Independent)

Materials: primer images on card stock

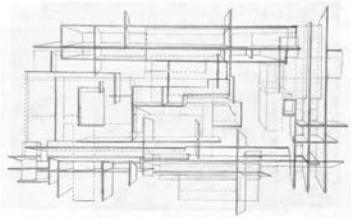
Dimension: 11" x 15" x 3"



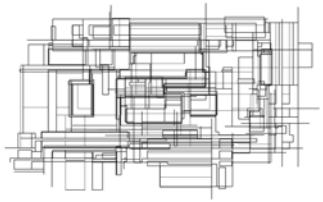
Extruding Spaces From Line Drawings

I created 6 distinct pencil line drawings so that when all 6 layers were superimposed on one another a replication of the collage was seen.

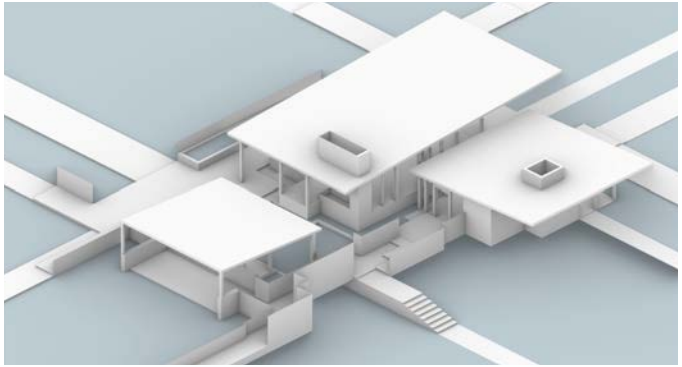
In this combined line drawing, I envisioned a space for cleansing, a space for contemplation, a space for rest, and a space to prepare food. I converted the hand-made drawings to Rhino 3D drawings and created the spaces using 3D extrusions.

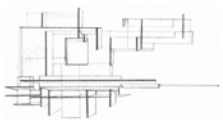


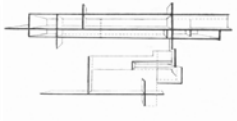
Superimposed trace drawings (6-count)

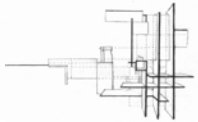


Rhino 3D Drawing

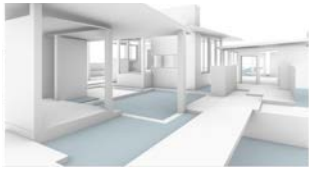




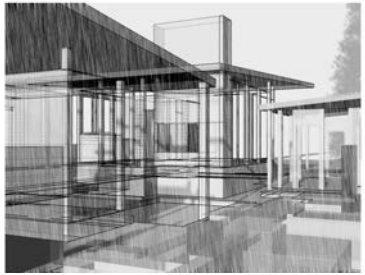


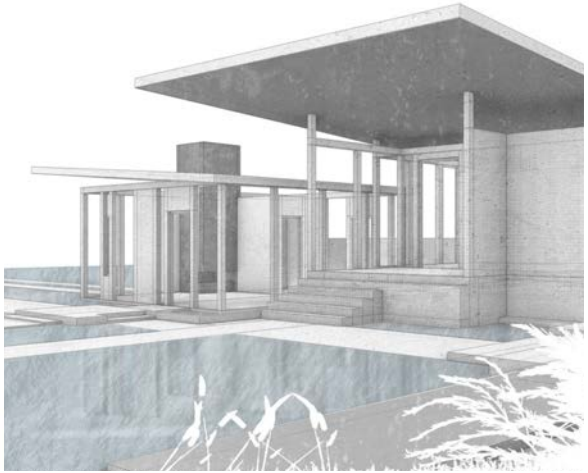


INTERSECTION OF PLANES



CORNELL SUMMER PROGRAM (Summer 2020)

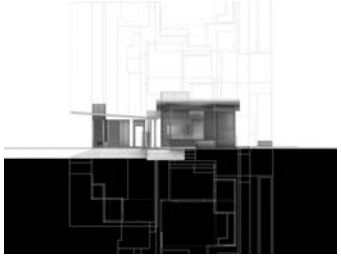




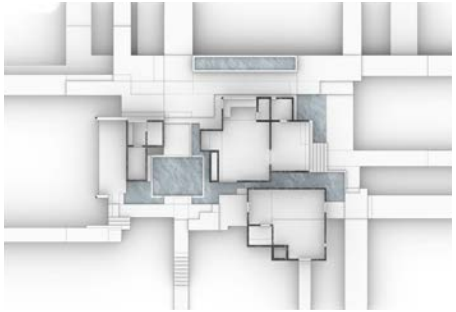
A House
In The Marsh

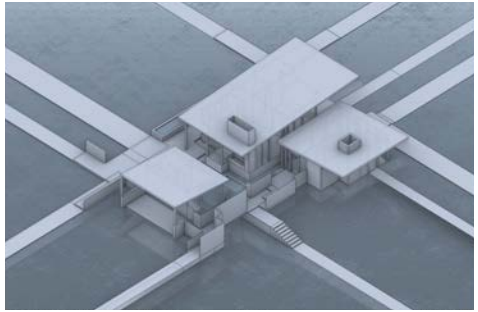
In continuation of the abstraction of the line drawing, I was able to utilize the Rhino 3D software to orient a camera view which best captured the spaces I created.

Using photoshop, I created textures for the surfaces in order to engage the viewers. I implemented negative space silhouettes as a foreground to make the images present as more realistic and to have an artistic collage effect. I also experimented with the idea of reflection and how light plays a role in the experience of traveling through this complex.



PRESENTATION





Designed by Aaron Chu
Completed: Summer 2020, Cornell University, Intro to Architecture Summer Program (Independent)
Mediums: Rhino 3D, Adobe Photoshop

Wagner Addition
Princeton Day School, Freshman 2018

STUDY OF A STRUCTURE

Architect: Keith Wagner, Wagner Hodgson Landscape Architects

Location: North Ferrisburgh, Vermont

Materials: museum board (white, gray), scale lumber (8000, 8001, 8002), chipboard (1/32"), paddle wire (30 gauge)

Dimensions: 8.5" x 5" x 4.5"

Princeton Day School Architecture Studios
(Independent)

Addition designed by Aaron Chu

Location: North Ferrisburgh, Vermont

Materials: museum board (white, gray), scale lumber (8000, 8001, 8002), chipboard (1/32"), paddle wire (30 gauge)

Dimensions: 8.5" x 5" x 4.5"

Princeton Day School Architecture Studios
(Independent)

The Wagner
Residence and Addition

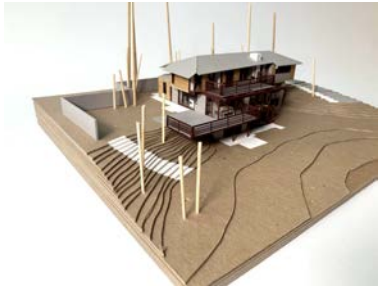
Designed by Keith Wagner as a vessel to experience the open terrain of rural Vermont, this minimalist complex allows for a simple and functional type of living style.

The model to the left was created in 2018 and was my first study of a structure. This 3/32" to 1' scale replica fueled my passion for architecture. The Wagner Residence laid the foundations for many techniques involving scoring, lining windows, and interior design.

The following summer (2018), I decided to continue my analysis of the Wagner Residence with an independent study. I designed an addition using the same vernacular architecture style used by Keith Wagner. In this addition, an observatory tower, library, additional kitchen and living spaces were created.

DESIGN OF AN ADDITION

PRINCETON DAY SCHOOL (Fr. 2018, Summer 2018)



Laurelhurst
Midcentury

Originally designed by Ibsen Nelson in 1961, this mid century modern was completely renovated by mwworks.

My study of mwworks was to explore the architects critical regionalism and attention to site.

I also closely examined how mwworks used floor to ceiling windows which allowed a relationship with the indoor and outdoor environments.

In regards to the model itself, the most powerful aspect is that the floors can detach in order to see the interior.

MWWORKS

Architect: mwworks
Location: Laurelhurst, Seattle, US
Completed: Junior Year, 2020, Princeton Day School Architecture + at home studio (Quarantine) (Independent)
Materials: Scale Lumber (8000, 8002, 8005), museum board (white, gray), chipboard (1/32"), bamboo skewers, wood stain
Dimension: 15" x 15" x 8"

Studhorse Residence
Princeton Day School, Sophomore 2019

Architect: Tom Kundig, Olson Kundig

Location: Winthrop, Washington

Materials: museum board (white, gray), cardstock (grey), scale lumber (8000, 8002), chipboard (1/32"), paddle wire (30 gauge)

Model by Aaron Chu

Completed: Sophomore Year, 2020, Princeton Day School Architecture Studio (Independent)

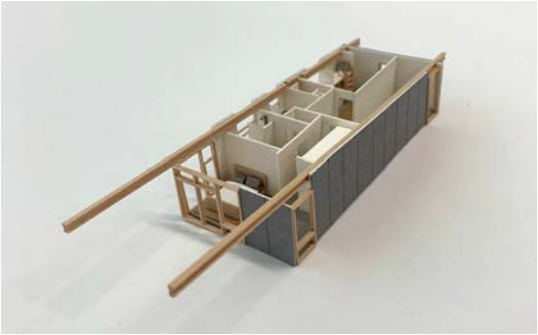
Dimension: 34" x 20" x 8"

Studhorse Residence

This study, conducted my sophomore year (2019), investigates the idea of multiple buildings and their interactions among each other.

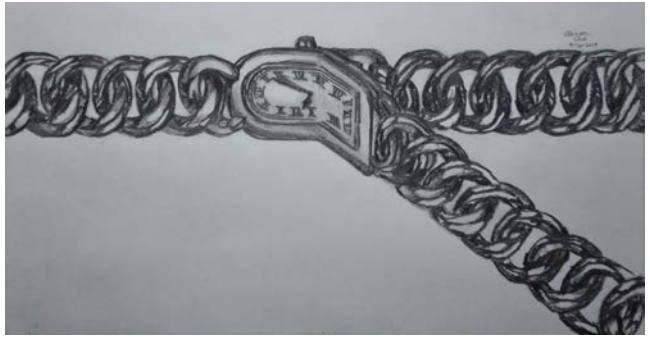
I focused on the industrial qualities and the balance between aesthetics and functionality. In addition, this was my first experience with the idea of a topographic landscape. The details and intricacies of this model helped me develop finer craft.

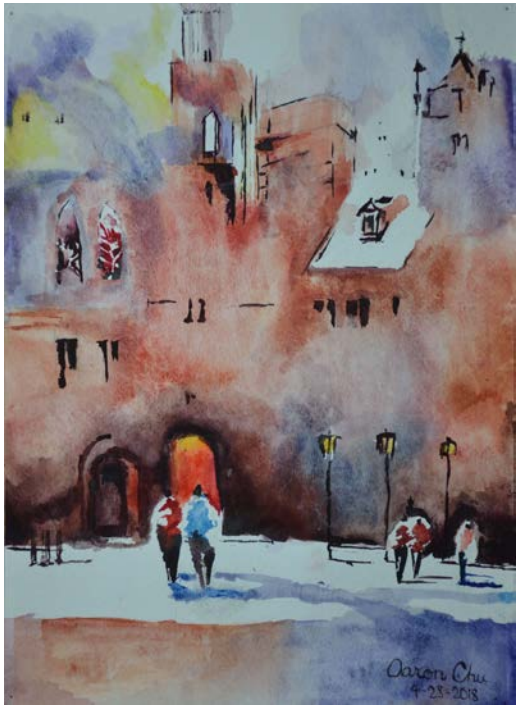
INTERACTIONS WITHIN A COMPLEX



PRINCETON DAY SCHOOL (So. 2019)

"Ceremony of Remembrance" (Photoshop Rendering)
Princeton Day School Architecture, 2020





ART STUDIO 23

In 8th grade, I began attending art studio courses at Art Studio 23 under the teaching of Jeff Zhou.

In those 5 years spent in the art studio I have developed integral foundational skills for my architecture. I have loved every moment I have spent in the art studio studying masterpieces as well as creating original art.

One aspect I hope to further develop at is to continue studying architecture and implementing my fine art skills with new representations and models.

(Top row; left) The Other Side of Match Point
Artist: Aaron Chu (Original Self-Portrait)
Medium: Graphite, Ink, Sea Salt,
Dimensions: 13" x 10"
Completed: July 9, 2019

(Top row) Model Portrait
Artist: Nicolai Fechin
Medium: Graphite and charcoal on paper
Dimensions: 10" x 13"
Completed: May 19, 2018

(Top row) Sunflower Study
Artist: Vincent Van Gogh
Medium: Oil on canvas
Dimensions:18" x 24"
Completed: December 8, 2018

(Top and Bottom) Streets of Spain (Study)
Artist: Viktoria Prischedko
Medium: Watercolor on paper
Dimensions: 8" x 11"
Completed: April 28, 2018

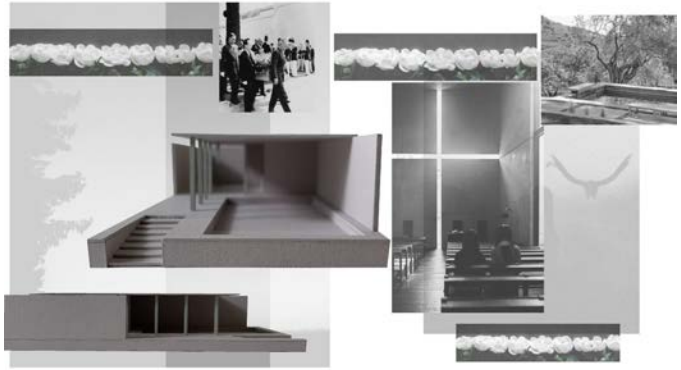
(Top right) Portrait of Woman (Study)
Artist: Nicolai Fechin
Medium: Oil on paper
Dimensions: 18" x 24"
Completed: September, 14, 2019

(Bottom left) Time and Time Again
Artist: Aaron Chu (Original)
Medium: Graphite on paper
Dimensions: 8" x 11"
Completed: April 16, 2019

(Bottom row) Portrait of Catholic Priest
Artist: Art Studio 23 Gouache Study
Medium: Gouache on paper
Dimensions: 8" x 12"
Completed: June 2, 2018

(Bottom right) Boat on Land
Artist: Art Studio 23 Oil Study
Medium: Oil on paper
Dimensions: 24" x 18"
Completed: September, 15, 2018

ART STUDIO 23 (2017-2020)

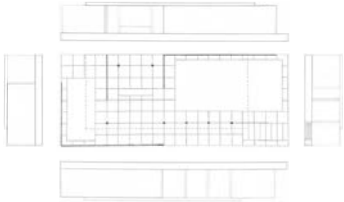


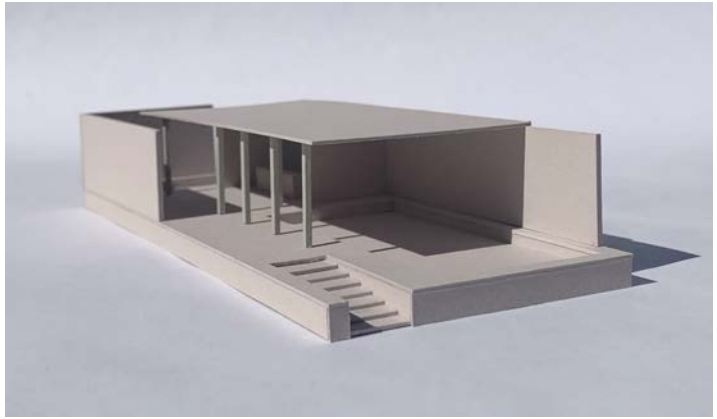
Pavilion of Remembrance

Drawing inspiration from Mies van der Rohe's *Barcelona Pavilion* a Kit of Parts were to be assembled to design a space of ceremony.

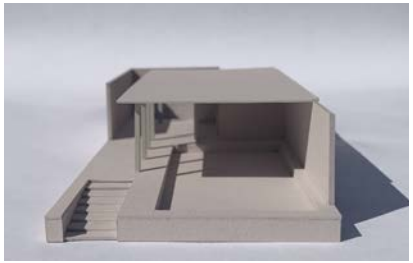
With two pools, 5 walls, an entrance, 8 columns, and a monolith my purpose was to find the most powerful way to use each part to its fullest potential so that I was able to create a narrative defined in the collages I later produced.

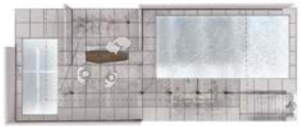
Through the series of collages, using found images and images of the model, I created multiple compositions that evoked the sense of remembrance. I interpreted this as creating a more somber atmosphere within my pavilion.





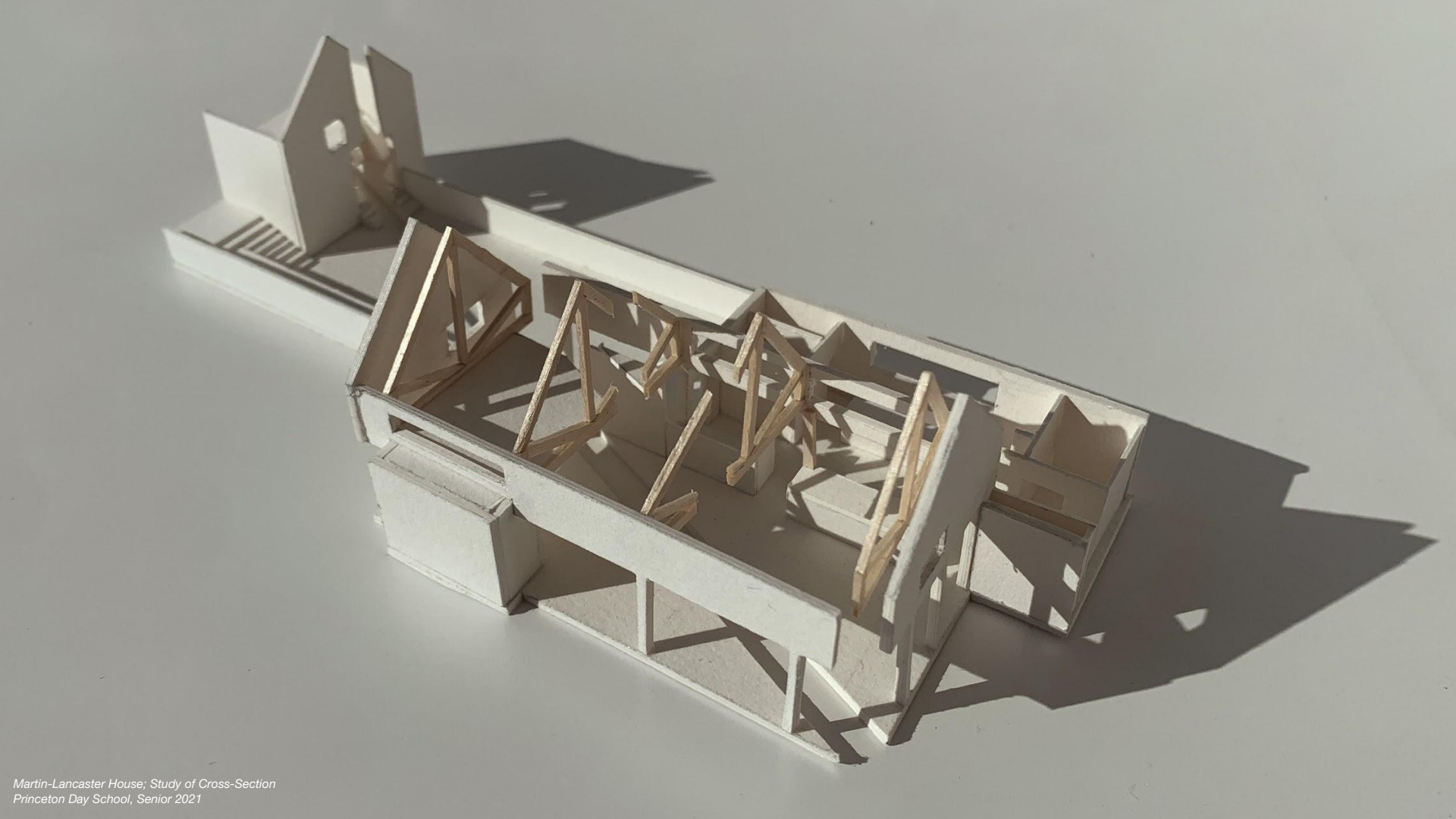
KIT OF PARTS (IN PROGRESS)





PRINCETON DAY SCHOOL (Sr. 2020)

Architect: Mies van der Rohe, reiteration by Aaron Chu
Location: Barcelona, Spain
Materials: museum board (gray), scale lumber (8016)
Dimensions: 8.5" x 3.5" x 1.5"
Princeton Day School Architecture Studios (Independent)



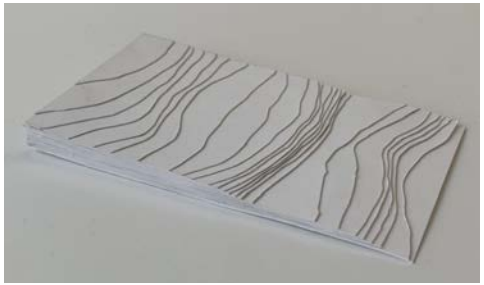
Martin-Lancaster House; Study of Cross-Section
Princeton Day School, Senior 2021

Martin-Lancaster House

In studying the works of MacKay-Lyons Sweetapple Architects I chose to further investigate the Martin-Lancaster House as a continuation of examining how multiple complexes interact with each other within a dynamic landscape.

Located on a rugged coast of Nova Scotia, this study model allowed me to focus on representation of the vernacular materiality of the house. In addition to weather battered shingles, elegant white wood frames and woodlines surfaces, my representation of site using plaster clay helped exhibit the rolling landscape and relationship of house and water.

MACKAY-LYONS SWEETAPPLE ARCHITECTS



Architect: Mackay-Lyons Sweetapple Architects

Location: Nova Scotia

Materials: museum board (white, gray), cardstock (grey), scale lumber (8000, 8002), chipboard (1/32"), dowels

Model by Aaron Chu

Completed: Sophomore Year, 2020, Princeton Day School Architecture Studio (Independent)

Dimension: 34" x 20" x 8"

PRINCETON DAY SCHOOL (So. 2020)

Negative Space
Texture Drawing

I began by layering two negative space drawings of a *Philodendron bipinnatifidum* plant and a *Monstera deliciosa* plant to creatzxe a unique composition. My intent was to have complex and high density areas in order to accentuate the patterns.

I then established a 5 x 5 grid and the overarching concept of this piece was that two of the same textures could not be next to one another. In this piece, I chose to use straight ink lines, pencil shading as a gradient, stippling, and solid ink. I particularly enjoyed how clean the final drawing came out. Each dot, line, pencil shading, and ink space was purposeful and I sought out a consistent and balanced composition.

STUDY OF TEXTURE AND NEGATIVE SPACE

I transferred the two freehand drawings of the two plants (1 of 2 shown to the left) onto metallic cardstock and used an exacto knife to carefully extract the negative space. I then used these two cut-outs for the final textured drawing.

Completed: Junior Year, 2019, Princeton Day School Architecture (Independent)

Materials: Pencil (HB, F, 4H), Micron Fine Line Ink Pen (01, 04, 08), metallic card stock (bottom left), museum board

Dimension: 15” x 15”

PRINCETON DAY SCHOOL (Jr. 2019)