

**With Drawing In Mind**  
Renovating an Architecture of Discovery

by

Ian Jacob Ngan

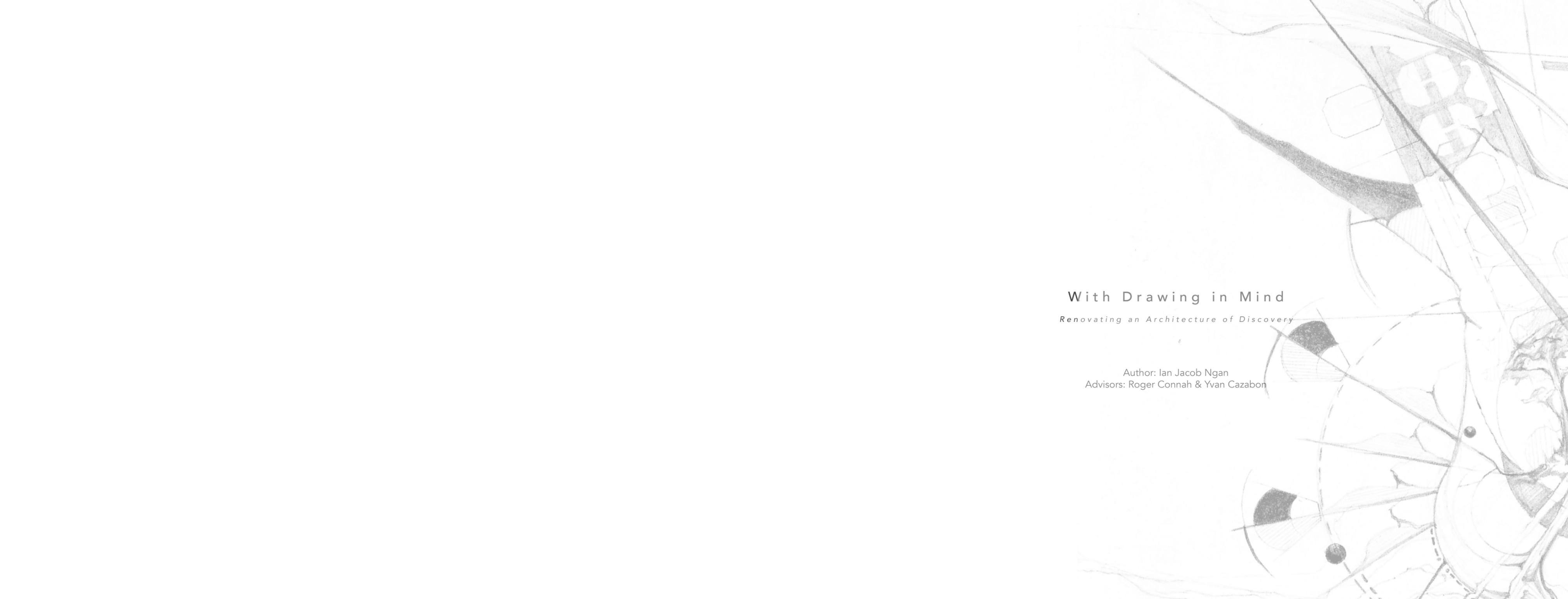
A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs  
in partial fulfillment of the requirements for the degree of

Master of Architecture

Azrieli School of Architecture and Urbanism  
Carleton University  
Ottawa, Ontario

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Ian J. Ngan

The background of the entire page is a detailed architectural drawing in pencil or light ink. It features a complex network of lines, including straight lines, curves, and circles. Some areas are shaded with fine hatching or cross-hatching, creating a sense of depth and texture. The drawing appears to be a technical sketch of a building's structure or a site plan, with various geometric shapes and overlapping lines. The overall style is that of a professional architectural sketch.

## With Drawing in Mind

*Renovating an Architecture of Discovery*

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Advisors: Roger Connah & Yvan Cazabon

## **A B S T R A C T**

That brief moment when ideas become as clear as day; that is where this thesis hopes to start. This thesis sets out to question the role of drawing in current studio education in architecture and whether new hybrid approaches can work with or unsettle the digital hegemony for the benefit of 21st century architecture. As the mind works to draw out its own creations into “real space”, it also seems to understand its capacity to create feelings, thought, movement and gesture, all poetically expanded through millions of minute details. However, when the mind is rendering, the

hand is flustered, lacking the tools to construct all at once. Forms can become nothing but a fleeting memory. Is this a fair reflection on the current use of drawing in studio culture in architecture school? Can drawing help us to creatively keep up with the mind and improve our architectural production, by both analogue and digital methods? With physical, tactile means of iteration can we enrich our architectural content? How can redrawing drawings help inform the new spaces around us, how can we re-think drawing to keep up with the mind’s complex musings along with society’s rapid changes in media techniques.

## **P R O L O G U E**

In the winter of 2016 I began a new semester of my 2nd year of my Bachelor's degree at Carleton University. What I had learned prior to my entry at the university was that the Azrieli School of Architecture and Urbanism at Carleton was known for supporting the traditional practice of hand drawing and hand craft in the early years of the program and would gradually lean towards digital formats in the later years. I was excited yet frustrated at how slow and tedious hand drawing and drafting was in my studio and design-focused courses. My peers were taught by professors who had already converted their students toward digital means of designing (using programs such as Revit, Rhinoceros and AutoCAD) which were briefly explained in the previous semester. To my surprise my professor had other plans for our studio; he told us that our projects this year were to be strictly hand drafted and rendered. To this I felt a sense of yearning and a lack of confidence as I feared that I would be trailing behind other students. I would ask my professor the reasons why he was so adamant to keep us from moving forward with our designs through digital software rather than by hand rendering. To this, they replied "Don't be so eager: you'll have plenty of time to use digital soft-

ware in the future. Your whole career in architecture as a discipline will revolve around a computer; relax and enjoy it". I didn't understand what he meant by this but I was not overly excited. It wasn't because I was not good at drawing by hand; my lines were crisp, and my rendering skills were experienced. I had been told I had a good hand. Yet I wanted to learn more quickly, I wanted to be quicker. But now, as a graduate student working on this thesis I look back to this interaction with my professor with some regret. How naïve I was and how ungrateful I was to have a professor remind me that architecture isn't always about efficiency, and to keep me grounded in the art of architecture. This thesis is in part a retelling of the few words from my professor, who knew, from years of experience in the field, not to lose sight of drawing as thoughtful discovery. I realize now in a digitally dominated field that pushing the digital too soon can cause major flaws in an architecture student's fundamental ideals of knowledge and exploration. I also recognize that an expression of architecture should not solely rely on digital nor analogue drawing. This thesis will approach the studio culture of drawing with a new light and a hopeful optimism for the formation of a new hybrid.

## **C O N T E N T S**

	<i>Page Numbers</i>
<i>Abstract</i>	<i>i</i>
<i>Prologue</i>	<i>iii</i>
<i>Part 1 Introduction</i>	
3 Stages of Drawing	1
<i>Part 2 A Sequence of Folios'</i>	
Folio I: Drawing Tones	9
Folio II: Analysing Home	19
Folio III: Why do we Read (bookstore sequence)	33
Folio IV: Attentive Hand (rethinking the bookstore)	47
Folio V: Food For Thought (renovating an architecture of discovery)	61
<i>Bibliography</i>	107
<i>List of Figures</i>	111

### 3 STAGES OF DRAWING

The design studio – in its current configuration – has become disassociated (to a certain extent) with the act of drawing. School and pedagogy have pushed out the use and applications of drawing. This raises the possibility that the rudimentary skills, conventions, and understanding of why we draw the way we do have been diminished (or cut out entirely).

Why is the art of 'hand-drawing' still taught in early courses if its techniques can so easily be mimicked by computer technology? What are the repercussions of the digital taking over the student's hand within two years of school? How has drawing shifted to a new form of communication, one with instant



figure i: Photograph - "Third Year Studio 4"

figure ii: Photograph - "Second Year Studio 3"

I miss the mess of the studio, the overcrowded space, lived in by many. The excess of paper and scraps on the floor which contain scribbled notes with crumpled up ideas. The studio is the place where all ideas are born, thrown out and reused by others. A visual mind map of everyone in the studio. From concept to the final product.

It's a shame that all that mess is now contained inside a single hard-drive marked by one individual.



figure iii: Photograph - "Second Year Studio"



figure iv: Photograph - "Second Year Studio 3"



figure v: Photograph - "Second Year Studio 3"

results and immediate digital gratification? Has computation enhanced, adapted, or digressed from the fundamental roots (tones of drawing) in order to evolve? Can we ask more of drawing now than the nature of lines? According to architects Matthew Austin and Gavin Perrin described in *Design Future, Drawing The Glitch*, drawings have “fundamentally shifted from being about abstractions of abstractions to nothing more nor less than the mapping of three- or four-dimensional relations in two”<sup>2</sup>.

Today, what a ‘line-weight’ is meant to show has, ironically, no weight to students anymore. Drawing is not taught as a tactile exploratory technique, but rather, is understood as a visual effect; by virtue of a mouse \*click\*.

**Click\***

**click\***

**click\***

1. Matthew and Perrin, Gavin, “Drawing The Glitch”, pg. 10



figure vi

I have learned through my studies in architecture that different types of drawings correlate to different parts of discovery much as urban designer and architect Matthew Frederick identifies as his section: 'Three levels of knowing', presented in his book *101 Things I Learned in Architecture School*. Where Fredrick references *simplicity*, *complexity*, and *informed simplicity*, similar attributes can be applied with minor variation, to modes of drawing in architecture.

As a sequence of discovery and understanding:

**Simplicity relates to Concept; Complexity relates to Process; and Informed Simplicity relates to Proposal.**

## CONCEPT



figure viii: Photograph "At Home Studio"

## PROCESS



Frederick, Matthew. "101 Things I learned in Architecture School".

## PROPOSAL

### Three levels of knowing

**SIMPLICITY** is the world view of the child or uninformed adult, fully engaged in his own experience and happily unaware of what lies beneath the surface of immediate reality.

**COMPLEXITY** characterizes the ordinary adult world view. It is characterized by an awareness of complex systems in nature and society but an inability to discern clarifying patterns and connections.

**INFORMED SIMPLICITY** is an enlightened view of reality. It is founded upon an ability to discern or create clarifying patterns within complex mixtures. Pattern recognition is a crucial skill for an architect, who must create a highly ordered building amid many competing and frequently nebulous design considerations.

figure ix: "101 Things I learned in Architecture School"



figure vii: Photograph of annotated book - Frederick, Matthew, "101 Things I learned in Architecture School".

What is a drawing but a means of reconciliation between observation, memory, and contemplation? Meditative drawing allows for thoughtful resolution of that which we discover with that which we remember. The process in architecture, as in art and design, begins with a sketch – an idea, a momentary thought, or a memory. Drawing isn't simply a pictorial and aesthetic production it is also the expression of an idea – an expression of oneself making sense of the world and an expression of one's perception.

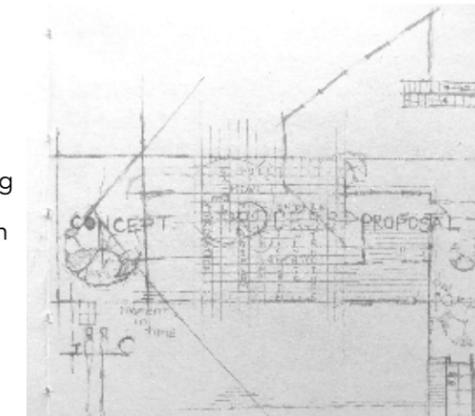


figure x: FOLIO I



figure xi: FOLIO II

Much like individual leaves in a folio, each drawing creates moments within a continuous narrative. *"With Drawing in Mind"* proposes that the act of drawing is conceived and defined based the author's own terms, loosely aligned with the three states of drawing, presented as a series of four folios; each characterizing what drawing in architecture means or demonstrates as a process of bringing forth.



figure xii: FOLIO III

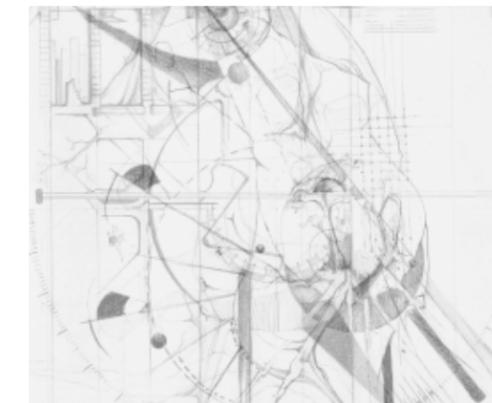


figure xiii: FOLIO IV

WITH DRAWING IN MIND **FOLIO I**

# ARCHXXI

D R A W I N G T O N E S



C O N C E P T

**The Concept Drawing:** is characterized as simplified/ immediate representation, the form of which can be interpreted in a variety of ways to further stimulate discovery. At its core, while concept drawings may be communicated to others, the first point of contact is one of recording the author's memories. The act of remembering and reconnecting with past moments, fictional or not, starts there.

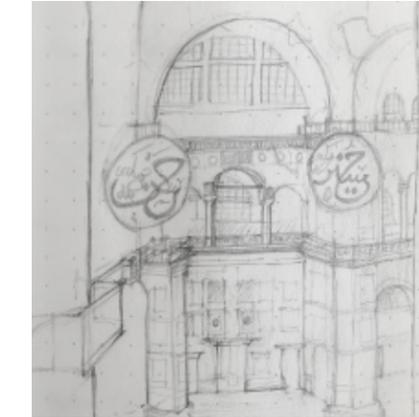
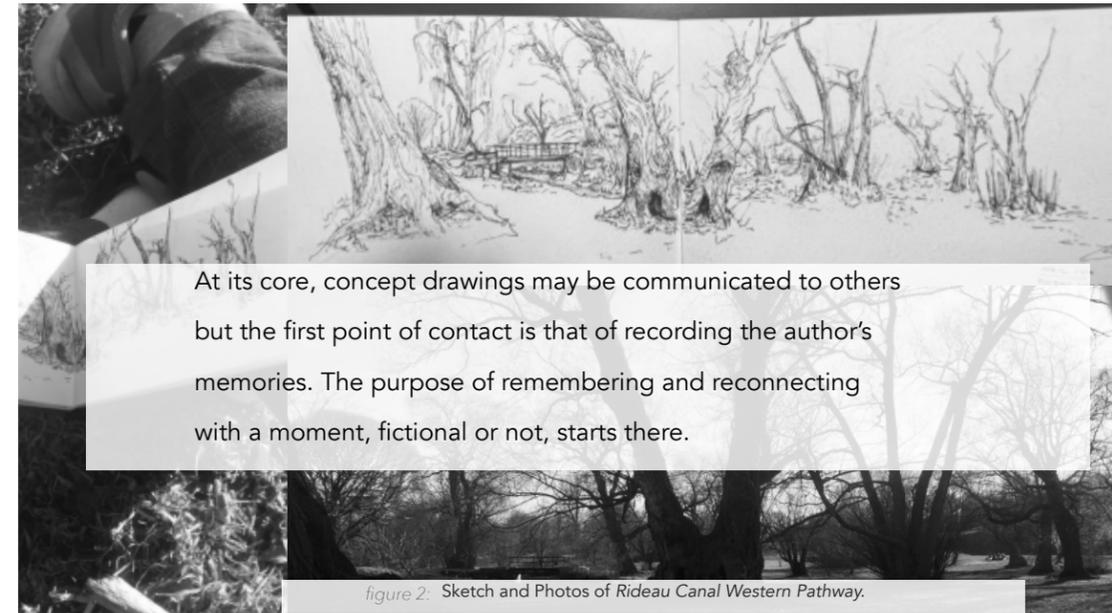


figure 3: Sketch - "Ayasofya Muzesi"



figure 4: Photo - "Ayasofya Muzesi"



figure 5: Sketch - "Sokollu Mehmet Pasha Mosque"



figure 6: Photo - "Sokollu Mehmet Pasha Mosque"

P R O C E S S

**The Process Drawing:** captures an action based on an awareness of the systems that propel the concept forward. *Process* deals with the continuous iterations of drawing, re-drawing, and reworking ideas, forms, and concepts. Reforming the drawn speculations that were constructed at the outset of the process allows for an evolution of ideas as they undergo revision and re-envisioning. These drawing edits or additions create further explorations. A process of editing multiple drawings and formal explorations allows for the combining, dividing, and reconciliation of multiple ideas into one representation.

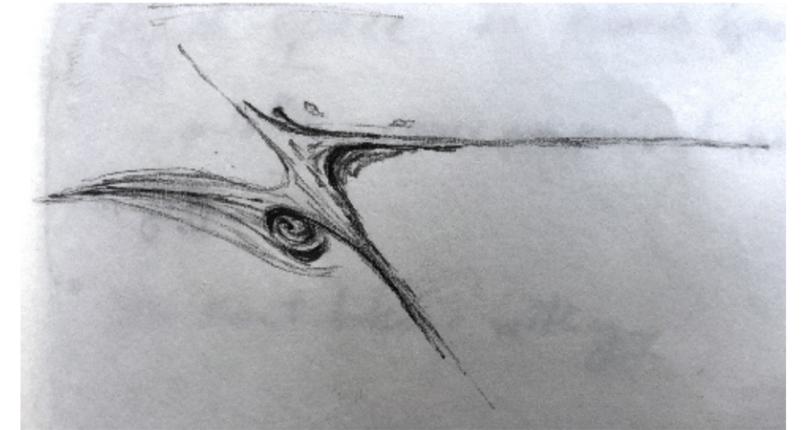


figure 7: Sketch inspired by wood grain and textures



figure 8: Illustration -Drawing Conversation v.2

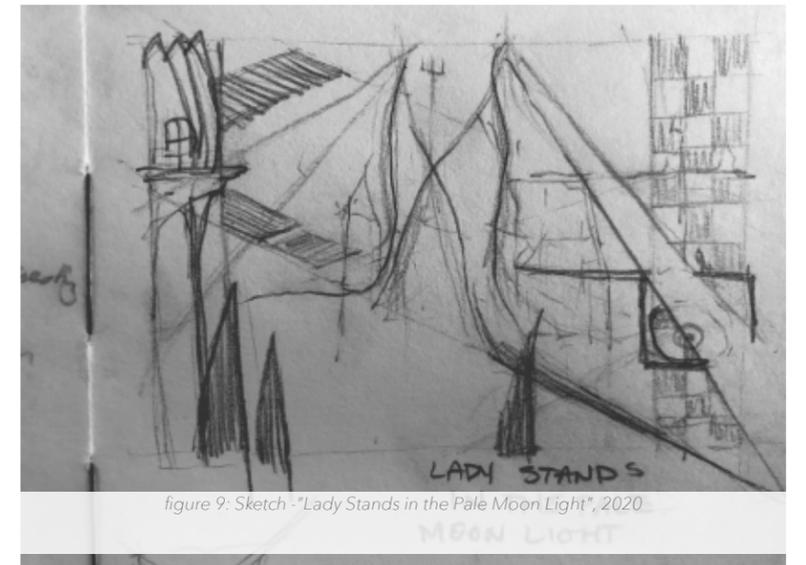


figure 9: Sketch - "Lady Stands in the Pale Moon Light", 2020

# P R O P O S A L

**The Proposal Drawing:** these drawings may, on occasion, illustrate the processes of thought and the evolution of the formal representation.

The drawing's rhetoric aims to combine both process and concepts with the use of legible conventions. At this stage, drawings communicate forms as well as the underlying patterns that connect them. Further, the process of discovery and the refinement of forms are revealed in a more complete or refined representation.

These 3 stages of drawing do not necessarily transpire in a linear sequence, nor stop at any particular point. Rather, drawings take form sporadically and in an alternating fashion and may evolve by freely moving from one state to another.

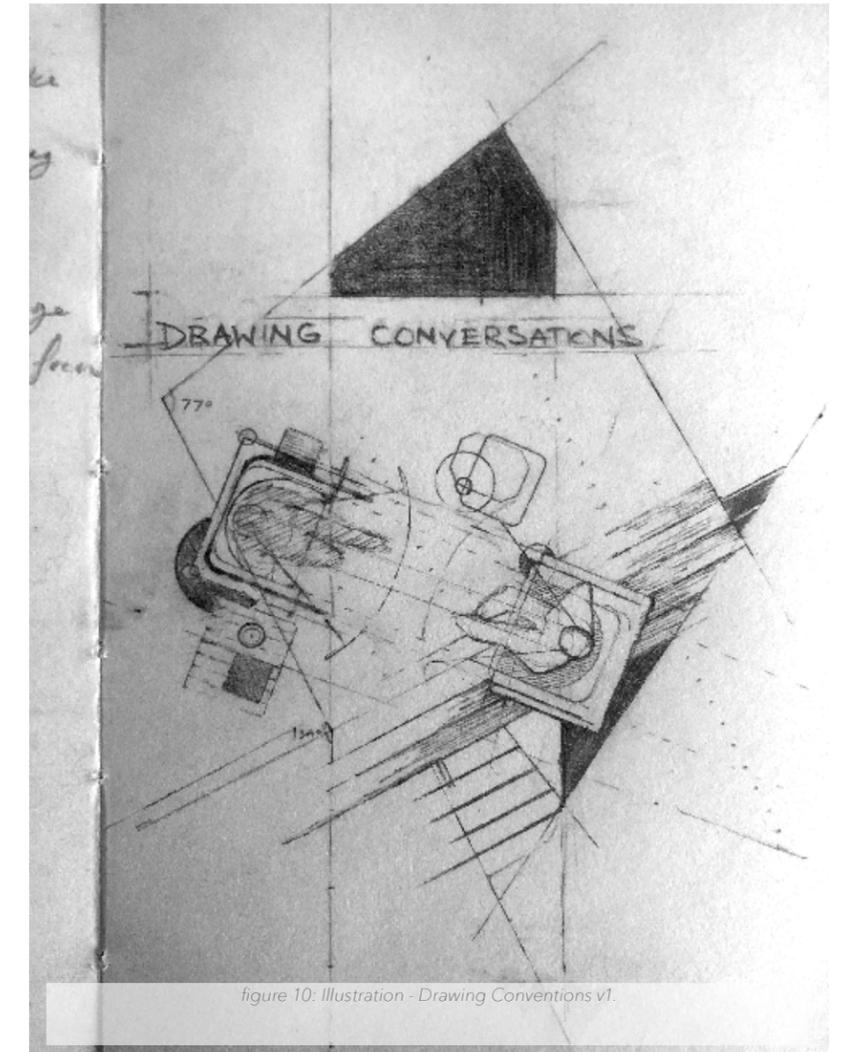


figure 10: Illustration - Drawing Conventions v1.

WITH DRAWING IN MIND **FOLIO II**

ARCHXXI

A N A L Y S I N G H O M E

## H Y B R I D H O M E

This Illustration maps out the areas within an apartment (a domestic space) which are used for creative activities. The make-shift domestic spaces and their connections seek to capture the school's studio atmosphere. This drawing shows a sequence of residential spaces beginning at the foyer, and extending to the entrance to the kitchen, and the living room. Although the apartment feels more homely it does not hold the inspiring atmosphere found in a communal studio occupied by friends and colleagues.

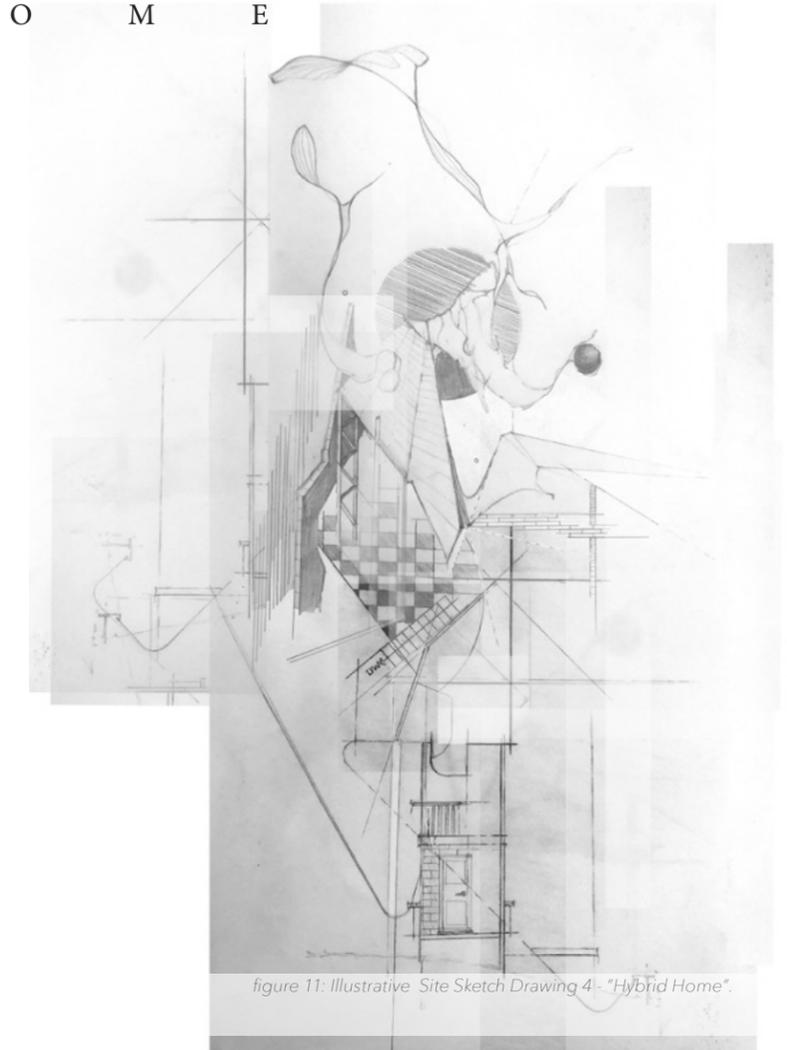


figure 11: Illustrative Site Sketch Drawing 4- "Hybrid Home".

### **NARRATIVE**

Visual narratives in drawings communicate forms as well as the underlying patterns that connect them. Sequencing is used to bring the viewer into the *story* of the project as well as the logic of its spatial connections. Similarly, narratives, associated with dialogue or storytelling, also engage the viewer/reader as inhabitants of the proposed architecture (as seen in Folio 5).

### **DRAWING HOME 1**

The building is home... it is a studio... it is drawing... in the mind. Cuts in the building are drawn as layers that expose the building's spaces and structural logic. Spatial cuts also capture the layering of ideas and the author's interpretation of potential inhabitations. Revealed in these cuts, some parts are fully rendered and have continued to grow, showing age, maturity and texture – others have faded away beneath the layers of graphite.



figure 13: Drawing Home 1

figure 12: Drawing - Study Sketch - "Drawing Home 1"

### **FIGURATIVE**

The term *figurative* implies the *representation* of all that we see and know based on an author's interpretation utilizing a form or technique that can be experienced by others. However, the term is more than that – it may also refer to architectural conventions and patterns.

### **DRAWING HOME 2**

The Plan shows an imagined, twisting spatial relationship – a sort of spiral tower – that connects two distinguishable spaces: the den/bedroom on top of the spiral staircase and the studio space with a balcony. \*Note: Both rooms promote dreaming and I feel that these spaces, in particular, are important to a creative and productive mind.



figure 14: Drawing - Study Sketch - "Drawing Home 2"

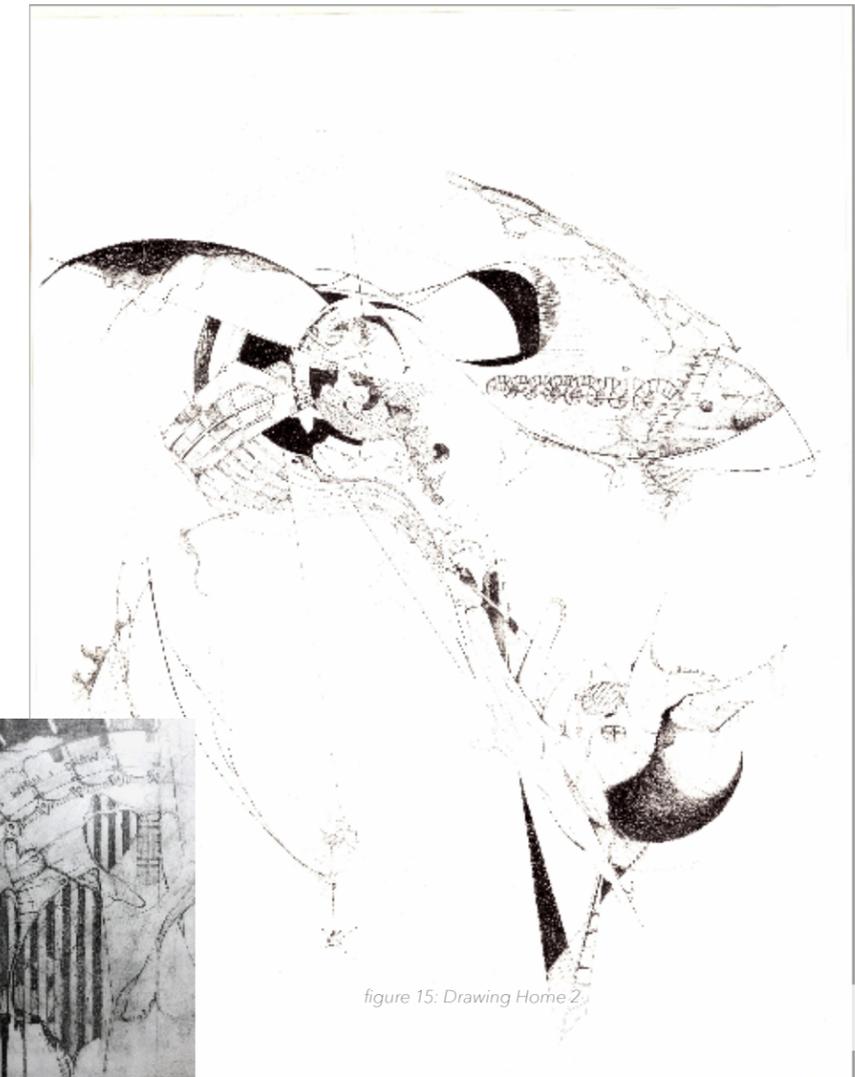


figure 15: Drawing Home 2

## **D E F O R M A T I O N**

Deformation is an action that captures the desire to play; the shifting, moving, and removing of forms within the act of drawing stimulates curiosity and promotes experimentation.

## **D R A W I N G   H O M E   3**

This spatial vignette captures the author's mind-space demonstrating his ideas and method of execution. The sphere opens to reveal a window framing a view that peers into the mind. Yet, the imagination's free reign is nonetheless tethered to the ground by cables revealing the tension between the sphere of the mind and the ground of reality. As the idea becomes reality a meandering path of wooden planks anchors the composition to its horizon.



figure 16: Drawing - Study Sketch - "Drawing Home 3"

figure 17: Drawing Home 3

## **SCALE & FRAME**

Scale and frame work simultaneously as drawing parameters. The appeal of both lies in their ability to cut off and create a distinction between space and form and between detail and overview. Interest in redrawing is created due to scale's infinite re-sizing and frame's infinite positioning.

## **DRAWING HOME 4**

Out of all the drawings, this piece is the closest representation of reality. It is a drawing of a threshold between mundane parts of the house, represented multiple times throughout the composition. The sketches are projections of reality through which the artist draws his experiences.



*figure 18 Drawing Home 4*



*figure 19: Drawing - Study Sketch - "Drawing Home 4"*

## AMBIGUITY & SPECULATIVE

Ambiguity in representation and the state of not knowing creates curiosity in the viewer and promotes individual interpretation. Further, this creates a desire to speculate on meaning and to rationalize interpretations in the realm of often controversial public opinion.

## DRAWING HOME 5

This composition – though the most abstract of the pieces – is the most sincere in its representation. It shows a section through the author's home through semiotic abstraction. Forms and shapes depict spatial conditions and meaningful objects such as the author's kitchen stove, to the armchair he sits in; these all add to the detail and complexity of his imagination.



figure 20: Illustration - Drawing Home 5

WITH DRAWING IN MIND **FOLIO III**

ARCHXXI

W H Y D O W E R E A D  
( B O O K S T O R E S E Q U E N C E )

## DISCOVERY

The discovery of new ideas for a drawing sparks a fire in the mind. Inspiration comes from the qualities and tones of other places, things, and their representations. Re-drawing accentuates this reaction by tracing the process of identifying elements and the discovery of the next steps.

### FOLIO III

Why do we still read books? Designing a bookstore is a reminder that there is a certain value provided by the uniquely physical presence of books and their delivery of narratives and the exploration of ideas. When it comes to drawing, like a book, their tactility grounds us in the present. This Thesis proposes that, similarly, physical drawings and models anchor our experience.

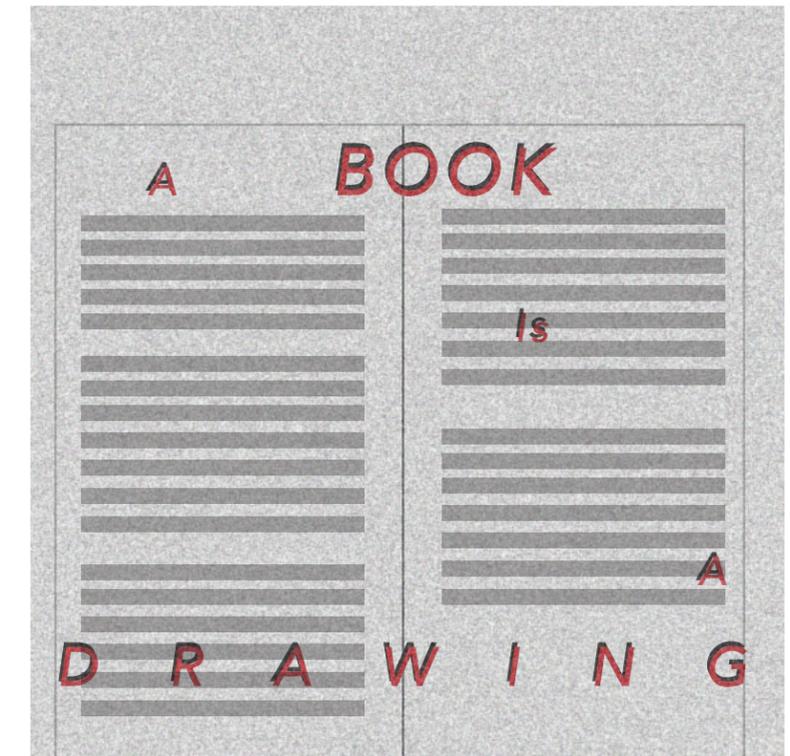


figure 21

ARCS 2110B

# STUDIO 3

Area: School of Architecture, Carleton University

Winter 2015

MWF 13:30 - 17:30



## COURSE SYLLABUS

### Instructors:

Yvan Cazaban (520.2099.4000; [Yvan.Cazaban@carleton.ca](mailto:Yvan.Cazaban@carleton.ca)) - coordinator

~~Eric A. Sambout (Eric.A.Sambout@carleton.ca)~~

~~Janine DeBono (Janine.Debono@carleton.ca)~~

~~Thomas Strick (thomas.strick@carleton.ca)~~

ROGER CONNATH

### COURSE DESCRIPTION AND OBJECTIVES

#### Crafting Architecture's Thresholds

ARCS 2110B builds upon the architectural design studio experience of ARCS 2108, ARCS 2109, and ARCS 2110A. The course focuses on the design of architectural thresholds, which are the points of transition between different spaces and environments. The course will explore the design of thresholds in a variety of contexts, including residential, commercial, and public spaces. The course will also explore the design of thresholds in a variety of media, including architectural drawings, models, and digital media.

The studio title, "Crafting Architecture's Thresholds," underscores architecture's role as a maker and organizer of relationships, at both the scale of the building proper and that of its larger context and setting. The projects assigned in ARCS 2110B will explore how architecture and the built environment simultaneously organize spatial relationships internally and urban relationships externally. They additionally invite students to consider the "thresholds" between a work of architecture's fundamental realms, including the interface of a building with the street and the many significant seams within a building such as those between public and private spaces, and celebratory and ordinary spaces, among others. ~~Finally, the architectural aperture (door, window, etc.) will be an important topic of study throughout the term.~~

Finally, ARCS 2110B considers architecture's thresholds at the scale of construction, and specifically, ~~how a building joins together its various envelope and it stands in order to realize a broader design intention.~~ In learning how to create thoughtful experiences of spaces and apertures, students will study how to "craft architecture's thresholds." In this end, each project will pay special attention to ~~the~~ **Intent.**

Following a sequence of three projects, there will be presented with increasingly complex programs and architectural conditions. The design team will include with an architectural project in an urban setting. Working in project teams of 2-3 students will be shared by all studio groups. ~~Questions about the course or the group work may be directed to the instructor or the course coordinator. The number and content of assignments relating to the subject matter may vary slightly.~~

### Team Structure

Project 1	Urban Plaza - White Wonderland	30%
Project 2	Public	10%
Project 3	Public	10%
Project 4	Building Block Phase I	30%
Project 5	Building Block Phase II	20%

### PUBLIC CONTEXT

Studio 3 studies the theory and practice of relationships and thresholds in architecture: the relationship between building and context, idea and construction, the parts of the building to each other, and the parts to the whole. The contextual focus is the building within the city, with projects destined for particular city neighbourhoods. As well as requiring skills in handling new complexities in programming and planning, Studio 3 demands an increased understanding of technical requirements and environmental considerations, design, construction techniques and the processes of building codes and regulations as they apply to residential and public buildings. ~~Underlining these requirements is the expectation that students will push their creative and theoretical inquiries to the limit, with a developing primary means of representation within the public context. Research, consistency, and responsibility are critical to the articulation of project goals. Understanding of basic code requirements, construction techniques, parking accommodations, building systems, accessibility and government issues will also be part of the final project evaluation.~~

### METHODOLOGY

Through the Studio will incorporate a variety of scripted means of exploration, the primary methods of ~~focus on the~~ representations, conventions of drawing and modelling AS PROCESS. Your ability to ~~inhabit~~ and to communicate inhabitation through representation is a crucial element in your development as architect. Craft is central to the communication and expression of studio projects. The incorporation of computer technology will be discussed. ~~From project to project, the practical application of computer-aided design (CAD) and digital media will be a significant part of the studio work. It is to be strongly emphasized that the digital part of the studio work is to be a critical part of the studio work. It is to be a critical part of the studio work. It is to be a critical part of the studio work.~~

### OBJECTIVES

- Develop students' abilities to work within a team, manage, control, coordinate, mediate, and evaluate.
- Develop students' abilities to extract and question ideas and organization taken from a specific architectural, public, and human context.
- Develop students' abilities to use different media to explore and reinforce conceptual and lecture architectural intentions. Models & drawings must critically engage design and not simply "illustrate" it.

### STUDIO ORGANIZATION AND POLICIES

The second-year class is divided into five groups, each assigned to a specific instructor held for the duration of the term. All groups share the same goals, topics, though precise theoretical emphasis may vary from group to group. Each tutor is responsible for supervising the shared project outlines. The Studio will therefore operate at two levels: the class as a whole and the tutoring groups. At the class level, the faculty will arrange for general project briefings and introductory lectures as well as

figure 22: Illustration - "Hybrid Sketches On Syllabus".

**PROJECT V**  
 Carleton University School of Architecture



**WINTER WONDERLAND**

**PROJECT** *INSULATION* *INTERACTION AND REFLECTION*  
 A Public Place designed for all seasons with an emphasis on public winter activities and seasonal festivals. A common space of leisure integrated with the existing street-life and social context.

**PROGRAM**  
 Determined from the analysis of the current site and local context while supporting and/or augmenting the current use(s). *The neighborhood + plans for the future.*

**THEMES**  
 Central themes may extend from contrasts and juxtapositions and may include the following in no particular order or association:

Inside	✓ Outside
Warm	Cold
Permanent	Ephemeral
Body Scale	Group Scale

Changing states: Elements and materials  
 Ground  
 Level  
 Incline  
 Thresholds  
 Colour

*• MEMORY*  
*• IMPRESSION*  
*• VISION*

*Public Insp + Bookstore studio*



figure 23: Illustration - "Hybrid Sketches On Studio 3 Syllabus".

Site 3:  
 Preston Street at Larch Street - Little Italy - OUR LADY SCHOOL SITE

O-train  
 Bayview  
 Bus #1, 7  
 Bus #2

Showing **process** of tactile development through **multiple iterations** of an architectural proposal using the architecture as a set for **multiple interacting narratives** of individuals.

CUMBERLAND ST.  
 MURRAY ST.  
 LOWERTOWN  
 BUS # 6, 602



figure 24: Illustration - "Hybrid Sketches On Studio 3 Syllabus".

Lev Manovich lends a distinct perception to drawing "... in the absence of new and more precise categories we still use figuration/abstraction (or realism/abstraction) as the default basic visual and mental filter through which we process all images which surround us."<sup>2</sup>. Additionally, the way that drawing and models are created suggests a relationship to speculative making in both 2D and 3D.

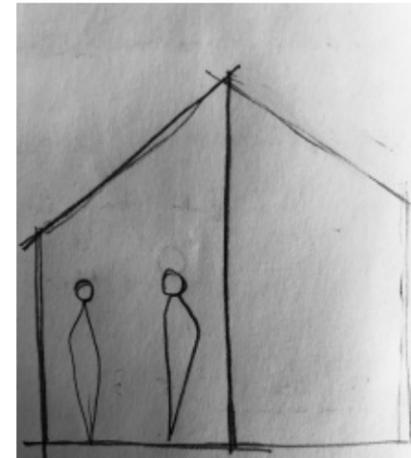


figure 25: Quick Sketch -  
"Sketching a Moment's Conversation".



figure 26: Photograph - "Facade Study"(In Progress ).

2. Manovich, "Abstraction and Complexity", pg 2

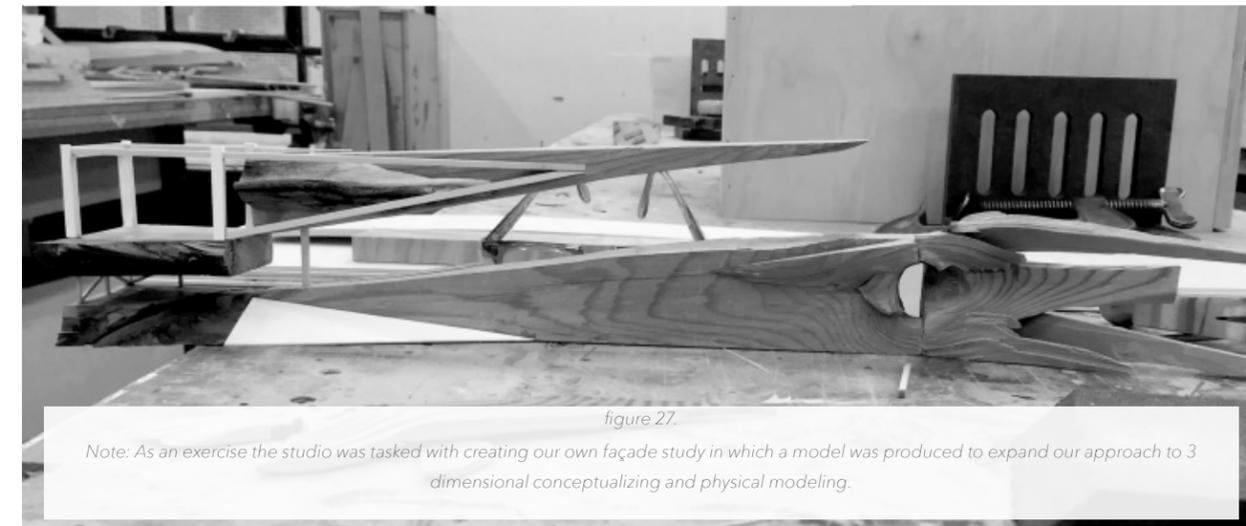


figure 27.

Note: As an exercise the studio was tasked with creating our own façade study in which a model was produced to expand our approach to 3 dimensional conceptualizing and physical modeling.



figure 28: Photograph - "Facade Study"(Broken).

While drawings may be observed (read) by others the first point of contact is to that of self-reflection and personal memory. The purpose of remembering and reconnecting with a moment, fictional or not, starts there, with the act of drawing. With drawing in mind.

When exhibited, the physical tactility of a drawing is presented for public experience. Explored are the qualities of drawings that encourage us to re-draw and "re-imagine" our experiences for the first, second, and however many times thereafter.

"...the excess of form is... saying that there are things that occur in the making of a piece that don't fit within a single medium, that won't be contained in a single narrative, that want to move in multiple directions at once."<sup>3</sup> - William Kentridge

Utilizing multiple mediums for a single narrative foregoes the need to finish a drawing or a model. Many ideas can be expressed in a congruent medium, as an expression of form-making and a record of the drawing process itself.

<sup>3</sup>. Kentridge and Morris, "That Which Is Not Drawn", pg 7



figure 29: "Quick Sketch of the facade site study". 2016 (left)  
"wood transfer, book ink reference". 2016 (right)

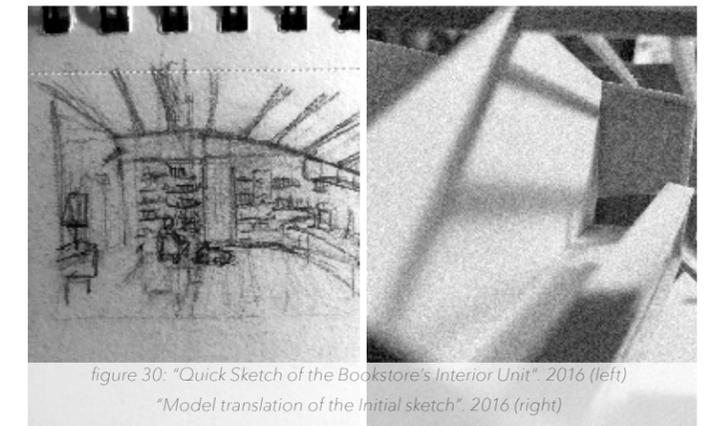


figure 30: "Quick Sketch of the Bookstore's Interior Unit". 2016 (left)  
"Model translation of the Initial sketch". 2016 (right)

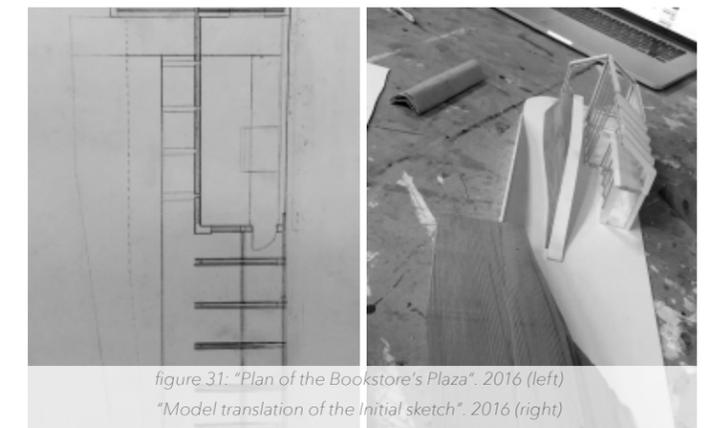


figure 31: "Plan of the Bookstore's Plaza". 2016 (left)  
"Model translation of the Initial sketch". 2016 (right)

The complexity of mediums and the possible incongruity of techniques resemble those in an over-saturated book – overly complex, compacted with notes and ideas – where plot points are never resolved and the reader is lost in undecipherable contexts. This overt complexity unintentionally dilutes the story. Similarly, the drawing can lose its intended message under obscuring layers. But it does not have to be.

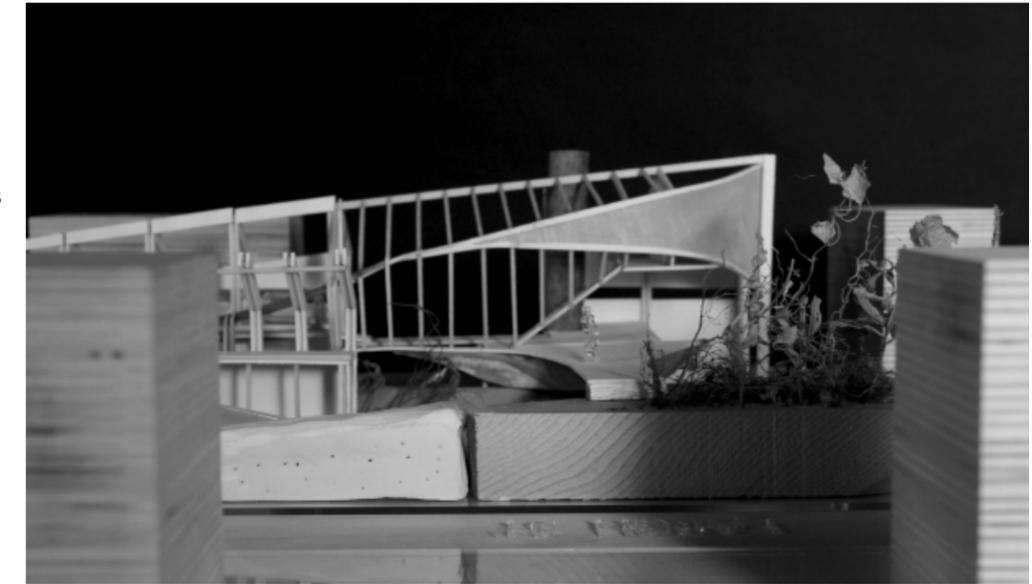


figure 32: Model - "Documentation of Final Model".

Note: I wanted to highlight a frame/ moment in my studio 3 model where the model shows a clear progression between the conception of the facade study and the final model.

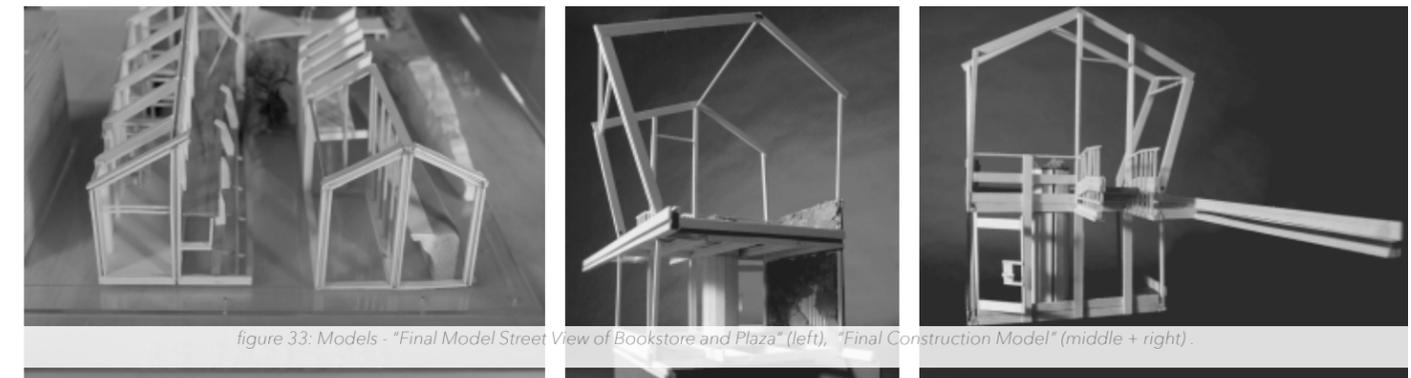


figure 33: Models - "Final Model Street View of Bookstore and Plaza" (left), "Final Construction Model" (middle + right).

WITH DRAWING IN MIND **FOLIO IV**

# ARCHXXI

A T T E N T I V E H A N D  
( R E T H I N K I N G T H E B O O K S T O R E )

A T T E N T I V E H A N D  
( R E T H I N K I N G T H E B O O K S T O R E )

FOLIO IV

ATTENTIVE HAND

The studio is a place where the freedom of experimentation and exploration is not met with resistance from the realities or practicalities of the world. Where drawings can openly discover new concepts or raise questions about the world, it is a discursive studio environment that promotes exploration and does not submit to imposed restrictions or limiting constrictions.

In an interview, Mario Carpo says that "... ideally, an anecdote is a silly story that conceals and conveys some deeper meaning. We remember stories more easily than we remember abstract concepts, so storytelling is a common mnemonic device. Unless one is a mathematician, of course... mathematicians use equations. That's shorter and more effective. But I am not a mathematician, so I don't"<sup>4</sup>.

<sup>4</sup>. Howard and Marjonavic, "Drawing Ambience", pg 34



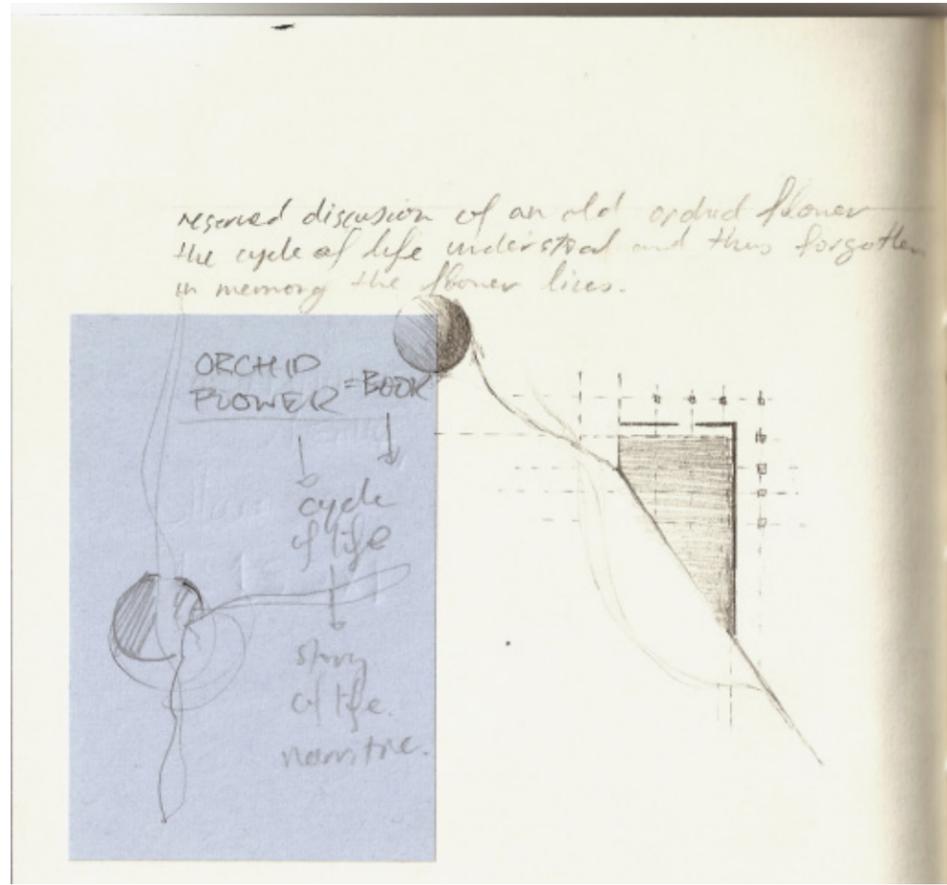
figure 34: Google Maps of Site - "Our Lady School"



figure 35: Google Maps Street View of New Site - "Our Lady School"



figure 36: Site Photo - "Our Lady School".  
Note: Each photo expresses a certain feeling that was translated into words.



This thesis revisits an earlier project from an undergraduate studio course. By doing so, the thesis project benefits from a conceptual distance that requires a critical position as well as the reliance on memory and the recollection of past experiences. Specifically, the importance of this earlier studio is an awakened appreciation for its process and methodology which benefited from a direct and intimate connection between making, designing, and drawing.

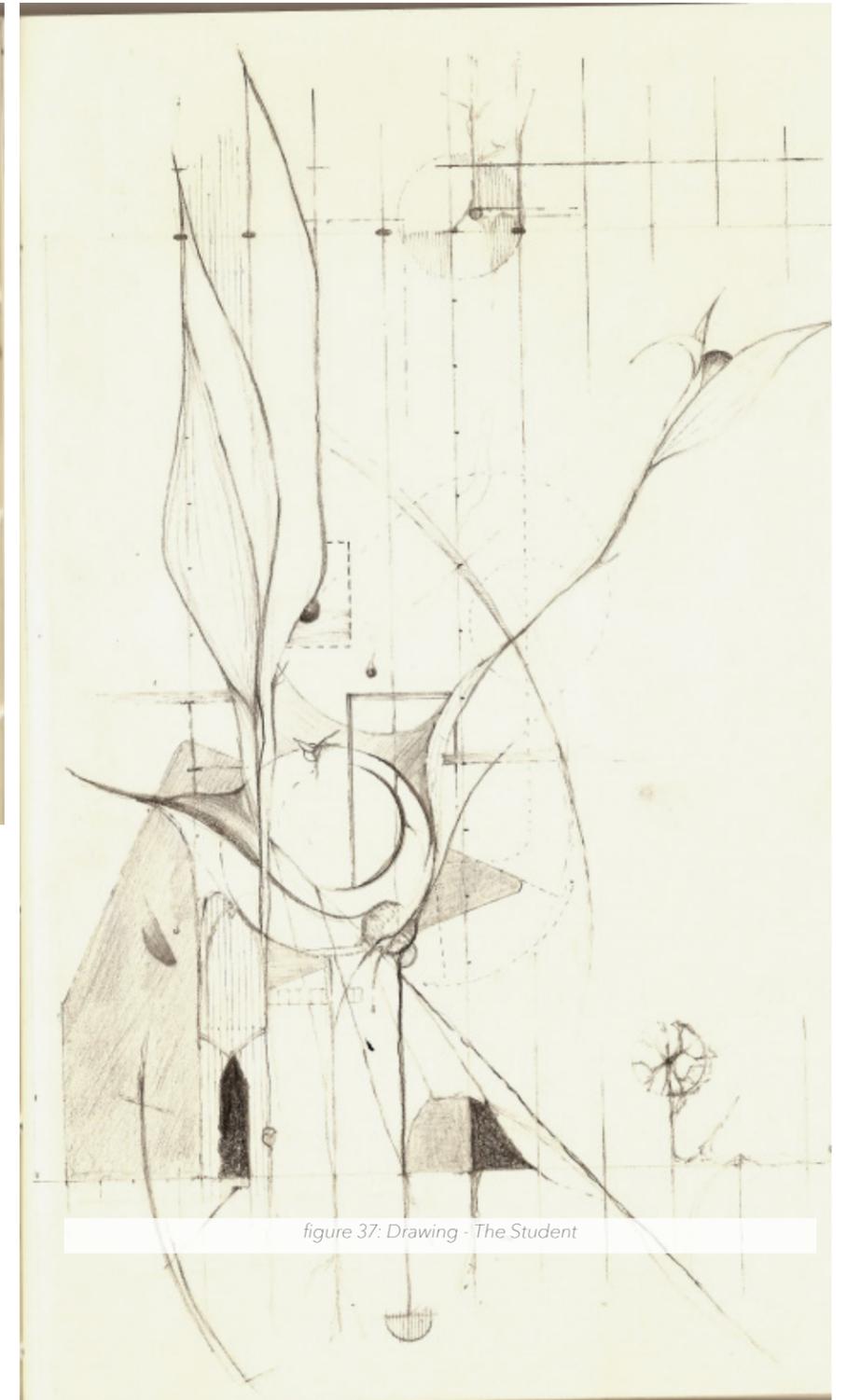
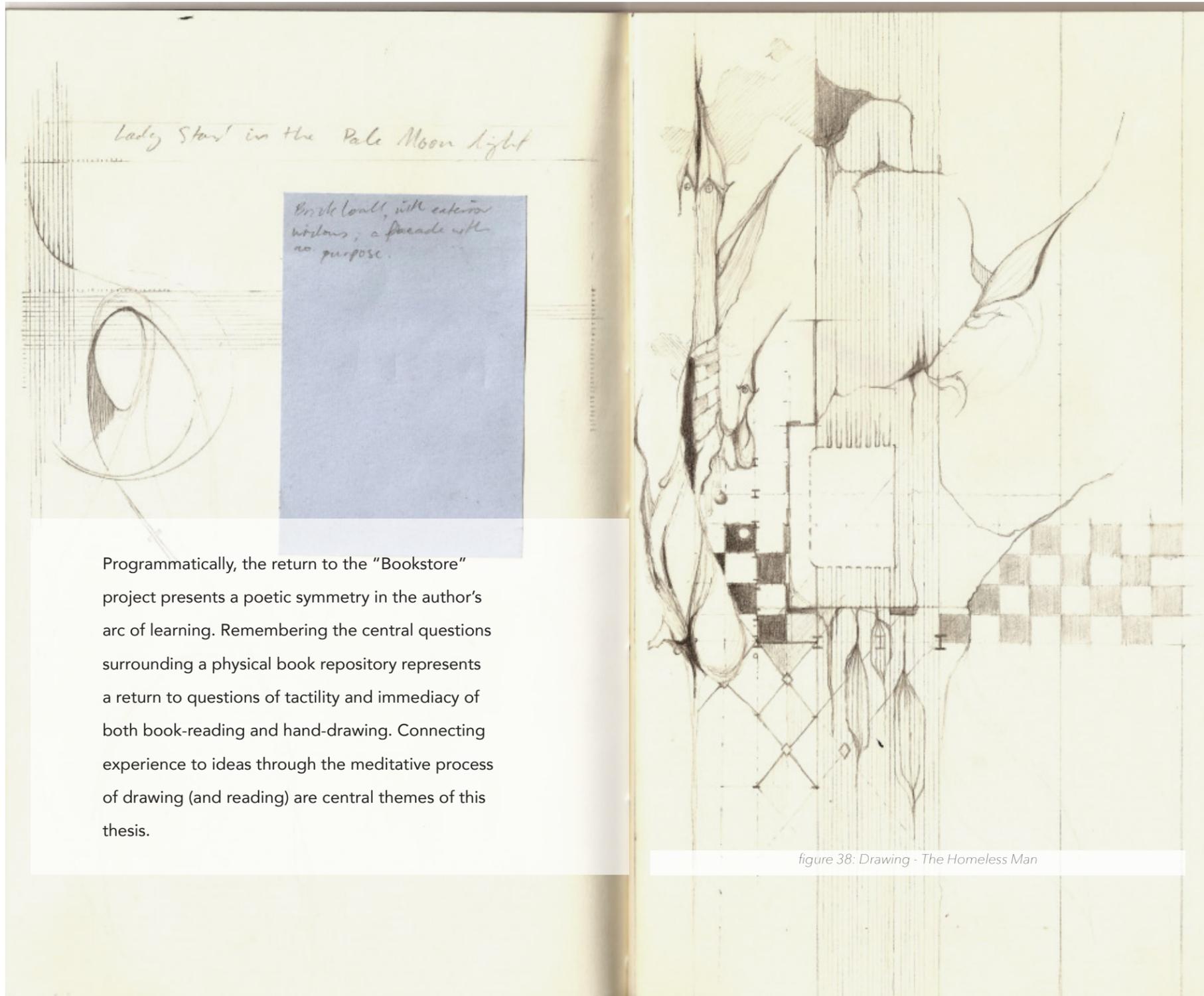


figure 37: Drawing - The Student



Programmatically, the return to the "Bookstore" project presents a poetic symmetry in the author's arc of learning. Remembering the central questions surrounding a physical book repository represents a return to questions of tactility and immediacy of both book-reading and hand-drawing. Connecting experience to ideas through the meditative process of drawing (and reading) are central themes of this thesis.

figure 38: Drawing - The Homeless Man

*Through the cracks of a forgotten Palace*

The love of drawing and the daily exercises using hand media promotes the refinement of techniques and representational strategies. One discovers drawing as much as one learns to draw. An image that is unknown until drawn emerges through a process of trial and error. From intuition and through analysis, a drawing process emerges. A personal strategy of representation, interpretation, and speculation.

Drawing processes which this thesis supports are highly experimental. Drawing fragments, juxtaposed layers, and interconnections provide the content as well as the expression of the drawing's process.

The process, in turn, relies on reconciliation. The numerous fragments (both physical and from memories) are juxtaposed and carefully edited and/or rendered to achieve the desired results.



figure 39: Drawing - The Bookstore Owner

Why do we still Read Books? - cycle of  
know ledje .

As previously stated, the drawing aims to communicate. Through the exploration of a drawing's lines and forms, a viewer can be a willing participant in the conversation as they seek a dialogue with the author. It is here that drawings have their conditions, limits, and boundaries. The author frames the relationship with their audience and stands back to ensure that the representation reaches out to them. (With drawing in mind, withdrawing in mind.)

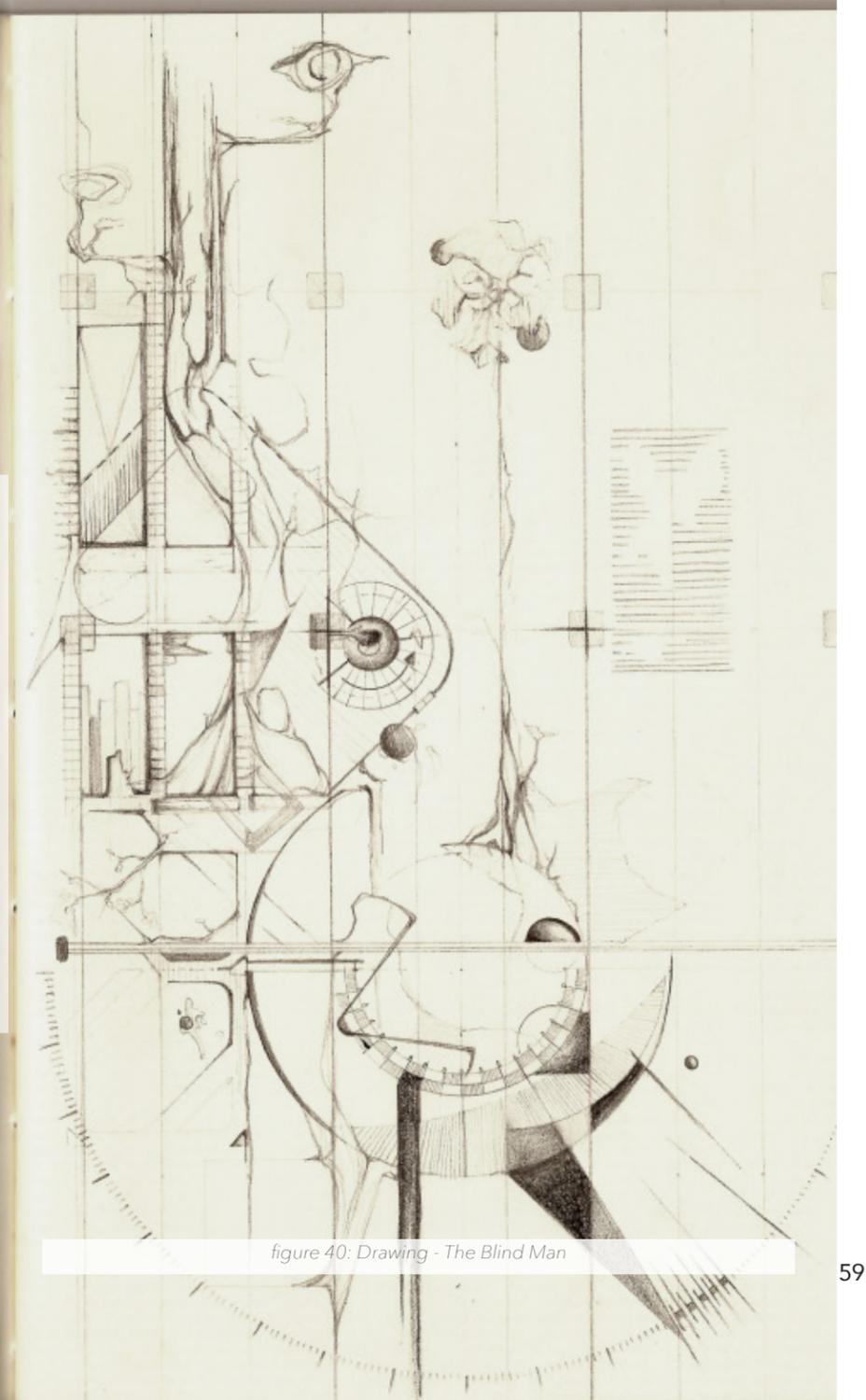


figure 40: Drawing - The Blind Man

WITH DRAWING IN MIND **FOLIO V**

# ARCHXXI

F O O D F O R T H O U G H T  
( R E N O V A T I N G A N A R C H I T E C T U R E O F  
D I S C O V E R Y )

Showing process of tactile development through multiple iterations of an architectural proposal using architecture as a set of multiple interacting narratives of different individuals. The narrative process of producing models and drawings creates a story and a plotline that envisions the set; the site through which they are 'sighted'.

Four drawings become characters in the story.

The Plot follows a homeless person interacting and connecting with three other strangers. This is located in a rebuilt two-storey L-shaped building with a public courtyard. The proposed building has been named "Food for Thought" and houses a soup kitchen on the main floor and a book store/ makeshift braille printing press.

The design is established as a place of reflection on the fading means of traditions, practices, and the conversations that come with them. This is due to the history of the building's existing façade and the vacant church which has now all been re-purposed. This is meant to create a dialogue; tactility through materials, books, and drawings – all pressed into one forgotten corner of the city.



figure 41: Model - "Experimental Site Model v.2".



figure 42: Model - "Food For Thought Model v.1".

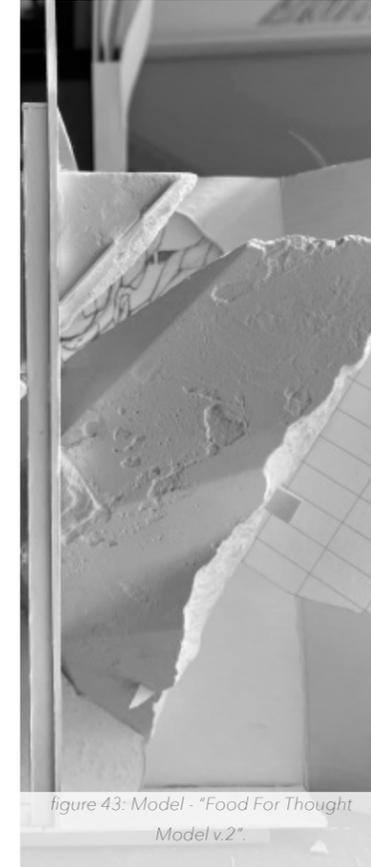


figure 43: Model - "Food For Thought Model v.2".



figure 44: Model - "Food For Thought Model v.3".

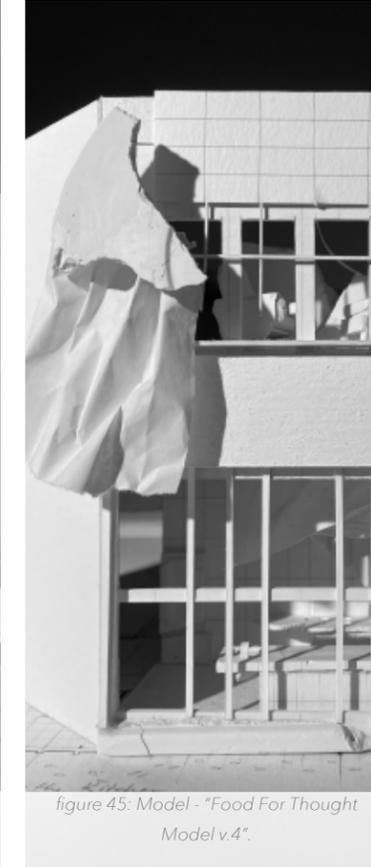


figure 45: Model - "Food For Thought Model v.4".

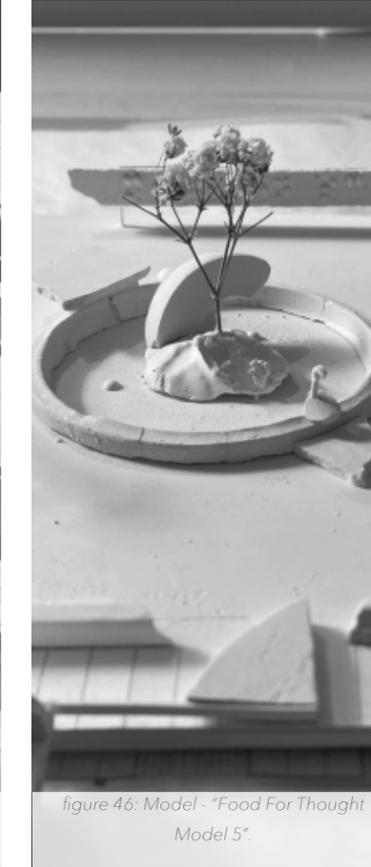


figure 46: Model - "Food For Thought Model 5".

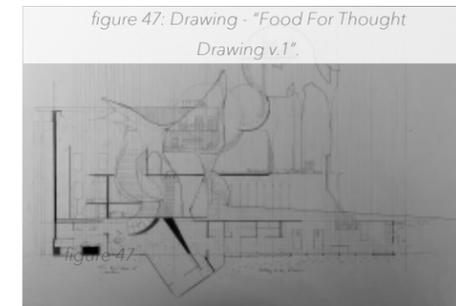


figure 47: Drawing - "Food For Thought Drawing v.1".

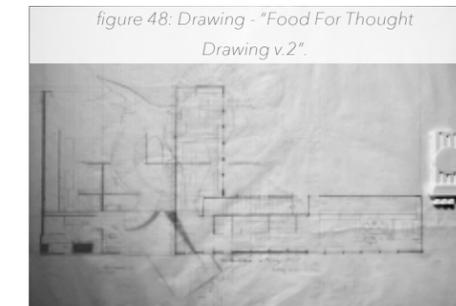


figure 48: Drawing - "Food For Thought Drawing v.2".

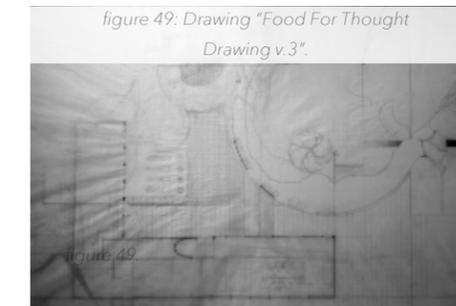


figure 49: Drawing - "Food For Thought Drawing v.3".

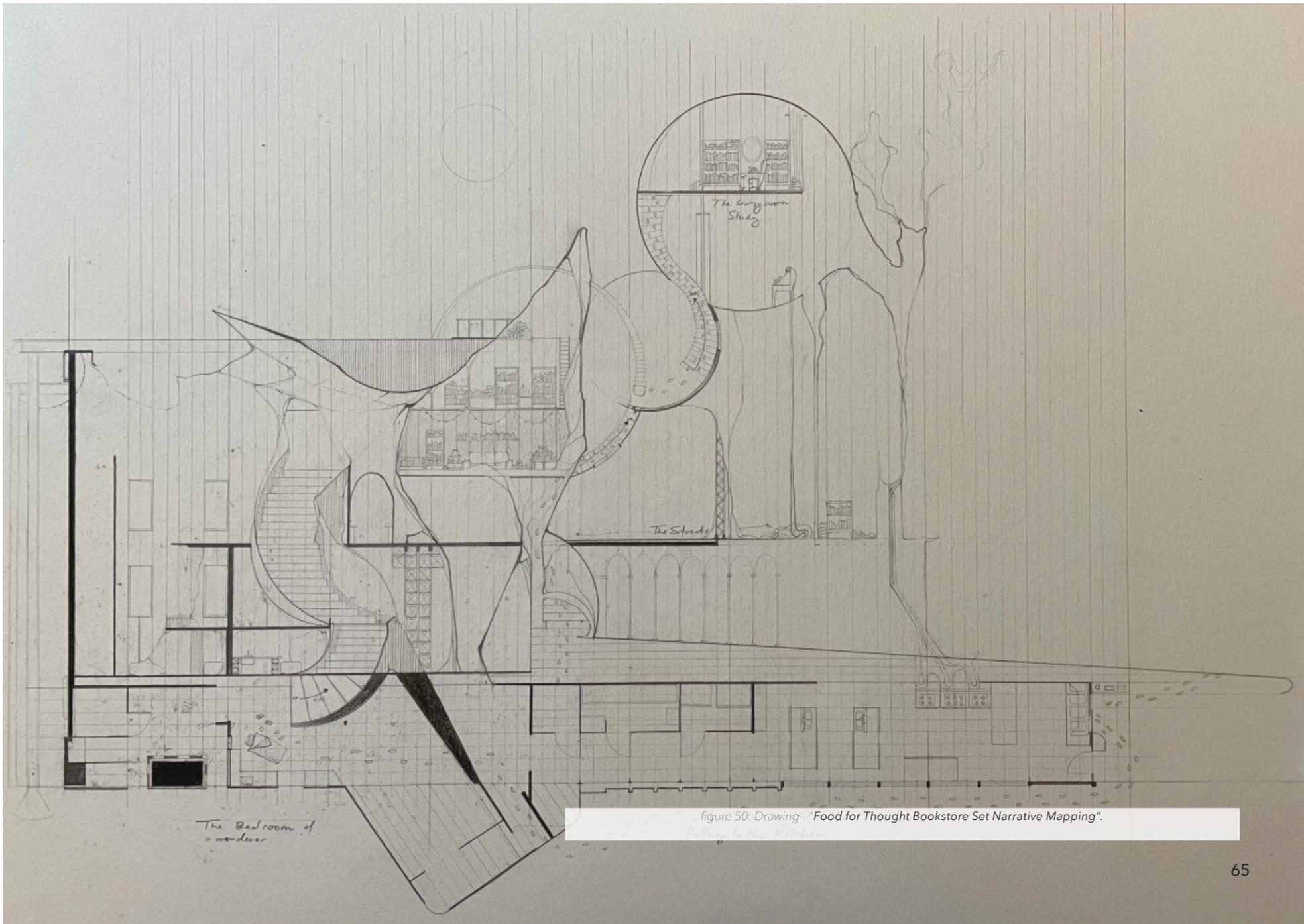


figure 50: Drawing - "Food for Thought Bookstore Set Narrative Mapping".

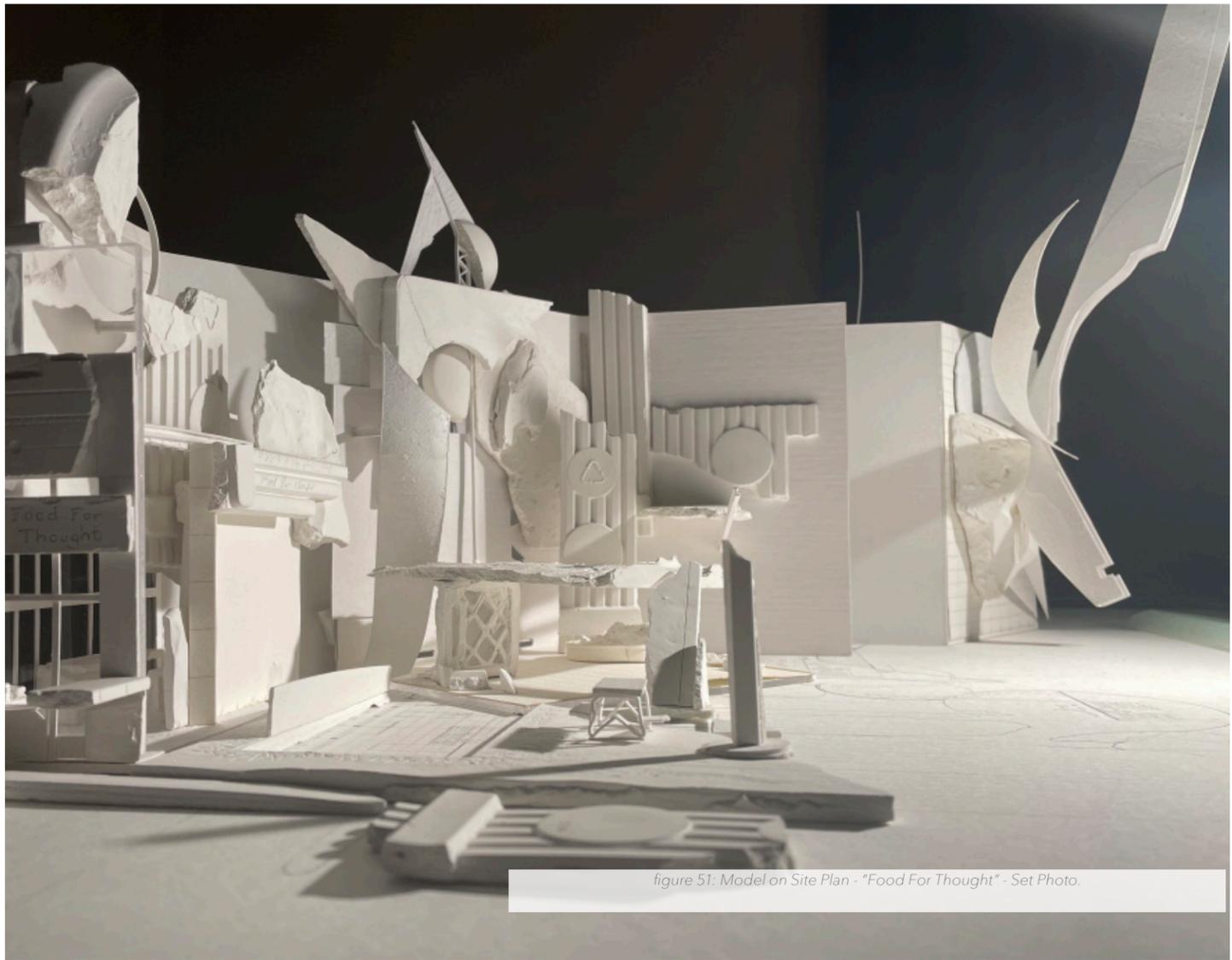


figure 51: Model on Site Plan - "Food For Thought" - Set Photo.



figure 55: Model - "Food For Thought Experimental Model v.2.5".



figure 52: Model on Drawing - "Food For Thought" - Set Photo.

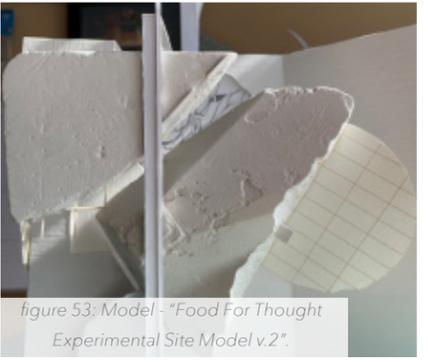


figure 53: Model - "Food For Thought Experimental Site Model v.2".

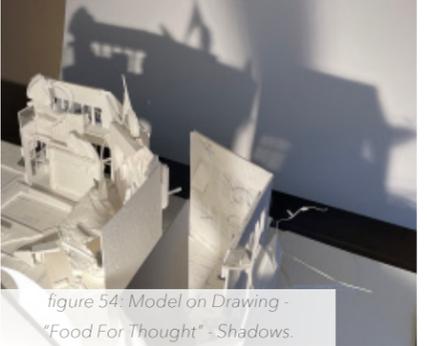


figure 54: Model on Drawing - "Food For Thought" - Shadows.



figure 56: Illustration - "Food for Thought Hybrid Drawing v.1" - Bookstore Set Narrative Mapping.

**Homeless person**

He believes that the building is his house and that the people cooking, cleaning, and wandering in his house are his house-keepers, servants, and guests. Though delusional and possibly inebriated, he still finds common ground to hold a conversation with the other characters in his make-believe home.

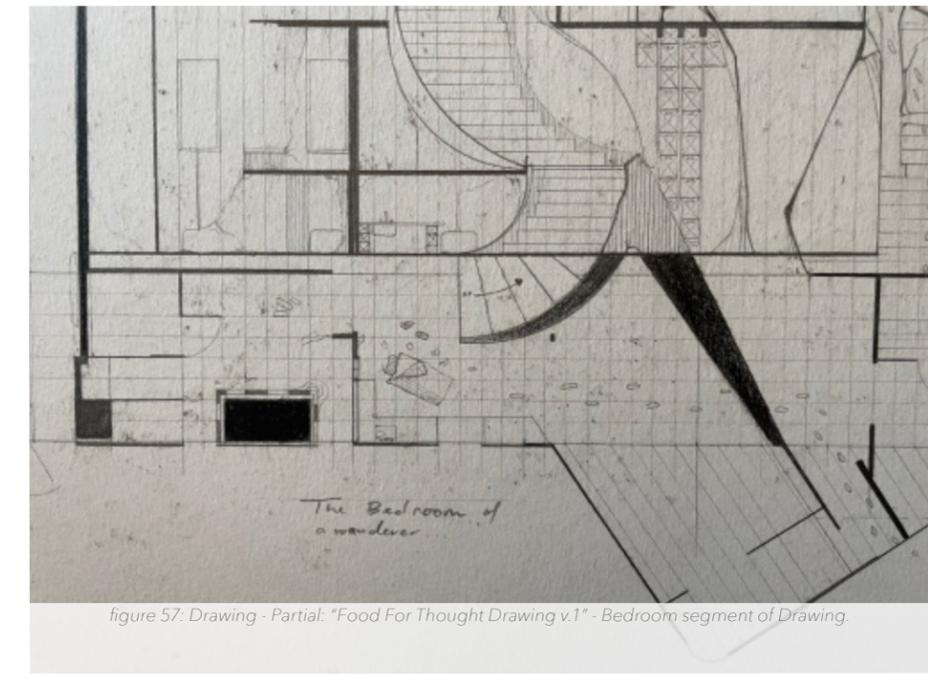


figure 57: Drawing - Partial. "Food For Thought Drawing v.1" - Bedroom segment of Drawing.

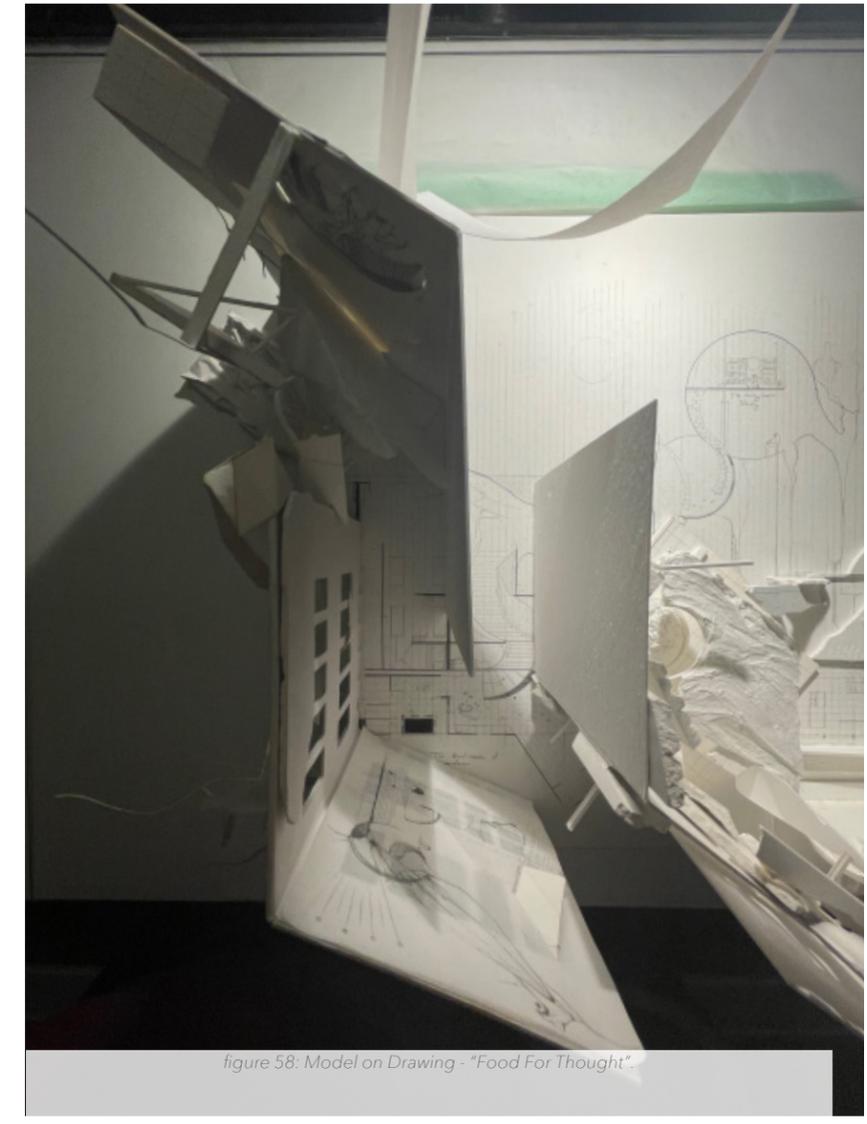


figure 58: Model on Drawing - "Food For Thought".

11:00 am

In his home in the Byward market the homeless man wakes up from his sleep. He drinks the water by his bedside and tries to piece together his dreams. Though trying to remember is hopeless and the dream is slowly forgotten.



figure 59: Model on Drawing - "Homeless Man's Bedroom" - View of Set #5 & 6.

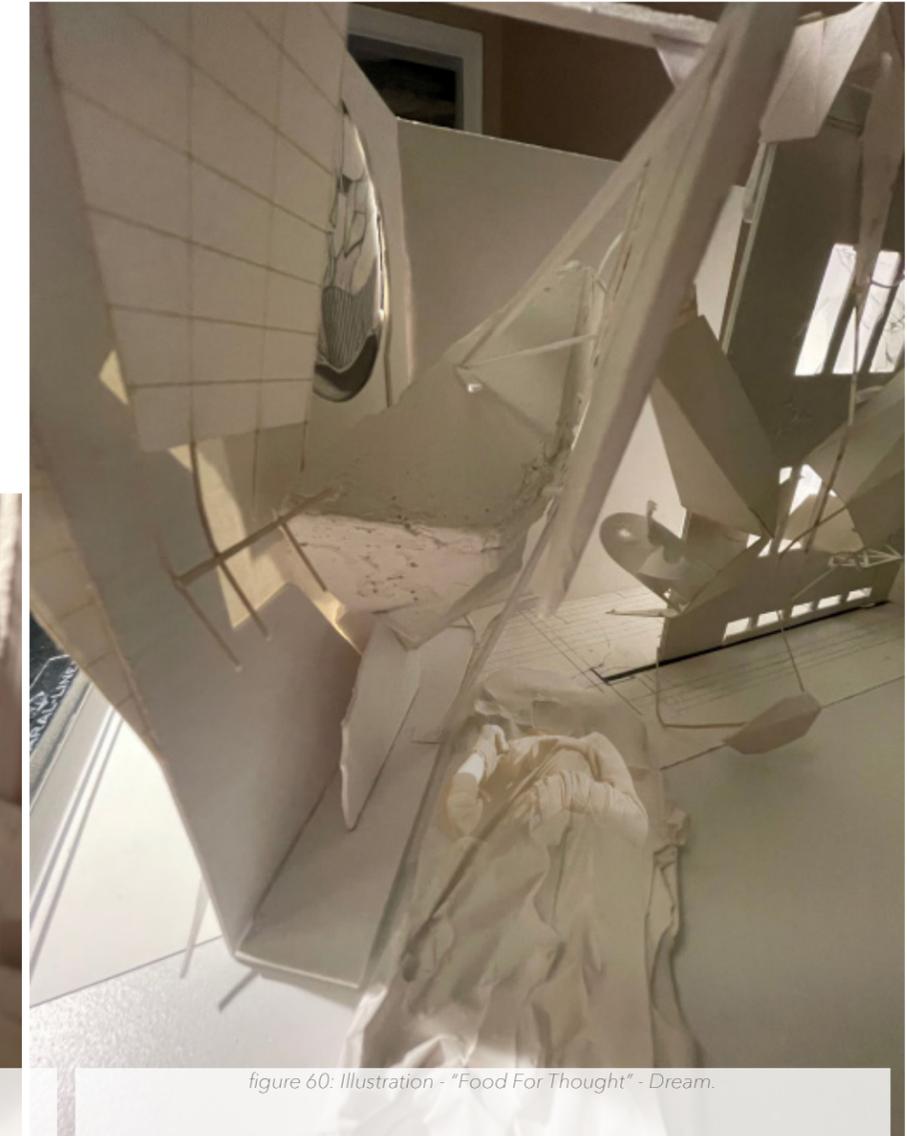


figure 60: Illustration - "Food For Thought" - Dream.

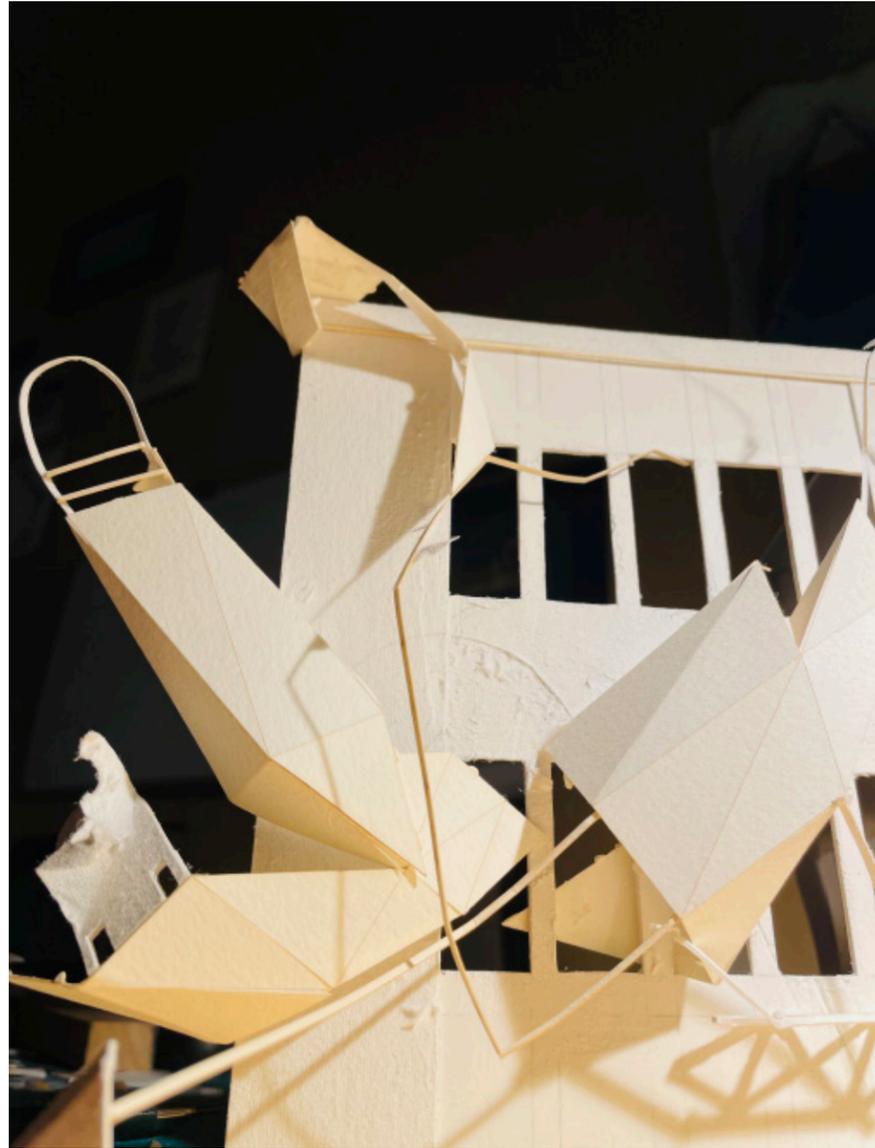


figure 61: Model - "Food For Thought Model v.1" - Lucid Dream.



figure 62: Model - "Food For Thought Model v.2" - Dream.



figure 63: Model - "Food For Thought Model v.2" - Dream.

12:00 pm

The homeless man walks over to his kitchen where his 'house-keeper' is making lunch for him. He waits for his food while patiently watching the housekeeper through the window, trying to see what is for lunch.



figure 64: Model on Drawing - "Food For Thought Illustration" - Dream.

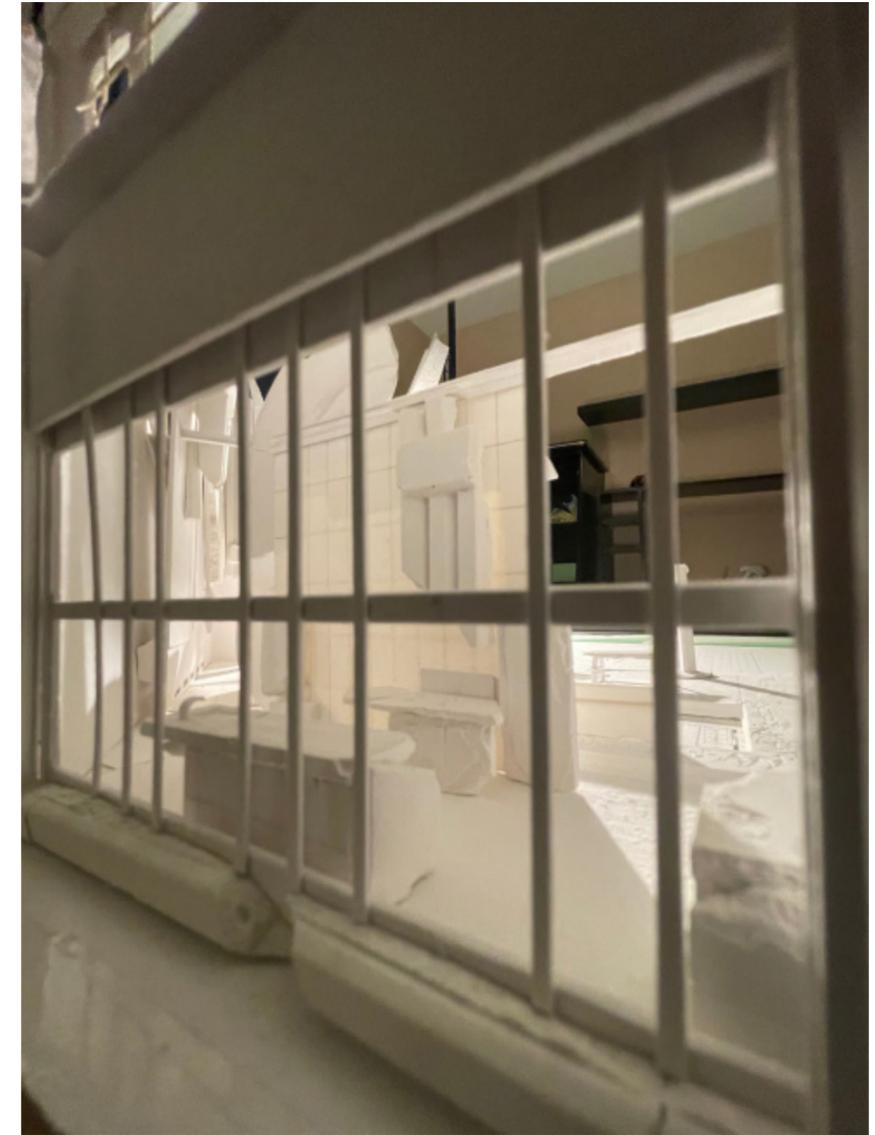


figure 65: Model - "Food For Thought Model v.4" - Kitchen Windows.

1:00 pm

After lunch, the homeless man walks up the stairs to his study to re-read one of his favorite books.



figure 66: Model - "Food For Thought Model v.3".



figure 67: Model - "Food For Thought Model v.3".

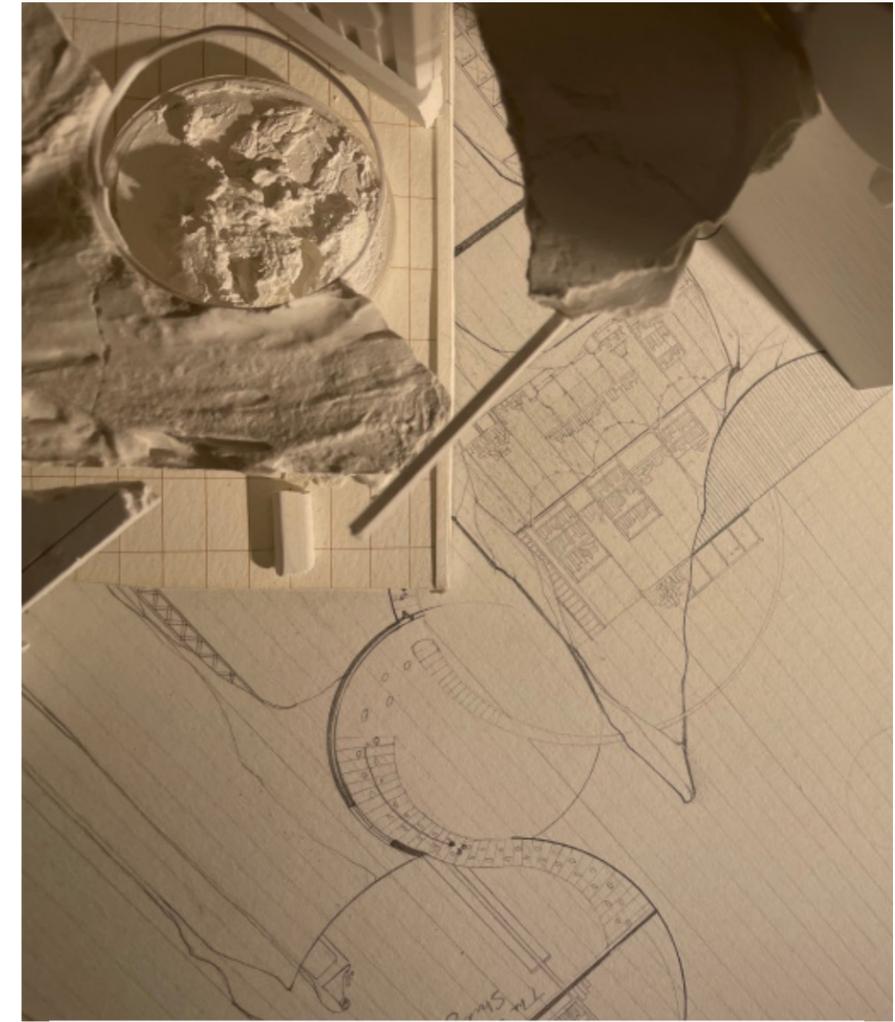


figure 68: Model on Drawing - "Food For Thought" - Living Room.

4:00pm

A blind man strikes up a conversation with the homeless man as he is going through braille books. They discuss with nostalgia the book in hand. They both share the joy of discovering and looking for a book by its feel. The act of re-reading always offers the promise of new discoveries within the same book.



figure 69: Model - "Food For Thought Model v.4" - Living Room and Study.



figure 70: Model - "Food For Thought Model v.4" - Windows of the Study.

### The Student

The student is loosely autobiographical – a character writing and drawing a thesis. He is an architecture student in his second year at the University of Ottawa, working part-time at a soup kitchen downtown. His professor wanted him to read a book called *“That Which Is Not Drawn”* by William Kentridge. He was also instructed to take pictures of different book stores as inspiration for his studio project; designing a bookstore.

He is the type of person who is obsessive and plans his day out accordingly. Thus he is always on a strict schedule but gets caught up at the book store drawing there till close. Unfortunately, he could not get enough work done; there were no computer stations for him to use.

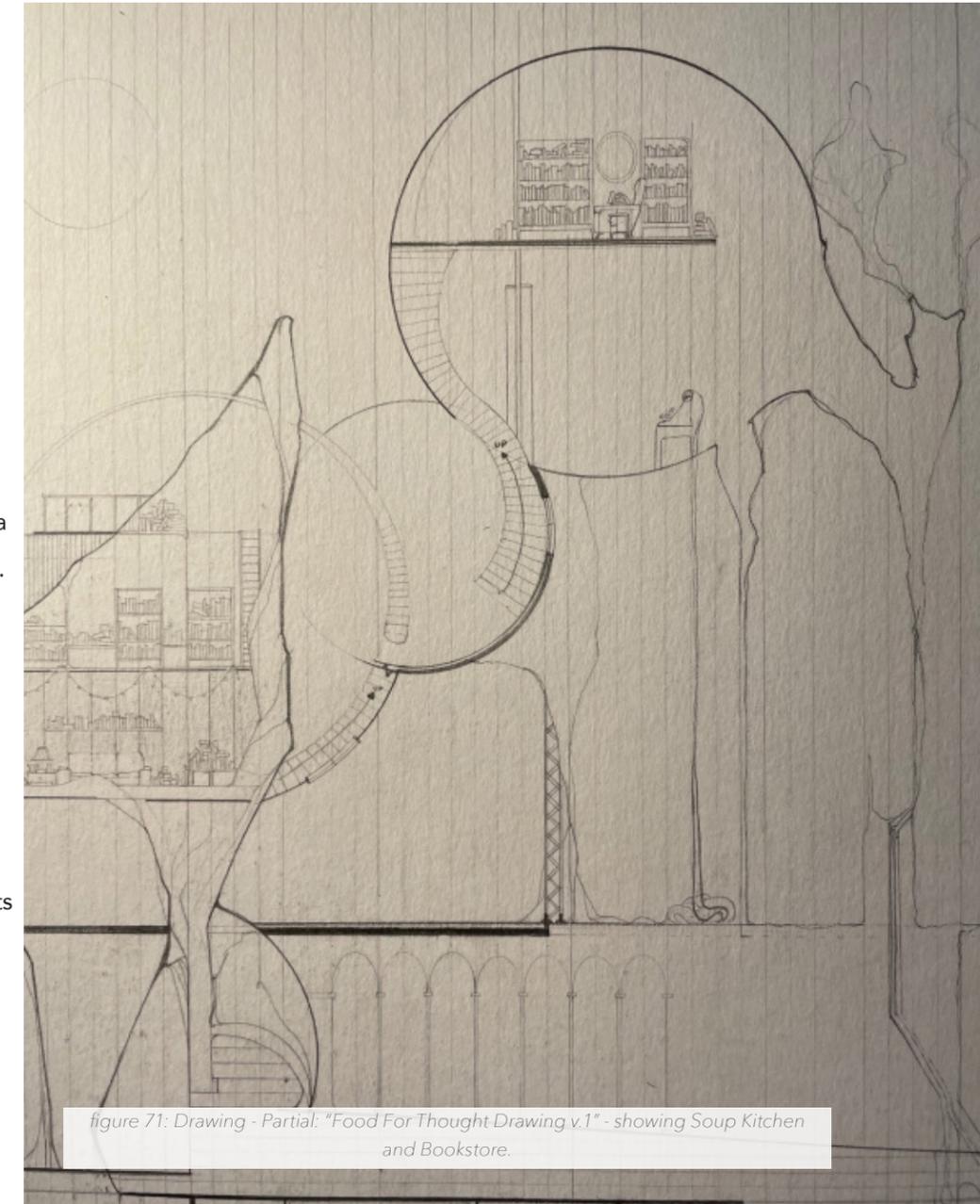


figure 71: Drawing - Partial: "Food For Thought Drawing v.1" - showing Soup Kitchen and Bookstore.

11:30 am

The uOttawa student washes dishes and gets ready for the lunch rush at the Byward Market soup kitchen "Food for Thought".



figure 72: Illustration - "Food For Thought" - Kitchen Encounter.

12:10 pm

The student notices the homeless man watching him prepare food.

12:30 pm

Someone serves the blind man lunch.



figure 73: Model - "Food For Thought Model v.4" - Interior Kitchen.

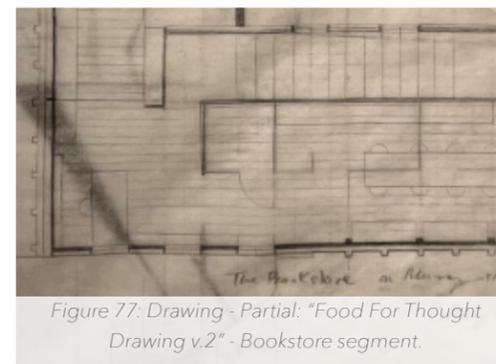


figure 74: Model - "Food For Thought Model v.4" - Exterior Soup Kitchen Counter.



3:30 pm

The student walks into the bookstore to take pictures and asks the bookstore owner if she had a copy of *"That Which Is Not Drawn"*. They both talk about why the student wants to read the book and not the digital version. The student explains that he couldn't find it online and if he has to pay for the e-book he might as well buy the physical copy. He planned on staying in the bookstore to do some research on his laptop but ends up leaving because there are no electrical outlets near the tables.



4:15 pm

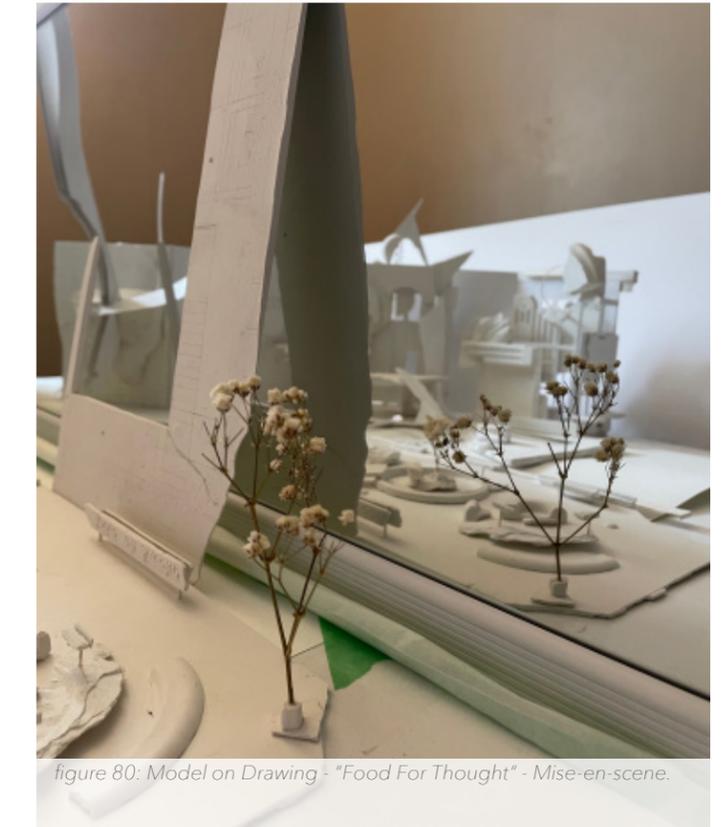
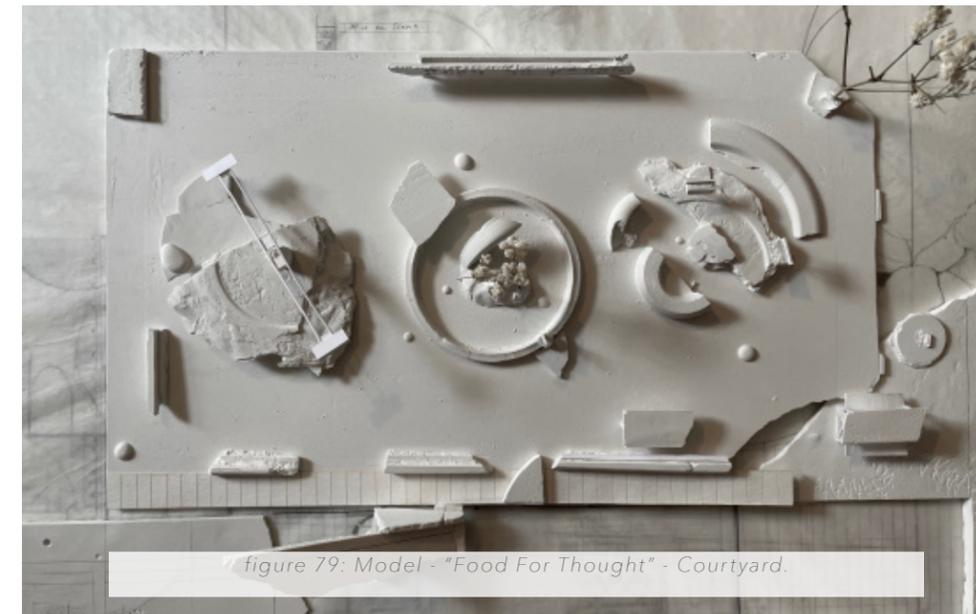
Before he leaves he draws a quick sketch of an interesting moment between two people having a conversation in the book store.



6:00 pm

Leaving the bookstore, he offers the homeless man a job at the soup kitchen.

The student addresses the idea of *mise en place* in his conversation with the homeless man. The idea of "everything in its place" and "putting in place" is juxtaposed with the homeless person's personal fictional space, a *mise en scène*.



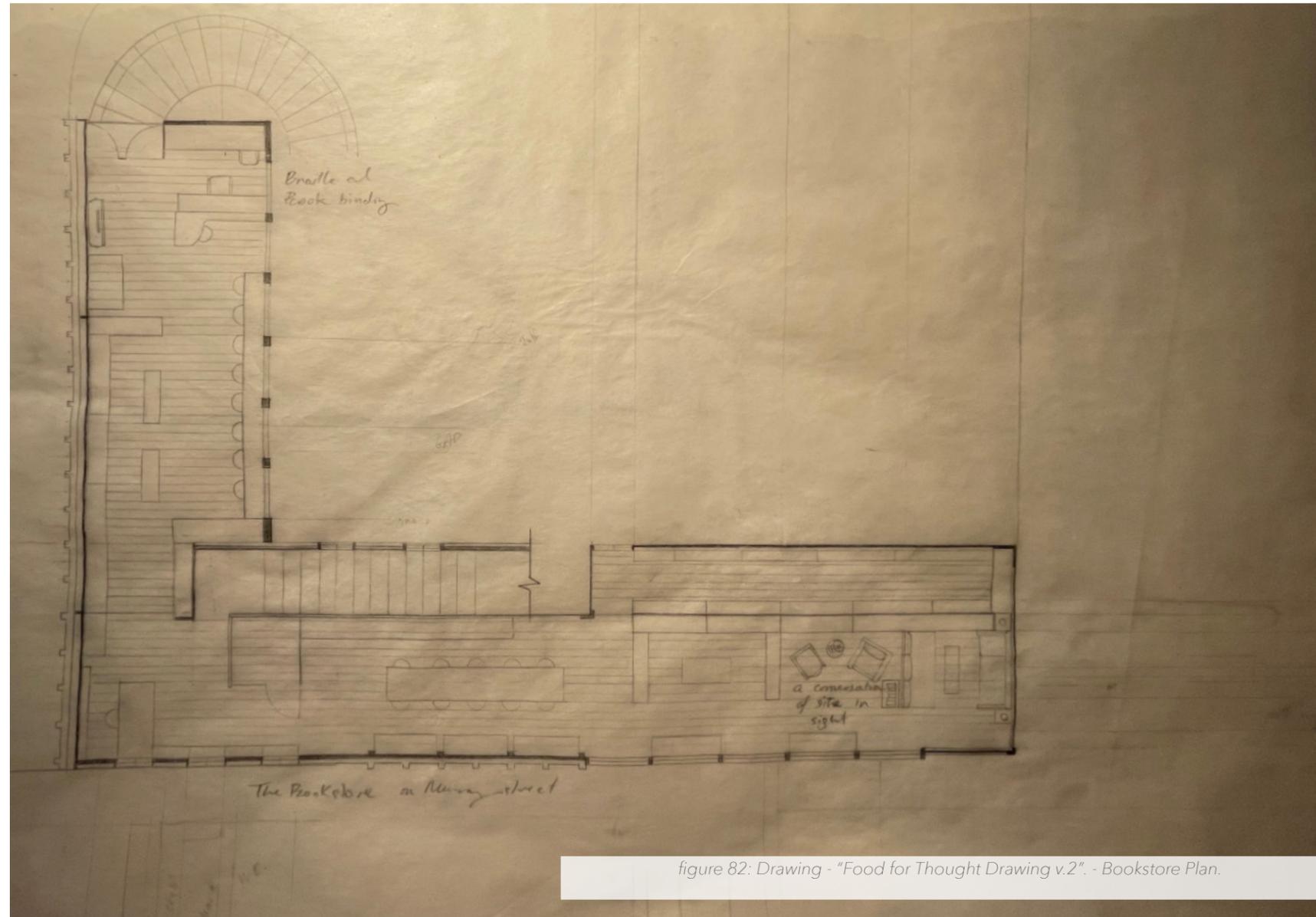


figure 82: Drawing - "Food for Thought Drawing v.2". - Bookstore Plan.

### The Blind Man

Losing his sight never bothered him. He was never hindered by his disability nor was he sad to see his sight go. He has learned to live without his sight by keeping within the known boundaries of his neighborhood; yet he still tries to branch out little by little each day. He is an older gentleman who seeks meaningful conversations with many people. He was told that the new soup kitchen "Food For Thought" was serving food to the community and decided to drop by for lunch. This gave him an additional reason to come by his favourite book store.

He returns to the book store every now and then to request new books in braille. The owner is quite happy to accommodate him letting him use the braille printer and binding machines.

12:25 pm

Wandering the streets of Murray and Cumberland Street in the Byward market the blind man taps on the windows of the soup kitchen, feeling the warm glass as the sun catches it and the old brick crumbles as his fingers brush against them. As he moves forward he bumps into the homeless man. It is an accident.

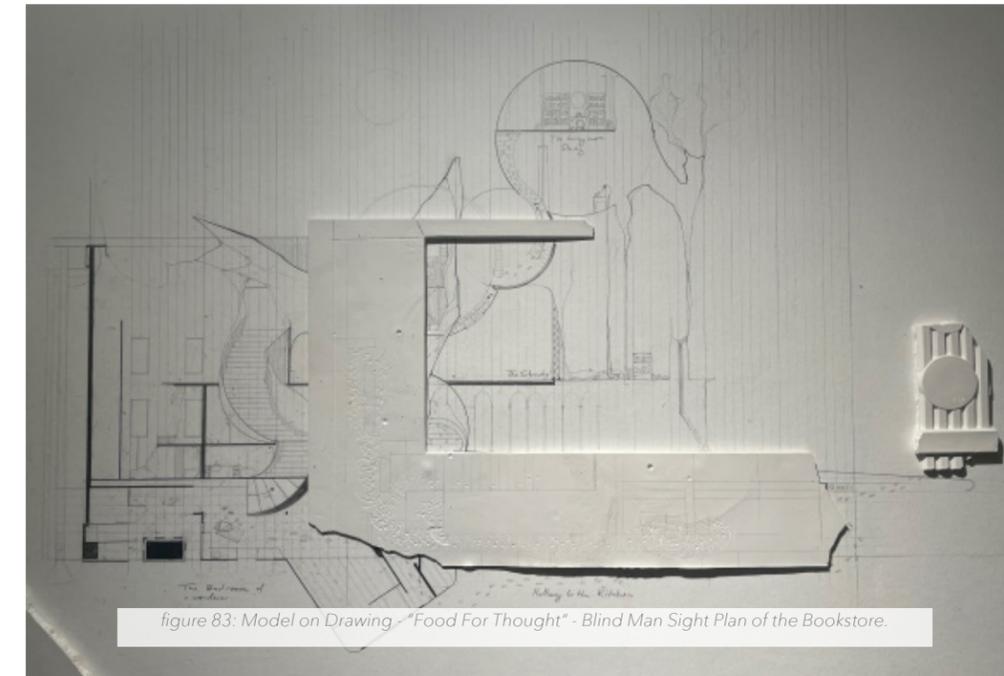


figure 83: Model on Drawing - "Food For Thought" - Blind Man Sight Plan of the Bookstore.

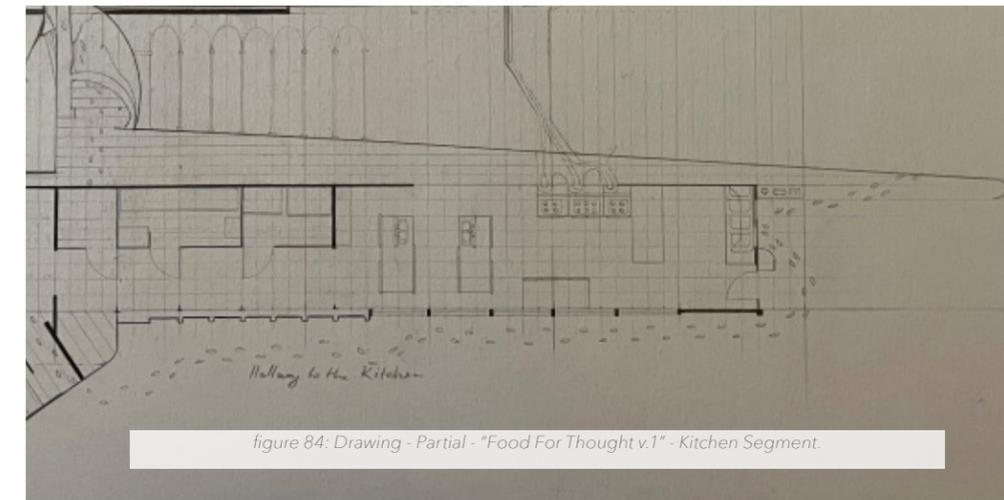


figure 84: Drawing - Partial - "Food For Thought v.1" - Kitchen Segment.

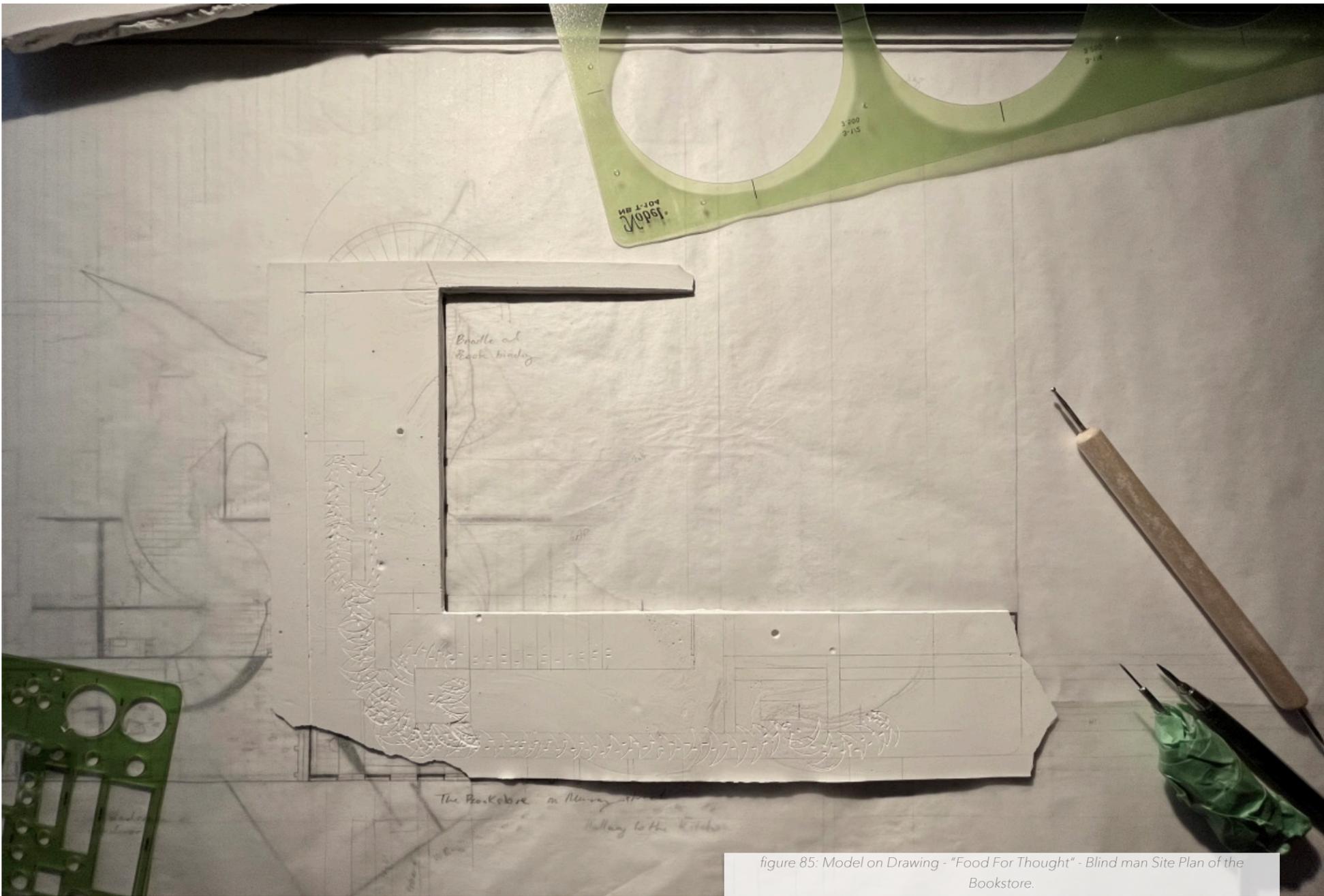


figure 85: Model on Drawing - "Food For Thought" - Blind man Site Plan of the Bookstore.

12:30 pm

He eats his meal at the public picnic table under the tree in the courtyard and strikes up a conversation with the book store owner. They talk about wandering the city and being in a constant state of change. The book store owner finds change unsettling and prefers a more constant routine.



figure 86: Model - "Food For Thought Model v.4" - Soup Kitchen Counter.

1:10 pm

They both walk up to the book store and he requests the new braille books. He also likes to wander around the bookstore feeling around the familiar shelves.

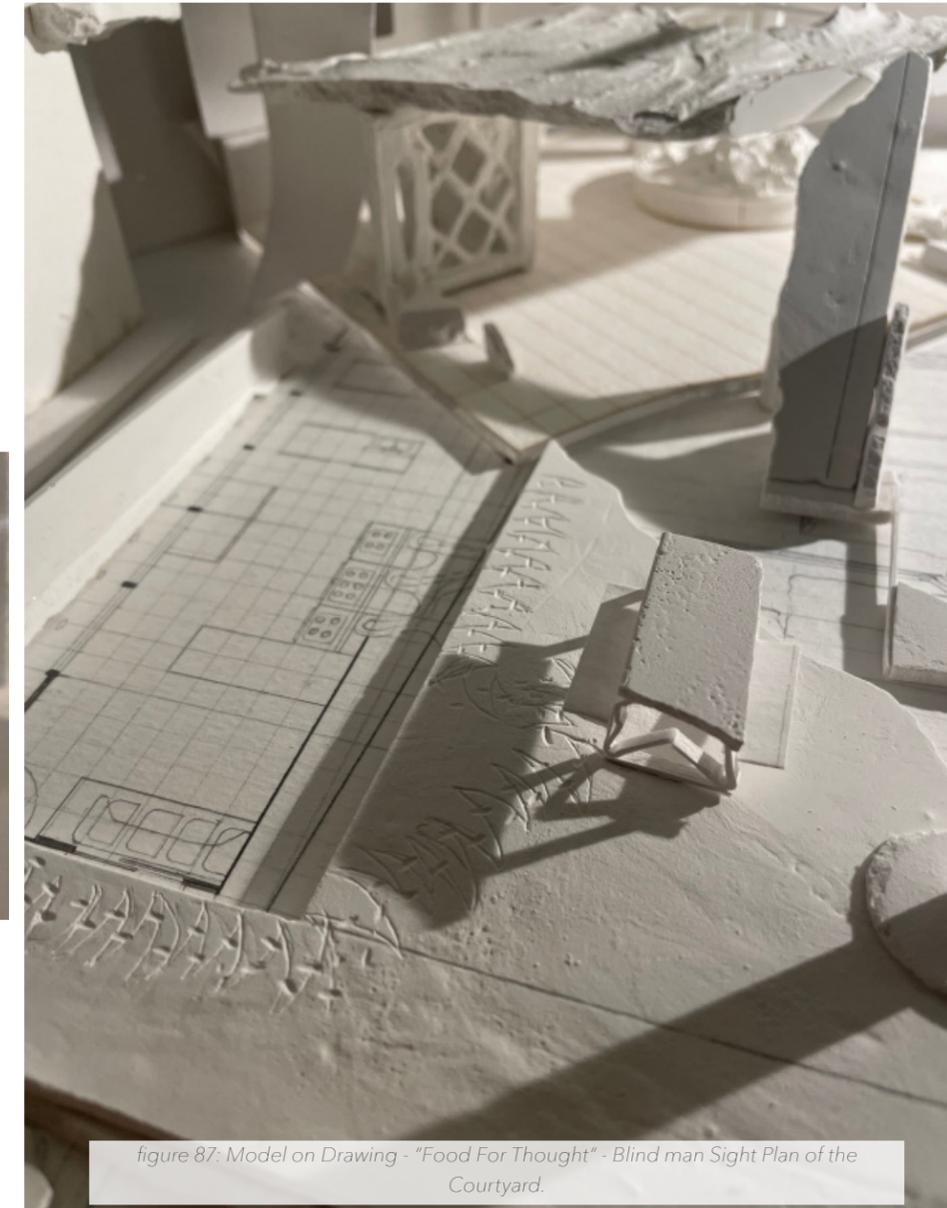


figure 87: Model on Drawing - "Food For Thought" - Blind man Sight Plan of the Courtyard.

4:00 pm

After some reading, he wanders around the bookstore once more to find the same man he bumped into taking a nap in a recliner. He strikes up a conversation about not being able to read these books and the nostalgia of simply looking for the right book to read.



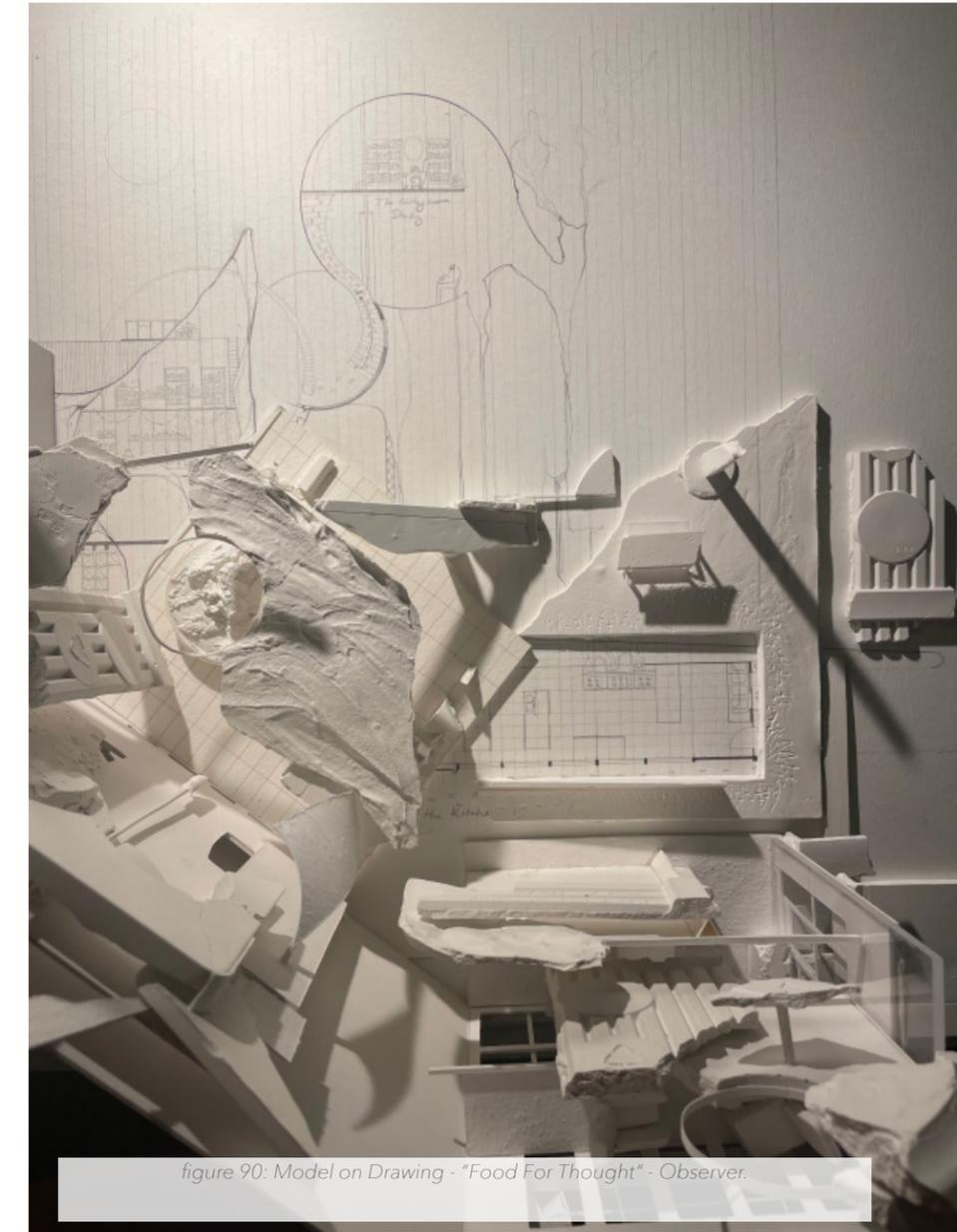
figure 88: Model on Drawing - Partial - "Food For Thought" - Trace.



figure 89: Model on Drawing - Partial - "Food For Thought" - Trace.

### **The Book Store Owner**

The book store owner longs to expand her bookstore to accommodate more people and wishes that people would connect with books the way she does. She daydreams all day due to the lack of foot traffic in her shop but enjoys the peace and quiet. She writes in her journal about the people she sees through the windows of her shop but only gets to interact with if they enter the book store. The book store owner is proud to be the only local place where they can print and bind braille books – an increasingly rare and expensive venture. She knows that braille has been slowly phased out of publication productions, replaced, in part by popular audiobooks. Yet she still hangs on to her bookstore with hope.



*figure 90: Model on Drawing - "Food For Thought" - Observer.*

8:00 am

On her way to work, the Byward Market book store owner walks by the homeless person on Murray Street sleeping in his sleeping bag. She sets a bottle of water beside him.



figure 91: Model - "Food For Thought Model v.3" - The View Through a Broken Window.

11:00 am

She opens her store "Food for Thought" and writes about the people wandering the streets of Ottawa's Byward Market. While writing about ideas and ways to expand her shop, she falls asleep and knocks her notebook off the counter.



figure 92: Model - "Food For Thought Model v.1" - Daydreamer.



figure 93: Model - "Food For Thought Model v.3" - Observer.



figure 94: Model - "Food For Thought Model v.3" - Observer 2.

12:15 pm

She leaves the shop to go for lunch downstairs. She sits at the picnic table in the courtyard and meets, by coincidence, the blind man having lunch. They talk as she makes a mental note of the blind man's opinion and preferences about books.

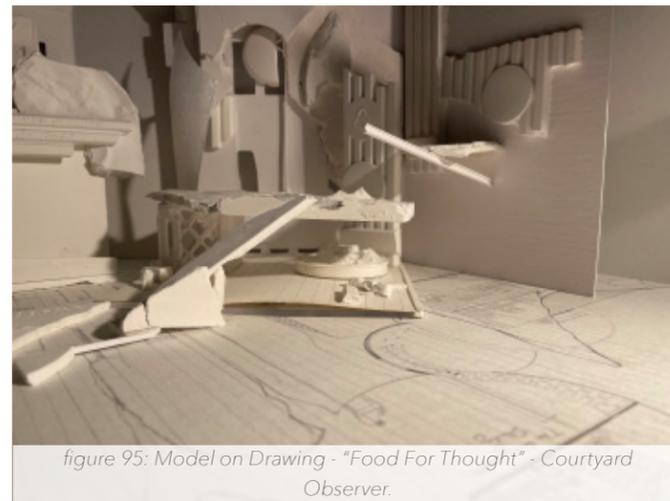


figure 95: Model on Drawing - "Food For Thought" - Courtyard Observer.

1:10 pm

They both walk back into the bookstore. The book store owner goes to bind some of the new books that have been printed.

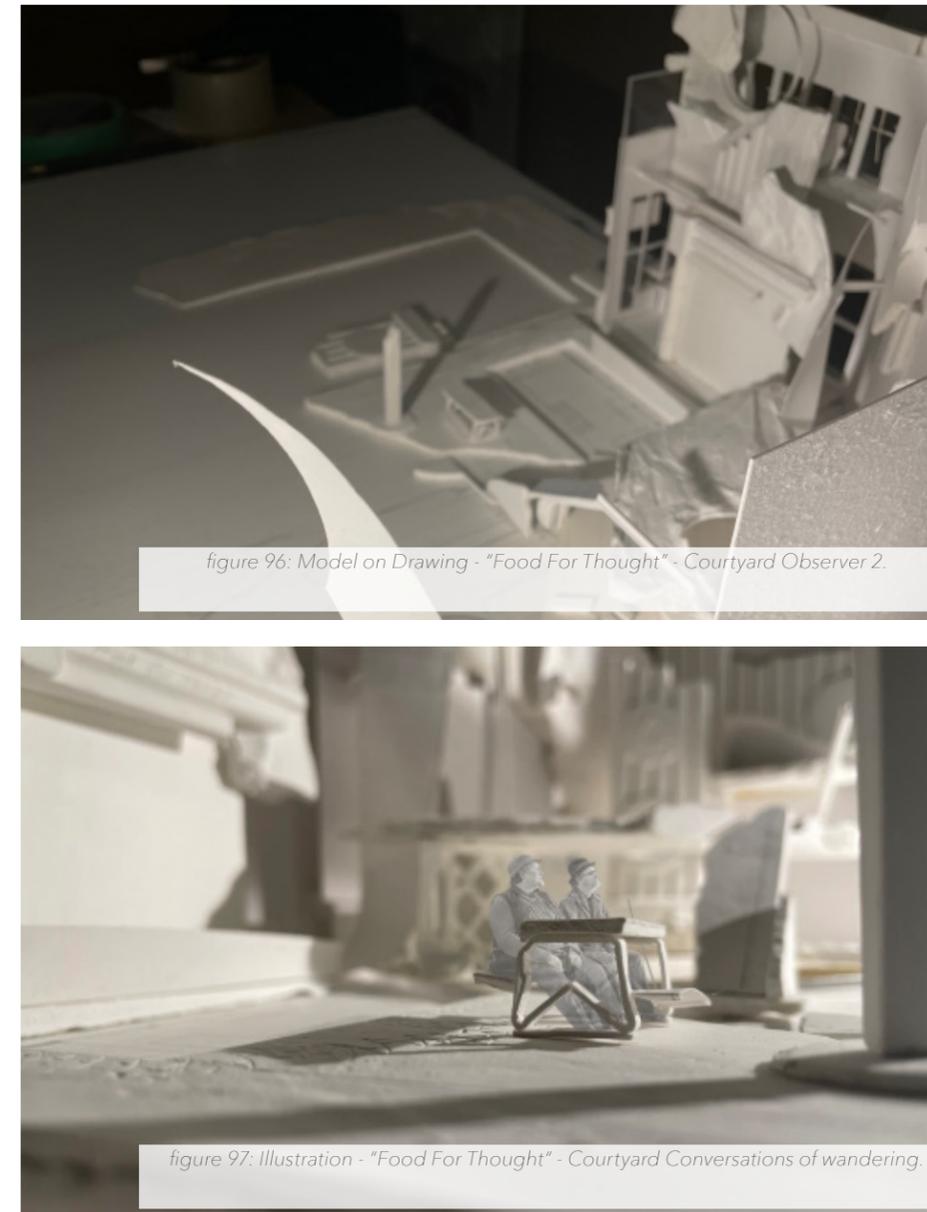


figure 96: Model on Drawing - "Food For Thought" - Courtyard Observer 2.

figure 97: Illustration - "Food For Thought" - Courtyard Conversations of wandering.

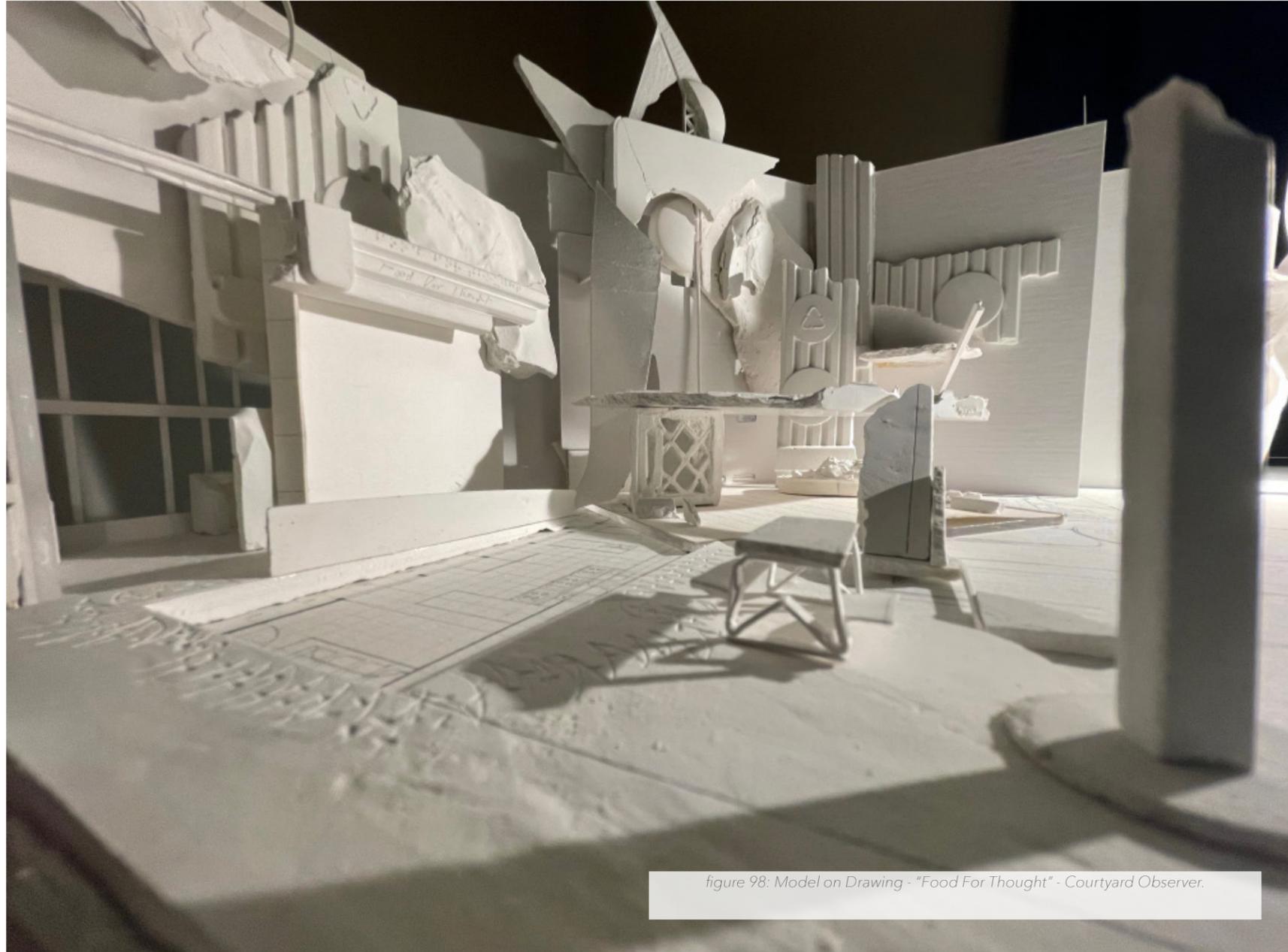


figure 98: Model on Drawing - "Food For Thought" - Courtyard Observer.

3:30 pm  
She helps a student find "That Which Is Not Drawn" by William Kentridge and "101 Things I Learned In Architecture School" by Matthew Fredrick. As they talk, he makes another mental note of the blind man's opinion about other books.

**Bookstore Owner:**  
Bit of an odd request for this book, what's so special about it?

Student:

Oh... It's for school. my prof told me to read it

**Bookstore Owner:**  
If it's just for school why buy it when you could read it online?

Student:

Because I like to make marks.



figure 99: Illustration - "Food For Thought" - Guide.



figure 100: Model on Drawing - "Food For Thought" - Repetition.

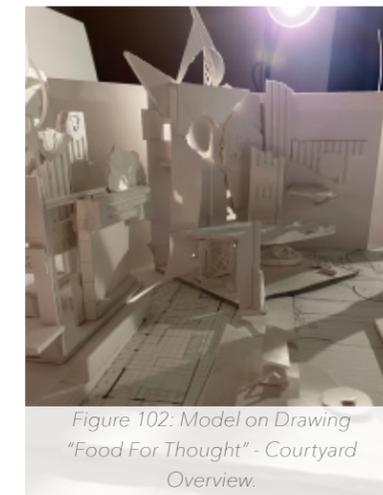
## P o s t s c r i p t

The thesis research began with the intent to discuss and elaborate the importance of hand-drawing as a mode of representation as well as a tool for discovery.

While hand-drawing and a slow modality do indeed allow for contemplative imaginings, they also serve the processes of speculation on inhabitation through other modes of spatial discovery and design such as modeling. This is what is meant by "With Drawing". As the process evolved, physical modelling would borrow from the drawings, while the drawings would continue to evolve and be revised to reflect discoveries made through physical drawing and modelling. This reciprocity was critical to the evolution of the formal architecture as well as for the discovery of settings for the events described in the narratives.



*figure 101: Model on Drawing - "Food For Thought" - Courtyard Overview.*



*Figure 102: Model on Drawing  
"Food For Thought" - Courtyard  
Overview.*

The creation of settings, borrowing from theatre, was hence termed the '*Mise-en-Scène*' – the creation of a place for an event.

Further, the architecture benefitted from the creation of a series of changing scenes for temporally shifting events. These narrative events were carefully curated to support deliberate slow modes of inhabitation by the depicted characters while accommodating the multiple narratives within each scenario.

The design process for "*With Drawing in Mind*" allowed for the evolution of a project with no predetermined result. Rather, the open-ended, reciprocating process embraces discovery as an enigma – where being immersed in a world of the unknown supports the creation and representation of the realm of speculative discovery.





figure 103.

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## LIST OF FIGURES

All drawings, models, and illustrations by the author unless otherwise noted.

### Part 1: 3 Stages of Drawing/Drawing Tones

- i. Ngan, Ian. *Third Year Studio 4*, December, 2016, photograph.
- ii. Ngan, Ian. *Second Year Studio 3*, February, 2016, photograph.
- iii. Tang, Justin. *Building a Bridge to Graduate Studies in Architecture* (Ottawa: 2016), <https://newsroom.carleton.ca/story/building-a-bridge-to-architecture-studies/>
- iv. Ngan, Ian. *Second Year Studio 3*, February, 2016, photograph.
- v. Ngan, Ian. *Second Year Studio 3*, February, 2016, photograph.
- vi. Ngan, Ian. *Abstraction of Abstraction is Nothing*, January, 2021, Illustration.
- vii. Ngan, Ian. *Photograph of annotated book: Freddrick, Matthew "101 Things I Learned in Architecture School"*, November 7, 2020, photograph.
- viii. Ngan, Ian. *At Home Studio*, November 7, 2020, photograph.
- ix. Freddrick, Matthew, *101 Things I Learned in Architecture School* (London: MIT Press, 2007), 90, fig. 45.

- x. Ngan, Ian. *Folio I thumbnail*, December 9, 2020, Drawing: graphite on sketchbook paper.
- xi. Ngan, Ian. *Folio II thumbnail Illustration #4: Drawing Home 5*, December, 1, 2020, Hybrid Digital Drawing Graphite on watercolour paper.
- xii. Ngan, Ian. *Folio III thumbnail "Hybrid Sketches On Studio 3 Syllabus"*, January 10, 2021, Illustration.
- xiii. Ngan, Ian. *Folio IV thumbnail: Hybrid Drawing*, January 13, 2021, Hybrid Drawing Graphite on watercolour paper.

### Part 2: A sequence of folios

#### Folio I: Drawing Tones

1. Ngan, Ian. *Three Stages of Drawing*, December 9, 2020, graphite on sketchbook paper.
2. Ngan, Ian. *Sketch and Photos of Rideau Canal Western Pathway*, April 17, 2016, Sketch and photograph collage.

3. Ngan, Ian. Sketch of *Ayasofya Muzesi*, Feb 16, 2020, graphite on sketchbook paper.
4. Ngan, Ian. Photograph of *Ayasofya Muzesi*, Feb 16, 2020, photograph, 13, fig. 4.
5. Ngan, Ian. Photo of *Sokollu Mehmet Pasha Mosque*, Feb 16th, 2020, photograph.
6. Ngan, Ian. Sketch of *Sokollu Mehmet Pasha Mosque*, Feb 16th, 2020, graphite on sketchbook paper.
7. Ngan, Ian. Sketch of *inspiration by wood grains and textures*, February 2016, graphite on sketchbook paper.
8. Ngan, Ian. Illustration, *Drawing Conversation v.2*, December 10, 2020, Drawing graphite on sketchbook paper.
9. Ngan, Ian. Site sketch drawing: *Lady Stands in the Pale Moon Light*, December 15, 2020, graphite on sketchbook paper.
10. Ngan, Ian. Illustration, *Drawing Conventions v1*, December 9, 2020, graphite on sketchbook paper.

Folio II: Analysing Home

11. Ngan, Ian. Illustrative # 4 site sketch drawing: *"Hybrid Home"*, December 11, 2020, digital collage of author graphite on sketchbook paper.
12. Ngan, Ian. *Drawing Home 1: Study sketch*, January 5, 2020, graphite on sketchbook paper.
13. Ngan, Ian. *Drawing Home 1*, January, 6,2020, graphite on watercolour paper.
14. Ngan, Ian. *Drawing Home 2: Study sketch*, January 8,2020, graphite on sketchbook paper.
15. Ngan, Ian. *Drawing Home 2*, January 9, 2020, graphite on watercolour paper.
16. Ngan, Ian. *Drawing Home 3: Study sketch*, January 11,2020, graphite on sketchbook paper.
17. Ngan, Ian. *Drawing Home 3*, January, 12, 2020, graphite on watercolour paper.

18. Ngan, Ian. *Drawing Home 4: Study sketch*, January 12, 2020, graphite on watercolour paper.
19. Ngan, Ian. *Drawing Home 4*, January 12, 2020, graphite on watercolour paper.
20. Ngan, Ian. Illustration, *Drawing Home 5*, September 24, 2020, digital hybrid drawing graphite on watercolour paper.

Folio III: Why do we Read (bookstore sequence)

21. Ngan, Ian. Illustration #6: *A Book Is A Drawing* January 4, 2021, digital media illustration.
22. Ngan, Ian. Illustration, *Hybrid Sketches On Studio 3 Syllabus*, January 10, 2021, digital media collage on old text paper.
23. Ngan, Ian. Illustration, *Hybrid Sketches On Studio 3 Syllabus*, January 10, 2021, digital media collage on old text paper, 39, fig. 23.
24. Ngan, Ian. Illustration, *Hybrid Sketches On Studio 3 Syllabus*, January 10, 2021, digital media collage on old text paper, 39, fig. 24.
25. Ngan, Ian. *Sketching a Moments Conversation*, February 2016, graphite on sketchbook paper.
26. Ngan, Ian. Photo, *Facade Study (In Progress)*, February 2016, photograph.

27. Ngan, Ian. Photo, *Facade Study 2 (In Progress)*, February 2016, photograph.
28. Ngan, Ian. Photo, *Facade Study of 2016 (Broken)*, October 31, 2020, photograph.
29. Ngan, Ian. Quick Sketch, *Facade Site Study*, March 2016, wood transfer and book ink reference.
30. Ngan, Ian. Quick Sketch, *Bookstore's Interior Unit*, March 2016, graphite on sketchbook paper and cardstock and bass wood model.
31. Ngan, Ian. Drawing, *Plan of the Bookstore's Plaza*, February 2016, graphite on sketchbook paper and cardstock and bass wood model.
32. Ngan, Ian. Photograph, *Documentation of Final Model*, April 2016, photograph.
33. Ngan, Ian. Photograph, *Final Model: Street View of Bookstore Plaza - Construction model*, April 2016, photograph.

Folio IV: Attentive Hand (rethinking the bookstore)

34. Ngan, Ian. Google Maps plan view of Site: *Our Lady School*, December 11, 2020, collage digital media.
35. Ngan, Ian. Street view of New Site: *Our Lady School*, December 11, 2020, collage digital media.

36. Ngan, Ian. Illustration of the site, *Our Lady School*, January 2, 2021, digital media collage of sequenced photographs.
37. Ngan, Ian. Drawing, *The Student*, January 3, 2021, graphite on sketchbook paper.
38. Ngan, Ian. Drawing, *The Homeless man*, January 4, 2021, graphite on sketchbook.
39. Ngan, Ian. Drawing, *The Bookstore Owner*, January 5, 2021 graphite on sketchbook paper.
40. Ngan, Ian. Drawing, *The Blind Man*, January 6, 2021, graphite on sketchbook paper.
- Folio V: Food For Thought (renovating an architecture of discovery)
41. Ngan, Ian. Model, *Experimental Site Model v.2*, March 8, 2021, cardstock and plaster model.
42. Ngan, Ian. Model, *Food For Thought Model v.1*, February 12, 2021, cardstock and plaster model and site drawing graphite on sketchbook paper.
43. Ngan, Ian. Model, *Food For Thought Model v.2*, February 12, 2021, plaster model and site drawing graphite on sketchbook paper.

44. Ngan, Ian. Model, *Food For Thought Model v.3*, February 28, 2021, plaster model and site drawing graphite on sketchbook paper.
45. Ngan, Ian. Model, *Food For Thought Model v.4*, April 12, 2021, plaster model and site drawing.
46. Ngan, Ian. Model, *Food For Thought Model v.5*, April 16, 2021, plaster model and site drawing.
47. Ngan, Ian. Drawing, *Food For Thought Drawing v.1*, March 18, 2021, plaster model and site drawing.
48. Ngan, Ian. Drawing, *Food For Thought Drawing v.2*, March, 28, April 16, 2021, plaster model and site drawing.
49. Ngan, Ian. Drawing, *Food For Thought Drawing v.3*, April 16, 2021, plaster model and site drawing.
50. Ngan, Ian. Drawing, *Food for Thought Bookstore Set Narrative Mapping*, March 18, 2021, graphite on watercolour paper.
51. Ngan, Ian. Model on Site Plan, *"Food For Thought" - Set Photo*, March, 28,2021, plaster model and site drawing.
52. Ngan, Ian. Model on Drawing, *"Food For Thought" - Set Photo*, March, 28,2021, plaster model and site drawing.

53. Ngan, Ian. Model, *"Food For Thought"- Experimental Site Model v.2*, February 12, 2021, plaster model and site drawing Graphite on sketchbook paper.
54. Ngan, Ian. Model on Drawing, *"Food For Thought"- Shadows*, plaster model and site drawing.
55. Ngan, Ian. Model, *"Food For Thought Experimental Model v .2.5"*, March 28,2021, plaster and cardstock model.
56. Ngan, Ian. Illustration, *"Food for Thought Hybrid Drawing v.1"* - Bookstore Set Narrative Mapping, March 30, 2021, hybrid drawing graphite on watercolour paper.
57. Ngan, Ian. Drawing, *"Food For Thought Drawing v.1"(Partial) - Bedroom segment of Drawing*, March 18, 2021, graphite on watercolour paper.
58. Ngan, Ian. Model on Drawing, *"Food For Thought"*, March 28,2020, plaster model and site drawing.
59. Ngan, Ian. Model on Drawing, *"Homeless Man's Bedroom" - View of Set # 5 & 6*, March 16, 2021, plaster model and site drawing.
60. Ngan, Ian. Illustration, *"Food For Thought" - Dream*, March 28, 2020, collaged cardstock and paper and plaster model with digital media.
61. Ngan, Ian. Model, *"Food For Thought Model v.1"* - *Lucid Dream*, February 6,2021, cardstock and paper.
62. Ngan, Ian. Model, *"Food For Thought Model v.2"* - *Dream*, February 12, 2021, laser-cut cardstock and plaster.
63. Ngan, Ian. Model, *"Food For Thought Model v.2"* - *Dream*, February 12, 2021, laser-cut cardstock and plaster.
64. Ngan, Ian. Model on Drawing, *"Food For Thought Il lustration"* - *Dream*, plaster model and site drawing.
65. Ngan, Ian. Model, *"Food For Thought Model v .4"* - *Kitchen Windows*, March 16, 2021, plaster model and site drawing.
66. Ngan, Ian. Model, *"Food For Thought Model v.3"*, March 16, 2021, plaster model and site drawing.
67. Ngan, Ian. Model, *"Food For Thought Model v.3"*, March 16, 2021, plaster model and site drawing.
68. Ngan, Ian. Model on Drawing, *"Food For Thought" - Living Room*, March 28, 2021, plaster model and site drawing.
69. Ngan, Ian. Model, *"Food For Thought Model v.4"* - *Living Room and Study*, March 16, 2020, cardstock and plaster model.

70. Ngan, Ian. Model, *"Food For Thought Model v.4" - Windows of the Study*, cardstock and plaster model.
71. Ngan, Ian. Drawing, *"Food For Thought Drawing v.1"(Partial) - Showing Soup Kitchen and Bookstore*, March 18, 2021, graphite on watercolour paper.
72. Ngan, Ian. Illustration, *"Food For Thought"- Kitchen Encounter*, March 18, 2021, collaged cardstock and paper and plaster model with digital media.
73. Ngan, Ian. Model, *"Food For Thought Model v.4" - Interior Kitchen*, March 18, 2021, cardstock and paper and plaster model.
74. Ngan, Ian. Model, *"Food For Thought Model v.4" - Exterior Soup Kitchen Counter*, March 18, 2021, cardstock and paper and plaster model.
75. Ngan, Ian. Model on Drawing, *"Food For Thought" - Assemblage*, March 28, 2021, plaster model and site drawing.
76. Ngan, Ian. Model on Drawing, *"Food For Thought" - Kitchen Box*, March 28, 2021, plaster model and site drawing.
77. Ngan, Ian. Drawing, *"Food For Thought Drawing v.2" (Partial) - Bookstore segment*, March 28, 2021, graphite on watercolour paper.

78. Ngan, Ian. Illustration, *"Food For Thought" - Sketching Out the Conversation*, March 28, 2021, collaged cardstock and paper and plaster model with digital media.
79. Ngan, Ian. Model, *"Food For Thought" - Courtyard*, April 16, 2021, cardstock and Plaster Model.
80. Ngan, Ian. Model on Drawing, *"Food For Thought" - Mise-en-scene*, April 16, 2021, cardstock and paper and plaster and mirror reflection.
81. Ngan, Ian. Model - *"Food For Thought Model v.4" - Mise-en Place*, April 16, 2021, cardstock and paster.
82. Ngan, Ian. Drawing, *"Food for Thought Drawing v.2". - Bookstore Plan*, March 28, 2021, graphite on watercolour paper, Cardstock and Paster.
83. Ngan, Ian. Model on Drawing, *"Food For Thought" - Blind Man Sight Plan of the Bookstore*, March 30, 2021, plaster model and site drawing.
84. Ngan, Ian. Drawing, *"Food For Thought v.1" (Partial) - Kitchen Segment*, March 18, 2021, plaster model and site drawing.
85. Ngan, Ian. Model on Drawing, *"Food For Thought" - Blind man Site Plan of the Bookstore*, March 28, 2021, plaster model and site drawing.

86. Ngan, Ian. Model, *"Food For Thought Model v.4" - Soup Kitchen Counter*, March 18, 2021, cardstock and paper and plaster.
87. Ngan, Ian. Model on Drawing, *"Food For Thought" - Blind Man Sight Plan of the Courtyard*, March 28, 2021, plaster model and site drawing.
88. Ngan, Ian. Model on Drawing, *"Food For Thought" (Partial) - Trace*, March 18, 2021, plaster model and site drawing.
89. Ngan, Ian. Model on Drawing, *"Food For Thought" (Partial) - Trace*, March 18, 2021, plaster model and site drawing.
90. Ngan, Ian. Model on Drawing, *"Food For Thought" - Observer*, March 28, 2021, plaster model and site drawing.
91. Ngan, Ian. Model, *"Food For Thought Model v.3" - The View Through a Broken Window*, March 28, 2021, cardstock and paper and plaster model.
92. Ngan, Ian. Model, *"Food For Thought Model v.1" - Daydreamer*, February 12, 2021, cardstock and paper.
93. Ngan, Ian. Model, *"Food For Thought Model v.3" - Observer*, March 28, 2021, cardstock and paper and plaster model.
94. Ngan, Ian. Model, *"Food For Thought Model v.3" - Observer 2*, March 28, 2021, cardstock and paper and plaster model.

95. Ngan, Ian. Model on Drawing, *"Food For Thought" - Courtyard Observer*, March 28, 2021, cardstock and paper and plaster model.
96. Ngan, Ian. Model on Drawing, *"Food For Thought" - Courtyard Observer 2*, March 28, 2021, cardstock and paper and plaster model.
97. Ngan, Ian. Illustration, *"Food For Thought" - Courtyard Conversations of wandering*, March 28, 2021, collaged cardstock and paper and plaster model with digital media.
98. Ngan, Ian. Model on Drawing, *"Food For Thought" - Courtyard Observer*, March 28, 2021, cardstock and paper and plaster model.
99. Ngan, Ian. Illustration, *"Food For Thought" - Guide*, March 28, 2021, collaged cardstock and paper and plaster model on site drawing with digital media.
100. Ngan, Ian. Model on Drawing, *"Food For Thought" - Repetition*, March 28, 2021, cardstock and paper and plaster model.
101. Ngan, Ian. Model on Drawing, *"Food For Thought" - Courtyard Overview*, March 28, 2021, cardstock and paper and plaster model.
102. Ngan, Ian. Model on Drawing, *"Food For Thought" - Courtyard Overview*, March 28, 2021, cardstock and paper and plaster model.
103. Ngan, Ian. Photo Collage, *Workspace Final*, March 30, 2021, photograph collage with digital media.