

**NOCTURNE**

JESSICA ROWLEY

STUDIO 3

# MANI FEST @

1. I want to design with *ruin* in mind> challenging my preconceptions of what it is to renovate a building.
2. Work with materials that are *local*, or already on site.
3. Use the moss present as feeding beds for moth larvae.
4. The moth's life cycle and their *physiology will inform* the buildings adaptations.
5. I will challenge the conventional use of lighting both internally and externally.
6. The proposed design should aid the *conservation* and protection of moths and butterflies.
7. I want to create a cohabitation between human and moth on an *equal* level.
8. The project will explore *darkness* and its ecological benefits.
9. The building should be a *bespoke environment* tailored to the needs of a lepidopterist as well as the insects.



37-39  
CLARENCE  
SQUARE



Late 20th Century

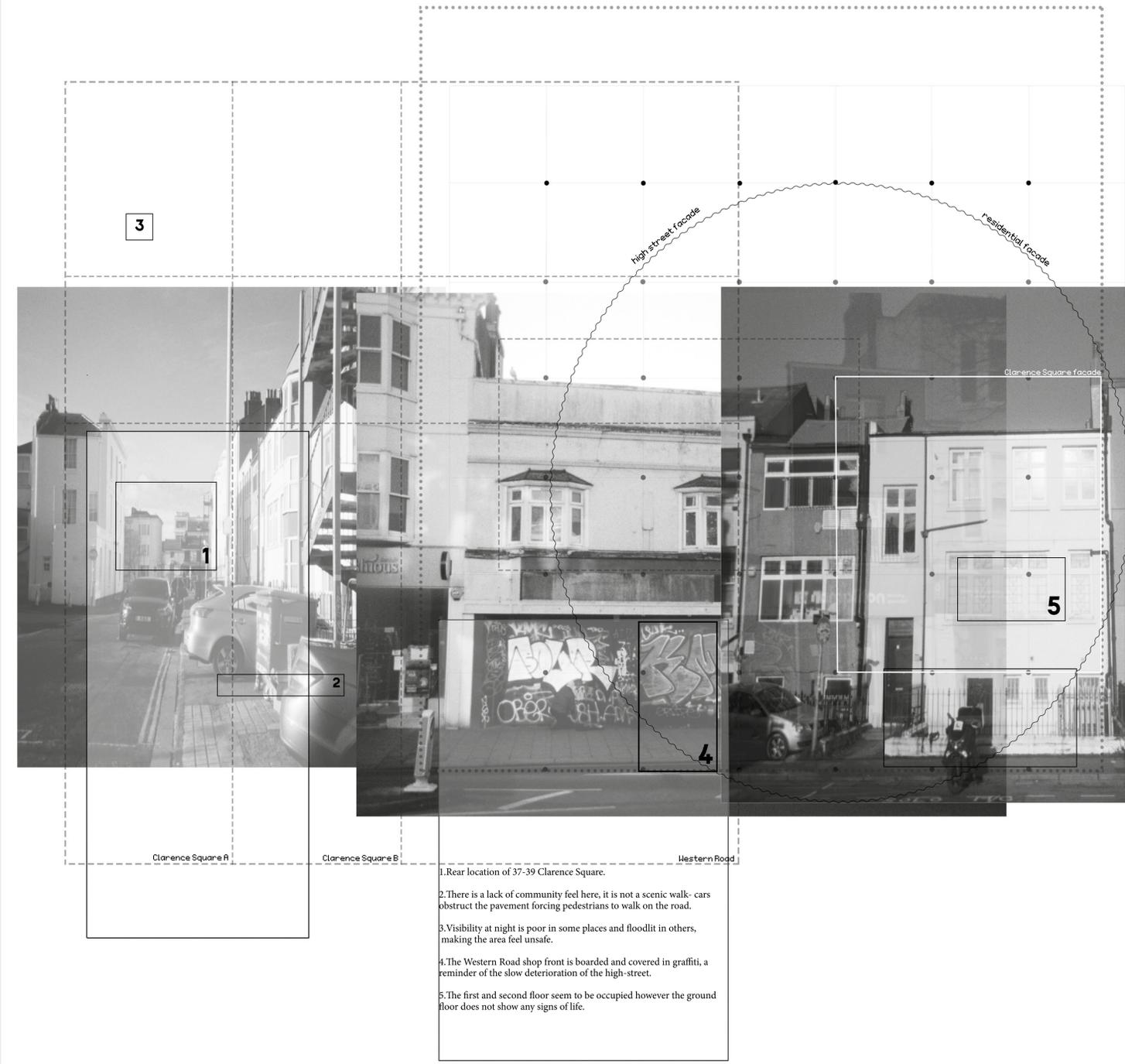
Painted - Render

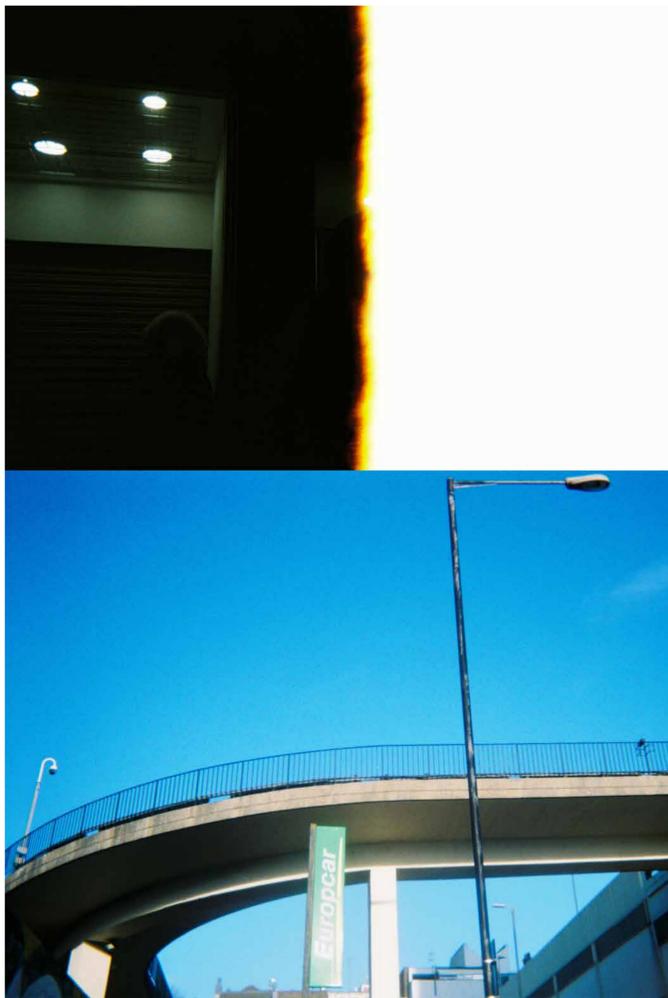
2 story over-basement

Basement has been vacant for more than 5 years

NOT

part of Regency Square conservation area (32 hectares)





Architecture of the day and night. Overexposed film casts light upon an image of the dark city.  
 The route to the car-park is elevated from the pedestrian activity below.  
 It casts shadows across my site under the midday sun, at night it is shrouded in a veil of darkness, invisible to my eye yet I can still feel its unwelcome presence.



Cracks with friendly weed tendrils, reaching out to touch my palm.



Signs of new life are everywhere.



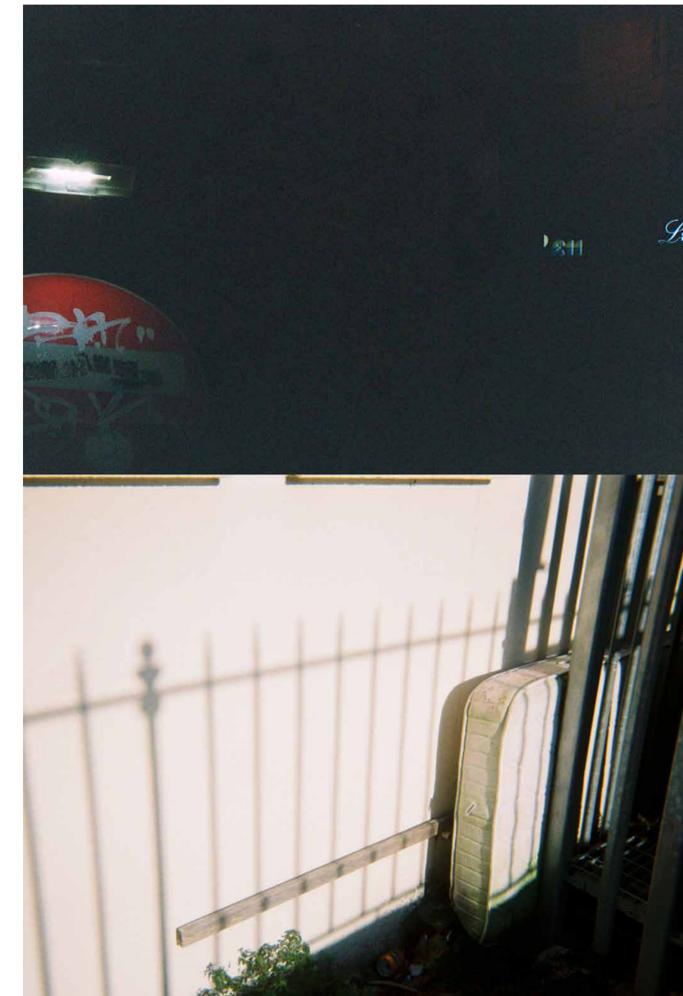
A generator sits silent, ready to activate at any moment.



One building, two faces, unknown to one another.  
Brilliant white letters bubble and pop against the artificial black,  
stark and unauthorised.

This graffiti is a mask.  
For when it is prised off we are greeted by joyful clumps of weeds.

Both entities occupy this space with the same intention; to  
transform what once was into something it never intended to  
be.



A damp, moss covered mattress squelches to the touch.  
The image of this forgotten thing reminding me of lost comfort.  
Crouching behind railings there is nothing reassuring about its  
presence. I return at night, only to be met with the same feeling.

A home for abandoned objects

## Explorations of darkness. Expanding the dissertation

My dissertation **“THE DARK REVEAL :  
Illuminating the need for darkness in a world of artificial light”** will inform the direction of the project. My investigations into 24 hour “lit culture” and its impact on the human psyche and city spaces is a fitting angle at which to analyse a heavily lit and commercial site such as Western Road, Brighton.

The university is cloaked in a ghostly yellow whilst students study at home



A makeshift passageway glows intensely, making my passing through a shadow puppet play



A football pitch stays lit, waiting for a game that will never be played

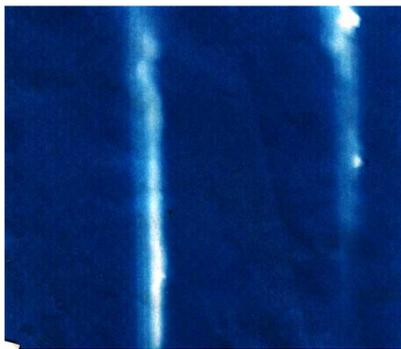


building sites act as night lights, drawing micro moths to their flickering



SEEKING OUT LIT SPACES AROUND THE SITE

1



2



3



LIGHT PHOTOGRAPHS

As I carry out my initial explorations of 37-39 Clarence Square I am drawn to the finer details. The cracks in the concrete, weeds pushing through the barred door and overlooked features hiding in the shade. What better way to observe and study these obscurities than with the sun itself!

I want impressions of these things, to capture their atmosphere; not necessarily their likeness. By resting the sunlight sensitive paper behind surfaces or under foliage an image will develop over time; revealing not just the shape of the object but any shadow it casts. Some photos are more successful than others, the denser the object, the more distinct the final impression is.

1



2



3



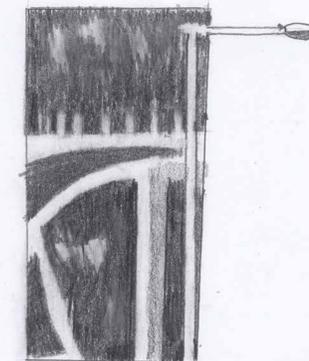
I am beginning to notice more unwanted light than ever before.



The sky is so murky



I see the crane's red star every night



Spindly Lamps survey  
The car park

Adrian by removing the graphite in replacement of adding white marks, this creates a more atmospheric impression



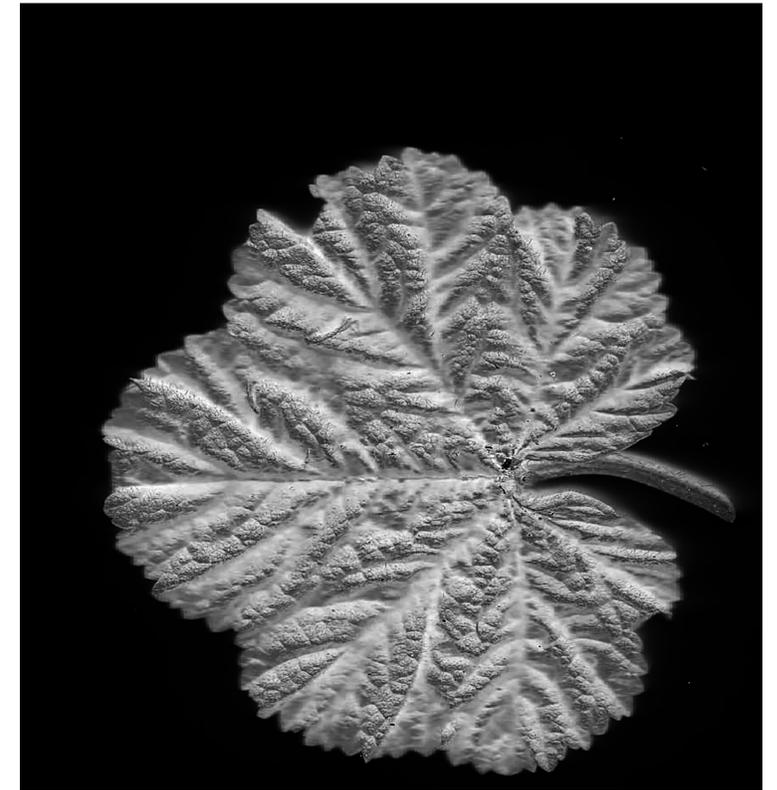
My shadow obscures the frame, light hits the site in patches.



Plants grow alongside the electric engines cohabiting politely, waiting for their opportunity to encase them with their green bodies.



A triptych of bike chains, perfectly poised waiting for the owners to return.



Found objects, scanner

During my first visit to site I collected the weeds that I picked for light photographs and used the scanner to record their structures. I wanted to elevate their status as forgotten site inhabitants. This particular method of recording draws the eye to the spectacular landscapes that lie on these city weeds.

The effect reminds me of Floris Neusus' camera-less photography, ref Fig 1. Using light sensitive paper he captures moments in negatives, darkness and light are his tools.



Fig. 1

Vera Lutter

[Site sensitivity; appreciation of ruin]



Vera Lutter is a German photographer with an eye for capturing the sublime using her camera obscura. Lutter sets up a pin hole camera, often facing subjects such as construction sites. She utilises long exposure shots to represent the passing of time in a singular image. Lutter's work, is in many ways, more complex than just a simple observation shot. It is her use of the negative image as the final result that indicates that this is also a comment on what is a *real* representation. The negative can be seen, in Lutter's photography, as the truest possible representation of the scene she wants to depict; rather than that say of an inverted "real" version. I find Lutter's work to be rather stark yet beautiful, it is this act of recording the ruin to its final transformation that intrigues me. I often find myself drawn to the original frame. It is the emptiness and the promise of something new that entices me more than the final outcome.

Anthony Gormley

[visual/aesthetic inspiration]



Antony Gormley is a well known Welsh sculptor. Whilst I am familiar with his built works, his drawings are a recent discovery of mine. I am drawn to his 1990-96 series *Body and light*. These images were constructed at night. The drawings explore the body and its relationship to the earth, light and space; as well as exploring these entities as containers. I find his sketching style to be evocative, his use of ink, pencil and mixed medium inspires me to work hand drawn techniques into some of my technical drawings; as a way of expressing the context and desires behind my project.

We obsess over the facade rather than the natural aging of materials.

But what do we mean by intimately revisiting this legacy? Can we really speak of a modernist ruin? Unlike the porous, permeable stone of ancient building, the material of modernism does not 'ruin'. Concrete does not decay. It does not slowly erode and corrode, fade out or fade away. It cannot monumentally disintegrate. In some way, modernist architecture does not absorb the passing of time. Adverse to deterioration, it does not age easily, gracefully or elegantly.

Modernism, after all, had an issue with history. It was an art of the present. Modern architecture looks good in its own present. It wears itself in the now, and does not wear out. It shines when recently constructed or freshly painted. It looks at its best dressed in white. It wears only pure 'coats' of paint and pristine fashions. It looks outstanding when freshly made-up. Its façade is a face that cannot bear age marks, does not like to 'wear' them. With concrete, there no longer can be lines emerging gently on the face of a building, line drawings on the map of time past. With concrete come only cracks, the breaking up of the façade.

If the façade is a face, then the problem of modernism is skin. Modernist architecture was, after all, an architecture of the surface. This modern epidermics has the same issue with time that we do. We modern subjects, too, have an increasing issue with the deterioration of our skin. Refusing to age gracefully, we seek the radical fix. Plastic surgery is perhaps itself a measure, if not quite an invention, of modernist time and its passing. It is the sign of our times.

'Does not absorb the passing of time'  
The modern ruin is not timeless - unlike Roman ruins for example  
We need to change this.

80/MODERNITY IN RUINS



Photography has become so naturalized and familiar over the last century and a half that we have forgotten that at the time of its invention, many people responded with uneasiness to its disconcerting capacity to create uncanny likenesses of people and things. Since then, the ubiquitous phenomenon of exact likenesses within our era of digital and now biotechnical reproducibility rarely awakens our lost or repressed surprise at the double-as a kind of hallucinatory phantasm. One of the impressive achievements of Lutter's work is to recover something of the spectral power of the photograph and its effects of doubling. Since the nineteenth century, the word spectral has come paradoxically both to connote that which appears to the eye and to suggest its unreal or ghostly character. Beginning with the writings of William Blake, Karl Marx, Max Stirner and others, the 'spectral' became a powerful way of describing what was assumed to be the fraudulent and delusional quality of life in modern society. Even the very recent political analyses of Antonio Negri and Michael Hardt assert that we are all now living under 'the spectral reign of global capitalism'. Such accounts carry with them the implication that another 'unmasked' order of experience might be possible within a transformed social world - a world in which there presumably would be a more directly experienced 'reality', where things would in fact be what they appeared to be. Whatever Lutter's thoughts about global capitalism might be, her work suggests that spectral effects are a more enduring feature of human experience, rather than something that could be overcome or eradicated. Her images intimate that 'spectrality' is what we all live with, that it is an inevitable condition of our functioning in our world at present. The longer we contemplate her work, the closer we come to the apprehension that her negative images are not reversible, that they are not part of a dialectic movement of positive and negative, of dark and light. Once seen, her photographs never offer up the possibility of transposition to a more familiar set of surfaces. Rather,

\*Vera Lutter\*  
'global capitalism'  
is architectural  
our modes of representation complicit

172/DROSSCAPE

Italo Calvino  
Invisible Cities//1972

The city of Sophronia is made up of two half-cities. In one there is the great roller coaster with its steep humps, the carousel with its chain spokes, the Ferris wheel of spinning cages, the death-ride with crouching motorcyclists, the big top with the clump of trapezes hanging in the middle. The other half-city is of stone and marble and cement, with the bank, the factories, the palaces, the slaughterhouse, the school, and all the rest. One of the half-cities is permanent, the other is temporary, and when the period of its sojourn is over, they uproot it, dismantle it, and take it off, transplanting it to the vacant lots of another half-city.

And so every year the day comes when the workmen remove the marble pediments, lower the stone walls, the cement pylons, take down the Ministry, the monument, the docks, the petroleum refinery, the hospital, load them on trailers, to follow from stand to stand their annual itinerary. Here remains the half-Sophronia of the shooting-galleries and the carousels, the shout suspended from the cart of the headlong roller coaster, and it begins to count the months, the days it must wait before the caravan returns and a complete life can begin again. [...]

Italo Calvino, extract from *Le Città invisibili* (Turin: Giulio Einaudi, 1972); trans. William Weaver, *Invisible Cities* (New York: Harcourt Brace/London: Secker & Warburg, 1974) 63.

constant uprooting  
|  
19cc parallels between this 'fairground' + modernism - modern ruins + capitalist critique

Ruins is a series of essays, edited by Brian Dillon.  
This book is home to an evocative collection of passages and writing that contain discourse surrounding ruin / ruination varying from the literal to conceptual.  
This collection is highly unusual but enlightening, its contents ranging from modernist culture's formation of the "new ruin" to media's creation of a ruin that never crumbles.  
This book has informed the way I look at the design and development stage of the project.  
In order to create a thoughtful design I must consider how I see the degradation on site. It is something not to be repelled by necessarily but to work with and ensure that a similar fate does not happen to my new proposal.  
This brings back the question of the organic and the formal. The architectural structures that



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Ink on paper, trace and pencil

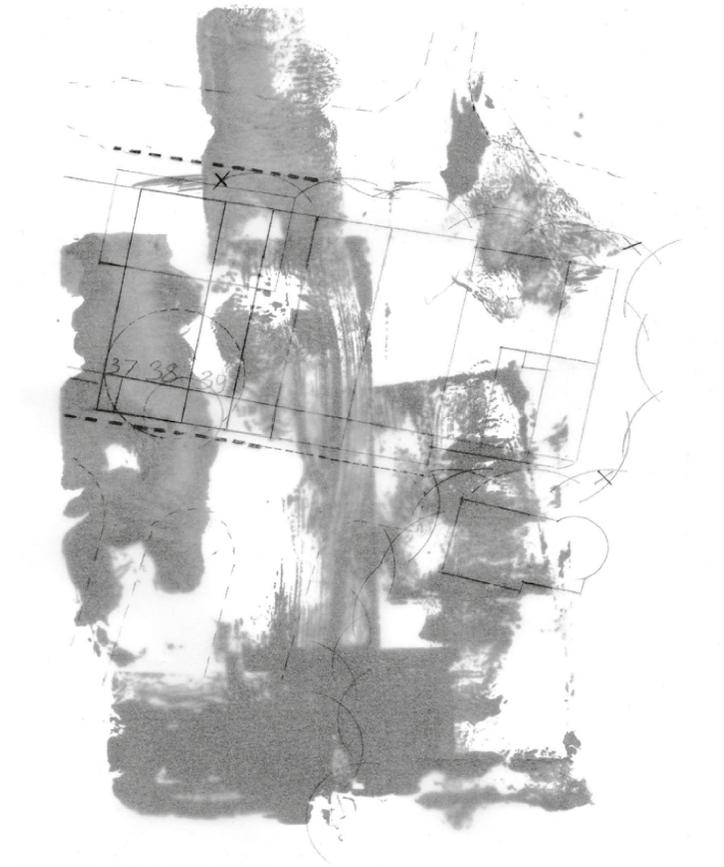
Scale : 1:1000

After observing the techniques and drawings of Antony Gormley I started to use inks as a method of recording.

This simple map on trace shows my movement on site with numbers 1-6 positioned at the end of each path line to indicate each separate journey sequence.

Even though not all the marks showed through the scanned image the darkness and obscurity of the map reflects the desired nature of the project.

The techniques were successful however I will use them in conjunction with clearer methods of digital representation from this point onwards.



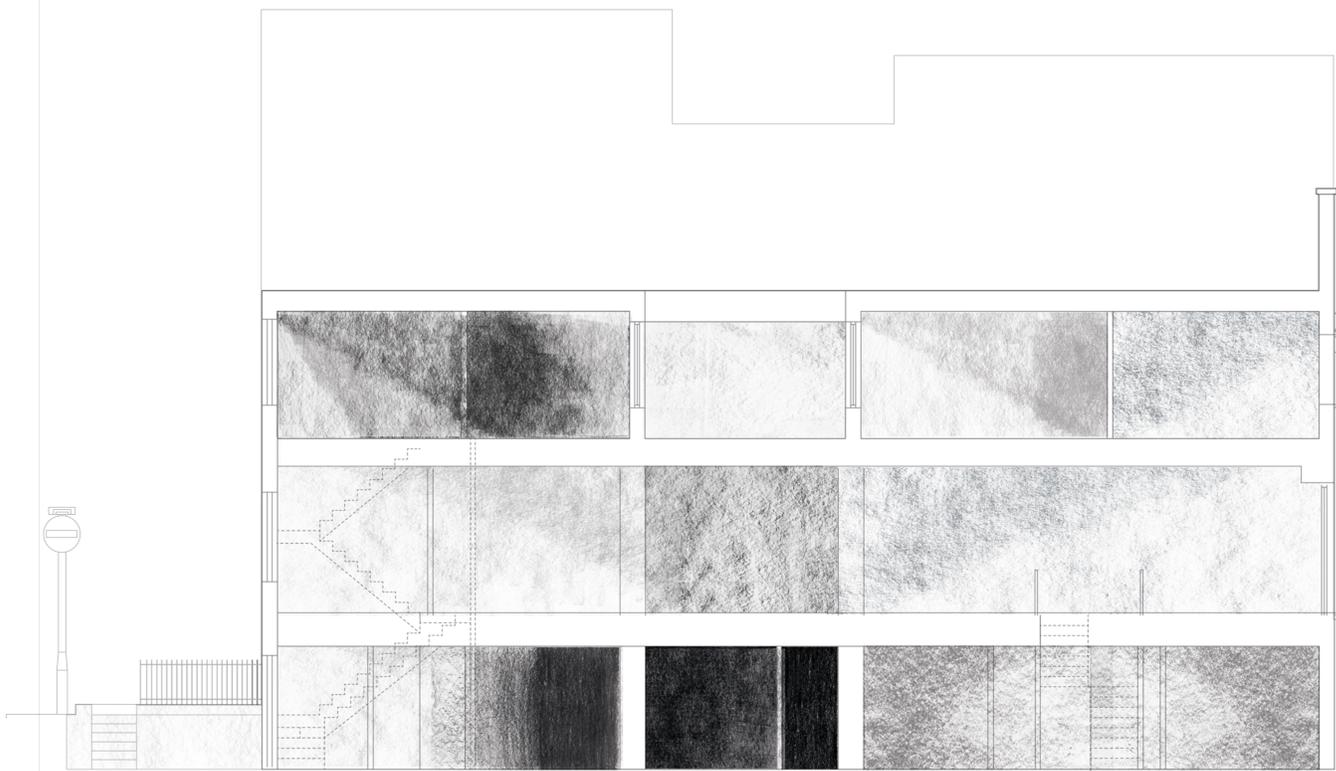
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Ink on paper, trace and pencil

Scale : 1:1000

This map focusses on the movements around 37-39 Clarence Square showing my journey to view and record the commercial side of the building.

I have chosen to draw these particular movements with a compass due to the non-directional nature of my journey.

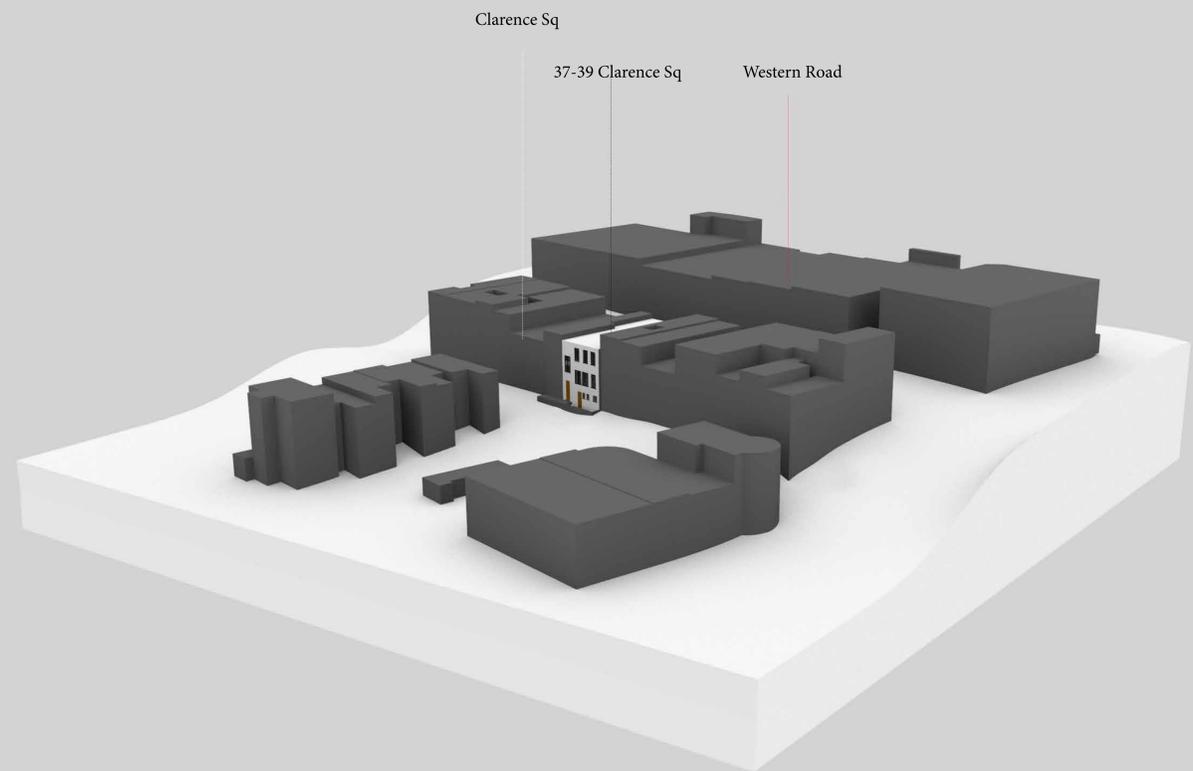


1:50 shadow section

Graphite/ pencil, digital drawing

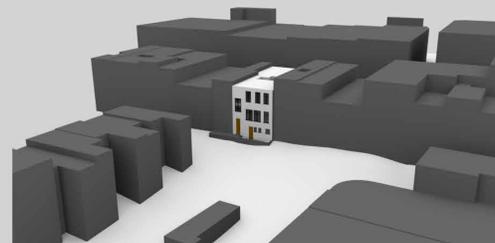
This section is an exercise in order to think about the existing building in relation to the house groundling moth. Using the angles of the sun at spring summer and winter I have marked the shadow spaces.

Whilst these may not be ideal for the human resident these are the potential zones where the moths will feel the most "at home". I will make sure that I design the moth's private space in accordance to where there is natural shadow/darkness > where there is the most light I will ensure that this is where the lepidopterist's living and working spaces will be oriented.



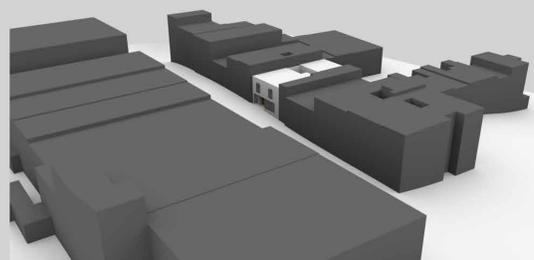
Clarence Sq Facade

R e s i d e n t i a l



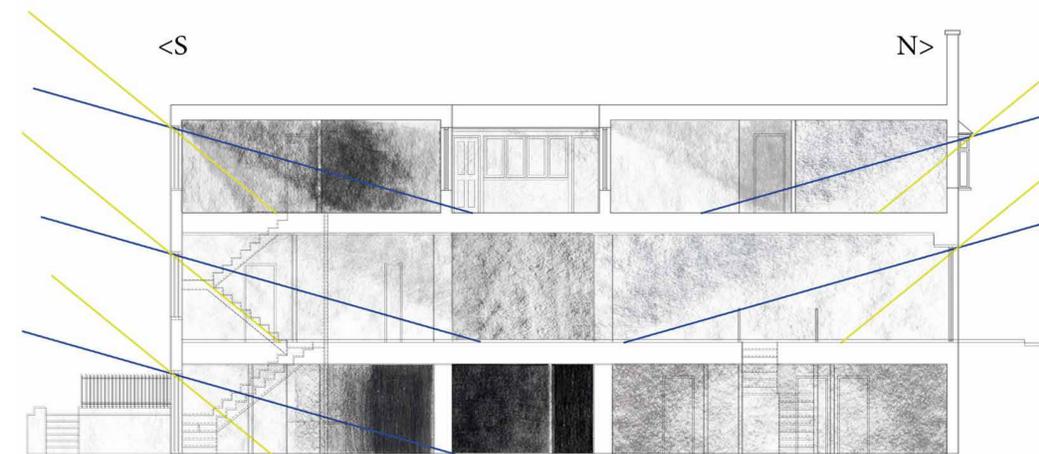
Western Road Facade

C o m m e r c i a l



Summer sun > 62 degrees

Winter sun > 15 degrees



Longitude: - 0.147170 °  
Latitude: 50.823610 °  
Equinox angle: 38.18 °

Site shadow diagram

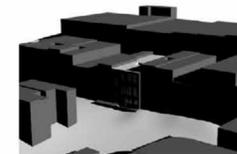
8 am

Midday

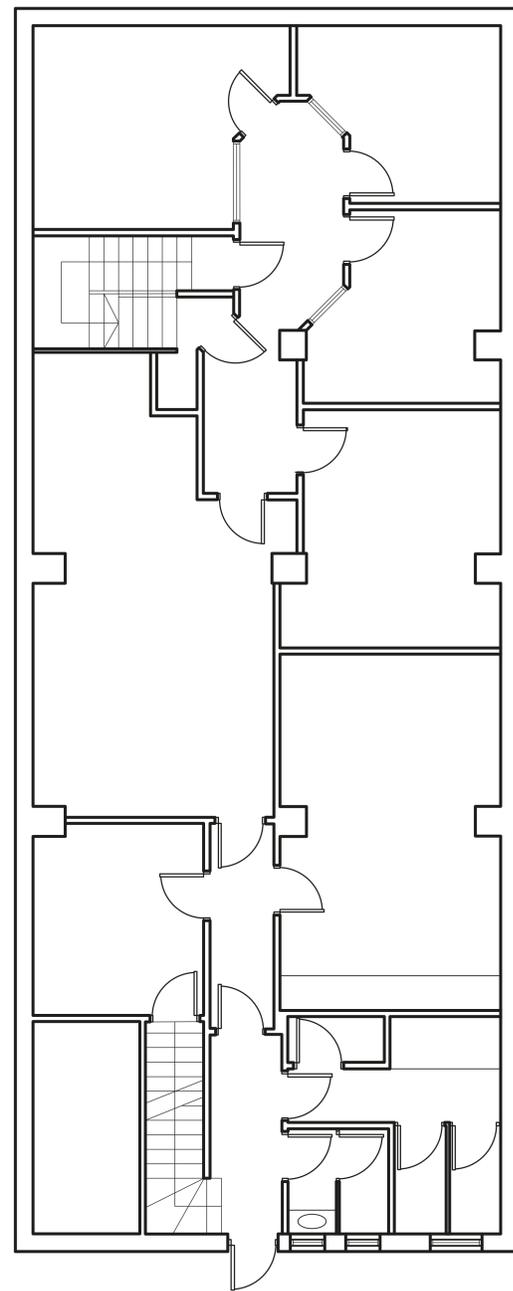
Winter



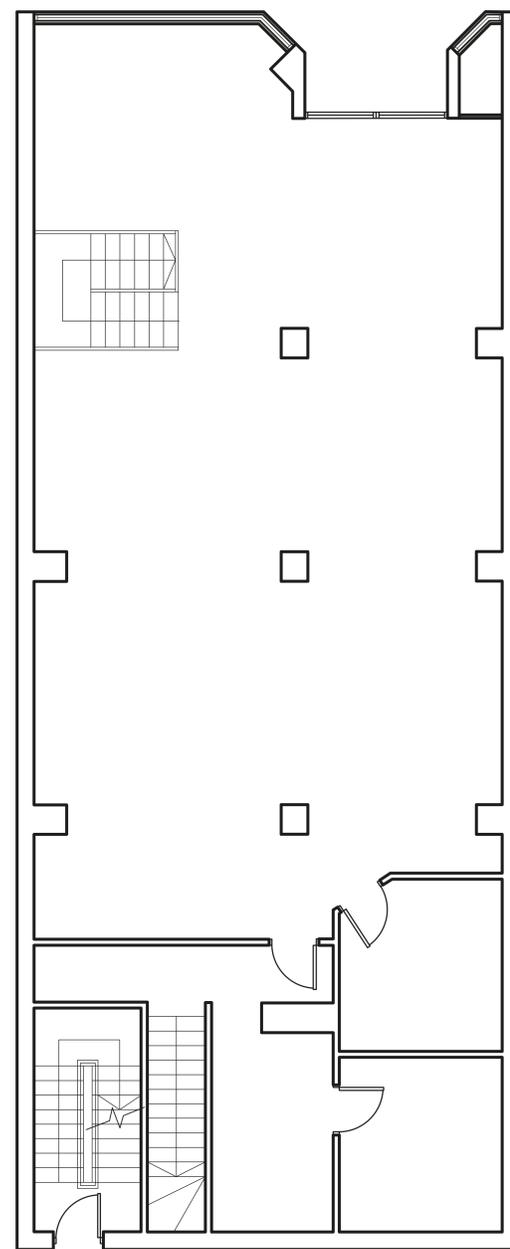
Summer



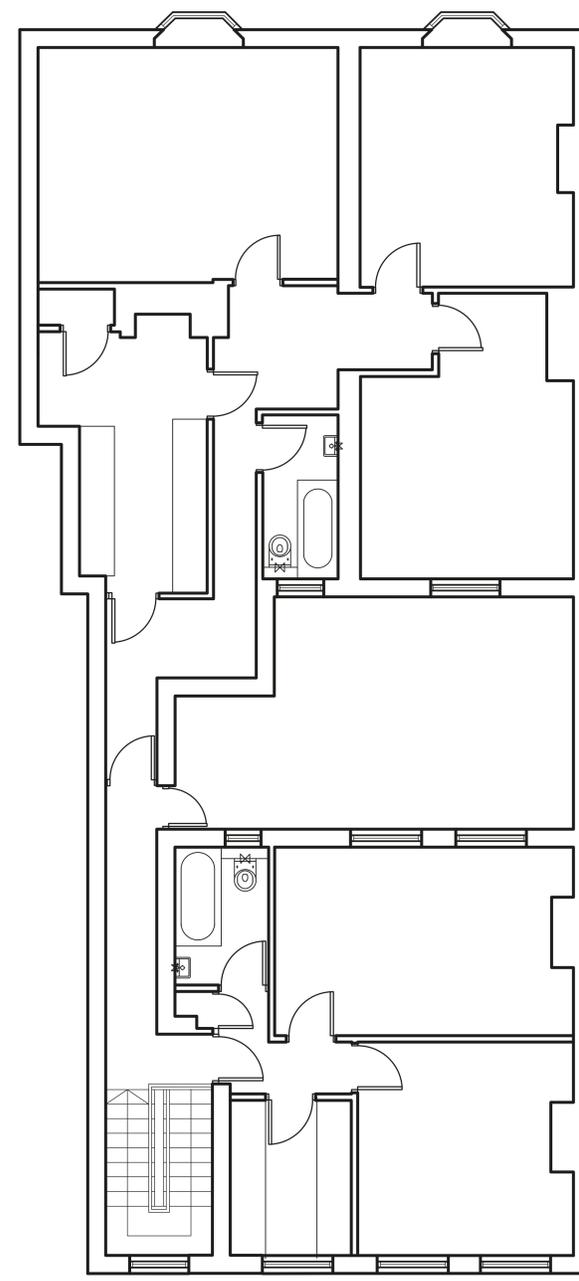
The 1st and second floors get the most consistent light throughout the seasons. The living spaces and eating spaces require more lux therefore I will position these on the top two floors to save energy.



BASEMENT



FIRST-FLOOR



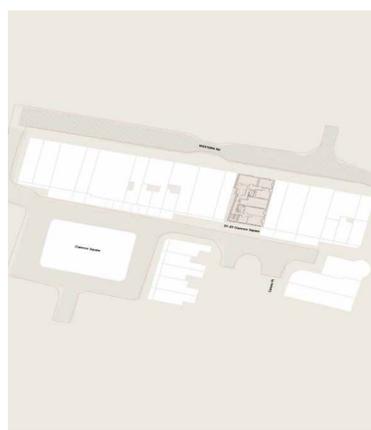
SECOND FLOOR

Plan drawings

1:50

Clarence Square currently operates as a commercial space on the 1st floor and residential on the second, the basement is designed to be a staff room. This is reflected in the cumbersome cramped lay out. I aim to open up the design, removing most of the non structural walls and inserting elements that comply with my programme within it.

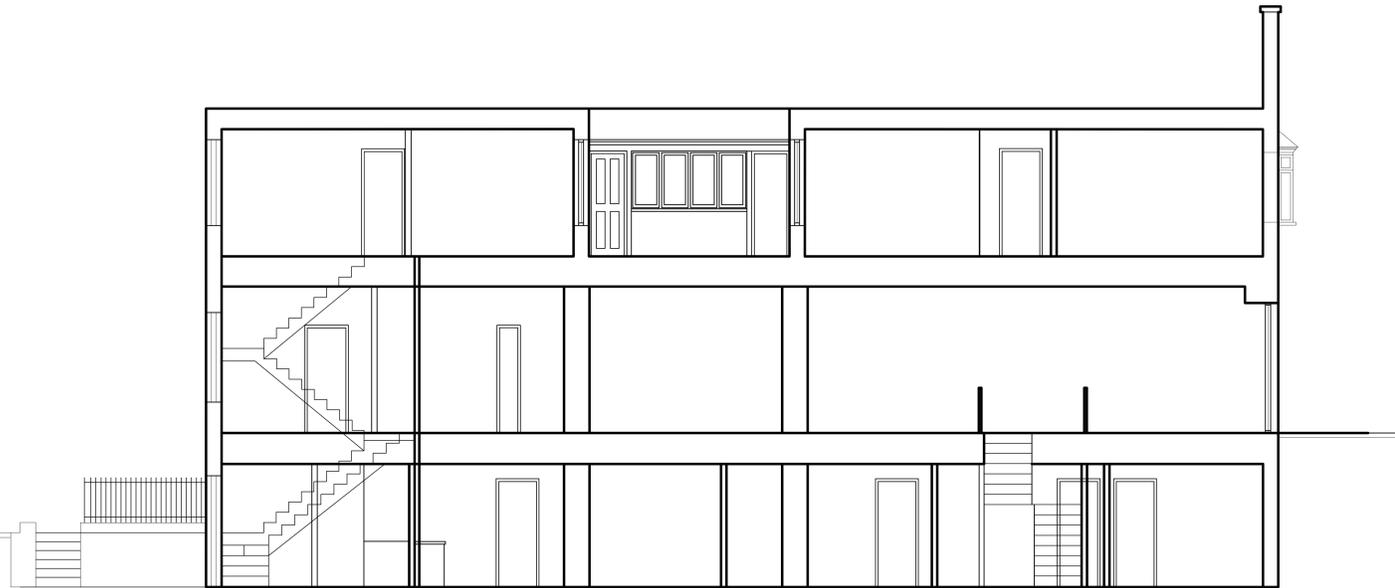
This allows for a freedom within the design yet a constraint to the original floor heights and width/length of the building.



3 7 - 3 9  
 C l a r e n c e  
 S q u a r e  
 e x i s t i n g  
 S e c t i o n

Clarence Sq

Western Rd

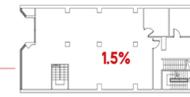


Average Daylight factor calculation

$$ADF = \frac{TMAwO}{A(1-R2)}$$

A: Net glazed area excluding frames (m²)  
 T: Total area of the room  
 O: Angle of visible sky in degrees  
 w: Sky field surface  
 R: Average reflectance of internal walls  
 2: Diffuse visible transmittance of the glazing  
 M: Room surface reflectance (0.2/0.7/0.9)

Second floor: most natural light  
 $ADF = 0.8 \times 0.92 \times 15.2 \times 62$   
 $464.8 (1-0.4^2)$



Ground floor: least natural light  
 $ADF = 0.8 \times 0.92 \times 1.44 \times 62$   
 $478 (1-0.4^2)$



The second floor has the most natural light entering its working and living spaces will be oriented here. This would also save energy consumption as fewer kWh would be needed.

The ground floor will be utilised for the most inhabitants due to the low daylight factor percentage.

Section Drawing

1:50

This section shows 37-39 Clarence Square's construction. I aim to have as little impact on the building as possible in order to reduce the carbon footprint on site and during the new fabrication. I will embrace the idea of ruin, allowing for the existing columns to jut through the living space.



MOTH AND HUMAN EATING ON THE SAME LEVEL

I want the building to encourage a natural co-habitation where the boundaries between spaces are not necessarily fixed.



LAMPS AS FOOD

Moths are attracted to artificial light, negatively impacting their mating rituals and feeding times.  
I want the light from 37-39 Clarence Square to draw the moths to a sanctuary in the city.



#### EMBRACING RUIN

When re-designing the space I want to ensure I try to have as little impact on the environment as possible whilst modifying and transforming the space to become something "new". Due to the nature of my programme and its inhabitants a connection to nature is vital; rubble or scrap materials found on site should be used or re-purposed.

L i g h t  
p o l u t i o n  
&  
i t ' s e f f e c t  
o n t h e  
n a t u r a l  
w o r l d

Kwon, diana, The Vanishing Night: Light Pollution Threatens Ecosystems, The Scientist online, Oct, 2018

"So far, one study has attributed about 50% of the moth population declines due to climate change. Conservation experts suggest light pollution is contributing to the decline of nocturnal insects." - Moths Matter, Newcastle University

Insect species, especially moths, are increasingly struggling against the issues presented by artificial light at night (ALAN). The ways in which the population are affected have led to declines in the moth population across Europe. Without a concerted effort from Architects and designers, essential parts of the ecosystem could be lost or damaged beyond repair.

Carrington, damian, Light pollution is key 'bringer of insect apocalypse', Guardian online, Fri 22 Nov 2019 09:13 GMT

"Artificial light at night can affect every aspect of insects' lives, the researchers said, from luring moths to their deaths around bulbs, to spotlighting insect prey for rats and toads, to obscuring the mating signals of fireflies."

"The night-time environment is increasingly being lit, often by broad-spectrum lighting, and there is growing evidence that artificial light at night (ALAN) has consequences for ecosystems, potentially contributing to declines in insect populations."

"Moths are species-rich, sensitive to ALAN, and have undergone declines in Europe"

Boyes, D.H., Evans, D.M., Fox, R., Parsons, M.S. and Pocock, M.J.O. (2021), Is light pollution driving moth population declines? A review of causal mechanisms across the life cycle. Insect Conserv Divers, 14: 167-187. <https://doi.org/10.1111/icad.12447>

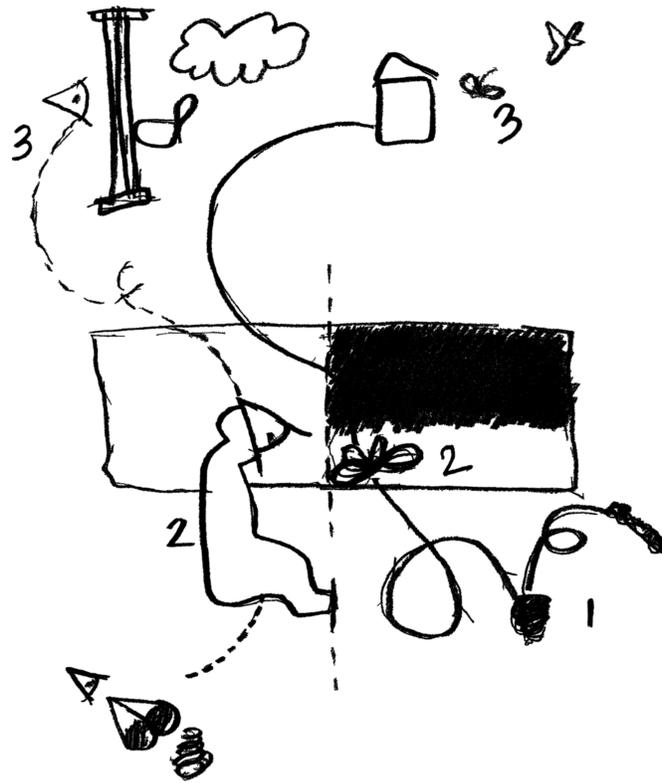


moth traps showing visible change in light pollution

Street Lamp

site boundary line

LIGHT-POLLUTION SITE MAP



## Sustainable

**t** Before I can look at how I will change 37-39 Clarence square's current structure, occupancy and design I must first outline my *sustainable strategy*.

**r** My proposed residents (a Lepidopterist and the house groundling moth species) both require a steady flow of resources. My design should *minimise* the ecological footprint of both residents.

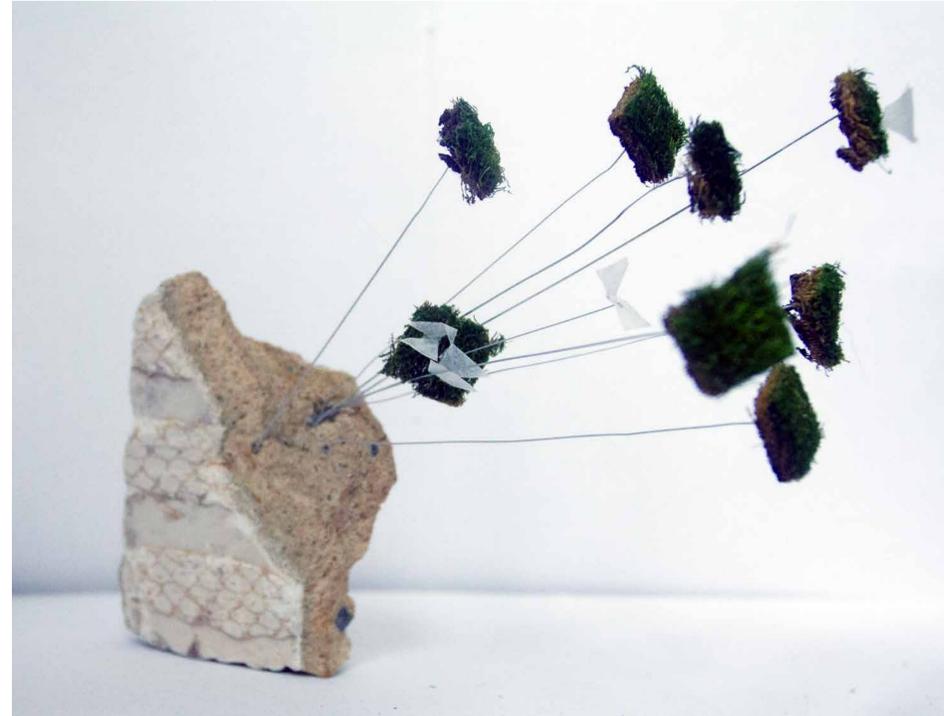
**a** I will be evaluating how my design can tackle this need for *Zero Carbon construction* and living via the categories of consumerism, housing, travel and food. I will look at how to reduce the client's impact across these as well as using the *Leti Climate guide* to aid my decisions.

**e** The residence will preserve, observe and release the house groundling, aiming to prevent its extinction in the East Sussex area. The traditional needs of the lepidopterist will be reformed to have a reduced ecological effect and carbon footprint.

**y** There is also an opportunity to use this residence as a way to replenish the surrounding area with plant and insect species.

Taking into account the size of the building in relation to the low level of occupancy 37-39 Clarence square needs to be zoned in order to reduce heating and hot water. The structure has many useful materials that can be re-used and re-purposed in its transformation.

It is also important to not forget the benefit that caring for a species and living alongside them can have on an individual's well being, this should also be extended into the community.



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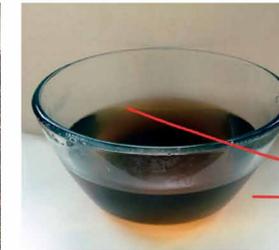
Moss, wire and found material model

This model aims to show the interplay between the natural material needed for larvae development and the solid masonry of the building. The house groundling moth feasts on moss in its early stages before metamorphosis. An incorporation of moss into the interior of the building would not only be a practical edition but also a sustainable one as moss beds can be grown from the pre-existing moss on site.

m o s s >  
 Housegroundlings'  
 f o o d  
 s o u r c e



By flattening the moss and subjecting it to heat it can be made into a tile.  
 Moss is very durable and would be easy to incorporate into the interior fabric of the building.



Experiment 1 was difficult due to the dryness of moss the spring. The soil clump to the plant matter making hard to extract any dye th was not contaminated with colour of the soil



Moss was dried in the oven at 100 degrees Celsius to release moisture and help release it from the soil

Moss Experiment 2: Heat and glue



The gluing approach was much more successful. Moss is compressed using natural glt for 30 mins.

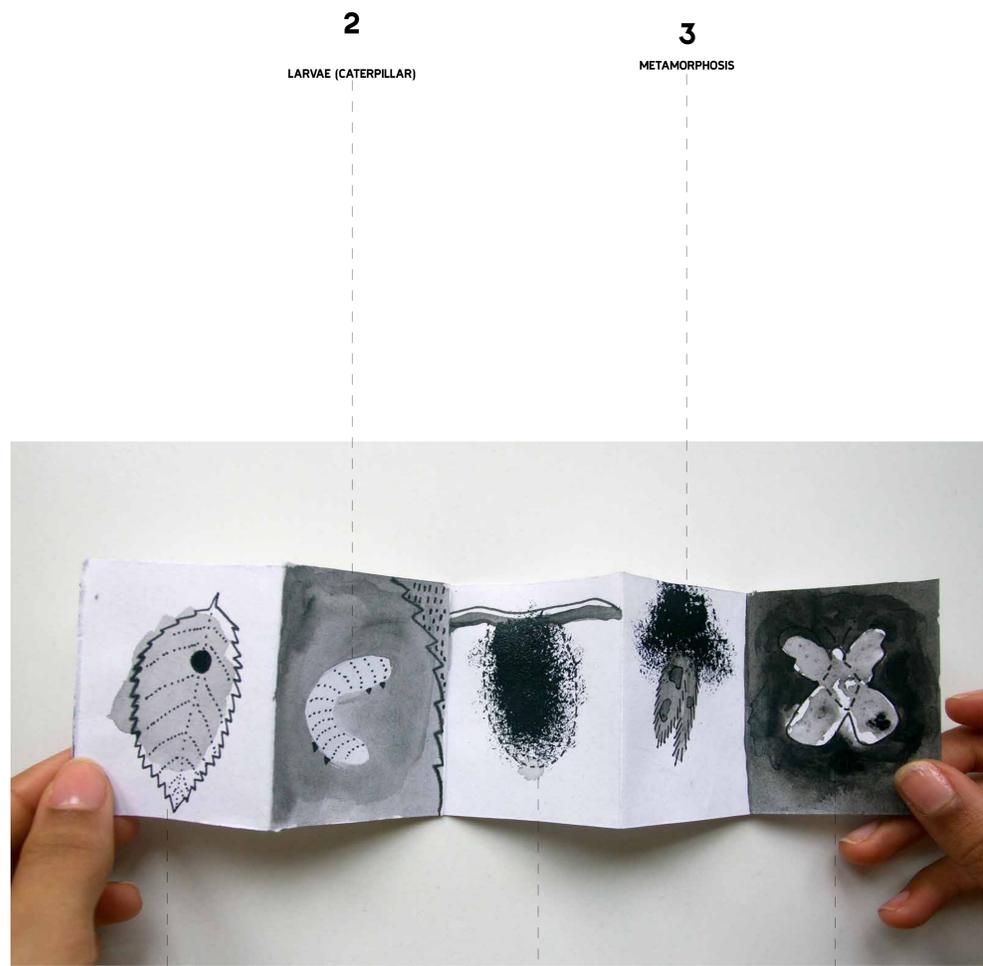
The moss is then moulded into a form and dried for 2 hours at 100 Celsius.

This method caused the moss become firm yet brittle.



The experiments show that mo is a good material to use in the interior as it is quite malleable, can be grown on s and is carbon neutral.

It is also a key component o the moth larval diet in orde for it to metamorphosis



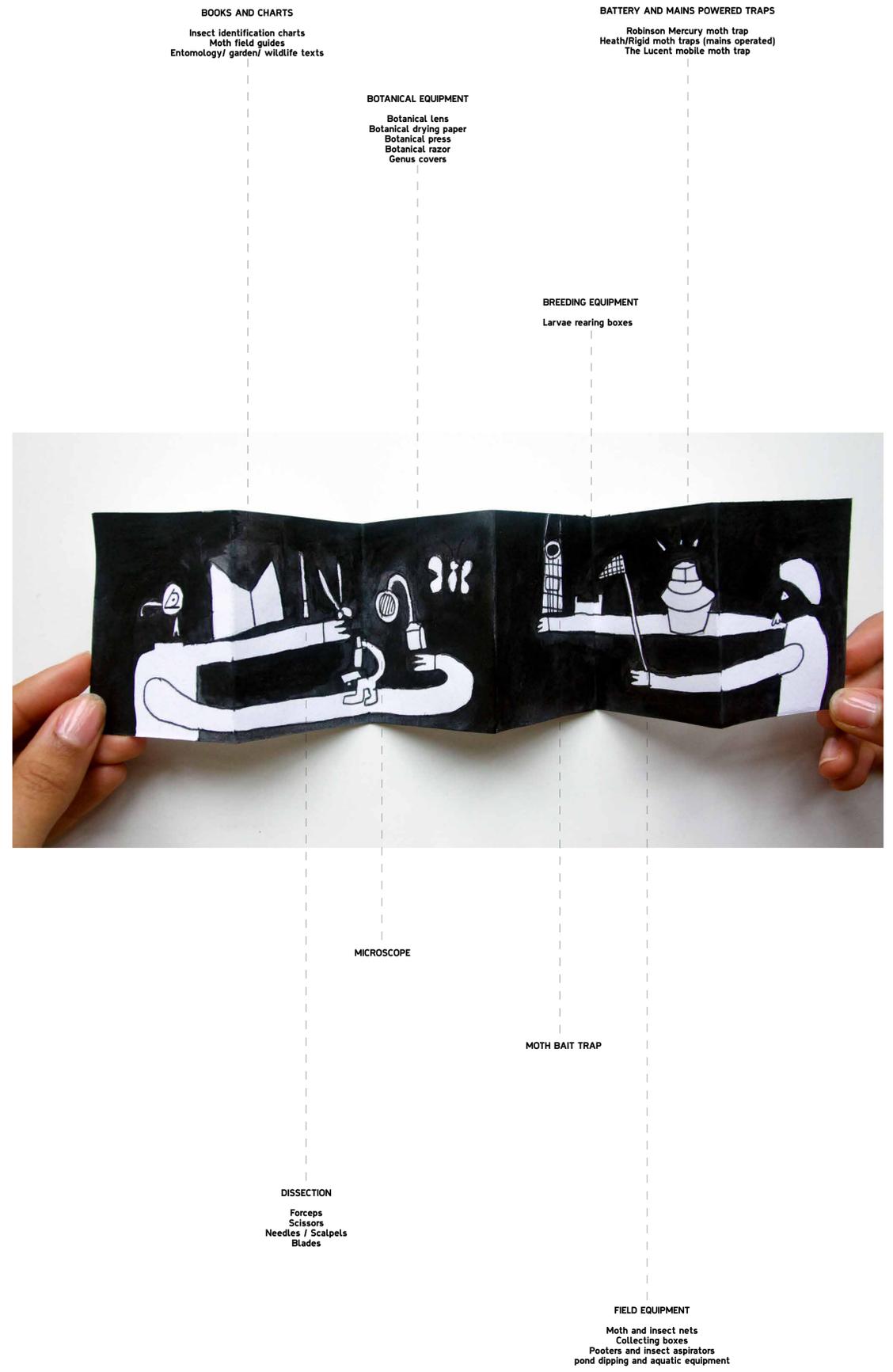
**1**  
EGGS

**2**  
LARVAE (CATERPILLAR)

**3**  
PUPA (COOON)

**3**  
METAMORPHOSIS

**5**  
ADULT MOTH EMERGES



**BOOKS AND CHARTS**  
Insect identification charts  
Moth field guides  
Entomology/ garden/ wildlife texts

**BOTANICAL EQUIPMENT**  
Botanical lens  
Botanical drying paper  
Botanical press  
Botanical razor  
Genus covers

**BATTERY AND MAINS POWERED TRAPS**  
Robinson Mercury moth trap  
Heath/Rigid moth traps (mains operated)  
The Lucent mobile moth trap

**BREEDING EQUIPMENT**  
Larvae rearing boxes

**MICROSCOPE**

**MOTH BAIT TRAP**

**DISSECTION**  
Forceps  
Scissors  
Needles / Scalpels  
Blades

**FIELD EQUIPMENT**  
Moth and insect nets  
Collecting boxes  
Pooters and insect aspirators  
pond dipping and aquatic equipment



### ROBINSON TRAP

- Best trap for attracting a large quantity and a wide range of species
- Made of ABS plastic
- Operates on 200-250 volts
- 62cm diameter, 27cm base

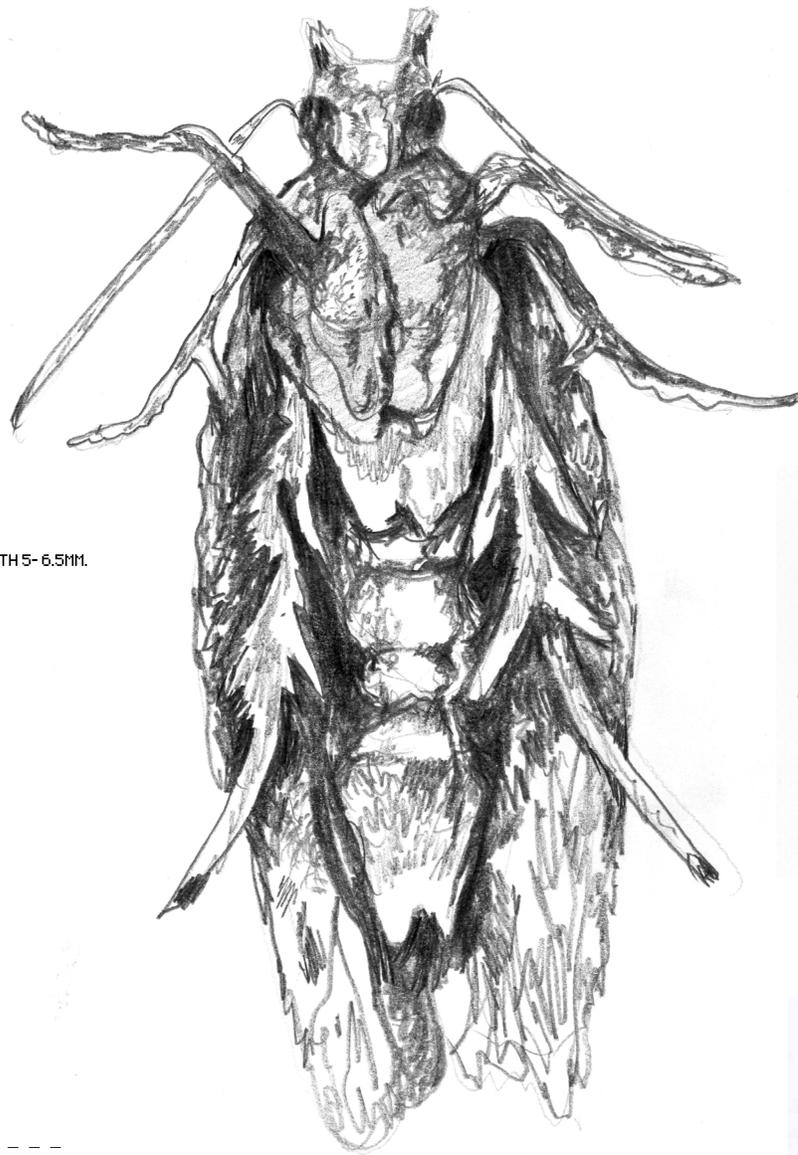
12V PORTABLE 6W HEATH/RIGID MOTH TRAPS  
 Very powerful trap > greater light output increases catch yield



THE LUCIENT MOBILE MOTH TRAP  
 Fold-able and easy to transport  
 40W OR 22W versions

12-13 MM WINGSPAN

FORE-WING LENGTH 5- 6.5MM.



- >Adult moth is in flight from May to September.
- >Common in urban environments in England and Wales.
- >The larva feeds on mosses growing on walls.
- >Near extinction in the Sussex Region.

Temperatures needed to fly

- . to sustain flight a temperature of 22-44 degrees c
- . micro moths can fly @ 4 degrees c
- . winter moths can forage at 2 degrees c

Species yield

- . almost extinct in East Sussex/south coast

HOUSE - GROUNDLING INFORMATION

Groundling cocooning

- .under a bed of leaves
- .up to 10 cm under soil

Pupation stage

- . at the larvae/pupation stage moss is a common food for growth in the house groundling moth



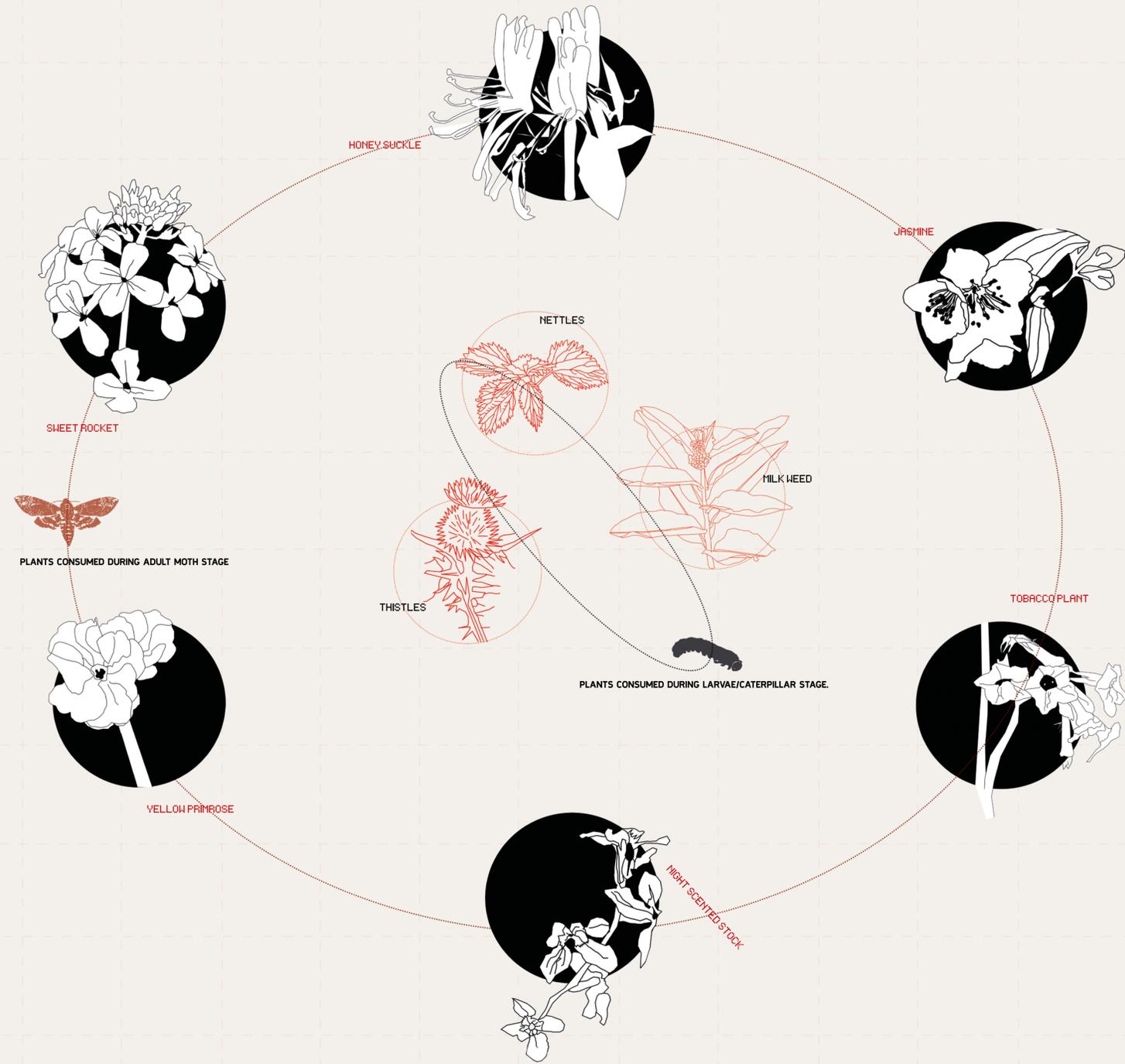
 Private garden/ private green space

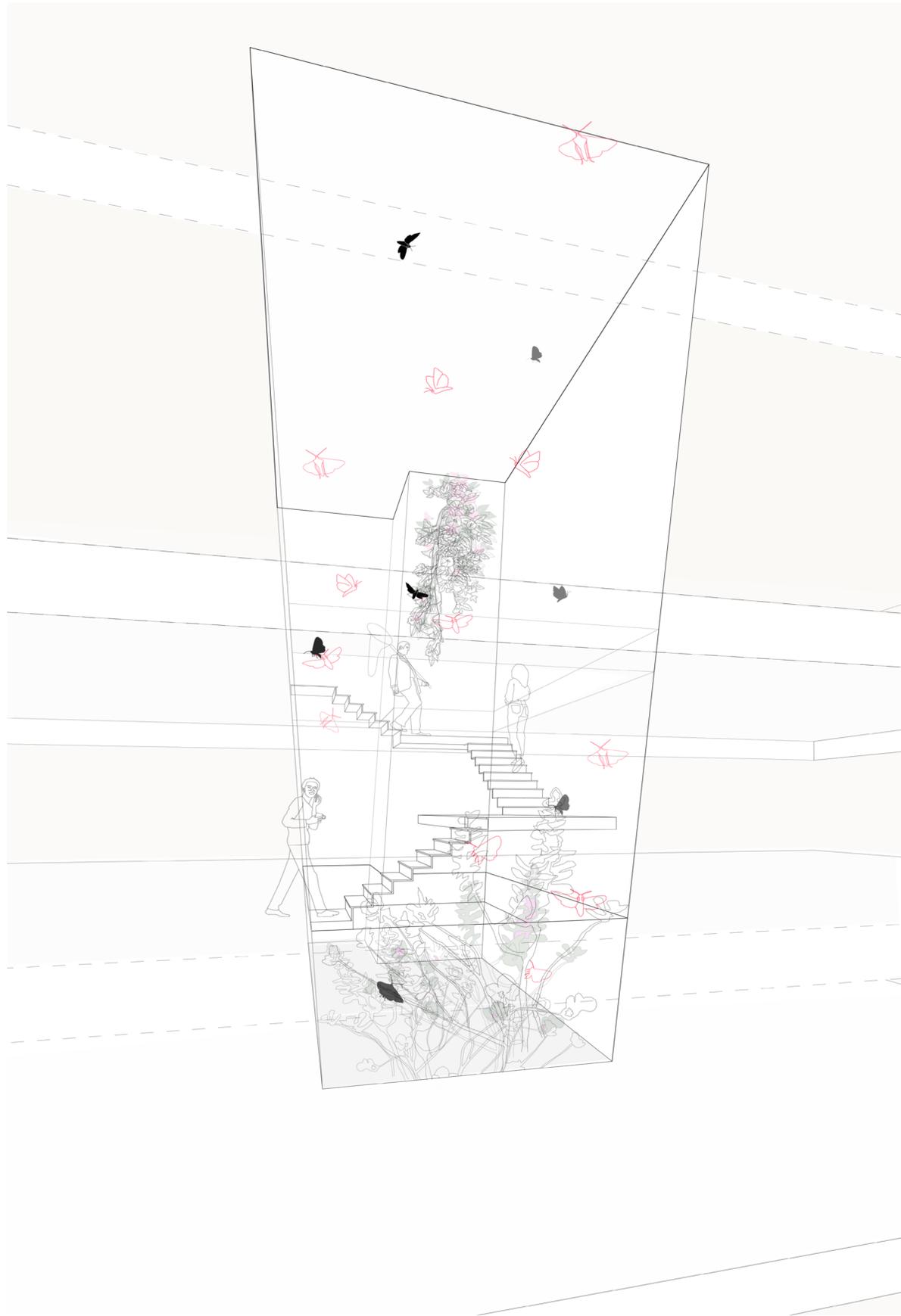
 37-39 Clarence square

 Buildings

 Public green space

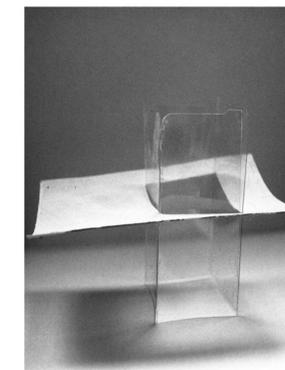
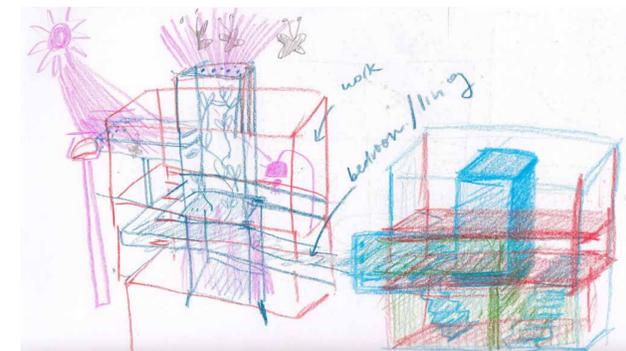
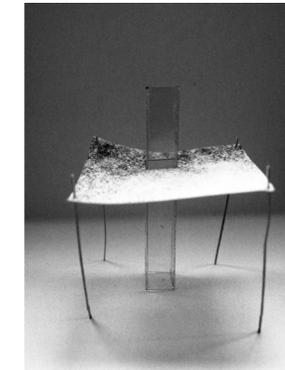
What do  
moths  
eat?





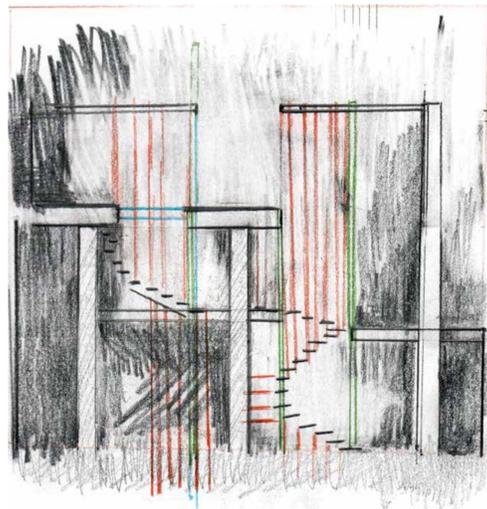
Cut through section showing glass chamber

This section/ representation shows the interaction between the Lepidopterist and the moths and the importance that constant interaction will have in both subjects daily routine. The chamber will capture the natural light from above where the existing courtyard lies and channel this throughout the building, aiding plant growth and in-turn ensuring the moths have a constant supply of pollen/nectar abundant plants.



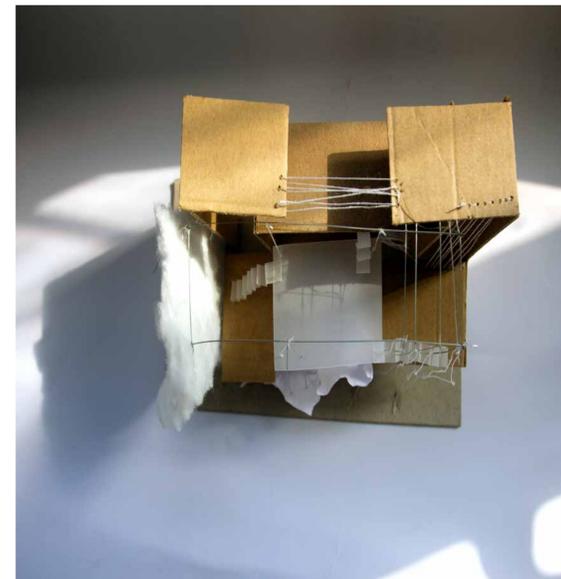
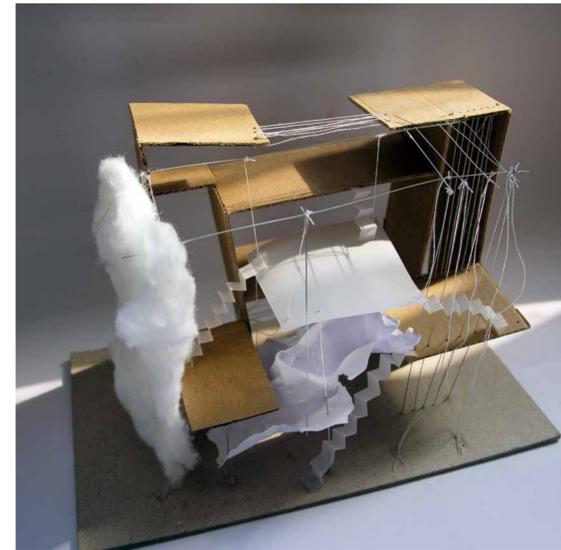
These models seemed disposable at first, however they were extremely important in the development of my design. I wanted to have a central component of the building (circulation) that connected the Lepidopterist's world to the moths in a poetic yet simple way. The plans and sections have an unused courtyard space on the third floor.

Opening this up into the building not only solves the problem of how to provide consistent irrigation and sunlight to the plants or (moth food) in the building but also would create an entry and escape route for the moths, allowing them to come and go as they please



First Sketchbook design iteration

This drawing is the first concept drawing, aiming to visualise the dismantling of the building's internal structure. I want to cut through and elevate floors, allowing for a maze-like assembly of the living and working spaces.

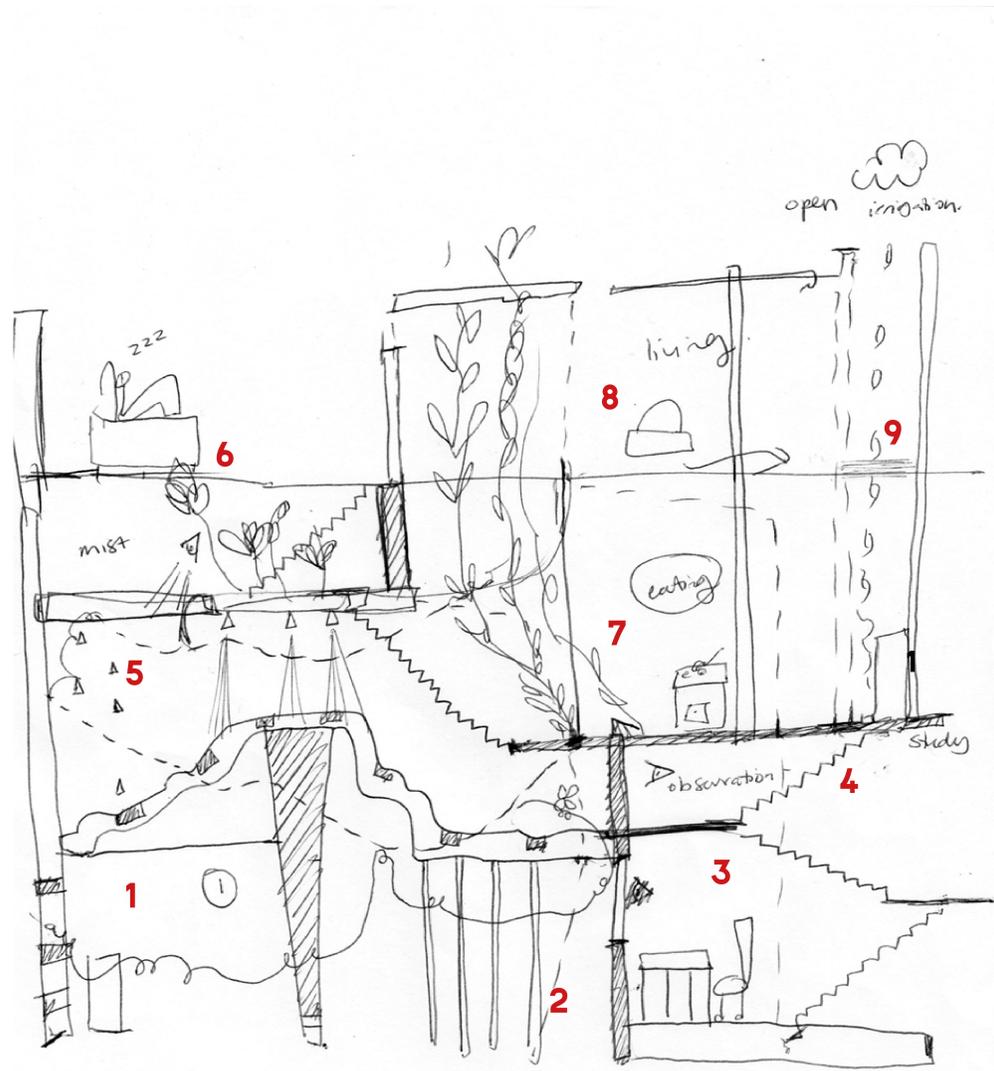


Sketch model based on sketchbook iteration

Card, wire, trace paper, cotton

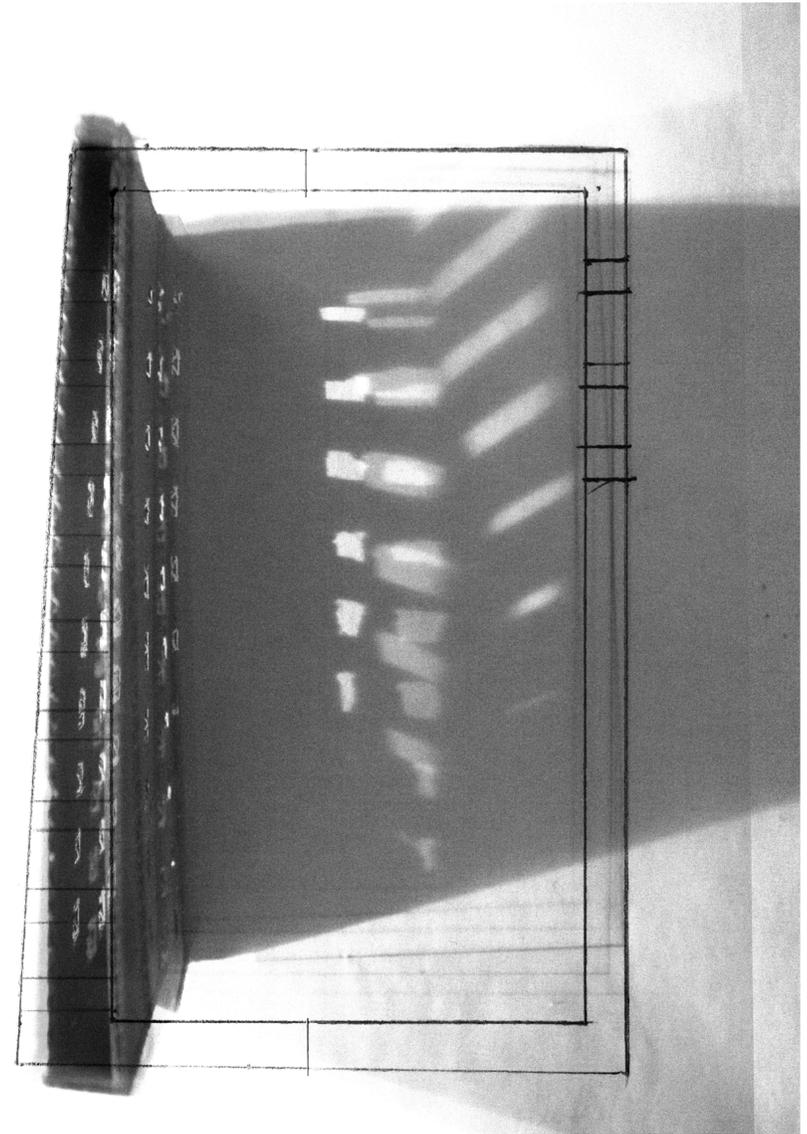
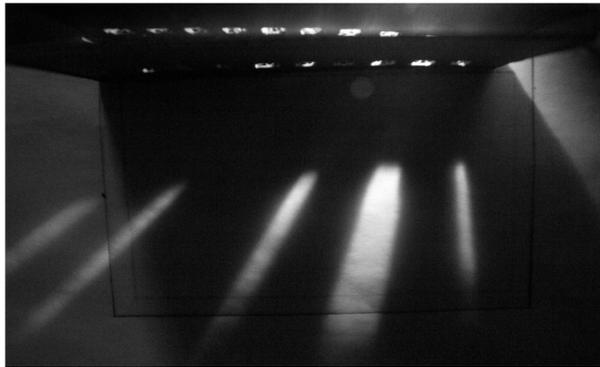
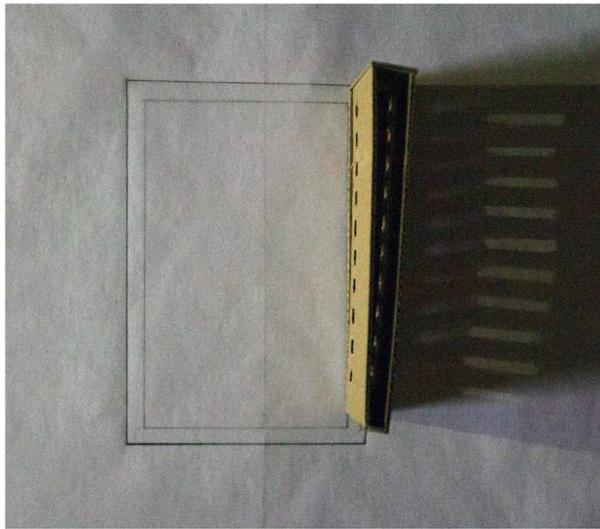
This model was created by using the previous drawing and lifting its shape in order to create a 3 dimensional form. The sketch model depicts only the interior space, however these will greatly impact how the outer building skin lies.

I want to use this as a base to draw and model over, in order to determine what the residence's spatial hierarchy will be.



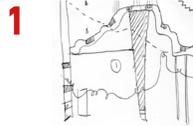
- 1 Pupae Room
- 2 Threshold between pupae room and Study
- 3 Study and experiments room
- 4 Observation Perch
- 5 Mist device and moss ceiling
- 6 Split level sleeping zone/ moss ceiling collection and maintenance deck
- 7 eating room/ social room- floor is also trough for plants
- 8 living room
- 9 irrigation chamber

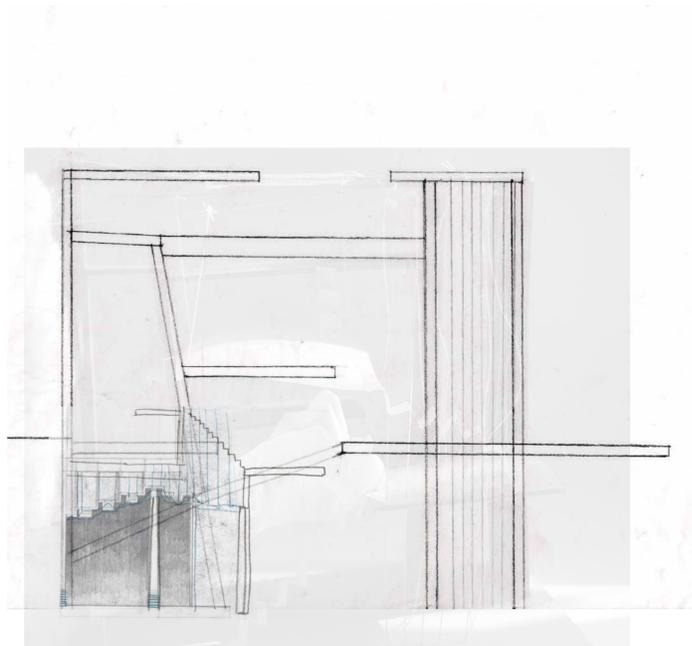
This sketch builds upon the form of the sketch model but adding the location of spaces needed in the building. I will use the numerical keys paired alongside the spaces to annotate drawings and sketch models. I want the space to have many cuts that open the building fabric up. Leaving space for irrigation and natural circulation.



Sketch model: Photographic and sketch overlay  
1:50

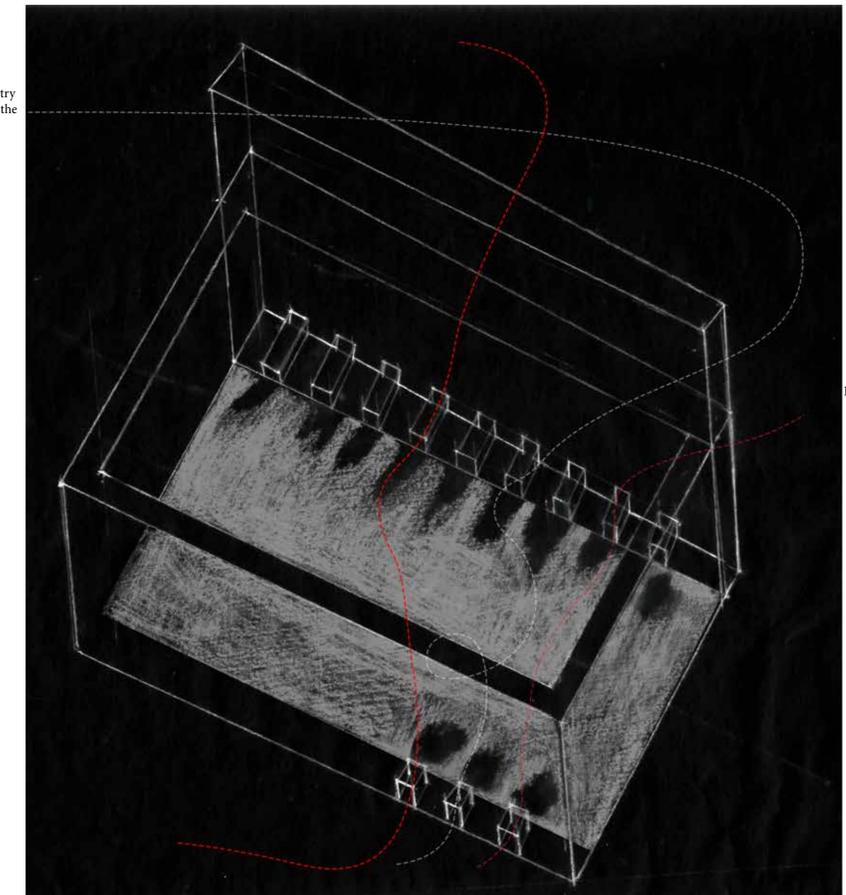
This model shows the proposed wall that will draw the adult moths into the pupae room .  
Shafts of light will be focussed into the space , luring the moths to fly through the holes and into the hanging pupae device.  
The image shows the potential floor span that the light shafts will have in the space.





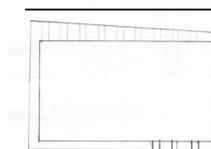
Model Section Sketch

This rough section was made by drawing on top of my initial building sketch model on draft paper. I have overlaid a sketchbook drawing of the internal moth flap wall and hanging moss ceiling.



These dotted lines represent the entry and exit of night-flying moths into the space.

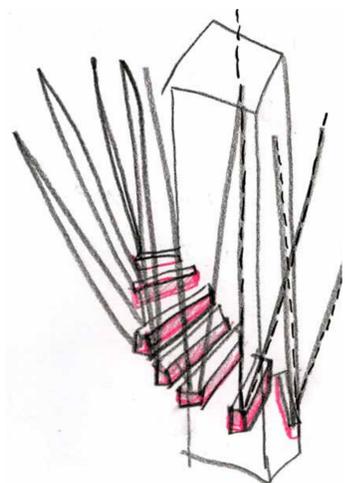
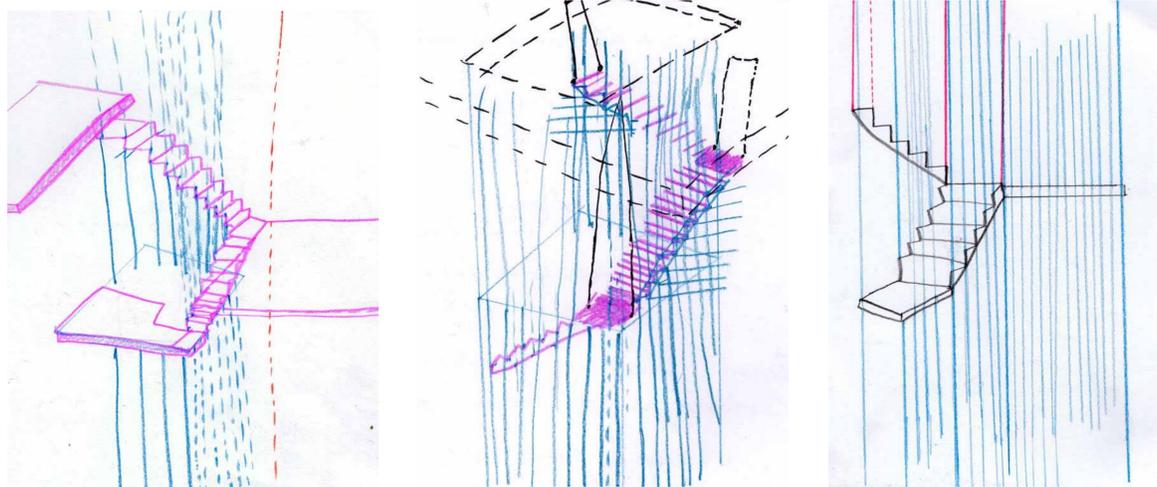
Light will be channelled into the space through these holes, luring moths in the local area to enter the building



1:50  
Pencil on cartridge

I wanted to quickly visualise this space, using the plan drawing that informed the dimensions of the sketch model. I created a simple axonometric drawing to help imagine this wall.

T E N S I L E > H U M A N  
S O F T / O R G A N I C > M O T H

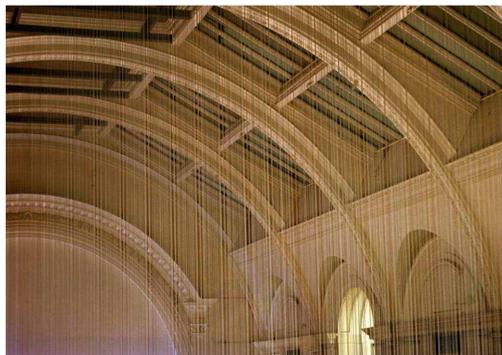


Due to the nature of the programme there will be a clear visual language inserted in the existing structure.  
The Lepidopterist's environment will be populated with man-made tensile steel elements.  
The Moth's environment will consist of a moss wall and dark, moist spaces. These will oppose but also meet throughout the building.



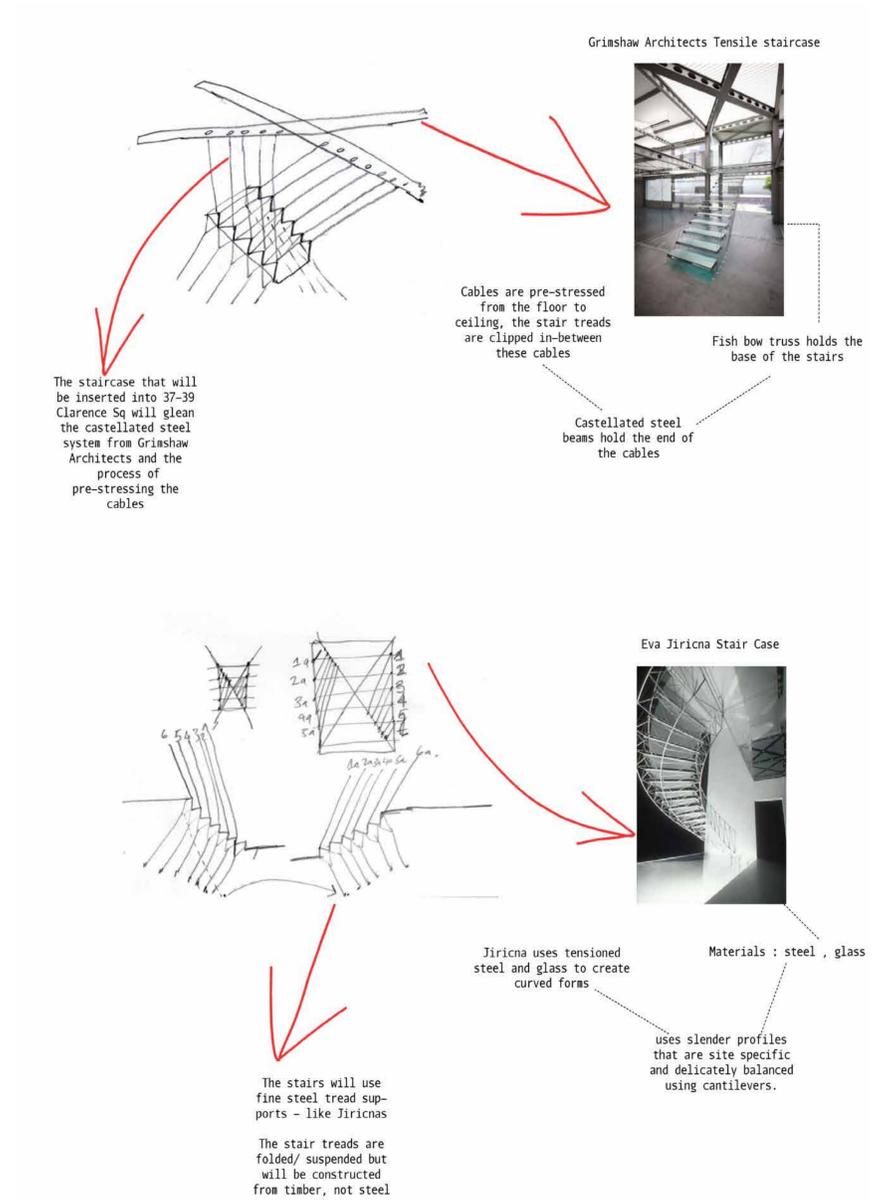
EVA JIRICNA

Eva Jiricna is a Czech Architect and designer, known predominantly for her gravity defying stairs. Her designs have captured my attention, I am captivated by the delicate steel elements and the tension structures that are employed in order to keep the steps supported. I want to emulate the systems Jiricna uses in my building. Due to the construction being inserted into the building a suspended staircase would allow me to place the stairs in places that would otherwise not be possible with a standard staircase.

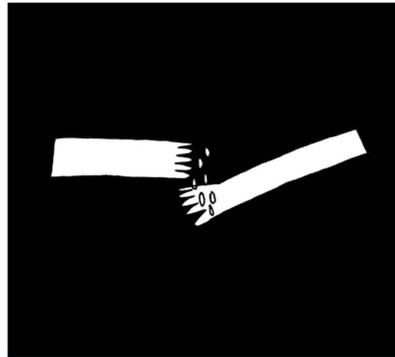


V&A Porter Gallery

The Porter Gallery employs an ingenious tension structure within an existing building. A faux ceiling is suspended by a series of very fine tension cables from the original arches. The cables are attached to an inserted steel frame that spreads the weight of the exhibition ceiling evenly. I find this system to be very successful/elegant. For certain areas of my building I will use a similar technique of pinning a new steel frame into Clarence Sq's iron framing and using this to suspend multiple cables to support the stairs.



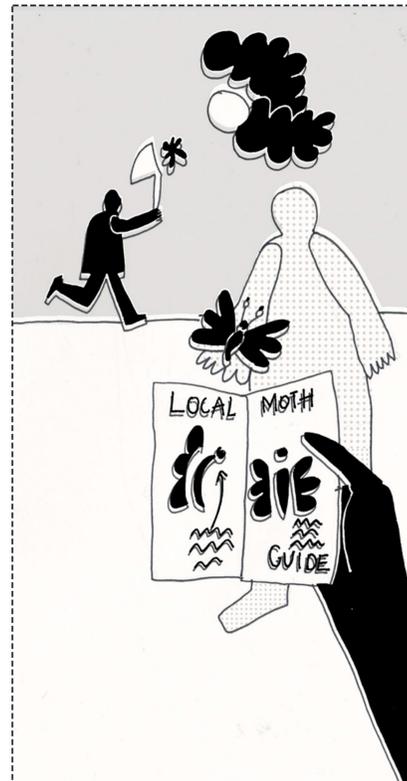
**CLARENCE SQUARE PLANTING SCHEME**



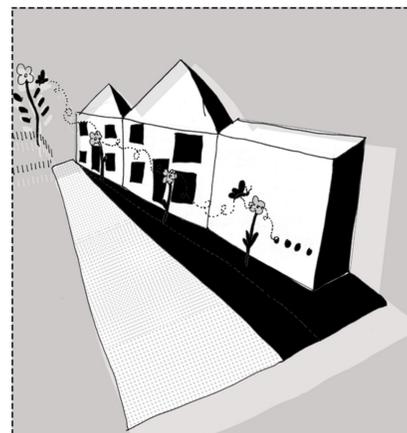
Seeds will be handed out to the residents of Clarence Sq to encourage them to plant moth friendly foliage.



Planting will take place in Clarence Sq garden, front/back gardens and along the pavement.



A field guide will be distributed to locals to help identify their new moth friends.



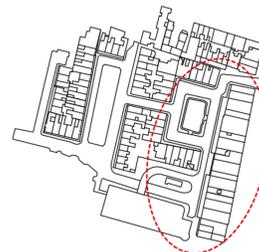
The scent of the plants will also lure the moths to 37-39 Clarence Sq in order to pupate and reproduce.



A planting day will occur after the construction of the lepidopterist's residence. This will unite residents of all ages and bring awareness to the declining urban moth population.

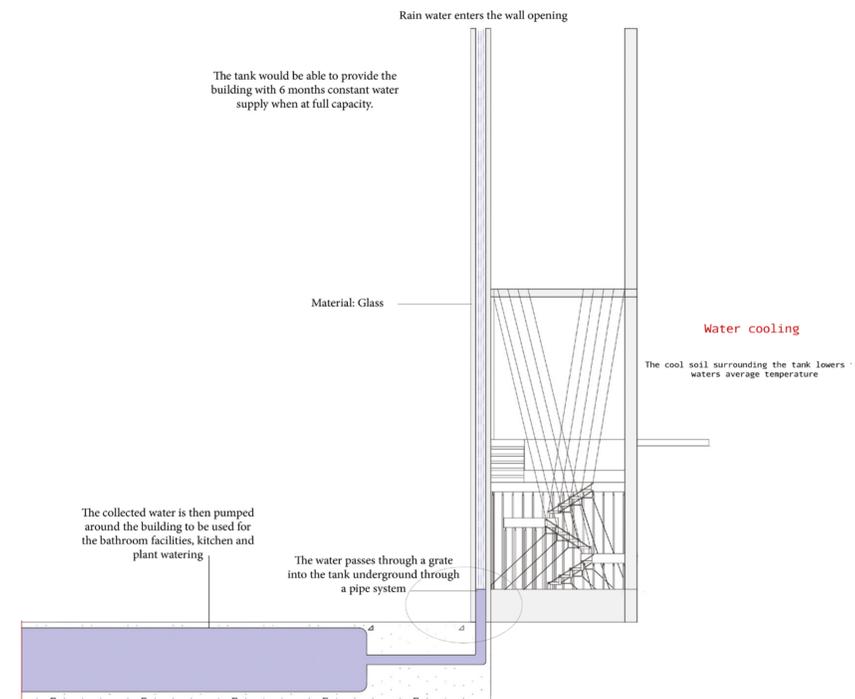
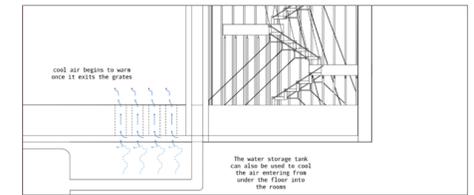


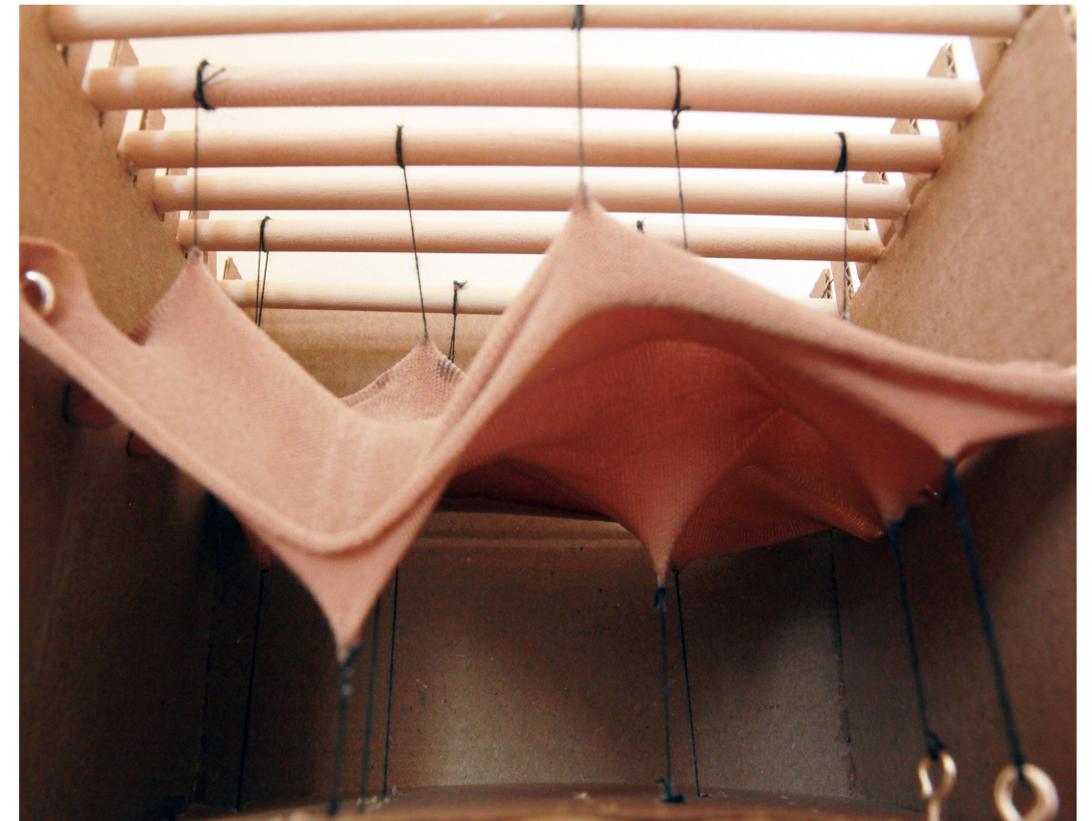
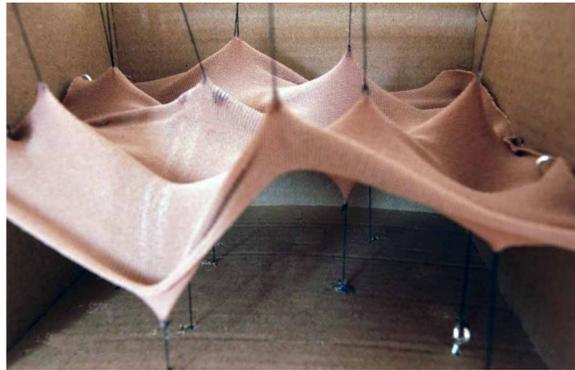
The planting scheme will focus on nectar rich plants such as hyacinths, milk weed, sweet rocket and yellow primrose.



# water collection

I want to use the building as a way to provide the residents with a constant sustainable water source. Rain water will be collected in the void between the glass as you enter the building, providing both a thermal and visual threshold.

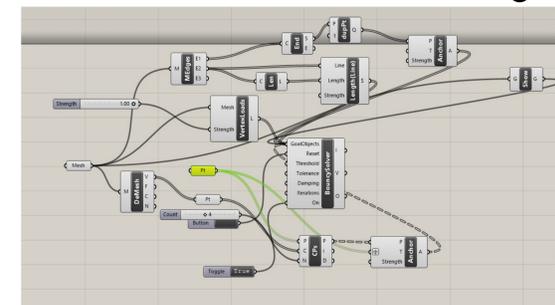
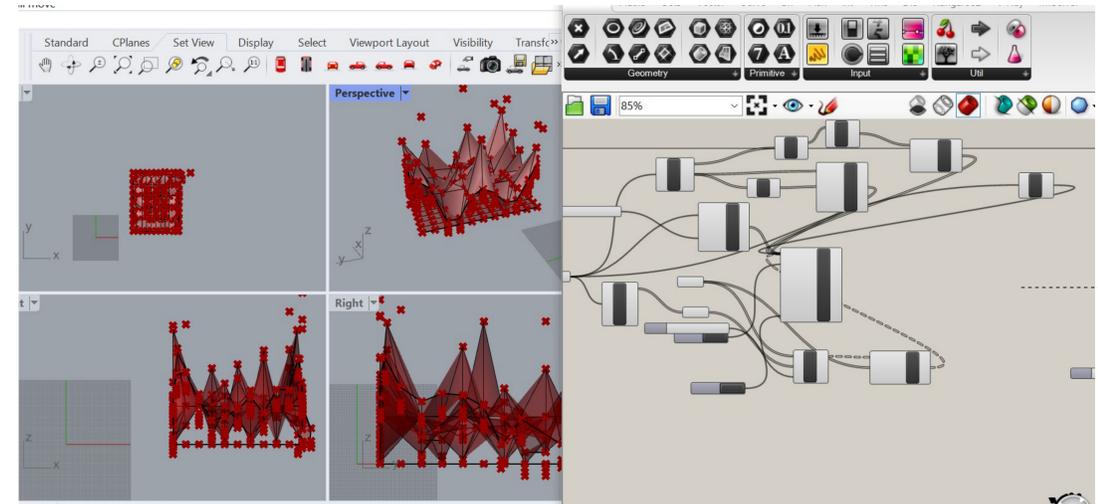
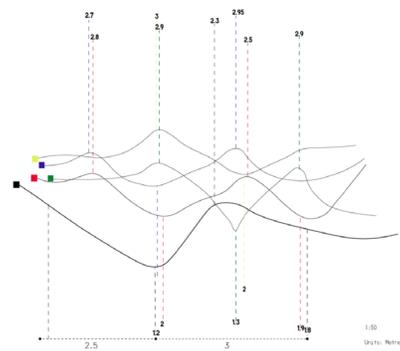
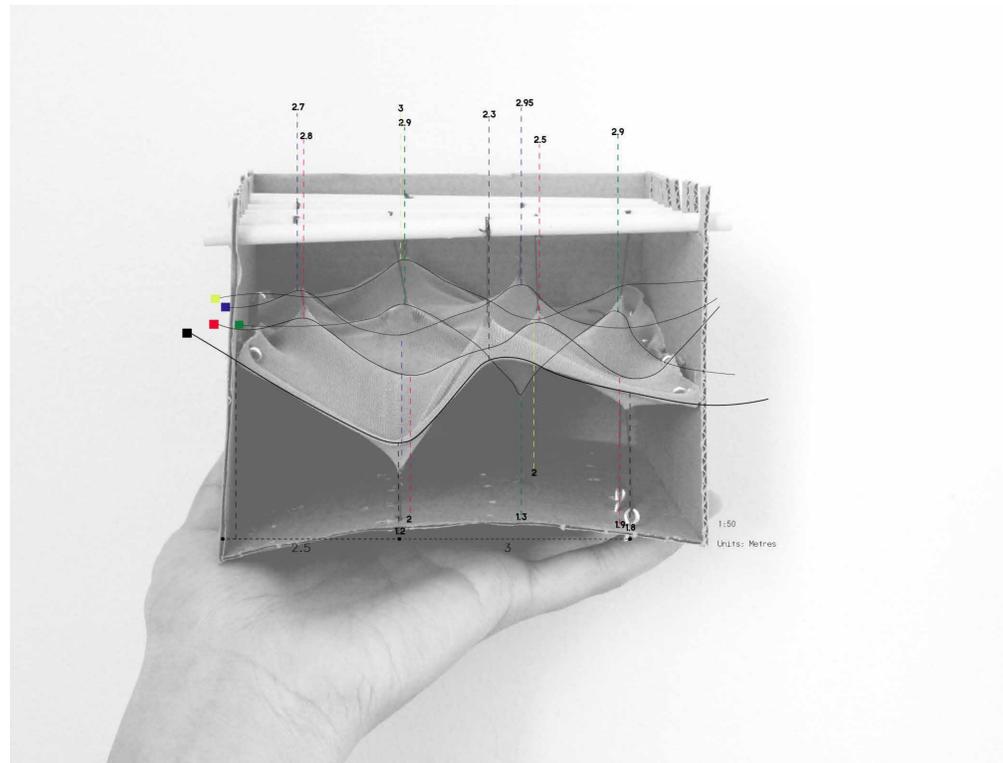




Pupation structure sketch model  
1:50  
Lycra , cardboard , thread

Upon deciding to make the larval pupation a part of the building structure I needed to create a model that would give me dimensions to use for the interior. At first I was drawn to a boxy geometric structure when drawing this proposed shape .

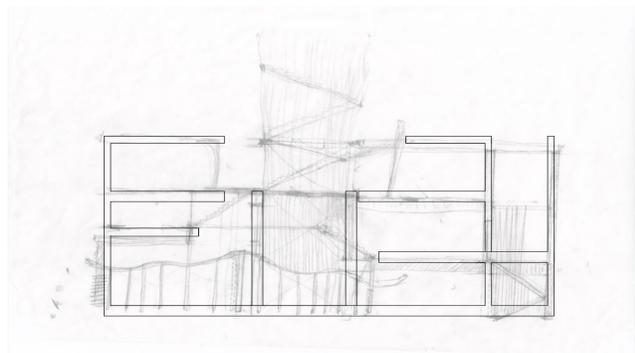
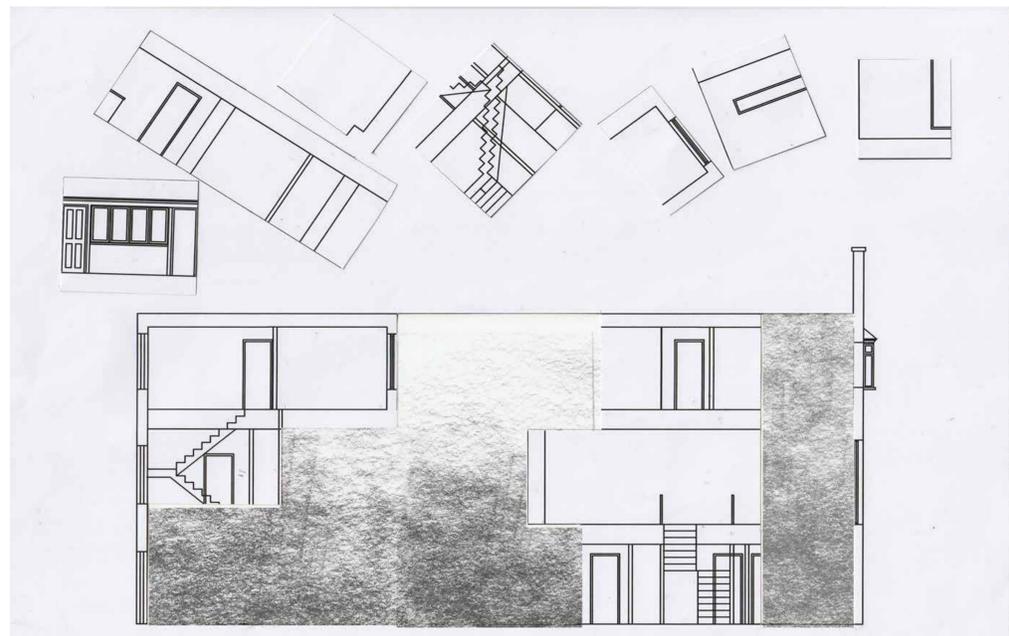
However I wanted to create a model that acts in tension and compression, in keeping with the desired aesthetic. In doing so I gravitated to a more organic form. I feel as if this unexpected departure from a more rigid structure is welcome as it mirrors the nature of the moth's metamorphosis and the undulating surface of the cocoon.



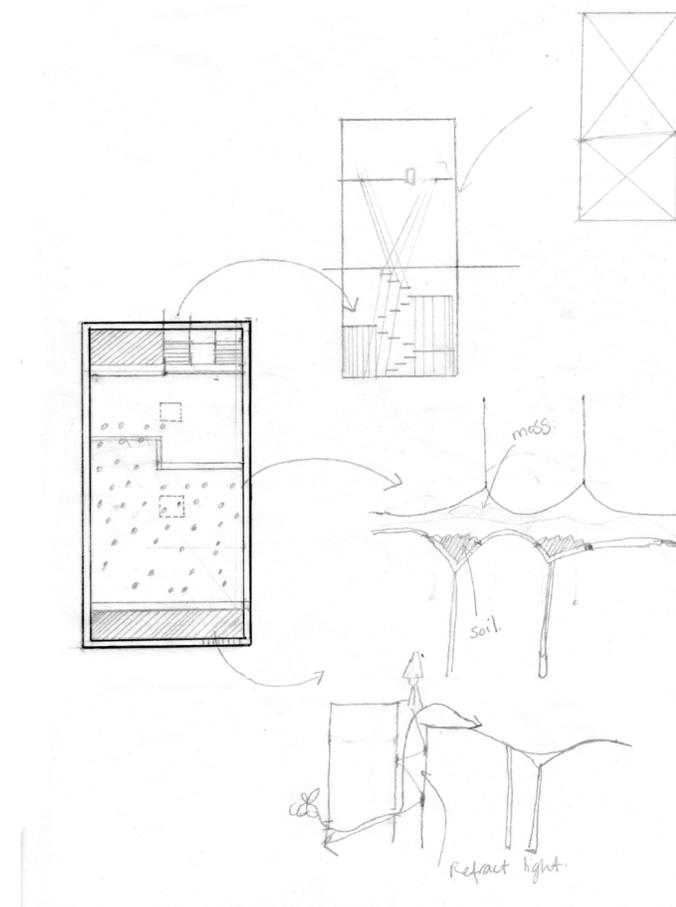
Creating the form for the pupae ceiling was difficult at first. The inbuilt geometry on rhino was too RIGID. However using Grasshopper allowed me to create a more organic looking and moveable structure. By writing code that conversed with my scaled mesh on Rhino I was able to create a structure that moves in real time. I then imported this to my rhino model and "baked" it into position..



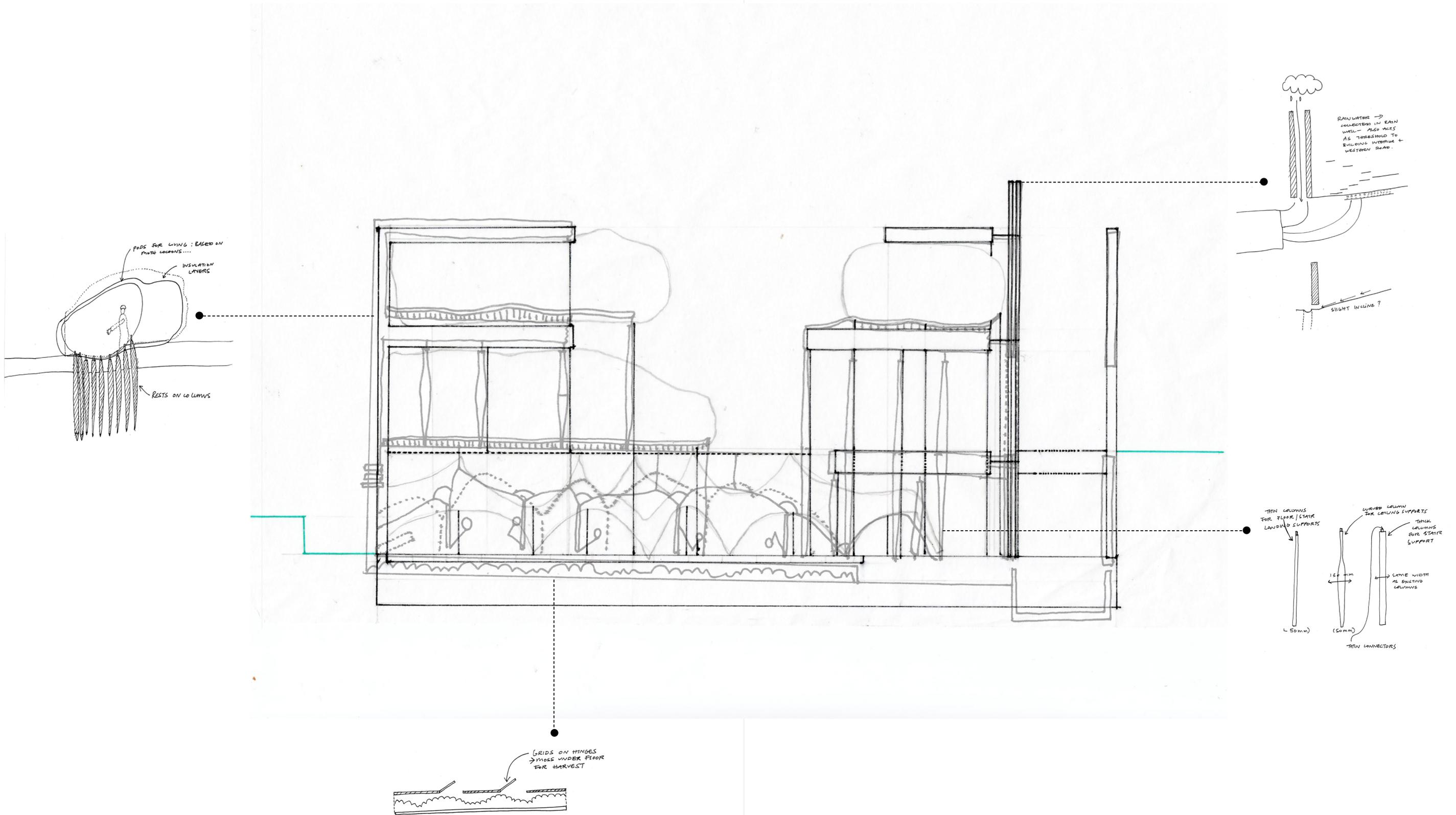
In a similar essence to the 2019 Serpentine pavilion the underside of the pupation structure and its support Columns become a spatial feature. This room will span into the Lepidopterist's workspace bridging the two worlds together. The space will be dark and meditative, mirroring the mystical transformation of metamorphosis taking place above them.



This is a simple exercise on a print out of the original building section. I can quickly visualise where the building opens up to the outside and what sections of the floor plan remain. I can see from this activity that a large portion of the building will be open to the elements. Within these spaces the building circulation, irrigation and tensile/ filigree elements will communicate with one another. Leading the lepidopterist on a journey through the building, allowing them to move in and out of closed and open spaces seamlessly.



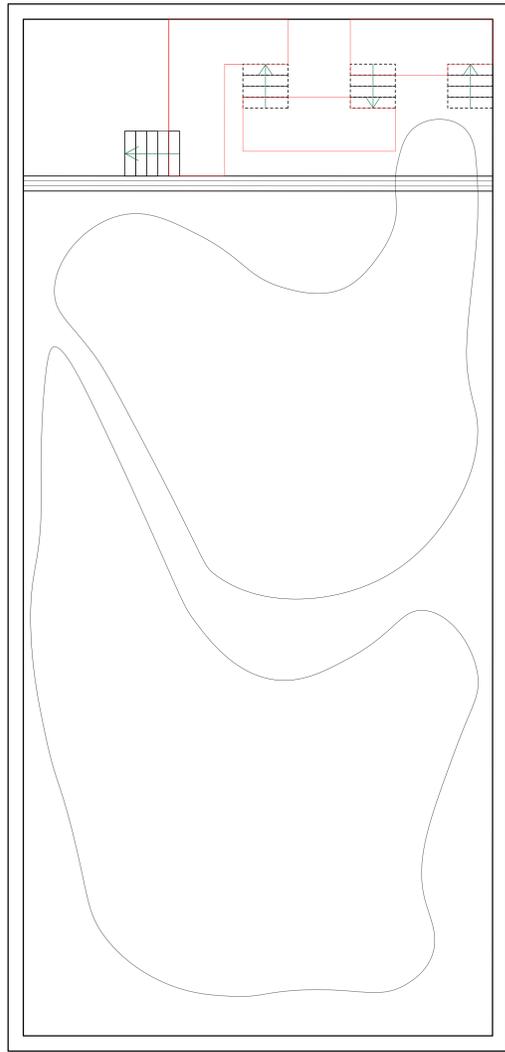
This first sketchy iteration of the ground floor plan was very useful. The basement will be quite dense, containing the Pupae structure, office and moth world.



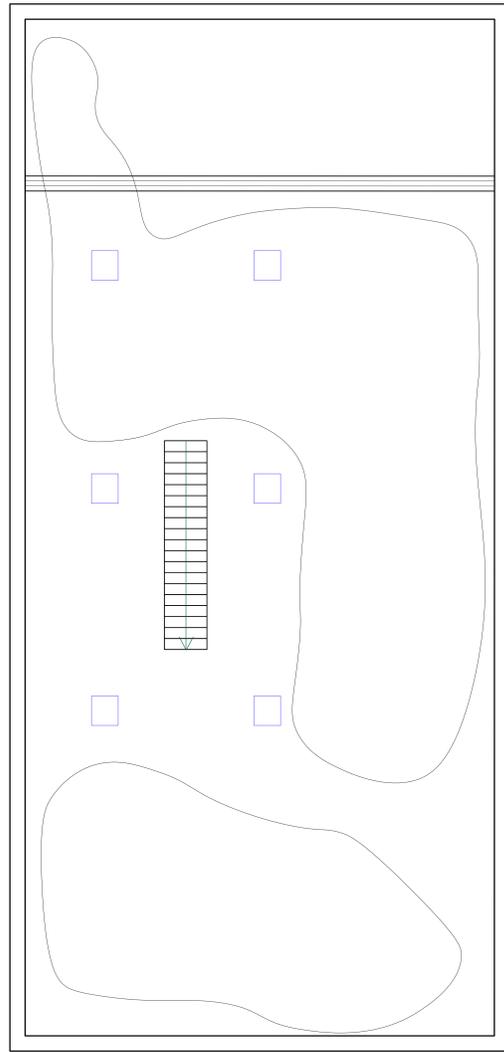
Pencil on draft paper

1:50

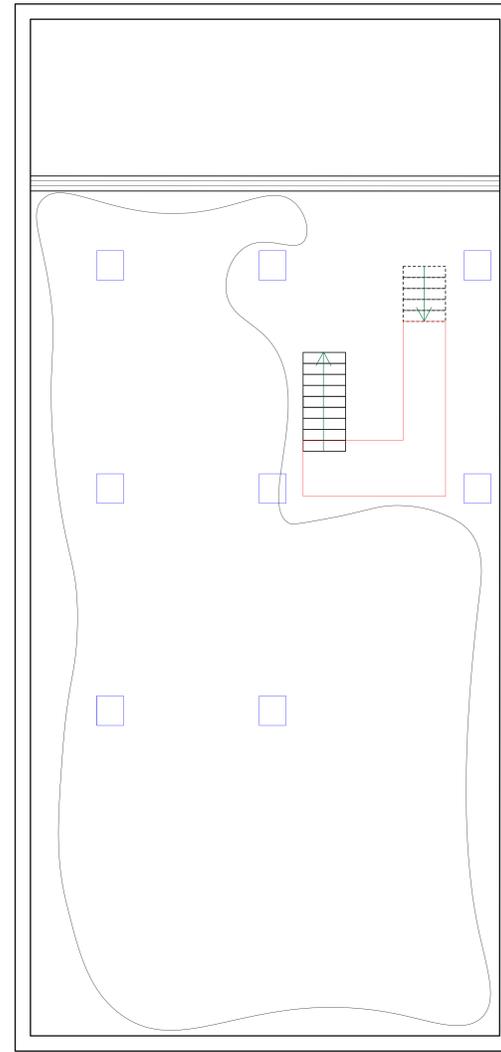
This sketch shows all the main elements of the building in a rough section. This section deliberately omits the staircase. The stairs are central to the buildings operation and once their plans are drafted the structural elements of the building wrap around them and will inevitably have to change in accordance to their layout.



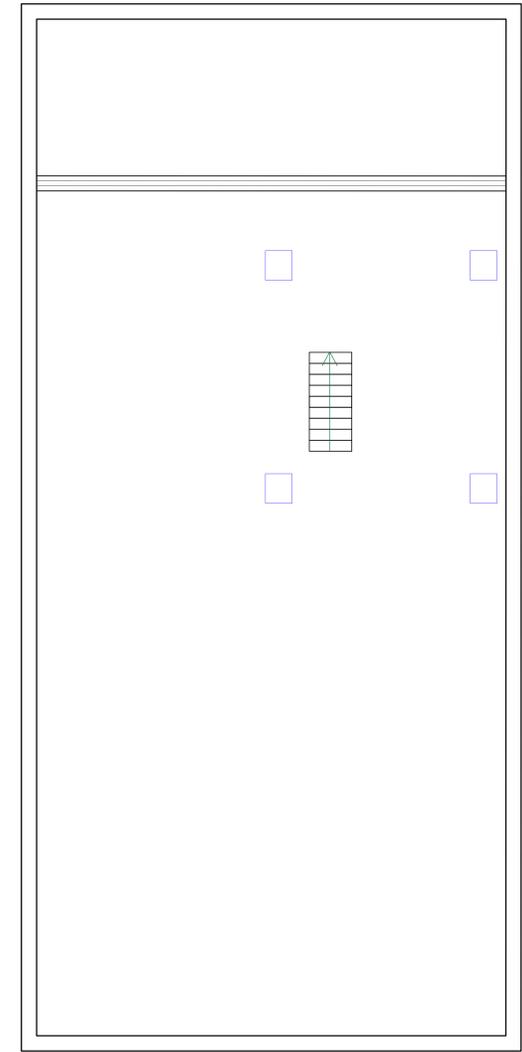
**GROUND FLOOR:** Lepidopterist's work room and moth entrance.



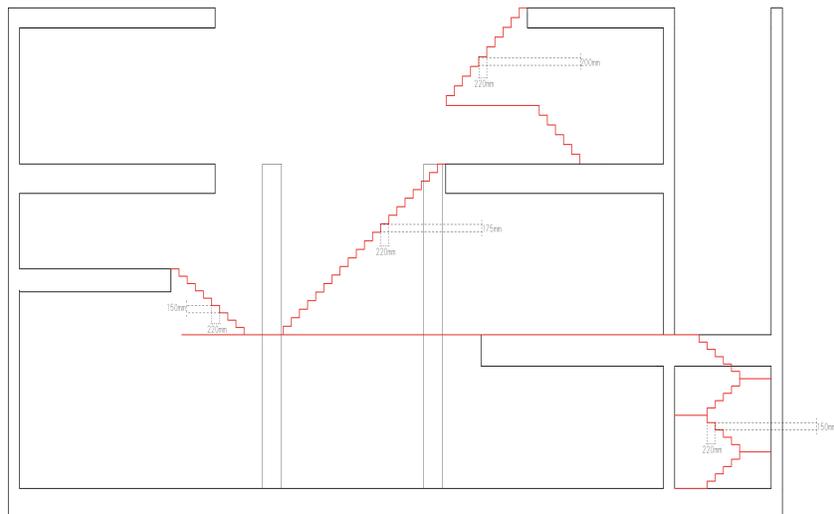
**FIRST FLOOR:** street entrance, eating / living space.



**SECOND FLOOR:** bathing space, plant and moth species cultivation area.

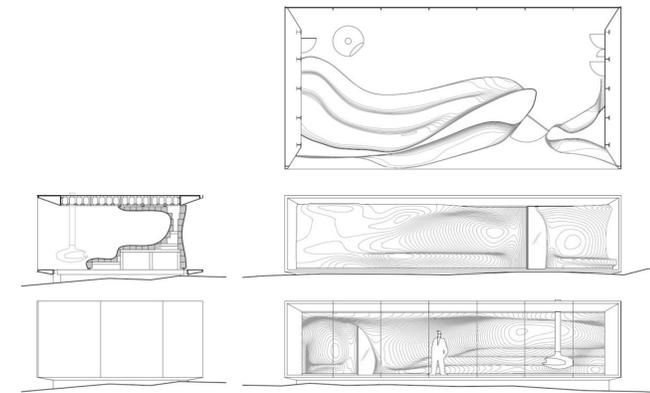
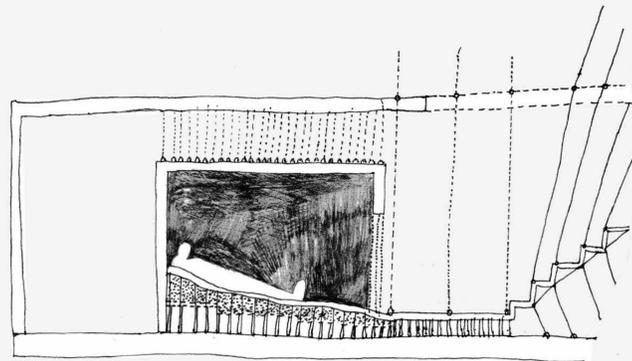
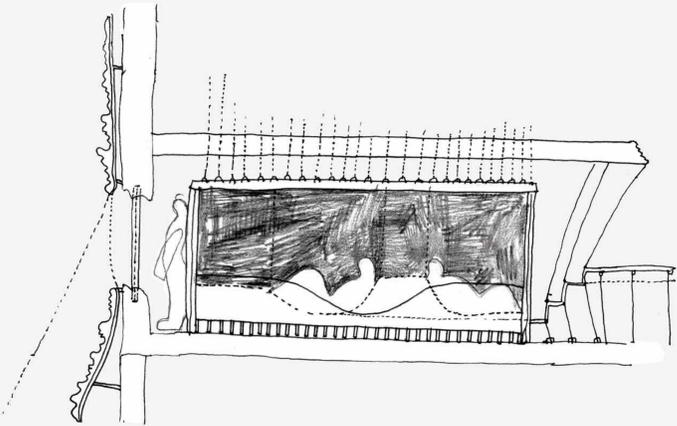
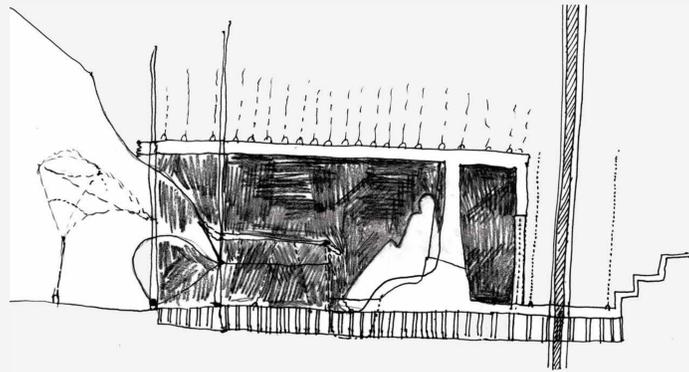


**THIRD FLOOR:** Sleeping space.



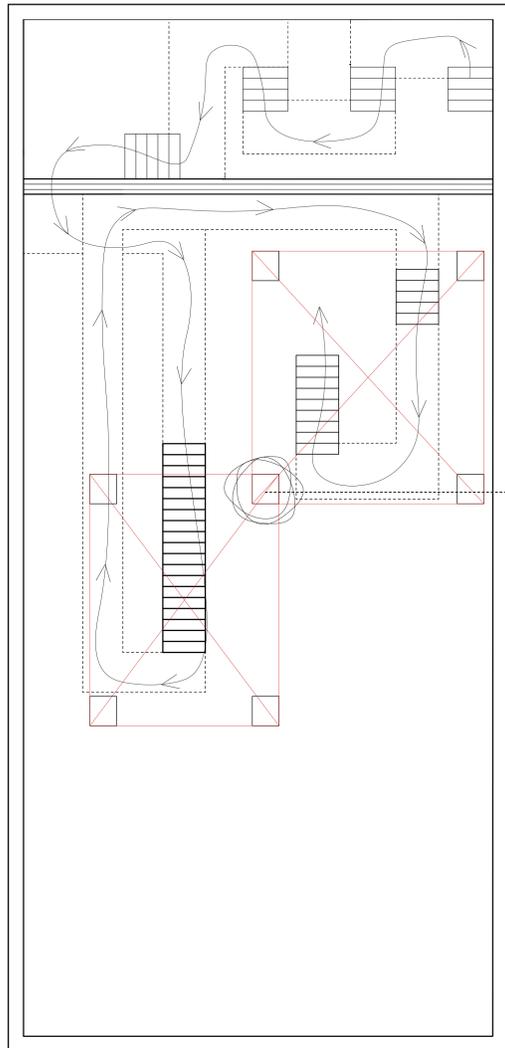
**Stair Orientation**

This simple plan shows the existing wall thickness and the placement of the stairs within the building ( without the tension elements or platform structures)

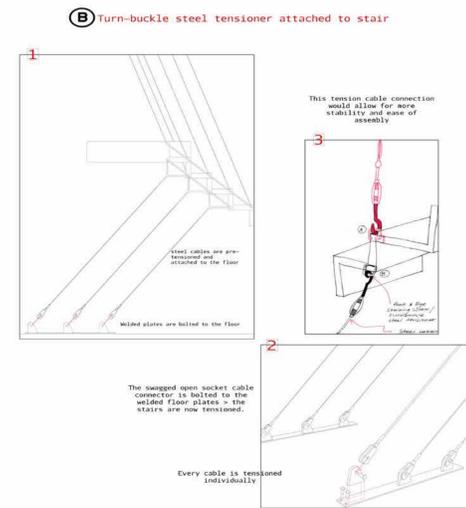
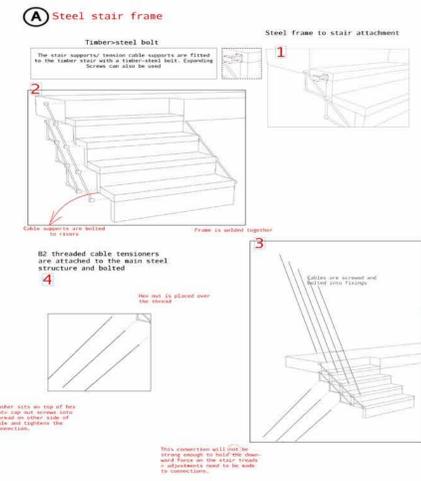


Snohetta's Reindeer Pavilion

When it comes to the Lepidopterist's rooms within the building it was hard to visualise how to use timber in their construction. The reindeer pavilion is a brilliant example of how to use wood in standard blocks to create an undulating form. The building is designed around the idea of contrasts with a strict rigid form and an organic internal shape. I will take inspiration from this concept when creating my pods for the Lepidopterist>using reclaimed timber placed over a steel frame and insulation.



The steel grid that supports the stair treads currently overlap. Putting too much strain on the column.



F I N A L  
drawings

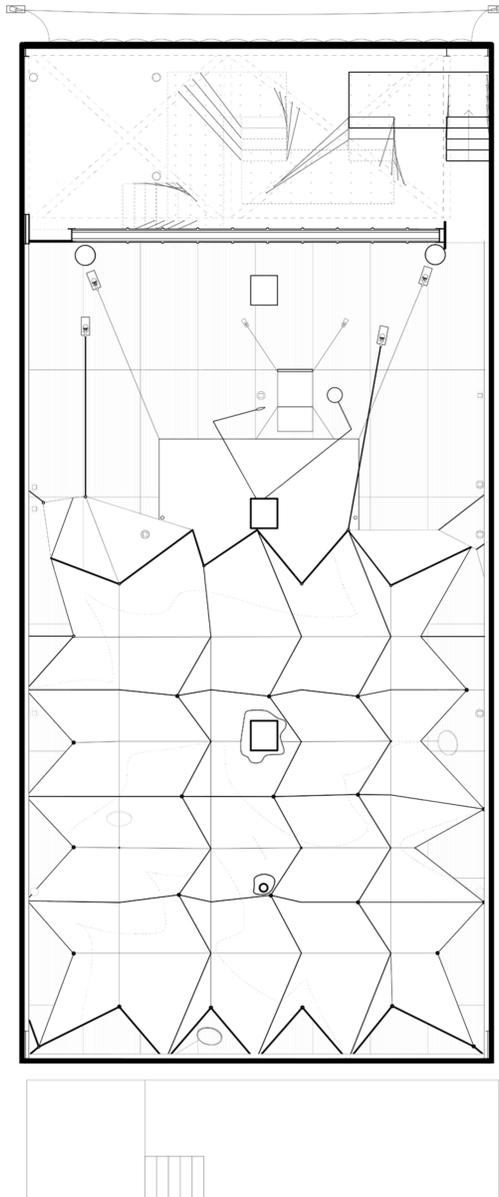
The next series of drawings are final  
representations of the  
Lepidopterist's residence. These will  
be shown in plans, sections and 3d  
visualisations.



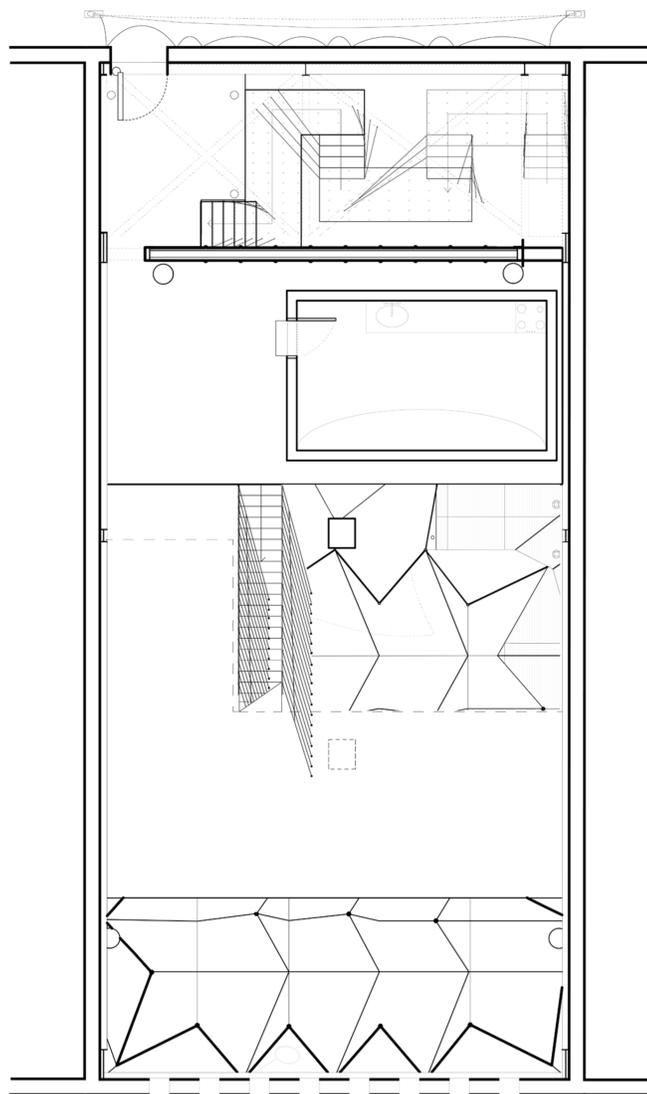
Long Section Lepidopterist's residence

1:50

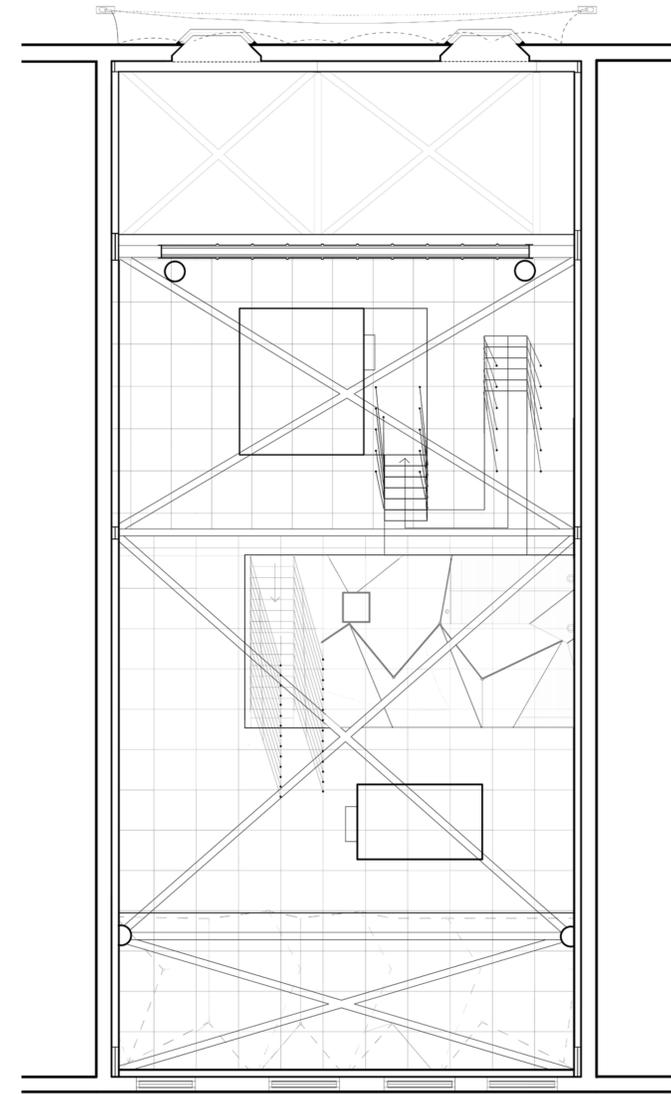
This section shows a cut through the residence and the open living quarters, the moth and Lepidopterist are living on and equal level, moving through the building and interacting with their own architectural language. The Lepidopterist engages mainly with the tensile rigid elements and the moths will spend a majority of their life-cycle at 37-39 Clarence Square amongst the soft folds of the pupae ceiling.



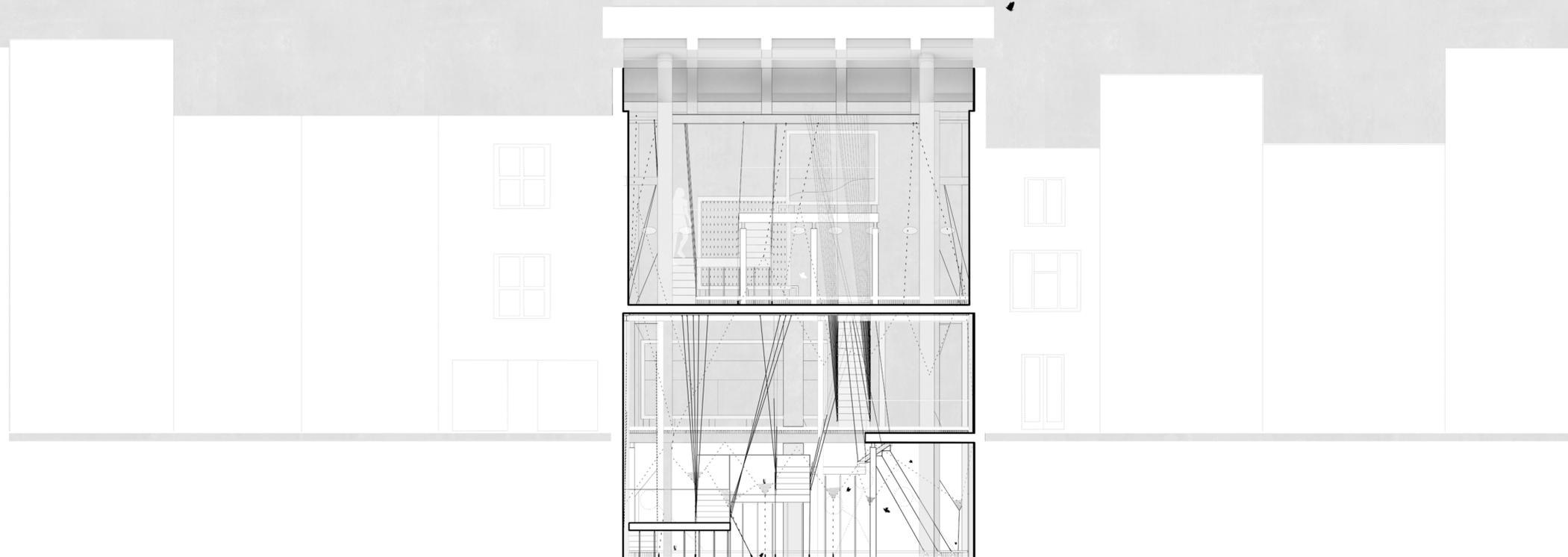
Basement Plan



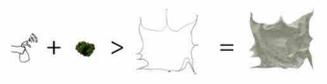
1st Floor plan



Second floor plan



Short Section 1:50  
Section showing Western Road entrance and Western Road Facade  
This section focusses on the stairway and tensile elements that provide a passage to the basement and study



Tensile Facade 1:50  
 This illustration shows the process of spraying the organza facade that covers the outer windows of the building. It will be sprayed with a moss mulch that will grow across the cloth and form shallow roots as time increases.

PUPATION CEILING AND STUDY



TENSIONED STAIRS

> Connecting basement to living quarters

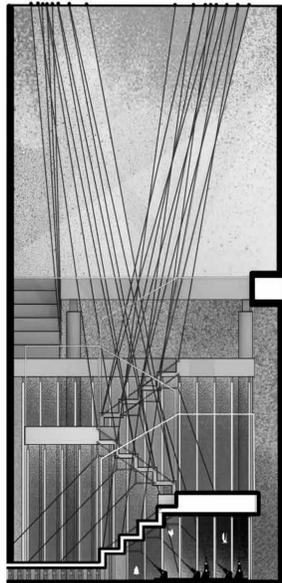


ENTRANCE > glass water wall acts as thermal barrier

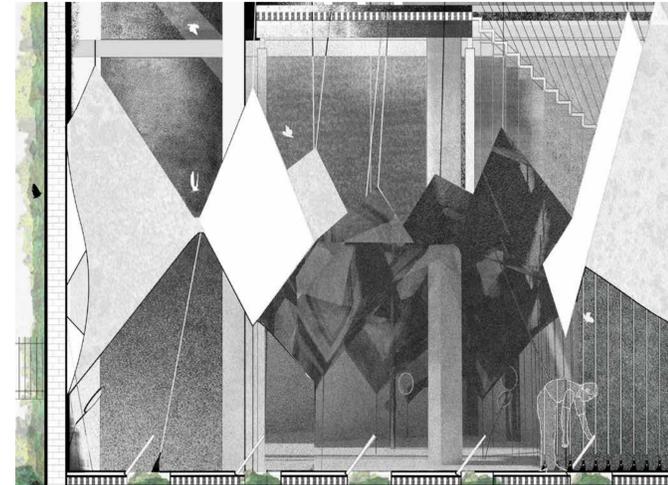


SLEEPING POD + cable supports





LEPIDOPTERIST'S ENTRANCE



MOTH ENTRANCE AND PUPATION CEILING

The pupae ceiling provides a resting place for the moth in the city. A place away from excessive light. Magnifying glasses allow the Lepidopterist to pry into what would normally be a secret world known only to the moth. It will be a surreal space hidden behind a traditional facade

