MANCHESTER SCHOOL OF ARCHITECTURE

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B.15 MODELMAKING AWARDS 2021

RECOGNISING THE CONTINUED USE OF MODELMAKING FROM HOME AND ON CAMPUS DURING THE 20/21 ACADEMIC YEAR

COMPLETE SUBMISSIONS DOCUMENT

MANCHESTER 1824
The University of Manchester

Manchester Metropolitan University

For more information about submission criteria & deadlines visit **manchester.ac.uk/b.15workshop**

B.15 MODELMAKING WORKSHOP

SUBMISSIONS LISTED IN YEAR GROUP/ALPHABETICAL ORDER

Adam Hartopp

BA Year 1

Project: Studio 1.2: Maker Space

Maker Space was the main studio project for term 2 and I used model making as a primary method of developing my design. The brief was to design a building with a make, sell and educate space for a specific product; mine being macarons. One of the main features was a large void all the way from the top to the basement and a contemporary façade. The three homemade models in this document are: a 1:100 developmental model; a 1:50 sectional model and a final 1:50 model that focused on the façade. In all of the models I added the immediate context, particularly the Union Bank, to understand how my design connected.

The 1:100 model (Image 01) was important in the initial design phase. I was struggling with the floor plan, particularly the vertical correspondence between floors on paper. So alternatively, I used a model. I 'locked' in key verticals such as lift locations which are represented by wooden spindles. The model was also modular so I could deconstruct each floor layer while creating my initial orthographic drawings.

The first 1:50 model (Images 02 and 03) I did was used to test and experiment my design. I used it as a tool to visualise the void and how the light would work inside. Similarly to the 1:100 model, it helped me understand the vertical correspondence between floors. I also started to develop a façade design which was more responsive than elevation drawings.

Due to the enjoyment throughout, I wanted to close the project with a model. Therefore, I chose my exhibition output as a model (Image 04 onwards). Unlike the previous, my aim was a professional representation of my final design – particularly the façade and void. The final 1:50 model used an L-shape section cut which captured the main elevations and a slither of the interior containing the void. I paid more attention to detail in this model and focused on a material palette. For example, mimicking the Portland stone of the adjacent Union Bank.

All of these models were made at home, in both my home bedroom and halls of residence.

Image 01: Greyboard 1:100 developmental model with a modular design to understand verticals and floorplans.

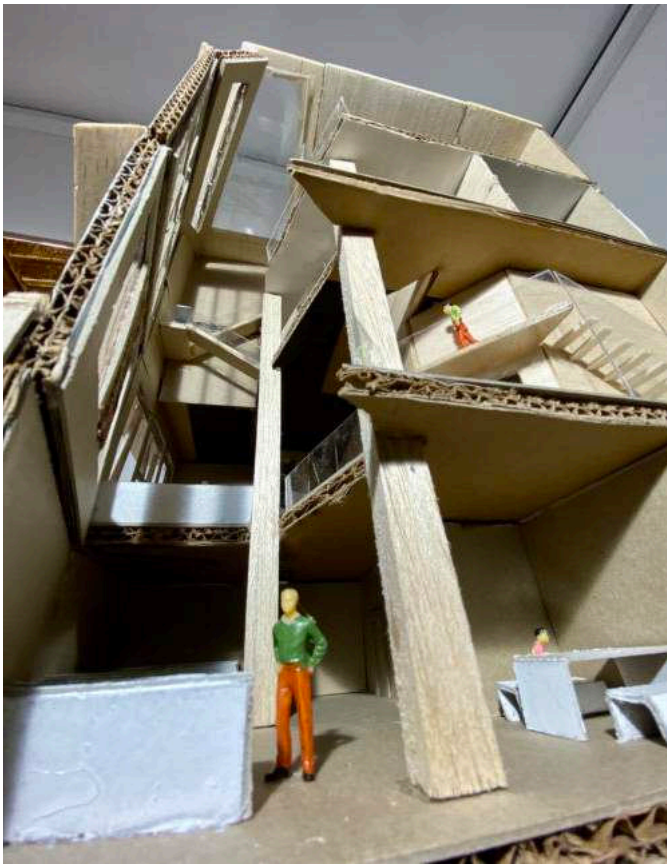


Image 02: Upwards persepctive of the 1:50 sectional model including the multi-level void

Image 03: An outside view of the 1:50 sectional model where I started to develop a façade.

Image 04: An exterior view of my exhibit model which represents my finalised design.

Image 05: A downwards perspective of the void from the exhibit model.

Image 06: A view inside the section cut which shows occupancy.

Andra-Delia Vasilescu , Romania

Ba Year 1

Project: MAKER/SPACE

Distillery for traditional spirits: Țuică and vișinată + Romanian restaurant

The project consisted of designing a building that manufactures, sells and educates the clients about a traditional product made in our city or country. My building is a distillery for 2 types of strong alcohol: Țuică and Vișinată. The selling space is within a Romanian restaurant, as the drinks are traditionally served before or during a meal.
The 1:50 sectional model was made to portray both the outside and inside of the building. The cut was made in a way that shows the way of transport between the ground level and the basement (as the distillery is made underground because of traditional ways to make these spirits, due to temperature). The manufacture and education space are on the same level because there is no better way of understanding a craft than looking at it in its process. They are divided by a glass wall through which the clients can observe.
In the course of this year, all the models that I made were done at home with common materials found here. Even so, I made my first model with the verbal help of my tutor and I got better every time. This time, as opposed to the other models (made out of cardboard and paper), I made it with balsa wood, acetate and used 1:50 scale plastic people and tables. The copper stills used to make țuică were made out of Fimo polymer clay. In the course of this year, my first one at architecture school, I realised that modelmaking is my favourite part of the project, being the one that resembles actual construction the most. I also found that it helps me understand the building more in terms of scale, rather than the plans and sections that have the exact measurements but don't have the 3D visuals.

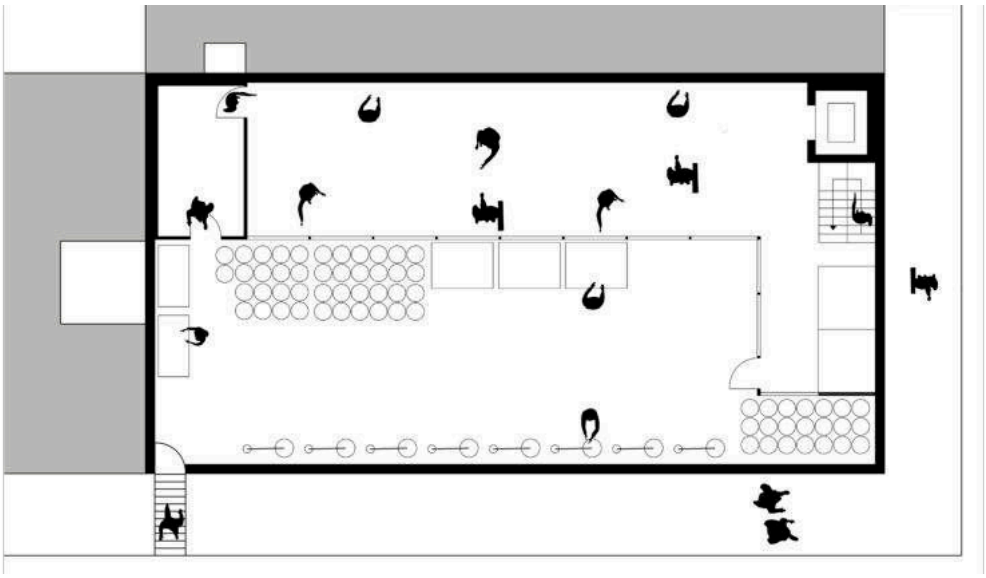


Image 01: Basement plan 1:50

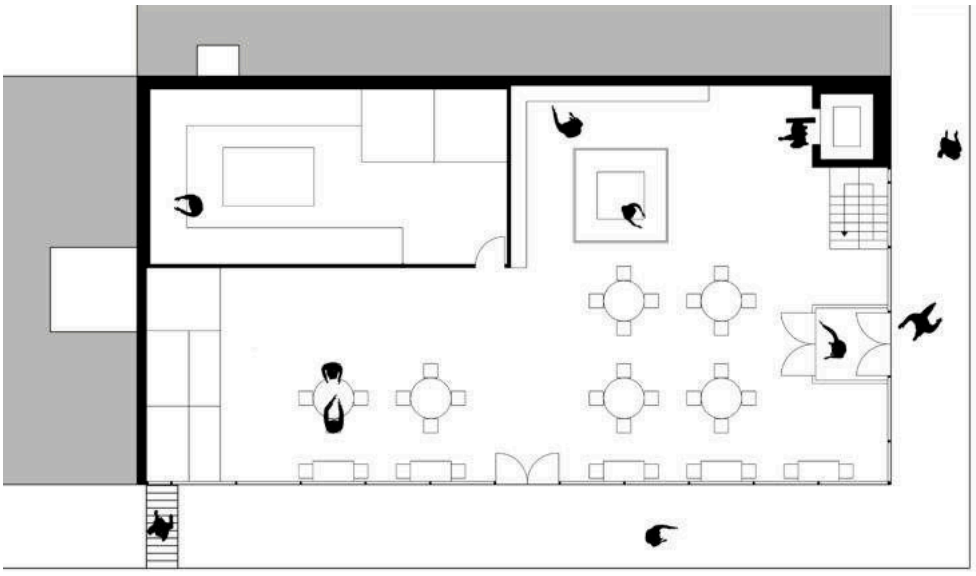


Image 02: Ground floor plan 1:50

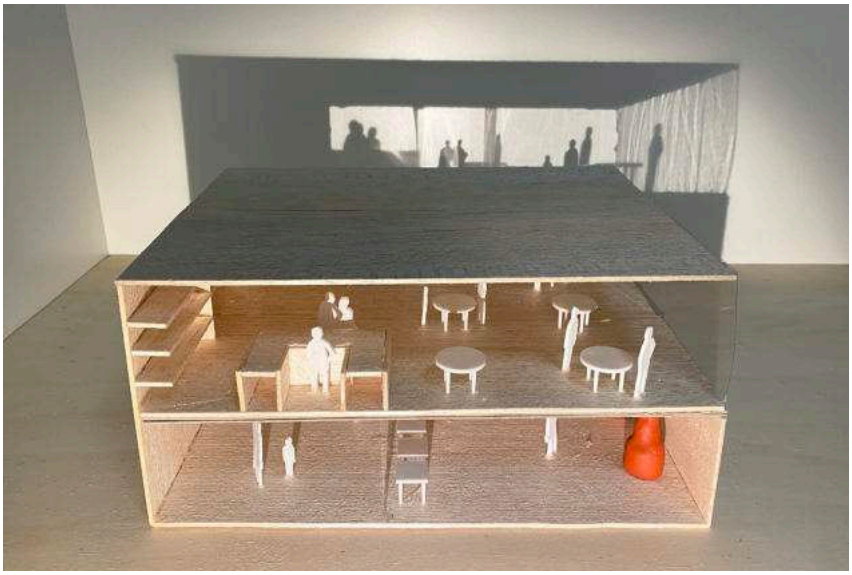


Image 03: Testing lighting and shadows

Image 04: Sectional model shown from cut line

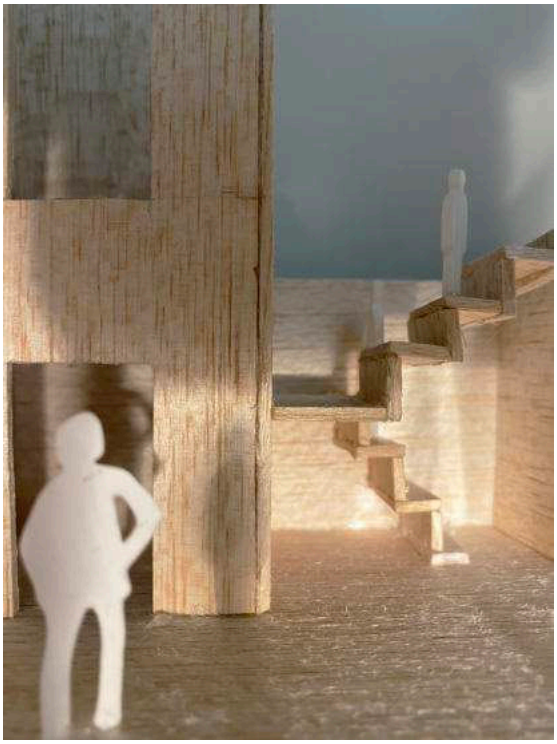


Image 05: Inside view of sectional model from the basement

Image 06: Interior of MAKER/SPACE building

Ivet Yaneva, Bulgaria

BA1

Project: Maker Space

Resolving

Maker Space is a studio project about designing a building that includes spaces to make, sell, and educate the public about a specific product, which has a connection to my home country. I chose mine to be for production of perfume mad from rose oil, as Bulgaria is known for the production of it. The building has three stories, which include a shop on the ground floor, an educational space on the first, manufacturing on the third, and a rooftop cafe. The model is a 1:50 sectional model showing each of those spaces and their function. It highlights the shop's arrangement, the education space's labyrinth made out of translucent rose pettles, the production's arrangement, and the café's seating and atmosphere. As the building is glass and has a metal skin over it, the model also highlights a lightwell created between the two, that people can step in and look up.

The model was made at home out of cardboard, white mesh, 3D printed figures, grey card, plastic sheets, aluminium foil, and tracing paper. The white mesh contrasts the similar colour of the other materials to highlight the skin of the building. It also reflects in the plastic to show the effect that can be achieved.

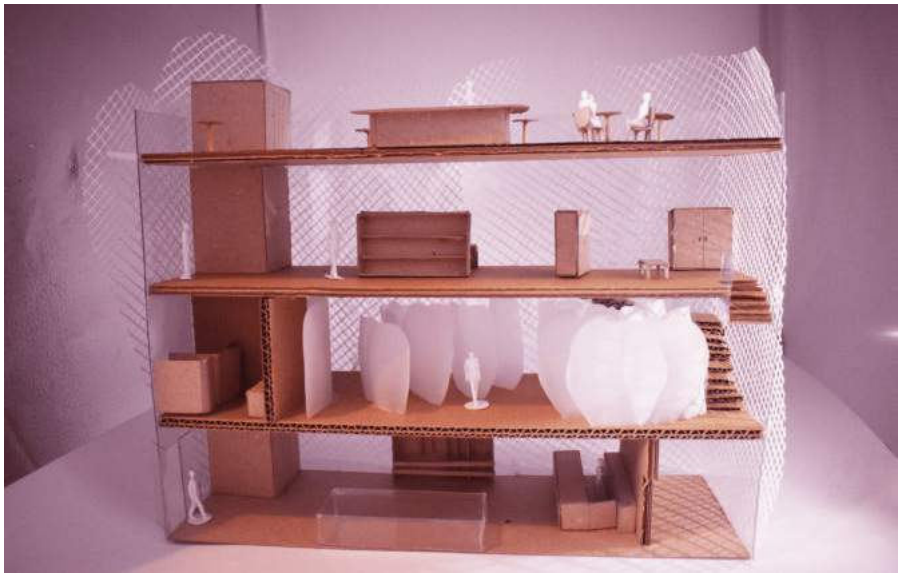


Image 01: Side view

Image 02: Detail of facade

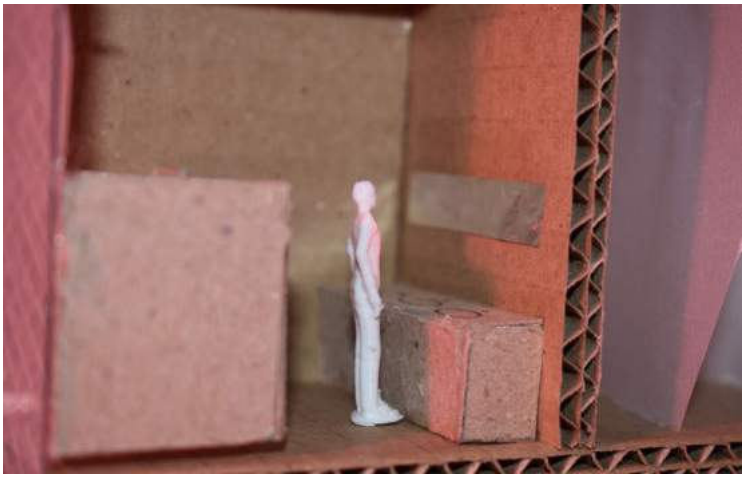


Image 03: Bathroom

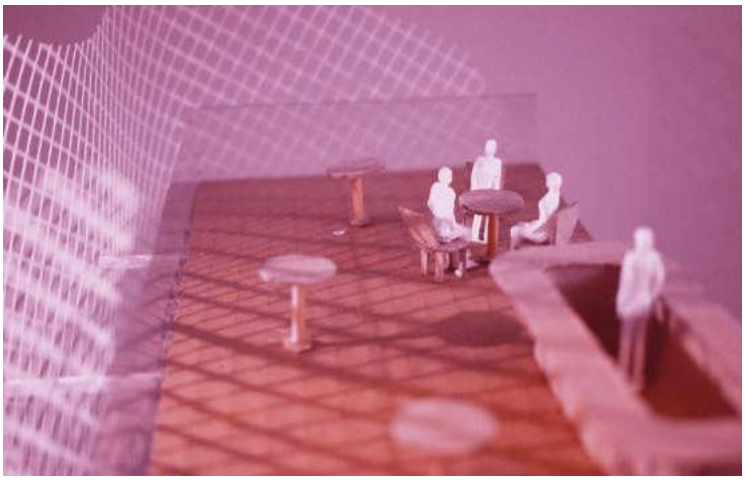


Image 04: Rooftop cafe

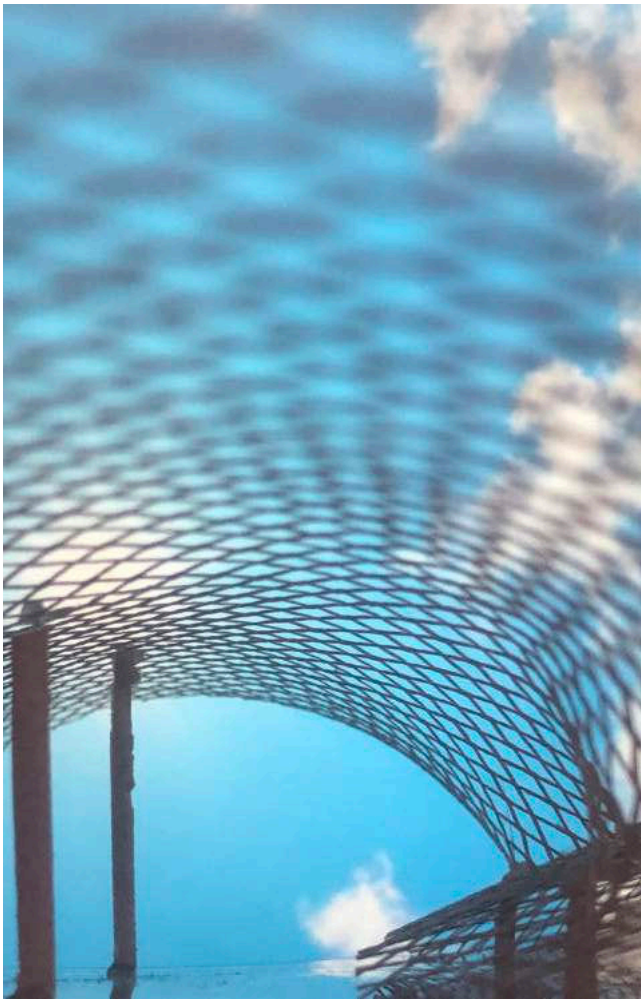


Image 05: Lightwell feature

Image 06: Educate space - labyrinth

Josh Wu， Hong Kong

BA Year 1

Project: Maker Space

Umbrella Matrix

Maker-Space is a project revolving around a symbol of my home town: Umbrellas. Locating in Manchester Piccadilly, the building aims to let viewers learn, make and sell umbrellas and better understand Hong Kong.

My design explores the ambiguity of open and closed space by being under an umbrella, layers of shelter stack on top of each other theoretically creates closed spaces, but the decision of using minimal walls kept all the space public at the same time. The maze-like spatial arrangements actually forms a linear circulation, ensuring there can be a chronological narrative in the learning of umbrellas. Patterned windows and roofs further blur the boundaries of space, whilst they create physical boundaries between in and outdoors, light, shadow and colour can pass through in a controlled manner. The patterns formed by lighting creates a rain of light inside the space, strengthening the connection with umbrellas. The making and selling of umbrellas are also done within the space.

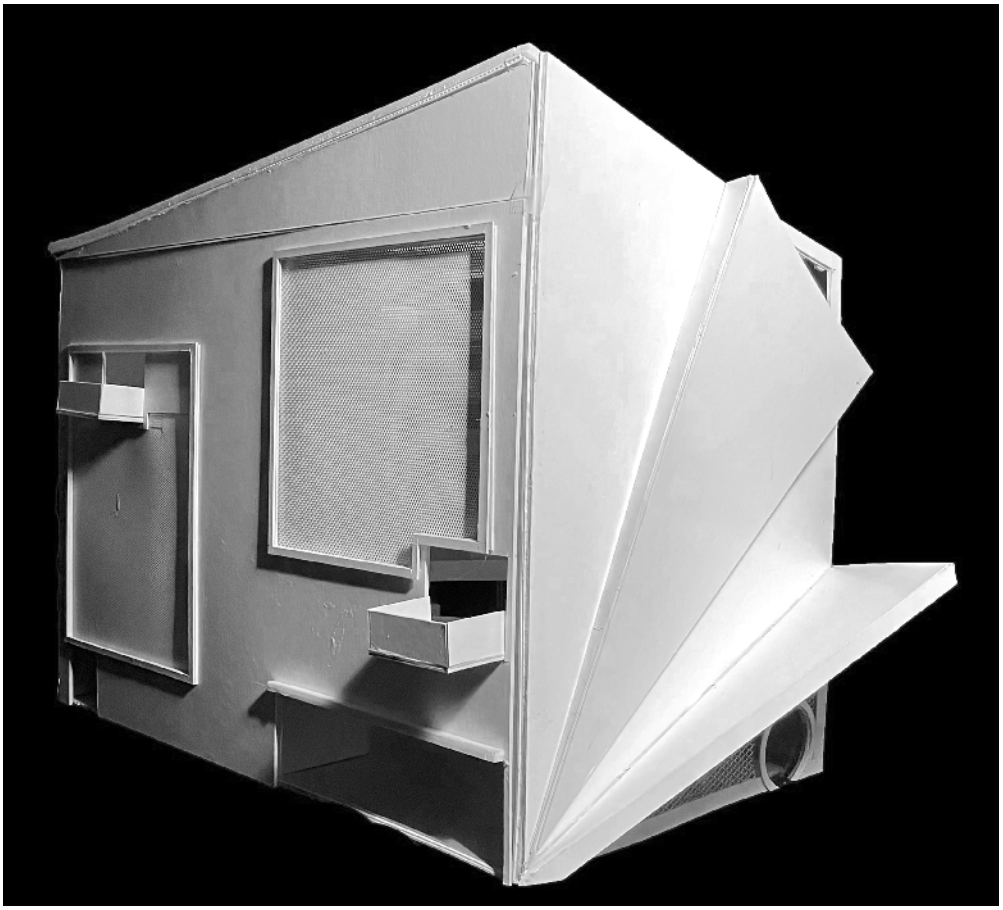
Umbrella gained a significant connection with colour in recent years, pipes and pools full of dye are placed along the way so people can dip their umbrella in and tie-dye it, making their very own umbrella. Freshly dyed umbrellas can then be hung on the matrixes to dry, the dripping colours changes the space in the form of raining colours.

My designed floors are intertwined and the grids for hanging umbrellas are an important part of the space, hence the name 'Umbrella Matrix'.

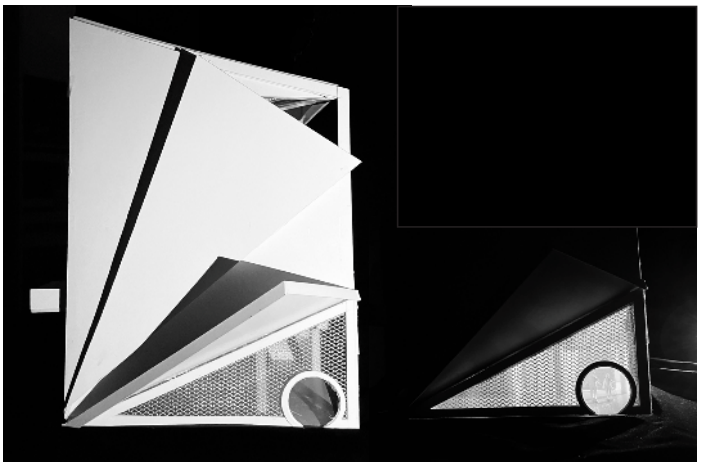
This is a 1:50 sectional model I've done at home with white cardboard, perforated sheets, expanded metal sheets, transparent plastic sheets, copper wire, plastic straws and foam.

This is an exhibition piece translating my digital model into a physical one. It allowed me to study how columns should support each floor as this wasn't considered in my Rhino model. The longer time-span of physical model-making allowed me to reflect on functions and circulation, hence made iterations from my original design.

Exterior View



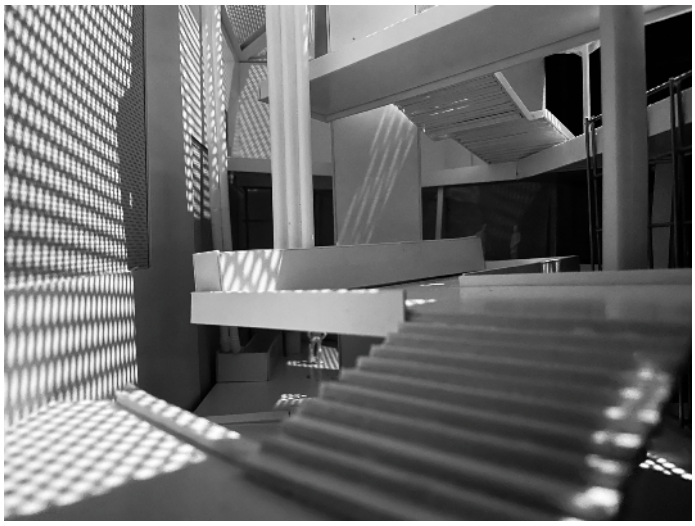
Facade & Entrance



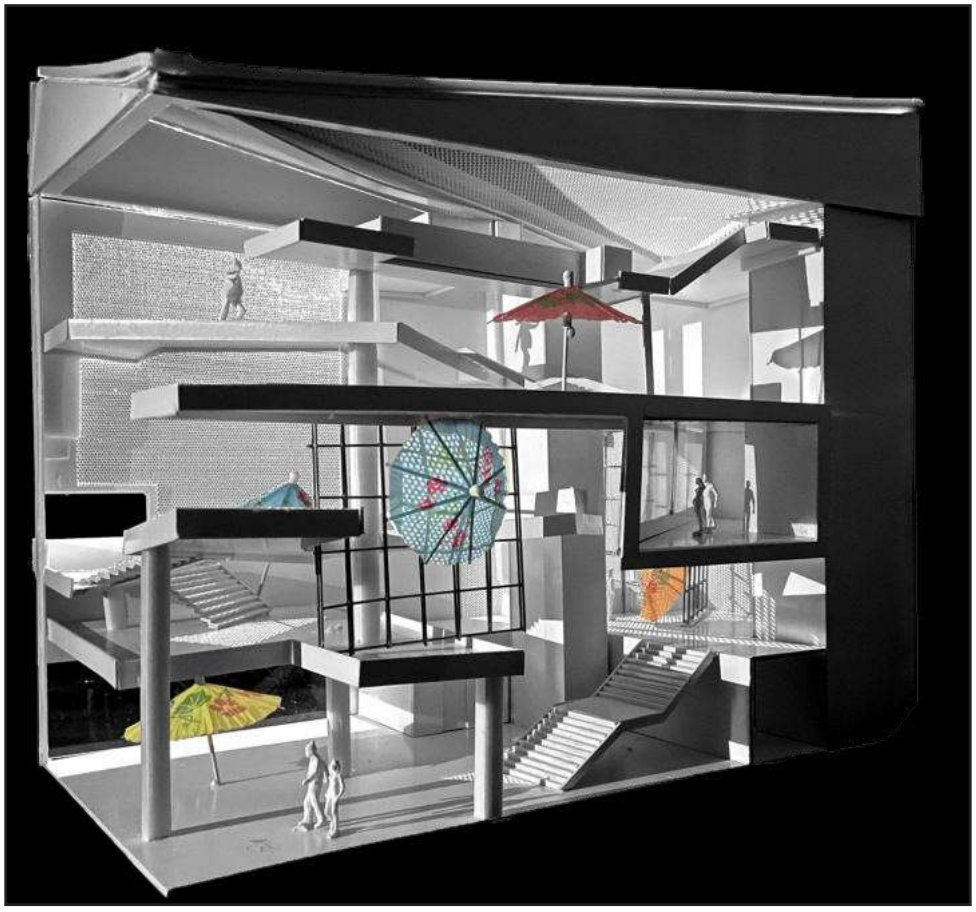
Umbrella Grid Details

Solid & Void on the side

Pipes & Shadows Details



Maker Space: Umbrella Matrix



Popa Laura-Elena, Romania

BA Year 1

Project: Maker Space

The purpose of this project was to design a building for the manufacture, sale and education of a specific product, relevant for the heritage of each of our home countries. In my case, this was Doncafé, an originally Romanian coffee, purchased by an Italian brand in 2018, that received prices internationally for its quality and elegance in taste.
I believe that the product, as well as the brief, fit in perfectly with the context of central Manchester, once the heart of global industrialization and now a highly active urban context. Therefore, the starting point of my design was to make sure the factory would fit in with the history and local characteristics of the surrounding buildings. That is where my choice of materiality came from, red masonry, represented on my model by scores in the 6 mm plywood sheets made with the laser cuter.
The arches and the 'portico' like structure are inspired by traditional Romanian architecture. The glass layer, represented by 3mm clear acrylic plastic works as a mediator between traditional and contemporary and gives the building a sense of modernity. The interior structure is determined by a 4x4m orthogonal grid that ensures the discipline of the plans and sections.
One of the outputs of this project was a 1:50 physical sectional model with the purpose of exploring the connections created between the tree main spaces of the building and the flow of circulation throughout it. The one you can see below has been completed both in the B15 workshop and in my university accommodation. I found the model especially useful in determining the structural challenges the design could face and in understanding the amount of natural light that penetrates through the façade. That told me where extra structural support and illumination was needed. The interior void plays a key role in this, adding extra structural stability, and an additional recreational green space. I used only plain beige mountboard for the interior to emphasize the structure and simplicity of the interior, as well as to bring out the facades, which were my focus with this model.

Image 01: First Floor Plan

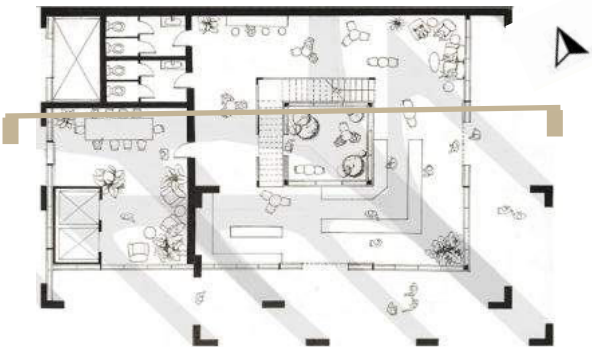


Image 02: Exterior Perspective

Image 03: Main facade

Image 04: Interior Garden

Image 05: Exterior Routs

Image 06: Different uses: Staff Room

Misheel Altan-Erdene , Mongolia

BA Year 1

Project: Maker Space

Maker Space project of Studio 1.2 asked me to design a building with a make, sell, and educate space for a chosen product, related to my heritage. I chose organic bath and beauty products, such as bath salt, lip balm, and soaps, that are made out of raw materials from Mongolia, including sheep tail, seabuckthorn, nettle, and rosehip. The products are sustainably produced by hand and are perfect for the busy residents of the Piccadilly area as well as representing Mongolian nomadic lifestyle and culture.

The milky white factory/retail building uses timber as the prime material and has a cantilevered curved shape that conveys a soft and feminine atmosphere. The first-floor facade illustrates a traditional Mongolian ornament of the water. In order to provide a more natural and organic feeling, there is a greenery space outside of the building. Sell and educate spaces are located on the ground floor that is open to the public. Make space uses the first floor, which is dedicated to the factory staff members as a more private space.

The 1:50 sectional model presents the building as a whole with a detailed context to give a good idea of circulation, space arrangement, outside look, and interior to the general public. I used foam board in different thicknesses and shades for the walls, floors, and furniture and clear plastic film for the windows. The model consists of eight individual pieces of ground, floor, and roof that can be put together in different forms to present the outside look, section view, and floor plans. For the outer landscaping, I used fake grass and shrubs and then painted it with acrylic paint. The greenery contrasts beautifully with the all-white building. There are all the pieces of furniture, including the basins and toilets that can be used with 1:50 human figures to give a sense of the size and use of the different spaces. The detailed facade provides the intricate shadow effect of the water ornament.

Image 01: Eye-level view of the main door, columns, and first floor

Image 02: Secion view of the model's left side

Image 03: Section view of the model's right side

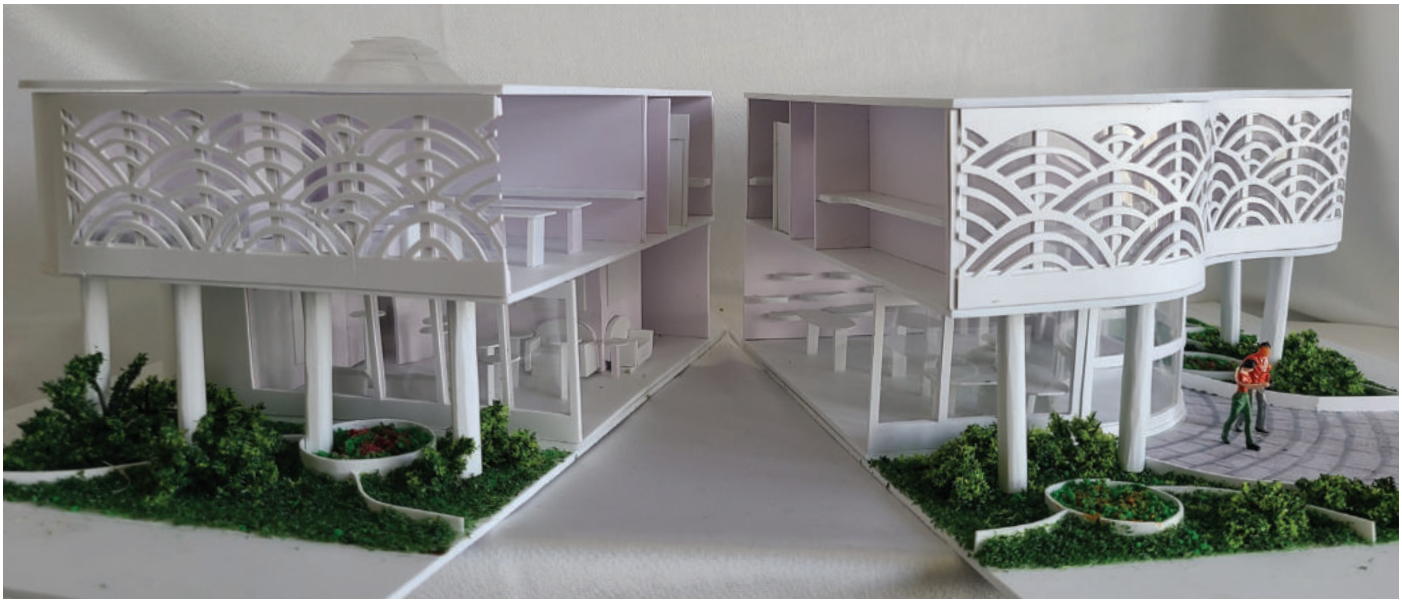


Image 04: The entire model taken apart from the section line

Image 05: Perspective view of the first floor

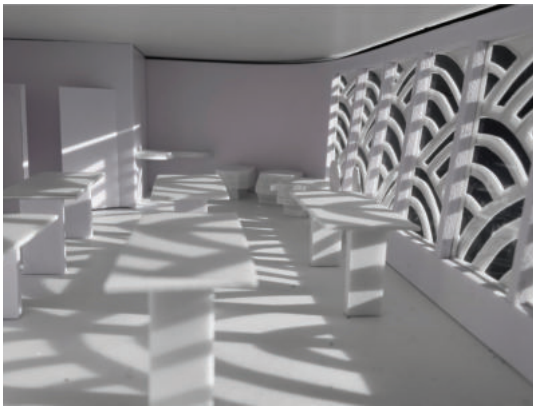


Image 07: Shadow effect inside of the Make space created by the first floor facade

Image 06: Perspective view of the ground floor

Image 08: Interior view of the ground floor sell space

Myles Cathcart Wootton, Devon

Ba Year 1

Project: Maker Space

The Mandolin Workshop

The Maker Space project tasked us with designing a building for a product of particular cultural significance to us, with spaces for Making, Selling and Educating. I chose the Mandolin, due to its importance in Irish folk and traditional music, and due to the intricate luthiery techniques used to manufacture the instruments. I therefore wanted to divide my building very clearly between the bustling public areas, such as the shop floor and the performance spaces for education, and the secluded manufacturing spaces, minimizing distraction for the luthiers. As a part of this project, we were instructed to complete a 1:50 sectional model of our proposal, and as I was settling into working at home, I decided to work on a larger, more intricate scale than I had previously in the year.

The location of the chosen site in Northern Quarter, an area brimming with industrial heritage, led me to examine some of the historic brick warehouses and factories in Manchester. I was inspired by buildings on Newton Street to experiment with arched window forms, which also led me to explore the barrel vaulted volumes at the top of my proposal. This presented an interesting problem as to how to form the curved roof when I intended to use balsa wood as my primary material. Eventually, I decided to leave the top floor open , to allow a view into the smaller cantilevered workshop spaces.

I decided to make the entire model from balsa wood for two reasons. Firstly, I wanted to evoke the appearance of handcarved, unfinished mandolins, as rather than a polished final model, the model served as a tool for design development, and I wanted it to look similarly rough. Secondly, the robust structure that balsa wood allowed better reflected the heavy brickwork of the industrial buildings I drew inspiration from. I also experimented with various window thicknesses, making use of clear acetate for glass panels.

Image 01: Exterior View of Facade

Image 02: Populated Section

Image 03: Process Model showing first two floors

Image 04: View of Internal Staircase

Image 05: Interior view of Shop Floor

Rafaella Giuliana Falquez, Ecuador

Ba Year 1

Project: Maker Space

Panama Hat Factory in Manchester

For our Makerspace project, we were asked to design a manufacture, sell, and educate space for a product of our hometown. A Panama hat was the product chosen for the building design, as they are one of the most iconic products of Ecuador, due to its delicate hand-crafted production process. The design intends to create a space in which apart from buying the product, individuals can learn by watching in real time the whole manufacturing process. A key feature in my design is that visitors and individuals can interact closely, but at the same time the area makes them not blend, so employees have also their own space and privacy. Moreover, one side of the building works as a hidden place just for employees' rest space and storage.

A homemade sectional model at a scale of 1:50 of the west side of the building could portray this concept. With the use of a scalpel and crystal-clear all-purpose adhesive, the mount board was cut and paste to create the main structure of the building. The ground floor shows the selling space, while the first and the second floor show both the educating and the manufacturing space. The use of plastic sheets on the second floor shows the interior glazing that divides the space between visitors and workers. On the third floor this space is separated by cables that hold the drying toquilla, which in the model, they were created using strings and toothpicks that are hold by clay over the mountboard. On both floors, these elements in the model help spectators understand the circulation path that exists inside the building, which is one of the main objectives of the design. For the roof, plastic was cut and paste carefully to create the shape needed to simulate a roof similar to one of a greenhouse. Also, at the side of the model, mount board walls divide the main space from the hidden space dedicated just for employees all over the three floors. Finally, furniture details on the different floors were created with the use of cardboard, plastic straws, paper, and aluminum paper.

Image 01: Sectional Model View Exterior

Image 02: Sectional Model view interior

Image 03: Close-up First Floor

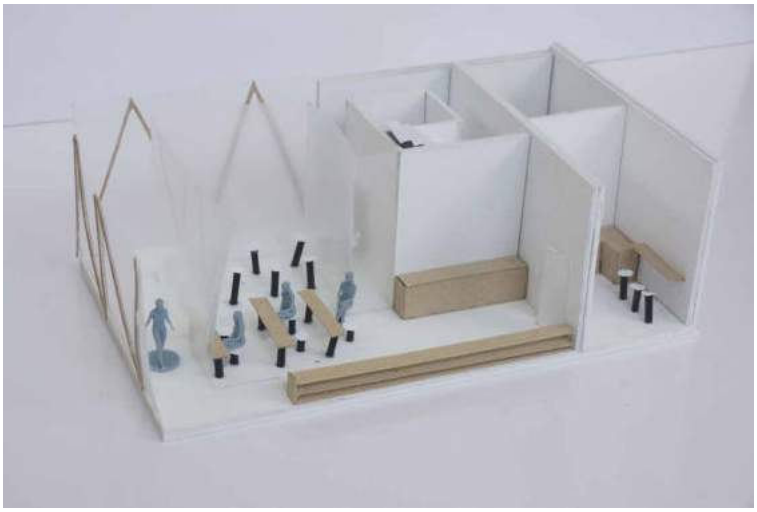


Image 04: Close-up Second Floor

Image 05: Close-up Third Floor

Image 06: Sectional Model Night time

Rana Budianta , Manchester

BA Year 1

Project: MAKER/SPACE

A Seagrass Crafts Factory

We had to design a building for a site at the corner of Piccadilly Street and Gore Street in Manchester that includes spaces to make, sell, and educate the public about a specific product. At first, I chose rattan crafts which are native to my home country: Indonesia. These crafts include chairs, tables, laundry baskets, and many more. However, I discovered that rattan only grows in Asia and the transport would create enormous carbon emissions. This is obviously bad for the environment, so I researched into its alternatives and found seagrass. Seagrass absorbs 10% of the ocean's carbon each year despite it only covering 0.2% of the seafloor. 4 species of seagrass grows in the UK, but they are currently endangered. This building aims to educate visitors and passersby on the beauty of seagrass and its importance for the ocean, by displaying a saltwater tank in front of the building containing seagrass and a simple sea ecosystem. Hopefully, people are intrigued to enter the building, after which they will immediately see the MAKE (production) space of seagrass crafts where they can also participate in the form of workshop. Then, they can take the spiral staircase to the SELL space on the first floor to buy the products.

Inspired by the natural form of seagrass in water, the furnitures (benches and display racks), the line between the two types of floorings on each level, and the timber elements on the facades are all curvy. Timber was chosen to suit the organic, earthy feeling of the product being sold: seagrass crafts.

This sectional model was done in the kitchen of my student accommodation. It is meant to show the different spaces that the building has. It is at a scale of 1:50 to show the curves effectively. I did another model previously focusing on the facade at 1:100 (image 01), but the curves of the timber elements obtained felt awkward due to its small size. I used balsa wood and greyboard in the final model to denote two different types of timber used for the building.

Image 01: Initial facade model at 1:100 using greyboard

Image 02: Sectional cut of final model (1:50)

Image 03: Corner entry (Piccadilly St x Gore St)

Image 04: Gore St elevation

Image 05: Spiral staircase from outside

Image 06: Visualisation of the ground floor MAKE (production) space with a view of the water tank (Photoshop)

Yaxin Chen, Hangzhou, China

BA Year 1

Project: MAKER/SPACE

A Chinese Folding Fan Factory in Manchester

Folding fans were popular in England after they were introduced from Asia in the 16th century. This product not only cools the air but also serves as a convenient decoration to carry around. China is one of the country with the longest history of producing folding fans.
The techniques of making folding fans in China has been developed and refined over time. Countless variations of folding fan from the blades to the carving of the bones can be found in the shops. I extracted some elements of fan pattern into my design. For example, the floor plans were derived from the shape of the fan.

The model has been completed from home and was made of foam board, plastic sheets, wooden sticks and tracing paper in the scale of 1:50. I designed the façade with large glass windows wrapped by a wooden fence, a structure that has similarities to the skeleton of a fan. I also emphasized this detail in the modeling, and this wooden fence gave me an interesting variation of light and shadow in the interior of the model. Thin plastic sheets were used to represent the glass material, which can be found in the elevator and handrail as well as the balcony roof. Various glass elements was applied in this design because I thought it could act as a partition without disturbing the sense of extension of the space. The staircase is an important element to add detail and is a refinement of the model. I made a circular staircase open to the public and ignored the wall in front of the staircase in the staff area in order to expose both staircases at the same time. A set of furnitures were also placed inside the model to demonstrate the scale.

Image 01: Exterior View

Image 02: Facade Design

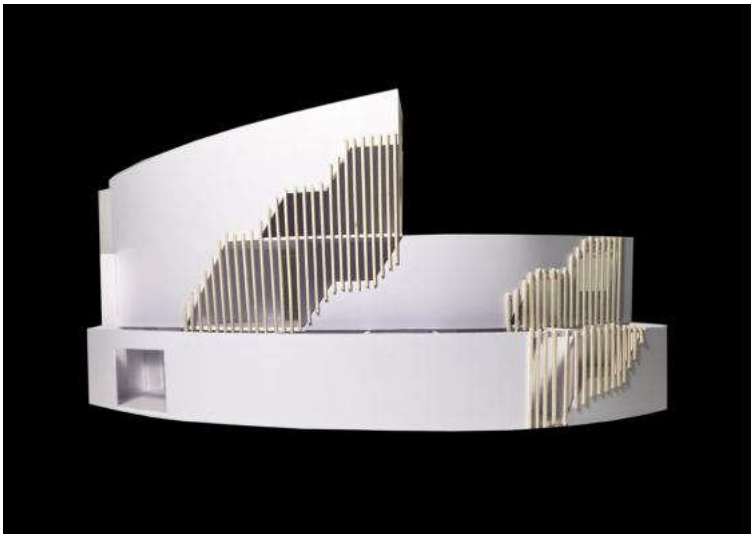


Image 03: Sectional Model

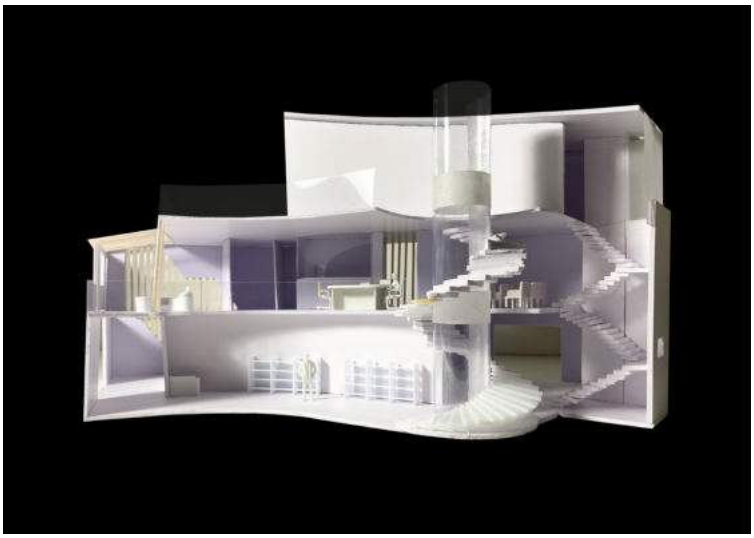


Image 04: Interior Atmosphere- Cafeteria

Image 05: Stair Detail

Image 06: Interior Atmosphere-Make Space

Anastasia Stavrou , Cyprus

BA Year 2

Project: Urban Ancupuncture

A kidnergarten in Manchester City Centre

The brief required a design of a building with living units as well as a kindergarten to occupy the needs of the children who will be living in the housing. The site is near bloom street and the main objective was that this is going to be an urban kindergarten.

Based on my proposals, in which I highlight the need for colour around children especially at a young age, I developed a facade with amorphous tinted windows which will be spread around the kindergarten and will provide light, colourful interiors as well as seating spaces. However, precedents that inspired me for the use of such windows did not provide any information regarding the construction details used for their construction. Therefore I decided to research such windows and create a sectional model using a 1:20 scale to portray both the interior and exterior views of a yellow-tinted window as well as how it can be used.

I started by drawing the main components which make up the sectional model. From then on, I selected materials that were available and easy to use as this would be completed exclusively at home.

Balsa was chosen as it would provide the necessary support for the wall and roof as well as because it is a material that does not leave traces of smudges such as moutnboard. For the seating space and flooring I used cardboard. This choice was due to the size of the seated space which had to be cut very precisely and due to the lack of professional equipemnt, balsa wouldn't work well with home equipemnt. For the wood flooring, I chose cardboard as well, to indicate the material difference between interior wall and floor. Laslty, for the tinted window, I chose a yellow plastic file which had high tensile strentgh when compared to laminated yellow paper and allowed me to portray both the colour and the interior result when sun rays penetrate the tinted window.

Overall, this model helped me translate my ideas in a 3D visual and also developed my understanding of the overall structure and its loads.

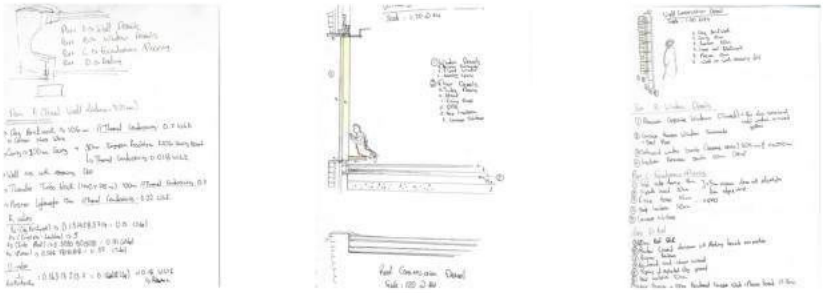


Image 01: Sketch Process

Image 02: :Roof, wall and floor details- balsa and cardboard

Image 02: Sectional Model showing window, wall and seating space near the window - balsa and cardboard

Image 03: Side view of sectional model - balsa and cardboard

Image 04: Facade and tinted window - balsa and yellow plastic folder

Image 05: Seating space and interior wall - cardboard and mountboard

Benedetta Rizzo ， Aix En Provence - France

BA2

Project: Urban Acupuncture. Reinventing Housing in Manchester city centre

A residential project connecting the elderly and the youth

The main project brief consisted of designing a residential block within the urban heart of Manchester, that were to include 10-12 living units to be shared by one young person and one old person. My personal approach to such brief as that of creating apartments that incorporated both some sociable and more private spaces, to encourage interaction and co-living between the two age groups all while allowing them to have their own spaces for themselves. Therefore the apartments were designed as open-plans, with the exception of the rooms that were designed as 'pods' or 'hubs'.
This exhibition model was made with the intention of showcasing the qualities of the rooms and the feel of 'house within the house', that they are supposed to recreate.

This model was created at home using only the materials and techniques available without a direct access to model-making shops and workshops. The exterior cladding of the model was created using commercially-sold popsicle sticks, cut in half and adapted to the needed length. The clad was supported by a grey-board layer, obtained from cereal boxes, and internally covered with white sketchbook paper. The furniture and detailing was created using simply papers of different thickness depending on the malleability needed for the object. Some elements such as the ceiling lamp and the plant also include a paper-clip wrapped in paper and used for additional support.

Image 01: Axonometric section through the room

Image 02: Perspective from the west elevation including the full roof structure of the room

Image 03: Top view of the model without the complete roof

Images 04-06: Some close-up and detail shots

Catalina Marina Persunaru ， Manchester, UK

BA Year 2

Project: Urban Acupuncture

From house to home

The brief for “Urban Acupuncture” project was to revitalize a former famous area of Northern Quarter through the construction of residential buildings and a kindergarten. One of the most challenging aspects of the brief was to analyse the process through which a house becomes a home and to introduce the conclusions in the design process.

In order to achieve a geometrical shape that would be non-intrusive in the given site and would create a sense of fitting there naturally, the Golden Ratio was considered in the iterative process and so, the buildings that form the final proposal have each two tangent elevations in the Golden Ratio.

The purpose of the model is to emphasize the geometrical relationship between the proposed buildings and to show how they direct the views of the pedestrian while creating a sense of rhythm and flow.

The overall intervention on the site was made of paper and greyboard in order to be in contrast with the site model, which is made of corrugated cardboard.

The buildings were made of white paper to suggest the glazed areas and greyboard as the main structure. The white strings are an extension of the actual elevations and their purpose is to highlight the geometrical and visual relationship between the buildings. The copper wire s twisted and placed where the overall geometry of the complex and the white strings suggest the centre of interest is.

The scale of the model is 1:200 and it was made entirely at home using recycled materials, glue and a scalpel.

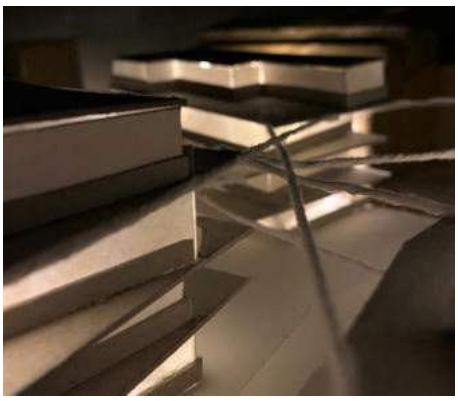


Image 01: Perspective over the strings towards the center of the building complex

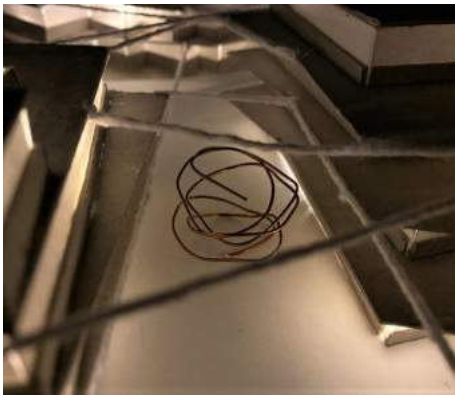


Image 2: Copper wire marking the center of the residential area

Image 03: Night perspective showing the kindergarten (left) and one of the residential buildings (right).

Image 04: Night perspective showing the proposal. The white strings help define the geometrical relationship between the buildings and the center of interest.

Image 05: Night perspective of the residential buildings. The geometry is highlighted by the light that comes from the inside.

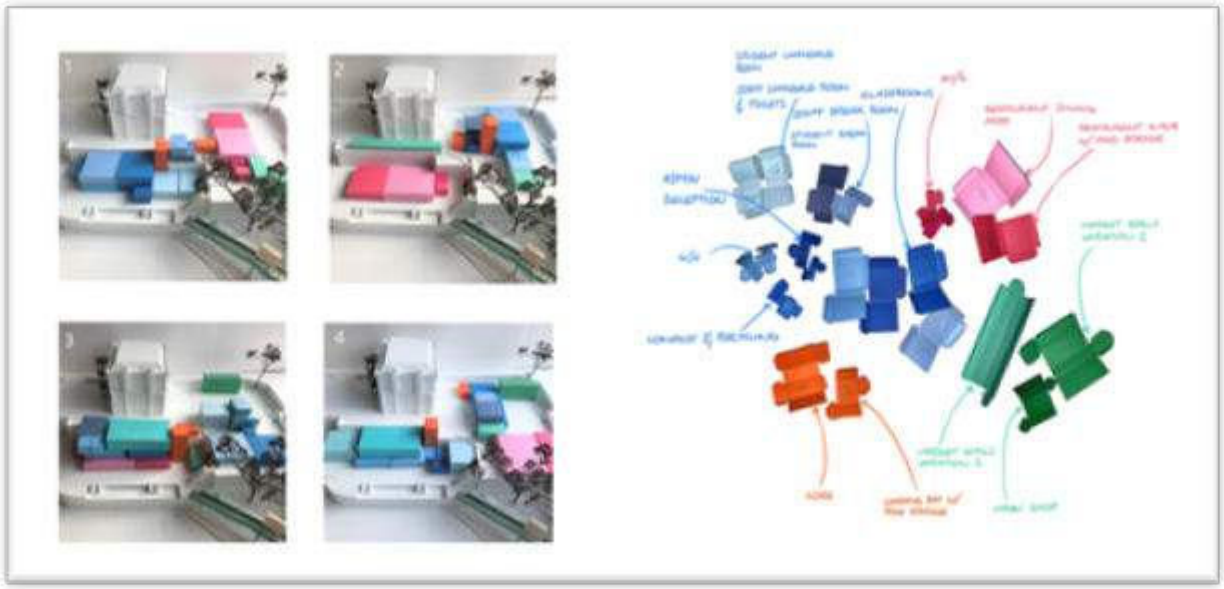
Image 06: Night perspective of the residential complex. Its aim is to emphasize the intricacy of the geometry and suggest how the views are directed towards certain areas.

Claudia Rowe ， Location

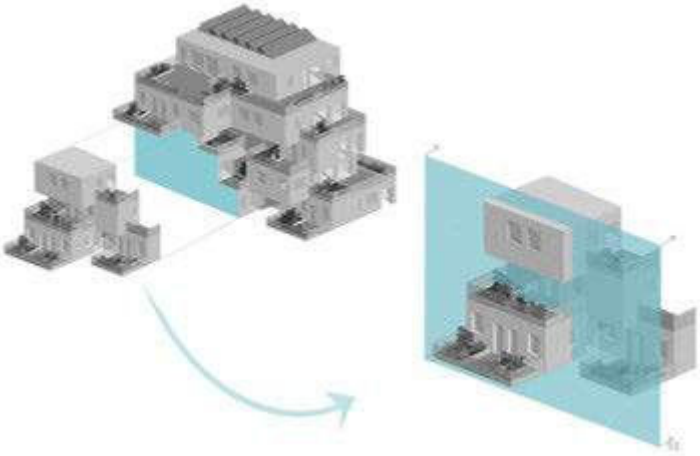
Ba / Year 2 - Group 1

Project: Food Hall // Urban Acupuncture

For the first project we were asked to design a School of Cooking, a Food Hall, and a Market. In other words: a place for learning, a place for cooking and eating, and a place for selling. We needed to consider the project on a triple axis: social, urban and material. We were given a choice between four site locations in Manchester. I chose Salford and I decided to construct a site model to reflect and explore the unique topography of the site. I was studying at home during this time so only had access to basic materials. The bulk of the model is constructed from grey board which I spray painted and glued 'trees' to (pieces of dry branches collected outdoors). I also used this model later in my project when I was exploring using massing iterations.
The second project invited us to design a mixed-use building that included a small Housing Compound. we chose from three different programmes related to housing, and developed our designs in one of the three proposed sites in Manchester City Centre. I chose to design housing to be shared by young and old people as well as a community centre and a day care. I completed this project by constructing a 1:20 sectional model of my housing complex. My design was too large to model the entire building so I chose to model a 3-storey portion of the complex. I was also at home during this process and didn't have access to any model-making facilities. This model was largely made from grey board and coffee stirrers to mimic the appearance of wood. To model the wall build-up, I used balsa wood to represent CLT panels and white card to represent cork insulation. I created this model as my exhibition piece to conclude BA2.



Salford Site



Living Complex

Hubert Sokolowski, Manchester

Ba Year 2

Project: Spatial Acupuncture

Studio 2.2 Site Model

The Oldham Street site is an empty lot in the centre of Manchester's Northern Quarter. Now a construction site, the project assumed that the empty space needs to be filled with a residential unit.

The purpose of the model was to capture the different elevations along Oldham Street, as well as, understand the spatial relations between the site and the surrounding buildings. The model was used to analyse the shading around the site and examine how the neighbouring structures limit the amount of direct sunlight reaching the empty plot. None of the blocks were permanently stuck to the base of the model to enable easy removal for close-up camera positioning. This feature created a great opportunity for using the model as the background of a site section, as well as, allowing for various massing model experimentations.

The model was done at 1:500 scale to capture the whole area around the site while maintaining a level of detail that allowed to see the lighting effects of the buildings on the site. At first, the base was created with the use of a single sheet of foamboard and a layer of black card to indicate the streets. The paved area was then traced over and cut from a scaled and printed map. Using the same map to limit paper waste the base for each building was outlined. Wall by wall, the measurements of each building were transferred from the map onto a white card which became the main material of the project. To ensure the spatial feeling of each structure was accurate, height measurements were taken from a digital model rendered from the building heights survey. The shape of each roof was carefully analysed by combined use of Google Street View, Google Earth and Apple Maps 3D satellite view. The resulting model is a collection of moveable structures representing each block fitting in the urban fabric of the Northern Quarter.

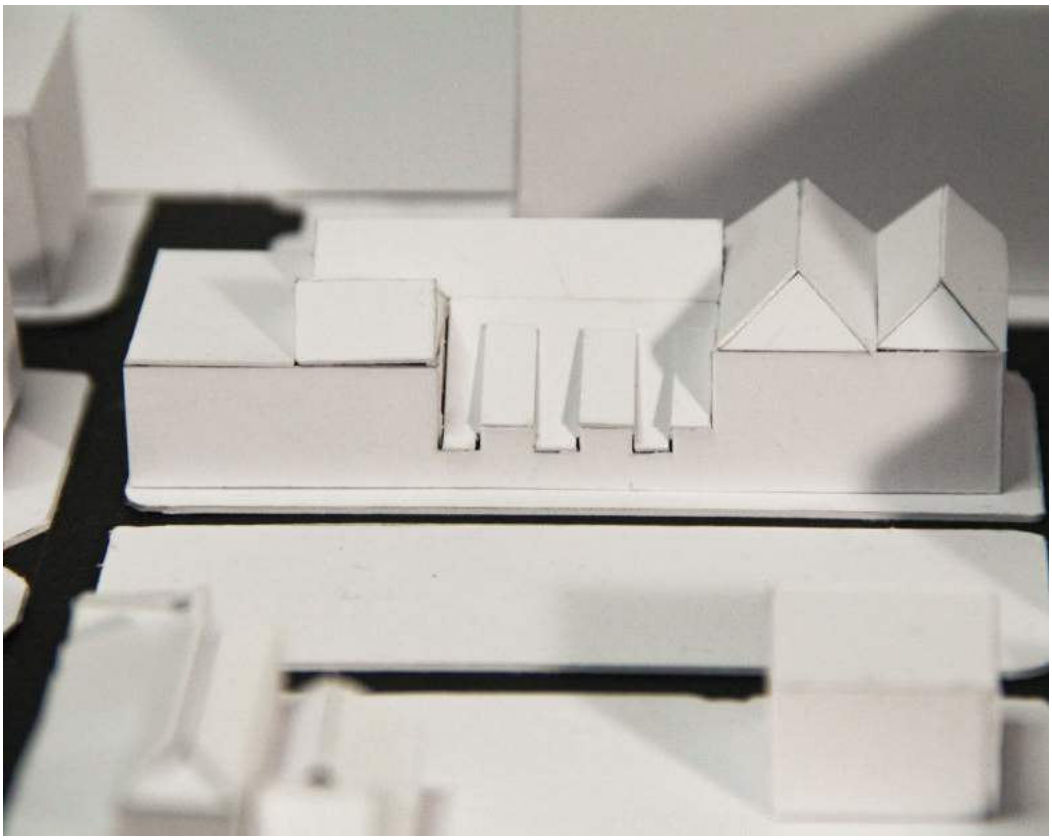


Image 01: The detail of the Grade II listed buildings along Bradley Street.

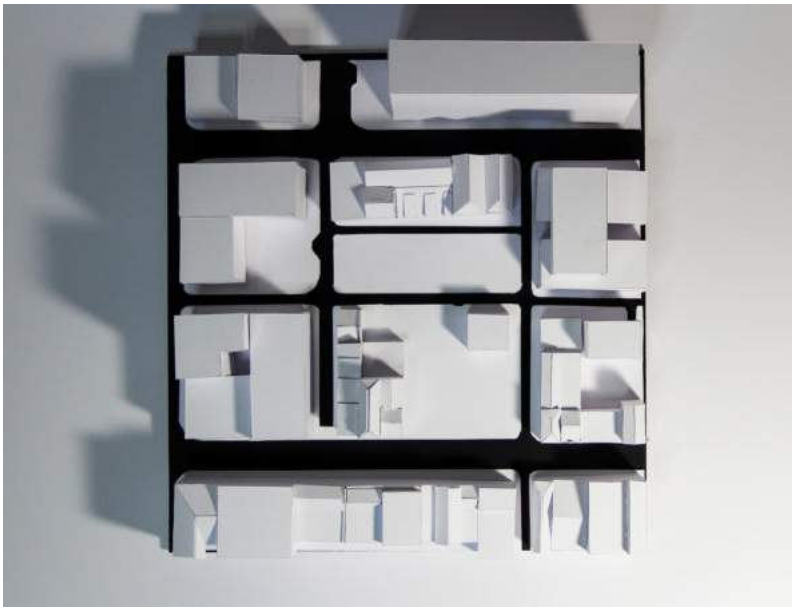


Image 02: The roofs of the surrounding had to be carefully detailed to see the light effects on the site.

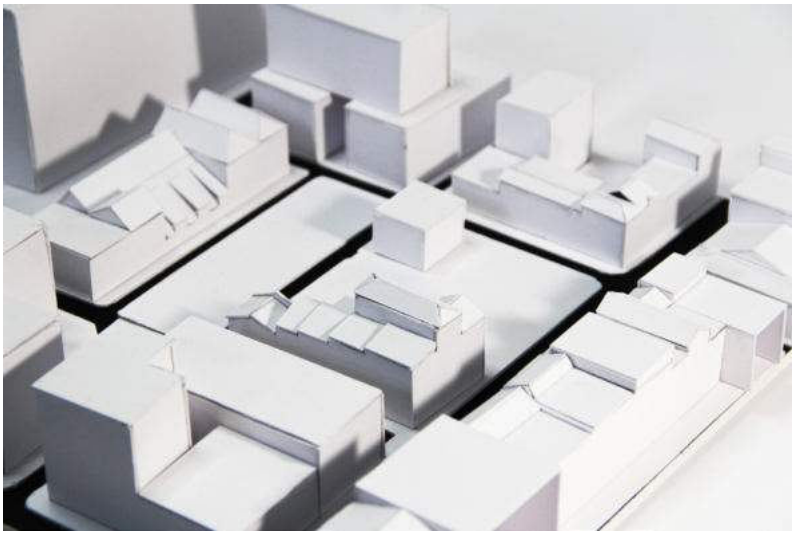


Image 03: The model allows to understand how currently there is a hole in the urban fabric.

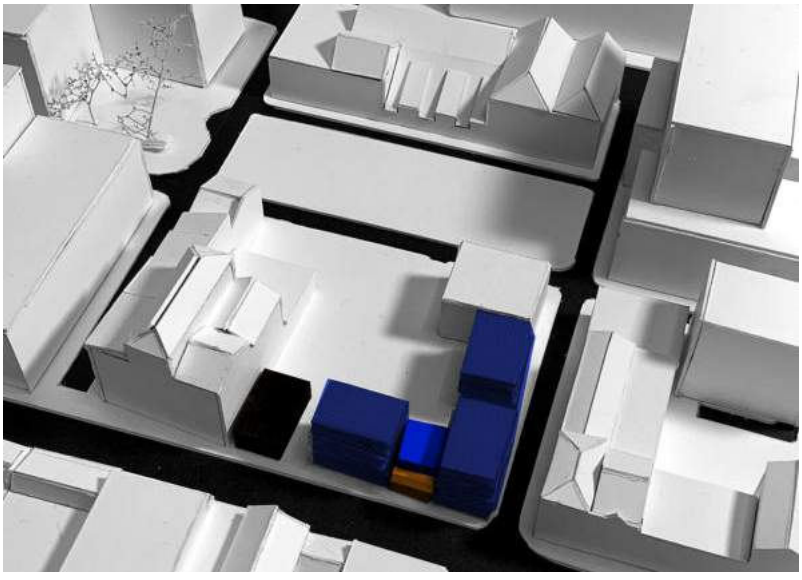


Image 04: The model was used for volumetric iterations during the development of the project.

Kwok Sum Li, Sam, Manchester

Ba Year 2

Project: Urban Acupuncture

Vessels of the City

Urban inhabitation has never been short of conflicts and problems. This project is presented to address various urban problems by using our own design for a small mixed housing compound. The housing programme that I 've chosen is designated to a sharing unit between an elderly and a young adult -- two diverging, yet surprisingly similar age groups in terms of what they need and seek from a house.

The housing programme looked specifically at combining two units together into a 'housing block', from where the two units each occupies the ground and second floor, and is designed to be 'kitchen-less'. The kitchen that's been removed from each unit is combined into an open living space that occupies the first floor, the shared common area for two units. This programme allows the residents to communicate more, and look out for each other when in need, the crucial element to break the barrier between two age groups. This sectional 1:20 model was made at home. It cuts through the three-storey housing block and displays the detailed skin layers as well as conjunctions by using various materials such as card board, mount board, cork, balsa wood, glass and frosted plastic board. Details such as kinetic perforated panels and glass walls on the first floor are modelled, despite only 'operable' when I move them into different parts. Part of the interior finishes are also modelled with various materials close to the texture in reality -- glossed, polished, matted, etc.

The sectional model focuses on the skin studies, so the overall meandering form of the connective bridges and walkways that link through the whole housing compound, which gave the name of the project, is not modelled.

Image 01: Sectional Model

Image 02: Sectional Model Front Elevation

Image 03: Perforated Facade Details

Image 04: Sliding Glass Wall Details
Image 05: Extended Balcony Details

Image 03: Interior Glass Wall Details

Angela Li Lai Ying ， Manchester

BA Year 2

Project: The Antelope House and Kindergarten

Children friendly small family housing

"The Antelope" was conceived under the theme of "Urban Acupuncture", which aims to revitalize a neighbourhood in Manchester by introducing spatial interventions, and in this case, a housing and kindergarten programme. Derived and inspired by the "Gulliver's" pub adjacent to the site in the Northern Quarter, the design borrows the motif of adventure and exploration, capturing a child's curious eye with the various apertures and thresholds within its premises.

Earlier stages of design involved spatial analysis through a 1: 200 full site model that allowed for more massing and form developments. A final presentation sectional model was built at 1: 20 to showcase the build-up of the north-westward façade, the basic interior arrangements of a standard apartment, and the ground floor carpark within the Antelope. Configuration of the walls can be seen through the peeled off external wall layers, as well as through the sectional cut that goes through a window detail. Built in a home studio, the model makes use of common and environmentally friendly materials collected on daily routines. Striving for a realistic representation of the different textures and finishing in the end visualization, the model helped me investigate the technical aspects of my design and how the different design elements can fuse together in real life to create a feasible and livable design that sits well within its urban context.

Image 01: 1: 200 Site Model - recycled corrugated cardboard and recycled grey cardboard

Image 02: Section Detail - greyboard, cork, recycled carboard, balsa wood, coloured paper, plastic sheet, chipboard, lollipop sticks

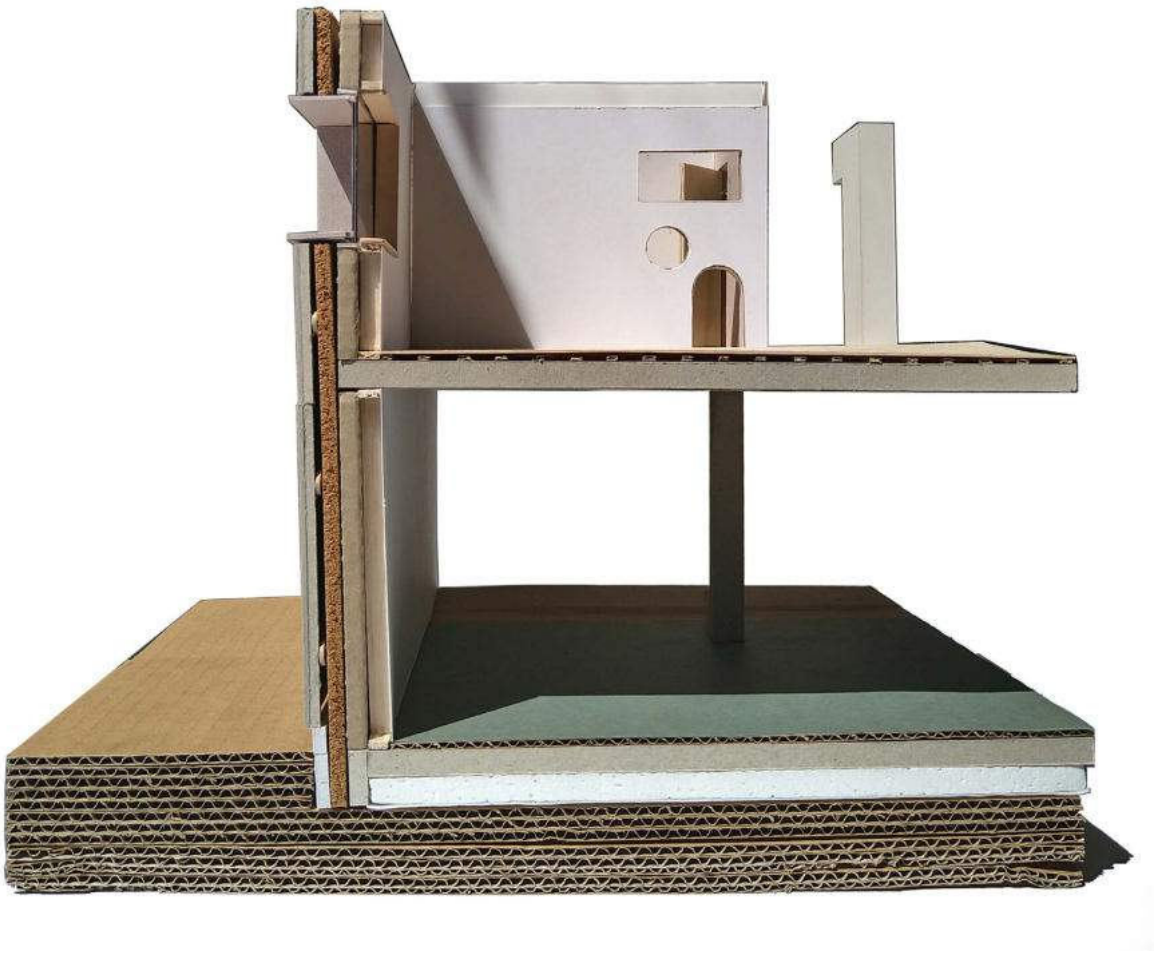


Image 03: 1:20 Section Model - greyboard, foam, foam board sheets, recycled carboard, basswood, coloured paper, plastic sheet, chipboard, lollipop sticks

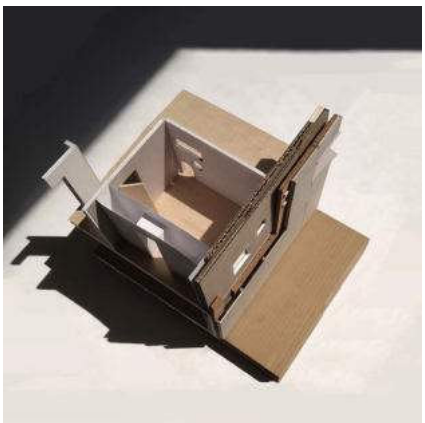


Image 04: Axonometric View showing peeled off layers of facade

Image 05: Children's Room Detail

Image 06: Children's Room Detail

Pak Hei Lee (Matthew) ， Hong Kong

BA Year 2 - Atelier: Living room

Project: 2.2 Urban Acupuncture - Final Model

Housing to be shared by Young and Old People + Day Centre.

The project is to create a place that provide a more vibrant and modern living environment for elderly by introducing younger generation living character. A living environment that shows a contrast in age group with common interest in place to improve connection between two different generation. It is an opportunity for elderly to learn and catch up with modern society topics. A building that includes entertainment facilities such as gym, gallery, pubs that respond to the lack of entertainment facilities within 5 minutes of walking distance from site. Both generation will be able to share their common of interests all in one living space. The 1:20 model presents the highlighted aspect of the proposed building through the approach of replicating the building layers and materials in the most realistic way. It is a sectional model, cut by three section lines (top/ right /back) to show a small area of the building. Ground floor is the gym area, while upper floors are all living units came with a private balcony, these overhanging balconies extend further as lower the level goes. Facade panels, rainscreen battens, building structure, balcony edges, open glazings and wall & floor layers are all precisely modelled at the cut section.

The model is made at home with foam board, grey / black / white mount boards, wood sticks, balsa, polyurethane foam block and cardboard. I started with the floor layer as the model base and adding partition wall and material textures in later stages. Each floor is modelled separately and later stick together. Facade and its supporting structure was then added onto the surface at the end.

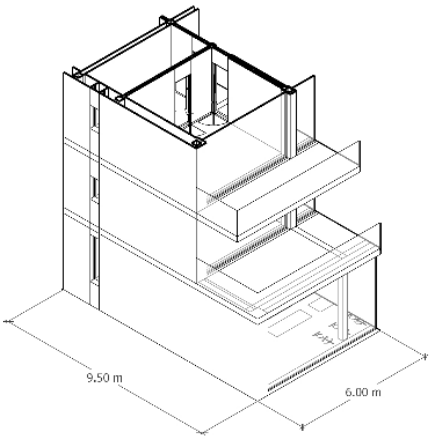


Image 01: Sketchup model

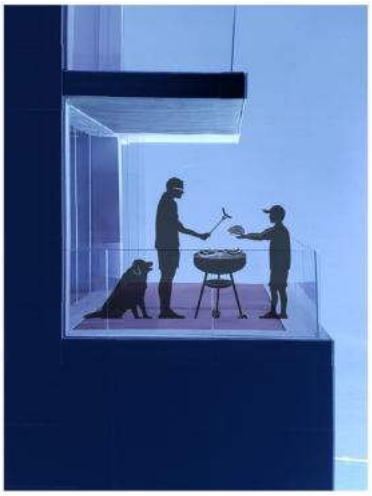
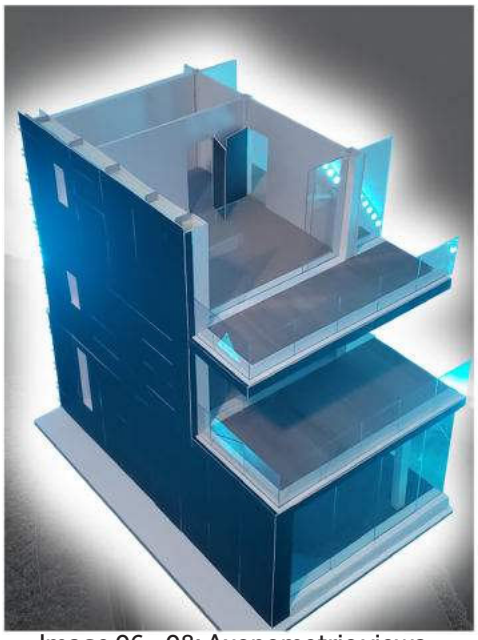



Image 02 - 05: Balcony zoom-in with human figures



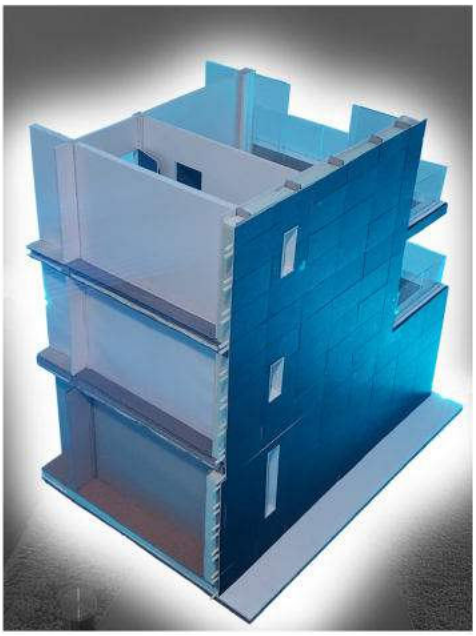


Image 06 - 08: Axonometric views

Image 09: Modelling process - applying insulation (polyurethane foam block)

Image 11: Modelling process - Ceramic granite facade (black mount board) in process

Image 10: Modelling process - Using laundry clippers to secure glued sheathing board (grey mount board)

Ruben Greyson, Manchester

BA2

Project: Housing

Re-Connecting the City

The project's brief was to design a housing scheme for the 'socially excluded'. On the site there is an existing, disused redbrick mill building. In my response to the brief I explored the idea of re-connecting elements of the city: providing a connection for those who are 'socially excluded', and re-imagining a disused building.

In this model I focus on this idea of re-connection. The model is a 1:20 material-focussed section, which aims to communicate the quality of the spaces and how the materials interact with each other. Specifically, it focuses on Carlo Scarpa inspired junctions between existing and new building elements.

The existing red brick wall is made of Jesmonite AC730 Natural Base, with a terracotta pigment. I chose this material following a series of test casts, and this was the most effective result. I made a negative mould using layered laser-cut grey board to create the separate bricks and different depths in the wall. I wanted to really focus on the materiality of the building and so I tried to get a really realistic finish. The base of the model is cast concrete; the floorboards are made from MDF; the windows are made of acrylic; and the exterior black wall is spray painted styrene.

Image 01: Entire model .

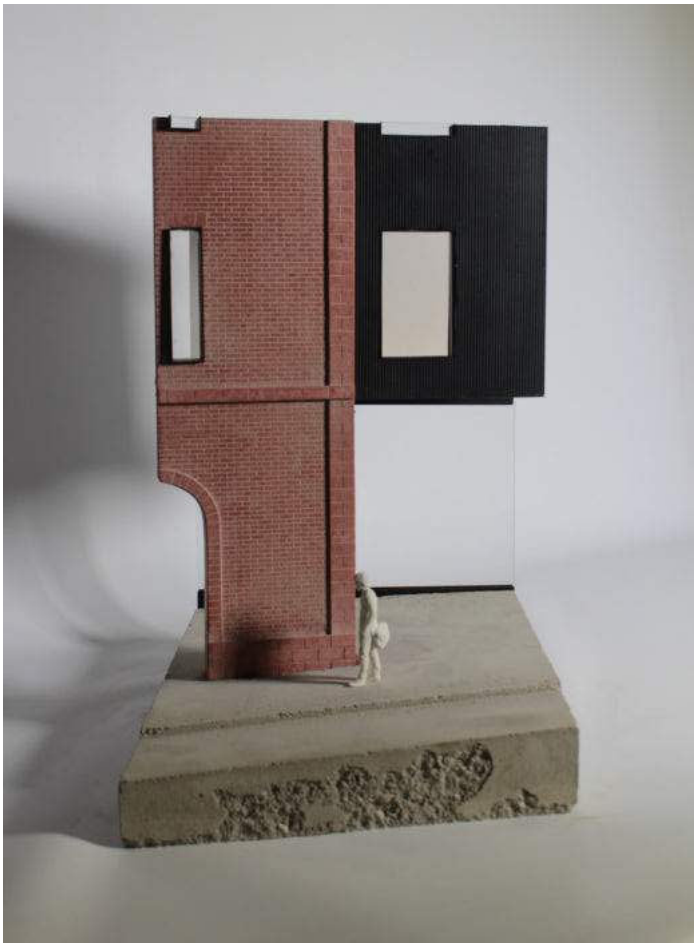


Image 02: Front view of buliding's exterior.

Image 03: View through the section of the building.

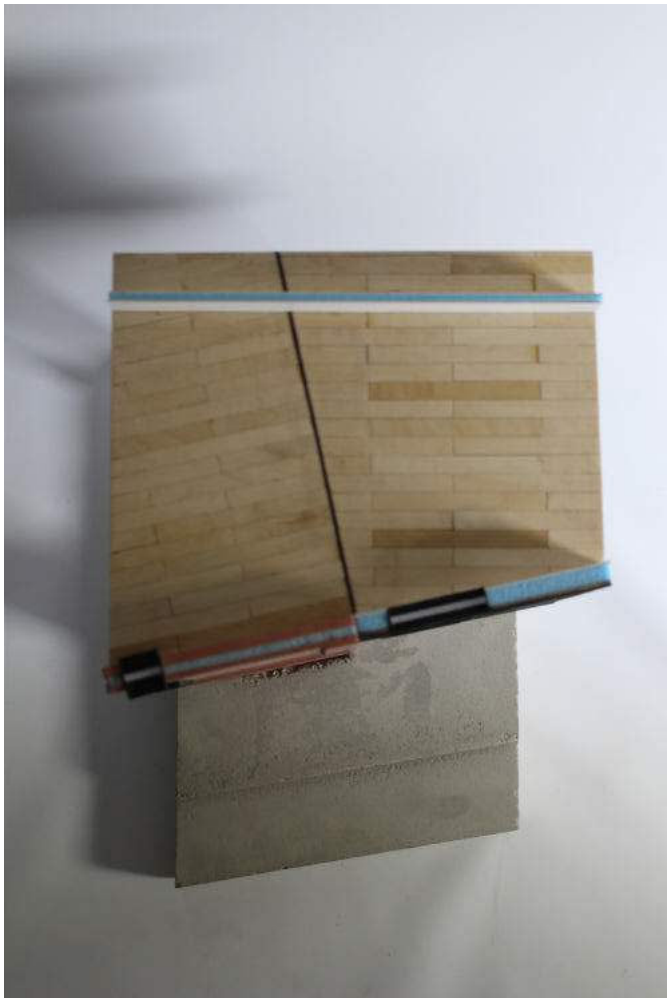


Image 04: Detail of interior junction between old and new.

Image 05: Detail of exterior junction between old and new.

Image 06: Interior perspective which highlihgts the junctions between the old and the new elements.

Sofia Viudez, Manchester

Ba Year 2

Project: Urban Acupuncture

Social housing, shelter and community centre dedicated for women

Urban Acupuncture centred around designing housing schemes within Manchester, choosing between three options with regards to the housing scheme and location. I chose the social housing, shelter and community centre scheme, specifically dedicating the spaces to women, located in Shudehill, Manchester. Throughout this project I aimed to create "permanence within the fleeting", living spaces that act as a sanctuary of tranquillity, stability and community within an area of constant movement and energy.

My two models were used to communicate two very different aspects of my design. My first model was used towards the end of my project, based on the circulation models by Wiel Arets, to communicate the more intricate and dense circulation paths and connectivity between all three buildings. This model was very important to me as it showed a very specific part of my design that seemed complicated on paper yet simple in model form.

The second model was used for my exhibition piece to communicate my social housing and shelter schemes' external cladding and how light filtered through into the living spaces. This model showed a specific detail of the two housing schemes, concentrating on the semi-operable polycarbonate cladding and the main material used throughout my scheme: Glulam frame and Douglas fir internal walls and floor lining. For this model I created a looped video to show how the operable cladding could be adjusted depending on the inhabitants' needs.

In making these two models I strived for simplicity while still communicating my design in an interesting and unique way. Thus, I chose materials that I could work with easily at home or, as with some of the pieces for my exhibit piece, I could cut in the workshop and mount at home. For my circulation model I chose to make it out of paper to solely communicate the circulation paths as well as making it all one colour to emphasize connectivity. My exhibit piece focused on communicating the prominent materials within my design rather than all the layers, thus few materials were chosen as to create a cohesive model.

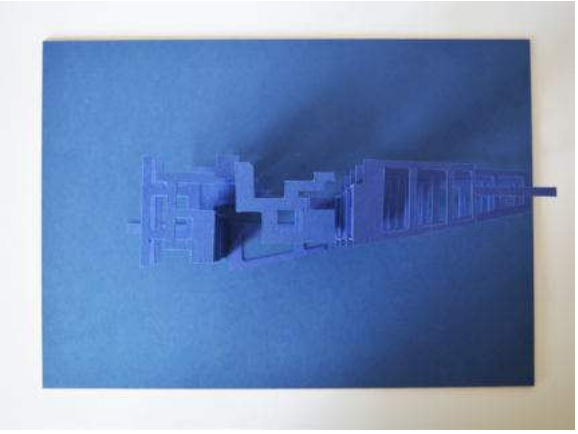


Image 01: *Circulation model*, Aerial view showing the distincing circulation paths

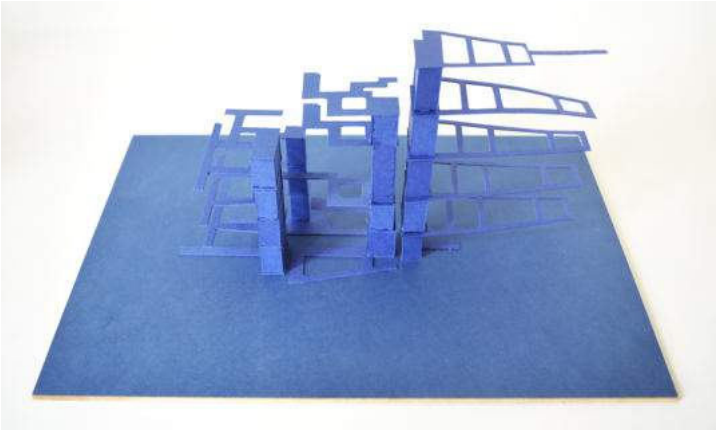


Image 02: *Circulation model*, High angled view showing the conectivity between the three buildings

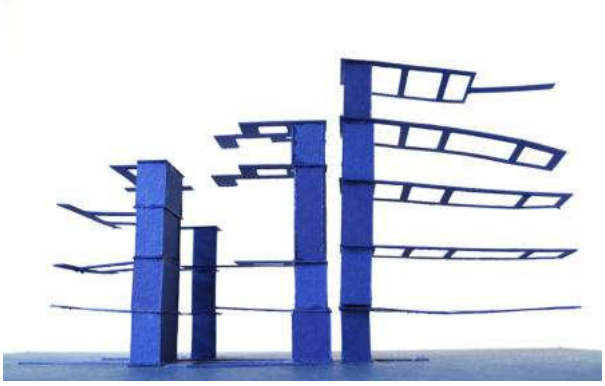


Image 03: *Circulation model*, Elevation view

Image 04: *Exhibit model*, Perspective view showing theconnection between the exterior cladding, terrace and living spaces

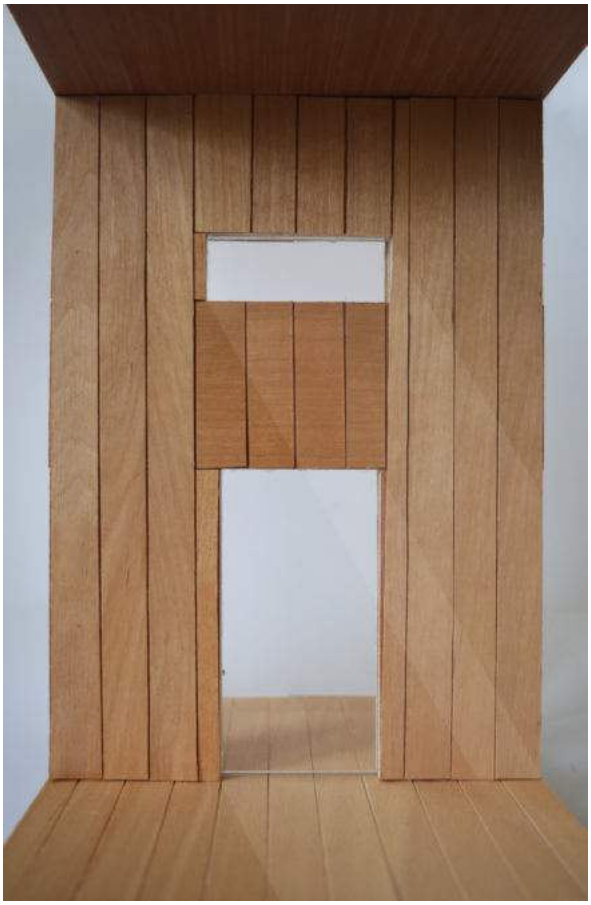


Image 05: *Exhibit model*, Internal view showing the wall and floor lining of the living spaces and how light filters through

Image 06: *Exhibit model*, Looped video of the operable cladding being adjusted

Anastasia Piskareva, Manchester

BA Year 3 - Atelier: CPU

Project: Food & Nature

Community garden and cafe centre

My project celebrates the international food culture and food growth in the characteristic interior representations of natural landscapes and gardens from different countries around the world. Situated at the heart of All Saints Manchester campus, it enhances social communication and contributes to the international cultural exchange between students, Manchester citizens and tourists, as well as providing organic traditional cuisines from the missing market segment. The building tries to integrate nature with architecture, introducing a greener urban environment and a healthier lifestyle for a resilient future city.

The exposed timber structures of my building enhance the «forestbathing» experience and blend with the planted interior natural worlds of different countries inside Manchester. Modelmaking was the central part of the project helping me to develop the structural design of the timber frame, explore and test its technical and visual possibilities and resolve and enrich the initial concept. The initial 1:200 model allowed me to decide on the structural grid and test out the facade layout as well as determine the necessary spans. The model also made me realise how technologies can be integrated with the visual shading effects of the inclined facade columns both in the interior and in the exterior. After engineer consultations, I further explored the thicknesses, the way of reinforcing the structure with steel and explored the ways and places of steel connections between the members on a much smaller scale with further modelling of the facade detail. It helped me to determine how the angled columns will connect to the main rectangular frame and with each other. The models were built manually at home, using materials that are easy to cut and sand, but it made it easier to experiment and adjust the elements along the way, so modelmaking became one of the most important development tools of the final design, intended to achieve the combination of the visual expression, open layout, transparency and the loadbearing engineering solution.

Image 01: 1:200 model of the structural organisation, balsa wood, cardboard

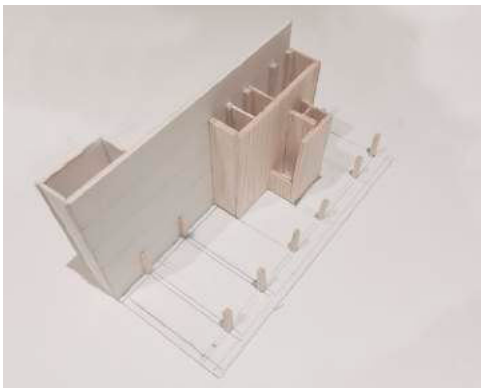


Image 02: process photo, showing cores of the building

Image 03: facade columns close up

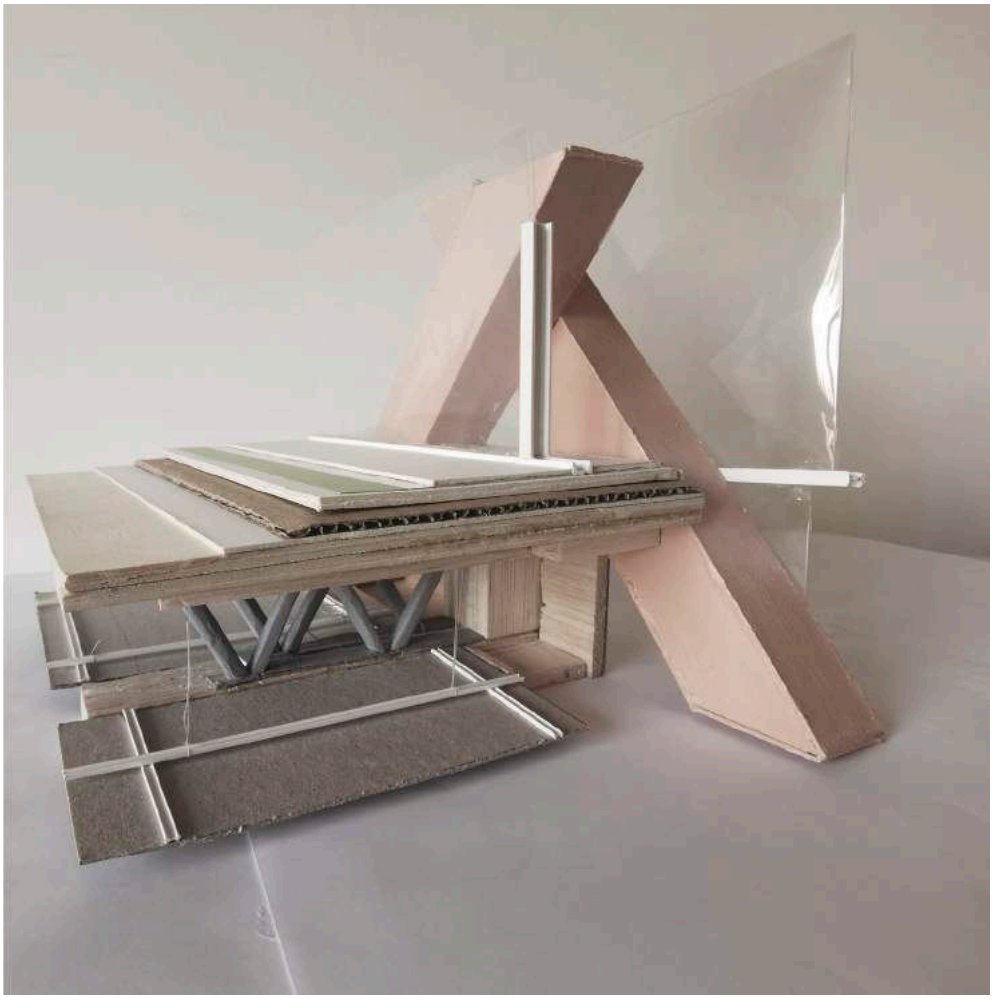


Image 04: 1:10 model of the facade detail, balsa wood, plywood, cardboard, acetate, plastic elements

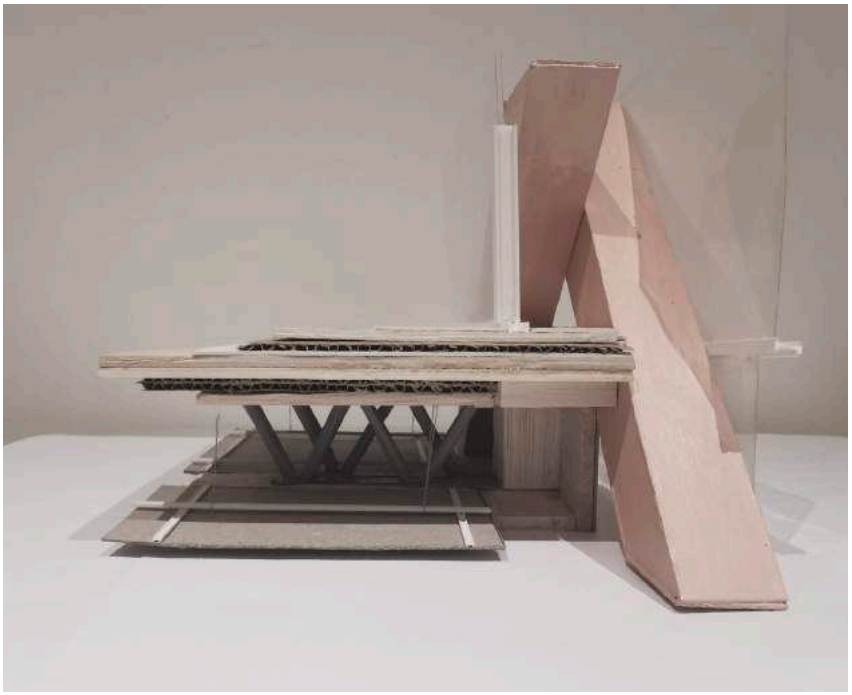


Image 05: side view of the model, showing the transverse facade section

Image 06: the close up of the structural composite truss build-up

Barbara Witczak, Manchester

BA Year 3 - Atelier: Continuity in Architecture

Project: The New Meeting House

Brief was to design a building for three clients located in Bradford. The building was supposed to allocate those in one of the given sites in the Top of the Town area in Bradford – slightly forgotten part of the city.
The project is a modern reinterpretation of original use of the Fountain Hall building in Bradford – The Meeting House, designed for the Quakers. The existing façade of the building remains untouched on the site and its history is respectfully brought back to life by the three organisations meeting inside. The newly created building on the neighbouring plot creates the big intimate backyard, creating space inviting new users and engaging local community – creating new social hub in the Top of the Town area.
Model made almost entirely in the workshop.
The 1:50 corner model was used to represent the connection of the history of the site with the modern reuse of it. The existing façade of the Fountain Hall building was made out of plaster. The mixture was poured into the built from scratch form with laser cut greyboard and laser cut engravings, highlighting the texture of the bricks on the building. The interior represents the newly added concrete structure and the important timber staircase, connecting the new design to the interior of the Meeting Houses in the past. Timber shown on the model with the use of balsa wood. The iron railings represented with laser cut mdf. The new interior is shown through the existing windows of the Fountain Hall – framing the view in both directions – from the outside framing the social interactions of its users and from the inside framing the view of the hills and the mosque on the north of the site. The timber structure is shown also in the roof, representing saw tooth roof – used in the industrial buildings and factories – gaining light from the north, preventing overheating. The glazed elements at the top represented with the use of acrylic and balsa to represent the window frames.

Image 01: Preperation of the form for pouring plaster.

Image 02: Cleaning the plaster after drying.

Image 03: The final model - existing facade with extension

Image 04: Final model - concrete and timber interior

Image 03: Close up on a timber staircase, with landing creating one of social spaces

Hengrui Liu - Manchester

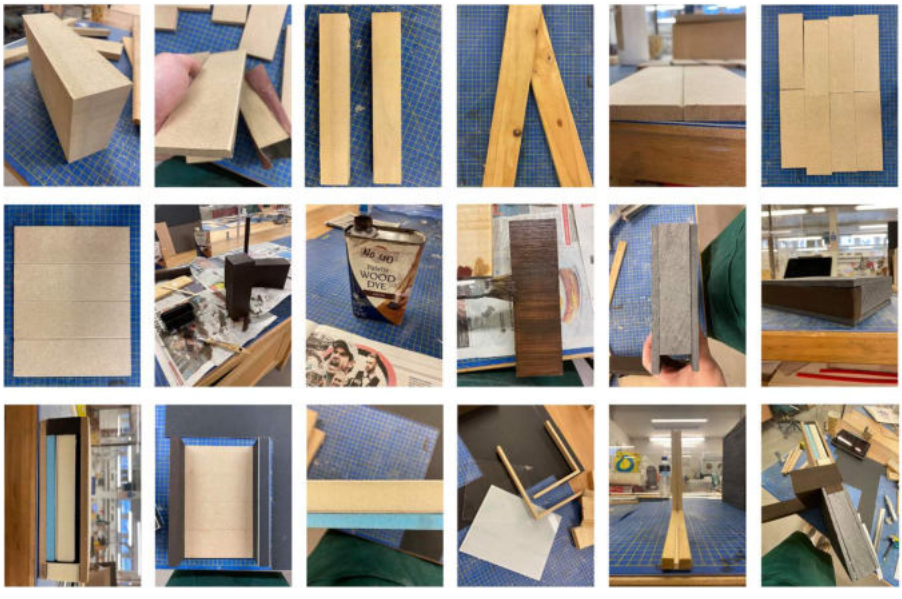
BA3 Atelier – CPU

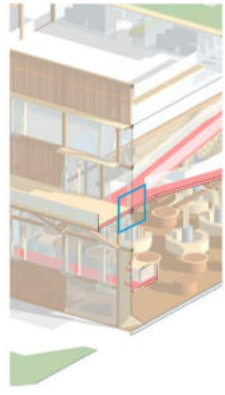
Project: Asian Dumpling Street Market (1:5 timber frame cut)

The process of cooking for me, it's performing as a way to release stress and great for mental medication, but most importantly, it helps me to gather people together. Therefore, the aim of Asian dumpling street market is to turn the campus area into a place where people with different nationalities enjoy eating authentic asian food from my hometowns.

The 1:5 tactile section detail model is to demonstrate the timber frame connection between the outer platform and concrete ramp, as they are the main building elements inside my market, it shows the circulation from outside to inside. The model was made from the B15 model making workshop as they provide professional crafting machines and staff help. Starting from the mainframes, I used Clarke to provide a sense of texture and extra weight then applied dark wood paint to different MDF baseboard and windows frames. Moreover, multiple colours of form board have been chosen for ramp and insulations to show the materiality.

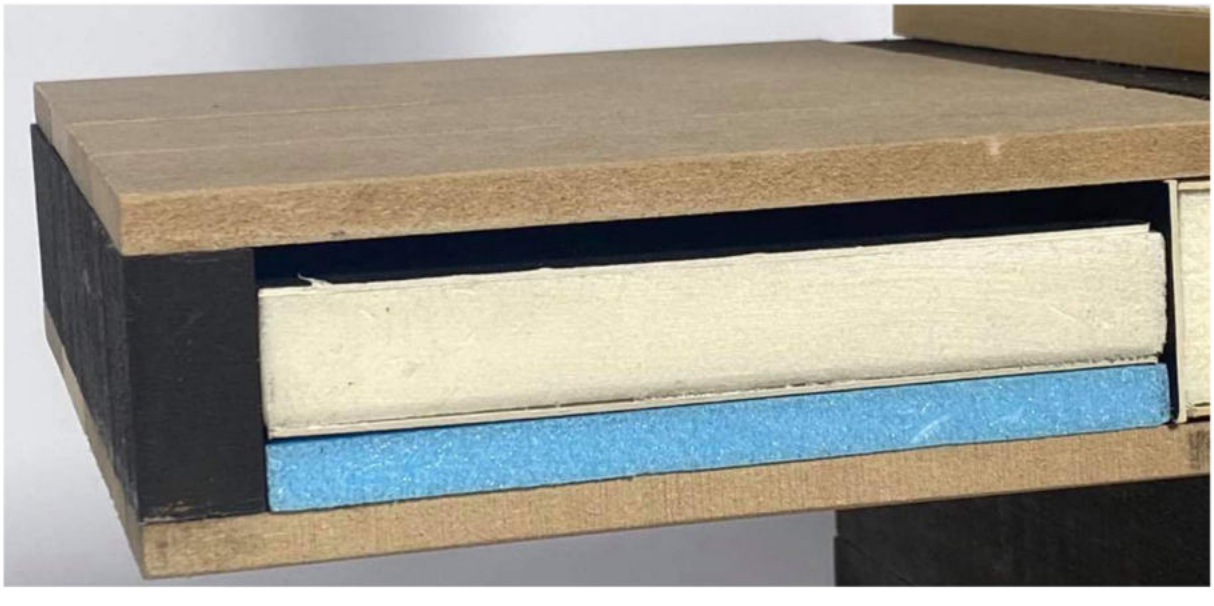
Model making process



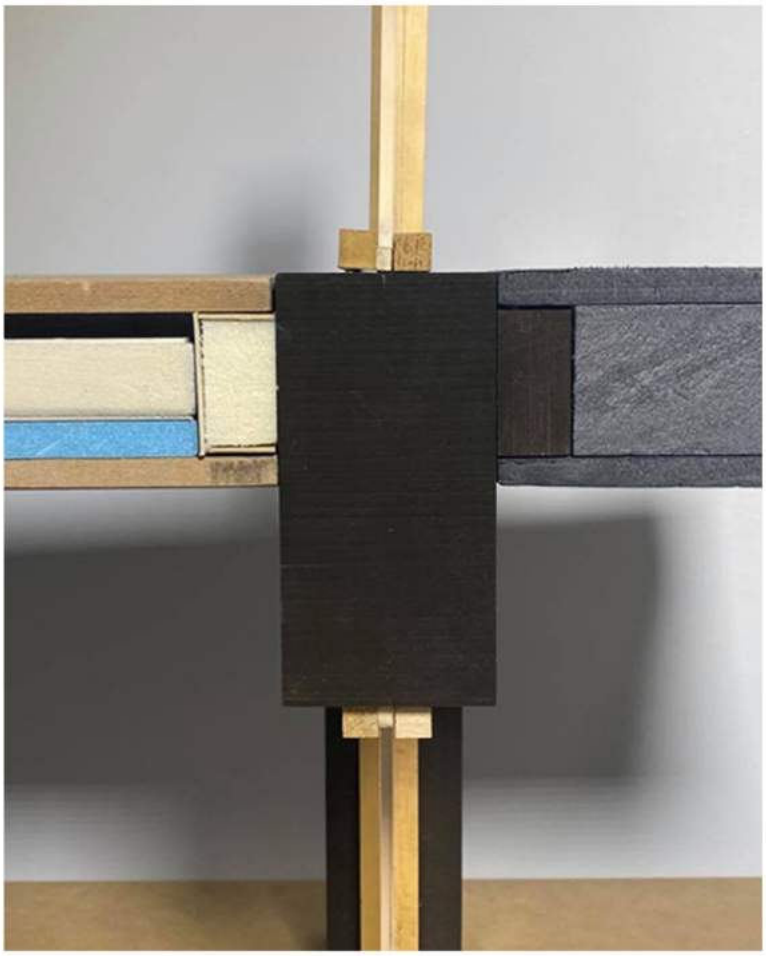


THE CUTTING AREA

Outer platform insulations



Timber frame front detail



Window frame detail

1:5 tactile detail model

1. 200x240mm window timber frame
2. 231x19mm laminated safety white glass

3. 185x60x10mm timber batten strapping
4. 50mm air gap
5. 20x40x240mm timber joints
6. 5mm aluminium conducting sheet
7. 100mm sheep wool insulation
8. 50mm thick polystyrene
9. 185x60x10mm timber batten strapping

10. 185x60x240mm concrete ramp
11. 20x40x240mm timber block joint

12. 60x120x240mm clarke timber frame

13. 180x200mm window timber frame
14. 170x190mm laminated safety white glass

15. 60x60x200mm clarke timber frame

16. 540x320x40mm MDF base board

Lidia Danil , Romania

Ba Year 3 - Atelier: &rchitecture

Project: Odesza Dance School

Odesza Dance School is an opportunity for the surrounding community, especially the children in it to express themselves artistically through physical performance. The previous abattoir site was a suitable canvas for such an intervention, given the surrounding calm context and lots of sport amenities provided on a 2 km radius. The site proposal is composed of the main, 10 module building, a quarter of which was modeled, a superimposed grid of natural elements on the existing tarmac hard landscaping and an amphitheatre.

The 1:100 sectional model (62.5 cm radius) is an exhibition piece that presents two and a half modules of the proposed building (a quarter of the entire building), their close proximity and the human-building interaction. One of the main purposes of the model was to study the interior qualities of the closed perimeter spaces and the natural lighting. Facade density and opacity was also studied using close-up images of the interior spaces. The structural properties of the building could only be observed and studied in the perimeter modules, the compression dome needing all the 360° axes in order to show the principle behind the structure. The model only presents the form of the dome, not the high span properties of the compressive structure.

The entire model has been handmade, only using 4 types of materials. 3 mm fiberboard was used for the base of the model, 3 mm square pine rods were used for the columns and beams, 0.2 mm acetate for the hallway windows and exterior glazing and 0.4 mm thick balsa wood sheets for the rest of the elements (foundation, internal walls, roofing, facade, seating, furniture elements). The shortage of workshop equipment and time limit made me opt for easy to cut and manipulate materials (the curved walls required a malleable material with a short drying time - water vapours and molding was used to obtain the desired radius).

Image 01: 1 + 1/2 Modules. Structural Grid. Uncovered Plan View. Rooftop Plan View

Image 02: Frontal View. Main Theatre + Compression Dome

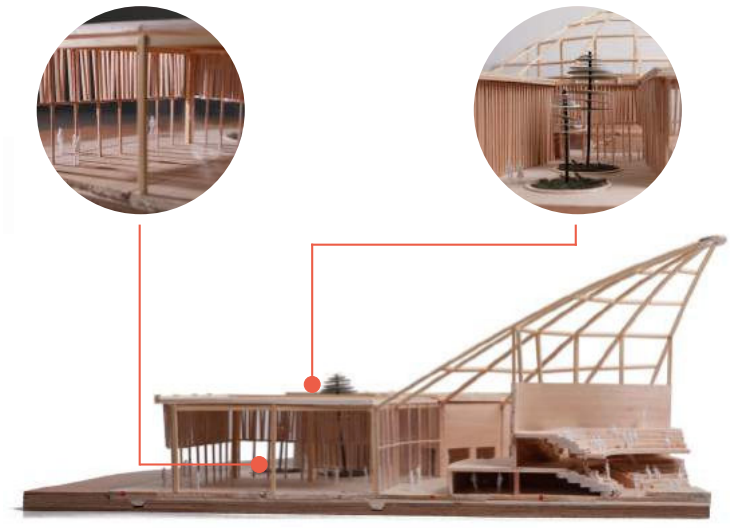


Image 03: Sectional Side View. Entrance Module. Foyer. Main Theatre. Framed Views of the Entrance Module Facade + Natural Threshold Elements

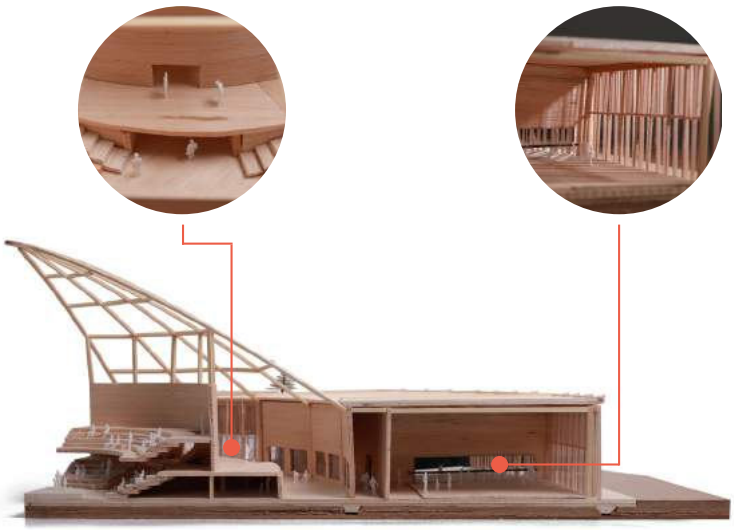


Image 04: Sectional Side View. Main Theatre. Foyer. Dance Studio. Frames Views of the Theatre Entrance + Dance Studio Facade

Omar Noia-Rodríguez, Oxford, UK

BA Year 3 - Atelier: Continuity in Architecture

Project: FOHA .02 in Bradford

Reimagining the Void

This project brings together a series of diverse clients: Assembly (a co-working facility provider), FUSE Art Space (an art and performance exhibitor), and the Bradford Civic Society (an organisation that celebrates the city's heritage and built environment). The intervention embraces the rich history of Bradford, whilst championing the current community and promoting alternative practices of work with an eye to a more inclusive and sustainable future. The void is integral to the building's expression. Externally this provides rhythm. Internally, it manifests itself in a collection of playful, open, light and flexible spaces. I have drawn on from the notion of encounter and exchange, to create a range of spaces routed in the opportunities for interaction – an abstract dialogue between people and place.

I used model making throughout my project. Initially, as a process tool – to experiment with ideas and develop them through iteration. And in the latter stages, as a presentation medium – to convey spatial qualities and atmosphere.

This is a 1:50 sectional model, of a corner position within my intervention. The model displays the recessed entrance, where the building threshold is subtly denoted by a change in ground materiality at the turning point of the blindspot. However, the glazed atrium retains a light and blurred transition between the existing and the new, lest to overpower the former. Here I have aimed to capture the emphasis on the distinct horizontal and vertical lines of the void, which captivate and pull in the view. The model portrays the potential for interactions between levels, and the capability to display large and unconventional pieces of Art. As I was based at home, I chose to work with materials that could be easily sourced and used with just a cutting mat, scalpel, and UHU glue: mountboard, grey board, balsa wood, copper tape, 1mm Perspex sheets, PVC pipe, and fabrics. These are all reflective of the restrained and neutral material palette I opted for in my project, to ensure a contextual appropriateness in accordance with the vernacular. By modelling the facades through a small number of large components, the sculptural identity of the design proposal shines through. The austerity and robustness are in part relieved by the subtracted apertures - here I was able to test the shadow casting. Internally, the detail of smaller components offers a tactile essence and resembles the imperfections of reclaimed materials.

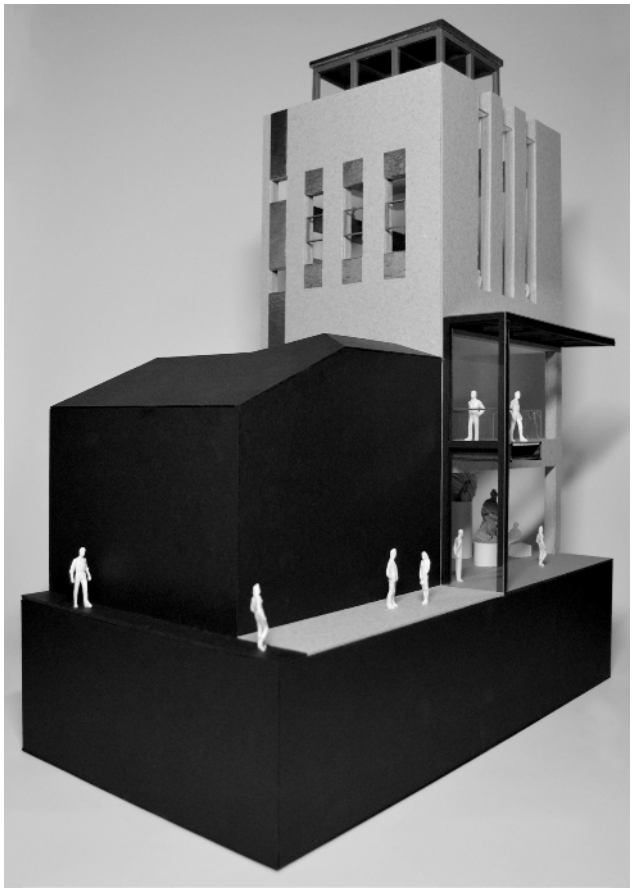


Image 01: The Corner Upon Approach.

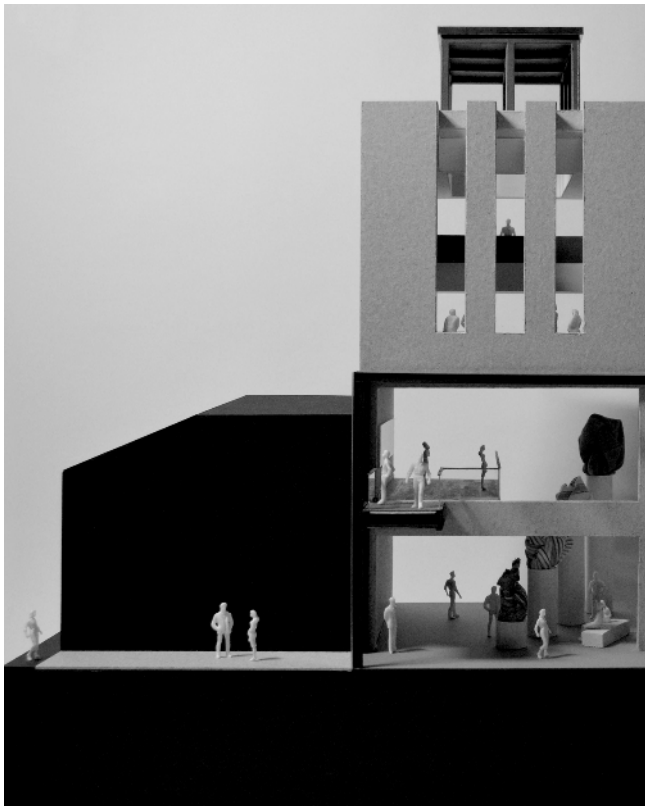


Image 02: The Mediator Across Blurred Thresholds.

Image 03: Imagined Memories of Bradford.

Image 04: A Changing View of Bradford.

Image 05: Immersed Within the View.

Saul Bunyan, Manchester, UK

Ba Year 3 - Atelier: INFRA-SPACE

Project: Future of Service Stations

Mixed-use hydrogen industry facility

My project looks at the future of the UK service station using the unrealised J2 of the M58 as the site. Inspired by various UK networks and the links between them, my scheme proposes a multi-use hydrogen industry facility with spaces for energy generation, hydrogen production and related industries, as well as questioning the boundaries between public and private space and opportunities for recreation on an industrial site.

Modelmaking has been valuable in my design process as it allowed me to test the visual impact of my scheme as well as the interaction it has with the surrounding environment. I produced a digital model to support my final plan and section development but the interaction of the public, green-spaces and pathways was an aspect I struggled to model digitally. The final model in this project demonstrates this interaction.

The models I have produced over this year have worked through a range of scales, despite the large size of my scheme. Initially starting with a 1:1250 concept model (image 1). Constructed using waste cardboard, string and cocktail sticks, I used large moves and simplified massing to effectively test visual impact and demonstrate the design of my hill. Towards the end of the project I recreated this with my updated design to make the presentation quality model that forms the majority of this submission. Primarily created in the workshop but with small parts and details completed at home, the model more clearly details the external arrangement and relationship the structures have to the context and pathways and planting that slope over the scheme.

The final model is constructed using hand cut greyboard with window details etched into the surface. Greyboard was used due to the versatility of the material and scale of the model making some pieces too small to adequately model in chemiwood, as was first planned. Where the turbine hall rises from the centre of the primary structure, frosted and etched acrylic is used, allowing light to permeate through. The digital model was used for dimensions and topography CNC machining in poplar timber for the base.

Image 01: South elevation of initial 1:1250 concept model

Image 02: South elevation of final 1:1250 model

Image 03: Ancillary industry space with laser etched detailing

Image 04: Closer view of supporting industry space with pathways, chimneys, supports and etched glazing visible.

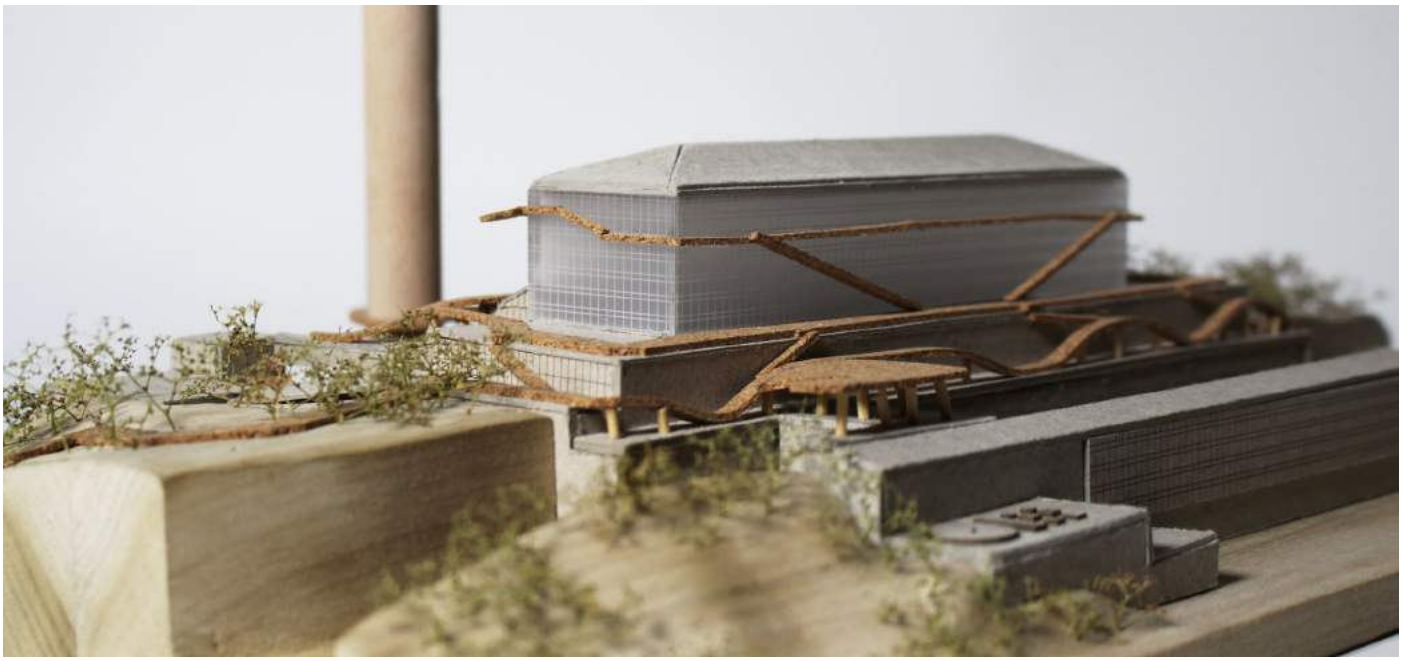


Image 05: NE low angle view of main generation space, with pathways sloping around turbine hall and planting providing screening

Image 06: SE low angle perspective of scheme

Serena Faizal, United Kingdom

BA Year 3 - Atelier: &rchitecture

Project: The Transparent Abattoir

Reimagining the Meat Industry

This proposal challenges the current model of the meat production industry in order to reduce its massive environmental impact and increase the welfare of the animals being slaughtered. By scaling down production and allowing the public to observe the entire production process - from live animal to packaged product - the new abattoir provides traceability and transparency for consumers as well as creates accountability within the meat industry. The proposal involves the adaptive re-use of a former industrial abattoir; the challenge was to transform the anatomy of the site from one dominated by monolithic man-made structures to one determined by natural expanses, creating a bucolic landscape for both human visitors and livestock animals to enjoy.

Image 01: Inital site model of existing structures

Initially, the 1:200 recycled cardboard model was created as a partial site model, to document and understand the existing structure. Over the course of the project, the site model became a working document to explore which elements would be removed and which would be retained, as well as to iterate the various programmes within the proposal. These new programmes were constructed from recycled pieces of mountboard and balsa wood. A sculptural parkland was emulated through the use of clay moraines, which sits within the repurposed lairage hall of the former industrial abattoir. The model and its subsequent reworkings were made entirely at home. Despite the simplicity of the model, it was invaluable in exploring forms, selecting appropriate scales, and resolving structural issues later on in the process.

Image 02: Site model used as a working model to explore ideas

Image 03: South elevation

Image 04: View of visitor entrance tunnel, walkway over artifical pond, and slaughterhouse.

Image 05: View of livestock barn

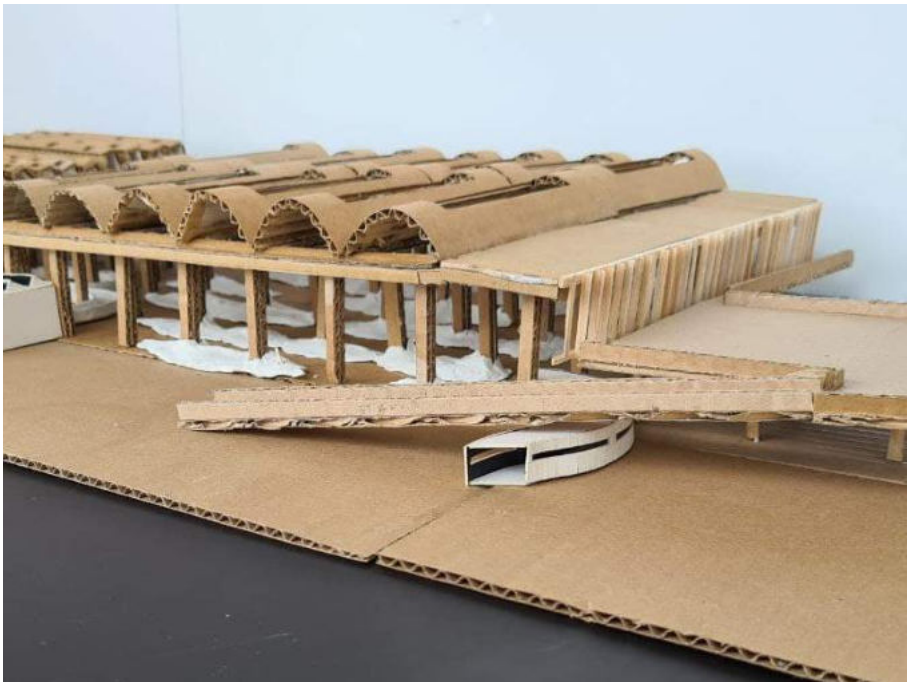


Image 06: View of sculptural parkland, second visitor entrance tunnel, and livestock transportation ramp.

Eva Filose & Maddy Adams

March Year 1 - Atelier: USE

Project: SANDFOLD GREEN

The area around the Secret Lake and Fallowfield Loop in Levenshulme has very contrasting atmospheres. There is a harsh juxtaposition between industry and nature. Our project set out to create a community and home for young vunerable people which presented jobs and opportunities in surrounding industries, while also connecting to the natural surroundings. Our design focused on prefacbricated modular CLT units that would allow for rapid construction and expansion as needed for the community, whilst also creating a dynamic structure. We also considered the embodied carbon thoughout our design and implemented active and passive environmental strategies.

Model making was used from concept design into the technical development of this project. We first used 1:200 cardboard sketch models to guide the design of modules, which we then refined into an 'L' shape. From here we made 1:500 mdf models of the modules to explore stacking options. Then we added the surrounding site to show the stacked modules in context to determine the best arrangement [image 01 & 02 made in B.15]. Our model making continued into the technical stage of our project where we used a 1:50 model to display both a seciton cut through stacked modules along with the construction sequence of the modules. This last model was constucted using plywood to represent the explosed CLT, foam board to represent the insulation, balsa wood to represent the cladding, greyboard to represent the marmoleum floor and green card to represent the green roofs [lazer cut in B.15 and assembled at home].

Image 01: 1:500 module stacking iterations

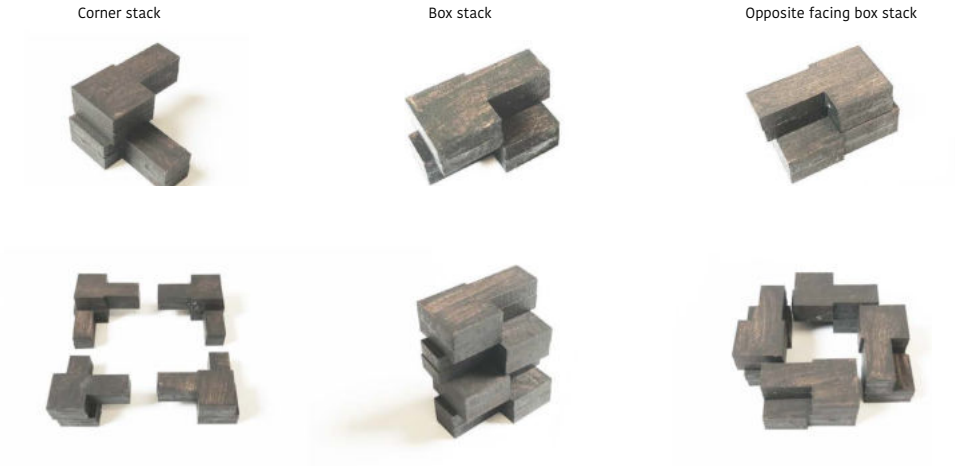


Image 02: 1:500 site model final arrangement

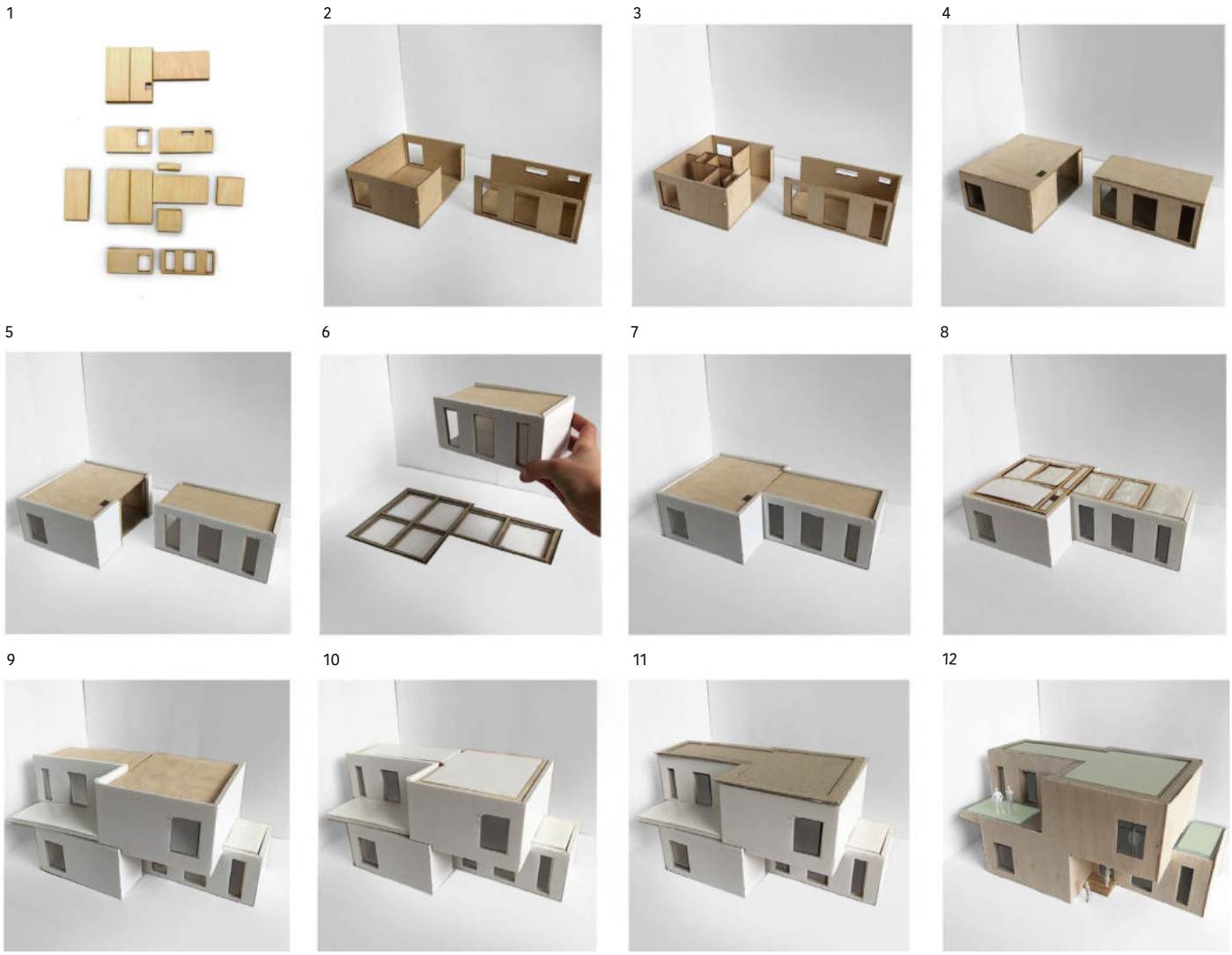


Image 03: 1:50 model to replicate the construction sequence of the modules. With prefabricated holes and realistic sizing considerations of CLT slab walls and floors.

Image 04: 1:50 model (same model as above) also enables a sectional view to display how the modules stack on each other.

Liam Costain , Manchester

March Year 2 - Atelier: Advanced Practice

Project: Impermanent Urbanism

Biodegradable design for sustainable development

Current and past methods of construction look to a monumental, monolithic view of architecture. One that seeks out physical permanence, with an expectation to remain for generations. But why? By definition, sustainability does not equal permanence, yet architecture continues to strive for longevity. We design for such ideals but cannot second guess future change. Society, functions and technologies continue to evolve, and so should our structures. For my thesis, I proposed a design for a temporal structure that can positively impact a city's sustainability.

Mycelium, the highly resilient, vegetative part of a fungus can break down natural and inorganic matter, and be formed into a lightweight, well-insulating building material. As an organic, biodegradable substance, the short lifespan of mycelium can facilitate sustainable urban development through a closed loop system of degradation and perpetual material growth. This thesis, 'Impermanent Urbanism: Biodegradable design for sustainable development', seeks to explore the potential of temporal structures as a catalyst for brownfield development, with the architecture seen as a gateway to a more environmentally sustainable future.

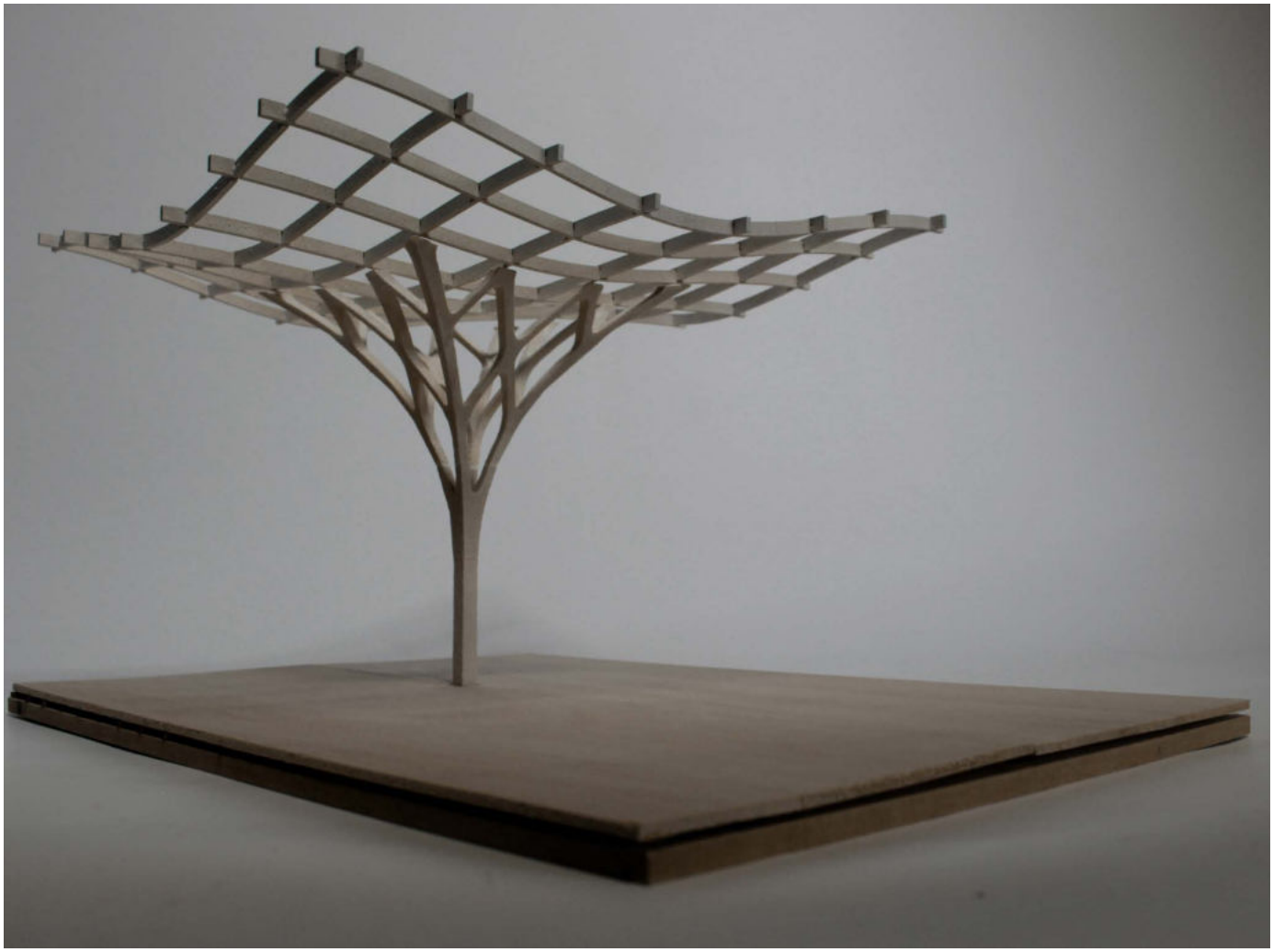
I began exploring mycelium as a facade material, one that is slotted onto a lattice frame so that the number of fixings would be limited. The below models show this design; the more developed models utilising foam as the mycelium modules. The purpose of the physical model was to understand the actual potential for the chosen construction technique. Through building the 1:20 structure, it highlighted the difficulties and intricacies of such an approach.

Subsequently, I altered the proposal to utilise mycelium as a lightweight structural application (following page), rather than a facade panel. By doing so, the material could be pushed outside of its expected use. In this design, the structure would support a canopy beneath which the temporal, changeable building can operate. Through an iterative process, I opted for a tall, elegant form that offers an air of weightlessness to the structure. The 3D printed model, with a laser cut lattice canopy above, was constructed as a final presentation model to exhibit the physical manifestation of the structure.

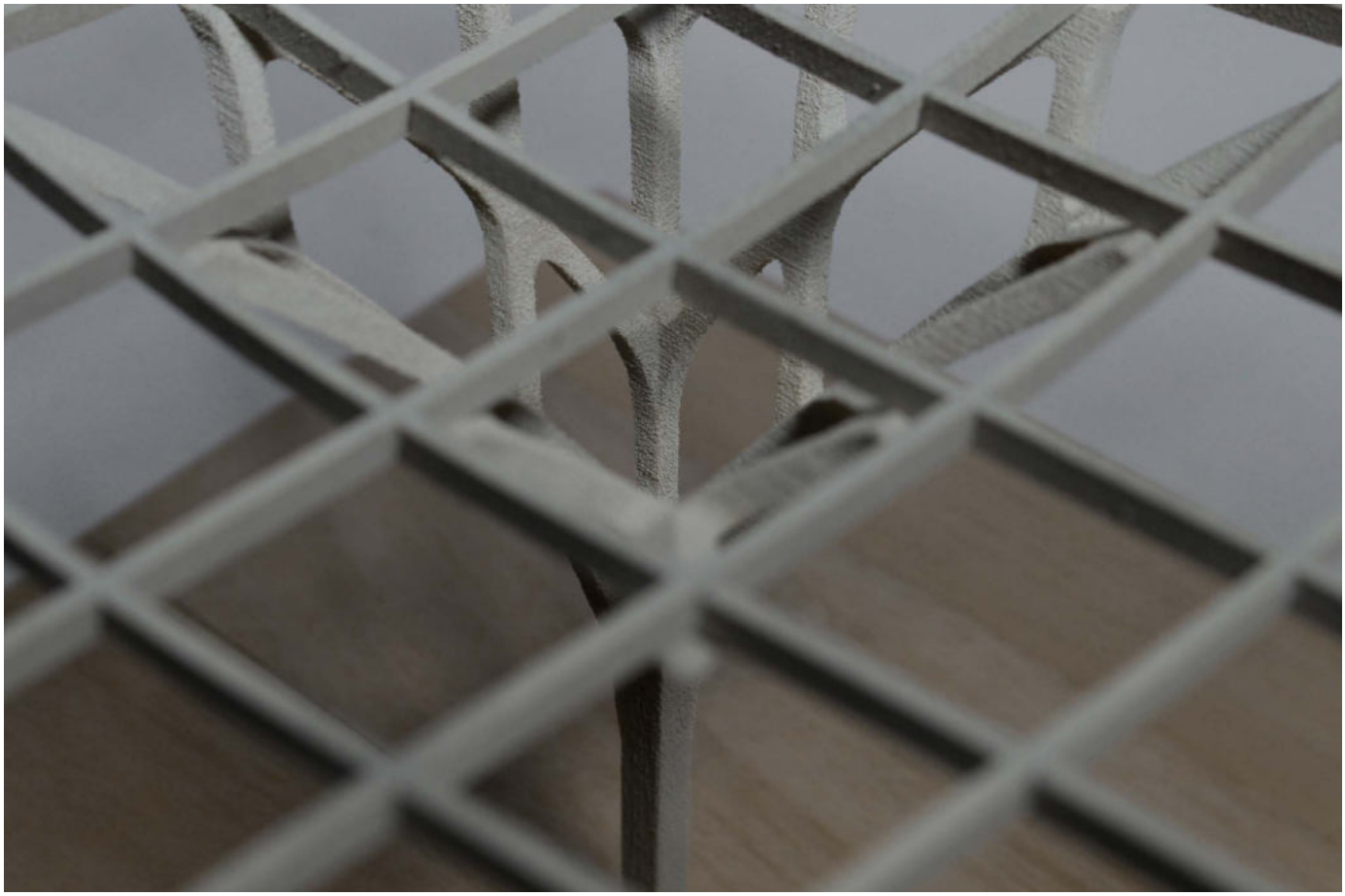
Early sketch model

Render of proposal for reference.

Sectional model to understand use of unfixed, modular mycelium. Model constructed using a laser cut MDF lattice structure and wire cut foam in the B15 workshop.



3D printed structural model with MDF laser cut canopy. Base constructed with MDF and balsa wood on top. Modelled in the B15 workshop.



3D printing was constructed in two sections glued together afterwards. Modelled in the B15 workshop.

Anya Lock , Loughborough

March Year 5 - Atelier: USE

Project: The Lake Arches

Professional Studies 1 Collective Living Project

The surrounding communities of the Fallowfield loop have been notably segregated for a long period of time. Research suggests neighbouring residents are predominantly asylum seekers awaiting status approval. This project focuses on bringing communities together by celebrating the historical memories of the Fallowfield loop. The incorporation of the arches into the scheme not only integrates the contextual aspect of the site but is also symbolic of a transitional space, moving into a new phase of life for the asylum seekers. Promoting an inclusive space, the design facilitates interactions between isolated individuals, through the provision of large communal spaces and balconies. To reinforce this, it was vital to integrate the buildings seamlessly within their natural landscape. Connecting them to the Secret Lake enhances the feeling of peacefulness, an aspect particularly welcoming to asylum seekers. The design is comprised of 3 accomodation buildings, 1 situated along the fallowfield loop and the other 2 on the nearby lakes.

A combination of plywood and balsa wood was used to create the site model. As the building forms are large and could appear bulky, the primary structure has been made of timber to create a 'lighter' atmosphere in between the lakes. This 1:100 model was constructed at home using a small laser cutter, a jigsaw, hacksaw, and a scalpel. As this was a modular design, the construction of the physical model reflected this, built in 50x50mm squares. Pine dowls were used to replicate the glulam columns in the design. The three physical models sit on a site measured at 2300x1500mm. The contours of the site were cut out of plywood, using a jigsaw to create curved edges. Voids were deliberately made in the plywood, so that when the site was stacked the lake would be visible.

When artificial lights are turned on at night, the buildings will light up the whole area between the lakes. This creates and safer and more welcoming appearance for residents and visitors. Photographs of the model were taken in the dark to emulate this. Using this dark appearance enhanced the details of the windows, a key feature of the design. The model was used to understand its context on site and its scale in relation to the Fallowfield loop and the lakes. The model takes you on a journey through the three buildings and the surrounding context.

Image 01: 1:100 Site Model of Reeds - balsa wood (for roof structure and walls, plywood (site and walls with windows) and acrylic paint (lake on site).

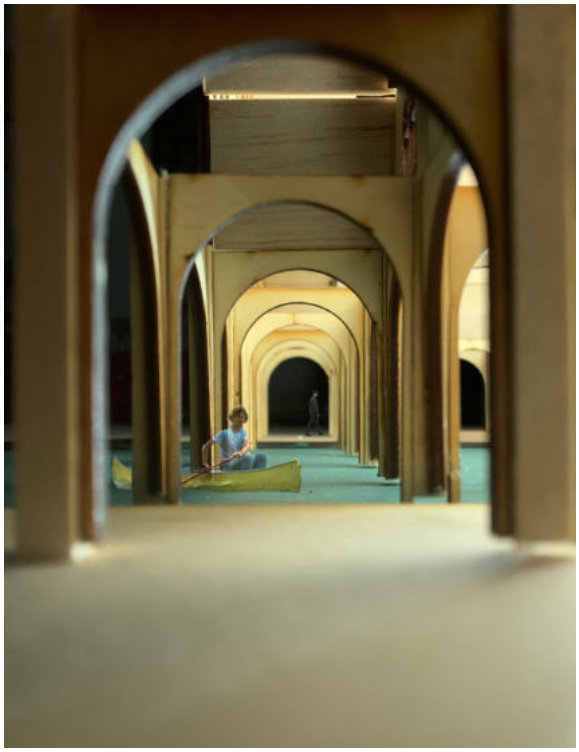


Image 02: 1:100 The building arches - soft plywood (arches), pine dowels (columns), hard plywood (site) and thin balsa sheets (floor above arches).

Image 03: 1:100 External view of Leve - soft plywood (arches), pine dowels (columns), hard plywood (site) and thin balsa sheets (floor above arches), thick balsa (walls without windows). The arches range from 40- 60mm high dependant on where it is situated on the landscape.

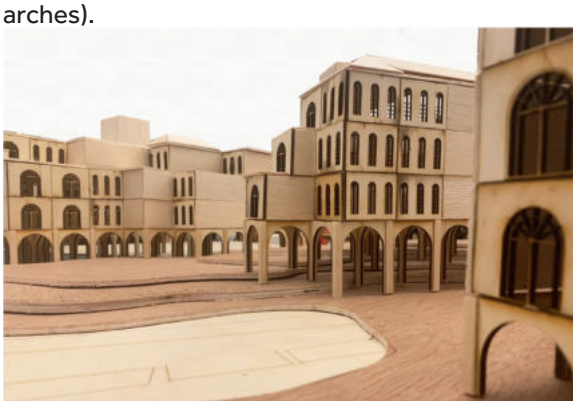


Image 04: 1:100 Site Model

Image 05: 1:100 Site Model, Isometric South West View of Reeds (left), Leve (middle), Fallofelde (right) - balsa wood, softwood and hardwood plywood, pine dowels and acrylic paint.

Aslan Lewis

MArch Year 2 - Atelier: Advanced Practice

Project: Insect House

An autonomous bamboo cricket farm

Located within an autonomous community in La Garrucha, Chiapas, Mexico, the proposal is a prototype for a cricket farm providing a sustainable food source and income stream. Bamboo was chosen as a local, sustainable, earthquake-resistant resource and a variety of construction techniques are exhibited in the design. The 1:10 Section Model *(Image 01)* helped explore some of these techniques using real bamboo. Aiming to; minimally process the bamboo, enable ease of transportation and achieve a regular form based on the dimensions of a cricket breeding container, the idea was to cut the bamboo into regular struts with precise lengths whilst maintaining the imperfection aesthetic. The struts were then sorted by width so the structure tapers with height. The anticlastic doubly curved roof provides earthquake resistance through form and rotational inertia from the overhang. It was achieved by splitting the bamboo into thin strips enabling greater flexibility before glueing them into a layered gridshell. Angles between triangular ply panels were extracted from the digital model enabling the ply to approximate double curvature. A kagome weave pattern decorates the facade and is represented by etched ply. *(Image 01, right)*

The site model *(Image 02)* locates the building in context and milled ply defines the contours of the uneven ground. The contrasting 3D print highlights the structure of the insect house and the intricate detail pushed the 3D printe to its limits.

Extending research in autonomy led to exploring the limits of sustainability in the extreme hostile environment of Mars. In-Situ Resource Utilisation is a sustainable alternative to transporting materials, in this case from planet Earth. The 3D print *(Image 03)* is an exploration of efficient form that could be achieved from printing a mixture of Martian regolith and organic adhesive.

As 3D printing with earth is emerging as a method of construction, *Image 04* is a concept for a hydroponic wall, part of the Life Support Centre, a leisure and health facility utilising remediated clay excavated from site in Manchester. The wall design minimises the material required for printing whilst maximising structural stability and provides a cavity for insulation.

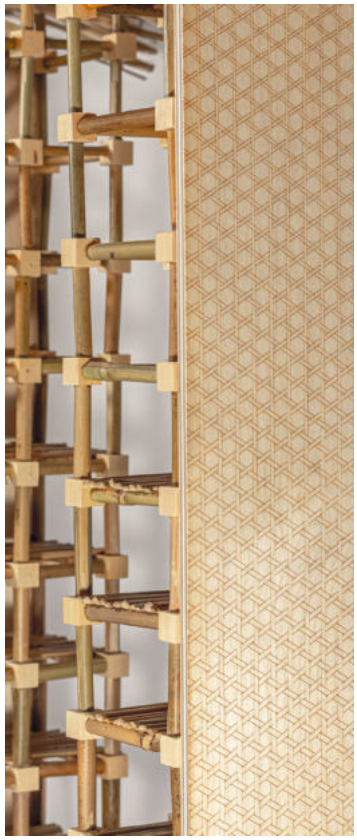


Image 01: Section model 1:10
Bamboo, Timber nodes, Ply, Velcromat
Some elements prepared on campus, fully assembled at home

Image 02: Insect House: Site Model, 1:100
3-Axis CNC Milled Ply Board, 3D Powder Print
On campus

Project: Martian House

Image 03: Martian House, 1:200
3D Powder Print
On Campus

Project: Life Support Centre

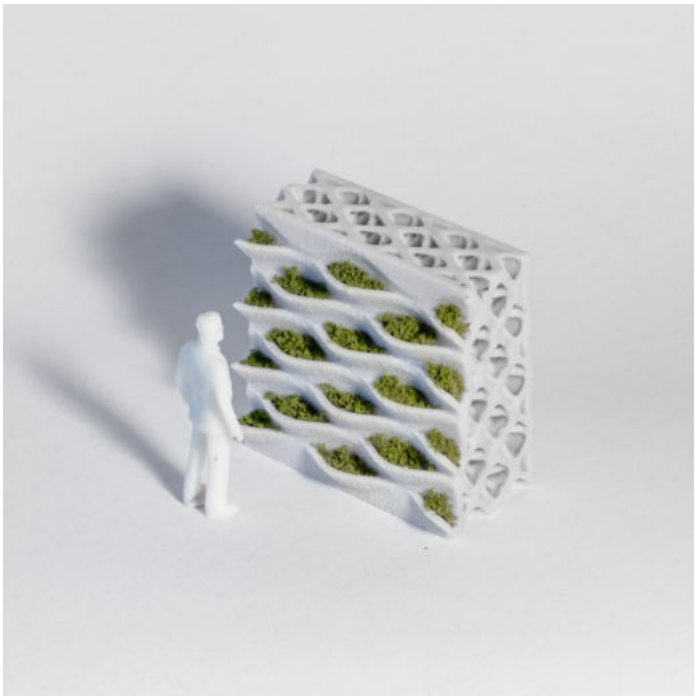


Image 04, Hydroponic Wall, 1:30
3D Powder Print
On Campus

Cameron Hawkins , Liverpool

MArch Year 1 - Infra.Space

Project: An Urban Spectacle

The Adaptive Reuse of Liverpool's Tate + Lyle Sugar Silo.

The scheme has explored how a piece of Liverpool's former port infrastructure, the parabolic concrete ribbed structure formerly utilized as the Tate & Lyle Sugar Silo, can be reimagined with a use that is socially, environmentally and economically sustainable. On the one hand, the programmatic response seeks to celebrate the existing industrial culture of the region and proposes a new model for secondary steel production (scrap metal recycling). On the other hand, however, in line with the future macro typological trends which foresee this industrial zone being infiltrated by a raft of mixed-use developments, the response invites this future community by facilitating a number of metalwork artists with spaces to teach, craft, exhibit and market work. A civic space is therefore created at the point of convergence of these two typologies; a place where the industrial scale of the steel recycling plant meets the domestically scaled operations of the artists and visitors.

This 1:500 ceramic site model has been pivotal in exploring the notion of a synergetic relationship between production scales, both in terms of utilizing the model post-production, and in the decision and design/making process of the model itself. The black stoneware clay has been used as the primary material to embody a sense of the dirty, industrial culture of region, over which this clean civic space is to be laid, and therefore a visual contrast between the black clay and the cleaner plywood was important. This material choice was also in part driven by the aspiration to materialize this concept of blurring of these production scales. Generally, ceramics draws connotations of larger production scales and intensive processing, though in this case the material has been manipulated solely by hand to form this one-off model, before being fired to 1100°C, thus combining aspects of both scales.

Modelmaking entirely from home has influenced many aspects of the model, predominantly the scale, which was constrained by material resources, storage space, and the electric kiln dimensions, though this has not been a limiting factor as the presentation of the model has taken the digital form of photographs rather than a physical exhibition. Without access to a full workshop, a creative approach to materiality was required, and this has driven an exploration into less-orthodox materials of architectural modelling, such as ceramics, as discussed, and wild moss, collected and dried to imitate scrap metal piles.

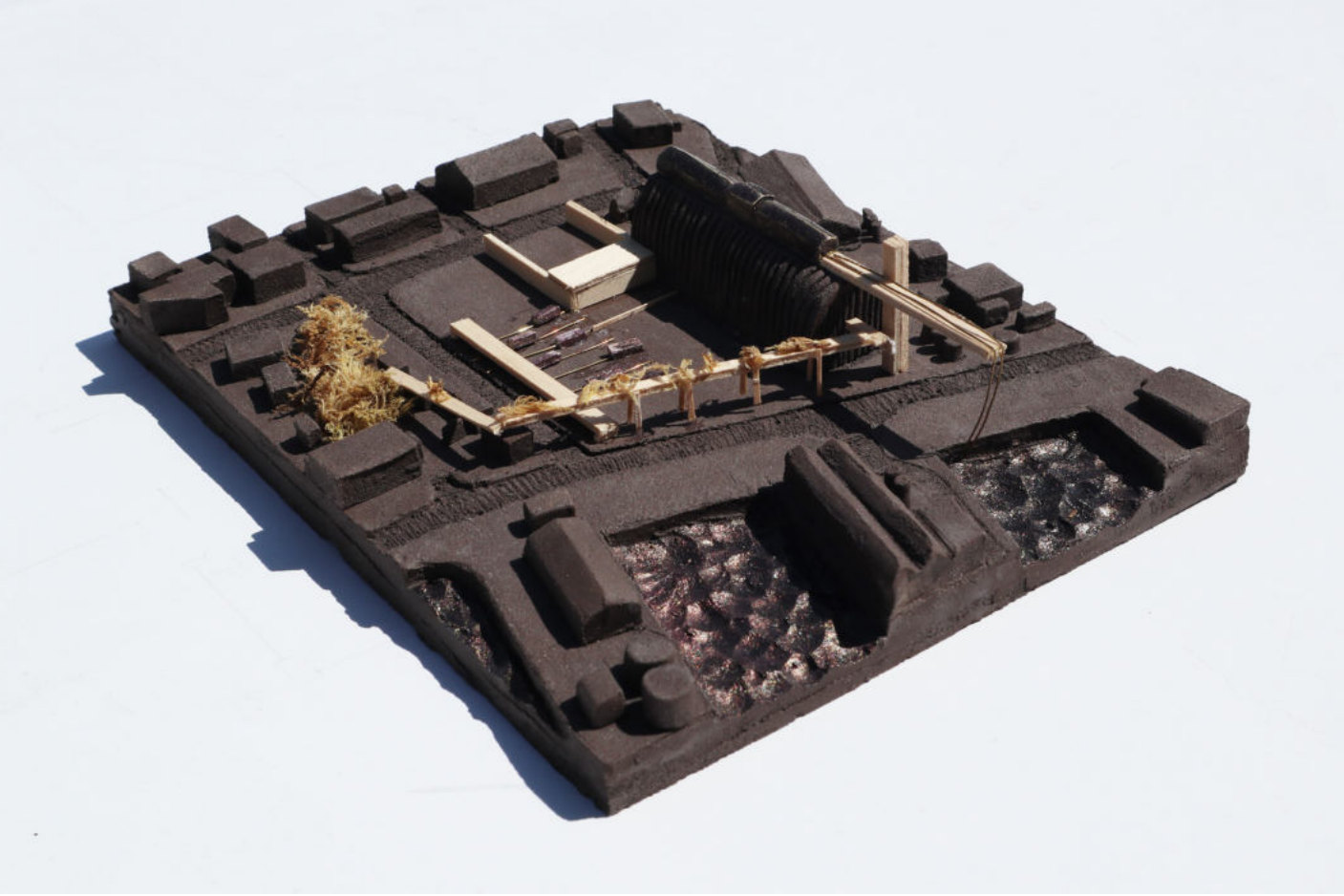


Image 01: Ceramic site model @1:500 - isometric view

Image 02: Ceramic site model @1:500 - plan view

Image 03: Electric kiln

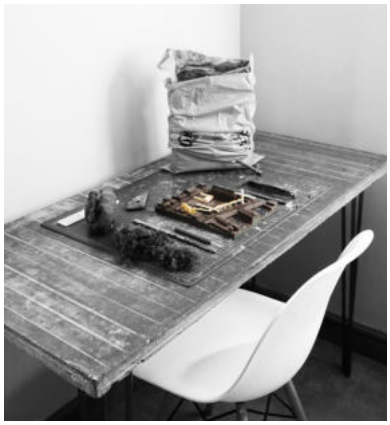


Image 04: Desktop workstation

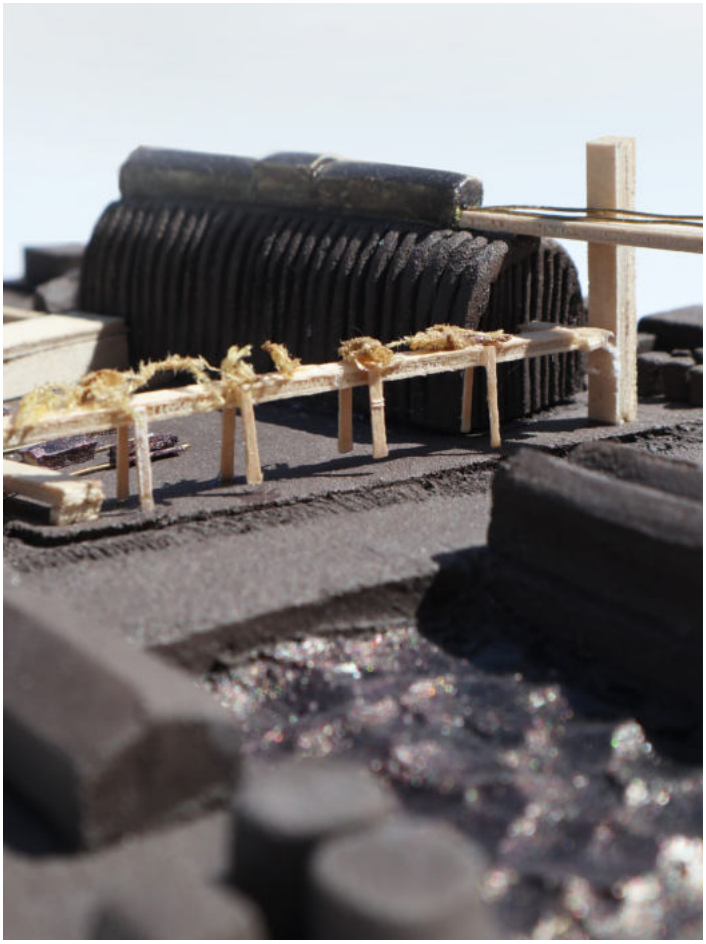


Image 05: Ceramic site model @1:500 - perspective 01

Image 06: Ceramic site model @1:500 - perspective 02

Daniel Collinson & Tejin Palan, Manchester

March Year 5 - Atelier: USE

Project: The Nest

New Build Residential Project for the homeless and vulnerable.

This new build residential scheme is located adjacent to "The Secret Lake" along the Fallowfield LOOP. The project aims to accommodate those at risk of homelessness and most vulnerable members of the community. One, two and three bed apartments and facilities such as a gym and breakout spaces are located in a natural environment overlooking the lake. The primary structure is constructed using CLT and Glulam, the arched elements draw inspiration from the nearby tunnels and overpasses that can be found throughout the Fallowfield LOOP. The façade is decorated with recycled plastic shingles that are fully recyclable and sustainable. The 1:200 model helped to explain the concept in context and the relationship between the building and the secret lake. The 1:50 sectional model was made to showcase the cladding material and internal spaces in finer detail. The arched elements can be seen in both models, and the timber structural strategy is highlighted in the 1:50 model. Both models could be deconstructed to show the various layers.

The 1:200 model was constructed using recycled materials. Laser cut plywood for the ground floor arches. Timber offcuts, hand crafted, for the main mass of the building. Acrylic offcuts were used for the lake and the circulation cores. The base of the model was made using recycled plywood sheets, glued together and CNC routed to create the varying levels of the site. The construction process of the model also allows it to be easily up-cycled at a later date. The 1:50 sectional model was assembled using laser cut pieces of plywood. The pieces were sanded to remove burn blemishes left by the laser cutter. The pieces were then glued together to create the 'glulam' structure of the building. The interior walls were then added. The balconies were made using acrylic offcuts and the pathway beneath the building, using cork. The cladding was made by laser cutting each tile individually, spray painting and gluing together on a thin sheet of plywood, before being attached to the exterior of the model. This model can also be recycled easily like the 1:200 in context.

Image 01: 1 : 200 Massing in Context

Image 02: 1 : 200 Massing in Context Low Angle

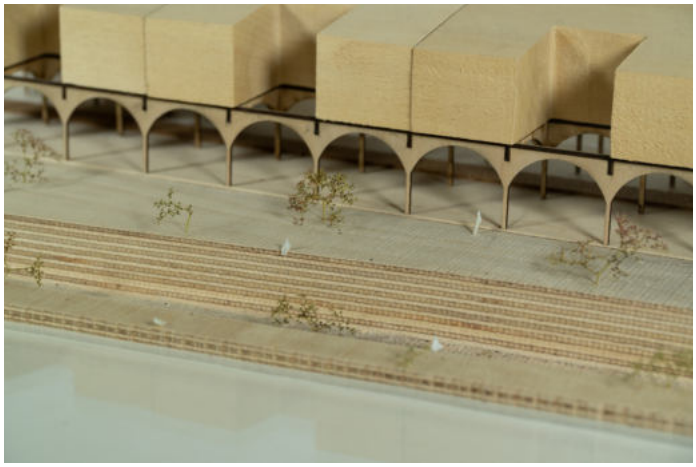


Image 02: 1 : 200 Massing in Context Close-Up

Image 04: 1 : 50 Sectional Model

Image 04: 1 : 50 Sectional Model Front Elevation

Image 04: 1 : 50 Sectional Model Deconstruction Sequence

Hayley Sheldon and George Williams , Manchester

March Year 5 - Atelier: CIA

Project: Copy Court

Where?

Copy Court is a new residential village in the heart of Bradford's 'Top of Town' conservation area. The building is the centrepiece of a masterplan that aims to promote a sustainable neighbourhood with pedestrian friendly streets, community facilities and shared gardens, all seeking to engage occupants in neighbourly interaction. This is epitomised within the central courtyard space, which has been informed by the wider city context with specific relation to the use of courtyards and light-wells in some of Bradford's historic buildings.

What?

The 1:5 detail model of the glazed terracotta clad glulam columns demonstrate a consideration of sustainability, but also highlight the tactile nature of the overall scheme and the materials used throughout. Edward Ford said "A detail is a fragment in which the whole building is represented", we wanted to express this theory within our scheme and apply it to certain detailed components. Taking from the project's masterplan principles of carving elements out of a singular mass (which also informed the courtyard form of the building), we cast a block mass and began to experiment with carving out different profiles in order to emphasise this sense of tactility within the courtyard space.

Why?

The use of glazed terracotta panelling on the columns is in reference to the glazed brick often found within lightwells/ courtyards of the Victorian buildings that also informed the form of our scheme. The glazed terracotta panelling allows the internal courtyard elevations to appear like an assembly of small parts, with the visible intersections between the elements of the columns complementing the sandstone cladding of the building.

How?

We initially used the CNC router to form various mould options which the tiles were cast out of. Once these were primed we added a terracotta pigment to a plaster mix and poured the tiles leaving them to set. The removable tile element at the front of the column exposes the solid plywood block at the centre of the detail, this represents the glulam structural column. The painted base represents the slender steel form-work which is exposed above ground level, several coats of paint ensured at solid block of colour.

Image 01: Column model with removable cast tile, to revel structure

Image 02: Tile cast experimentation 1

Image 03: Tile cast experimentation 2

Captions

Image 04 - Steel base formwork, exposed above ground level to create a greater sense of ornament.

Image 05 - A section of the column in its entirety

Image 06 - Exposed glulam beam and steel attachment structure.

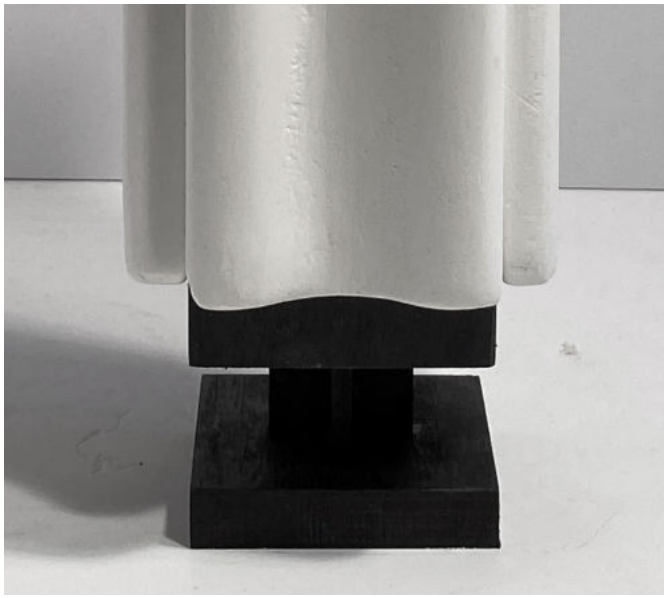


Image 04

Image 05

Image 06

Hayley Sheldon , Manchester

March Year 5 - Atelier: CIA

Project: Co-Create

Clay . Cast . Collaborate

Where?

46 Darley Street has historically been the home of an ironmongery and fine china store. The project brief allowed for an arts centre which is reflective of the building's history. Co-Create is a centre for ceramic art with adjoining office spaces for the creative industries. With views across the varying spaces, I wished to create a distinct feature at the focal point of the centre. One which drew users through the building and encouraged exploration.

What?

This 1:50 model captures a section of the focal ornament illustrating the intricate balustrade that wraps round the central core. It demonstrates the interactions experienced at each level and encapsulates the viewpoints through the void. The central spine wall, featuring handmade tiles, is a statement at the centre of the building enticing users through the ceramics centre.

Why?

The ceramic wall particularly draws on the building's history as fine china store, the intention being to use the casting processes occurring within the building to create the ornament. The adding of personal individual tiles engages the users as they become part of the building as the building is reflective of their experience.

How?

The balustrade elements were laser cut in the workshop due to their delicate nature, they are compiled of three elements to emphasize the pattern's depth and discreet shadow gaps. The larger components were hand cut in the workshop and further sanded at home, this allowed for thicker materials to be used instead of layering. This was particularly useful in achieving the most accurate representation of the solid casted concrete floors and steps, as it allowed me to use an 18mm valchromat sheet. The tiled central spine wall was etched into MDF using the laser cutter and hand cut to size at home. Adjustments to intricate detailed sections were constructed at home, with minor alterations carried out as I found small challenges in its completion. The small discrepancies between materials provides a realistic contrast, highlighting the retained elements from the new interventions.

Image 01: Elevational view of differing levels

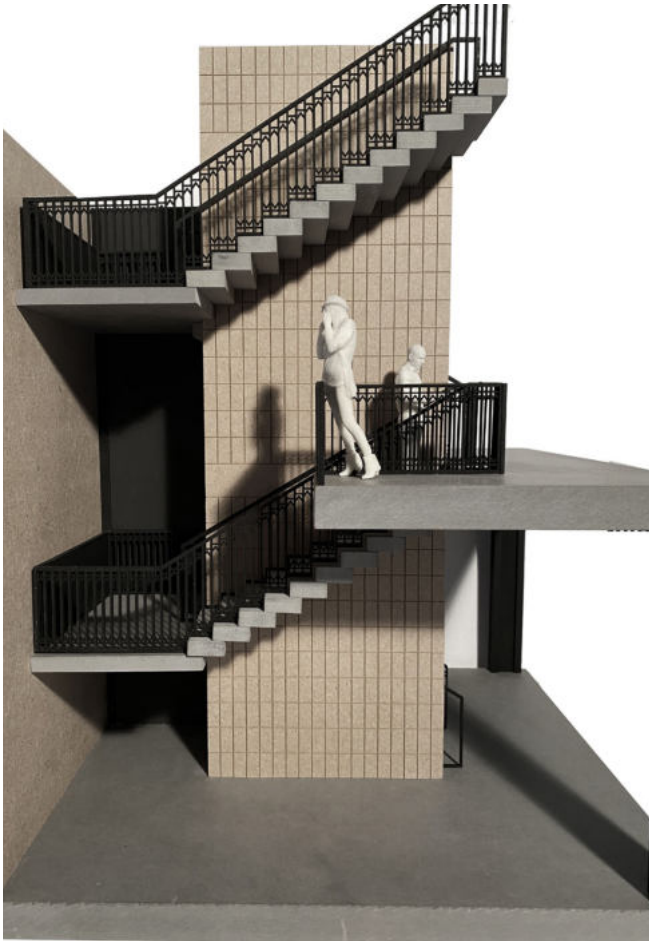


Image 02: Scene capturing a view point to the void

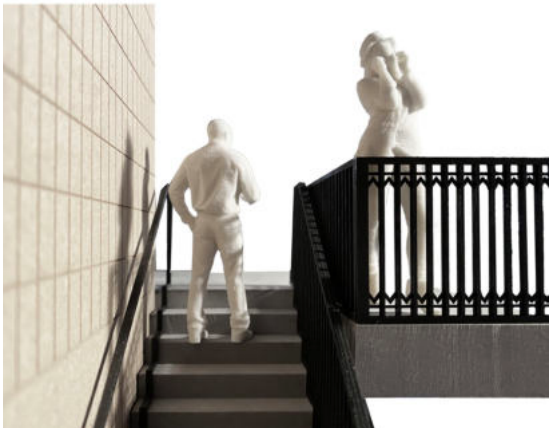
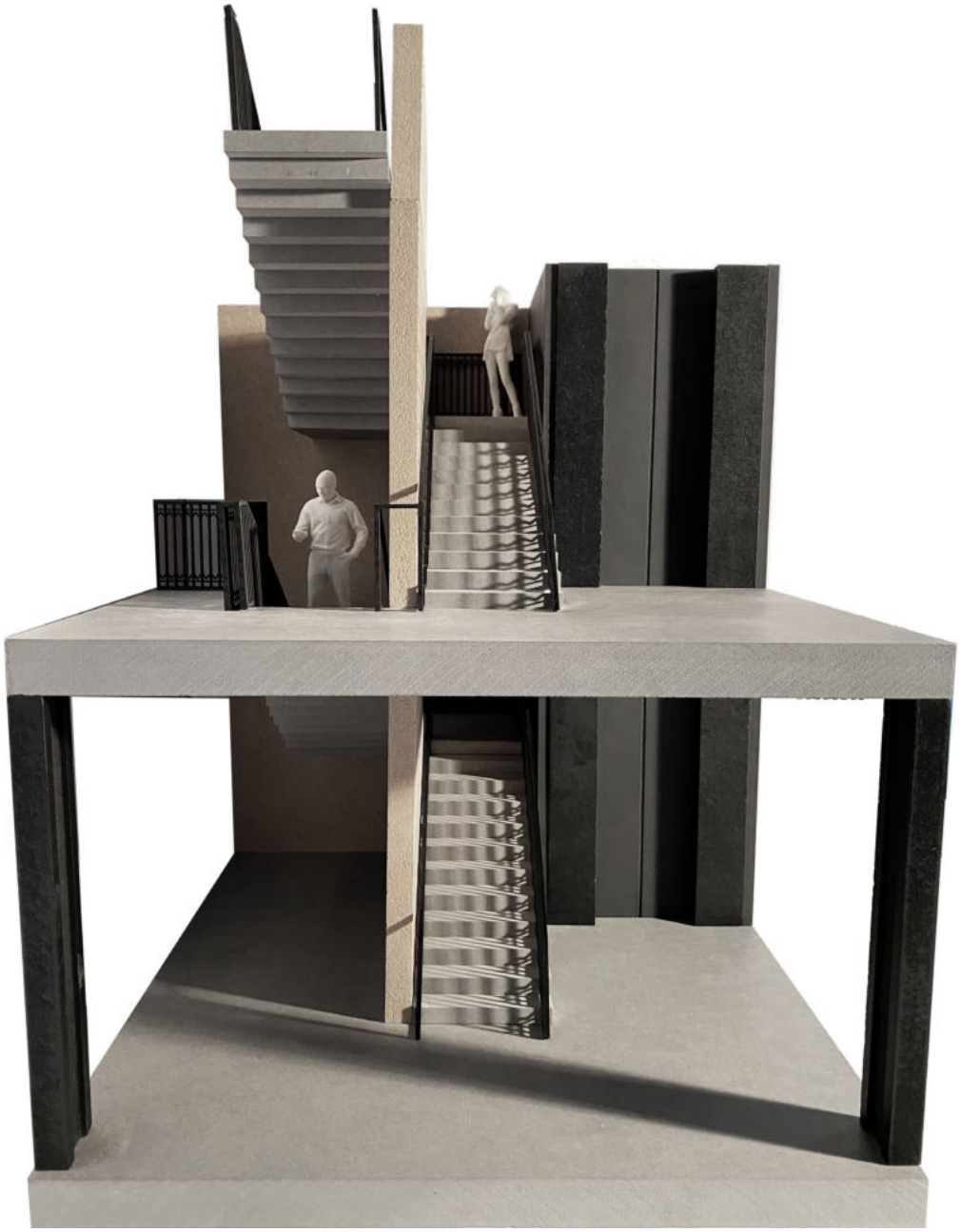


Image 03: A detailed casing of shadows

Image 04: Ornament within the balustrade

Image 05: Capturing the central spine wall

Image 06: Two levels exemplifying the balustrade wrapping round the central core, carrying the intricate ornament through the building



Jamie Reed & Danito Oledan ， Manchester

March Year 1 - Atelier: Continuity in Architecture

Project: Subtraction as Architecture

Collective Dwelling for Bradford

"Nan's old dusty records, the plants we should water more often, that antique bowl we got at that car boot sale all those years back." The model reflects a level of domesticity, innocence and personalisation. The home to us should facilitate and reflect someone's life, not vice versa, therefore we created living spaces with poche walls that can be inhabited with anything, they are suggestive and don't prescribe a definite use. The wall is read as a whole with space subtracted. The facade speaks of the monolithic language of Bradford. The landscape is carved up with quarries of sandstone, so we wanted to use large loadbearing pieces of sandstone (with rough and smooth faces) as a reinterpretation rather than a pastiche.

The majority of the model is cast in plaster and jesmonite. Stephen Bates describes casting as the "perfect imperfection," where the mould replicates the perfect form but their imperfections are the characteristics of the material and how they converse with the mould. Handcut paper objects fill the niches as well is timber herringbone floor, foam exposed for insulation and greyboard for the steel structural brackets. The model is entirely made in the workshop by Jamie Reed and Danito Oledan, within a week with the almost all of the cutting, casting and assembling occuring with workshop facilities.

Image 01: Facade

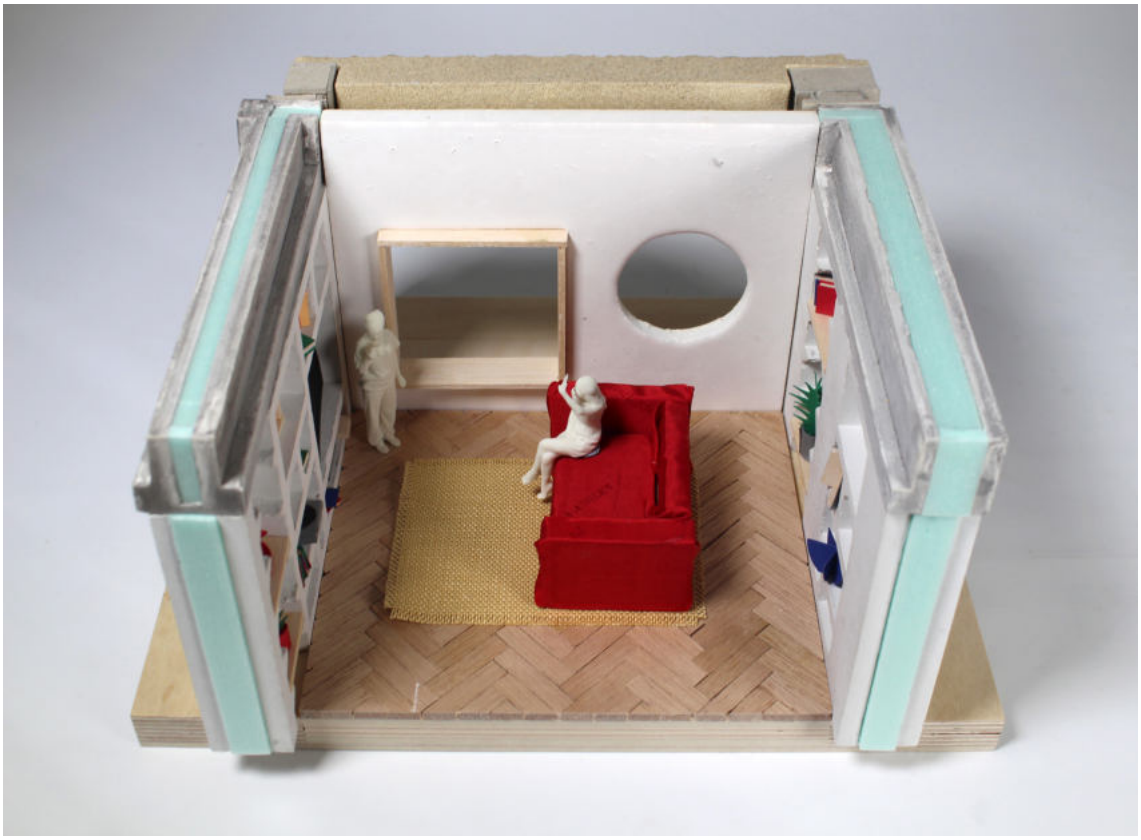


Image 02: Top View Interior

Image 03: Interior 1

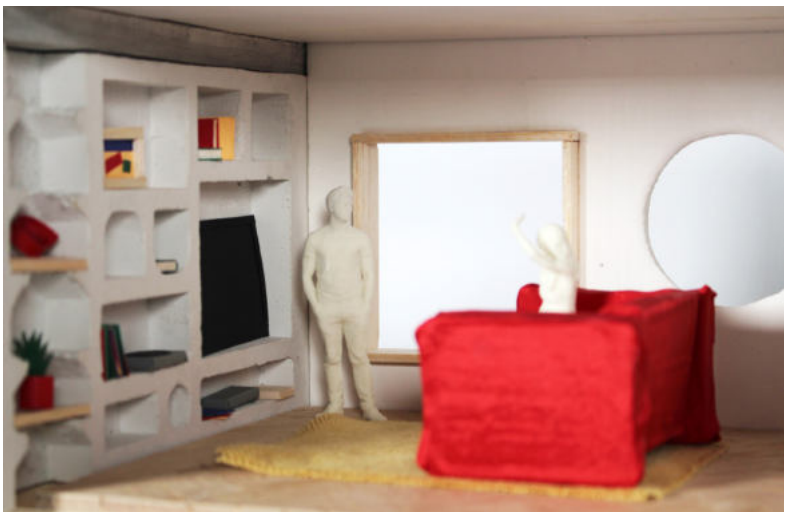


Image 04: Interior 2

Image 05: Plaster-cast wall, occupied with paper objects

Image 06: Process of plaster casting

Jamie Reed & Jonathan Barker ， Manchester

March Year 1 - Atelier: Continuity in Architecture

Project: Sheep, Industry and the City

Weaving a space of art production in Bradford

Focussing on the identity Bradford has gained as a northern settlement and the type of historical events that shaped its landscape; its historic identity, which was irreplaceable from connections with the wool and worsted industry kept us focussed on working with highlighting the existing building's previous contribution to this industry. By adding new components for use as an art gallery, our project becomes just as much about this process of historic identity in the city than just it's finished product. Developing a 1:50 spatial model expresses this movement between spaces and gives a coherent understanding of how the spaces connect and weave together. The model represents a long section of the building showing, an appropriate spacial representation of the buildings complex layout opposed to a conventional series of drawn plans and section alone. As a spatial translation of the section, it refines the details of inhabitation in the assignment of spaces in the building, capturing the nature of the act of demolition and creating a new circulation 'space as fulcrum' which directs people around and between the two separate sides of 46 Darley Street.

The craft of the model used processes both within B15 workshop facilities and 'at-home' resources. The timber trusses of the roof structure were made of balsa wood, cut and glued at home, as well as all the internal screen walls being of balsa. The floors represent screed, crafted out of grey board and balsa strips were also made at home and brought in for assembly. The majority of the model was made in the workshop, using layered plywood to made a base, showing a sub strata below the building. The back walls were layered courses of chipboard then painted white, representing the affect of a rough white painted existing brick wall. Steel mesh sheeting was bent in a clamp to form lightweight staircases with chrome card acting as a supporting member. Cobalt sprayed styrene I-beams represented our structural interventions of performative steelwork. The entire model utilised a range of both sensitively chosen materials and diverse crafting techniques over a range of facilities.

Image 01: Full Section

Image 02: View of hollowed-out fulcrum space

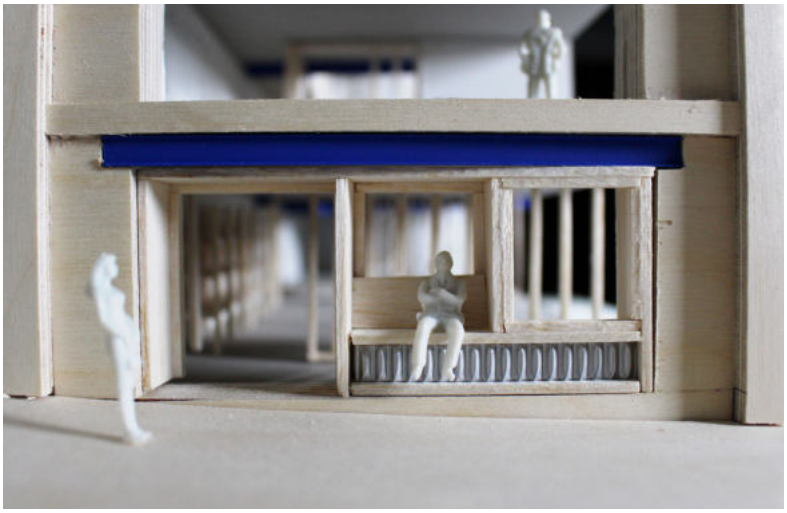


Image 03: Darley Street Shopfront

Image 04: Gallery Space

Image 05: View of Full section and Darley Facade

Image 06: Bifurcated Butterfly Roof Structure

Matthew Meeson , Derbyshire

March Year 1 - Atelier: Infrastructure Space Research

Project: A Hard Day's Night

Transient & Permanent Housing in Seaforth

This project's brief asked for a housing module to repeat across an empty site in the Seaforth district of Merseyside, an inherently transient area in its connection to the Seaforth Docks. My project was designed to house both permanent residents, and transient workers engaged with the area's goods and transit corridors. I focused on temporary housing for seafarers on shore leave, and permanent housing for local businesses in an attempt to revive the area around the high street. The building was designed to encourage the two users to interact casually throughout the day, to combat issues of loneliness amongst seafaring workers.

Physical model making occurred at every stage of the design process. I have always preferred making physical models over digital ones as they allow you to quickly create design variants before the technical aspects of a design come in. Covid-19 has made this a particularly difficult year for model making, but I am lucky enough to have access to a bandsaw and various hand tools in my home. The lack of access to timber merchants during lockdown has resulted in a majority of the wood used in my models being sourced from leftover materials from previous projects and a local window factory. During the course of this project, I made a large wooden site model using waste plywood for the base and old wooden window frames for the buildings. This was a working model in which I tested various layouts with cork and stained balsa wood, although it provided a good setting for my final site layout model, constructed from cork, cardboard, and lichen collected from a forest near my house. I also made a final presentation model that allowed me to explore the form of the building in a lot of detail- this model was entirely cut by hand using wood from my old bed frame, waste plywood, card, and cork. Having to use largely waste material out of necessity has taught me that it is entirely possible through careful construction and finishing to produce a presentable model that serves its purpose from recycled materials.

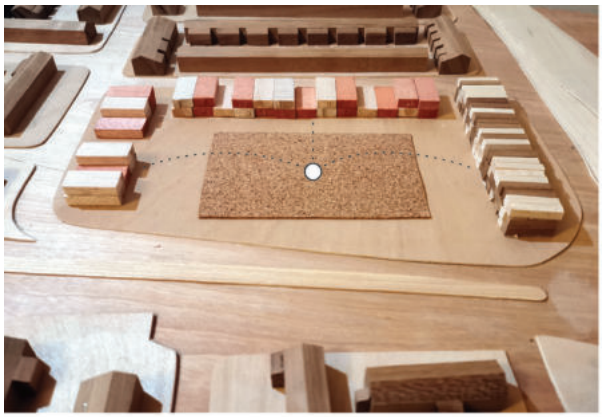


Image 01: Wooden Site Model With Stained Balsa Pieces For Spatial Experimentation. 1:500 (Done at home)

Image 02: Wooden Site Model With Stained Balsa Pieces For Spatial Experimentation. 1:500 (Done at home)

Image 03: Final Cork, Card, Balsa & Lichen Site Model 1:500 (Done at home)

Image 04: Final Presentation Model - Cork, Recycled Bed Frame, Waste Plywood, Card, Balsa. 1:20 (Done at home)

Image 05: Final Presentation Model - Cork, Recycled Bed Frame, Waste Plywood, Card, Balsa. 1:20 (Done at home)

Image 06: Wooden Site Model With Final Site Layout - Cork, Card, Recycled Plywood, Recycled Wood Veneer. 1:500 (Done at home)

Titi Olasode, London

March Year 5 - Infra Space:

Project: Open.Liv

Digital Innovation and Data Storage Centre

Open.Liv presented itself as a digital innovation and data storage centre that connected the disused Tate & Lyle Sugar Silo with Liverpool's Knowledge Quarter. The project sought to represent and re-imagine a new use for the silo that considered how port infrastructure could provide a socio-economic function in an environmentally sustainable way. The Silo was completed in 1955 and was first listed as a Grade II* heritage building on 23rd September 1992. It was listed as a good example of a parabolic reinforced concrete tunnel with a vaulted storage unit.

The data centre achieved low carbon data levels through onsite energy generation and through using water cooling systems to transfer excess heat through the habitable spaces within the building. To allow for light to penetrate the space some perforations were made to the external fabric however, as much of the concrete form as possible was retained. The scheme used smaller volumes within the silo to break up the space and also to allow the building to have the capability to continuously evolve and accommodate future changes.

To further develop my design, I created this model at home using materials that reflected the brief and atmosphere of the project as a whole. This concept model was produced to establish the initial massing and layout for the proposal. The model was made at 1:1000 scale due to the size of the silo and explored levels, bridged structures and drove the decision to divide the scheme into three zones. As this was produced during the early design stages of the project, the model allowed me to progress from sketches to 3d form and pushed me to consider the connection and interaction between spaces.

The model was produced using components of an electric circuit board including resistors, LEDs and transistors, and using acetate to conceptually show the proximity to water. Despite the abstract nature of the model, the intentional material choice was selected to allude to the electrical infrastructure that is needed to power data centres. Whilst doing this, the shapes and forms of the internal structures within the silo were suggested.

Image 01: South Elevation of Model

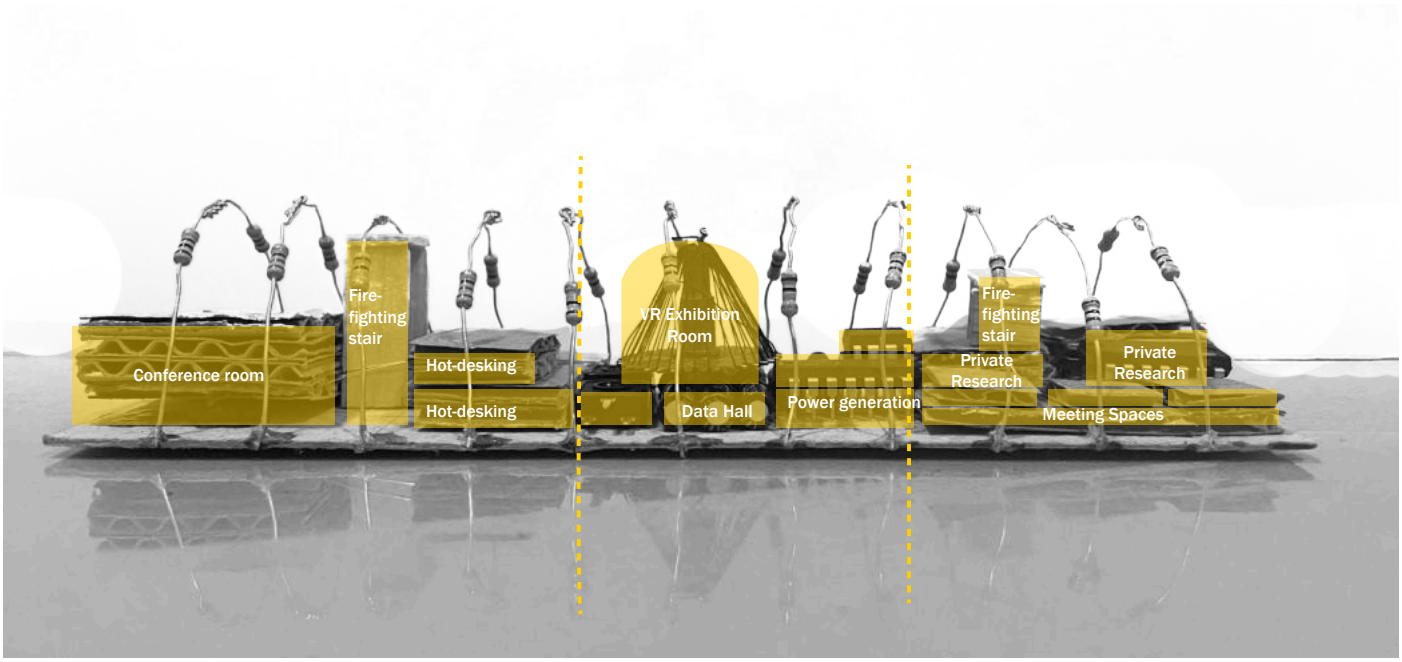


Image 02: Annotated South Elevation of Model showing spaces and separation into three zones

Image 03: Model in context of site

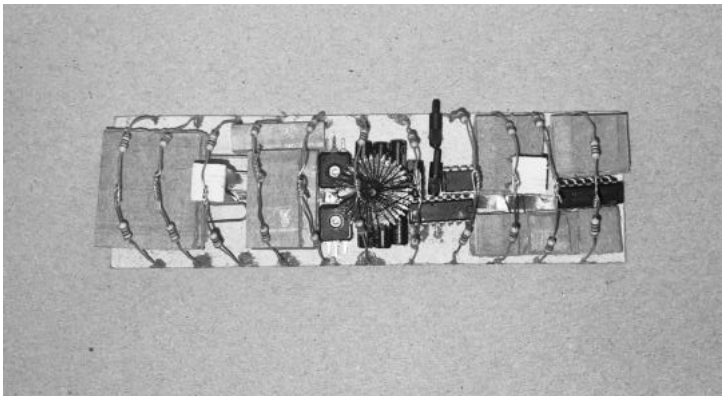


Image 03: Plan view of model

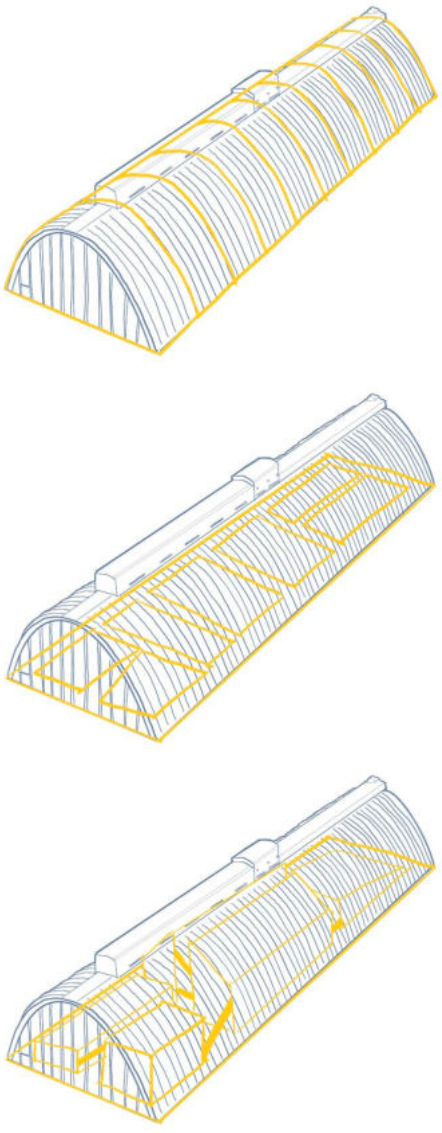


Image 05: Concept diagrams used to develop model

Xiaowen Liang ， Manchester

March Year 5 - Atelier: USE

Project: 1 Modular house system in Fallowfield Loop
2 RuinArt Museum - Gorton house renovation

Project 1 located in Falowfield, south of Manchester. The Fallowfield Loop is currently a cycling Loop, in order to improve the utilization of space around the loop, flexible provision of affordable housing for people, the purpose of the project is a modular house that can be designed flexibly according to the needs. In order to ensure flexibility, the building has a special structure, in the 1:100 scale model can not reflect the detailed structure, so the use of 5*5 mm wood as a frame structure, using PVC foamed for walls, roofs and floors. In addition, colored paper and dried saplings are used, and KT board is also used as the bottom plate. In the unit model, extra Balsa sheet were used for the surface decoration. Since I was in China when I made the models for this project, all the materials were ordered online and the models were made at home.

Project 2 is located in Debdale Park in Manchester, this is a protected building with a history of more than 200 years. Gorton House is currently derelict and badly damaged. The challenge for the project is how to remodel it so that it can be used again without damaging the original structure of the House due to its protective need. After learning about the development and evolution of the building, I realized that it is like a witness to history. Therefore, the purpose of this project is to transform and preserve its dilapidated scene in an artificial and aesthetic way, and display elements and related collections of British architecture over the past two hundred years, it gives the building an artistic sense of ruin. Use Laserable 'Medite' MDF Sheets to cut the material and small elements throughout the building, in the section model, PVC foamed board, Cardboard, and clay are also used. Due to the complexity of the interior of the building, the challenge is difficult to use the model to describe the proposal atmosphere in detail. The model of the project was completed at B15 Workshop. The laser machine greatly improved the speed and convenience of the model making.

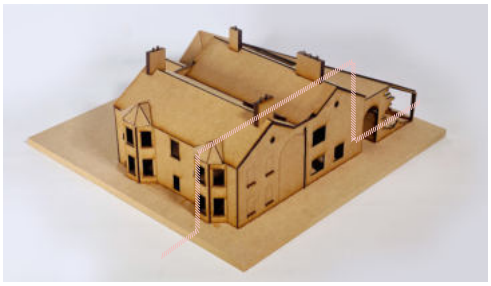
Project 1 : Modular House in Fallowfield Loop

Image 01: Side view of entire Modular house, scale 1:100

Image 02: Aesthetic unit model (2 storeys 1 grid)
scale 1:20

Image 03: View from the Fallowfield Loop

Project 2 : RuinArt Museum



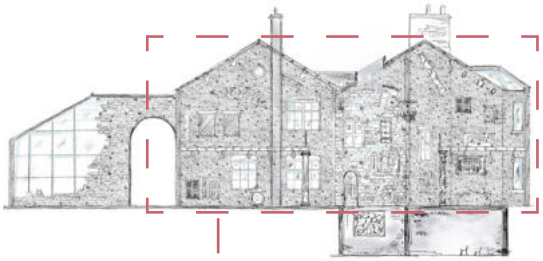


Image 04: Side view of entire Gorton House, scale 1:100
(The section position of the image below is marked)

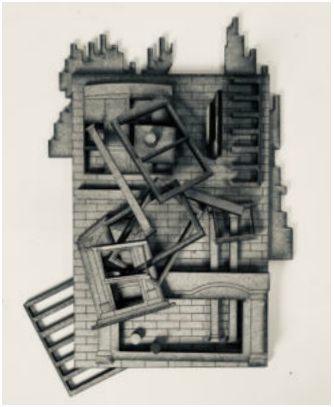


Image 05: Conceptual model of ruins art

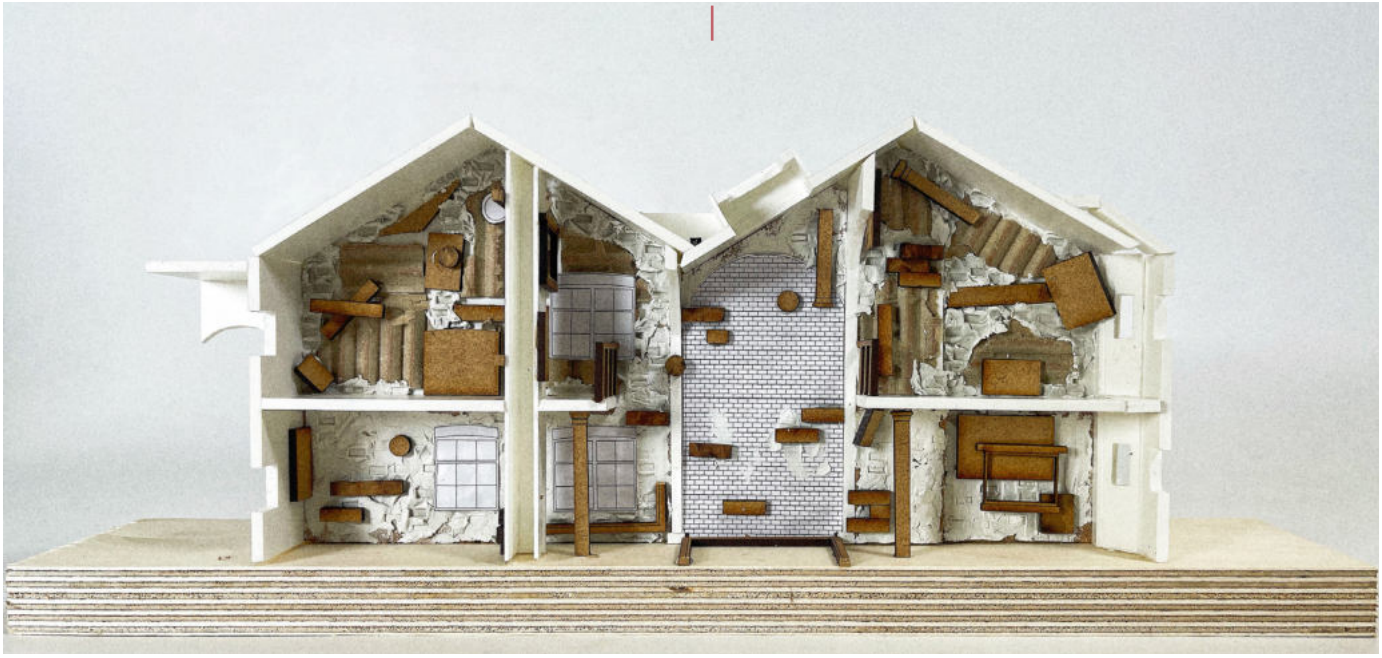


Image 06: Section model showing the internal atmosphere

Cezara Misca, Manchester

March Year 2 - Atelier: &rchitecture

Project: Generating magic in the city

Investigating child-friendly in-between spaces design strategies through model-making

The project uses model-making to explore materiality as well as form for two of the in-between spaces in Northern Quarter, Manchester.

For the first in-between space (Image 1-2) I made the physical models of the in-between walls and the arch structure (to explore form and material) sheltering children at play. The 1:50 arches are cast in Jesmonite (which is stronger than plaster) to convey concrete, mixed with pink powder paint. The shelter is composed of 4 different pre-cast concrete 'arches'. It is proposed to integrate transparent/ translucent fabrics in-between the arches with painted images from my performances exploring artists methodologies. The fabric also allows playful light to enter the space amplifying the magical experience. The in-between walls are also cast in Jesmonite and I used coloured pencils to show the existing artwork and my intervention (see Image 2).

For the second in-between space (Image 3-6) I made 1:5 materiality samples for the street/play furniture, the in-between walls & 1:5 bench. Tactile experiences are central to the design proposals- playful materiality allows children to have magical experiences in the city & people with disabilities, like the visually-impaired that will interact with the unique materiality even if not able to see it. I made 1:5 test samples at home using plaster mixed with different watercolours to convey concrete variants. To show aggregate combinations I used plants fertiliser (the sizes were ideal for 1:5 explorations) which I painted with acrylics, matching the aesthetics of the overall project. The 1:5 bench sits underneath the bird house, the ludic is reflected not only through form and shapes, but also through making and tactile experiences of the street and play furniture.

Image 1: In-between space 1: Arches & fabric

Image 2: In-between space 1: Collage reflecting the In-between walls, arches & atmosphere

Image 3: In-between space 2: Model-making at home using grey board, plants fertilizer, plaster of Paris, watercolours to explore colour palettes

Image 4: In-between space 2: 1:5 Materiality samples: grey, blue & pink concrete options as well as different aggregates mixtures

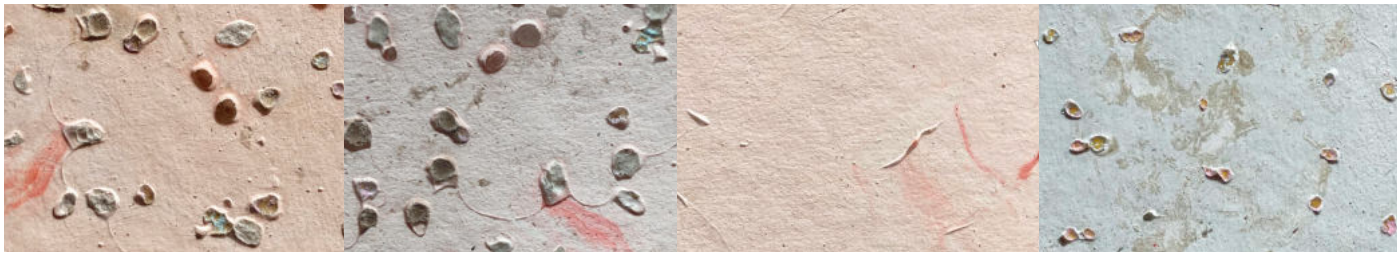


Image 5: In-between space 2: 1:5 Bench exploring form and materiality (pink concrete and low amount of aggregates)

Image 6: In-between space 2: Collage reflecting the 1:5 materiality explorations, in-between walls & atmosphere

Emma Lewis + Valentine Lezius

March Year 6 - Atelier: CiA

Project: Demonumentalising the Arcade du Cinquantenaire, Brussels

The thesis researches the contentious heritage of King Leopold II of Belgium, with the aim of understanding the colonial heritage and retelling the narrative to demonumentalise the past. Leopold is of particular interest, nicknamed the 'Builder King', much of his profits from his exploitation and colonial reign of the Congo Free State were invested in monumental, land mark projects, royal residences, and masterplans that remain significant in Brussels and the wider country of Belgium today.

The maze is designed as the antithesis of 19th Century Brussels infiltrating the Parc du Cinquantenaire and obstructing monumental views of the Arcade du Cinquantenaire or Arches of the Severed Hands. Expanding the urban grain of the city works to blur the boundary of the site, creating a convolution of routes that occupies the open space and disrupts the classical orthogonal geometry and providing a number of routes and alternative readings of the site and its history. The interactive 'ball-in-a-maze' puzzle demonstrates the concept of manipulating the model in order for the 1.5mm ball bearing to move from the etched entrances to the end goal. The maze (Image 03) is constructed using 3 layers of 3mm laser cut Plywood to enable both visible routes and routes through the arches.

The Bicentenaire Quarter at the centre introduces a programmatic function to the morphological maze, creating a brief that promotes inclusivity and self-expression through art, culture and politics. The 1:1000 model (Images 04-06) extent is aligned to the new masses, disregarding the orthogonal axis of the existing classical monument. To create the foam mold for the site and massing, a negative form was modelled using Sketchup and cut using the CNC Router. The base and the new maze buildings were cast as one solid mass using pigmented modelling plaster to represent the monolithic concrete forms. The forms disruptive influence on the existing buildings is apparent through the way the masses occupy the space and abut the existing buiding façades. The 3D printed Arcade du Cinquantenaire model evokes the rigid, orthogonal geometry typical of a classical Leopoldian building in contrast with the new maze forms.

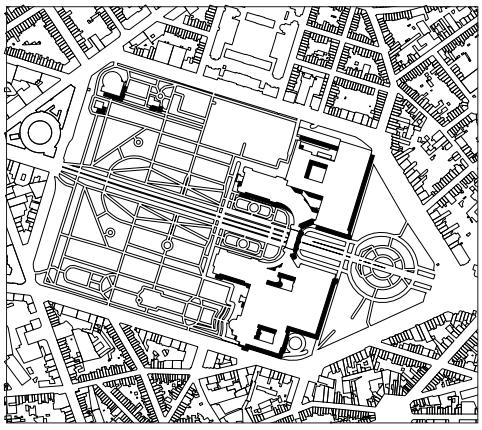


Image 01: Existing Parc du Cinquantenaire

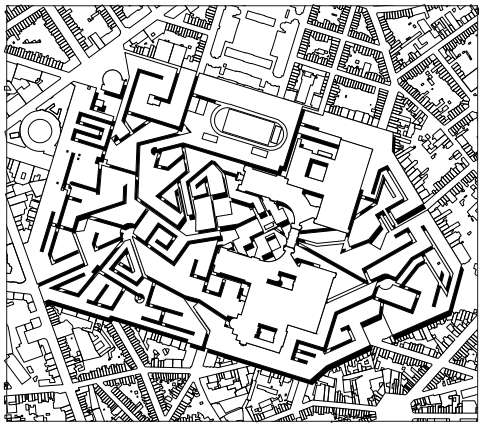


Image 02: Maze Masterplan for the Parc du Cinquantenaire

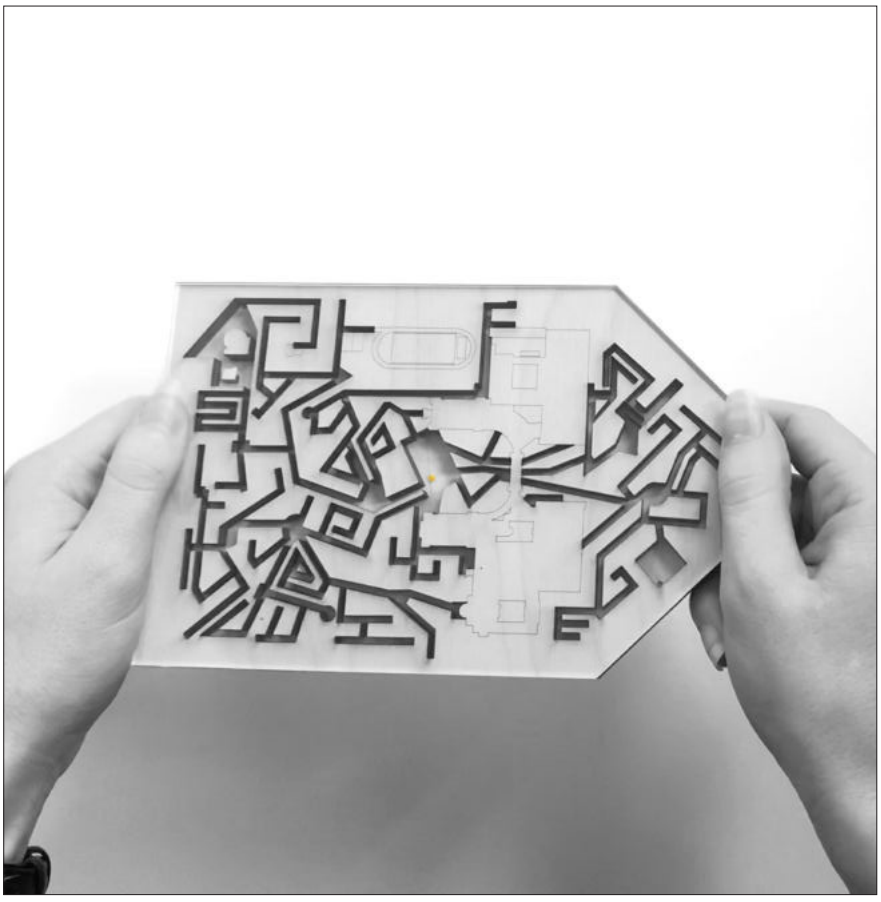


Image 03: 1:5000 'ball-in-a-maze' concept model.
Stop frame animation: https://youtu.be/jEVbfd1-qc4

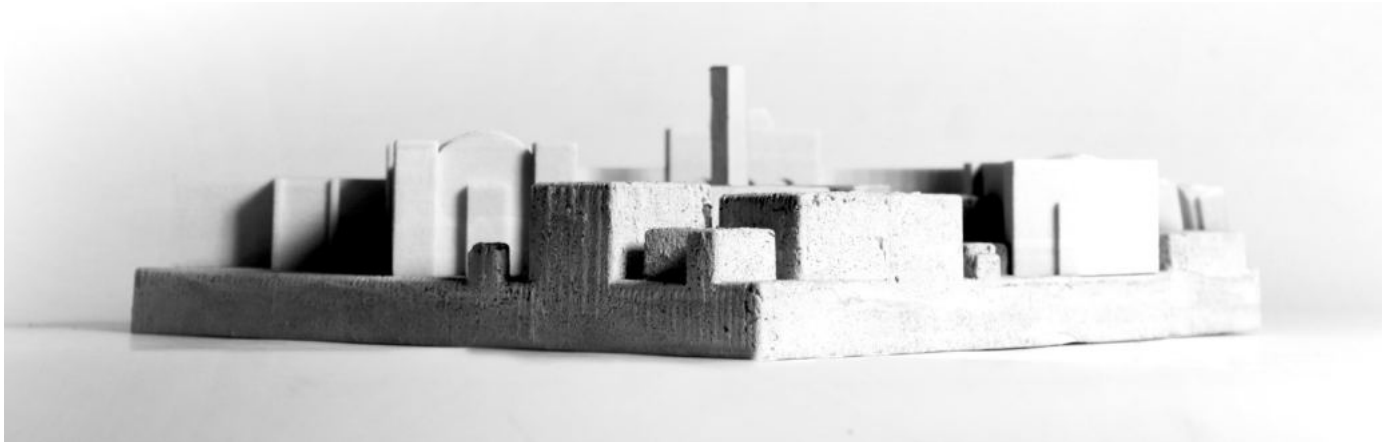


Image 04: Disrupting the axial view of the existing Arcade du Cinquantenaire.

Image 05: 1:1000 plaster cast model of the Bicentenaire Quarter demonumentalising the Arcade du Cinquantenaire, Brussels

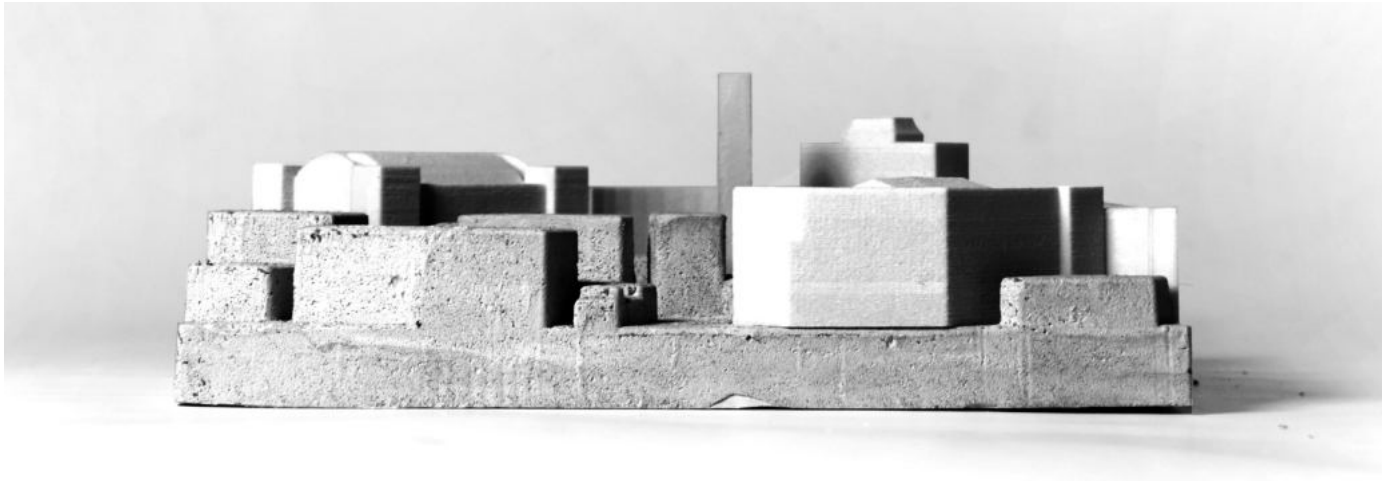


Image 06: Sectional view of the Bicentenaire Quarter demonumentalising the Arcade du Cinquantenaire, Brussels.

Jasmine Ratcliffe, Stoke-on-Trent

MArch Year 6 - Atelier: PraXXis

Project: The Mary Anning Centre, Lyme Regis

STEM Learning and Play Museum

Mary Anning was a great fossil hunter in Lyme Regis. However, her story has been forgotten. The Mary Anning Centre is a museum that reflects on and retells Mary Anning's story, whilst also looking towards the future with interactive STEM activities to engage children.

The Cavern is an experiential void through the centre of the museum that brings Anning's fossil discoveries to life and puts visitors inside her story. I wanted to express the dramatic atmosphere, textures and lighting and make the viewer feel like they are really inside the space. I felt the best way to do this was through a sectional model at 1:50 so I could express the full detail. In particular, I wanted to use the same material that the space would be built in, which is concrete.

Before making the mould I wanted to see how the fossils could be represented, so I did some test casting using concrete and shells. From this I decided to use a mix of both leaving the shells embedded and removing them to show their imprint. I made the sectional Cavern model at home by building up layers of Perspex to create the mould. These layers became the ridges in the wall and I added shells (and even the bones of a sardine!) to represent the fossils that would be displayed. Then I poured in the concrete and after a long wait I carefully broke away the Perspex layers to reveal the model.

The second model I made was of the full building, at 1:200 made at home. I wanted to make this model so that the levels and material changes were easy to understand and to showcase the dig level and spine bridge entrance. I felt the best way to create the sharp angles of the stone clad form was to cast concrete in a Perspex mould. The lower levels shine as the copper cladding relates to the copper found in the Lyme Regis cliffs, to show this I covered MDF in copper tape.

I have always enjoyed making models throughout my time at University and I wanted to make sure that in my final year I got to explore and express my design through physical models.

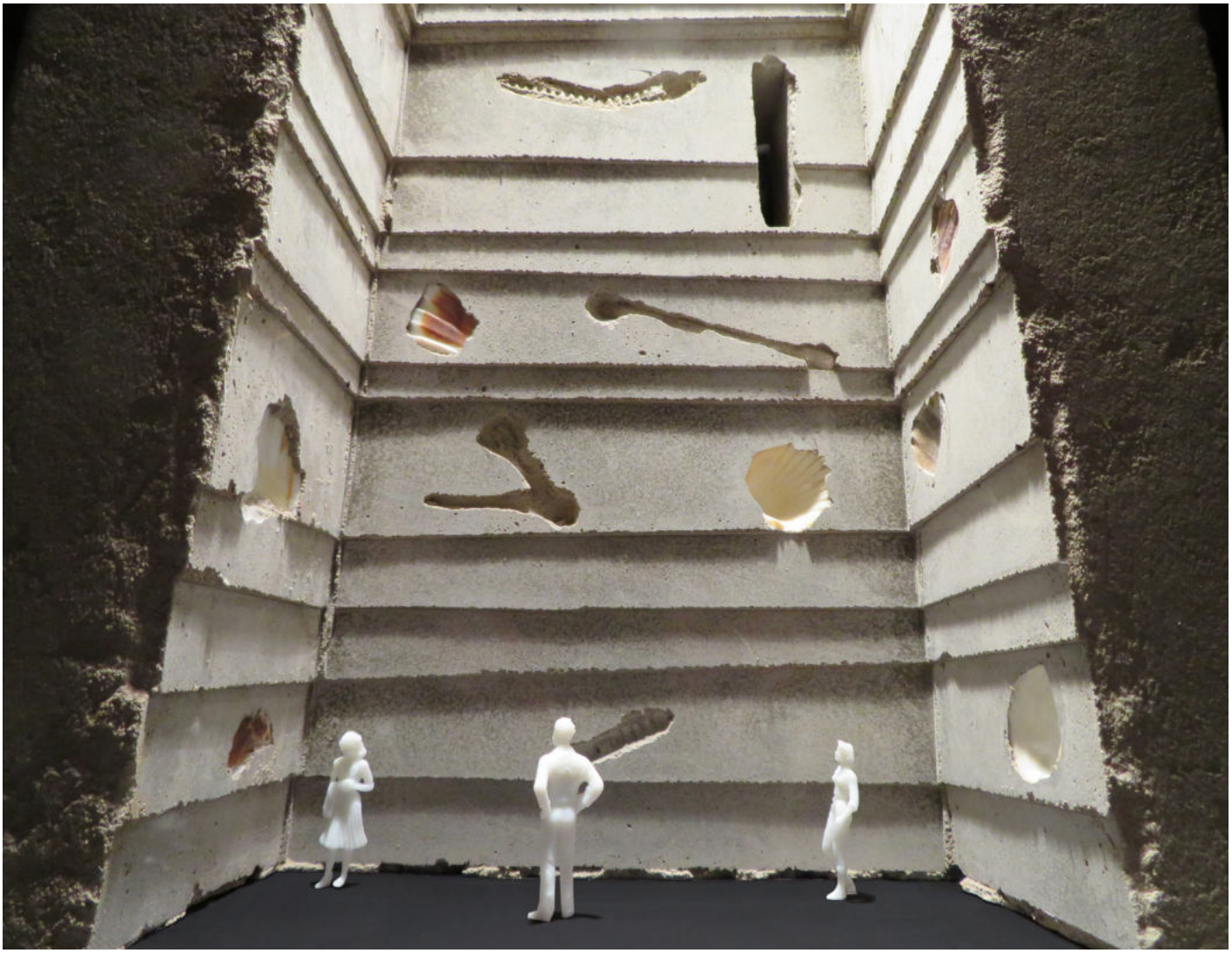


Image 01: The Cavern, a concrete cast sectional model at 1:50.

Image 02: An experiential void through the centre of the museum.

Image 03: Testing using concrete and shells.

Image 04: Layering of Perspex to create the mould.

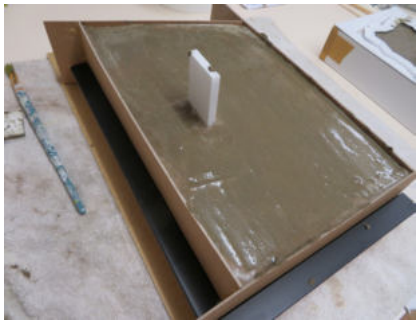


Image 05: Pouring the concrete.

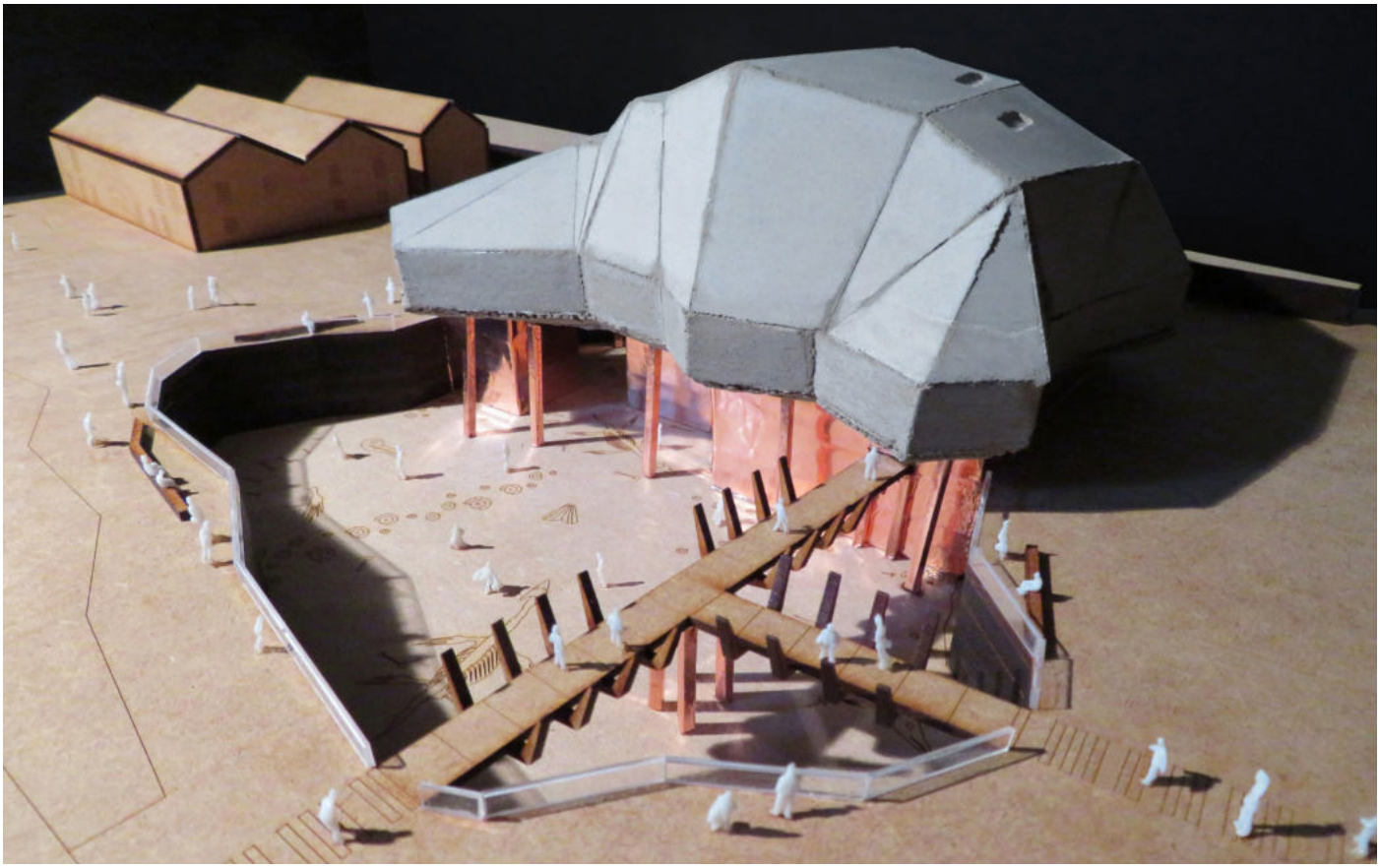


Image 06: The Mary Anning Centre, concrete cast form with copper ground level and mdf context, at 1:200.

Daniel Warren & Mona Tamaru.

Manchester.

March Year 6 - Atelier: Continuity in Architecture.

Project: The Layered Enclave.

Compressing the Urban with the Detail.

The layered enclave aims to bring together a collective of redundant and vacant buildings within the outskirts of Bradford's City centre. These island plots follow the hidden beck and historic waterway of Bradford, bringing together lost artefacts and forgotten buildings along the route. We Interpreted Bradford as a city of layers, taking cues from research on palimpsests and the city being a theatrical entity. All of these ideas combined to explore a recreation of the identity within Bradford. The development becomes a catalyst for individual characters to be recognised in a collective scenery, as well as leading to social integrity. The plan utilises the existing buildings and adds new interventions with a modern interpretation evoking a dialogue and tension between the old and the new, creating a city of prophecy and memory where its own characters are celebrated.

The models follow a layered process that experiments with scale and detail throughout the thesis. Starting with very simple card experiments to test layers of a site which help create a concept and theme for the programme. All of our models produced aim to portray the concepts clearly to get the idea across. We have also used them to test out design massing and details, to really grasp the feel of a idea.

Image 1&2 - 1.500 Massing Model.
(Oak, Walnut, and Jelutong).
The base has been CNC'd out of Oak, with the context buildings also cut and planed in oak. The Walnut highlights the existing vacant buildings that we have intervened with, implementing a new internal layout and additional structures. The Jelutong provides a juxtaposition, showing the new proposal, and additional structures. The model was used to test out interventions and massing within the site, whilst also becoming a final model and being used in visuals.

Image 3 - 1.100 Interior and Exterior Facade Model (MDF, Card).
Trialling a series of iterations that imprint the characters and artefacts into the interior facade. This was done at a smaller scale to test which interior facade would be chosen to finalise our design. A laser engraving provided a good way to test this with the exterior facade layered from MDF and card.

Image 4 - Looking to the interior imprinted facade. Rubble build up of the culvert and ashlar finish of the contextual façades imprinted in plaster to represent a concrete finish.

1.50 Sectional Model
(Plaster, MDF, Card, Acrylic).
Imprinting the artefacts into the interior facade, highlighting the culvert, chimney, and openings of Bradford's characters. This model took the bottom right corner of the 1.100 model and increased the scale and detail, allowing for visuals and collages to be produced in Photoshop. The model was created by casting the negative form-work, this was cut and engraved using a laser cutter, the engraved card allowed for the grey dyed plaster to recess into the formwork. The existing part of the building was modelled using layered laser cut card with acrylic window details.

Image 5 (Bottom Left) - The model shows the overall corner of the existing and proposed new intervention with the bridge crossing on ground level and beck running perpendicular below.

Image 6 (Bottom right) - A montage between the inside and out highlighting the imprint and materiality as characters of the site and building itself.

Patrick Davies, San José Calderas, Guatemala

MArch Year 6 - Atelier: Advanced Practice

Informal Transitions: Elevated Communities in Latin America

Self-build Construction Facilitated by an Extendable Bamboo Framework

'Informal Transitions' refers to a new interpretation of informal urbanism - one that seeks to pay homage to the resilience of indigenous peoples, especially during times of scarcity and increasing socioeconomic marginalisation. This thesis project focuses on informal settlements in San José Calderas, Guatemala, and, by doing so, aims to develop a strategic model, with which larger-scale interventions across Latin America can be approached.

With an emphasis placed on self-build strategies and John Habraken's 'Open building' theories, a range of architectural interventions were explored through physical model making. This allowed me to refine the structural design effectively and gain a better understanding of the parameters of the scheme. For example, working with gravity exposed the imperative role that the cross-bracing node assumes; not just as part of the overall structural entity; but in this case as an integral component for self-build construction.

Furthermore, the process of model making created a sense of realism and allowed me to experience the construction to some extent, and, in turn, adjust the detailing where appropriate. Working from home and by hand enabled the quick construction of a multistorey frame, with which infill techniques could be experimented using a range of materials. Wooden dowels were used to represent the primary structure, while a mix of cardboard, greyboard, balsa wood, and bamboo was employed to convey the open, ad-hock nature of the possible self-constructed resolutions.

Image 01: External Visualisation (Archicad + Photoshop)

Image 02: Physical Model (Scale 1:20) - Cross-bracing node detail

Image 03: Physical Model (Scale 1:20) Height = 67cm

Image 05: Physical Model (Scale 1:20) Height = 67cm

Image 04: Physical Model (Scale 1:20) Internal View - 1st Floor

Image 06: Physical Model (Scale 1:20) Ground Floor

Image 07: Physical Model (Scale 1:20) height = 67cm

Robert Clarke & Ajay Mahay, Manchester

March Year 6 - Atelier: CIA

Project: The Corridor of Lost Artefacts

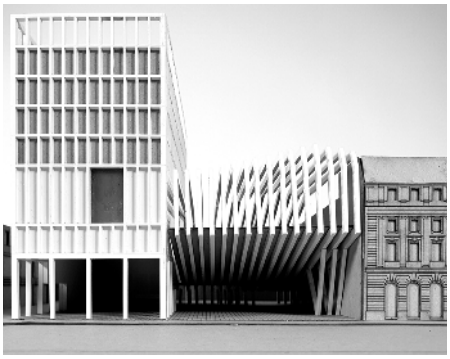
Festival of St. Blaise

This thesis establishes a newfound importance to the uncovered urban spine within Bradford. Large, modern developments have replaced a series of historic buildings situated upon geographically important locations along this "corridor". This creates a contemporary disconnect between the top of town area of Bradford, and the bottom "bowl" area of the city which is densely populated by listed buildings of high civic importance such as the Wool Exchange. Through a programme orientated around a procession for St Blaise Festival, temporary and permanent interventions activate the lost artefact sites of Christ Church, Kirkgate Market, and the Swan Arcade.

We emphasised model making throughout the design process, to represent final proposals and explore, test and critique ideas. Model making enabled a playful expression of materiality and light which became a consistent design intent across the different interventions, adding drama to evening, on approach views. These photographs became integral final images that represented each proposal within the scheme and therefore required a consistency in material choice. Layers of greyboard were used for the context in each model, providing subtle facade depth and detail via means of laser engraving at a 1:200 scale. The proposals of each model were represented by a clear contrasting material, laser cut from sheets of white acrylic as well as frosted acrylic for certain feature windows. The lantern tower was made out of two layers of 0.8mm ply with a layer of tracing paper in between, highlighting the external structure when illuminated.

The result of these material decisions along with the use of artificial light, enabled atmospheric evening approach views to be captured, highlighting how the architecture itself playfully interacts and becomes part of the evening procession. Similar views would've been difficult to achieve via computer renderings as well as the ability to quickly test existing / proposed interventions as seen with the Kirkgate model.

Image 01: Kirkgate, Existing / Proposed



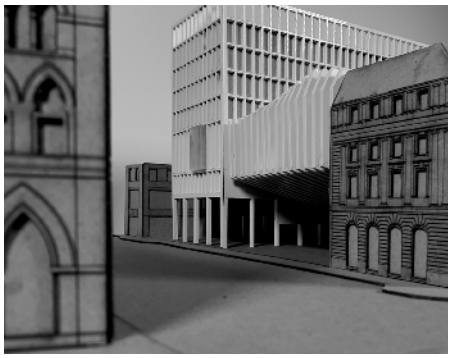


Image 02: Hall of Festivity Proposal. Acrylic highlights the facade continuity

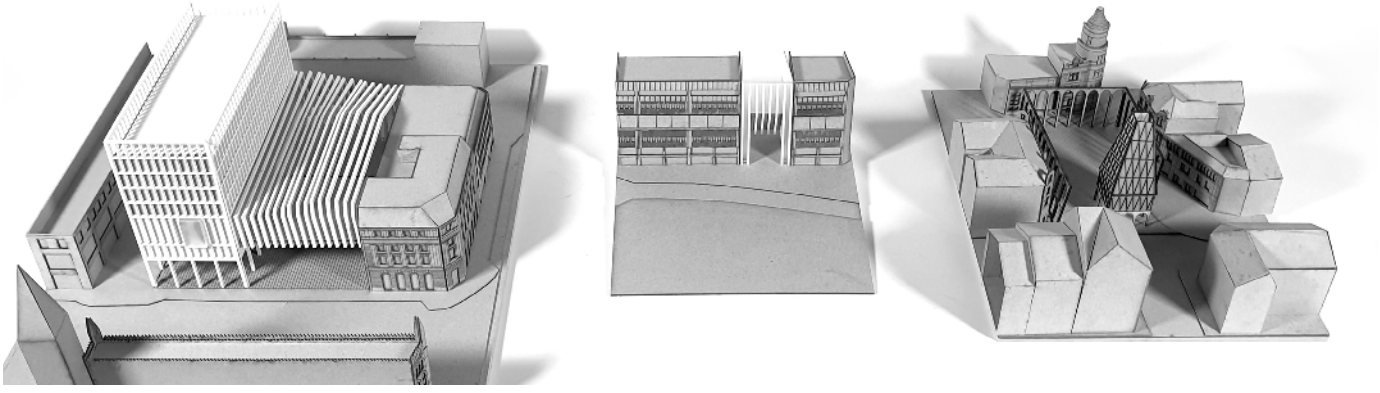


Image 03: 1:200 Proposal models

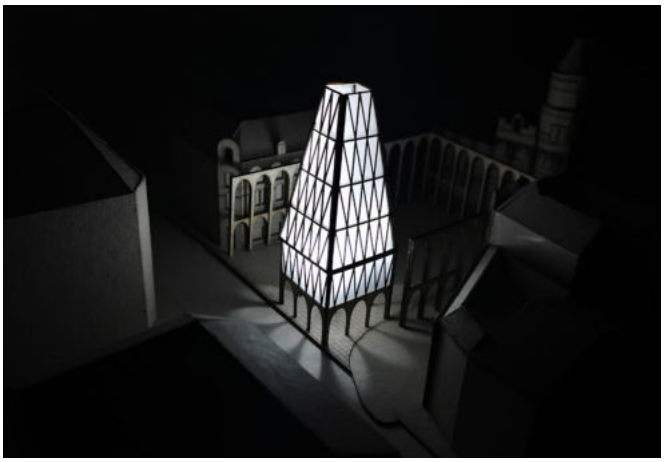


Image 04: Lantern Tower, Plywood and Tracing Paper

Image 05: Lantern Tower

Image 06: Kirkgate

Image 07: Hall of Festivity

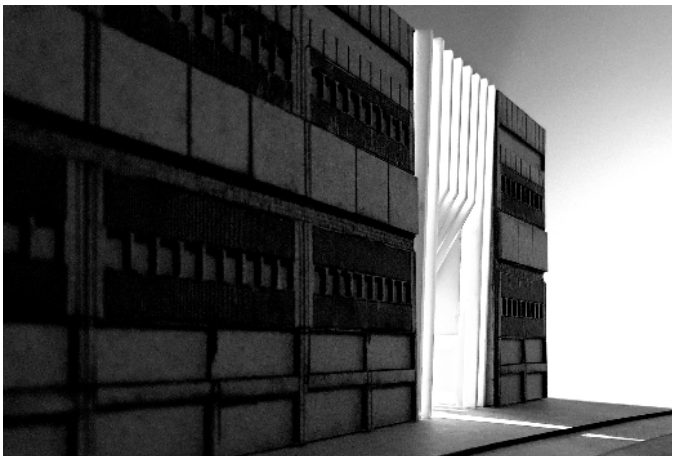


Image 07: Kirkgate, the New Entrance Proposal

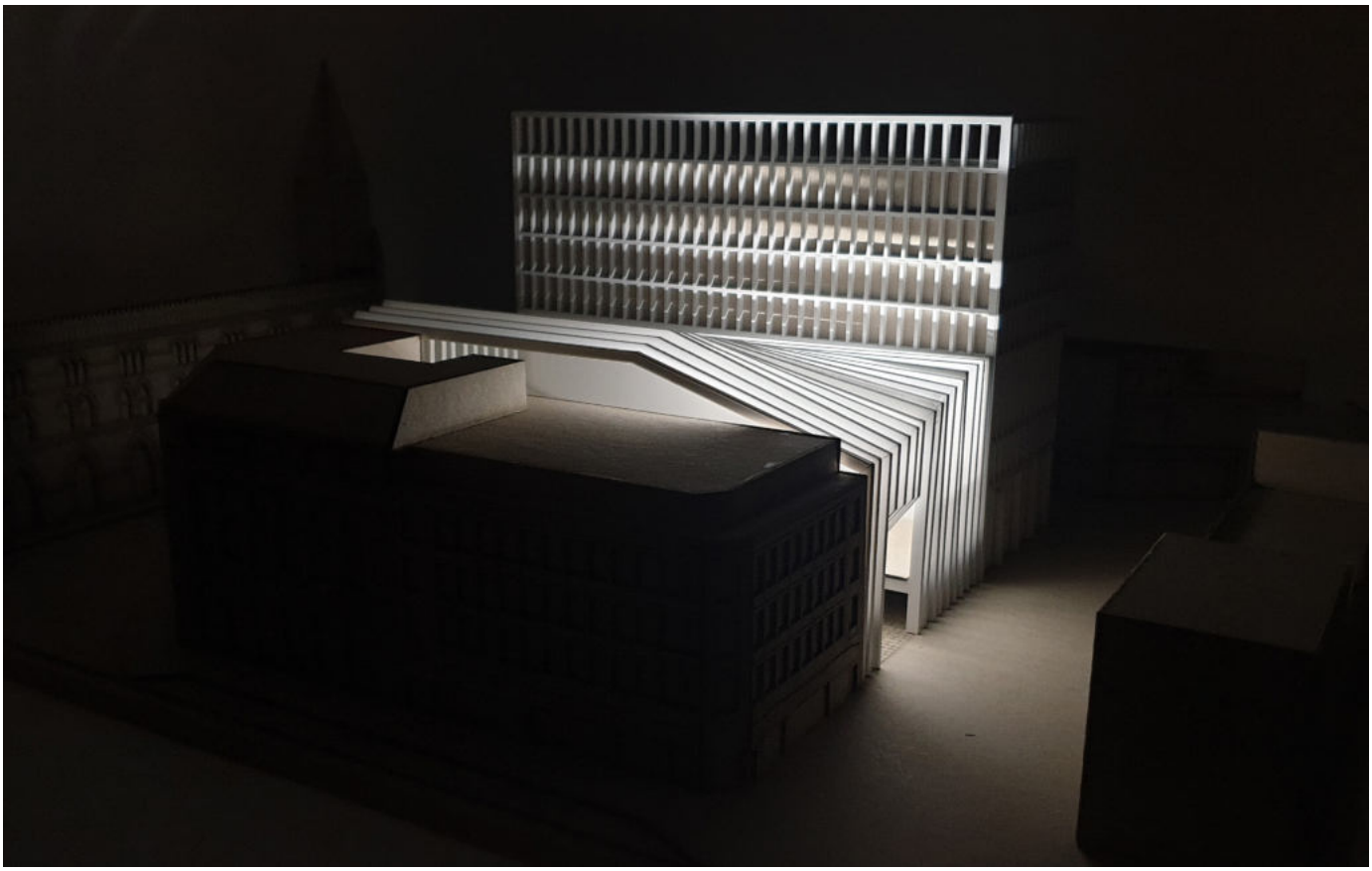


Image 08: The Hall of Festivity. Subtle shifts in the roof form of the new proposal rise and fall to meet the existing context

Samuel Okoh , Manchester

March Year 6- Atelier: Advanced Practice

Project: Women's house

Domestic intervention

BUILDING BRIEF:

Create a multipurpose architectural intervention that is self-build and supports key aspects of domestic life in rural Senegal.

RESPONSE:

The project proposed a low-tech, light weight architectural intervention that could be installed throughout the site, taking advantage of the dense population of trees in the area. This proposal was inspired by the cultural practice of 'sacred trees' in Senegal and shares similar sentiment by supplementing domestic program that goes on underneath trees while encouraging their retention. The fabric and rope joints used were purposefully chosen to avoid damage to the tree like those caused by metal fasteners.

PURPOSE OF MODEL (SCALE 1:20):

- Test the limits of real-life construction materials and determine the dimensions of the space to be created. Real life materials: Wild bamboo (5m with a nominal width of 5cm), mango/acacia tree trunk (1m nominal width), etc
- Test the feasibility of rope joints for attaching structure to tree

FINDINGS:

- The most accommodating space was created by arching the 5m bamboo to a height of 1.9m off the base and a width of 3.6m end to end.
- A rope joint is feasible in this case and should be explored in further detail.

PROCESS (USING HOUSEHOLD MATERIALS):

- An armature for my tree trunk was created using skewers from my kitchen cabinet
- Kitchen utensils were then used to create the textures for the clay tree trunk
- Copper wiring was then hand-woven to form the frame for my structure, and arches were secured temporarily in place using sewing thread.
- The fabric pattern was cut in place; over the frame and secured by hand sewing
- The leftover copper was then used to make a tree canopy and the extra clay used to make props that sit within the finished model.

Image 01: Front Elevation

Image 02: Plan

Image 03: The atmosphere, shadows and nature of space created underneath the structure

Image 04: Process (Creating tree trunk using an armature)

Image 05: Process (The primary structure was self supporting and did not require bracing)

Image 06: Process (Experimenting with rope joints and attaching structure without harming tree)

Shaw I Labrianidis-Kenny , B15

March Year 6 - Atelier: USE

Project: Reimagining The Aqueduct

to protect, link and inform the public realm along the Fallowfield Loop

Reimagining The Aqueduct proposes a modification strategy to the Thirlmere Aqueduct Pipeline. A 96mile Aqueduct that provides Manchester with drinking water from Lake Thirlmere in the Lake District. The aqueduct follows a similar route to the Fallowfield Loop, and so can be utilised to protect, link and inform the adjacent public realm via extensions to the pipeline. Water towers are placed in 48 vulnerable public spaces, all of which were located through a comprehensive community engagement process involving online consultation, discussions with community groups and site walks. The water towers protect the sites by occupying them; link them by acting as landmarks; and inform them by curating a site-specific experience. Three designs were completed as examples - Hillfort, Stage and Lido.

This submission includes 4 coherent models constructed throughout the thesis:

01. Concept Model: An overlay of existing Viaducts and Aqueducts on the existing site topography along the Fallowfield Loop. The model shows how the thesis intends to reveal the hidden aqueduct beneath the route.

02. Modification Strategy Model: The model communicates the entirety of the proposal. It manipulates the scale of the towers and the pipeline to convey the idea - making the model was the only way to represent this clearly. It shows the existing Thirlmere Aqueduct pipeline, the proposed extensions, the proposed sites, the position of the towers, the locations of Hillfort, Stage and Lido, and the termination point at Audenshaw Reservoir.

03 + 04. Hillfort and Lido Models: The construction of final water tower models were inspired by David Umemoto's casting process. Their fortified aesthetic intended to communicate the protection of each vulnerable site, and so Umemoto's brutalist signature was the perfect precedent. Each of the models is 60cm tall and each plaster casting is 10x10x40cm. Both have a 10x10x10cm cube at their bases so they can slot into a 'sleeve' foundation for additional stability - a detail developed following concerns over the durability of a concept model.

Image 01: 1-500 Concept Model - Pigmented plaster cast topography; Aqueducts laser cut from 6mm ply; Seafoam trees.

Image 02: 1-22500 Modification Strategy Model

Pipeline
- Etched into perspex then hand painted in red

Proposed sites
- Outlines etched into perspex

Towers
- Laser cut from 5mm acrylic and slotted into pre-etched locations

Sheets fixed together with counter sunk screws

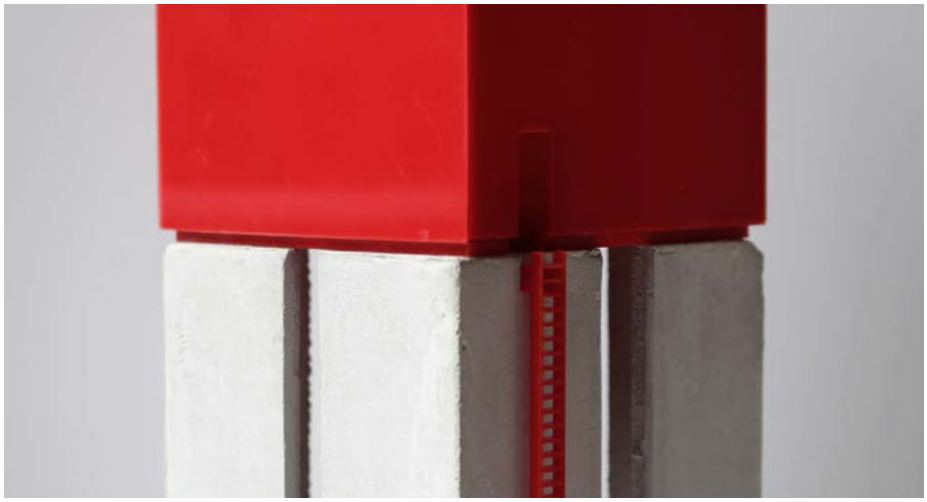


Image 03: 1-100 Hillfort Model

Tank
- Opaque red acrylic with chamfered corners welded together for seamless finish.

Tower
- Pigmented plaster cast in one, single use MDF mould. The mould consisted of a 100x100x400 MDF cuboid, into which the void is filled with a CNC routed polystyrene volume.

Ground
- Concrete cast in single use MDF mould.

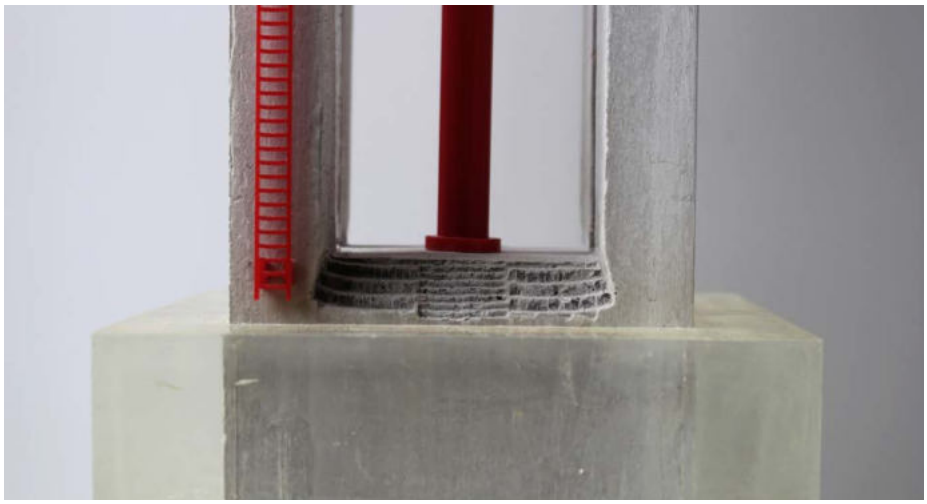


Image 04: 1-100 Lido Model

Tank
- Opaque red acrylic with chamfered corners welded together for seamless finish.

Tower
- Pigmented plaster cast in one, single use MDF mould. The mould consisted of a 100x100x400 MDF cuboid, into which the void is filled with a hand crafted polystyrene volume.

Lake
- Epoxy resin cast in single use perspex mould.

Thomas Keen, Hamza Khan

March Year 06 - Atelier: USE

Project: Micro-Manctopia

Reclaiming The City For Manchester's Working Class

This project explores the ways in which the working class, gentrified communities of Manchester can reclaim the city they once occupied. A city that been taken over by profit driven development. Flipping a potential dystopian future into something utopian. Throughout the city centre, derelict, unused and brownfield voids can be reclaimed by these communities. By identifying a gap in the market within the local area each of these sites sit in, amenities and ways of gaining income can be exploited by these comunities where each of these sites are now filled with Co-Living communities as well as Co-Maker public realms. Each of these sites are able to preserve or enhance the existing qualities of the space they occupy by using deconstructivist techniques as well as creatively incorperating reclaimed materials and artefacts.

Model making was vital to our design development as our goal was to generate a general set of 'design tactics' that can be used as a 'reclamation guide' for every site - but then also to show how these tactics can be developed dependant on the constraints and parameters set by each void within the city. Model making allowed us to make sectional maquettes of small parts of each site at a 1:100 scale and test interventions at a human scale. By model making in this way we were able implement the general design tactics and adapt them to define spatial approaches and narratives for 2 very different sites in terms of the void space they provide.

The existing sites were modelled using laser cut materials, and CAD to ensure accuracy. The interventions were then produced by hand at home. Scaffolding was made using copper wire, a soldering iron and solder to form the joints and ensure they were robust. Much of the internal structures were made in a way that replicates corrugated steel, plywood and sheet metal, by using corrugated cardboard, balsa wood sheets and balsa wood sticks as well as painting where appropriate. The images below show two sites that we tested interventions on at 1:100 scale using this sectional maquette approach.

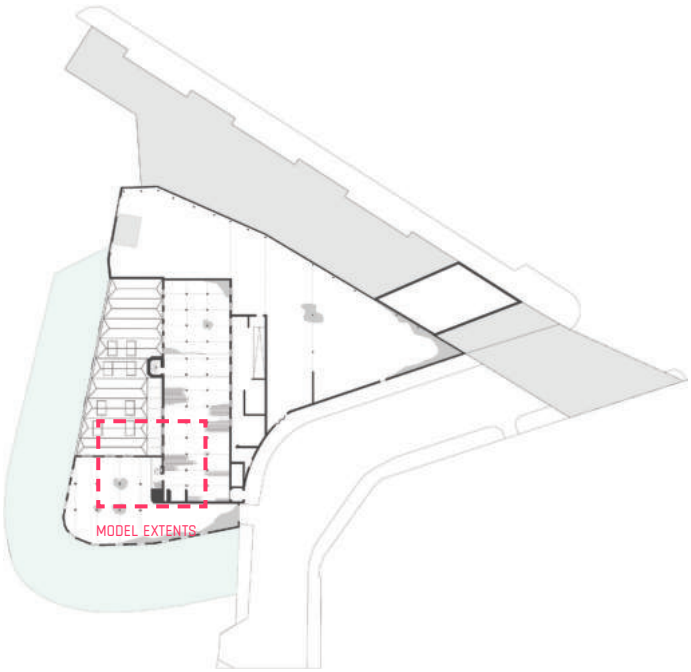


Image 01: Site 01- Floor Plan Showing extents of Model

Image 02: Site 01- Public Realm Narrative at Human Scale

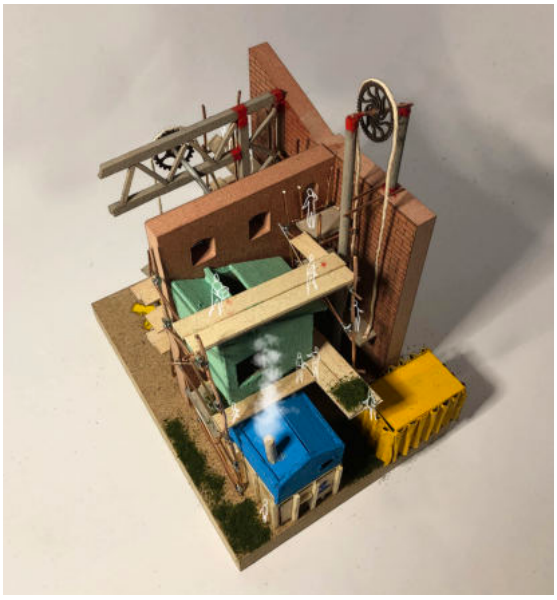


Image 03: Site 01 - Public & Private Realm Boundaries

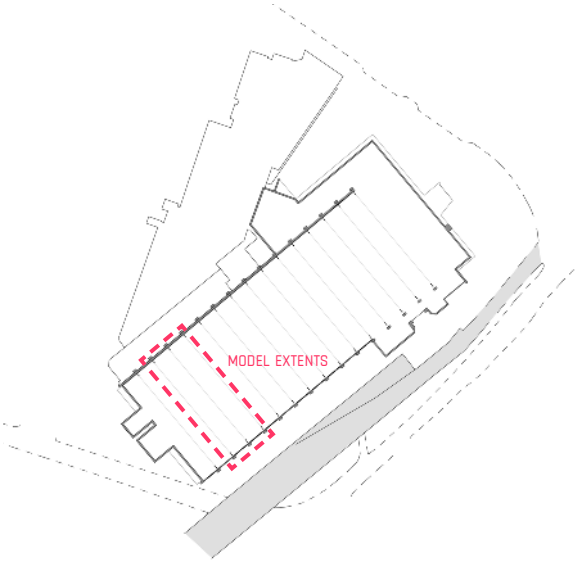


Image 04: Site 02- Floor Plan Showing extents of Model

Image 05: Site 02 - How Model Making Developed A Spatial Narrative For This Void

Image 06: Site 02 - Spatial Development Overview Showing the Internal Interventions at a Human Scale

Tom Register, Manchester

March Year 6 - Atelier: InfraSpace

Project: Dispersion Development Corridor

Civic Intervention Strategy

The dispersion development framework for the M85 Civic Corridor is a kit of civic parts designed to; force a sense of civic hierarchy on a network of local and district centres, organise civic asset improvement and create a platform for dispersed urban development that will gradually transition the urban structure towards one of social, economic and environmental balance.

With the immense scale of the project, the framework was developed independent of a specific local context over three scales. A series of Civic Objects were designed as the physical interventions in the local centres and the initial instigators of local development. Their design was parametrically linked to renaissance scales and ratios but to experiment with their assembly I used card models to rapidly prototype a variety of assemblies. This was then translated onto a test site model of Old Roan (one of the local centres within the framework) made at home. The model strategy was separated into three materials; cardboard represented the existing context; multiple tones of pink card represented the surface proposal which aimed to force the diversification of civic functions; and black card represented the physical interventions that would create order and hierarchy on the suburban site.

The physical model allowed me to play with the civic objects free from the rigidity that came with their digital counterparts, leading to the development of some combinations that used only parts of the constituent objects rather than the whole. The process evolved as a conversation between the formulaic parameters of the digital object and the freedom of the card one and allowed me to develop these civic amalgamations as site specific objects that could grow out of the civic 'kit of parts'. It also crucially allowed me to illustrate the variety of contextual responses that could be created in any of the local centres along the development corridor from the same civic parts.

Image 01: Complete strategy for Old - Roan local centre

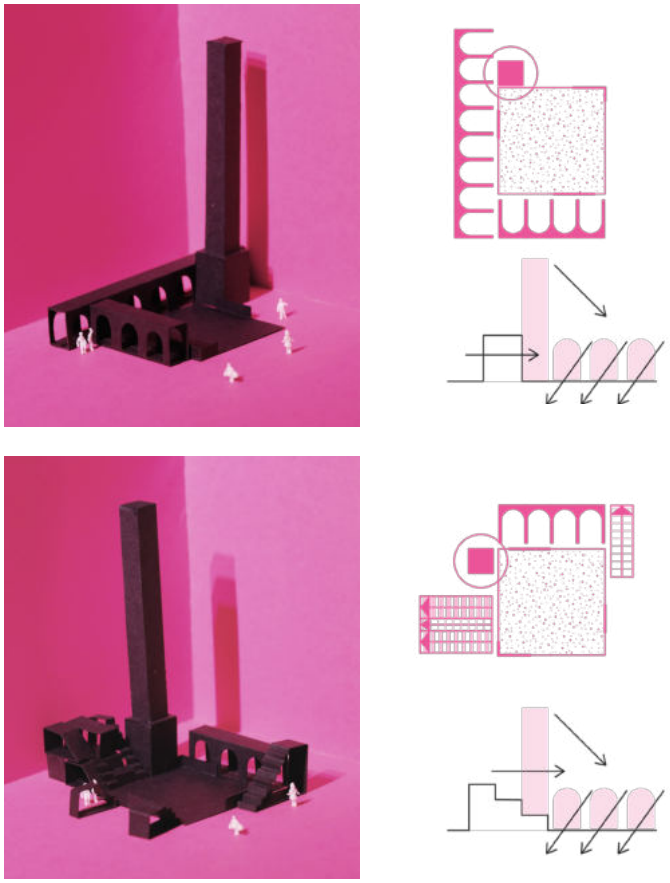


Image 02: Development models testing the impact of different object combinations on civic space

Image 03: Appropriation of a junction as civic space

Image 04: Access as a means of incorporating new space into the civic

Image 05: Creation of new public routes through non public places

Image 06: Amalgamation of civic parts to connect a divided local centre and create a hierarchy to the civic procession

Yimeng Zhao ， Manchester

March Year 6 - Atelier: USE

Project: Nose Knows

Towards Multisensory Architecture--an Exploration of the Sense of Smell

While the experience of architecture is dominated by the visual and tactile sense, the sense of smell—which has a powerful intrinsic effect on perception and phenomena—is largely ignored. Smells are everywhere around us. They affect our mood, perception, localisation, they are part of our everyday life, of sex, food, nature, industry, of others and ourselves. They follow us, intrigue us, bring back memories, seduce us, manipulate us. My thesis is an exploration of scent within architecture. It investigates the various qualities and conditions that can be induced through scent. This thesis argues for the significance of scent within architecture by posing the question: How can scent evoke memories, familiarities or reactions to generate personal connections to architecture and how could it be used by designers and architects to improve mental wellbeing of human? The choice of a building's construction, its material and its structure, has a direct effect on the emotional character of its spaces. Materials will be one of the key drivers of the smell experience. To response it, I set up several scents stations on Fallowfield Loop to explore the performance of different materials in the smell experience, and then apply them to the Smellarium which is an olfactory architecture to attracte people, heighten experiences, or generate a response with varying materials and activities.

Model making has played an intrinsic part in helping me test the materials and create playful atmospheres that I would not have been able to achieve through a computer generated model. In creating scents stations, I tested the rammed earth by adding essential oil and found it could absorb and release scents continuously. I also used wood as structure to create a feeling of safety and being close to nature. The last one was to imitate the texture of the brick which helped to bring back memories by evoking synesthesia. These then became the main driving factors of smell experience in different activities and atmospheres in Smellarium.

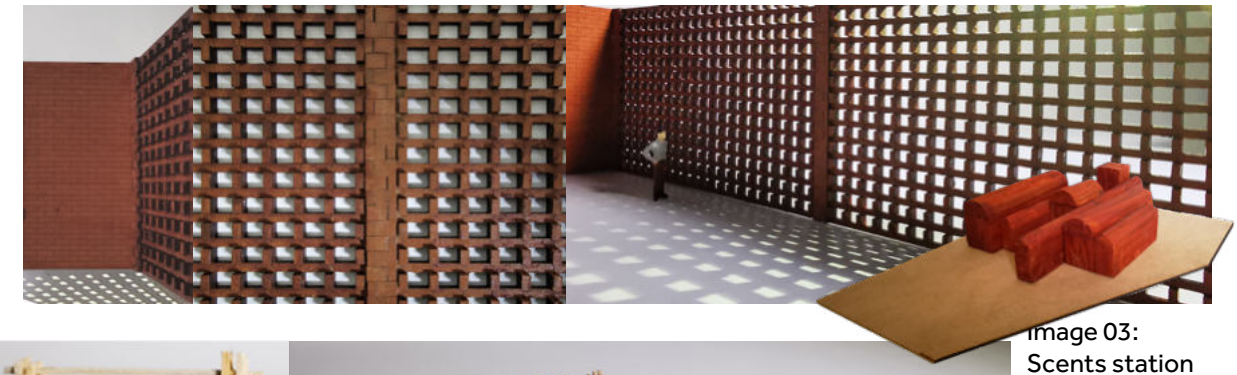
Except for some preliminary experiments, most of the model making work was done in the workshop. The main materials I used were soil, cement, wood, foam, acrylic and MDF Board.

Image 01:
Scents station
-Rammed Earth

This is a direct smell experience thanks to the smell rammed earth released.

Image 02:
Scents station
-Brick

This intervention shows the smell experience evoked through synesthesia.



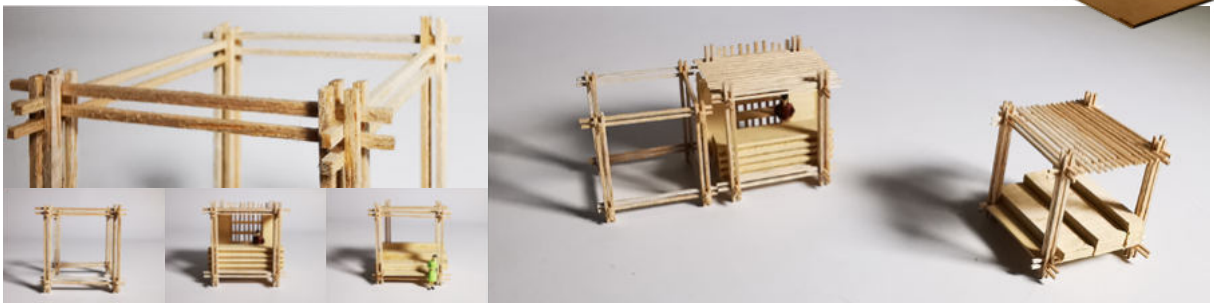


Image 03:
Scents station
-Wood

This intervention shows the wood as structure to create a feeling of warm and safety from the perspective of its natural smell.

Image 04: Proposed Smellarium Model 1: 300
The main structure was made by wood which created an atmosphere warmly and close to nature.

Image 05: Proposed Smellarium Model 1: 300
The scented rammed earth walls were used in the community library and the scents bath, which depend on the benefits that special smell could help people concentrate on learning and aromatherapy for stress relief respectively.

Image 06: Proposed Smellarium Model 1: 300
The brick walls were used on ground floor, which not only build familiarity by responding to brick bridges on Fallowfield Loop but also help people bring back memories or evoke emotions through the smell experience related to bricks.

James Stephenson & Charlie Griffin

MLA2 USE LA2C:

Project: The Brickworks

Gabion Dam

The Gabion Dam lies across the once culverted Fallowfield Brook at The Brickworks in Levenshulme, Manchester. The construction of the dam provides a major ecological and social focus for the site. The design of The Brickworks incorporates John Iverson Nassauer's ideology of 'messy ecosystems, orderly frames' . The Gabion Dam implements this concept through the framing of the new, messy ecosystems with the structural rigidity of the dam and the orderly corten steel walkway. The dam greatly improves the ecological diversity of the site through the creation of several new habitats. Stemming the flow of the brook forms a woodland pond which supports many unique species of aquatic vegetation and wildlife. Epiphytic vegetation such as moss and ferns will take advantage of the high humidity and moisture content and colonise the dam walls. The dam also acts as a meeting point and a bridge for human visitors, transporting them across the site, and bringing them into close contact with the wetland habitats. When crossing the dam, people are immersed into an ephemeral atmospere created by the water flowing through the porous structure beneath their feet.

Building a model of the dam was important to discover the way the different materials used in the construction interact with each other; it provided a visualisation of how the gabions, corten steel and steel walkway converge into one unit. Utilising the dam structure to create an orderly frame for the ecosystem requires the dam to be solid and fixed but at the same time permeable; the model provided the opportunity for these characteristics, as well as the aesthetic qualities to be tested before on-site construction. The model was built at 1:20 using 5mm aluminium mesh, lengths of balsa wood and 6mm peanut pebbles.

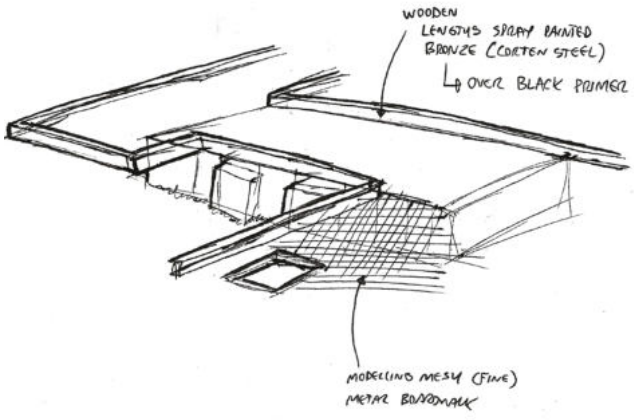


Image 01: Design development

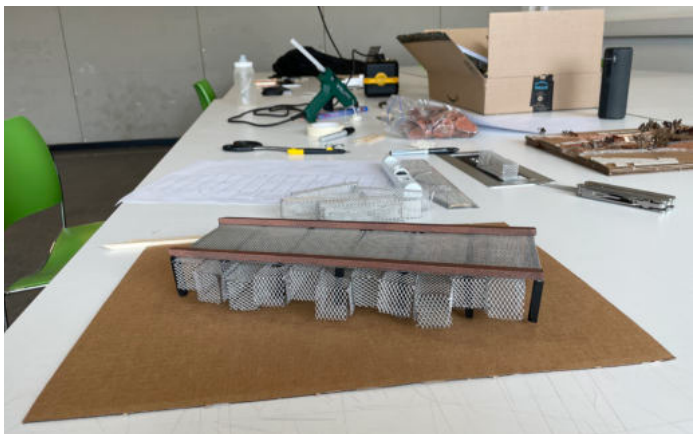


Image 02: Empty gabions during construction

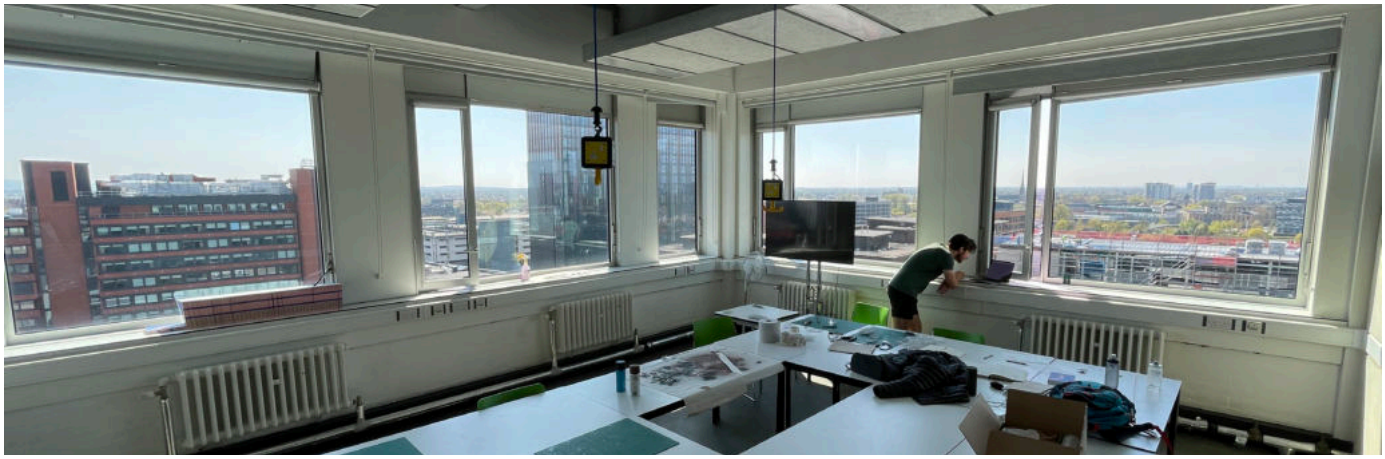


Image 03: Collaboration in Ch 8.10

Image 04: Model front elevation showing the water outflows created by the gabion arrangement

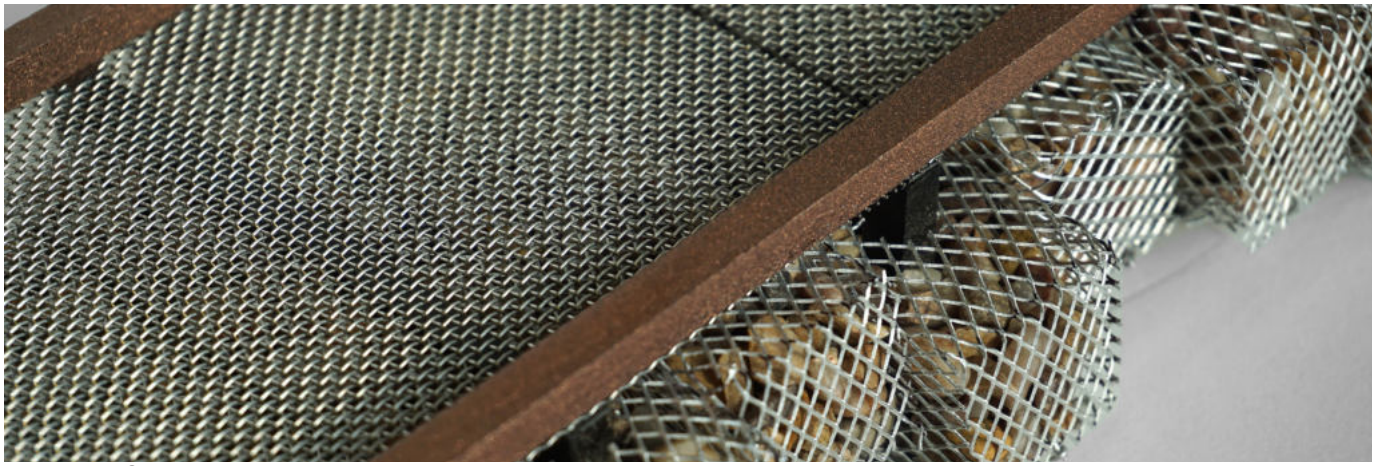


Image 05: Close up perspective highlighting the corten steel edges and steel walkway

Image 06: Full perspective of the gabion dam model